Appendix N

Groundwater Quality Data

Appendix N.1

Groundwater Quality Data

Leachate and Groundwater Chemistry Data
Leachate (Closed Facility) - Organics
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**33-II**	**33-II**	**57-II**	**57-II**	**58-I**	**58-I**
Sample ID:		**33-II**	**33-II**	**57-II**	**57-II**	**58-I**	**58-I**
Sample Date:		**4/13/2021**	**10/25/2021**	**4/20/2021**	**11/2/2021**	**4/19/2021**	**10/28/2021**
Parameters	**Units**						
Volatiles							
1,1,1,2-Tetrachloroethane	ug/L	ND (0.50)	ND (0.20)	ND (0.20)	ND (0.20)	ND (20)	ND (20)
1,1,1-Trichloroethane	ug/L	ND (0.25)	ND (0.10)	ND (0.10)	ND (0.10)	ND (10)	ND (10)
1,1,2,2-Tetrachloroethane	ug/L	ND (0.50)	ND (0.20)	ND (0.20)	ND (0.20)	ND (20)	ND (20)
1,1,2-Trichloroethane	ug/L	ND (0.50)	ND (0.20)	ND (0.20)	ND (0.20)	ND (20)	ND (20)
1,1-Dichloroethane	ug/L	ND (0.25)	ND (0.10)	0.45	0.81	ND (10)	ND (10)
1,1-Dichloroethene	ug/L	ND (0.25)	ND (0.10)	ND (0.10)	ND (0.10)	ND (10)	ND (10)
1,2-Dibromoethane (Ethylene dibromide)	ug/L	ND (0.50)	ND (0.20)	ND (0.20)	ND (0.20)	ND (20)	ND (20)
1,2-Dichlorobenzene	ug/L	ND (0.50)	ND (0.20)	ND (0.20)	ND (0.20)	ND (20)	ND (20)
1,2-Dichloroethane	ug/L	ND (0.50)	ND (0.20)	ND (0.20)	ND (0.20)	ND (20)	ND (20)
1,2-Dichloropropane	ug/L	ND (0.25)	ND (0.10)	ND (0.10)	ND (0.10)	ND (10)	ND (10)
1,3-Dichlorobenzene	ug/L	ND (0.50)	ND (0.20)	ND (0.20)	ND (0.20)	ND (20)	ND (20)
1,4-Dichlorobenzene	ug/L	ND (0.50)	ND (0.20)	ND (0.20)	ND (0.20)	ND (20)	ND (20)
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	ND (13)	ND (5.0)	ND (5.0)	ND (5.0)	ND (500)	ND (500)
2-Hexanone	ug/L	ND (13)	ND (5.0)	ND (5.0)	ND (5.0)	ND (500)	ND (500)
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	ND (13)	ND (5.0)	ND (5.0)	ND (5.0)	ND (500)	ND (500)
Acetone	ug/L	ND (25)	ND (10)	18	12	ND (1000)	ND (1000)
Acrolein	ug/L	ND (25)	ND (10)	ND (10)	ND (10)	ND (1000)	ND (1000)
Acrylonitrile	ug/L	ND (13)	ND (5.0)	ND (5.0)	ND (5.0)	ND (500)	ND (500)
Benzene	ug/L	ND (0.25)	ND (0.10)	0.84	1.6	20	17
Bromodichloromethane	ug/L	ND (0.25)	ND (0.10)	ND (0.10)	ND (0.10)	ND (10)	ND (10)
Bromoform	ug/L	ND (0.50)	ND (0.20)	ND (0.20)	ND (0.20)	ND (20)	ND (20)
Bromomethane (Methyl bromide)	ug/L	ND (1.3)	ND (0.50)	ND (0.50)	ND (0.50)	ND (50)	ND (50)
Carbon tetrachloride	ug/L	ND (0.25)	ND (0.10)	ND (0.10)	ND (0.10)	ND (10)	ND (10)
Chlorobenzene	ug/L	ND (0.25)	ND (0.10)	ND (0.10)	ND (0.10)	ND (10)	ND (10)
Chloroethane	ug/L	ND (0.50)	ND (0.20)	ND (0.20)	ND (0.20)	ND (20)	ND (20)
Chloroform (Trichloromethane)	ug/L	ND (0.25)	ND (0.10)	ND (0.10)	ND (0.10)	ND (10)	ND (10)
Chloromethane (Methyl chloride)	ug/L	ND (1.3)	ND (0.50)	ND (0.50)	ND (0.50)	ND (50)	ND (50)
cis-1,2-Dichloroethene	ug/L	ND (0.25)	ND (0.10)	ND (0.10)	ND (0.10)	ND (10)	ND (10)
cis-1,3-Dichloropropene	ug/L	ND (0.50)	ND (0.20)	ND (0.20)	ND (0.20)	ND (20)	ND (20)
Dibromochloromethane	ug/L	ND (0.50)	ND (0.20)	ND (0.20)	ND (0.20)	ND (20)	ND (20)
Ethylbenzene	ug/L	ND (0.25)	ND (0.10)	0.21	0.35	ND (10)	ND (10)
m&p-Xylenes	ug/L	ND (0.25)	ND (0.10)	0.50	0.96	42	27
Methyl tert butyl ether (MTBE)	ug/L	ND (0.50)	ND (0.20)	ND (0.20)	ND (0.20)	ND (20)	ND (20)
Methylene chloride	ug/L	ND (1.3)	ND (0.50)	ND (0.50)	ND (0.50)	ND (50)	ND (50)
o-Xylene	ug/L	ND (0.25)	ND (0.10)	1.5	2.2	27	18
Styrene	ug/L	ND (0.50)	ND (0.20)	ND (0.20)	ND (0.20)	ND (20)	ND (20)
Tetrachloroethene	ug/L	ND (0.25)	ND (0.10)	ND (0.10)	ND (0.10)	ND (10)	ND (10)
Toluene	ug/L	ND (0.50)	ND (0.20)	1.3	2.4	35	29
trans-1,2-Dichloroethene	ug/L	ND (0.25)	ND (0.10)	ND (0.10)	ND (0.10)	ND (10)	ND (10)
trans-1,3-Dichloropropene	ug/L	ND (0.50)	ND (0.20)	ND (0.20)	ND (0.20)	ND (20)	ND (20)
Trichloroethene	ug/L	ND (0.25)	ND (0.10)	0.20	0.35	ND (10)	ND (10)
Trichlorofluoromethane (CFC-11)	ug/L	ND (0.50)	ND (0.20)	ND (0.20)	ND (0.20)	ND (20)	ND (20)
Trihalomethanes	ug/L	ND (0.50)	ND (0.20)	ND (0.20)	ND (0.20)	ND (20)	ND (20)
Vinyl chloride	ug/L	ND (0.50)	ND (0.20)	ND (0.20)	ND (0.20)	ND (20)	ND (20)
Xylenes (total)	ug/L	ND (0.25)	ND (0.10)	2.0	3.2	69	45
Semi-Volatiles							
1,2,3,4-Tetrachlorobenzene	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
1,2,3,5-Tetrachlorobenzene	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
1,2,3-Trichlorobenzene	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
1,2,4,5-Tetrachlorobenzene	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
1,2,4-Trichlorobenzene	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
1,2-Dichlorobenzene	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
1,3,5-Trichlorobenzene	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
1,3-Dichlorobenzene	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
1,4-Dichlorobenzene	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
1-Chloronaphthalene	ug/L	ND (1.0)	ND (1.0)	ND (4.0)	ND (10)	ND (50)	ND (50)
1-Methylnaphthalene	ug/L	ND (0.20)	ND (0.20)	ND (0.80)	ND (2.0)	45	34
2,2'-Oxybis(2-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
2,3,4,5-Tetrachlorophenol	ug/L	ND (0.40)	ND (0.40)	ND (1.6)	ND (4.0)	ND (20)	ND (20)
2,3,4,6-Tetrachlorophenol	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
2,3,4-Trichlorophenol	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
2,3,5,6-Tetrachlorophenol	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
2,3,5-Trichlorophenol	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
2,3,6-Trichlorophenol	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
2,3-Dichlorophenol	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
2,4,5-Trichlorophenol	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
2,4,6-Trichlorophenol	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)

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Sample ID:		**33-II**	**33-II**	**57-II**	**57-II**	**58-I**	**58-I**
Sample Date:		**4/13/2021**	**10/25/2021**	**4/20/2021**	**11/2/2021**	**4/19/2021**	**10/28/2021**
Parameters	**Units**						
2,4-Dichlorophenol	ug/L	ND (0.30)	ND (0.30)	ND (1.2)	ND (3.0)	ND (15)	ND (15)
2,4-Dimethylphenol	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	75	64
2,4-Dinitrophenol	ug/L	ND (2.0)	ND (6.0)	ND (8.0)	ND (20)	ND (300)	ND (100)
2,4-Dinitrotoluene	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
2,5-Dichlorophenol	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
2,6-Dichlorophenol	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
2,6-Dinitrotoluene	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
2-Chloronaphthalene	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
2-Chlorophenol	ug/L	ND (0.30)	ND (0.30)	ND (1.2)	ND (3.0)	ND (15)	ND (15)
2-Methylnaphthalene	ug/L	ND (0.20)	ND (0.20)	ND (0.80)	ND (2.0)	59	38
2-Methylphenol	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	160	110
2-Nitrophenol	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
3&4-Methylphenol	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	830	470
3,3'-Dichlorobenzidine	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
3,4,5-Trichlorophenol	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
3,4-Dichlorophenol	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
3,5-Dichlorophenol	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
4,6-Dinitro-2-methylphenol	ug/L	ND (2.0)	ND (2.0)	ND (8.0)	ND (20)	ND (100)	ND (100)
4-Bromophenyl phenyl ether	ug/L	ND (0.30)	ND (0.30)	ND (1.2)	ND (3.0)	ND (15)	ND (15)
4-Chloro-3-methylphenol	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
4-Chloroaniline	ug/L	ND (1.0)	ND (1.0)	ND (4.0)	ND (10)	ND (50)	ND (50)
4-Chlorophenyl phenyl ether	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
4-Nitrophenol	ug/L	ND (1.4)	ND (1.4)	ND (5.6)	ND (14)	ND (100)	ND (70)
5-Nitroacenaphthene	ug/L	ND (1.0)	ND (1.0)	ND (4.0)	ND (10)	ND (50)	ND (50)
Acenaphthene	ug/L	ND (0.20)	ND (0.20)	ND (0.80)	ND (2.0)	67	55
Acenaphthylene	ug/L	ND (0.20)	ND (0.20)	ND (0.80)	ND (2.0)	ND (10)	ND (10)
Anthracene	ug/L	ND (0.20)	ND (0.20)	1.7	ND (2.0)	45	28
Benzo(a)anthracene	ug/L	0.36	ND (0.20)	1.0	ND (2.0)	19	ND (10)
Benzo(a)pyrene	ug/L	0.33	ND (0.20)	ND (0.80)	ND (2.0)	ND (10)	ND (10)
Benzo(b)fluoranthene/Benzo(j)fluoranthene	ug/L	0.41	ND (0.20)	ND (0.80)	ND (2.0)	ND (10)	ND (10)
Benzo(g,h,i)perylene	ug/L	0.31	ND (0.20)	ND (0.80)	ND (2.0)	ND (10)	ND (10)
Benzo(k)fluoranthene	ug/L	ND (0.20)	ND (0.20)	ND (0.80)	ND (2.0)	ND (10)	ND (10)
Biphenyl (1,1-Biphenyl)	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
bis(2-Chloroethoxy)methane	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
bis(2-Chloroethyl)ether	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	ND (2.0)	ND (2.0)	ND (8.0)	ND (20)	ND (100)	ND (100)
Butyl benzylphthalate (BBP)	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
Chrysene	ug/L	0.23	ND (0.20)	1.0	ND (2.0)	11	ND (10)
Dibenz(a,h)anthracene	ug/L	ND (0.20)	ND (0.20)	ND (0.80)	ND (2.0)	ND (10)	ND (10)
Diethyl phthalate	ug/L	ND (1.0)	ND (1.0)	ND (4.0)	ND (10)	ND (50)	ND (50)
Dimethyl phthalate	ug/L	ND (1.0)	ND (1.0)	ND (4.0)	ND (10)	ND (50)	ND (50)
Di-n-butylphthalate (DBP)	ug/L	ND (2.0)	ND (2.0)	ND (8.0)	ND (20)	ND (100)	ND (100)
Di-n-octyl phthalate (DnOP)	ug/L	ND (0.80)	ND (0.80)	ND (3.2)	ND (8.0)	ND (40)	ND (40)
Diphenyl ether	ug/L	ND (0.30)	ND (0.30)	ND (1.2)	ND (3.0)	ND (15)	ND (15)
Fluoranthene	ug/L	0.72	ND (0.20)	2.7	ND (2.0)	69	36
Fluorene	ug/L	ND (0.20)	ND (0.20)	ND (0.80)	ND (2.0)	55	39
Hexachlorobenzene	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
Hexachlorobutadiene	ug/L	ND (0.40)	ND (0.40)	ND (1.6)	ND (4.0)	ND (20)	ND (20)
Hexachlorocyclopentadiene	ug/L	ND (2.0)	ND (2.0)	ND (8.0)	ND (20)	ND (100)	ND (100)
Hexachloroethane	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
Indeno(1,2,3-cd)pyrene	ug/L	0.29	ND (0.20)	ND (0.80)	ND (2.0)	ND (10)	ND (10)
Isophorone	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
Naphthalene	ug/L	0.32	ND (0.20)	ND (0.80)	2.1	1300	550
Nitrobenzene	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
Nitrosodiphenylamine/Diphenylamine	ug/L	ND (1.0)	ND (1.0)	ND (4.0)	ND (10)	ND (50)	ND (50)
N-Nitrosodi-n-propylamine	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
Pentachlorobenzene	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (25)	ND (25)
Pentachlorophenol	ug/L	ND (1.0)	ND (1.0)	ND (4.0)	ND (10)	ND (100)	ND (50)
Perylene	ug/L	ND (0.20)	ND (0.20)	ND (0.80)	ND (2.0)	ND (10)	ND (10)
Phenanthrene	ug/L	0.49	ND (0.20)	4.9	ND (2.0)	120	85
Phenol	ug/L	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	1600	910
Pyrene	ug/L	0.65	ND (0.20)	3.4	ND (2.0)	52	28
Pesticides							
2,4'-DDD	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)
2,4'-DDD + 4,4'-DDD	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)
2,4'-DDE	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)
2,4'-DDE + 4,4'-DDE	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)
2,4'-DDT	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)
2,4'-DDT + 4,4'-DDT	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	0.06	ND (0.05)
4,4'-DDD	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)

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Sample Location:		**33-II**	**33-II**	**57-II**	**57-II**	**58-I**	**58-I**
Sample ID:		**33-II**	**33-II**	**57-II**	**57-II**	**58-I**	**58-I**
Sample Date:		**4/13/2021**	**10/25/2021**	**4/20/2021**	**11/2/2021**	**4/19/2021**	**10/28/2021**
Parameters	**Units**						
4,4'-DDE	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)
4,4'-DDT	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	0.06	ND (0.05)
Aldrin	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)
alpha-BHC	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)
alpha-Chlordane	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)
Aroclor-1242 (PCB-1242)	ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.5)	ND (1)
Aroclor-1248 (PCB-1248)	ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.5)	ND (1)
Aroclor-1254 (PCB-1254)	ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.5)	ND (1)
Aroclor-1260 (PCB-1260)	ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.5)	ND (1)
beta-BHC	ug/L	ND (0.03)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.07)
Chlordane	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)
Dieldrin	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)
Endosulfan	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)
Endosulfan I	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)
Endosulfan II	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)
Endrin	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)
Endrin aldehyde	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)
Endrin ketone	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)
gamma-BHC (lindane)	ug/L	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.03)	ND (0.03)
gamma-Chlordane	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)
Heptachlor	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)
Heptachlor epoxide	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)
Hexachlorobenzene	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)
Hexachlorobutadiene	ug/L	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.09)	ND (0.09)
Hexachloroethane	ug/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.1)	ND (0.1)
Methoxychlor	ug/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.1)	ND (0.1)
Mirex	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)
Total PCBs	ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.5)	ND (1)
Toxaphene	ug/L	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (2)	ND (2)

Notes:

ND Not detected at the associated reporting limit.

Appendix N.1

Leachate and Groundwater Chemistry Data
Leachate (Closed Facility) - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**30-II**	**30-II**	**30-II**	**30-II**	**31-II**	**31-II**	**31-II**	**31-II**	**32-II**	**32-II**	**33-II**	**33-II**	**33-II**	**33-II**	**57-II**	**57-II**	**57-II**	**57-II**	**58-I**	**58-I**	**58-I**	**58-I**
Sample ID:		**30-II**	**30-II**	**30-II**	**30-II**	**31-II**	**31-II**	**31-II**	**31-II**	**32-II**	**32-II**	**33-II**	**33-II**	**33-II**	**33-II**	**57-II**	**57-II**	**57-II**	**57-II**	**58-I**	**58-I**	**58-I**	**58-I**
Sample Date:		**1/28/2021**	**4/19/2021**	**7/30/2021**	**11/1/2021**	**1/25/2021**	**4/20/2021**	**7/28/2021**	**10/25/2021**	**1/28/2021**	**11/5/2021**	**1/28/2021**	**4/13/2021**	**7/30/2021**	**10/25/2021**	**1/26/2021**	**4/20/2021**	**8/6/2021**	**11/2/2021**	**1/28/2021**	**4/19/2021**	**7/28/2021**	**10/28/2021**
Parameters	**Units**																						
Metals																							
Aluminum (dissolved)	mg/L	0.023	0.07	0.032	0.024	0.0073	ND (0.0049)	ND (0.0049)	0.0054	0.24	2.6	0.01	0.046	0.012	0.032	0.14	0.23	0.26	0.18	1	1.1	1.5	0.93
Antimony (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	0.0005	0.0005	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.012	0.017	0.029	0.0077
Arsenic (dissolved)	mg/L	0.0032	0.0022	0.0033	0.0026	ND (0.001)	ND (0.001)	ND (0.001)	0.0019	ND (0.001)	0.0026	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.081	0.087	0.096	0.074
Barium (dissolved)	mg/L	0.041	0.021	0.026	0.025	0.036	0.037	0.047	0.038	0.028	0.015	0.016	0.022	0.072	0.03	0.13	0.099	0.12	0.13	0.038	0.038	0.03	0.043
Beryllium (dissolved)	mg/L	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.002)
Bismuth (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)
Boron (dissolved)	mg/L	0.059	0.054	0.058	0.052	0.027	0.026	0.05	0.052	0.012	0.025	0.029	0.062	0.3	0.065	0.034	0.045	0.045	0.073	0.48	0.53	0.57	0.29
Cadmium (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	0.0015	0.0033	0.00011	0.00011	0.00029	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.0015)	ND (0.0018)
Calcium (dissolved)	mg/L	230	120	160	140	53	45	56	69	200	710	48	57	280	64	470	340	240	490	67	67	53	94
Chromium (dissolved)	mg/L	ND (0.005)	0.016	ND (0.005)	0.011	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	0.0059	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.025)
Cobalt (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0022	0.0035	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	0.0018	0.0015	ND (0.0025)
Copper (dissolved)	mg/L	0.0027	0.0058	0.0046	0.0034	0.015	0.012	0.012	0.016	0.00097	0.036	0.0038	0.0048	0.0024	0.0029	0.011	0.017	0.012	0.0083	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0045)
Iron (dissolved)	mg/L	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	23	96	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.5)
Lead (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.01	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0068	0.012	0.0093	0.026	0.013	0.009	0.015	0.0029
Lithium (dissolved)	mg/L	0.016	0.01	0.0087	0.011	0.016	0.015	0.023	0.0061	0.0055	0.011	ND (0.005)	ND (0.005)	0.022	ND (0.005)	0.012	0.012	0.011	0.016	0.087	0.084	0.066	0.092
Magnesium (dissolved)	mg/L	0.97	0.15	0.13	0.76	4.6	8.3	2.4	21	17	46	6.9	7.4	10	9.8	ND (0.05)	ND (0.05)	0.051	ND (0.05)	ND (0.25)	ND (0.05)	0.071	ND (0.25)
Manganese (dissolved)	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	0.0093	17	36	ND (0.002)	0.054	0.089	0.025	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.01)	ND (0.002)	ND (0.002)	ND (0.01)
Molybdenum (dissolved)	mg/L	0.061	0.033	0.043	0.046	0.0042	0.0042	0.0082	0.0021	ND (0.0005)	ND (0.0005)	0.003	0.0028	0.017	0.002	0.021	0.021	0.026	0.02	0.9	0.94	0.95	0.81
Nickel (dissolved)	mg/L	0.0028	0.0017	0.0024	0.0022	0.002	0.0015	0.0021	0.0016	0.013	0.011	ND (0.001)	ND (0.001)	0.0013	ND (0.001)	0.0021	0.0013	0.0024	ND (0.001)	0.17	0.17	0.14	0.15
Phosphorus (dissolved)	mg/L	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.13	ND (0.1)	ND (0.1)	0.13	0.11	0.2	0.21	0.16	0.11	0.27	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.9	0.38	0.36	ND (0.5)
Potassium (dissolved)	mg/L	83	43	60	53	7	7.7	9.5	7.4	29	100	7.1	11	40	10	14	11	20	10	410	440	380	390
Selenium (dissolved)	mg/L	ND (0.002)	0.0033	0.0034	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.01)	0.0032	0.0031	ND (0.01)
Silicon (dissolved)	mg/L	6.8	10	11	8.3	1.5	1.9	1.1	9.4	2.3	7.3	3.1	3.7	2.8	4.6	0.71	0.94	1.1	0.7	12	14	17	9.6
Silver (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00045)
Sodium (dissolved)	mg/L	270	80	140	170	10	13	22	9.2	70	340	16	29	260	26	16	12	59	12	1200	1300	1100	1100
Strontium (dissolved)	mg/L	2	0.88	1.4	1.1	0.33	0.33	0.35	0.48	0.29	0.85	0.26	0.35	1.5	0.41	0.49	0.42	0.36	0.5	0.36	0.35	0.27	0.38
Tellurium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)
Thallium (dissolved)	mg/L	0.000061	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00025)
Tin (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)
Titanium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.025)
Tungsten (dissolved)	mg/L	0.0096	0.021	0.02	0.012	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.0021	0.0015	0.0064	0.0012	0.0017	0.0018	0.0015	0.0022	0.11	0.12	0.13	0.088
Uranium (dissolved)	mg/L	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	0.00011	0.00023	ND (0.0001)	0.00097	ND (0.0001)	0.00016	0.00041	0.00035	ND (0.0001)	0.00055	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.0005)
Vanadium (dissolved)	mg/L	0.037	0.077	0.052	0.052	0.001	0.00054	0.00083	0.0011	ND (0.0005)	ND (0.0005)	0.0014	0.0014	0.0014	0.0014	0.0037	0.0052	0.0059	0.0048	0.071	0.074	0.07	0.067
Zinc (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	0.057	0.087	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	0.0079	ND (0.025)	ND (0.005)	0.0058	ND (0.025)
Zirconium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)
General Chemistry																							
Alkalinity, total (as CaCO3)	mg/L	37	38	44	31	59	61	21	170	43	ND (1.0)	80	86	36	130	1100	760	690	1200	920	900	620	920
Ammonia-N	mg/L	2.1	0.40	2.1	1.1	0.14	0.10	0.36	ND (0.050)	9.1	19	ND (0.050)	ND (0.050)	0.34	0.26	1.0	0.55	6.6	0.56	94	99	79	83
Ammonia-N/Strontium Ratio	ratio	1.0500	0.4545	1.5000	1.0000	0.4242	0.3030	1.0286	0.1042	31.3793	22.3529	0.1923	0.1429	0.2267	0.6341	2.0408	1.3095	18.3333	1.1200	261.1111	282.8571	292.5926	218.4211
Biochemical oxygen demand (total BOD5)	mg/L	-	-	-	-	-	ND (2)	-	ND (2)	-	19	-	8	-	9	-	ND (2)	-	ND (2)	-	450	-	330
Bromide (dissolved)	mg/L	ND (5.0)	ND (1.0)	ND (5.0)	ND (5.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (5.0)	ND (20)	ND (1.0)	ND (1.0)	ND (5.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (5.0)	ND (1.0)	ND (20)	ND (20)	12	16
Chloride (dissolved)	mg/L	180	69	69	110	16	18	27	6.6	830	1800	27	35	210	21	17	15	39	20	1700	1600	1200	1400
Chloride/Magnesium Ratio	ratio	185.5670	460.0000	530.7692	144.7368	3.4783	2.1687	11.2500	0.3143	48.8235	39.1304	3.9130	4.7297	21.0000	2.1429	340.0000	300.0000	764.7059	400.0000	6800.0000	32000.0000	16901.4085	5600.0000
Conductivity	umhos/cm	2500	1400	1500	1500	390	400	360	430	3500	6900	520	580	2600	490	4600	3300	3100	5100	8400	8100	6500	8100
Fluoride	mg/L	1.6	1.8	1.7	1.7	0.40	0.35	0.53	0.39	1.4	0.37	0.35	0.36	1.2	0.34	0.54	0.54	0.72	0.47	7.3	7.2	9.4	3.4
Hardness	mg/L	570	300	400	360	150	150	150	260	570	2000	150	170	750	200	1200	840	600	1200	170	170	130	230
Nitrate (as N)	mg/L	ND (0.10)	1.71	0.84	1.03	0.33	0.18	0.47	0.12	0.93	14.3	0.10	0.52	2.91	0.17	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Nitrite (as N)	mg/L	0.153	0.246	1.25	0.106	0.246	0.146	0.298	ND (0.010)	0.220	3.28	0.011	0.010	ND (0.010)	0.016	0.020	0.012	ND (0.010)	0.021	ND (0.010)	ND (0.010)	ND (0.010)	0.022
Nitrite/Nitrate	mg/L	0.15	1.95	2.09	1.14	0.58	0.32	0.77	0.12	1.15	17.6	0.11	0.53	2.91	0.19	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Orthophosphate	mg/L	0.011	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.067	ND (0.010)	ND (0.010)	0.19	0.14	0.061	0.22	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.050)	0.51	0.056	ND (0.10)	0.023
pH, lab	s.u.	9.64	9.98	9.90	9.44	10.6	9.23	9.77	8.41	7.96	2.81	7.96	7.92	7.38	8.23	12.2	12.1	12.0	12.3	11.7	11.7	11.1	11.9
Phenolics (total)	mg/L	0.0037	0.0026	0.0033	0.0037	ND (0.0010)	ND (0.0010)	0.0017	0.0010	0.065	0.0060	ND (0.0010)	0.0011	0.0011	ND (0.0010)	0.018	0.0090	0.0062	0.010	6.6	7.1	5.5	6.3
Sulfate (dissolved)	mg/L	900	500	510	530	70	95	62	71	410	570	120	120	780	100	23	29	35	28	390	360	280	440
Total dissolved solids (TDS)	mg/L	1820	730	970	1020	210	225	250	305	1110	4090	245	265	1600	515	1070	780	740	1200	4840	4940	3660	4800
Total kjeldahl nitrogen (TKN)	mg/L	2.5	0.77	3.0	2.2	0.45	0.42	0.76	0.56	9.2	22	0.10	0.52	1.7	0.76	1.4	0.88	7.2	1.3	99	110	86	91
Total organic carbon (TOC)	mg/L	21	13	19	15	5.6	7.5	6.5	7.8	14	39	5.4	12	17	10	4.3	3.2	4.6	3.5	390	410	320	370

Notes:

ND Not detected at the associated reporting limit.

Appendix N.1

Leachate and Groundwater Chemistry Data
Shallow (Eramosa) Flow Zone - Organics
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**35-V**	**35-V**	**47-IV**	**47-IV**	**51-V**	**51-V**	**P10-V**	**P10-V**
Sample ID:		**35-V**	**35-V**	**47-IV**	**47-IV**	**51-V**	**51-V**	**P10-V**	**P10-V**
Sample Date:		**4/16/2021**	**10/25/2021**	**4/22/2021**	**11/5/2021**	**4/22/2021**	**11/5/2021**	**4/27/2021**	**11/5/2021**
Parameters	**Units**								
Volatiles									
1,1,1,2-Tetrachloroethane	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (10)	ND (0.20)	ND (0.20)
1,1,1-Trichloroethane	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (5.0)	ND (0.10)	ND (0.10)
1,1,2,2-Tetrachloroethane	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (10)	ND (0.20)	ND (0.20)
1,1,2-Trichloroethane	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (10)	ND (0.20)	ND (0.20)
1,1-Dichloroethane	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (5.0)	ND (0.10)	ND (0.10)
1,1-Dichloroethene	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (5.0)	ND (0.10)	ND (0.10)
1,2-Dibromoethane (Ethylene dibromide)	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (10)	ND (0.20)	ND (0.20)
1,2-Dichlorobenzene	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (10)	ND (0.20)	ND (0.20)
1,2-Dichloroethane	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (10)	ND (0.20)	ND (0.20)
1,2-Dichloropropane	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (5.0)	ND (0.10)	ND (0.10)
1,3-Dichlorobenzene	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (10)	ND (0.20)	ND (0.20)
1,4-Dichlorobenzene	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (10)	ND (0.20)	ND (0.20)
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	6200	ND (5.0)	ND (5.0)
2-Hexanone	ug/L	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (250)	ND (5.0)	ND (5.0)
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (250)	ND (5.0)	ND (5.0)
Acetone	ug/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	4800	ND (10)	ND (10)
Acrolein	ug/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (500)	ND (10)	ND (10)
Acrylonitrile	ug/L	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (250)	ND (5.0)	ND (5.0)
Benzene	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (5.0)	ND (0.10)	ND (0.10)
Bromodichloromethane	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (5.0)	ND (0.10)	ND (0.10)
Bromoform	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (10)	ND (0.20)	ND (0.20)
Bromomethane (Methyl bromide)	ug/L	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (25)	ND (0.50)	ND (0.50)
Carbon tetrachloride	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (5.0)	ND (0.10)	ND (0.10)
Chlorobenzene	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (5.0)	ND (0.10)	ND (0.10)
Chloroethane	ug/L	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (10)	ND (0.20)	ND (0.20)
Chloroform (Trichloromethane)	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (5.0)	ND (0.10)	ND (0.10)
Chloromethane (Methyl chloride)	ug/L	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (25)	ND (0.50)	ND (0.50)
cis-1,2-Dichloroethene	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (5.0)	ND (0.10)	ND (0.10)
cis-1,3-Dichloropropene	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (10)	ND (0.20)	ND (0.20)
Dibromochloromethane	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (10)	ND (0.20)	ND (0.20)
Ethylbenzene	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (5.0)	ND (0.10)	ND (0.10)
m&p-Xylenes	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (5.0)	ND (0.10)	ND (0.10)
Methyl tert butyl ether (MTBE)	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (10)	ND (0.20)	ND (0.20)
Methylene chloride	ug/L	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (25)	ND (0.50)	ND (0.50)
o-Xylene	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (5.0)	ND (0.10)	ND (0.10)
Styrene	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (10)	ND (0.20)	ND (0.20)
Tetrachloroethene	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (5.0)	ND (0.10)	ND (0.10)
Toluene	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (10)	ND (0.20)	ND (0.20)
trans-1,2-Dichloroethene	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (5.0)	ND (0.10)	ND (0.10)
trans-1,3-Dichloropropene	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (10)	ND (0.20)	ND (0.20)
Trichloroethene	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (5.0)	ND (0.10)	ND (0.10)
Trichlorofluoromethane (CFC-11)	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (10)	ND (0.20)	ND (0.20)
Trihalomethanes	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (10)	ND (0.20)	ND (0.20)
Vinyl chloride	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (10)	ND (0.20)	ND (0.20)
Xylenes (total)	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (5.0)	ND (0.10)	ND (0.10)
Semi-Volatiles									
1,2,3,4-Tetrachlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
1,2,3,5-Tetrachlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
1,2,3-Trichlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
1,2,4,5-Tetrachlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
1,2,4-Trichlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
1,2-Dichlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
1,3,5-Trichlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
1,3-Dichlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
1,4-Dichlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
1-Chloronaphthalene	ug/L	ND (4.0)	ND (1.0)	ND (1.0)	ND (10)	ND (1.0)	ND (10)	ND (1.0)	ND (10)
1-Methylnaphthalene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)
2,2'-Oxybis(2-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
2,3,4,5-Tetrachlorophenol	ug/L	ND (1.6)	ND (0.40)	ND (0.40)	ND (4.0)	ND (0.40)	ND (4.0)	ND (0.40)	ND (4.0)
2,3,4,6-Tetrachlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
2,3,4-Trichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
2,3,5,6-Tetrachlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
2,3,5-Trichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
2,3,6-Trichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
2,3-Dichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
2,4,5-Trichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
2,4,6-Trichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
2,4-Dichlorophenol	ug/L	ND (1.2)	ND (0.30)	ND (0.30)	ND (3.0)	ND (0.30)	ND (3.0)	ND (0.30)	ND (3.0)
2,4-Dimethylphenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
2,4-Dinitrophenol	ug/L	ND (25)	ND (6.0)	ND (2.0)	ND (20)	ND (2.0)	ND (20)	ND (2.0)	ND (20)
2,4-Dinitrotoluene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
2,5-Dichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
2,6-Dichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
2,6-Dinitrotoluene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
2-Chloronaphthalene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
2-Chlorophenol	ug/L	ND (1.2)	ND (0.30)	ND (0.30)	ND (3.0)	ND (0.30)	ND (3.0)	ND (0.30)	ND (3.0)
2-Methylnaphthalene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)
2-Methylphenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
2-Nitrophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
3&4-Methylphenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
3,3'-Dichlorobenzidine	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
3,4,5-Trichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
3,4-Dichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
3,5-Dichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
4,6-Dinitro-2-methylphenol	ug/L	ND (8.0)	ND (2.0)	ND (2.0)	ND (20)	ND (2.0)	ND (20)	ND (2.0)	ND (20)
4-Bromophenyl phenyl ether	ug/L	ND (1.2)	ND (0.30)	ND (0.30)	ND (3.0)	ND (0.30)	ND (3.0)	ND (0.30)	ND (3.0)
4-Chloro-3-methylphenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)

Appendix N.1

Leachate and Groundwater Chemistry Data
Shallow (Eramosa) Flow Zone - Organics
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**35-V**	**35-V**	**47-IV**	**47-IV**	**51-V**	**51-V**	**P10-V**	**P10-V**
Sample ID:		**35-V**	**35-V**	**47-IV**	**47-IV**	**51-V**	**51-V**	**P10-V**	**P10-V**
Sample Date:		**4/16/2021**	**10/25/2021**	**4/22/2021**	**11/5/2021**	**4/22/2021**	**11/5/2021**	**4/27/2021**	**11/5/2021**
Parameters	**Units**								
4-Chloroaniline	ug/L	ND (4.0)	ND (1.0)	ND (1.0)	ND (10)	ND (1.0)	ND (10)	ND (1.0)	ND (10)
4-Chlorophenyl phenyl ether	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
4-Nitrophenol	ug/L	ND (25)	ND (1.4)	ND (1.4)	ND (14)	ND (1.4)	ND (14)	ND (1.4)	ND (14)
5-Nitroacenaphthene	ug/L	ND (4.0)	ND (1.0)	ND (1.0)	ND (10)	ND (1.0)	ND (10)	ND (1.0)	ND (10)
Acenaphthene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)
Acenaphthylene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)
Anthracene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)
Benzo(a)anthracene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)
Benzo(a)pyrene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)
Benzo(b)fluoranthene/Benzo(j)fluoranthene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)
Benzo(g,h,i)perylene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)
Benzo(k)fluoranthene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)
Biphenyl (1,1-Biphenyl)	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
bis(2-Chloroethoxy)methane	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
bis(2-Chloroethyl)ether	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	ND (8.0)	ND (2.0)	2.4	ND (20)	ND (2.0)	ND (20)	ND (2.0)	ND (20)
Butyl benzylphthalate (BBP)	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
Chrysene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)
Dibenz(a,h)anthracene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)
Diethyl phthalate	ug/L	ND (4.0)	ND (1.0)	ND (1.0)	ND (10)	ND (1.0)	ND (10)	ND (1.0)	ND (10)
Dimethyl phthalate	ug/L	ND (4.0)	ND (1.0)	ND (1.0)	ND (10)	ND (1.0)	ND (10)	ND (1.0)	ND (10)
Di-n-butylphthalate (DBP)	ug/L	ND (8.0)	ND (2.0)	ND (2.0)	ND (20)	ND (2.0)	ND (20)	ND (2.0)	ND (20)
Di-n-octyl phthalate (DnOP)	ug/L	ND (3.2)	ND (0.80)	ND (0.80)	ND (8.0)	ND (0.80)	ND (8.0)	ND (0.80)	ND (8.0)
Diphenyl ether	ug/L	ND (1.2)	ND (0.30)	ND (0.30)	ND (3.0)	ND (0.30)	ND (3.0)	ND (0.30)	ND (3.0)
Fluoranthene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)
Fluorene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)
Hexachlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
Hexachlorobutadiene	ug/L	ND (1.6)	ND (0.40)	ND (0.40)	ND (4.0)	ND (0.40)	ND (4.0)	ND (0.40)	ND (4.0)
Hexachlorocyclopentadiene	ug/L	ND (8.0)	ND (2.0)	ND (2.0)	ND (20)	ND (2.0)	ND (20)	ND (2.0)	ND (20)
Hexachloroethane	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
Indeno(1,2,3-cd)pyrene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)
Isophorone	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
Naphthalene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)
Nitrobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
Nitrosodiphenylamine/Diphenylamine	ug/L	ND (4.0)	ND (1.0)	ND (1.0)	ND (10)	ND (1.0)	ND (10)	ND (1.0)	ND (10)
N-Nitrosodi-n-propylamine	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
Pentachlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
Pentachlorophenol	ug/L	ND (25)	ND (1.0)	ND (1.0)	ND (10)	ND (1.0)	ND (10)	ND (1.0)	ND (10)
Perylene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)
Phenanthrene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)
Phenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (5.0)
Pyrene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (2.0)
Pesticides									
2,4'-DDD	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
2,4'-DDD + 4,4'-DDD	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
2,4'-DDE	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
2,4'-DDE + 4,4'-DDE	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
2,4'-DDT	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
2,4'-DDT + 4,4'-DDT	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
4,4'-DDD	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
4,4'-DDE	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
4,4'-DDT	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Aldrin	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
alpha-BHC	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
alpha-Chlordane	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Aroclor-1242 (PCB-1242)	ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Aroclor-1248 (PCB-1248)	ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Aroclor-1254 (PCB-1254)	ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Aroclor-1260 (PCB-1260)	ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
beta-BHC	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Chlordane	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Dieldrin	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Endosulfan	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Endosulfan I	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Endosulfan II	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Endrin	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Endrin aldehyde	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Endrin ketone	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
gamma-BHC (lindane)	ug/L	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)
gamma-Chlordane	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Heptachlor	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Heptachlor epoxide	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Hexachlorobenzene	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Hexachlorobutadiene	ug/L	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.009)
Hexachloroethane	ug/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Methoxychlor	ug/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Mirex	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Total PCBs	ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Toxaphene	ug/L	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)

Notes:

ND Not detected at the associated reporting limit.

Appendix N.1

Leachate and Groundwater Chemistry Data
Shallow (Eramosa) Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**35-V**	**35-V**	**35-V**	**35-V**	**36-IVR**	**36-IVR**	**36-IVR**	**36-IVR**	**41-III**	**41-III**	**41-III**	**41-III**	**41-III**	**47-IV**	**47-IV**	**47-IV**
Sample ID:		**35-V**	**35-V**	**35-V**	**35-V**	**36-IVR**	**36-IVR**	**36-IVR**	**36-IVR**	**41-III**	**41-III**	**41-III**	**4-I**	**41-III**	**47-IV**	**4-II**	**47-IV**
Sample Date:		**1/25/2021**	**4/16/2021**	**7/26/2021**	**10/25/2021**	**1/26/2021**	**4/20/2021**	**7/27/2021**	**10/27/2021**	**1/28/2021**	**4/20/2021**	**7/27/2021**	**7/27/2021 Duplicate**	**10/27/2021**	**2/3/2021**	**2/3/2021 Duplicate**	**4/22/2021**
Parameters	**Units**																
Metals																	
Aluminum (dissolved)	mg/L	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)	0.15	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)	0.006	ND (0.0049)	ND (0.0049)	0.0055
Antimony (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0006	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Arsenic (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Barium (dissolved)	mg/L	0.034	0.027	0.08	0.04	0.02	0.013	0.015	0.033	0.033	0.035	0.054	0.036	0.035	0.061	0.062	0.06
Beryllium (dissolved)	mg/L	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)
Bismuth (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Boron (dissolved)	mg/L	0.064	0.061	0.077	0.081	0.069	0.035	0.093	0.05	0.11	0.12	0.11	0.11	0.19	0.15	0.15	0.12
Cadmium (dissolved)	mg/L	0.00021	0.00019	0.00037	0.00025	0.00013	ND (0.00009)	ND (0.00009)	ND (0.00009)	0.00012	ND (0.00009)	ND (0.00009)	0.00012	0.00019	0.00098	0.0012	0.00069
Calcium (dissolved)	mg/L	170	130	330	140	240	140	180	160	140	130	130	130	160	150	140	160
Chromium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Cobalt (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	0.0012	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.00077	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Copper (dissolved)	mg/L	0.0036	0.0031	0.0019	0.0049	0.0026	0.0011	ND (0.0009)	0.0051	0.0017	0.0014	ND (0.0009)	ND (0.0009)	0.0019	0.0017	0.0017	0.0014
Iron (dissolved)	mg/L	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.37	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.79	0.12	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Lead (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0056	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Lithium (dissolved)	mg/L	0.006	0.0058	0.015	0.0058	0.04	0.043	0.03	0.015	ND (0.005)	ND (0.005)	0.0099	0.0087	ND (0.005)	ND (0.005)	ND (0.005)	0.0056
Magnesium (dissolved)	mg/L	37	37	58	32	92	89	74	58	63	59	62	62	68	43	43	46
Manganese (dissolved)	mg/L	ND (0.002)	0.0084	0.064	0.0056	0.044	0.003	0.035	0.0052	ND (0.002)	0.0077	0.054	0.043	0.04	0.23	0.23	0.11
Molybdenum (dissolved)	mg/L	0.0026	0.0027	0.003	0.0022	0.011	0.012	0.0085	0.0087	ND (0.0005)	ND (0.0005)	0.00052	ND (0.0005)	ND (0.0005)	0.0029	0.003	0.0028
Nickel (dissolved)	mg/L	0.016	0.018	0.017	0.012	0.024	0.024	0.0089	0.021	ND (0.001)	ND (0.001)	0.0026	0.0012	0.001	0.0022	0.0021	0.002
Phosphorus (dissolved)	mg/L	0.11	ND (0.1)	ND (0.1)	ND (0.1)	0.1	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Potassium (dissolved)	mg/L	2.2	1.8	4.6	2	4.1	2.4	3.9	2.9	0.96	0.66	1.7	1.6	1.2	3	3	3.3
Selenium (dissolved)	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)
Silicon (dissolved)	mg/L	5.1	4.8	4.6	6.2	5.3	5.3	4.3	4.5	5.1	6.3	5.4	5.4	7.4	4.9	4.8	4.8
Silver (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)
Sodium (dissolved)	mg/L	30	26	240	21	70	38	140	62	46	39	50	48	56	65	65	95
Strontium (dissolved)	mg/L	0.76	0.66	2.6	0.65	2	1.3	2.2	1.1	0.83	0.77	0.74	0.71	0.88	1.8	1.8	2.3
Tellurium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Thallium (dissolved)	mg/L	0.00033	0.00027	0.0007	0.0003	0.00015	0.000096	0.000067	0.00027	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)
Tin (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Titanium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Tungsten (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.035	0.014	0.013	0.016	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Uranium (dissolved)	mg/L	0.0054	0.0054	0.0061	0.0042	0.024	0.024	0.015	0.022	0.0027	0.0024	0.0023	0.0022	0.0026	0.0023	0.0022	0.0027
Vanadium (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.00063	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Zinc (dissolved)	mg/L	0.63	0.67	0.72	0.48	0.21	0.13	0.057	0.15	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	0.17	0.17	0.16
Zirconium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
General Chemistry																	
Alkalinity, total (as CaCO3)	mg/L	390	400	280	400	270	360	220	300	450	440	460	460	540	290	300	280
Ammonia-N	mg/L	0.11	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	0.12	0.099	0.096
Ammonia-N/Strontium Ratio	ratio	0.1447	0.0758	0.0192	0.0769	0.0250	0.0385	0.0227	0.0455	0.0602	0.0649	0.0676	0.0704	0.0568	0.0667	0.0550	0.0417
Bromide (dissolved)	mg/L	ND (1.0)	ND (1.0)	ND (5.0)	ND (1.0)	ND (5.0)	ND (1.0)	ND (5.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Chloride (dissolved)	mg/L	16	13	450	12	62	34	240	110	59	54	61	62	69	69	69	130
Chloride/Magnesium Ratio	ratio	0.4324	0.3514	7.7586	0.3750	0.6739	0.3820	3.2432	1.8966	0.9365	0.9153	0.9839	1.0000	1.0147	1.6047	1.6047	2.8261
Conductivity	umhos/cm	1100	1000	2800	800	1700	1400	2100	1400	1300	1100	1300	1300	1400	1300	1300	1500
Fluoride	mg/L	0.62	0.70	0.94	0.64	1.3	1.3	1.4	0.99	0.34	0.39	0.29	0.31	0.33	0.51	0.49	0.52
Hardness	mg/L	570	490	1100	470	980	720	760	640	600	570	580	580	670	550	530	580
Nitrate (as N)	mg/L	0.33	0.79	ND (0.10)	0.66	0.24	0.11	ND (0.10)	0.30	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Nitrite (as N)	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	0.33	0.79	ND (0.10)	0.66	0.24	0.11	ND (0.10)	0.30	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Orthophosphate	mg/L	0.013	ND (0.010)	ND (0.010)	0.026	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.011	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.010
pH, lab	s.u.	7.69	7.59	7.80	7.92	8.06	8.03	7.88	7.99	7.70	7.68	7.73	7.82	7.69	7.70	7.64	7.84
Phenolics (total)	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.0011	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	-	ND (0.0010)
Sulfate (dissolved)	mg/L	180	140	630	99	620	360	550	320	160	110	150	150	140	310	310	270
Total dissolved solids (TDS)	mg/L	665	565	1900	515	1250	880	1310	935	775	580	720	720	780	820	800	940
Total kjeldahl nitrogen (TKN)	mg/L	0.16	0.19	0.23	0.26	0.14	0.22	0.20	0.29	ND (0.10)	0.29	0.16	0.14	0.23	0.35	0.40	0.37
Total organic carbon (TOC)	mg/L	3.4	3.1	2.4	4.5	2.2	1.8	1.9	3.7	3.2	3.1	2.3	2.2	3.7	5.0	4.9	4.6

Notes:

ND Not detected at the associated reporting limit.

Appendix N.1

Leachate and Groundwater Chemistry Data
Shallow (Eramosa) Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		47-IV	47-IV	48-IV	48-IV	48-IV	48-IV	49-IV	49-IV	49-IV	49-IV	49-IV	50-II	51-V	51-V	51-V	51-V	52-III
Sample ID:		47-IV	47-IV	48-IV	48-IV	48-IV	48-IV	49-IV	49-IV	3-II	49-IV	49-IV	50-II	51-V	51-V	51-V	51-V	52-III
Sample Date:		8/3/2021	10/29/2021	1/29/2021	4/21/2021	8/3/2021	10/29/2021	1/27/2021	4/21/2021	4/21/2021 Duplicate	7/30/2021	11/4/2021	8/30/2021	2/2/2021	4/22/2021	8/6/2021	11/5/2021	2/3/2021
Parameters	**Units**																	
Metals																		
Aluminum (dissolved)	mg/L	ND (0.0049)	0.0049	0.011	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.025)	ND (0.0049)	ND (0.0049)	ND (0.0049)	0.026	ND (0.0049)	ND (0.0049)	0.005	0.006	0.064	0.0076
Antimony (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Arsenic (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	0.0015	0.0015	0.0043	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Barium (dissolved)	mg/L	0.057	0.054	0.04	0.055	0.053	0.041	0.062	0.057	0.055	0.049	0.043	0.0088	0.024	0.032	0.025	0.044	0.038
Beryllium (dissolved)	mg/L	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)
Bismuth (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Boron (dissolved)	mg/L	0.14	0.21	0.15	0.095	0.088	0.14	0.83	0.07	0.081	0.053	0.13	0.12	0.15	0.17	0.1	0.15	0.043
Cadmium (dissolved)	mg/L	0.00014	ND (0.00009)	0.00013	0.00021	0.0002	0.00014	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	0.00012	ND (0.00009)	0.00016	ND (0.00009)	0.0015
Calcium (dissolved)	mg/L	140	130	210	290	250	180	460	250	240	240	280	470	150	160	150	160	110
Chromium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Cobalt (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	0.0029	0.0031	0.0077	0.002	0.00079	0.0006	0.0009	0.00076	0.001	ND (0.0005)
Copper (dissolved)	mg/L	ND (0.0009)	0.0012	0.0014	ND (0.0009)	ND (0.0009)	0.0017	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	0.0019	ND (0.0009)	ND (0.0009)	0.013
Iron (dissolved)	mg/L	ND (0.1)	0.47	ND (0.1)	0.11	ND (0.1)	ND (0.1)	0.51	1.8	1.6	1.1	1.1	ND (0.1)	ND (0.1)	0.3	0.15	0.14	ND (0.1)
Lead (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0012	ND (0.0005)
Lithium (dissolved)	mg/L	ND (0.005)	ND (0.005)	0.052	0.043	0.052	0.039	0.22	0.049	0.045	0.048	0.068	0.19	0.018	0.018	0.018	0.022	ND (0.005)
Magnesium (dissolved)	mg/L	40	40	82	100	100	68	190	130	130	110	160	450	60	73	53	65	32
Manganese (dissolved)	mg/L	0.11	0.16	ND (0.002)	0.1	0.067	0.014	0.37	0.041	0.042	0.05	0.056	1.1	0.019	0.077	0.058	0.15	0.0095
Molybdenum (dissolved)	mg/L	0.0025	0.0029	0.0022	0.0016	0.0011	0.0014	ND (0.0025)	0.0063	0.0067	0.024	0.003	0.0013	0.007	0.0067	0.0051	0.0052	0.0018
Nickel (dissolved)	mg/L	0.0015	0.0011	0.0012	0.0019	0.002	0.0011	ND (0.005)	0.0093	0.01	0.04	0.0044	0.0066	0.0063	0.0059	0.0038	0.0043	0.0053
Phosphorus (dissolved)	mg/L	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Potassium (dissolved)	mg/L	2.8	3	3	4.8	4.2	2.5	13	5.6	5.2	5.4	5.7	7.8	4.3	4	3.7	3.9	1.7
Selenium (dissolved)	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.01)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)
Silicon (dissolved)	mg/L	4.7	6	7.3	6.3	6.4	7.2	9.9	4.6	4.5	4.1	5.1	6.1	4.6	4.8	3.7	4.9	2.9
Silver (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)
Sodium (dissolved)	mg/L	80	47	44	390	340	110	170	400	400	380	280	140	180	170	140	160	22
Strontium (dissolved)	mg/L	2.1	1.7	1.3	2	2.1	1.1	5.3	3.5	3.3	3.2	4.6	4	1.7	2	2	1.8	0.6
Tellurium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Thallium (dissolved)	mg/L	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	0.000078	0.00014	ND (0.00005)	ND (0.00005)	ND (0.00005)
Tin (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Titanium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Tungsten (dissolved)	mg/L	ND (0.001)	ND (0.001)	0.002	0.0013	0.0012	0.001	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Uranium (dissolved)	mg/L	0.0022	0.0022	0.0056	0.0083	0.0062	0.0054	0.0034	0.0049	0.0051	0.011	0.0025	0.026	0.0085	0.0073	0.0048	0.0063	0.0037
Vanadium (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	0.0006	0.00072	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Zinc (dissolved)	mg/L	0.21	0.11	0.061	0.11	0.11	0.062	ND (0.025)	ND (0.005)	ND (0.005)	0.026	0.009	0.073	0.19	0.21	0.06	0.1	0.36
Zirconium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
General Chemistry																		
Alkalinity, total (as CaCO3)	mg/L	270	320	300	340	370	380	350	320	320	270	340	360	270	270	220	260	260
Ammonia-N	mg/L	ND (0.050)	0.13	ND (0.050)	0.074	0.082	ND (0.050)	1.3	0.39	0.38	0.60	0.48	ND (0.050)	ND (0.050)	0.13	0.16	ND (0.050)	ND (0.050)
Ammonia-N/Strontium Ratio	ratio	0.0238	0.0765	0.0385	0.0370	0.0390	0.0455	0.2453	0.1114	0.1152	0.1875	0.1043	0.0125	0.0294	0.0650	0.0800	0.0278	0.0833
Bromide (dissolved)	mg/L	ND (1.0)	ND (1.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (10)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (10)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (1.0)
Chloride (dissolved)	mg/L	110	38	79	700	630	230	210	720	710	620	510	140	240	260	260	230	8.5
Chloride/Magnesium Ratio	ratio	2.7500	0.9500	0.9634	7.0000	6.3000	3.3824	1.1053	5.5385	5.4615	5.6364	3.1875	0.3111	4.0000	3.5616	4.9057	3.5385	0.2656
Conductivity	umhos/cm	1300	1100	1600	3700	3700	1800	3700	3800	3800	3700	3600	4000	2200	2000	2000	2000	860
Fluoride	mg/L	0.52	0.65	0.49	0.49	0.44	0.46	1.3	1.4	1.4	1.5	1.5	0.48	1.0	1.1	1.3	1.1	0.38
Hardness	mg/L	510	490	860	1100	1100	730	1900	1200	1100	1100	1400	3000	620	700	590	670	410
Nitrate (as N)	mg/L	ND (0.10)	ND (0.10)	0.43	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.13	ND (0.10)	ND (0.10)	ND (0.10)	4.07
Nitrite (as N)	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	ND (0.10)	ND (0.10)	0.43	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.13	ND (0.10)	ND (0.10)	ND (0.10)	4.07
Orthophosphate	mg/L	ND (0.010)	0.016	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.018	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.011	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.025
pH, lab	s.u.	7.86	7.75	7.84	7.65	7.77	7.71	7.75	7.62	7.64	7.81	7.77	7.55	7.80	7.94	7.77	7.70	7.80
Phenolics (total)	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
Sulfate (dissolved)	mg/L	240	190	500	640	490	260	1700	710	690	590	970	2700	530	480	410	400	180
Total dissolved solids (TDS)	mg/L	870	665	1170	2260	2160	1070	3020	2230	2260	2090	2450	4190	1210	1240	1180	1150	515
Total kjeldahl nitrogen (TKN)	mg/L	0.37	0.70	ND (0.10)	0.24	0.25	0.17	1.6	0.48	0.56	0.87	0.88	0.44	0.22	0.44	0.29	0.38	0.33
Total organic carbon (TOC)	mg/L	4.1	6.5	2.6	2.2	2.0	2.6	3.9	2.9	3.0	3.6	2.6	2.3	3.8	4.1	3.6	32	3.6

Notes:

ND Not detecte

Appendix N.1

Leachate and Groundwater Chemistry Data
Shallow (Eramosa) Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		52-III	52-III	52-III	77-III	77-III	77-III	77-III	G11	G11	G11	G11	G13	G13	G13	G13	G24	G24
Sample ID:		52-III	52-III	52-III	77-III	77-III	12-I	77-III	G11	G11	G11	GII	G13	G13	G13	G13	G24	G24
Sample Date:		4/23/2021	8/11/2021	11/8/2021	5/7/2021	8/4/2021	8/4/2021 Duplicate	10/28/2021	2/2/2021	4/20/2021	7/30/2021	11/5/2021	2/2/2021	4/20/2021	7/30/2021	11/5/2021	1/25/2021	4/14/2021
Parameters	**Units**																	
Metals																		
Aluminum (dissolved)	mg/L	0.021	0.0065	0.38	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)	0.012	0.0088	ND (0.0049)	0.009	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)
Antimony (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Arsenic (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Barium (dissolved)	mg/L	0.038	0.048	0.05	0.046	0.053	0.055	0.035	0.031	0.036	0.031	0.019	0.03	0.029	0.033	0.019	0.05	0.032
Beryllium (dissolved)	mg/L	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)
Bismuth (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Boron (dissolved)	mg/L	0.023	0.045	0.031	0.13	0.11	0.11	0.25	0.14	0.071	0.13	0.22	0.27	0.27	0.28	0.39	0.23	0.13
Cadmium (dissolved)	mg/L	0.0017	0.00098	0.00064	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	0.0003	ND (0.00009)	ND (0.00009)	0.00033	0.00038	0.00036	0.0004	0.00039	0.0007	0.0005
Calcium (dissolved)	mg/L	100	140	120	260	270	260	200	220	200	190	130	210	180	180	150	220	130
Chromium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Cobalt (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	0.00055	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.001	ND (0.0005)	0.0011	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Copper (dissolved)	mg/L	0.0032	0.0025	0.0033	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	0.0034	0.003	0.0023	0.0039	0.0032	0.0031	0.0034	0.0057	0.0039	0.0026
Iron (dissolved)	mg/L	ND (0.1)	ND (0.1)	0.25	0.66	1	1	1.9	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Lead (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	0.0021	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.00082	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.00071	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.00071
Lithium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	0.054	0.056	0.058	0.051	0.011	0.011	0.0096	0.008	0.012	0.017	0.016	0.0081	0.013	0.008
Magnesium (dissolved)	mg/L	33	38	39	190	180	180	160	49	44	40	32	52	52	48	40	89	38
Manganese (dissolved)	mg/L	0.0028	0.0096	0.056	0.11	0.16	0.17	0.13	0.055	0.0053	0.037	0.0057	ND (0.002)	0.011	0.0065	0.0058	0.02	0.01
Molybdenum (dissolved)	mg/L	0.0016	0.0018	0.00099	0.00067	0.0017	0.0017	0.0022	0.013	0.013	0.012	0.014	0.0058	0.0062	0.0065	0.0053	0.0042	0.0036
Nickel (dissolved)	mg/L	0.0039	0.0098	0.0049	ND (0.001)	ND (0.001)	ND (0.001)	0.0014	0.034	0.033	0.026	0.028	0.014	0.015	0.015	0.014	0.015	0.011
Phosphorus (dissolved)	mg/L	ND (0.1)	ND (0.1)	0.12	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Potassium (dissolved)	mg/L	1.2	1.7	1.3	5.2	5.6	5.7	3.6	2.6	2.6	2.8	1.7	2.3	2	2.1	1.8	3.8	2.5
Selenium (dissolved)	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)
Silicon (dissolved)	mg/L	3.2	3	4.6	6.8	7	6.9	6.4	3.2	3	3.2	4	3.9	3.7	4.5	5.2	6.2	4.8
Silver (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)
Sodium (dissolved)	mg/L	29	24	24	390	410	410	180	650	880	650	280	210	180	220	100	23	18
Strontium (dissolved)	mg/L	0.41	0.7	0.47	3.8	3.8	3.8	2.5	2	1.7	1.7	0.9	1.6	1.7	1.7	1.1	1.7	0.87
Tellurium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Thallium (dissolved)	mg/L	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	0.00049	0.00029	0.0004	0.00033	0.00017	0.00015	0.0002	0.00014	0.00041	0.00025
Tin (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Titanium (dissolved)	mg/L	ND (0.005)	ND (0.005)	0.0064	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Tungsten (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Uranium (dissolved)	mg/L	0.0032	0.0037	0.0043	0.0029	0.0023	0.0022	0.0042	0.019	0.016	0.018	0.018	0.0098	0.0097	0.011	0.007	0.0076	0.0049
Vanadium (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	0.0008	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Zinc (dissolved)	mg/L	0.37	0.47	0.52	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	0.98	0.73	0.57	1.2	0.57	0.67	0.56	0.7	1.8	1.5
Zirconium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
General Chemistry																		
Alkalinity, total (as CaCO3)	mg/L	270	250	410	310	280	280	390	270	270	300	300	300	300	310	330	300	280
Ammonia-N	mg/L	ND (0.050)	0.058	0.055	0.22	0.26	0.34	0.14	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)
Ammonia-N/Strontium Ratio	ratio	0.1220	0.0829	0.1170	0.0579	0.0684	0.0895	0.0560	0.0250	0.0294	0.0294	0.0556	0.0313	0.0294	0.0294	0.0455	0.0294	0.0575
Bromide (dissolved)	mg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (10)	ND (10)	ND (10)	ND (5.0)	ND (10)	ND (10)	ND (10)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (1.0)	ND (5.0)	ND (1.0)
Chloride (dissolved)	mg/L	8.8	11	6.9	540	660	660	290	1100	1500	1000	400	380	320	290	130	10	8.8
Chloride/Magnesium Ratio	ratio	0.2667	0.2895	0.1769	2.8421	3.6667	3.6667	1.8125	22.4490	34.0909	25.0000	12.5000	7.3077	6.1538	6.0417	3.2500	0.1124	0.2316
Conductivity	umhos/cm	800	1000	870	3400	4200	4200	2600	4500	5500	4300	2200	2300	2100	2100	1400	1500	1000
Fluoride	mg/L	0.38	0.40	0.42	0.97	0.85	0.85	0.83	1.1	1.2	1.4	1.5	0.91	0.99	1.2	1.1	1.2	0.88
Hardness	mg/L	400	500	470	1400	1400	1400	1200	760	670	630	460	730	670	640	540	920	480
Nitrate (as N)	mg/L	1.14	0.81	1.35	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.13	0.26	ND (0.10)	1.15	3.87	2.99	0.96	4.99	0.27	0.50
Nitrite (as N)	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.018	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.031	0.028	0.018	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	1.14	0.81	1.35	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.14	0.26	ND (0.10)	1.15	3.87	3.02	0.99	5.01	0.27	0.50
Orthophosphate	mg/L	0.020	ND (0.010)	0.037	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.011	ND (0.010)
pH, lab	s.u.	7.90	7.89	7.77	7.62	7.43	7.54	7.56	7.60	7.68	7.81	7.57	7.71	7.77	7.87	7.64	7.71	7.84
Phenolics (total)	mg/L	ND (0.0010)	0.0011	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
Sulfate (dissolved)	mg/L	140	280	74	890	920	900	700	340	270	280	180	330	350	290	190	610	250
Total dissolved solids (TDS)	mg/L	455	700	790	2450	2580	2930	1920	2610	2980	2350	1180	1380	1220	1300	825	1180	595
Total kjeldahl nitrogen (TKN)	mg/L	0.29	0.45	0.59	0.52	0.53	0.47	0.50	0.30	0.22	0.36	0.29	0.19	0.33	0.18	0.32	0.31	0.27
Total organic carbon (TOC)	mg/L	3.2	3.2	4.5	3.5	4.2	4.3	5.5	2.8	3.0	3.8	3.0	3.0	2.5	3.1	3.7	6.9	3.7

Notes:

ND Not detecte

Appendix N.1

Leachate and Groundwater Chemistry Data
Shallow (Eramosa) Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		G24	G24	G27	G27	G27	G27	P4-IV	P4-IV	P4-IV	P8-II	P8-II	P8-II	P8-II	P9-II	P9-II	P9-II
Sample ID:		G24	G24	G27	G27	G27	G27	P4-IV	P4-IV	P4-IV	P8-II	P8-II	P8-II	P8-II	P9-II	2-II	P9-II
Sample Date:		7/26/2021	10/25/2021	1/28/2021	4/22/2021	7/28/2021	10/28/2021	2/2/2021	4/22/2021	11/5/2021	1/26/2021	4/22/2021	7/28/2021	10/28/2021	1/26/2021	1/26/2021 Duplicate	4/14/2021
Parameters	**Units**																
Metals																	
Aluminum (dissolved)	mg/L	0.0055	ND (0.0049)	0.19	0.29	0.23	0.47	0.17	ND (0.0049)	0.0081	ND (0.0049)	0.012	0.014	0.14	ND (0.025)	0.0049	ND (0.0049)
Antimony (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)
Arsenic (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.0013	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)
Barium (dissolved)	mg/L	0.058	0.047	0.035	0.028	0.066	0.058	0.025	0.021	0.011	0.025	0.037	0.032	0.035	0.032	0.029	0.026
Beryllium (dissolved)	mg/L	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.0004)	ND (0.0004)
Bismuth (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)
Boron (dissolved)	mg/L	0.13	0.22	0.039	0.031	0.18	0.13	0.097	0.088	0.039	0.11	0.11	0.13	0.12	0.097	0.088	0.092
Cadmium (dissolved)	mg/L	0.0001	0.000095	ND (0.00009)	0.000097	ND (0.00009)	0.00011	0.001	0.00051	0.00017	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)
Calcium (dissolved)	mg/L	220	160	120	120	370	240	86	77	72	170	290	330	260	240	230	300
Chromium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)
Cobalt (dissolved)	mg/L	0.0014	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.00069	0.00051	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.001	0.0031	0.001	ND (0.0025)	ND (0.0005)	ND (0.0005)
Copper (dissolved)	mg/L	ND (0.0009)	0.005	0.0014	0.0045	ND (0.0009)	0.0027	0.0046	0.0038	0.0025	0.0011	ND (0.0009)	ND (0.0009)	0.0013	ND (0.0045)	0.0013	ND (0.0009)
Iron (dissolved)	mg/L	0.27	ND (0.1)	0.23	0.41	0.35	0.7	0.26	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.69	0.2	ND (0.5)	ND (0.1)	ND (0.1)
Lead (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	0.00063	0.00095	0.0008	0.0014	0.0019	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)
Lithium (dissolved)	mg/L	0.0079	0.013	0.032	0.017	0.026	0.02	ND (0.005)	ND (0.005)	ND (0.005)	0.028	0.026	0.029	0.026	ND (0.025)	0.019	0.02
Magnesium (dissolved)	mg/L	50	52	97	61	48	64	27	26	20	72	85	77	77	49	46	42
Manganese (dissolved)	mg/L	0.073	0.01	0.0075	0.022	0.089	0.028	0.096	0.0027	ND (0.002)	0.027	0.1	0.23	0.047	0.01	0.0091	0.016
Molybdenum (dissolved)	mg/L	0.003	0.0034	0.004	0.0019	0.017	0.0042	0.0067	0.0047	0.0011	0.0074	0.011	0.013	0.0072	0.006	0.0059	0.0061
Nickel (dissolved)	mg/L	0.01	0.012	0.0019	0.003	0.0041	0.0074	0.0038	0.002	ND (0.001)	0.01	0.016	0.0085	0.022	0.012	0.011	0.0065
Phosphorus (dissolved)	mg/L	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.14	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.1)	ND (0.1)
Potassium (dissolved)	mg/L	4.2	3.4	1.5	1.7	13	4.1	7.8	7.7	3.5	3.5	5.1	5.6	4.2	5.1	4.7	4.3
Selenium (dissolved)	mg/L	ND (0.002)	ND (0.002)	0.0021	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.01)	ND (0.002)	ND (0.002)
Silicon (dissolved)	mg/L	5.1	7.3	5.4	4.9	3.7	5.1	5.9	5.1	6.6	4.8	3.7	3.7	4.5	3.5	3.3	3
Silver (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)
Sodium (dissolved)	mg/L	46	18	55	57	160	140	28	26	5.1	78	160	130	170	250	230	220
Strontium (dissolved)	mg/L	2.3	1.1	1.1	0.96	2.7	1.8	0.53	0.49	0.2	1.5	2.7	2.7	2.7	2	2	2.4
Tellurium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)
Thallium (dissolved)	mg/L	0.00019	0.00042	ND (0.00005)	0.000073	0.000098	0.00023	0.00022	0.00012	ND (0.00005)	0.00014	0.00032	0.00023	0.00079	ND (0.00025)	ND (0.00005)	ND (0.00005)
Tin (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)
Titanium (dissolved)	mg/L	ND (0.005)	ND (0.005)	0.0055	0.0068	0.0069	0.012	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	0.0054	ND (0.025)	ND (0.005)	ND (0.005)
Tungsten (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.0015	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)
Uranium (dissolved)	mg/L	0.0053	0.0058	0.0096	0.0057	0.003	0.012	0.0026	0.0022	0.0016	0.009	0.0093	0.0061	0.013	0.0088	0.0083	0.0083
Vanadium (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	0.00084	0.00082	0.00061	0.001	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.001	0.00059	ND (0.0005)	0.00056	ND (0.0025)	ND (0.0005)	ND (0.0005)
Zinc (dissolved)	mg/L	0.95	1.6	0.022	0.037	0.038	0.22	0.21	0.13	0.049	0.32	0.58	0.22	0.99	ND (0.025)	ND (0.005)	ND (0.005)
Zirconium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)
General Chemistry																	
Alkalinity, total (as CaCO3)	mg/L	290	320	300	260	92	300	240	220	230	250	160	170	270	190	190	190
Ammonia-N	mg/L	0.094	ND (0.050)	ND (0.050)	ND (0.050)	1.3	ND (0.050)	0.066	ND (0.050)	ND (0.050)	0.083	0.14	0.58	0.11	0.12	0.12	0.088
Ammonia-N/Strontium Ratio	ratio	0.0409	0.0455	0.0455	0.0521	0.4815	0.0278	0.1245	0.1020	0.2500	0.0553	0.0519	0.2148	0.0407	0.0600	0.0600	0.0367
Bromide (dissolved)	mg/L	ND (1.0)	ND (1.0)	ND (5.0)	ND (1.0)	ND (5.0)	ND (5.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
Chloride (dissolved)	mg/L	95	7.6	130	92	220	200	25	12	8.7	140	250	170	260	370	340	390
Chloride/Magnesium Ratio	ratio	1.9000	0.1462	1.3402	1.5082	4.5833	3.1250	0.9259	0.4615	0.4350	1.9444	2.9412	2.2078	3.3766	7.5510	7.3913	9.2857
Conductivity	umhos/cm	1400	980	1500	1300	2500	2000	810	620	510	1700	2600	2600	2400	2400	2300	2500
Fluoride	mg/L	0.81	1.1	1.3	0.68	1.8	1.0	0.73	0.63	0.36	1.1	1.2	1.5	1.1	0.83	0.82	0.80
Hardness	mg/L	750	610	710	560	1100	860	330	300	260	730	1100	1200	960	800	770	930
Nitrate (as N)	mg/L	ND (0.10)	0.26	4.42	5.56	0.11	5.07	0.27	0.21	0.17	5.30	0.36	0.19	3.04	1.38	1.32	0.78
Nitrite (as N)	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.014	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	ND (0.10)	0.26	4.42	5.56	0.11	5.08	0.27	0.21	0.17	5.30	0.36	0.19	3.04	1.38	1.32	0.78
Orthophosphate	mg/L	ND (0.010)	0.013	0.033	0.016	0.010	ND (0.010)	0.019	0.018	0.021	0.015	ND (0.010)	ND (0.010)	ND (0.010)	0.015	0.014	0.010
pH, lab	s.u.	7.84	7.97	8.23	8.14	7.76	7.74	7.98	8.12	7.98	8.01	7.65	7.70	7.67	7.91	8.00	7.95
Phenolics (total)	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.0024	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.0018	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
Sulfate (dissolved)	mg/L	380	310	300	230	850	600	140	82	36	430	970	950	680	510	470	540
Total dissolved solids (TDS)	mg/L	935	760	1010	820	1910	1470	440	405	270	1050	1850	1760	1620	1580	1590	1560
Total kjeldahl nitrogen (TKN)	mg/L	0.35	0.28	ND (0.10)	ND (0.20)	1.7	1.5	0.30	0.30	0.15	ND (0.20)	0.43	0.79	1.2	0.18	0.29	0.62
Total organic carbon (TOC)	mg/L	3.2	6.0	2.7	3.5	6.4	3.4	4.8	4.1	3.6	3.0	3.2	4.1	4.2	2.9	2.8	2.8

Notes:

ND Not detecte

Appendix N.1

Leachate and Groundwater Chemistry Data
Shallow (Eramosa) Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**P9-II**	**P9-II**	**P9-II**	**P10-V**	**P10-V**	**P10-V**	**P10-V**
Sample ID:		**P9-II**	**2-II**	**P9-II**	**P10-V**	**P10-V**	**P10-V**	**P10-V**
Sample Date:		**7/27/2021**	**7/27/2021 Duplicate**	**10/25/2021**	**2/2/2021**	**4/26/2021**	**8/3/2021**	**11/5/2021**
Parameters	**Units**							
Metals								
Aluminum (dissolved)	mg/L	ND (0.0049)	ND (0.0049)	0.011	ND (0.0049)	0.013	ND (0.0049)	ND (0.0049)
Antimony (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Arsenic (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Barium (dissolved)	mg/L	0.027	0.027	0.026	0.04	0.035	0.055	0.043
Beryllium (dissolved)	mg/L	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)
Bismuth (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Boron (dissolved)	mg/L	0.17	0.2	0.16	0.18	0.079	0.21	0.17
Cadmium (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	0.0016	0.0011	0.0029	0.0009
Calcium (dissolved)	mg/L	190	190	160	120	99	130	100
Chromium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Cobalt (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	0.0013	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Copper (dissolved)	mg/L	ND (0.0009)	ND (0.0009)	0.0011	0.0051	0.0047	0.0045	0.0059
Iron (dissolved)	mg/L	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Lead (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.00088	0.0056	0.0015	0.002
Lithium (dissolved)	mg/L	0.026	0.027	0.027	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Magnesium (dissolved)	mg/L	41	40	43	46	32	41	38
Manganese (dissolved)	mg/L	0.008	0.0081	0.071	0.0056	0.0085	0.0037	0.011
Molybdenum (dissolved)	mg/L	0.0067	0.0062	0.0049	0.0026	0.0014	0.002	0.0016
Nickel (dissolved)	mg/L	0.0096	0.0095	0.011	0.0065	0.0046	0.0071	0.0036
Phosphorus (dissolved)	mg/L	ND (0.1)	ND (0.1)	ND (0.1)	0.12	0.12	0.1	0.17
Potassium (dissolved)	mg/L	4.5	4.5	3.4	4.3	7.7	8.7	12
Selenium (dissolved)	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)
Silicon (dissolved)	mg/L	3	3.2	4.8	7.9	5.1	7.2	10
Silver (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)
Sodium (dissolved)	mg/L	230	230	88	35	23	56	20
Strontium (dissolved)	mg/L	2.3	2.2	1.4	0.95	0.6	0.92	0.71
Tellurium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Thallium (dissolved)	mg/L	ND (0.00005)	ND (0.00005)	ND (0.00005)	0.00014	0.0001	0.00023	0.00017
Tin (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Titanium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Tungsten (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Uranium (dissolved)	mg/L	0.0075	0.0072	0.0072	0.0057	0.003	0.0045	0.0034
Vanadium (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.00057
Zinc (dissolved)	mg/L	ND (0.005)	ND (0.005)	0.007	0.86	0.53	0.76	0.34
Zirconium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
General Chemistry								
Alkalinity, total (as CaCO3)	mg/L	190	190	230	390	320	360	380
Ammonia-N	mg/L	0.084	0.10	0.32	0.061	ND (0.050)	ND (0.050)	ND (0.050)
Ammonia-N/Strontium Ratio	ratio	0.0365	0.0455	0.2286	0.0642	0.0833	0.0543	0.0704
Bromide (dissolved)	mg/L	ND (5.0)	ND (5.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Chloride (dissolved)	mg/L	360	350	100	12	41	45	8.3
Chloride/Magnesium Ratio	ratio	8.7805	8.7500	2.3256	0.2609	1.2813	1.0976	0.2184
Conductivity	umhos/cm	2300	2300	1100	980	930	1200	810
Fluoride	mg/L	1.0	0.95	0.96	0.79	0.50	0.60	0.84
Hardness	mg/L	640	650	570	480	380	490	420
Nitrate (as N)	mg/L	0.40	0.40	0.68	0.34	0.31	ND (0.10)	ND (0.10)
Nitrite (as N)	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	0.40	0.40	0.68	0.34	0.31	ND (0.10)	ND (0.10)
Orthophosphate	mg/L	ND (0.010)	ND (0.010)	0.011	0.051	0.070	0.090	0.13
pH, lab	s.u.	7.93	7.86	8.14	7.81	7.82	7.86	7.78
Phenolics (total)	mg/L	ND (0.0010)	ND (0.0010)	0.0012	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
Sulfate (dissolved)	mg/L	430	420	330	140	110	200	58
Total dissolved solids (TDS)	mg/L	1420	1370	845	590	420	750	430
Total kjeldahl nitrogen (TKN)	mg/L	0.42	0.26	0.46	0.28	0.21	0.34	0.37
Total organic carbon (TOC)	mg/L	2.8	2.7	3.2	4.5	3.9	4.2	4.9

Notes:

ND Not detecte

Appendix N.1

Leachate and Groundwater Chemistry Data
Vinemount Flow Zone - Organics
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**35-VII**	**35-VII**	**47-III**	**47-III**	**51-IV**	**51-IV**	**68-IV**	**68-IV**	**P10-IV**	**P10-IV**
Sample ID:		**35-VII**	**35-VII**	**47-III**	**47-III**	**51-IV**	**51- IV**	**68-IV**	**68-IV**	**P10-IV**	**P10-IV**
Sample Date:		**4/16/2021**	**10/25/2021**	**4/21/2021**	**10/29/2021**	**4/22/2021**	**11/4/2021**	**4/20/2021**	**10/26/2021**	**4/15/2021**	**10/25/2021**
Parameters	**Units**										
Volatiles											
1,1,1,2-Tetrachloroethane	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (0.20)
1,1,1-Trichloroethane	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (0.10)
1,1,2,2-Tetrachloroethane	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (0.20)
1,1,2-Trichloroethane	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (0.20)
1,1-Dichloroethane	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (0.10)
1,1-Dichloroethene	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (0.10)
1,2-Dibromoethane (Ethylene dibromide)	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (0.20)
1,2-Dichlorobenzene	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (0.20)
1,2-Dichloroethane	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (0.20)
1,2-Dichloropropane	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (0.10)
1,3-Dichlorobenzene	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (0.20)
1,4-Dichlorobenzene	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (0.20)
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (25)	ND (5.0)
2-Hexanone	ug/L	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (25)	ND (5.0)
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (25)	ND (5.0)
Acetone	ug/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (50)	ND (10)
Acrolein	ug/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (50)	ND (10)
Acrylonitrile	ug/L	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (25)	ND (5.0)
Benzene	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (0.10)
Bromodichloromethane	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (0.10)
Bromoform	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (0.20)
Bromomethane (Methyl bromide)	ug/L	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.5)	ND (0.50)
Carbon tetrachloride	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (0.10)
Chlorobenzene	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (0.10)
Chloroethane	ug/L	ND (0.20)	ND (0.20)	ND (5.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (0.20)
Chloroform (Trichloromethane)	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (0.10)
Chloromethane (Methyl chloride)	ug/L	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.5)	ND (0.50)
cis-1,2-Dichloroethene	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (0.10)
cis-1,3-Dichloropropene	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (0.20)
Dibromochloromethane	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (0.20)
Ethylbenzene	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (0.10)
m&p-Xylenes	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (0.10)
Methyl tert butyl ether (MTBE)	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (0.20)
Methylene chloride	ug/L	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.5)	ND (0.50)
o-Xylene	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (0.10)
Styrene	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (0.20)
Tetrachloroethene	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (0.10)
Toluene	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (0.20)
trans-1,2-Dichloroethene	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (0.10)
trans-1,3-Dichloropropene	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (0.20)
Trichloroethene	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (0.10)
Trichlorofluoromethane (CFC-11)	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (0.20)
Trihalomethanes	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (0.20)
Vinyl chloride	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (0.20)
Xylenes (total)	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (0.10)
Semi-Volatiles											
1,2,3,4-Tetrachlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
1,2,3,5-Tetrachlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
1,2,3-Trichlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
1,2,4,5-Tetrachlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
1,2,4-Trichlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
1,2-Dichlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
1,3,5-Trichlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
1,3-Dichlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
1,4-Dichlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
1-Chloronaphthalene	ug/L	ND (4.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (4.0)
1-Methylnaphthalene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	1.5	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)
2,2'-Oxybis(2-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
2,3,4,5-Tetrachlorophenol	ug/L	ND (1.6)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (1.6)	ND (0.40)	ND (0.40)	ND (1.6)	ND (1.6)

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Sample Location:		**35-VII**	**35-VII**	**47-III**	**47-III**	**51-IV**	**51-IV**	**68-IV**	**68-IV**	**P10-IV**	**P10-IV**
Sample ID:		**35-VII**	**35-VII**	**47-III**	**47-III**	**51-IV**	**51- IV**	**68-IV**	**68-IV**	**P10-IV**	**P10-IV**
Sample Date:		**4/16/2021**	**10/25/2021**	**4/21/2021**	**10/29/2021**	**4/22/2021**	**11/4/2021**	**4/20/2021**	**10/26/2021**	**4/15/2021**	**10/25/2021**
Parameters	**Units**										
2,3,4,6-Tetrachlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
2,3,4-Trichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
2,3,5,6-Tetrachlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
2,3,5-Trichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
2,3,6-Trichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
2,3-Dichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
2,4,5-Trichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
2,4,6-Trichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
2,4-Dichlorophenol	ug/L	ND (1.2)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (1.2)	ND (0.30)	ND (0.30)	ND (1.2)	ND (1.2)
2,4-Dimethylphenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
2,4-Dinitrophenol	ug/L	ND (25)	ND (6.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (8.0)	ND (2.0)	ND (2.0)	ND (25)	ND (25)
2,4-Dinitrotoluene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
2,5-Dichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
2,6-Dichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
2,6-Dinitrotoluene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
2-Chloronaphthalene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
2-Chlorophenol	ug/L	ND (1.2)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (1.2)	ND (0.30)	ND (0.30)	ND (1.2)	ND (1.2)
2-Methylnaphthalene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	2.4	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)
2-Methylphenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
2-Nitrophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
3&4-Methylphenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
3,3'-Dichlorobenzidine	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
3,4,5-Trichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
3,4-Dichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
3,5-Dichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
4,6-Dinitro-2-methylphenol	ug/L	ND (8.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (8.0)	ND (2.0)	ND (2.0)	ND (8.0)	ND (8.0)
4-Bromophenyl phenyl ether	ug/L	ND (1.2)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (1.2)	ND (0.30)	ND (0.30)	ND (1.2)	ND (1.2)
4-Chloro-3-methylphenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
4-Chloroaniline	ug/L	ND (4.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (4.0)
4-Chlorophenyl phenyl ether	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
4-Nitrophenol	ug/L	ND (25)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (5.6)	ND (1.4)	ND (1.4)	ND (25)	ND (5.6)
5-Nitroacenaphthene	ug/L	ND (4.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (4.0)
Acenaphthene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	1.0	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)
Acenaphthylene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)
Anthracene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)
Benzo(a)anthracene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)
Benzo(a)pyrene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)
Benzo(b)fluoranthene/Benzo(j)fluoranthene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)
Benzo(g,h,i)perylene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)
Benzo(k)fluoranthene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)
Biphenyl (1,1-Biphenyl)	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
bis(2-Chloroethoxy)methane	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
bis(2-Chloroethyl)ether	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	ND (8.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (8.0)	ND (2.0)	ND (2.0)	ND (8.0)	ND (8.0)
Butyl benzylphthalate (BBP)	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
Chrysene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)
Dibenz(a,h)anthracene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)
Diethyl phthalate	ug/L	ND (4.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (4.0)
Dimethyl phthalate	ug/L	ND (4.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (4.0)
Di-n-butylphthalate (DBP)	ug/L	ND (8.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (8.0)	ND (2.0)	ND (2.0)	ND (8.0)	ND (8.0)
Di-n-octyl phthalate (DnOP)	ug/L	ND (3.2)	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	ND (3.2)	ND (0.80)	ND (0.80)	ND (3.2)	ND (3.2)
Diphenyl ether	ug/L	ND (1.2)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (1.2)	ND (0.30)	ND (0.30)	ND (1.2)	ND (1.2)
Fluoranthene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)
Fluorene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)
Hexachlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
Hexachlorobutadiene	ug/L	ND (1.6)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (1.6)	ND (0.40)	ND (0.40)	ND (1.6)	ND (1.6)
Hexachlorocyclopentadiene	ug/L	ND (8.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (8.0)	ND (2.0)	ND (2.0)	ND (8.0)	ND (8.0)
Hexachloroethane	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
Indeno(1,2,3-cd)pyrene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)
Isophorone	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
Naphthalene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	10	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)
Nitrobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
Nitrosodiphenylamine/Diphenylamine	ug/L	ND (4.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (1.0)	-	ND (4.0)	ND (4.0)
N-Nitrosodi-n-propylamine	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)

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GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**35-VII**	**35-VII**	**47-III**	**47-III**	**51-IV**	**51-IV**	**68-IV**	**68-IV**	**P10-IV**	**P10-IV**
Sample ID:		**35-VII**	**35-VII**	**47-III**	**47-III**	**51-IV**	**51- IV**	**68-IV**	**68-IV**	**P10-IV**	**P10-IV**
Sample Date:		**4/16/2021**	**10/25/2021**	**4/21/2021**	**10/29/2021**	**4/22/2021**	**11/4/2021**	**4/20/2021**	**10/26/2021**	**4/15/2021**	**10/25/2021**
Parameters	**Units**										
Pentachlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
Pentachlorophenol	ug/L	ND (25)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (1.0)	ND (1.0)	ND (25)	ND (4.0)
Perylene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)
Phenanthrene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)
Phenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)
Pyrene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)
Pesticides											
2,4'-DDD	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
2,4'-DDD + 4,4'-DDD	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
2,4'-DDE	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
2,4'-DDE + 4,4'-DDE	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
2,4'-DDT	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
2,4'-DDT + 4,4'-DDT	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
4,4'-DDD	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
4,4'-DDE	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
4,4'-DDT	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Aldrin	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
alpha-BHC	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
alpha-Chlordane	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Aroclor-1242 (PCB-1242)	ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.2)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Aroclor-1248 (PCB-1248)	ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.2)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Aroclor-1254 (PCB-1254)	ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.2)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Aroclor-1260 (PCB-1260)	ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.2)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
beta-BHC	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Chlordane	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Dieldrin	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Endosulfan	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Endosulfan I	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Endosulfan II	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Endrin	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Endrin aldehyde	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Endrin ketone	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
gamma-BHC (lindane)	ug/L	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.01)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)
gamma-Chlordane	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Heptachlor	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Heptachlor epoxide	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Hexachlorobenzene	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Hexachlorobutadiene	ug/L	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.02)	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.009)
Hexachloroethane	ug/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.02)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Methoxychlor	ug/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.03)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Mirex	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Total PCBs	ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.2)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Toxaphene	ug/L	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.4)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)

Notes:

ND Not detected at the associated reporting limit.

Appendix N.1

Leachate and Groundwater Chemistry Data
Vinemount Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**9-I**	**9-I**	**9-I**	**9-I**	**29-II**	**29-II**	**29-II**	**29-II**	**31-III**	**31-III**	**31-III**	**31-III**	**33-I**	**33-I**	**33-I**	**33-I**	**35-VII**
Sample ID:		**9-I**	**9-I**	**9-I**	**9-I**	**29-II**	**29-II**	**29-II**	**29-II**	**31-III**	**31-III**	**31-III**	**31-III**	**33-I**	**33-I**	**33-I**	**33-I**	**35-VII**
Sample Date:		**2/2/2021**	**4/22/2021**	**8/3/2021**	**11/5/2021**	**1/27/2021**	**4/21/2021**	**7/26/2021**	**11/5/2021**	**1/25/2021**	**4/19/2021**	**7/26/2021**	**10/25/2021**	**1/28/2021**	**4/13/2021**	**7/30/2021**	**10/25/2021**	**1/25/2021**
Parameters	**Units**																	
Metals																		
Aluminum (dissolved)	mg/L	0.0051	ND (0.0049)	0.0083	0.0067	0.0097	ND (0.0049)	0.012	0.019	0.0058	0.0051	ND (0.0049)	ND (0.0049)	ND (0.025)	0.0084	0.0054	0.014	0.0053
Antimony (dissolved)	mg/L	0.00054	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0026	0.0023	0.0025	0.00095	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Arsenic (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.001	ND (0.001)	0.0011	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	0.0021	ND (0.001)	ND (0.001)	ND (0.001)
Barium (dissolved)	mg/L	0.051	0.045	0.042	0.064	0.043	0.068	0.062	0.042	0.013	0.0078	0.016	0.0065	0.1	0.11	0.12	0.03	0.038
Beryllium (dissolved)	mg/L	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)
Bismuth (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Boron (dissolved)	mg/L	0.1	0.11	0.12	0.16	0.44	0.46	0.72	0.43	0.65	0.54	0.67	0.49	0.34	0.41	0.39	0.12	0.17
Cadmium (dissolved)	mg/L	0.0042	0.0018	0.0011	0.0027	0.00032	0.00023	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	0.00035	ND (0.00009)	ND (0.00009)
Calcium (dissolved)	mg/L	330	240	210	340	280	270	280	200	68	64	71	63	430	420	480	130	250
Chromium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Cobalt (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0016	0.0006	0.0014	0.00057	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0005
Copper (dissolved)	mg/L	0.006	0.0033	0.003	0.0043	0.0051	0.0026	0.0018	0.0021	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0009)	0.0055	0.0026	ND (0.0009)
Iron (dissolved)	mg/L	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.36	ND (0.1)	0.25	0.53	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.51	0.28	ND (0.1)	ND (0.1)	ND (0.1)
Lead (dissolved)	mg/L	0.00081	0.0012	ND (0.0005)	0.00054	0.0018	0.00083	0.0017	0.0018	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Lithium (dissolved)	mg/L	0.0061	0.0087	0.007	0.0084	0.041	0.044	0.053	0.029	0.044	0.032	0.042	0.031	ND (0.025)	0.025	0.021	0.0065	0.017
Magnesium (dissolved)	mg/L	69	54	41	68	68	68	84	64	23	18	25	18	21	14	13	8.1	31
Manganese (dissolved)	mg/L	0.026	0.024	0.054	0.02	0.38	0.11	0.78	0.39	0.0092	0.0085	0.0094	0.0088	0.71	0.5	0.083	0.015	0.049
Molybdenum (dissolved)	mg/L	0.0033	0.0035	0.0033	0.0025	0.032	0.026	0.027	0.013	0.0021	0.0011	0.0014	0.0029	0.024	0.028	0.016	0.0052	0.0016
Nickel (dissolved)	mg/L	0.012	0.01	0.007	0.013	0.0096	0.006	0.0086	0.0046	0.0013	0.001	0.0015	ND (0.001)	ND (0.005)	0.0016	0.0023	ND (0.001)	0.0026
Phosphorus (dissolved)	mg/L	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.12	ND (0.1)	ND (0.1)	ND (0.1)	0.14	ND (0.1)	0.12	ND (0.1)	ND (0.5)	0.21	ND (0.1)	0.21	0.13
Potassium (dissolved)	mg/L	5.6	5.7	4.9	7.1	28	23	33	16	61	41	66	37	49	57	60	21	4.6
Selenium (dissolved)	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	0.0095	0.0063	ND (0.002)	ND (0.002)	ND (0.01)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)
Silicon (dissolved)	mg/L	4.4	4.2	4.8	5.8	3.1	1.7	4.4	2.9	12	7.9	13	6.2	4.7	4.6	4.8	4.2	4.7
Silver (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)
Sodium (dissolved)	mg/L	87	92	81	78	230	250	300	130	470	360	500	360	400	350	430	84	39
Strontium (dissolved)	mg/L	2.9	3.1	3.2	3.1	2.3	2.8	2.9	2.2	3	2.8	3.1	2.8	2	1.9	2.1	0.6	1.3
Tellurium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.0029	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Thallium (dissolved)	mg/L	0.00023	0.00026	0.00034	0.00047	0.00016	0.00021	0.00018	0.000066	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)
Tin (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.0063	0.0032	0.0013	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Titanium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Tungsten (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.0012	0.001	0.0011	0.001	ND (0.005)	0.004	ND (0.001)	ND (0.001)	ND (0.001)
Uranium (dissolved)	mg/L	0.0058	0.0052	0.0038	0.0051	0.0025	0.0018	0.0034	0.002	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0005)	0.0002	ND (0.0001)	0.00026	0.0034
Vanadium (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0019	0.00072	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	0.0018	ND (0.0005)	0.0007	ND (0.0005)
Zinc (dissolved)	mg/L	1.5	1	0.51	2	0.062	0.051	0.015	0.014	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	0.042
Zirconium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
General Chemistry																		
Alkalinity, total (as CaCO3)	mg/L	270	250	240	320	160	140	150	200	150	120	190	77	46	48	49	95	330
Ammonia-N	mg/L	ND (0.050)	ND (0.050)	ND (0.050)	0.29	0.67	ND (0.050)	0.76	0.13	11	8.7	12	7.2	3.2	3.9	ND (0.050)	ND (0.050)	0.069
Ammonia-N/Strontium Ratio	ratio	0.0172	0.0161	0.0156	0.0935	0.2913	0.0179	0.2621	0.0591	3.6667	3.1071	3.8710	2.5714	1.6000	2.0526	0.0238	0.0833	0.0531
Bromide (dissolved)	mg/L	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (10)	ND (10)	ND (10)	ND (1.0)	ND (5.0)
Chloride (dissolved)	mg/L	130	140	130	110	350	400	450	210	550	420	570	330	420	420	340	61	33
Chloride/Magnesium Ratio	ratio	1.8841	2.5926	3.1707	1.6176	5.1471	5.8824	5.3571	3.2813	23.9130	23.3333	22.8000	18.3333	20.0000	30.0000	26.1538	7.5309	1.0645
Conductivity	umhos/cm	2200	1800	1700	2100	2800	2800	3000	2000	2900	2600	3000	2000	4200	4000	4100	960	1600
Fluoride	mg/L	0.84	0.91	1.0	0.97	0.83	0.89	1.3	0.86	1.9	2.0	2.0	2.2	1.5	1.8	1.8	0.60	0.50
Hardness	mg/L	1100	830	680	1100	980	960	1100	760	260	230	280	230	1200	1100	1300	350	760
Nitrate (as N)	mg/L	7.15	0.88	0.11	6.41	ND (0.10)	0.35	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.19	4.42	0.72	ND (0.10)
Nitrite (as N)	mg/L	0.023	ND (0.010)	ND (0.010)	ND (0.010)	0.018	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.027	ND (0.010)	0.011	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	7.17	0.88	0.11	6.41	ND (0.10)	0.35	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.19	4.44	0.72	ND (0.10)
Orthophosphate	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	0.010	0.011	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.50)	0.017	ND (0.010)	0.018	0.12	0.18	0.031	0.14	0.026
pH, lab	s.u.	7.67	8.09	7.89	7.56	7.91	7.81	8.00	7.87	7.70	7.72	7.99	7.89	7.66	7.72	7.41	8.13	7.78
Phenolics (total)	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.0010	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.026	0.021	0.019	0.025	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
Sulfate (dissolved)	mg/L	780	540	400	800	810	790	780	550	380	470	330	500	1600	1600	1300	270	530
Total dissolved solids (TDS)	mg/L	1600	1250	1140	1550	1900	1730	2030	1360	1630	1400	1720	1310	3050	2990	2810	240	1000
Total kjeldahl nitrogen (TKN)	mg/L	0.26	0.29	0.34	0.67	1.4	0.36	1.4	0.49	12	8.5	20	8.3	3.6	4.4	1.7	0.45	0.29
Total organic carbon (TOC)	mg/L	6.5	5.0	3.9	6.4	6.7	4.7	7.5	4.9	24	20	25	19	28	27	26	11	4.1

Notes:

ND Not detected at the associated reporting limit.

Appendix N.1

Leachate and Groundwater Chemistry Data
Vinemount Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**35-VII**	**35-VII**	**35-VII**	**36-VR**	**36-VR**	**36-VR**	**36-VR**	**40-III**	**40-III**	**40-III**	**40-III**	**40-III**	**42-III**	**42-III**	**42-III**	**42-III**
Sample ID:		**35-VII**	**35-VII**	**35-VII**	**36-VR**	**36-VR**	**36-VR**	**36-VR**	**40-III**	**12-IV**	**40-III**	**40-III**	**40-III**	**42-III**	**42-III**	**42-III**	**42 -III**
Sample Date:		**4/16/2021**	**7/26/2021**	**10/25/2021**	**1/26/2021**	**4/20/2021**	**7/27/2021**	**10/27/2021**	**1/27/2021**	**1/27/2021 Duplicate**	**4/21/2021**	**7/26/2021**	**10/29/2021**	**1/26/2021**	**4/19/2021**	**7/29/2021**	**11/1/2021**
Parameters	**Units**																
Metals																	
Aluminum (dissolved)	mg/L	ND (0.0049)	0.023	0.006	0.54	0.29	0.59	0.029	0.013	0.0066	ND (0.0049)	0.011	ND (0.0049)	ND (0.025)	ND (0.0049)	ND (0.0049)	ND (0.0049)
Antimony (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Arsenic (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)
Barium (dissolved)	mg/L	0.035	0.11	0.038	0.025	0.026	0.025	0.024	0.021	0.018	0.02	0.023	0.022	0.057	0.063	0.061	0.036
Beryllium (dissolved)	mg/L	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)
Bismuth (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)
Boron (dissolved)	mg/L	0.21	0.34	0.15	0.54	0.46	0.51	0.33	0.74	0.54	0.6	0.65	0.72	0.97	0.79	0.64	0.88
Cadmium (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	0.0001	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)
Calcium (dissolved)	mg/L	220	470	160	200	230	170	180	410	320	360	370	380	630	340	490	430
Chromium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)
Cobalt (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Copper (dissolved)	mg/L	0.001	ND (0.0009)	0.0019	ND (0.0045)	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0009)
Iron (dissolved)	mg/L	ND (0.1)	1.9	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	0.84	0.68	0.82	0.86	ND (0.5)	0.67	0.37	ND (0.1)
Lead (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Lithium (dissolved)	mg/L	0.022	0.037	0.0072	0.047	0.043	0.044	0.037	0.11	0.084	0.08	0.1	0.092	0.063	0.042	0.043	0.053
Magnesium (dissolved)	mg/L	29	58	25	35	44	31	39	92	80	92	96	81	150	100	160	120
Manganese (dissolved)	mg/L	ND (0.002)	0.14	0.0084	ND (0.01)	0.011	0.0063	0.01	0.14	0.14	0.13	0.14	0.14	0.15	0.62	0.16	0.12
Molybdenum (dissolved)	mg/L	0.0014	0.0016	0.00099	0.016	0.0093	0.011	0.0053	0.0031	0.0022	0.0026	0.0013	0.0022	ND (0.0025)	0.0013	ND (0.0005)	ND (0.0005)
Nickel (dissolved)	mg/L	0.0036	0.003	0.0019	0.0079	0.0059	0.0075	0.0037	0.0015	0.0023	0.001	ND (0.001)	0.001	ND (0.005)	0.0015	0.0012	0.0011
Phosphorus (dissolved)	mg/L	ND (0.1)	0.17	ND (0.1)	ND (0.5)	ND (0.5)	0.18	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)
Potassium (dissolved)	mg/L	4.2	8.6	4	51	40	47	28	25	21	21	22	22	64	35	50	42
Selenium (dissolved)	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.01)	ND (0.01)	0.0022	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.01)	ND (0.002)	ND (0.002)	ND (0.002)
Silicon (dissolved)	mg/L	4.6	5.5	6.4	5.7	4.7	5.7	3.8	6	5.5	5.5	5.8	5.5	5.3	4.3	5.5	4.8
Silver (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)
Sodium (dissolved)	mg/L	30	200	20	1200	1000	1100	600	330	270	320	330	280	500	300	380	310
Strontium (dissolved)	mg/L	1.2	2.9	0.82	2.5	2.7	2.3	2.6	4.5	3.7	4.1	4.6	4	13	6.4	8.3	8.9
Tellurium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)
Thallium (dissolved)	mg/L	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)
Tin (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)
Titanium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)
Tungsten (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	0.0086	0.0063	0.0075	0.0042	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	0.0014	ND (0.001)	0.0011
Uranium (dissolved)	mg/L	0.0031	0.0036	0.0025	0.0057	0.0073	0.0039	0.0042	0.0015	0.0014	0.0012	0.00079	0.00097	ND (0.0005)	0.00029	0.00016	0.00019
Vanadium (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	0.00051	ND (0.0005)	0.00073
Zinc (dissolved)	mg/L	0.064	0.0079	0.048	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	0.008	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)
Zirconium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)
General Chemistry																	
Alkalinity, total (as CaCO3)	mg/L	330	290	400	110	66	140	100	220	220	240	230	230	210	300	300	380
Ammonia-N	mg/L	ND (0.050)	0.44	ND (0.050)	69	49	66	20	2.7	4.6	5.3	5.6	5.0	8.3	5.4	6.9	6.0
Ammonia-N/Strontium Ratio	ratio	0.0417	0.1517	0.0610	27.6000	18.1481	28.6957	7.6923	0.6000	1.2432	1.2927	1.2174	1.2500	0.6385	0.8438	0.8313	0.6742
Bromide (dissolved)	mg/L	ND (5.0)	ND (5.0)	ND (1.0)	ND (20)	ND (10)	ND (10)	ND (10)	ND (5.0)	ND (5.0)	ND (5.0)	ND (10)	ND (5.0)	ND (10)	ND (5.0)	ND (10)	ND (5.0)
Chloride (dissolved)	mg/L	22	260	21	1800	1600	1800	820	460	400	580	560	410	1200	460	1200	320
Chloride/Magnesium Ratio	ratio	0.7586	4.4828	0.8400	51.4286	36.3636	58.0645	21.0256	5.0000	5.0000	6.3043	5.8333	5.0617	8.0000	4.6000	7.5000	2.6667
Conductivity	umhos/cm	1300	2700	860	7000	6400	6500	4300	3300	3000	3800	3900	3600	5900	3000	5200	2500
Fluoride	mg/L	0.47	0.67	0.39	2.9	2.3	3.0	2.4	1.0	1.0	1.1	1.2	1.2	1.2	1.1	1.1	1.2
Hardness	mg/L	670	1400	510	630	760	550	600	1400	1100	1300	1300	1300	2200	1300	1900	1500
Nitrate (as N)	mg/L	0.16	0.23	0.13	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.21	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Nitrite (as N)	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	0.16	0.23	0.13	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.21	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Orthophosphate	mg/L	0.028	0.016	0.018	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.016	ND (0.010)
pH, lab	s.u.	7.71	7.80	7.95	9.09	8.17	9.25	7.76	7.88	7.85	7.72	7.67	7.76	7.51	7.70	7.78	7.71
Phenolics (total)	mg/L	ND (0.0010)	ND (0.0020)	ND (0.0010)	0.30	0.20	0.29	0.11	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.0017	0.0011	0.0011	0.0034
Sulfate (dissolved)	mg/L	400	830	130	590	670	470	630	910	800	1000	1000	1000	1300	670	980	550
Total dissolved solids (TDS)	mg/L	860	2050	600	3900	3510	3330	2340	2480	1950	2320	2630	2510	4130	2460	2810	3270
Total kjeldahl nitrogen (TKN)	mg/L	0.22	0.66	0.32	64	52	61	20	3.0	4.8	8.1	5.5	6.4	8.6	5.7	8.0	7.9
Total organic carbon (TOC)	mg/L	3.2	4.1	5.5	19	13	15	6.4	3.3	3.1	3.0	3.5	3.1	19	14	19	14

Notes:

ND Not detecte

Appendix N.1

Leachate and Groundwater Chemistry Data
Vinemount Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		47-III	47-III	47-III	47-III	47-III	48-V	48-V	48-V	48-V	48-V	49-V	49-V	49-V	49-V	51-IV	51-IV	51-IV
Sample ID:		47-III	47-III	47-III	3-I	47-III	48-V	48-V	48-V	12-IV	48-V	49-V	49-V	49-V	49-V	51-IV	12-II	51-IV
Sample Date:		1/29/2021	4/21/2021	8/3/2021	8/3/2021	10/29/2021	1/29/2021	4/21/2021	8/3/2021	8/3/2021	10/29/2021	1/27/2021	4/21/2021	7/30/2021	11/4/2021	1/29/2021	1/29/2021	4/22/2021
					Duplicate					Duplicate							Duplicate	
Parameters	**Units**																	
Metals																		
Aluminum (dissolved)	mg/L	0.035	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)	0.027	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)	0.0062	ND (0.0049)	0.0052	ND (0.0049)	0.044	0.042	ND (0.0049)
Antimony (dissolved)	mg/L	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)
Arsenic (dissolved)	mg/L	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.0011	ND (0.001)	0.0016	ND (0.005)	ND (0.005)	ND (0.001)
Barium (dissolved)	mg/L	0.014	0.021	0.012	0.011	0.014	0.035	0.034	0.036	0.036	0.03	0.033	0.053	0.039	0.07	ND (0.01)	ND (0.01)	0.0085
Beryllium (dissolved)	mg/L	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.002)	ND (0.0004)
Bismuth (dissolved)	mg/L	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)
Boron (dissolved)	mg/L	1.5	1.3	1.4	1.4	1.2	0.92	1.2	0.88	1.2	1.4	0.62	0.74	0.81	0.63	1.3	1.3	1.1
Cadmium (dissolved)	mg/L	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00009)
Calcium (dissolved)	mg/L	370	450	350	360	320	530	550	570	590	560	470	500	500	260	570	570	560
Chromium (dissolved)	mg/L	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)
Cobalt (dissolved)	mg/L	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)
Copper (dissolved)	mg/L	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	0.0039	ND (0.0009)	ND (0.0009)	0.0023	ND (0.0045)	ND (0.0045)	ND (0.0009)
Iron (dissolved)	mg/L	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.69	0.55	0.87	0.8	0.5	ND (0.1)	0.48	0.32	0.2	ND (0.5)	ND (0.5)	ND (0.1)
Lead (dissolved)	mg/L	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)
Lithium (dissolved)	mg/L	0.068	0.055	0.066	0.065	0.055	0.11	0.12	0.11	0.13	0.15	0.2	0.16	0.18	0.054	0.21	0.21	0.18
Magnesium (dissolved)	mg/L	69	78	63	62	60	80	92	100	98	92	220	220	220	140	100	99	110
Manganese (dissolved)	mg/L	0.059	0.064	0.052	0.053	0.055	0.15	0.15	0.16	0.16	0.13	0.062	0.22	0.23	0.072	0.043	0.044	0.044
Molybdenum (dissolved)	mg/L	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0019	ND (0.0025)	ND (0.0005)	0.00057	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0048	ND (0.0025)	ND (0.0025)	ND (0.0005)
Nickel (dissolved)	mg/L	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	0.0011	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)
Phosphorus (dissolved)	mg/L	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.12	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.1)
Potassium (dissolved)	mg/L	14	15	13	13	12	8.6	13	13	13	15	14	13	15	7	26	25	29
Selenium (dissolved)	mg/L	ND (0.01)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.01)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	0.0077	ND (0.002)	ND (0.01)	ND (0.01)	ND (0.002)
Silicon (dissolved)	mg/L	4.5	4.4	4.8	4.8	5.4	4.7	4.9	5.6	5.1	5	8.3	9.7	8	14	4.7	4.8	5
Silver (dissolved)	mg/L	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00009)
Sodium (dissolved)	mg/L	120	160	94	94	120	330	370	440	420	280	210	150	140	160	290	290	300
Strontium (dissolved)	mg/L	5.2	5.9	4.6	4.7	4.3	3.9	4.6	4.8	4.7	5	6.1	5.3	6.5	2.9	6	5.9	6.2
Tellurium (dissolved)	mg/L	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)
Thallium (dissolved)	mg/L	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00025)	ND (0.00005)
Tin (dissolved)	mg/L	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)
Titanium (dissolved)	mg/L	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)
Tungsten (dissolved)	mg/L	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)
Uranium (dissolved)	mg/L	ND (0.0005)	0.00019	0.00017	0.00018	0.0013	0.0014	0.0012	0.0015	0.0014	0.0008	0.0021	0.0029	0.0011	0.0083	ND (0.0005)	ND (0.0005)	0.00022
Vanadium (dissolved)	mg/L	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.00058	0.0019	0.0013	0.0031	ND (0.0025)	ND (0.0025)	ND (0.0005)
Zinc (dissolved)	mg/L	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	0.0092	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)
Zirconium (dissolved)	mg/L	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)
General Chemistry																		
Alkalinity, total (as CaCO3)	mg/L	350	310	350	350	320	340	340	350	350	340	330	370	370	390	310	310	300
Ammonia-N	mg/L	1.3	1.3	1.2	1.2	0.92	0.75	1.2	1.1	1.1	1.3	1.5	1.4	1.7	0.31	4.4	4.4	4.3
Ammonia-N/Strontium Ratio	ratio	0.2500	0.2203	0.2609	0.2553	0.2140	0.1923	0.2609	0.2292	0.2340	0.2600	0.2459	0.2642	0.2615	0.1069	0.7333	0.7458	0.6935
Bromide (dissolved)	mg/L	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (5.0)	ND (10)	ND (5.0)	ND (10)	ND (10)	ND (10)
Chloride (dissolved)	mg/L	190	430	110	110	190	540	580	720	700	400	280	180	140	290	380	380	400
Chloride/Magnesium Ratio	ratio	2.7536	5.5128	1.7460	1.7742	3.1667	6.7500	6.3043	7.2000	7.1429	4.3478	1.2727	0.8182	0.6364	2.0714	3.8000	3.8384	3.6364
Conductivity	umhos/cm	2600	3100	2300	2300	2200	4300	4400	5000	4900	4000	3900	3600	3900	2700	4200	4200	4200
Fluoride	mg/L	0.67	0.61	0.58	0.63	0.74	0.72	0.75	0.63	0.74	0.84	1.3	1.4	1.3	2.0	1.1	1.1	1.2
Hardness	mg/L	1200	1400	1100	1200	1000	1700	1700	1800	1900	1800	2100	2200	2200	1200	1800	1800	1900
Nitrate (as N)	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.11	ND (0.10)	ND (0.10)	ND (0.10)
Nitrite (as N)	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.11	ND (0.10)	ND (0.10)	ND (0.10)
Orthophosphate	mg/L	0.011	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.50)	0.017	0.012	0.018	0.011	0.010	ND (0.010)
pH, lab	s.u.	7.72	7.55	7.74	7.55	7.66	7.77	7.53	7.65	7.49	7.54	7.57	7.60	7.61	8.03	7.71	7.64	7.58
Phenolics (total)	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
Sulfate (dissolved)	mg/L	860	860	690	720	610	1300	1500	1400	1300	1400	1700	1800	1700	750	1700	1700	1900
Total dissolved solids (TDS)	mg/L	2030	2100	1800	1630	1630	3230	3310	3560	3520	3180	3160	2930	3230	1880	3460	3530	3280
Total kjeldahl nitrogen (TKN)	mg/L	1.5	1.4	1.4	1.3	1.4	1.1	1.4	1.5	1.5	2.1	1.7	1.6	2.4	0.88	5.0	5.0	4.9
Total organic carbon (TOC)	mg/L	3.8	3.1	3.3	3.3	3.6	2.9	2.4	2.6	2.7	2.3	3.0	3.5	2.6	5.1	2.1	2.0	1.9

Notes:

ND Not detecte

Appendix N.1

Leachate and Groundwater Chemistry Data
Vinemount Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		51-IV	51-IV	52-II	52-II	60-III	60-III	60-III	60-III	61-III	61-III	61-III	61-III	61-III	68-IV	68-IV	68-IV	68-IV
Sample ID:		51-IV	51- IV	52-II	52-II	60-III	60-III	60-III	60-III	61-III	61-III	12-II	61-III	61-III	68-IV	68-IV	68-IV	68-IV
Sample Date:		8/6/2021	11/4/2021	4/23/2021	11/8/2021	1/29/2021	4/21/2021	7/30/2021	10/29/2021	1/28/2021	4/21/2021	4/23/2021 Duplicate	7/30/2021	10/29/2021	1/25/2021	4/20/2021	7/26/2021	10/26/2021
Parameters	**Units**																	
Metals																		
Aluminum (dissolved)	mg/L	ND (0.0049)	0.0092	0.024	0.027	0.02	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.025)	ND (0.0049)	ND (0.0049)	0.0049	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)
Antimony (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Arsenic (dissolved)	mg/L	ND (0.001)	ND (0.001)	0.0013	0.0016	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Barium (dissolved)	mg/L	0.0096	0.0085	0.011	0.017	0.039	0.042	0.035	0.036	0.021	0.021	0.014	0.021	0.017	0.069	0.052	0.068	0.066
Beryllium (dissolved)	mg/L	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)
Bismuth (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Boron (dissolved)	mg/L	1.4	1	0.72	0.58	0.7	0.79	0.67	0.69	2.1	2.4	2.7	1.9	2.1	0.24	0.2	0.41	0.49
Cadmium (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)
Calcium (dissolved)	mg/L	630	580	12	30	350	420	380	330	680	720	460	660	630	86	67	86	84
Chromium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Cobalt (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.00071	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Copper (dissolved)	mg/L	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	0.00099	ND (0.0009)	ND (0.0009)	0.0011	ND (0.0045)	ND (0.0009)	0.0015	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)
Iron (dissolved)	mg/L	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	0.19	0.35	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Lead (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Lithium (dissolved)	mg/L	0.31	0.17	0.031	0.059	0.016	0.021	0.018	0.015	0.21	0.2	0.39	0.18	0.21	0.016	0.012	0.019	0.02
Magnesium (dissolved)	mg/L	120	110	3.9	5.9	77	85	74	70	93	95	91	90	81	41	29	40	39
Manganese (dissolved)	mg/L	0.045	0.046	0.0023	ND (0.002)	0.087	0.1	0.085	0.069	0.072	0.072	0.093	0.055	0.065	0.0051	ND (0.002)	0.011	0.0036
Molybdenum (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	0.026	0.035	0.00099	0.00078	0.0008	0.0012	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.00077	0.00083	ND (0.0005)	ND (0.0005)
Nickel (dissolved)	mg/L	ND (0.001)	ND (0.001)	0.0058	0.005	0.003	0.0023	0.0022	0.003	ND (0.005)	ND (0.001)	0.033	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Phosphorus (dissolved)	mg/L	ND (0.1)	ND (0.1)	ND (0.1)	0.12	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.11	ND (0.1)	ND (0.1)	ND (0.1)
Potassium (dissolved)	mg/L	29	27	80	94	13	15	14	13	25	29	19	23	27	7	5.3	7.5	8
Selenium (dissolved)	mg/L	ND (0.002)	ND (0.002)	0.0022	0.0022	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.01)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)
Silicon (dissolved)	mg/L	5.1	5.1	5.5	6.6	6.2	5.2	5.7	6	3.8	3.7	6.3	4.5	3.4	2.8	2.3	2.9	3.2
Silver (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)
Sodium (dissolved)	mg/L	390	290	1500	1600	230	270	250	210	280	330	390	250	280	66	50	52	54
Strontium (dissolved)	mg/L	6.9	6.4	1.4	2.2	4.2	5	4.7	4.3	8.5	9.1	5.7	7.8	8.3	4.4	3.6	5.2	4.6
Tellurium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Thallium (dissolved)	mg/L	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)
Tin (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Titanium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Tungsten (dissolved)	mg/L	ND (0.001)	ND (0.001)	0.0076	0.006	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Uranium (dissolved)	mg/L	0.00017	0.0002	ND (0.0001)	ND (0.0001)	0.0037	0.0032	0.0032	0.0047	0.00067	0.00025	0.00027	0.0012	ND (0.0001)	0.0003	0.00034	0.00021	0.00024
Vanadium (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	0.0018	0.00065	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Zinc (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	0.042	0.04	0.029	0.042	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Zirconium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
General Chemistry																		
Alkalinity, total (as CaCO3)	mg/L	280	280	400	140	420	410	410	450	310	320	280	270	310	240	230	220	270
Ammonia-N	mg/L	5.0	4.0	110	110	0.54	0.57	0.64	0.53	2.5	3.0	1.1	2.2	2.6	0.13	ND (0.050)	ND (0.050)	ND (0.050)
Ammonia-N/Strontium Ratio	ratio	0.7246	0.6250	78.5714	50.0000	0.1286	0.1140	0.1362	0.1233	0.2941	0.3297	0.1930	0.2821	0.3133	0.0295	0.0139	0.0096	0.0109
Bromide (dissolved)	mg/L	ND (5.0)	ND (10)	ND (50)	ND (20)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (10)	ND (10)	ND (5.0)	ND (10)	ND (5.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Chloride (dissolved)	mg/L	640	450	3800	1900	210	400	250	250	700	800	390	450	530	140	72	130	94
Chloride/Magnesium Ratio	ratio	5.3333	4.0909	974.3590	322.0339	2.7273	4.7059	3.3784	3.5714	7.5269	8.4211	4.2857	5.0000	6.5432	3.4146	2.4828	3.2500	2.4103
Conductivity	umhos/cm	5000	4300	13000	8100	2700	3300	3000	2800	4700	5000	4000	4000	4400	1100	810	1000	820
Fluoride	mg/L	1.3	0.95	3.1	1.4	0.70	0.63	0.69	0.73	0.73	0.77	0.85	0.72	0.64	0.59	0.72	0.84	0.78
Hardness	mg/L	2000	1900	47	100	1200	1400	1300	1100	2100	2200	1500	2000	1900	380	290	380	370
Nitrate (as N)	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	1.12	0.56	ND (0.10)	1.68	0.22	ND (0.10)	ND (0.10)	0.55	ND (0.10)	0.22	0.11	0.44	0.29
Nitrite (as N)	mg/L	ND (0.010)	ND (0.010)	0.021	ND (0.010)	0.056	0.031	0.020	0.070	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	1.18	0.59	0.11	1.75	0.22	ND (0.10)	ND (0.10)	0.55	ND (0.10)	0.22	0.11	0.44	0.29
Orthophosphate	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	0.011	0.010	ND (0.010)	ND (0.010)	ND (0.010)	0.018	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
pH, lab	s.u.	7.42	7.64	9.37	8.84	7.62	7.59	7.59	7.58	7.61	7.49	7.66	7.61	7.52	8.04	7.96	8.02	7.96
Phenolics (total)	mg/L	ND (0.0010)	ND (0.0010)	0.40	0.15	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.0010	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
Sulfate (dissolved)	mg/L	1600	1600	530	590	850	930	720	720	1400	1500	1500	1200	1600	74	68	88	77
Total dissolved solids (TDS)	mg/L	3810	3360	4230	4730	2050	2120	1930	1980	3610	3300	2950	2980	3480	560	415	575	545
Total kjeldahl nitrogen (TKN)	mg/L	5.4	4.7	120	96	0.87	0.70	1.1	1.2	3.0	3.3	1.2	2.9	3.5	0.24	0.20	0.23	0.19
Total organic carbon (TOC)	mg/L	2.0	2.0	17	17	6.0	5.6	6.0	6.9	2.5	2.1	1.8	2.7	2.0	4.2	2.8	3.8	3.0

Notes:

ND Not detecte

Appendix N.1

Leachate and Groundwater Chemistry Data
Vinemount Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**P5-IVRR**	**P5-IVRR**	**P5-IVRR**	**P5-IVRR**	**P6-IR**	**P6-IR**	**P6-IR**	**P6-IR**	**P7-IV**	**P7-IV**	**P7-IV**	**P7-IV**	**P9-IIIR**	**P9-IIIR**
Sample ID:		**P5-IVR**	**P5-IVR**	**P5-IVR**	**P5-IVR**	**P6-IR**	**P6-IR**	**P6-IR**	**P6-IR**	**P7-IV**	**P7-IV**	**P7 IV**	**P7-IV**	**P9-IIIR**	**P9-IIIR**
Sample Date:		**1/28/2021**	**4/21/2021**	**7/29/2021**	**10/28/2021**	**2/2/2021**	**4/14/2021**	**8/3/2021**	**11/1/2021**	**1/28/2021**	**4/21/2021**	**7/28/2021**	**10/28/2021**	**1/26/2021**	**4/14/2021**
Parameters	**Units**														
Metals															
Aluminum (dissolved)	mg/L	0.0056	ND (0.0049)	0.026	ND (0.0049)	ND (0.025)	0.015	0.0057	0.014	0.098	0.017	0.027	0.012	ND (0.025)	0.011
Antimony (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)
Arsenic (dissolved)	mg/L	0.0025	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	0.0034	0.0032	0.0029	0.0041	0.0016	0.0018	0.0018	ND (0.005)	ND (0.001)
Barium (dissolved)	mg/L	0.054	0.041	0.045	0.049	ND (0.01)	0.0082	0.0082	0.01	0.0032	0.0053	0.006	0.011	ND (0.01)	0.01
Beryllium (dissolved)	mg/L	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.0004)
Bismuth (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)
Boron (dissolved)	mg/L	0.15	0.15	0.2	0.16	0.49	0.62	0.54	0.56	0.56	0.61	0.71	0.5	1.1	1.1
Cadmium (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	0.00012	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)
Calcium (dissolved)	mg/L	230	200	200	240	11	7.6	7.1	15	39	54	110	57	360	370
Chromium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)
Cobalt (dissolved)	mg/L	ND (0.0005)	0.00052	ND (0.0005)	0.00061	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)
Copper (dissolved)	mg/L	ND (0.0009)	ND (0.0009)	ND (0.0009)	0.0021	ND (0.0045)	ND (0.0009)	ND (0.0009)	0.00096	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0009)
Iron (dissolved)	mg/L	6.1	2.5	1.9	0.61	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.1)
Lead (dissolved)	mg/L	0.00061	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.00088	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)
Lithium (dissolved)	mg/L	0.0084	0.0061	0.0085	0.0059	ND (0.025)	0.027	0.027	0.03	0.02	0.019	0.034	0.024	0.095	0.095
Magnesium (dissolved)	mg/L	68	65	66	72	0.53	0.42	0.48	0.85	5.3	6.4	15	7	61	51
Manganese (dissolved)	mg/L	0.42	0.43	0.28	0.42	ND (0.01)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	0.0058	0.0037	0.04	0.037
Molybdenum (dissolved)	mg/L	0.0021	0.00075	0.00062	0.0032	0.075	0.072	0.066	0.059	0.086	0.04	0.072	0.037	ND (0.0025)	0.001
Nickel (dissolved)	mg/L	0.0027	0.0017	ND (0.001)	0.012	0.02	0.023	0.021	0.017	0.028	0.016	0.015	0.014	ND (0.005)	0.0018
Phosphorus (dissolved)	mg/L	ND (0.1)	ND (0.1)	0.12	ND (0.1)	0.77	0.32	0.37	0.33	0.11	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.1)
Potassium (dissolved)	mg/L	6.9	6.5	7.7	6.7	140	140	140	140	51	62	55	71	22	21
Selenium (dissolved)	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	0.014	0.0032	0.0072	0.0024	0.0025	0.0055	ND (0.002)	ND (0.002)	ND (0.01)	ND (0.002)
Silicon (dissolved)	mg/L	4.2	4	4.8	5.1	9.2	10	9.9	9.5	14	10	10	8.1	3.6	3.4
Silver (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)
Sodium (dissolved)	mg/L	35	37	51	23	2500	2300	2300	2400	270	230	200	230	360	370
Strontium (dissolved)	mg/L	6	5.3	6.1	7.3	1.1	0.87	0.88	1.1	0.65	0.99	1.7	1.3	3.9	4
Tellurium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	0.0013	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)
Thallium (dissolved)	mg/L	ND (0.00005)	ND (0.00005)	ND (0.00005)	0.00024	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00005)
Tin (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)
Titanium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)
Tungsten (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.02	0.021	0.02	0.02	0.023	0.017	0.013	0.015	ND (0.005)	0.014
Uranium (dissolved)	mg/L	0.0068	0.0057	0.00091	0.0077	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	0.0034	0.0028
Vanadium (dissolved)	mg/L	0.0026	0.0016	0.0015	ND (0.0005)	ND (0.0025)	0.0013	0.0011	0.00096	0.0033	0.001	0.0014	ND (0.0005)	ND (0.0025)	ND (0.0005)
Zinc (dissolved)	mg/L	0.057	0.041	ND (0.005)	0.78	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)
Zirconium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)
General Chemistry															
Alkalinity, total (as CaCO3)	mg/L	450	430	490	460	620	530	490	520	230	100	48	93	190	160
Ammonia-N	mg/L	0.42	0.48	0.96	0.10	190	190	190	150	38	23	19	20	2.3	3.8
Ammonia-N/Strontium Ratio	ratio	0.0700	0.0906	0.1574	0.0137	172.7273	218.3908	215.9091	136.3636	58.4615	23.2323	11.1765	15.3846	0.5897	0.9500
Bromide (dissolved)	mg/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (20)	ND (20)	ND (20)	ND (20)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
Chloride (dissolved)	mg/L	28	25	28	21	4100	3400	3400	3300	150	110	91	100	500	550
Chloride/Magnesium Ratio	ratio	0.4118	0.3846	0.4242	0.2917	7735.8491	8095.2381	7083.3333	3882.3529	28.3019	17.1875	6.0667	14.2857	8.1967	10.7843
Conductivity	umhos/cm	1600	1400	1500	1500	13000	12000	12000	12000	1700	1700	1900	1800	3400	3700
Fluoride	mg/L	0.60	0.56	0.69	0.68	2.8	3.5	3.4	3.8	2.7	1.6	1.7	1.3	1.0	1.2
Hardness	mg/L	840	770	760	890	30	21	20	42	120	160	350	170	1100	1100
Nitrate (as N)	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	2.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Nitrite (as N)	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	0.038	ND (0.010)	0.013	0.012	0.014	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	2.14	ND (0.10)	ND (0.10)	0.11	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Orthophosphate	mg/L	ND (0.10)	0.026	0.085	ND (0.010)	0.20	0.23	0.25	0.14	ND (0.50)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
pH, lab	s.u.	7.58	7.48	7.61	7.41	9.75	9.63	9.60	9.68	9.62	9.34	7.93	9.31	7.88	7.82
Phenolics (total)	mg/L	0.0020	0.0014	0.0013	0.0014	0.98	1.1	1.0	0.90	3.0	1.2	0.96	1.7	ND (0.0010)	ND (0.0010)
Sulfate (dissolved)	mg/L	440	360	320	430	140	120	110	590	320	530	480	510	940	1000
Total dissolved solids (TDS)	mg/L	1110	925	965	1150	7150	6150	6280	6840	975	1030	930	1040	2320	2610
Total kjeldahl nitrogen (TKN)	mg/L	0.76	0.83	1.2	0.96	190	170	190	180	40	23	20	21	2.4	3.9
Total organic carbon (TOC)	mg/L	9.0	8.4	9.4	7.5	40	37	34	32	82	21	17	26	2.6	2.5

Notes:

ND Not detecte

Appendix N.1

Leachate and Groundwater Chemistry Data
Vinemount Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**P9-IIIR**	**P9-IIIR**	**P10-IV**	**P10-IV**	**P10-IV**	**P10-IV**
Sample ID:		**P9-IIIR**	**P9-IIIR**	**P10-IV**	**P10-IV**	**P10-IV**	**P10-IV**
Sample Date:		**7/27/2021**	**10/25/2021**	**1/25/2021**	**4/15/2021**	**7/26/2021**	**10/25/2021**
Parameters	**Units**						
Metals							
Aluminum (dissolved)	mg/L	0.0084	ND (0.0049)	ND (0.025)	ND (0.025)	ND (0.0049)	ND (0.0049)
Antimony (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)
Arsenic (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)
Barium (dissolved)	mg/L	0.012	0.0039	ND (0.01)	0.011	0.0086	0.0097
Beryllium (dissolved)	mg/L	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.002)	ND (0.0004)	ND (0.0004)
Bismuth (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)
Boron (dissolved)	mg/L	0.74	0.55	1.8	1.7	1.7	1.8
Cadmium (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)
Calcium (dissolved)	mg/L	270	220	410	400	400	420
Chromium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)
Cobalt (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)
Copper (dissolved)	mg/L	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0045)	ND (0.0009)	ND (0.0009)
Iron (dissolved)	mg/L	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.1)
Lead (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)
Lithium (dissolved)	mg/L	0.055	0.047	0.13	0.13	0.14	0.13
Magnesium (dissolved)	mg/L	31	36	81	74	80	82
Manganese (dissolved)	mg/L	0.017	0.023	0.051	0.05	0.049	0.054
Molybdenum (dissolved)	mg/L	0.0019	0.0051	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)
Nickel (dissolved)	mg/L	0.0026	0.0015	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)
Phosphorus (dissolved)	mg/L	ND (0.1)	ND (0.1)	0.65	ND (0.5)	ND (0.1)	ND (0.1)
Potassium (dissolved)	mg/L	24	14	34	30	35	35
Selenium (dissolved)	mg/L	ND (0.002)	ND (0.002)	ND (0.01)	ND (0.01)	ND (0.002)	ND (0.002)
Silicon (dissolved)	mg/L	3.7	4	2.7	2.6	2.6	2.6
Silver (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)
Sodium (dissolved)	mg/L	510	220	460	410	490	460
Strontium (dissolved)	mg/L	3.1	2.4	7.4	7.5	7.4	8.2
Tellurium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)
Thallium (dissolved)	mg/L	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00025)	ND (0.00005)	ND (0.00005)
Tin (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)
Titanium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)
Tungsten (dissolved)	mg/L	0.0048	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)
Uranium (dissolved)	mg/L	0.0018	0.0057	ND (0.0005)	ND (0.0005)	ND (0.0001)	ND (0.0001)
Vanadium (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)
Zinc (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)
Zirconium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)
General Chemistry							
Alkalinity, total (as CaCO3)	mg/L	130	220	160	170	160	160
Ammonia-N	mg/L	17	1.4	4.1	4.1	4.0	4.0
Ammonia-N/Strontium Ratio	ratio	5.4839	0.5833	0.5541	0.5467	0.5405	0.4878
Bromide (dissolved)	mg/L	ND (10)	ND (5.0)	ND (10)	ND (10)	ND (10)	ND (10)
Chloride (dissolved)	mg/L	740	300	320	370	370	300
Chloride/Magnesium Ratio	ratio	23.8710	8.3333	3.9506	5.0000	4.6250	3.6585
Conductivity	umhos/cm	4000	1800	4000	4100	3900	3200
Fluoride	mg/L	1.9	1.1	1.5	1.4	1.8	1.5
Hardness	mg/L	800	690	1400	1300	1300	1400
Nitrate (as N)	mg/L	ND (0.10)	0.23	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Nitrite (as N)	mg/L	ND (0.010)	0.093	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	ND (0.10)	0.32	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Orthophosphate	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
pH, lab	s.u.	8.12	8.05	7.59	7.68	7.83	7.88
Phenolics (total)	mg/L	0.0039	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
Sulfate (dissolved)	mg/L	800	590	1700	1700	1400	1600
Total dissolved solids (TDS)	mg/L	2510	1530	3090	3140	2870	3050
Total kjeldahl nitrogen (TKN)	mg/L	18	1.7	4.7	4.3	4.4	5.0
Total organic carbon (TOC)	mg/L	3.4	3.4	6.6	6.3	7.2	5.8

Notes:

ND Not detecte

Appendix N.1

Leachate and Groundwater Chemistry Data
Upper Flow Zone - Organics
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**35-IV**	**35-IV**	**47-IIR**	**47-IIR**	**67-III**	**67-III**	**68-III**	**68-III**	**72-III**	**72-III**	**75-IV**	**75-IV**	**P10-III**	**P10-III**
Sample ID:		**35-IV**	**35-IV**	**47-IIR**	**47-IIR**	**67-III**	**67-III**	**68-III**	**68-III**	**72-III**	**72-III**	**75-IV**	**75-IV**	**P10-III**	**P10-III**
Sample Date:		**4/16/2021**	**10/27/2021**	**4/21/2021**	**10/29/2021**	**4/20/2021**	**11/3/2021**	**4/19/2021**	**10/26/2021**	**4/22/2021**	**10/28/2021**	**4/27/2021**	**11/3/2021**	**4/15/2021**	**10/25/2021**
Parameters	**Units**														
Volatiles															
1,1,1,2-Tetrachloroethane	ug/L	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (4.0)	ND (0.50)	ND (10)	ND (0.20)	ND (0.20)	ND (0.50)	ND (0.20)
1,1,1-Trichloroethane	ug/L	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (2.0)	ND (0.25)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.25)	ND (0.10)
1,1,2,2-Tetrachloroethane	ug/L	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (4.0)	ND (0.50)	ND (10)	ND (0.20)	ND (0.20)	ND (0.50)	ND (0.20)
1,1,2-Trichloroethane	ug/L	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (4.0)	ND (0.50)	ND (10)	ND (0.20)	ND (0.20)	ND (0.50)	ND (0.20)
1,1-Dichloroethane	ug/L	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (2.0)	ND (0.25)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.25)	ND (0.10)
1,1-Dichloroethene	ug/L	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (2.0)	ND (0.25)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.25)	ND (0.10)
1,2-Dibromoethane (Ethylene dibromide)	ug/L	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (4.0)	ND (0.50)	ND (10)	ND (0.20)	ND (0.20)	ND (0.50)	ND (0.20)
1,2-Dichlorobenzene	ug/L	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (4.0)	ND (0.50)	ND (10)	ND (0.20)	ND (0.20)	ND (0.50)	ND (0.20)
1,2-Dichloroethane	ug/L	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (4.0)	ND (0.50)	ND (10)	ND (0.20)	ND (0.20)	ND (0.50)	ND (0.20)
1,2-Dichloropropane	ug/L	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (2.0)	ND (0.25)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.25)	ND (0.10)
1,3-Dichlorobenzene	ug/L	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (4.0)	ND (0.50)	ND (10)	ND (0.20)	ND (0.20)	ND (0.50)	ND (0.20)
1,4-Dichlorobenzene	ug/L	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (4.0)	ND (0.50)	ND (10)	ND (0.20)	ND (0.20)	ND (0.50)	ND (0.20)
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	ND (250)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (25)	ND (100)	ND (13)	ND (250)	ND (5.0)	ND (5.0)	ND (13)	ND (5.0)
2-Hexanone	ug/L	ND (250)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (25)	ND (100)	ND (13)	ND (250)	ND (5.0)	ND (5.0)	ND (13)	ND (5.0)
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	ND (250)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (25)	ND (100)	ND (13)	ND (250)	ND (5.0)	ND (5.0)	ND (13)	ND (5.0)
Acetone	ug/L	ND (500)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	110	280	ND (25)	ND (500)	ND (10)	ND (10)	ND (25)	ND (10)
Acrolein	ug/L	ND (500)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (50)	ND (200)	ND (25)	ND (500)	ND (10)	ND (10)	ND (25)	ND (10)
Acrylonitrile	ug/L	ND (250)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (25)	ND (100)	ND (13)	ND (250)	ND (5.0)	ND (5.0)	ND (13)	ND (5.0)
Benzene	ug/L	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	1.2	ND (2.0)	ND (0.25)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.25)	ND (0.10)
Bromodichloromethane	ug/L	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (2.0)	ND (0.25)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.25)	ND (0.10)
Bromoform	ug/L	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (4.0)	ND (0.50)	ND (10)	ND (0.20)	ND (0.20)	ND (0.50)	ND (0.20)
Bromomethane (Methyl bromide)	ug/L	ND (25)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.5)	ND (10)	ND (1.3)	ND (25)	ND (0.50)	ND (0.50)	ND (1.3)	ND (0.50)
Carbon tetrachloride	ug/L	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (2.0)	ND (0.25)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.25)	ND (0.10)
Chlorobenzene	ug/L	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (2.0)	ND (0.25)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.25)	ND (0.10)
Chloroethane	ug/L	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (2.0)	ND (1.0)	ND (4.0)	ND (0.50)	ND (10)	ND (0.20)	ND (0.20)	ND (0.50)	ND (0.20)
Chloroform (Trichloromethane)	ug/L	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (2.0)	ND (0.25)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.25)	ND (0.10)
Chloromethane (Methyl chloride)	ug/L	ND (25)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.5)	ND (10)	ND (1.3)	ND (25)	ND (0.50)	ND (0.50)	ND (1.3)	ND (0.50)
cis-1,2-Dichloroethene	ug/L	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (2.0)	ND (0.25)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.25)	ND (0.10)
cis-1,3-Dichloropropene	ug/L	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (4.0)	ND (0.50)	ND (10)	ND (0.20)	ND (0.20)	ND (0.50)	ND (0.20)
Dibromochloromethane	ug/L	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (4.0)	ND (0.50)	ND (10)	ND (0.20)	ND (0.20)	ND (0.50)	ND (0.20)
Ethylbenzene	ug/L	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.50	ND (2.0)	0.33	ND (5.0)	ND (0.10)	ND (0.10)	0.30	ND (0.10)
m&p-Xylenes	ug/L	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.94	ND (2.0)	0.41	ND (5.0)	0.10	ND (0.10)	0.54	0.19
Methyl tert butyl ether (MTBE)	ug/L	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (4.0)	ND (0.50)	ND (10)	ND (0.20)	ND (0.20)	ND (0.50)	ND (0.20)
Methylene chloride	ug/L	ND (25)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.5)	ND (10)	ND (1.3)	ND (25)	ND (0.50)	ND (0.50)	ND (1.3)	ND (0.50)
o-Xylene	ug/L	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.69	ND (2.0)	0.27	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.25)	ND (0.10)
Styrene	ug/L	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (4.0)	ND (0.50)	ND (10)	ND (0.20)	ND (0.20)	ND (0.50)	ND (0.20)
Tetrachloroethene	ug/L	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (2.0)	ND (0.25)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.25)	ND (0.10)
Toluene	ug/L	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (4.0)	ND (0.50)	ND (10)	0.25	ND (0.20)	ND (0.50)	ND (0.20)
trans-1,2-Dichloroethene	ug/L	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (2.0)	ND (0.25)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.25)	ND (0.10)
trans-1,3-Dichloropropene	ug/L	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (4.0)	ND (0.50)	ND (10)	ND (0.20)	ND (0.20)	ND (0.50)	ND (0.20)
Trichloroethene	ug/L	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (2.0)	ND (0.25)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.25)	ND (0.10)
Trichlorofluoromethane (CFC-11)	ug/L	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (4.0)	ND (0.50)	ND (10)	ND (0.20)	ND (0.20)	ND (0.50)	ND (0.20)
Trihalomethanes	ug/L	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (4.0)	ND (0.50)	ND (10)	ND (0.20)	ND (0.20)	ND (0.50)	ND (0.20)
Vinyl chloride	ug/L	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (4.0)	ND (0.50)	ND (10)	ND (0.20)	ND (0.20)	ND (0.50)	ND (0.20)
Xylenes (total)	ug/L	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	1.6	ND (2.0)	0.68	ND (5.0)	0.10	ND (0.10)	0.54	0.19
Semi-Volatiles															
1,2,3,4-Tetrachlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
1,2,3,5-Tetrachlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
1,2,3-Trichlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
1,2,4,5-Tetrachlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
1,2,4-Trichlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
1,2-Dichlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
1,3,5-Trichlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
1,3-Dichlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
1,4-Dichlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
1-Chloronaphthalene	ug/L	ND (4.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (10)	ND (10)	ND (1.0)	ND (10)	ND (1.0)	ND (4.0)	ND (10)	ND (4.0)
1-Methylnaphthalene	ug/L	1.1	0.82	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (2.0)	ND (2.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.80)	ND (2.0)	ND (0.80)
2,2'-Oxybis(2-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
2,3,4,5-Tetrachlorophenol	ug/L	ND (1.6)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (1.6)	ND (4.0)	ND (4.0)	ND (0.40)	ND (4.0)	ND (0.40)	ND (1.6)	ND (4.0)	ND (1.6)

Appendix N.1

Leachate and Groundwater Chemistry Data
Upper Flow Zone - Organics
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**35-IV**	**35-IV**	**47-IIR**	**47-IIR**	**67-III**	**67-III**	**68-III**	**68-III**	**72-III**	**72-III**	**75-IV**	**75-IV**	**P10-III**	**P10-III**
Sample ID:		**35-IV**	**35-IV**	**47-IIR**	**47-IIR**	**67-III**	**67-III**	**68-III**	**68-III**	**72-III**	**72-III**	**75-IV**	**75-IV**	**P10-III**	**P10-III**
Sample Date:		**4/16/2021**	**10/27/2021**	**4/21/2021**	**10/29/2021**	**4/20/2021**	**11/3/2021**	**4/19/2021**	**10/26/2021**	**4/22/2021**	**10/28/2021**	**4/27/2021**	**11/3/2021**	**4/15/2021**	**10/25/2021**
Parameters	**Units**														
2,3,4,6-Tetrachlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
2,3,4-Trichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
2,3,5,6-Tetrachlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
2,3,5-Trichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
2,3,6-Trichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
2,3-Dichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
2,4,5-Trichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
2,4,6-Trichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
2,4-Dichlorophenol	ug/L	ND (1.2)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (1.2)	ND (3.0)	ND (3.0)	ND (0.30)	ND (3.0)	ND (0.30)	ND (1.2)	ND (3.0)	ND (1.2)
2,4-Dimethylphenol	ug/L	10	4.3	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	33	58	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
2,4-Dinitrophenol	ug/L	ND (25)	ND (25)	ND (2.0)	ND (2.0)	ND (2.0)	ND (8.0)	ND (60)	ND (20)	ND (2.0)	ND (20)	ND (2.0)	ND (8.0)	ND (60)	ND (25)
2,4-Dinitrotoluene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
2,5-Dichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
2,6-Dichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
2,6-Dinitrotoluene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
2-Chloronaphthalene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
2-Chlorophenol	ug/L	ND (1.2)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (1.2)	ND (3.0)	ND (3.0)	ND (0.30)	ND (3.0)	ND (0.30)	ND (1.2)	ND (3.0)	ND (1.2)
2-Methylnaphthalene	ug/L	ND (0.80)	0.42	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (2.0)	ND (2.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.80)	ND (2.0)	ND (0.80)
2-Methylphenol	ug/L	8.0	5.2	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	9.7	23	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
2-Nitrophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
3&4-Methylphenol	ug/L	29	20	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	95	380	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
3,3'-Dichlorobenzidine	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
3,4,5-Trichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
3,4-Dichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
3,5-Dichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
4,6-Dinitro-2-methylphenol	ug/L	ND (8.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (8.0)	ND (20)	ND (20)	ND (2.0)	ND (20)	ND (2.0)	ND (8.0)	ND (20)	ND (8.0)
4-Bromophenyl phenyl ether	ug/L	ND (1.2)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (1.2)	ND (3.0)	ND (3.0)	ND (0.30)	ND (3.0)	ND (0.30)	ND (1.2)	ND (3.0)	ND (1.2)
4-Chloro-3-methylphenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
4-Chloroaniline	ug/L	ND (4.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (10)	ND (10)	ND (1.0)	ND (10)	ND (1.0)	ND (4.0)	ND (10)	ND (4.0)
4-Chlorophenyl phenyl ether	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
4-Nitrophenol	ug/L	ND (25)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (5.6)	ND (25)	ND (14)	ND (1.4)	ND (14)	ND (1.4)	ND (5.6)	ND (60)	ND (5.6)
5-Nitroacenaphthene	ug/L	ND (4.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (10)	ND (10)	ND (1.0)	ND (10)	ND (1.0)	ND (4.0)	ND (10)	ND (4.0)
Acenaphthene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (2.0)	ND (2.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.80)	ND (2.0)	ND (0.80)
Acenaphthylene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (2.0)	ND (2.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.80)	ND (2.0)	ND (0.80)
Anthracene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (2.0)	ND (2.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.80)	ND (2.0)	ND (0.80)
Benzo(a)anthracene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (2.0)	ND (2.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.80)	ND (2.0)	ND (0.80)
Benzo(a)pyrene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (2.0)	ND (2.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.80)	ND (2.0)	ND (0.80)
Benzo(b)fluoranthene/Benzo(j)fluoranthene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (2.0)	ND (2.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.80)	ND (2.0)	ND (0.80)
Benzo(g,h,i)perylene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (2.0)	ND (2.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.80)	ND (2.0)	ND (0.80)
Benzo(k)fluoranthene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (2.0)	ND (2.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.80)	ND (2.0)	ND (0.80)
Biphenyl (1,1-Biphenyl)	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
bis(2-Chloroethoxy)methane	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
bis(2-Chloroethyl)ether	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	ND (8.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (8.0)	ND (20)	ND (20)	3.7	ND (20)	ND (2.0)	ND (8.0)	ND (20)	ND (8.0)
Butyl benzylphthalate (BBP)	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
Chrysene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (2.0)	ND (2.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.80)	ND (2.0)	ND (0.80)
Dibenz(a,h)anthracene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (2.0)	ND (2.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.80)	ND (2.0)	ND (0.80)
Diethyl phthalate	ug/L	ND (4.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (10)	ND (10)	ND (1.0)	ND (10)	ND (1.0)	ND (4.0)	ND (10)	ND (4.0)
Dimethyl phthalate	ug/L	ND (4.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (10)	ND (10)	ND (1.0)	ND (10)	ND (1.0)	ND (4.0)	ND (10)	ND (4.0)
Di-n-butylphthalate (DBP)	ug/L	ND (8.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (8.0)	ND (20)	ND (20)	ND (2.0)	ND (20)	ND (2.0)	ND (8.0)	ND (20)	ND (8.0)
Di-n-octyl phthalate (DnOP)	ug/L	ND (3.2)	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	ND (3.2)	ND (8.0)	ND (8.0)	ND (3.0)	ND (8.0)	ND (0.80)	ND (3.2)	ND (8.0)	ND (3.2)
Diphenyl ether	ug/L	ND (1.2)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (1.2)	ND (3.0)	ND (3.0)	ND (0.30)	ND (3.0)	ND (0.30)	ND (1.2)	ND (3.0)	ND (1.2)
Fluoranthene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (2.0)	ND (2.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.80)	ND (2.0)	ND (0.80)
Fluorene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (2.0)	ND (2.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.80)	ND (2.0)	ND (0.80)
Hexachlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
Hexachlorobutadiene	ug/L	ND (1.6)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (1.6)	ND (4.0)	ND (4.0)	ND (0.40)	ND (4.0)	ND (0.40)	ND (1.6)	ND (4.0)	ND (1.6)
Hexachlorocyclopentadiene	ug/L	ND (8.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (8.0)	ND (20)	ND (20)	ND (2.0)	ND (20)	ND (2.0)	ND (8.0)	ND (20)	ND (8.0)
Hexachloroethane	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
Indeno(1,2,3-cd)pyrene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (2.0)	ND (2.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.80)	ND (2.0)	ND (0.80)
Isophorone	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
Naphthalene	ug/L	0.92	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (7.0)	ND (4.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.80)	ND (2.0)	ND (0.80)
Nitrobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
Nitrosodiphenylamine/Diphenylamine	ug/L	ND (4.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (10)	-	ND (1.0)	ND (10)	ND (1.0)	ND (4.0)	ND (10)	ND (4.0)
N-Nitrosodi-n-propylamine	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)

Appendix N.1

Leachate and Groundwater Chemistry Data
Upper Flow Zone - Organics
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**35-IV**	**35-IV**	**47-IIR**	**47-IIR**	**67-III**	**67-III**	**68-III**	**68-III**	**72-III**	**72-III**	**75-IV**	**75-IV**	**P10-III**	**P10-III**
Sample ID:		**35-IV**	**35-IV**	**47-IIR**	**47-IIR**	**67-III**	**67-III**	**68-III**	**68-III**	**72-III**	**72-III**	**75-IV**	**75-IV**	**P10-III**	**P10-III**
Sample Date:		**4/16/2021**	**10/27/2021**	**4/21/2021**	**10/29/2021**	**4/20/2021**	**11/3/2021**	**4/19/2021**	**10/26/2021**	**4/22/2021**	**10/28/2021**	**4/27/2021**	**11/3/2021**	**4/15/2021**	**10/25/2021**
Parameters	**Units**														
Pentachlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (5.0)	ND (5.0)	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
Pentachlorophenol	ug/L	ND (25)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (25)	ND (10)	ND (1.0)	ND (10)	ND (1.0)	ND (4.0)	ND (60)	ND (4.0)
Perylene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (2.0)	ND (2.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.80)	ND (2.0)	ND (0.80)
Phenanthrene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (2.0)	ND (2.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.80)	ND (2.0)	ND (0.80)
Phenol	ug/L	150	52	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	76	220	ND (0.50)	ND (5.0)	ND (0.50)	ND (2.0)	ND (5.0)	ND (2.0)
Pyrene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (2.0)	ND (2.0)	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.80)	ND (2.0)	ND (0.80)
Pesticides															
2,4'-DDD	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.05)	ND (0.05)
2,4'-DDD + 4,4'-DDD	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.05)	ND (0.05)
2,4'-DDE	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.05)	ND (0.05)
2,4'-DDE + 4,4'-DDE	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	0.007	ND (0.005)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.05)	ND (0.05)
2,4'-DDT	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.05)	ND (0.05)
2,4'-DDT + 4,4'-DDT	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.05)	ND (0.05)
4,4'-DDD	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.05)	ND (0.05)
4,4'-DDE	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	0.007	ND (0.005)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.05)	ND (0.05)
4,4'-DDT	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.05)	ND (0.05)
Aldrin	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.05)	ND (0.05)
alpha-BHC	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.05)	ND (0.05)
alpha-Chlordane	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.05)	ND (0.05)
Aroclor-1242 (PCB-1242)	ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.5)	ND (0.5)	ND (0.05)	ND (0.05)	ND (0.2)	ND (0.5)	ND (0.5)
Aroclor-1248 (PCB-1248)	ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.5)	ND (0.5)	ND (0.05)	ND (0.05)	ND (0.2)	ND (0.5)	ND (0.05)
Aroclor-1254 (PCB-1254)	ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.5)	ND (0.5)	ND (0.05)	ND (0.05)	ND (0.2)	ND (0.5)	ND (0.05)
Aroclor-1260 (PCB-1260)	ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.5)	ND (0.5)	ND (0.05)	ND (0.05)	ND (0.2)	ND (0.5)	ND (0.5)
beta-BHC	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.05)	ND (0.05)
Chlordane	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.05)	ND (0.05)
Dieldrin	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.05)	ND (0.05)
Endosulfan	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.05)	ND (0.05)
Endosulfan I	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.05)	ND (0.05)
Endosulfan II	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.05)	ND (0.05)
Endrin	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.05)	ND (0.05)
Endrin aldehyde	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.05)	ND (0.05)
Endrin ketone	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.05)	ND (0.05)
gamma-BHC (lindane)	ug/L	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.03)	ND (0.03)	ND (0.003)	ND (0.003)	ND (0.01)	ND (0.03)	ND (0.03)
gamma-Chlordane	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.05)	ND (0.05)
Heptachlor	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.05)	ND (0.05)
Heptachlor epoxide	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.05)	ND (0.05)
Hexachlorobenzene	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.05)	ND (0.05)
Hexachlorobutadiene	ug/L	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.09)	ND (0.09)	ND (0.009)	ND (0.009)	ND (0.02)	ND (0.09)	ND (0.09)
Hexachloroethane	ug/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.1)	ND (0.1)	ND (0.01)	ND (0.01)	ND (0.02)	ND (0.1)	ND (0.1)
Methoxychlor	ug/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.1)	ND (0.1)	ND (0.01)	ND (0.01)	ND (0.03)	ND (0.1)	ND (0.1)
Mirex	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.05)	ND (0.05)
Total PCBs	ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.5)	ND (0.5)	ND (0.05)	ND (0.05)	ND (0.2)	ND (0.5)	ND (0.5)
Toxaphene	ug/L	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (2)	ND (2)	ND (0.2)	ND (0.2)	ND (0.4)	ND (2)	ND (2)

Notes:

ND Not detected at the associated reporting limit.

Appendix N.1

Leachate and Groundwater Chemistry Data
Upper Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		30-I	30-I	30-I	31-I	31-I	31-I	31-I	35-IV	35-IV	35-IV	35-IV	35-IV	36-IIIR	36-IIIR	36-IIIR	36-IIIR
Sample ID:		**30-I**	**30-I**	**30-I**	**31-I**	**31-I**	**31-I**	**31-I**	**35-IV**	**35-IV**	**35-IV**	**35-IV**	**2-II**	**36-IIIR**	**36-IIIR**	**36-IIIR**	**36-IIIR**
Sample Date:		**4/19/2021**	**7/30/2021**	**11/1/2021**	**1/25/2021**	**4/19/2021**	**7/26/2021**	**10/25/2021**	**1/26/2021**	**4/16/2021**	**7/28/2021**	**10/27/2021**	**10/27/2021 Duplicate**	**1/28/2021**	**4/20/2021**	**7/27/2021**	**11/1/2021**
Parameters	**Units**																
Metals																	
Aluminum (dissolved)	mg/L	0.03	0.018	0.025	ND (0.025)	ND (0.0049)	ND (0.025)	0.012	ND (0.025)	ND (0.025)	0.01	0.029	ND (0.025)	ND (0.025)	0.027	0.014	0.0064
Antimony (dissolved)	mg/L	0.0014	0.00088	0.00088	ND (0.0025)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)
Arsenic (dissolved)	mg/L	0.0063	0.0067	0.0041	ND (0.005)	0.003	ND (0.005)	0.0019	0.0055	0.0062	0.0033	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	0.0015
Barium (dissolved)	mg/L	0.097	0.07	0.093	0.014	0.017	0.015	0.012	0.015	0.015	0.012	0.012	0.01	ND (0.01)	ND (0.01)	0.01	0.012
Beryllium (dissolved)	mg/L	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.0004)	ND (0.002)	ND (0.0004)	ND (0.002)	ND (0.002)	ND (0.0004)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.0004)	ND (0.0004)
Bismuth (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)
Boron (dissolved)	mg/L	0.066	0.11	0.13	0.45	0.54	0.62	0.2	1.8	1.7	1.7	1.8	1.8	3.8	4.4	4	4.2
Cadmium (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)
Calcium (dissolved)	mg/L	230	170	180	11	11	5.7	30	890	780	740	700	690	600	630	620	590
Chromium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)
Cobalt (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)
Copper (dissolved)	mg/L	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0009)	ND (0.0045)	0.0012	ND (0.0045)	ND (0.0045)	ND (0.0009)	ND (0.0045)	ND (0.0045)	ND (0.0045)	ND (0.0045)	ND (0.0009)	ND (0.0009)
Iron (dissolved)	mg/L	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.1)
Lead (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)
Lithium (dissolved)	mg/L	0.057	0.054	0.05	ND (0.025)	0.022	0.025	0.0097	0.35	0.35	0.36	0.3	0.31	0.97	0.97	0.98	1
Magnesium (dissolved)	mg/L	ND (0.05)	ND (0.05)	ND (0.05)	2.7	2.2	2	7.6	40	39	37	32	32	110	120	120	110
Manganese (dissolved)	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.01)	0.0022	ND (0.01)	0.0055	0.023	0.042	0.017	0.016	0.016	0.068	0.064	0.056	0.053
Molybdenum (dissolved)	mg/L	0.011	0.018	0.023	0.099	0.084	0.098	0.037	0.042	0.062	0.03	0.027	0.021	ND (0.0025)	ND (0.0025)	ND (0.0005)	0.00055
Nickel (dissolved)	mg/L	0.012	0.014	0.011	0.028	0.025	0.027	0.0093	0.014	0.015	0.0084	0.0092	0.0073	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)
Phosphorus (dissolved)	mg/L	ND (0.1)	ND (0.1)	ND (0.1)	0.95	0.41	0.73	0.43	ND (0.5)	ND (0.5)	0.11	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.1)
Potassium (dissolved)	mg/L	110	110	100	160	150	180	58	120	110	110	99	99	30	31	33	31
Selenium (dissolved)	mg/L	ND (0.002)	0.0044	0.0024	ND (0.01)	0.009	ND (0.01)	ND (0.002)	ND (0.01)	ND (0.01)	0.0029	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.002)	ND (0.002)
Silicon (dissolved)	mg/L	3	4.8	3.4	9.9	11	12	7.5	3.6	3.4	3.3	3	3	3.2	3.4	3.8	3.6
Silver (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)
Sodium (dissolved)	mg/L	320	410	320	2700	2700	3000	950	2800	2600	2400	2300	2300	560	630	710	670
Strontium (dissolved)	mg/L	2	2.2	1.7	0.48	0.52	0.5	0.35	8	7.5	6.9	6.2	6.1	6.9	7.2	7.6	6.9
Tellurium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	0.0014	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)
Thallium (dissolved)	mg/L	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00005)	ND (0.00025)	ND (0.00005)	ND (0.00025)	ND (0.00025)	ND (0.00005)	ND (0.00025)	ND (0.00025)	ND (0.00025)	ND (0.00025)	ND (0.00005)	ND (0.00005)
Tin (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)
Titanium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)
Tungsten (dissolved)	mg/L	ND (0.001)	ND (0.001)	0.0048	0.017	0.016	0.016	0.0054	0.012	0.012	0.011	0.0091	0.0096	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)
Uranium (dissolved)	mg/L	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0005)	ND (0.0001)	ND (0.0005)	0.00046	ND (0.0005)	ND (0.0005)	ND (0.0001)	ND (0.0005)	ND (0.0005)	0.015	0.009	0.0071	0.0065
Vanadium (dissolved)	mg/L	0.00092	ND (0.0005)	0.00087	ND (0.0025)	0.0016	ND (0.0025)	0.0022	ND (0.0025)	0.0048	0.0015	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0025)	0.0011	ND (0.0005)
Zinc (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)
Zirconium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)
General Chemistry																	
Alkalinity, total (as CaCO3)	mg/L	680	470	420	920	930	920	310	91	120	110	98	61	240	250	240	240
Ammonia-N	mg/L	18	21	17	230	230	230	75	96	93	87	83	82	3.9	4.0	4.0	3.3
Ammonia-N/Strontium Ratio	ratio	9.0000	9.5455	10.0000	479.1667	442.3077	460.0000	214.2857	12.0000	12.4000	12.6087	13.3871	13.4426	0.5652	0.5556	0.5263	0.4783
Bromide (dissolved)	mg/L	ND (5.0)	ND (5.0)	ND (5.0)	ND (50)	ND (50)	ND (20)	ND (10)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (10)	ND (10)	ND (10)	ND (10)
Chloride (dissolved)	mg/L	460	550	380	4500	4700	4800	1500	4200	4000	3700	3300	3500	850	1000	1000	810
Chloride/Magnesium Ratio	ratio	9200.0000	11000.0000	7600.0000	1666.6667	2136.3636	2400.0000	197.3684	105.0000	102.5641	100.0000	103.1250	109.3750	7.7273	8.3333	8.3333	7.3636
Conductivity	umhos/cm	4200	3700	3200	15000	15000	15000	4300	16000	16000	14000	14000	14000	5800	6300	6500	6000
Fluoride	mg/L	0.80	0.86	1.0	3.5	3.5	4.1	1.4	3.6	3.8	5.0	4.5	4.1	1.1	1.1	1.2	1.1
Hardness	mg/L	570	420	460	38	36	22	110	2400	2100	2000	1900	1900	1900	2100	2000	1900
Nitrate (as N)	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	0.29	ND (0.10)	ND (0.10)	0.53	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Nitrite (as N)	mg/L	0.079	ND (0.010)	0.020	0.063	0.017	0.017	0.017	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.012	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	0.35	ND (0.10)	ND (0.10)	0.54	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Orthophosphate	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	0.70	0.28	0.29	0.35	ND (0.50)	0.017	ND (0.010)	0.013	0.026	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
pH, lab	s.u.	12.0	11.7	11.7	9.77	9.80	9.75	9.41	8.56	8.82	8.96	8.90	8.45	7.74	7.87	7.80	7.85
Phenolics (total)	mg/L	1.4	2.1	1.5	1.3	1.4	1.5	0.32	0.43	0.56	0.32	0.24	0.23	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
Sulfate (dissolved)	mg/L	82	110	210	ND (50)	73	40	62	2100	2200	2300	2500	2500	2000	2000	1800	1800
Total dissolved solids (TDS)	mg/L	1600	1610	1350	7390	7420	7350	2200	10900	9550	8600	9110	8050	4470	4320	4980	4320
Total kjeldahl nitrogen (TKN)	mg/L	20	22	23	230	220	230	80	94	95	87	89	90	4.4	4.1	4.3	4.6
Total organic carbon (TOC)	mg/L	92	110	78	47	45	41	20	28	24	18	18	17	2.1	1.7	1.8	2.2

Notes:

ND Not detected at the associated reporting limit.

Appendix N.1

Leachate and Groundwater Chemistry Data
Upper Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		40-IIR	40-IIR	40-IIR	40-IIR	40-IIR	40-IIR	42-II	42-II	42-II	42-II	46-IIIR	46-IIIR	46-IIIR	46-IIIR	47-IIR
Sample ID:		**40-II**	**40-II**	**3-I**	**40-II**	**40-II**	**3-II**	**42-II**	**42-II**	**42-II**	**42-II**	**46-IIIR**	**46-IIIR**	**46-IIIR**	**46-IIIR**	**47-II**
Sample Date:		**1/27/2021**	**4/21/2021**	**4/21/2021 Duplicate**	**7/26/2021**	**10/29/2021**	**10/29/2021 Duplicate**	**1/26/2021**	**4/19/2021**	**7/29/2021**	**11/1/2021**	**1/27/2021**	**4/21/2021**	**7/28/2021**	**11/3/2021**	**1/29/2021**
Parameters	**Units**															
Metals																
Aluminum (dissolved)	mg/L	0.0081	0.013	ND (0.0049)	0.0068	ND (0.0049)	ND (0.0049)	ND (0.025)	ND (0.025)	ND (0.0049)	0.0059	ND (0.0049)	ND (0.0049)	0.027	ND (0.0049)	0.024
Antimony (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	0.00083	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Arsenic (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.0015	ND (0.001)
Barium (dissolved)	mg/L	0.017	0.022	0.022	0.025	0.021	0.02	0.012	0.011	0.012	0.033	0.023	0.02	0.045	0.036	0.058
Beryllium (dissolved)	mg/L	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)
Bismuth (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Boron (dissolved)	mg/L	0.57	0.56	0.58	0.74	0.86	0.7	1.3	1.3	1.2	0.29	0.086	0.11	0.11	0.16	0.23
Cadmium (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00009)	0.0011	0.00017	0.00013	0.00037	ND (0.00009)	ND (0.00009)
Calcium (dissolved)	mg/L	300	370	390	390	390	360	570	520	570	130	210	170	220	210	220
Chromium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Cobalt (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0022	ND (0.0005)
Copper (dissolved)	mg/L	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0045)	ND (0.0009)	0.003	0.002	0.001	0.0014	0.0012	ND (0.0009)
Iron (dissolved)	mg/L	0.86	0.57	0.54	0.85	0.67	0.66	ND (0.5)	ND (0.5)	0.58	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.86	0.12
Lead (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.00092
Lithium (dissolved)	mg/L	0.089	0.09	0.093	0.11	0.1	0.094	0.099	0.084	0.08	0.021	0.011	0.0056	0.012	0.011	0.0066
Magnesium (dissolved)	mg/L	77	96	98	97	90	82	130	120	120	79	69	57	78	69	48
Manganese (dissolved)	mg/L	0.14	0.14	0.14	0.15	0.13	0.13	0.14	0.14	0.15	0.0021	0.015	0.049	0.16	1.2	0.14
Molybdenum (dissolved)	mg/L	0.0023	0.0011	0.0012	0.0012	0.0011	0.001	0.0044	ND (0.0025)	0.005	0.0066	0.0026	0.0032	0.0028	0.003	0.004
Nickel (dissolved)	mg/L	0.0013	ND (0.001)	0.0011	0.0013	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	0.0018	0.004	0.0042	0.0027	0.0034	0.0062	0.0013
Phosphorus (dissolved)	mg/L	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Potassium (dissolved)	mg/L	21	22	22	24	25	22	39	31	40	11	1.4	1.2	2.4	1.7	4
Selenium (dissolved)	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.01)	ND (0.01)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)
Silicon (dissolved)	mg/L	5.3	5.5	5.8	5.8	6.2	5.6	20	17	19	8.1	4.7	4.1	5.9	7	5.2
Silver (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)
Sodium (dissolved)	mg/L	260	340	350	350	310	280	390	300	390	62	170	140	160	170	82
Strontium (dissolved)	mg/L	3.7	4.3	4.3	5	4.4	4	13	12	12	1.6	0.62	0.58	0.79	0.76	2.3
Tellurium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Thallium (dissolved)	mg/L	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)
Tin (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Titanium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Tungsten (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	0.0011	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Uranium (dissolved)	mg/L	0.0014	0.001	0.0011	0.00082	0.00083	0.00079	ND (0.0005)	ND (0.0005)	0.00028	0.00097	0.0073	0.0057	0.0059	0.0072	0.0024
Vanadium (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0014	ND (0.0005)
Zinc (dissolved)	mg/L	0.0053	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	0.066	0.0072	0.0082	0.017	0.01	0.18
Zirconium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
General Chemistry																
Alkalinity, total (as CaCO3)	mg/L	230	240	240	230	240	230	130	140	140	330	310	310	370	480	280
Ammonia-N	mg/L	4.5	5.1	4.9	5.8	4.7	4.7	15	11	19	2.3	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	0.089
Ammonia-N/Strontium Ratio	ratio	1.2162	1.1860	1.1395	1.1600	1.0682	1.1750	1.1538	0.9167	1.5833	1.4375	0.0806	0.0862	0.0633	0.0658	0.0387
Bromide (dissolved)	mg/L	ND (5.0)	ND (5.0)	ND (5.0)	ND (10)	ND (10)	ND (5.0)	ND (10)	ND (10)	ND (10)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
Chloride (dissolved)	mg/L	400	580	590	590	390	450	680	560	630	170	210	170	180	190	86
Chloride/Magnesium Ratio	ratio	5.1948	6.0417	6.0204	6.0825	4.3333	5.4878	5.2308	4.6667	5.2500	2.1519	3.0435	2.9825	2.3077	2.7536	1.7917
Conductivity	umhos/cm	3000	3800	3800	4100	3500	3500	5000	4400	4700	1900	2100	1800	2100	2100	1600
Fluoride	mg/L	1.0	1.1	1.0	1.2	1.2	1.2	1.1	1.0	1.3	0.96	0.17	0.18	0.20	0.23	0.61
Hardness	mg/L	1100	1300	1400	1400	1300	1200	1900	1800	1900	640	800	660	870	810	740
Nitrate (as N)	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.23	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Nitrite (as N)	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.012	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.24	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Orthophosphate	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.010	ND (0.010)	0.011
pH, lab	s.u.	7.81	7.69	7.74	7.77	7.79	7.71	7.54	7.52	7.47	7.81	7.62	7.67	8.15	7.80	7.77
Phenolics (total)	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.071	0.015	0.14	ND (0.0010)	ND (0.0010)	0.0038	ND (0.0010)	ND (0.0010)	ND (0.0010)
Sulfate (dissolved)	mg/L	810	1000	1000	1100	940	1100	1700	1700	1700	480	510	400	430	440	490
Total dissolved solids (TDS)	mg/L	2070	2390	2410	2720	2540	2450	3590	3290	3520	960	1430	1070	1300	1280	1130
Total kjeldahl nitrogen (TKN)	mg/L	4.8	4.8	5.1	6.0	5.6	5.5	16	12	22	2.8	0.99	0.56	0.52	1.0	0.30
Total organic carbon (TOC)	mg/L	3.1	2.8	2.8	3.4	2.8	2.8	8.1	8.3	9.8	6.4	17	11	7.8	13	4.1

Notes:

ND Not detecte

Appendix N.1

Leachate and Groundwater Chemistry Data
Upper Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		47-IIR	47-IIR	47-IIR	47-IIR	56-II	57-IR	57-IR	57-IR	57-IR	60-II	60-II	60-II	60-II	60-II	61-II	61-II
Sample ID:		3-I	47-IIR	47-IIR	47-IIR	56-II	57-I	57-IR	57-I	57-IR	60-II	60-II	60-II	60-II	11-II	61-II	61-II
Sample Date:		1/29/2021	4/21/2021	8/3/2021	10/29/2021	4/14/2021	1/26/2021	4/20/2021	7/30/2021	11/2/2021	1/29/2021	4/21/2021	7/30/2021	10/29/2021	10/29/2021	1/28/2021	4/23/2021
		Duplicate													Duplicate		
Parameters	**Units**																
Metals																	
Aluminum (dissolved)	mg/L	0.0076	ND (0.0049)	ND (0.0049)	ND (0.0049)	0.019	3.4	4.1	4.5	5	0.0071	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)	0.027	ND (0.0049)
Antimony (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	0.00063	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)
Arsenic (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	0.0042	0.0039	0.0037	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)
Barium (dissolved)	mg/L	0.056	0.061	0.042	0.034	0.031	0.022	0.019	0.017	0.015	0.019	0.022	0.026	0.019	0.018	0.014	0.013
Beryllium (dissolved)	mg/L	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.0004)
Bismuth (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)
Boron (dissolved)	mg/L	0.23	0.15	0.15	0.19	0.19	0.48	0.44	0.46	0.47	0.55	0.48	0.58	0.62	0.57	2.6	2.8
Cadmium (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)
Calcium (dissolved)	mg/L	220	170	120	220	160	84	66	60	54	320	390	380	270	270	470	470
Chromium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)
Cobalt (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)
Copper (dissolved)	mg/L	ND (0.0009)	ND (0.0009)	ND (0.0009)	0.0011	ND (0.0009)	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0009)
Iron (dissolved)	mg/L	0.12	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	0.26	0.25	0.24	0.2	0.2	ND (0.5)	0.11
Lead (dissolved)	mg/L	0.0008	0.0013	ND (0.0005)	0.0016	0.001	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)
Lithium (dissolved)	mg/L	0.0068	ND (0.005)	ND (0.005)	0.0052	0.037	0.03	0.028	0.028	0.023	0.082	0.077	0.08	0.075	0.068	0.38	0.41
Magnesium (dissolved)	mg/L	48	41	34	43	61	1.7	1.1	1.7	0.59	86	94	100	74	72	87	92
Manganese (dissolved)	mg/L	0.14	0.095	0.13	0.058	0.063	ND (0.01)	ND (0.002)	ND (0.002)	ND (0.002)	0.13	0.13	0.14	0.12	0.11	0.17	0.074
Molybdenum (dissolved)	mg/L	0.0033	0.0033	0.003	0.0047	0.0016	0.091	0.086	0.066	0.088	0.0012	0.00077	ND (0.0005)	0.001	0.0011	ND (0.0025)	ND (0.0005)
Nickel (dissolved)	mg/L	0.0012	0.0014	ND (0.001)	0.0021	0.0011	0.031	0.034	0.031	0.034	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)
Phosphorus (dissolved)	mg/L	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.74	0.62	0.61	0.59	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.1)
Potassium (dissolved)	mg/L	4	4	2.8	4.8	7.1	190	180	180	170	18	20	20	18	17	17	20
Selenium (dissolved)	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.01)	ND (0.002)	0.0031	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.01)	ND (0.002)
Silicon (dissolved)	mg/L	5.2	4.3	4.9	5.9	4.8	8.9	8.6	9.5	9.1	4.8	4.9	5.4	5.7	5.5	5.3	6.3
Silver (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)
Sodium (dissolved)	mg/L	81	130	67	110	160	2800	2700	2500	2600	250	280	290	240	240	350	390
Strontium (dissolved)	mg/L	2.3	2.8	1.7	2.6	5.2	1.5	1.1	1.3	0.91	3.6	3.8	4.5	3.3	3	5.9	5.9
Tellurium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)
Thallium (dissolved)	mg/L	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00005)
Tin (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)
Titanium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)
Tungsten (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.023	0.023	0.022	0.021	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)
Uranium (dissolved)	mg/L	0.0024	0.0028	0.0017	0.0037	0.0022	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.0001)	0.00047	0.00049	0.0004	0.00037	0.00033	ND (0.0005)	0.00025
Vanadium (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	0.001	0.0009	0.00099	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)
Zinc (dissolved)	mg/L	0.18	0.22	0.16	0.2	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)
Zirconium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)
General Chemistry																	
Alkalinity, total (as CaCO3)	mg/L	280	260	260	300	290	790	880	760	840	230	240	250	260	260	290	300
Ammonia-N	mg/L	0.10	ND (0.050)	0.22	ND (0.050)	0.64	210	220	220	200	2.5	2.7	2.9	2.0	2.0	0.92	1.1
Ammonia-N/Strontium Ratio	ratio	0.0435	0.0179	0.1294	0.0192	0.1231	140.0000	200.0000	169.2308	219.7802	0.6944	0.7105	0.6444	0.6061	0.6667	0.1559	0.1864
Bromide (dissolved)	mg/L	ND (5.0)	ND (5.0)	ND (1.0)	ND (5.0)	ND (5.0)	ND (50)	ND (50)	ND (50)	ND (20)	ND (5.0)	ND (5.0)	ND (10)	ND (5.0)	ND (5.0)	ND (10)	ND (10)
Chloride (dissolved)	mg/L	84	240	98	180	270	4000	4100	4000	4000	380	490	470	380	370	330	430
Chloride/Magnesium Ratio	ratio	1.7500	5.8537	2.8824	4.1860	4.4262	2352.9412	3727.2727	2352.9412	6779.6610	4.4186	5.2128	4.7000	5.1351	5.1389	3.7931	4.6739
Conductivity	umhos/cm	1600	1700	1100	1800	2000	13000	14000	13000	13000	3000	3300	3700	2800	2800	4100	4300
Fluoride	mg/L	0.60	0.56	0.52	0.69	0.55	3.2	3.8	3.6	4.1	1.0	0.95	1.0	1.2	1.2	0.94	0.89
Hardness	mg/L	740	580	450	710	650	220	170	160	140	1100	1400	1400	970	970	1500	1600
Nitrate (as N)	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	0.17	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Nitrite (as N)	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.010	0.021	0.012	0.014	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	0.17	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Orthophosphate	mg/L	0.012	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.023	0.020	0.017	0.040	0.012	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
pH, lab	s.u.	7.82	7.69	7.92	7.71	7.90	10.4	10.8	10.5	10.7	7.84	7.84	7.70	7.74	7.79	7.66	7.65
Phenolics (total)	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.94	0.92	1.1	1.0	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
Sulfate (dissolved)	mg/L	480	340	190	410	400	270	240	230	110	850	870	790	730	720	1700	1800
Total dissolved solids (TDS)	mg/L	1100	1050	735	1150	1280	7380	7500	6750	7290	2130	2180	2470	1730	1920	3260	3230
Total kjeldahl nitrogen (TKN)	mg/L	0.24	0.32	0.19	0.30	0.81	200	230	210	230	2.9	3.0	3.2	2.3	2.5	1.2	1.4
Total organic carbon (TOC)	mg/L	4.2	4.6	3.9	3.9	2.6	73	73	75	66	3.0	3.1	2.9	3.0	2.9	1.8	1.6

Notes:

ND Not detecte

Leachate and Groundwater Chemistry Data
Upper Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		61-II	61-II	61-II	62-IV	62-IV	62-IV	62-IV	67-III	67-III	67-III	67-III	68-III	68-III	68-III	68-III	72-III	72-III
Sample ID:		61-II	61-II	11-III	62-IV	62-IV	62-IV	62-IV	67-III	67-III	67-III	67-III	68-III	68-III	68-III	68-III	72-III	12-I
Sample Date:		7/30/2021	11/1/2021	11/1/2021 Duplicate	1/28/2021	4/20/2021	7/27/2021	10/27/2021	1/28/2021	4/20/2021	7/30/2021	10/26/2021	1/25/2021	4/19/2021	7/26/2021	10/26/2021	4/22/2021	4/22/2021 Duplicate
Parameters	**Units**																	
Metals																		
Aluminum (dissolved)	mg/L	ND (0.0049)	0.0081	0.0067	ND (0.0049)	0.0054	ND (0.0049)	0.028	ND (0.0049)	ND (0.0049)	ND (0.0049)	0.044	ND (0.025)	0.0069	0.008	0.019	ND (0.025)	ND (0.025)
Antimony (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.00099	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)
Arsenic (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.0011	ND (0.001)	0.001	ND (0.005)	0.0023	0.0023	0.0033	ND (0.005)	ND (0.005)
Barium (dissolved)	mg/L	0.014	0.014	0.015	0.082	0.11	0.14	0.059	0.024	0.035	0.045	0.035	0.018	0.0028	0.0056	0.0039	0.021	0.021
Beryllium (dissolved)	mg/L	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.002)
Bismuth (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)
Boron (dissolved)	mg/L	3	4.2	4.6	0.09	0.12	0.14	0.063	0.55	0.79	0.88	0.22	0.63	0.7	0.68	0.59	6.5	6.5
Cadmium (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)
Calcium (dissolved)	mg/L	500	550	600	130	180	220	120	100	130	180	78	350	10	85	13	1500	1500
Chromium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)
Cobalt (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.00055	ND (0.0005)	0.0014	0.00087	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.00059	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)
Copper (dissolved)	mg/L	0.0012	ND (0.0009)	ND (0.0009)	0.0014	0.0011	ND (0.0009)	0.0013	ND (0.0009)	0.0011	ND (0.0009)	0.0012	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0045)
Iron (dissolved)	mg/L	0.47	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.5	0.17	ND (0.1)	0.18	0.54	ND (0.1)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.5)
Lead (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)
Lithium (dissolved)	mg/L	0.36	0.55	0.6	0.023	0.021	0.024	0.013	0.053	0.055	0.068	0.025	0.046	0.022	0.028	0.03	3.7	3.8
Magnesium (dissolved)	mg/L	85	95	99	42	56	78	42	62	74	110	51	6.6	1.5	3	2.1	420	420
Manganese (dissolved)	mg/L	0.19	0.067	0.068	0.095	0.066	0.43	0.28	0.017	0.019	0.017	0.031	ND (0.01)	ND (0.002)	0.0058	ND (0.002)	0.25	0.24
Molybdenum (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0024	0.0015	0.0015	0.0015	0.0091	0.0036	0.011	0.0037	0.049	0.023	0.0094	0.022	ND (0.0025)	ND (0.0025)
Nickel (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	0.0018	0.0016	0.0031	0.0037	0.0024	0.0017	0.0043	0.0013	0.016	0.0046	0.0041	0.0069	ND (0.005)	ND (0.005)
Phosphorus (dissolved)	mg/L	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.72	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.5)
Potassium (dissolved)	mg/L	20	22	24	2.5	2.7	3.6	2.2	13	14	19	5.1	100	42	48	39	77	78
Selenium (dissolved)	mg/L	ND (0.002)	ND (0.002)	0.0028	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	0.012	0.0059	ND (0.002)	ND (0.002)	ND (0.01)	ND (0.01)
Silicon (dissolved)	mg/L	5.9	5	5.3	4.2	5.2	6.9	7.2	5.8	8	7.8	9.1	7	11	11	11	5.9	5.8
Silver (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)
Sodium (dissolved)	mg/L	370	390	400	110	130	160	76	240	210	350	56	1900	790	890	670	3000	3000
Strontium (dissolved)	mg/L	6.3	6.9	7.3	0.84	1.2	1.5	0.69	1.2	1.4	2.2	0.6	2.6	0.32	0.58	0.4	26	26
Tellurium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.0011	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)
Thallium (dissolved)	mg/L	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00025)
Tin (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)
Titanium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)
Tungsten (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.0021	0.0011	0.0023	ND (0.001)	0.011	0.0035	0.0037	0.0034	ND (0.005)	ND (0.005)
Uranium (dissolved)	mg/L	0.00041	0.0002	0.00023	0.0019	0.0027	0.0029	0.0022	0.003	0.0038	0.0047	0.0028	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0005)	ND (0.0005)
Vanadium (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	0.00071	0.00057	0.00085	ND (0.0025)	ND (0.0025)
Zinc (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	0.0091	0.0056	0.0091	ND (0.005)	ND (0.005)	0.007	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)
Zirconium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)
General Chemistry																		
Alkalinity, total (as CaCO3)	mg/L	270	270	270	180	200	250	290	250	330	300	390	250	280	89	130	250	190
Ammonia-N	mg/L	1.6	2.1	2.0	1.1	0.78	0.46	ND (0.050)	7.2	8.0	10	0.79	130	55	52	43	11	11
Ammonia-N/Strontium Ratio	ratio	0.2540	0.3043	0.2740	1.3095	0.6500	0.3067	0.0725	6.0000	5.7143	4.5455	1.3167	50.0000	171.8750	89.6552	107.5000	0.4231	0.4231
Bromide (dissolved)	mg/L	ND (10)	ND (10)	ND (10)	ND (5.0)	ND (5.0)	ND (5.0)	ND (1.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (1.0)	ND (50)	ND (10)	ND (10)	ND (5.0)	ND (100)	ND (100)
Chloride (dissolved)	mg/L	420	400	400	260	300	350	120	390	300	710	9.3	2800	1100	1400	440	6800	6300
Chloride/Magnesium Ratio	ratio	4.9412	4.2105	4.0404	6.1905	5.3571	4.4872	2.8571	6.2903	4.0541	6.4545	0.1824	424.2424	733.3333	466.6667	209.5238	16.1905	15.0000
Conductivity	umhos/cm	4200	4200	4100	1800	1900	2300	1100	2300	2100	3500	700	12000	4400	6100	3200	22000	20000
Fluoride	mg/L	1.0	1.0	1.0	0.39	0.33	0.34	0.32	0.99	0.58	0.62	0.37	2.1	1.9	2.1	1.8	0.71	0.73
Hardness	mg/L	1600	1800	1900	490	690	880	470	510	620	900	410	900	32	220	41	5500	5600
Nitrate (as N)	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.36	ND (0.10)	ND (0.10)	0.61	0.27	ND (0.10)	0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Nitrite (as N)	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.039	0.013	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.36	ND (0.10)	ND (0.10)	0.65	0.28	ND (0.10)	0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Orthophosphate	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	0.010	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.50)	0.041	ND (0.010)	ND (0.010)	0.018	0.016
pH, lab	s.u.	7.67	7.62	7.60	7.98	7.84	7.73	7.79	8.04	7.86	7.80	8.06	9.18	9.34	8.53	8.87	7.60	7.28
Phenolics (total)	mg/L	0.0012	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.0091	0.020	0.0018	0.94	0.37	0.16	0.92	0.0026	0.0020
Sulfate (dissolved)	mg/L	1300	1500	1500	310	380	400	130	320	350	320	42	1400	150	950	930	1800	1900
Total dissolved solids (TDS)	mg/L	2840	3490	3330	900	1150	1530	675	1270	1210	1920	435	6650	2190	2440	1830	14700	16100
Total kjeldahl nitrogen (TKN)	mg/L	2.1	2.5	2.6	1.4	1.0	0.59	0.29	7.7	8.3	10	1.1	130	54	56	46	11	11
Total organic carbon (TOC)	mg/L	2.7	1.2	1.2	3.7	3.2	3.5	3.4	5.5	4.7	7.1	2.9	55	35	32	50	1.9	2.0

Notes:

ND Not detecte

Appendix N.1

Leachate and Groundwater Chemistry Data
Upper Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		72-III	72-III	75-IV	75-IV	75-IV	CW3	CW3	CW3	CW5R	CW5R	CW5R	CW5R	CW16	CW16	CW16
Sample ID:		**72-III**	**72-III**	**75-IV**	**75-IV**	**75-IV**	**CW3**	**CW3**	**CW3**	**CW5R**	**CW5R**	**CW5R**	**CW5R**	**CW16**	**CW16**	**CW16**
Sample Date:		**8/4/2021**	**10/28/2021**	**1/27/2021**	**4/27/2021**	**10/26/2021**	**4/23/2021**	**8/18/2021**	**11/5/2021**	**1/29/2021**	**4/23/2021**	**8/13/2021**	**11/5/2021**	**1/29/2021**	**4/23/2021**	**8/12/2021**
Parameters	**Units**															
Metals																
Aluminum (dissolved)	mg/L	0.089	ND (0.025)	0.028	ND (0.0049)	0.15	ND (0.0049)	ND (0.0049)	ND (0.0049)	0.059	0.014	0.015	0.011	0.01	ND (0.0049)	0.006
Antimony (dissolved)	mg/L	ND (0.005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Arsenic (dissolved)	mg/L	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	0.0018	0.002	0.0012	ND (0.005)	0.0026	0.0026	0.0016	ND (0.001)	ND (0.001)	ND (0.001)
Barium (dissolved)	mg/L	0.021	0.018	0.017	0.017	0.03	0.024	0.023	0.021	0.011	0.011	0.014	0.0076	0.023	0.02	0.019
Beryllium (dissolved)	mg/L	ND (0.004)	ND (0.002)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)
Bismuth (dissolved)	mg/L	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Boron (dissolved)	mg/L	7.6	7.1	0.24	0.2	0.2	0.24	0.19	0.17	0.53	0.47	0.58	0.52	0.34	0.25	0.33
Cadmium (dissolved)	mg/L	ND (0.0009)	ND (0.00045)	ND (0.00045)	ND (0.00009)	0.00017	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)
Calcium (dissolved)	mg/L	1500	1300	320	330	180	22	19	17	34	29	40	36	200	190	170
Chromium (dissolved)	mg/L	ND (0.05)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	0.014
Cobalt (dissolved)	mg/L	ND (0.005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Copper (dissolved)	mg/L	ND (0.009)	ND (0.0045)	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)
Iron (dissolved)	mg/L	4.6	ND (0.5)	ND (0.5)	0.45	1.1	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	0.33	0.24	0.2
Lead (dissolved)	mg/L	ND (0.005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	0.0031	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	0.00066	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Lithium (dissolved)	mg/L	3.8	3.3	0.074	0.081	0.055	0.023	0.017	0.014	0.029	0.027	0.029	0.025	0.026	0.022	0.022
Magnesium (dissolved)	mg/L	430	350	140	160	93	5.4	2.8	2.3	15	13	17	17	100	99	81
Manganese (dissolved)	mg/L	0.46	0.22	0.085	0.047	0.051	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.01)	ND (0.002)	ND (0.002)	ND (0.002)	0.11	0.095	0.086
Molybdenum (dissolved)	mg/L	ND (0.005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	0.0038	0.012	0.011	0.042	0.052	0.055	0.021	0.0066	0.0069	0.0066
Nickel (dissolved)	mg/L	ND (0.01)	ND (0.005)	ND (0.005)	0.0011	0.001	0.0037	0.0036	0.0027	0.016	0.017	0.018	0.0098	0.0018	ND (0.001)	0.0018
Phosphorus (dissolved)	mg/L	ND (1)	ND (0.5)	0.5	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.51	0.13	0.17	0.11	ND (0.1)	ND (0.1)	ND (0.1)
Potassium (dissolved)	mg/L	75	66	14	14	12	53	44	39	100	110	120	73	24	23	27
Selenium (dissolved)	mg/L	ND (0.02)	ND (0.01)	ND (0.01)	ND (0.002)	ND (0.002)	0.005	0.0029	0.0028	ND (0.01)	0.0082	ND (0.002)	0.0039	ND (0.002)	ND (0.002)	ND (0.002)
Silicon (dissolved)	mg/L	5.4	5.5	6.7	7.1	7.4	10	10	11	4.9	5.4	5.8	5.9	5.5	5.2	5.6
Silver (dissolved)	mg/L	ND (0.0009)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)
Sodium (dissolved)	mg/L	3100	2600	450	360	220	270	200	160	1700	1700	1900	1100	100	83	160
Strontium (dissolved)	mg/L	27	25	8.3	6.9	4	1.1	0.85	0.71	1.6	1.4	1.8	1.1	2.4	2.1	2.2
Tellurium (dissolved)	mg/L	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Thallium (dissolved)	mg/L	ND (0.0005)	ND (0.00025)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)
Tin (dissolved)	mg/L	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Titanium (dissolved)	mg/L	ND (0.05)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Tungsten (dissolved)	mg/L	ND (0.01)	ND (0.005)	0.053	0.029	0.027	0.0027	0.0034	0.0034	0.018	0.019	0.02	0.012	ND (0.001)	ND (0.001)	ND (0.001)
Uranium (dissolved)	mg/L	ND (0.001)	ND (0.0005)	0.00059	0.002	0.0024	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.0001)	0.0011	0.001	0.00049
Vanadium (dissolved)	mg/L	ND (0.005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.00055	0.0007	ND (0.0025)	0.00074	0.0008	0.00051	ND (0.0005)	ND (0.0005)	ND (0.0005)
Zinc (dissolved)	mg/L	ND (0.05)	ND (0.025)	ND (0.025)	ND (0.005)	0.0092	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Zirconium (dissolved)	mg/L	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
General Chemistry																
Alkalinity, total (as CaCO3)	mg/L	190	230	250	280	310	110	72	68	340	330	360	230	220	210	190
Ammonia-N	mg/L	11	9.2	5.0	5.3	5.8	11	8.1	6.2	140	140	150	80	2.0	1.6	6.0
Ammonia-N/Strontium Ratio	ratio	0.4074	0.3680	0.6024	0.7681	1.4500	10.0000	9.5294	8.7324	87.5000	100.0000	83.3333	72.7273	0.8333	0.7619	2.7273
Bromide (dissolved)	mg/L	82	ND (100)	ND (10)	ND (10)	ND (1.0)	ND (5.0)	ND (5.0)	ND (1.0)	ND (50)	ND (20)	ND (20)	ND (10)	ND (5.0)	ND (5.0)	ND (5.0)
Chloride (dissolved)	mg/L	7700	6300	870	750	190	360	260	220	2800	2700	2700	1900	130	85	160
Chloride/Magnesium Ratio	ratio	17.9070	18.0000	6.2143	4.6875	2.0430	66.6667	92.8571	95.6522	186.6667	207.6923	158.8235	111.7647	1.3000	0.8586	1.9753
Conductivity	umhos/cm	25000	20000	4300	4000	1600	1700	1300	1100	9700	9600	9200	6400	2000	1800	2000
Fluoride	mg/L	0.68	0.87	0.57	0.59	0.33	1.1	1.2	1.3	3.1	3.1	3.8	2.8	1.3	1.2	1.5
Hardness	mg/L	5500	4700	1400	1500	840	78	59	53	150	130	170	160	930	890	760
Nitrate (as N)	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Nitrite (as N)	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.014	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.11	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Orthophosphate	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.012	0.013	0.010	ND (0.50)	0.036	0.037	0.020	ND (0.010)	ND (0.010)	ND (0.010)
pH, lab	s.u.	7.12	7.51	7.70	7.55	7.97	9.14	9.19	9.38	9.30	9.36	9.47	9.06	7.82	7.70	7.63
Phenolics (total)	mg/L	0.0028	0.0061	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.33	0.33	0.21	0.76	0.72	0.77	0.42	ND (0.0010)	ND (0.0010)	0.015
Sulfate (dissolved)	mg/L	1700	2000	780	870	400	130	100	120	230	210	200	260	680	700	410
Total dissolved solids (TDS)	mg/L	14300	13400	2930	2650	1540	805	650	590	5240	4880	4980	3370	1460	1300	1380
Total kjeldahl nitrogen (TKN)	mg/L	11	10	5.4	5.5	6.1	12	9.1	6.7	150	140	140	88	2.4	1.7	6.6
Total organic carbon (TOC)	mg/L	3.0	2.1	7.2	5.7	6.5	28	27	18	35	34	37	22	6.3	5.0	6.9

Notes:

ND Not detecte

Appendix N.1

Leachate and Groundwater Chemistry Data
Upper Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**CW16**	**P1-III**	**P1-III**	**P1-III**	**P1-III**	**P3-II**	**P3-II**	**P3-II**	**P3-II**	**P4-II**	**P4-II**	**P4-II**	**P4-II**	**P4-II**	**P4-II**
Sample ID:		**CW16**	**P1-III**	**P1-III**	**P1-III**	**P1-III**	**P3-II**	**P3-II**	**P3-II**	**P3-II**	**P4-II**	**4-IV**	**P4-II**	**P4-II**	**4-IV**	**P4-II**
Sample Date:		**11/5/2021**	**1/26/2021**	**4/19/2021**	**7/30/2021**	**10/27/2021**	**1/28/2021**	**4/20/2021**	**7/30/2021**	**11/2/2021**	**1/25/2021**	**1/25/2021 Duplicate**	**4/20/2021**	**7/26/2021**	**7/26/2021 Duplicate**	**10/26/2021**
Parameters	**Units**															
Metals																
Aluminum (dissolved)	mg/L	ND (0.0049)	0.0058	0.04	0.0084	0.0083	0.0054	ND (0.0049)	0.013	0.0099	0.026	ND (0.025)	0.0076	ND (0.0049)	0.0051	0.0062
Antimony (dissolved)	mg/L	ND (0.0005)	0.00051	ND (0.0005)	ND (0.0005)	0.0014	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Arsenic (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.0013	0.0014	0.0018	0.0025	ND (0.001)	ND (0.005)	ND (0.005)	0.0029	0.003	0.0031	0.0039
Barium (dissolved)	mg/L	0.027	0.039	0.031	0.06	0.03	0.031	0.02	0.016	0.015	0.015	0.014	0.011	0.015	0.015	0.011
Beryllium (dissolved)	mg/L	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)
Bismuth (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Boron (dissolved)	mg/L	0.33	0.51	0.42	0.17	0.36	0.57	0.86	0.49	0.79	2.1	2.1	1.3	2.3	2.4	1.7
Cadmium (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)
Calcium (dissolved)	mg/L	190	140	120	140	93	160	240	170	190	140	130	59	170	180	110
Chromium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Cobalt (dissolved)	mg/L	0.00065	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Copper (dissolved)	mg/L	0.001	0.0011	0.0015	ND (0.0009)	0.0038	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)
Iron (dissolved)	mg/L	0.48	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	1.2	0.33	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Lead (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	0.0012	0.0011	0.00098	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Lithium (dissolved)	mg/L	0.02	0.034	0.026	0.014	0.021	0.037	0.053	0.038	0.049	0.24	0.24	0.12	0.26	0.26	0.19
Magnesium (dissolved)	mg/L	120	71	58	50	52	38	44	24	33	21	21	11	22	23	17
Manganese (dissolved)	mg/L	0.12	0.066	0.035	0.088	0.041	0.14	0.056	0.036	0.056	ND (0.01)	ND (0.01)	0.01	0.0065	0.0068	0.0058
Molybdenum (dissolved)	mg/L	0.0069	0.0051	0.0058	0.014	0.0058	0.0013	ND (0.0005)	0.0092	0.00052	0.058	0.065	0.065	0.043	0.031	0.044
Nickel (dissolved)	mg/L	0.0052	0.0017	0.0016	0.0063	0.0014	0.0011	0.0015	0.0029	ND (0.001)	0.021	0.021	0.02	0.018	0.018	0.014
Phosphorus (dissolved)	mg/L	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.67	ND (0.5)	0.18	0.12	0.12	0.14
Potassium (dissolved)	mg/L	17	8.4	7.3	18	8.2	25	32	35	35	140	140	140	140	140	100
Selenium (dissolved)	mg/L	ND (0.002)	0.016	0.0066	ND (0.002)	0.0034	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	0.01	0.03	ND (0.002)	0.0045	0.0037	0.0041
Silicon (dissolved)	mg/L	7	11	9.6	6.4	17	9.6	11	8.4	12	7.6	7.5	8.3	8	8.7	8.4
Silver (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)
Sodium (dissolved)	mg/L	62	43	43	160	27	160	230	330	220	2600	2500	2600	2500	2500	1700
Strontium (dissolved)	mg/L	2.4	1.1	0.93	0.95	0.89	4.8	4.4	3	3.4	2.3	2.4	1.4	2.8	2.8	1.9
Tellurium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	0.0015
Thallium (dissolved)	mg/L	0.00011	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)
Tin (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.02	0.02	0.012	0.019	0.014	0.0094
Titanium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Tungsten (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	0.0011	ND (0.001)	ND (0.001)	0.0025	0.0051	0.0013	0.015	0.015	0.015	0.014	0.013	0.01
Uranium (dissolved)	mg/L	0.003	0.0037	0.0034	0.0011	0.0033	0.00017	ND (0.0001)	0.00011	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)
Vanadium (dissolved)	mg/L	ND (0.0005)	0.0014	0.0011	0.00061	0.0035	ND (0.0005)	ND (0.0005)	0.00057	ND (0.0005)	0.006	0.0059	0.0023	0.0021	0.0023	0.006
Zinc (dissolved)	mg/L	0.044	0.069	0.072	0.049	0.03	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Zirconium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
General Chemistry																
Alkalinity, total (as CaCO3)	mg/L	360	260	260	130	310	170	160	90	150	490	540	560	410	370	210
Ammonia-N	mg/L	1.4	0.46	0.22	2.8	0.24	3.5	7.7	17	7.0	200	220	210	180	190	120
Ammonia-N/Strontium Ratio	ratio	0.5833	0.4182	0.2366	2.9474	0.2697	0.7292	1.7500	5.6667	2.0588	86.9565	91.6667	150.0000	64.2857	67.8571	63.1579
Bromide (dissolved)	mg/L	ND (5.0)	ND (1.0)	ND (1.0)	ND (5.0)	ND (1.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (50)	ND (50)	ND (50)	ND (50)	ND (20)	ND (20)
Chloride (dissolved)	mg/L	61	40	51	370	35	570	650	560	450	4300	4200	4100	4300	3900	2400
Chloride/Magnesium Ratio	ratio	0.5083	0.5634	0.8793	7.4000	0.6731	15.0000	14.7727	23.3333	13.6364	204.7619	200.0000	372.7273	195.4545	169.5652	141.1765
Conductivity	umhos/cm	1800	1300	1200	2000	910	3100	3500	2900	2500	15000	15000	13000	14000	13000	7900
Fluoride	mg/L	1.4	1.1	1.1	1.2	1.0	1.1	1.1	1.6	1.3	3.4	3.5	3.3	3.5	3.4	1.8
Hardness	mg/L	960	630	530	550	440	540	780	520	610	430	420	190	510	540	360
Nitrate (as N)	mg/L	1.03	0.73	0.46	ND (0.10)	0.25	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Nitrite (as N)	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	1.03	0.73	0.46	ND (0.10)	0.25	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Orthophosphate	mg/L	ND (0.010)	0.023	0.025	ND (0.010)	0.045	0.013	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.50)	ND (0.50)	0.052	0.012	0.016	0.035
pH, lab	s.u.	7.75	8.00	7.87	7.75	7.98	7.97	7.93	8.25	7.60	9.40	9.46	9.46	9.39	9.30	8.72
Phenolics (total)	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.047	ND (0.0010)	0.027	0.031	0.083	0.045	1.3	1.3	0.98	1.1	1.2	0.71
Sulfate (dissolved)	mg/L	540	360	310	270	140	580	740	410	480	770	710	390	510	640	1200
Total dissolved solids (TDS)	mg/L	1260	925	760	1190	530	1170	1490	1480	1190	7210	7260	7070	7180	7220	5160
Total kjeldahl nitrogen (TKN)	mg/L	2.0	0.85	0.39	3.1	0.65	3.6	8.9	18	7.5	200	220	210	190	190	120
Total organic carbon (TOC)	mg/L	4.2	5.3	4.7	16	5.9	9.1	14	22	12	39	41	36	36	36	32

Notes:

ND Not detecte

Leachate and Groundwater Chemistry Data
Upper Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		P5-IIIR	P5-IIIR	P5-IIIR	P5-IIIR	P7-III	P7-III	P7-III	P7-III	P8-I	P8-I	P8-I	P8-I	P9-I	P9-I	P9-I
Sample ID:		P5-IIIR	P5-IIIR	P5-IIIR	P5-IIIR	P7-III	P7-III	P7 III	P7-III	P8-I	P8-I	P8-I	P8-I	P9-I	P9-I	P9-I
Sample Date:		1/28/2021	4/22/2021	7/29/2021	10/28/2021	1/28/2021	4/21/2021	7/28/2021	10/28/2021	2/18/2021	4/22/2021	7/28/2021	11/5/2021	1/26/2021	4/14/2021	7/27/2021
Parameters	**Units**															
Metals																
Aluminum (dissolved)	mg/L	ND (0.025)	ND (0.0049)	0.0075	0.0054	0.081	0.036	0.018	0.026	0.066	0.029	0.077	0.26	ND (0.025)	ND (0.025)	ND (0.0049)
Antimony (dissolved)	mg/L	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)
Arsenic (dissolved)	mg/L	ND (0.005)	0.0013	0.0011	ND (0.001)	ND (0.005)	0.0013	0.0013	0.001	ND (0.005)	ND (0.005)	ND (0.005)	0.0015	ND (0.005)	ND (0.005)	ND (0.001)
Barium (dissolved)	mg/L	0.011	0.014	0.014	0.013	0.049	0.053	0.049	0.027	0.043	0.048	0.047	0.049	0.023	0.02	0.02
Beryllium (dissolved)	mg/L	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.0004)	ND (0.002)	ND (0.002)	ND (0.0004)
Bismuth (dissolved)	mg/L	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)
Boron (dissolved)	mg/L	0.49	0.39	0.42	0.47	0.54	0.71	0.86	0.44	2.1	1.9	2.2	2.3	8	7.3	6.4
Cadmium (dissolved)	mg/L	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00045)	0.00071	ND (0.00045)	ND (0.00045)	ND (0.00009)
Calcium (dissolved)	mg/L	66	78	72	73	140	240	270	140	650	650	650	640	1100	820	830
Chromium (dissolved)	mg/L	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)
Cobalt (dissolved)	mg/L	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0025)	0.00082	ND (0.0025)	ND (0.0025)	ND (0.0005)
Copper (dissolved)	mg/L	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0045)	ND (0.0045)	0.003	ND (0.0045)	ND (0.0045)	ND (0.0009)
Iron (dissolved)	mg/L	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	16	12	3.8	5.2	ND (0.5)	ND (0.5)	ND (0.1)
Lead (dissolved)	mg/L	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0025)	0.00071	ND (0.0025)	ND (0.0025)	ND (0.0005)
Lithium (dissolved)	mg/L	0.031	0.032	0.027	0.034	0.048	0.059	0.072	0.033	0.24	0.23	0.24	0.25	2.7	2.2	1.8
Magnesium (dissolved)	mg/L	40	40	43	42	17	29	29	25	110	120	110	95	280	210	210
Manganese (dissolved)	mg/L	ND (0.01)	0.0056	0.0022	0.01	ND (0.01)	0.0053	0.0042	0.016	0.93	1	0.97	0.92	0.054	0.069	0.06
Molybdenum (dissolved)	mg/L	0.016	0.014	0.017	0.0029	0.021	0.015	0.0091	0.0093	0.0047	ND (0.0025)	ND (0.0025)	0.0013	ND (0.0025)	ND (0.0025)	ND (0.0005)
Nickel (dissolved)	mg/L	0.005	0.0072	0.0066	0.0044	0.0082	0.0068	0.0068	0.0049	0.005	ND (0.005)	ND (0.005)	0.007	ND (0.005)	ND (0.005)	ND (0.001)
Phosphorus (dissolved)	mg/L	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	0.17	0.13	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.1)
Potassium (dissolved)	mg/L	45	62	71	63	60	64	62	30	130	140	140	140	62	51	53
Selenium (dissolved)	mg/L	ND (0.01)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.01)	ND (0.002)	0.0025	ND (0.002)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.002)	ND (0.01)	ND (0.01)	0.0046
Silicon (dissolved)	mg/L	8.9	4.1	8.2	9.2	5	6.4	5.7	5	22	24	23	21	7.7	6.3	6.8
Silver (dissolved)	mg/L	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00009)
Sodium (dissolved)	mg/L	800	1000	910	890	760	730	590	320	2800	3000	2900	2900	1700	1300	1400
Strontium (dissolved)	mg/L	2	2.2	2.4	2.4	1.7	2.8	3.3	1.5	5.3	5.1	5.7	5.8	16	14	13
Tellurium (dissolved)	mg/L	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)
Thallium (dissolved)	mg/L	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00025)	ND (0.00025)	ND (0.00005)	ND (0.00025)	ND (0.00025)	ND (0.00005)
Tin (dissolved)	mg/L	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)
Titanium (dissolved)	mg/L	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.025)	0.013	ND (0.025)	ND (0.025)	ND (0.005)
Tungsten (dissolved)	mg/L	0.0083	0.0099	0.0086	0.0067	0.0074	0.0073	0.0071	0.0037	ND (0.005)	ND (0.005)	ND (0.005)	0.0023	ND (0.005)	ND (0.005)	ND (0.001)
Uranium (dissolved)	mg/L	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0005)	0.00035	0.0002	0.0007	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.00011	ND (0.0005)	ND (0.0005)	0.00025
Vanadium (dissolved)	mg/L	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	0.0011	0.00085	ND (0.0005)	ND (0.0025)	ND (0.0025)	0.004	0.0034	ND (0.0025)	ND (0.0025)	ND (0.0005)
Zinc (dissolved)	mg/L	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.025)	0.0073	ND (0.025)	ND (0.025)	ND (0.005)
Zirconium (dissolved)	mg/L	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	0.0015	ND (0.005)	ND (0.005)	ND (0.001)
General Chemistry																
Alkalinity, total (as CaCO3)	mg/L	140	92	160	140	140	140	73	140	320	400	360	340	260	250	280
Ammonia-N	mg/L	51	64	66	57	47	43	35	13	160	160	160	150	12	11	10
Ammonia-N/Strontium Ratio	ratio	25.5000	29.0909	27.5000	23.7500	27.6471	15.3571	10.6061	8.6667	30.1887	31.3725	28.0702	25.8621	0.7500	0.7857	0.7692
Bromide (dissolved)	mg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (5.0)	ND (50)	ND (5.0)	ND (50)	ND (50)	ND (50)	ND (20)	ND (20)
Chloride (dissolved)	mg/L	1200	2000	1400	1500	910	970	700	500	4700	4800	4100	5500	3400	3300	3200
Chloride/Magnesium Ratio	ratio	30.0000	50.0000	32.5581	35.7143	53.5294	33.4483	24.1379	20.0000	42.7273	40.0000	37.2727	57.8947	12.1429	15.7143	15.2381
Conductivity	umhos/cm	5100	7000	5700	5500	4400	4900	4500	3200	18000	18000	18000	18000	13000	12000	13000
Fluoride	mg/L	2.0	2.1	1.9	1.7	1.4	1.5	1.7	1.3	2.7	3.0	3.5	3.0	0.94	0.93	0.89
Hardness	mg/L	330	360	360	350	430	720	790	450	2100	2100	2100	2000	3800	2900	2900
Nitrate (as N)	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	1.84	1.46	0.50	0.34	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Nitrite (as N)	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.030	0.041	0.039	0.069	ND (0.010)	ND (0.010)	0.029	0.034	ND (0.010)	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	1.87	1.50	0.54	0.41	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Orthophosphate	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.070	0.023	0.046	0.059	ND (0.10)	ND (0.10)	ND (0.010)	ND (0.010)	0.039	ND (0.010)	ND (0.010)
pH, lab	s.u.	7.79	8.51	7.84	7.94	8.92	8.99	8.41	8.49	7.21	7.39	7.23	7.48	8.03	7.87	7.61
Phenolics (total)	mg/L	0.083	0.32	0.050	0.13	0.39	0.28	0.26	0.28	0.0056	0.0059	0.0058	0.0066	0.0013	ND (0.0010)	ND (0.0010)
Sulfate (dissolved)	mg/L	420	340	420	450	610	1100	1100	680	2100	2000	1600	2300	1600	1600	1500
Total dissolved solids (TDS)	mg/L	2560	2800	2850	2860	2780	2750	2220	1480	10500	10300	10100	11000	8970	7670	8060
Total kjeldahl nitrogen (TKN)	mg/L	52	64	64	57	47	43	35	14	160	150	150	170	12	10	11
Total organic carbon (TOC)	mg/L	15	21	18	14	16	14	13	11	28	25	23	39	3.2	3.6	2.9

Notes:

ND Not detecte

Leachate and Groundwater Chemistry Data
Upper Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		P9-I	P10-III	P10-III	P10-III	P10-III	P11-III	P11-III	P11-III	P11-III	P11-III	P11-III	P12	P12	P12	P12	P14
Sample ID:		P9-I	P10-III	P10-III	P10-III	P10-III	P11-III	4-III	P11-III	P11-III	4-III	P11-III	P12	P12	P12	P12	P14
Sample Date:		10/25/2021	1/25/2021	4/15/2021	7/26/2021	10/25/2021	1/26/2021	1/26/2021 Duplicate	4/19/2021	7/26/2021	7/26/2021 Duplicate	10/27/2021	1/25/2021	4/14/2021	7/28/2021	11/2/2021	1/26/2021
Parameters	**Units**																
Metals																	
Aluminum (dissolved)	mg/L	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.049)	ND (0.0049)	0.091	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)	0.0085	ND (0.0049)	ND (0.025)
Antimony (dissolved)	mg/L	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.005)	0.00055	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)
Arsenic (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	0.0027	ND (0.005)	0.0019	0.0033	0.0034	0.0016	0.0012	0.0021	0.0039	0.0015	ND (0.005)
Barium (dissolved)	mg/L	0.017	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.02)	0.016	0.017	0.014	0.02	0.02	0.012	0.033	0.034	0.041	0.031	ND (0.01)
Beryllium (dissolved)	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.004)	ND (0.0004)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)
Bismuth (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)
Boron (dissolved)	mg/L	4.5	13	12	13	13	0.17	0.18	0.16	0.17	0.18	0.19	0.58	0.48	0.2	0.43	0.37
Cadmium (dissolved)	mg/L	ND (0.00045)	ND (0.00045)	ND (0.00045)	ND (0.00045)	ND (0.0009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)
Calcium (dissolved)	mg/L	580	620	610	630	610	37	39	30	41	43	25	130	98	100	120	6.4
Chromium (dissolved)	mg/L	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.05)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)
Cobalt (dissolved)	mg/L	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)
Copper (dissolved)	mg/L	ND (0.0045)	ND (0.0045)	ND (0.0045)	ND (0.0045)	ND (0.009)	ND (0.0009)	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0045)
Iron (dissolved)	mg/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1)	ND (0.1)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)
Lead (dissolved)	mg/L	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)
Lithium (dissolved)	mg/L	1.3	2.8	2.8	2.7	2.7	0.02	ND (0.025)	0.018	0.02	0.021	0.016	0.033	0.032	0.029	0.031	ND (0.025)
Magnesium (dissolved)	mg/L	140	180	170	180	190	0.19	ND (0.25)	0.38	0.68	0.68	0.35	21	14	0.81	14	1.8
Manganese (dissolved)	mg/L	0.078	0.12	0.079	0.064	0.15	ND (0.002)	ND (0.01)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	0.0048	0.0024	ND (0.002)	0.0029	ND (0.01)
Molybdenum (dissolved)	mg/L	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.005)	0.039	0.033	0.025	0.034	0.034	0.022	0.01	0.011	0.04	0.014	0.016
Nickel (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	0.0065	0.0066	0.0038	0.0076	0.0077	0.0049	0.003	0.0042	0.0098	0.0025	0.0092
Phosphorus (dissolved)	mg/L	ND (0.5)	0.6	ND (0.5)	ND (0.5)	ND (1)	ND (0.1)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)
Potassium (dissolved)	mg/L	38	39	37	40	38	63	65	55	67	67	49	55	54	90	57	49
Selenium (dissolved)	mg/L	ND (0.01)	ND (0.01)	0.014	0.011	ND (0.02)	ND (0.002)	ND (0.01)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	0.0073	0.0026	ND (0.002)	ND (0.01)
Silicon (dissolved)	mg/L	7.2	3.5	3.4	3.5	3.5	13	13	11	9.8	10	11	9.7	9.9	11	9.7	5.7
Silver (dissolved)	mg/L	ND (0.00045)	ND (0.00045)	ND (0.00045)	ND (0.00045)	ND (0.0009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)
Sodium (dissolved)	mg/L	960	1000	940	1000	1000	300	310	250	330	330	250	250	250	320	240	680
Strontium (dissolved)	mg/L	8.5	11	11	11	10	0.88	0.83	0.65	0.87	0.84	0.5	4.1	3.1	1.7	3.3	0.22
Tellurium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)
Thallium (dissolved)	mg/L	ND (0.00025)	ND (0.00025)	ND (0.00025)	ND (0.00025)	ND (0.0005)	ND (0.00005)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)
Tin (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)
Titanium (dissolved)	mg/L	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.05)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)
Tungsten (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	0.0094	0.0091	0.0087	0.0079	0.0082	0.0086	0.0049	0.0063	0.014	0.0067	0.014
Uranium (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.001)	ND (0.0001)	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0005)
Vanadium (dissolved)	mg/L	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.005)	0.00054	ND (0.0025)	0.00056	0.00074	0.00076	0.00069	ND (0.0005)	ND (0.0005)	0.00085	0.00066	ND (0.0025)
Zinc (dissolved)	mg/L	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.05)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)
Zirconium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)
General Chemistry																	
Alkalinity, total (as CaCO3)	mg/L	200	490	560	510	410	94	100	64	73	80	66	85	69	120	100	190
Ammonia-N	mg/L	7.1	4.8	5.0	5.2	4.7	17	17	12	18	19	16	8.9	11	15	8.6	48
Ammonia-N/Strontium Ratio	ratio	0.8353	0.4364	0.4545	0.4727	0.4700	19.3182	20.4819	18.4615	20.6897	22.6190	32.0000	2.1707	3.5484	8.8235	2.6061	218.1818
Bromide (dissolved)	mg/L	ND (10)	ND (50)	17	17	16	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
Chloride (dissolved)	mg/L	1900	1100	1200	1200	1100	270	270	210	340	320	200	250	300	300	230	530
Chloride/Magnesium Ratio	ratio	13.5714	6.1111	7.0588	6.6667	5.7895	1421.0526	1080.0000	552.6316	500.0000	470.5882	571.4286	11.9048	21.4286	370.3704	16.4286	294.4444
Conductivity	umhos/cm	5400	7700	7800	7600	5200	1900	1900	1600	2000	2000	1500	2100	2000	2200	2100	2600
Fluoride	mg/L	1.2	0.95	0.90	1.0	0.94	1.6	1.6	1.7	1.7	1.8	1.8	1.1	1.2	1.6	0.60	2.1
Hardness	mg/L	2000	2300	2200	2300	2300	92	97	75	100	110	64	420	300	250	350	24
Nitrate (as N)	mg/L	ND (0.50)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.50)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Nitrite (as N)	mg/L	ND (0.050)	ND (0.50)	ND (0.010)	ND (0.010)	0.052	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.029	ND (0.010)
Nitrite/Nitrate	mg/L	ND (0.50)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.50)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Orthophosphate	mg/L	ND (0.010)	0.50	ND (0.10)	ND (0.20)	ND (0.10)	0.010	0.014	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.50)	0.012	0.011	ND (0.010)	0.011
pH, lab	s.u.	7.82	7.39	7.57	8.12	8.35	9.77	9.75	9.73	9.42	9.53	9.61	8.06	8.15	10.7	8.35	8.82
Phenolics (total)	mg/L	0.0016	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	0.64	0.66	0.18	0.61	0.61	0.26	0.17	0.62	0.21	0.13	0.49
Sulfate (dissolved)	mg/L	1300	2200	2300	2200	2000	360	350	380	300	290	330	510	420	440	580	220
Total dissolved solids (TDS)	mg/L	5950	5870	5250	5880	4950	1180	1220	910	1110	1100	935	1310	1080	1170	1250	1690
Total kjeldahl nitrogen (TKN)	mg/L	8.3	6.5	5.3	5.6	5.8	18	18	13	21	21	18	9.4	12	17	15	47
Total organic carbon (TOC)	mg/L	3.1	1.0	0.85	0.82	1.2	39	37	24	42	42	24	15	26	30	15	32

Notes:

ND Not detecte

Appendix N.1

Leachate and Groundwater Chemistry Data
Upper Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		P14	P14	P14	P15	P15	P15	P15	P16	P16	P16	P16	P16	P17	P17	P17	P17	ST1
Sample ID:		**P14**	**P14**	**P14**	**P15**	**P15**	**P15**	**P15**	**P16**	**P16**	**P16**	**P16**	**4-III**	**P17**	**P17**	**P17**	**P17**	**ST1**
Sample Date:		**4/14/2021**	**8/6/2021**	**11/3/2021**	**1/27/2021**	**4/14/2021**	**7/29/2021**	**11/3/2021**	**1/25/2021**	**4/14/2021**	**7/28/2021**	**11/3/2021**	**11/3/2021 Duplicate**	**1/25/2021**	**4/14/2021**	**7/28/2021**	**11/3/2021**	**1/26/2021**
Parameters	**Units**																	
Metals																		
Aluminum (dissolved)	mg/L	ND (0.0049)	ND (0.0049)	ND (0.0049)	0.68	0.34	0.46	0.35	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)	0.17	0.1	0.087	0.1	0.008
Antimony (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Arsenic (dissolved)	mg/L	ND (0.001)	0.0018	ND (0.001)	ND (0.005)	0.0024	0.0025	0.0026	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	0.0038	0.0026	0.0025	ND (0.001)
Barium (dissolved)	mg/L	0.0054	0.014	0.0058	ND (0.01)	0.01	0.0099	0.007	0.012	0.012	0.01	0.011	0.011	ND (0.01)	0.0055	0.0084	0.0071	0.017
Beryllium (dissolved)	mg/L	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)
Bismuth (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Boron (dissolved)	mg/L	0.23	0.33	0.33	0.52	0.51	0.52	0.47	0.45	0.47	0.43	0.49	0.49	0.48	0.57	0.44	0.48	0.36
Cadmium (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	0.00018	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)
Calcium (dissolved)	mg/L	13	40	16	56	35	36	26	170	130	140	140	160	8.5	4.4	14	11	57
Chromium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Cobalt (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	0.00051	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Copper (dissolved)	mg/L	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0009)	ND (0.0009)	0.002	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)
Iron (dissolved)	mg/L	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.1)	ND (0.1)	3.6	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Lead (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Lithium (dissolved)	mg/L	0.011	0.018	0.015	0.037	0.034	0.026	0.023	0.034	0.029	0.03	0.03	0.033	ND (0.025)	0.02	0.027	0.025	0.03
Magnesium (dissolved)	mg/L	5	8.7	5.1	1.4	1.6	1.6	2.6	73	51	60	58	63	1.1	0.49	3.7	1.9	28
Manganese (dissolved)	mg/L	0.0025	ND (0.002)	ND (0.002)	ND (0.01)	ND (0.002)	ND (0.002)	0.041	0.047	0.032	0.033	0.042	0.044	ND (0.01)	ND (0.002)	ND (0.002)	ND (0.002)	0.0059
Molybdenum (dissolved)	mg/L	0.0019	0.025	0.0029	0.038	0.011	0.017	0.03	ND (0.0005)	0.0085	0.0018	ND (0.0005)	0.00081	0.023	0.058	0.042	0.051	0.0022
Nickel (dissolved)	mg/L	0.0031	0.013	0.0053	0.023	0.017	0.023	0.022	0.0026	0.0045	0.0023	0.002	0.0022	0.011	0.023	0.018	0.015	0.0024
Phosphorus (dissolved)	mg/L	ND (0.1)	ND (0.1)	ND (0.1)	0.66	0.17	0.22	0.24	0.14	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	1	0.4	0.21	0.21	ND (0.1)
Potassium (dissolved)	mg/L	39	86	48	170	150	140	110	39	46	35	31	33	77	110	120	110	31
Selenium (dissolved)	mg/L	ND (0.002)	0.0035	0.0076	ND (0.01)	ND (0.002)	ND (0.002)	0.0072	ND (0.002)	ND (0.002)	ND (0.002)	0.0046	ND (0.002)	ND (0.01)	0.0044	0.0032	0.018	ND (0.002)
Silicon (dissolved)	mg/L	6.4	4.3	7.2	5.9	5	5.3	5.3	5.3	4	4.7	4.6	5.1	8.1	9.6	7	6.8	6.1
Silver (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)
Sodium (dissolved)	mg/L	250	1300	460	2200	1900	2200	1600	280	460	310	220	240	1300	1900	1800	1600	490
Strontium (dissolved)	mg/L	0.25	1	0.36	1.4	1.4	1.4	0.89	2.3	2.1	1.9	2	2	0.45	0.69	1	0.92	1.8
Tellurium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Thallium (dissolved)	mg/L	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)
Tin (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Titanium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Tungsten (dissolved)	mg/L	0.0041	0.015	0.0056	0.02	0.019	0.021	0.015	0.0018	0.0057	0.0027	0.0016	0.0017	0.011	0.02	0.021	0.015	0.0052
Uranium (dissolved)	mg/L	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)
Vanadium (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	0.00083	ND (0.0025)	0.00073	0.001	0.001	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	0.0019	0.0011	0.0011	ND (0.0005)
Zinc (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Zirconium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
General Chemistry																		
Alkalinity, total (as CaCO3)	mg/L	130	240	160	480	410	320	330	110	110	120	130	130	430	560	330	300	210
Ammonia-N	mg/L	24	100	33	170	150	170	130	7.4	24	11	5.4	5.3	100	170	110	110	32
Ammonia-N/Strontium Ratio	ratio	96.0000	100.0000	91.6667	121.4286	107.1429	121.4286	146.0674	3.2174	11.4286	5.7895	2.7000	2.6500	222.2222	246.3768	110.0000	119.5652	17.7778
Bromide (dissolved)	mg/L	ND (5.0)	ND (10)	ND (5.0)	ND (20)	ND (20)	ND (20)	ND (20)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (20)	ND (20)	ND (20)	ND (10)	ND (5.0)
Chloride (dissolved)	mg/L	410	2100	500	3300	3300	3200	2500	660	970	560	580	570	2200	3400	2300	2300	630
Chloride/Magnesium Ratio	ratio	82.0000	241.3793	98.0392	2357.1429	2062.5000	2000.0000	961.5385	9.0411	19.0196	9.3333	10.0000	9.0476	2000.0000	6938.7755	621.6216	1210.5263	22.5000
Conductivity	umhos/cm	2100	8100	2400	12000	11000	11000	8800	2800	4000	2700	2400	2400	7900	9700	9000	7600	3100
Fluoride	mg/L	1.6	3.0	1.6	3.0	3.1	3.7	3.2	1.4	1.7	2.0	1.3	1.8	3.2	3.9	3.4	3.3	1.3
Hardness	mg/L	52	130	62	150	95	96	76	730	530	600	590	660	26	13	49	35	260
Nitrate (as N)	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Nitrite (as N)	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	0.020	0.020	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.015	ND (0.010)	0.011	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Orthophosphate	mg/L	ND (0.010)	0.014	ND (0.010)	0.023	0.032	ND (0.010)	0.084	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.23	0.29	0.064	0.12	ND (0.010)
pH, lab	s.u.	8.23	9.33	8.14	9.80	9.67	9.44	9.62	7.61	8.08	7.77	7.95	7.88	9.64	9.75	9.56	9.47	7.91
Phenolics (total)	mg/L	0.098	0.65	0.064	0.84	0.46	0.65	0.92	0.0077	0.15	0.059	0.0015	0.0018	0.66	0.45	0.71	0.73	0.0065
Sulfate (dissolved)	mg/L	200	180	180	290	290	350	230	290	350	320	330	330	270	130	250	230	270
Total dissolved solids (TDS)	mg/L	810	3840	1230	6140	5820	5740	4900	1660	1900	1480	1550	1530	3540	5110	4680	4550	1530
Total kjeldahl nitrogen (TKN)	mg/L	23	95	34	160	140	160	130	7.7	24	12	5.9	6.3	95	160	110	110	31
Total organic carbon (TOC)	mg/L	11	31	18	49	39	49	35	14	17	13	13	13	27	45	33	28	8.5

Notes:

ND Not detecte

Appendix N.1

Leachate and Groundwater Chemistry Data
Upper Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**ST1**	**ST1**	**ST1**	**ST2**	**ST2**	**ST2**	**ST2**	**M4**	**M4**	**M4**	**M4**
Sample ID:		**ST1**	**ST1**	**ST1**	**ST2**	**ST2**	**ST2**	**ST 2**	**M4**	**M4**	**M4**	**M4**
Sample Date:		**4/14/2021**	**7/30/2021**	**11/1/2021**	**1/26/2021**	**4/14/2021**	**7/30/2021**	**11/1/2021**	**1/29/2021**	**4/23/2021**	**8/12/2021**	**11/5/2021**
Parameters	**Units**											
Metals												
Aluminum (dissolved)	mg/L	ND (0.0049)	ND (0.0049)	ND (0.0049)	0.011	ND (0.0049)	ND (0.0049)	0.0054	0.076	ND (0.0049)	ND (0.0049)	ND (0.0049)
Antimony (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Arsenic (dissolved)	mg/L	ND (0.001)	0.0012	ND (0.001)	0.0014	ND (0.001)	0.0026	0.0011	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)
Barium (dissolved)	mg/L	0.015	0.049	0.022	0.014	0.017	0.027	0.015	0.023	0.024	0.026	0.021
Beryllium (dissolved)	mg/L	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)
Bismuth (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)
Boron (dissolved)	mg/L	0.26	0.4	0.34	0.44	0.39	0.49	0.44	0.66	0.58	0.8	0.72
Cadmium (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)
Calcium (dissolved)	mg/L	45	180	58	9.5	13	21	9.8	390	400	460	380
Chromium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)
Cobalt (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Copper (dissolved)	mg/L	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0009)	ND (0.0009)	0.0011
Iron (dissolved)	mg/L	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	0.82	0.14	ND (0.1)
Lead (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Lithium (dissolved)	mg/L	0.023	0.051	0.029	0.027	0.031	0.026	0.026	0.066	0.061	0.073	0.067
Magnesium (dissolved)	mg/L	29	76	33	7.5	12	11	13	75	77	88	80
Manganese (dissolved)	mg/L	0.0042	0.016	0.0081	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	0.25	0.24	0.33	0.14
Molybdenum (dissolved)	mg/L	0.0046	0.0023	0.00098	0.017	0.0095	0.049	0.011	ND (0.0025)	0.0022	0.003	0.0037
Nickel (dissolved)	mg/L	ND (0.001)	0.0044	0.0024	0.0073	0.0049	0.015	0.0065	ND (0.005)	0.0027	0.0039	0.0063
Phosphorus (dissolved)	mg/L	ND (0.1)	ND (0.1)	ND (0.1)	0.11	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)
Potassium (dissolved)	mg/L	26	46	33	71	61	100	55	31	34	36	31
Selenium (dissolved)	mg/L	ND (0.002)	0.0058	ND (0.002)	ND (0.002)	ND (0.002)	0.0045	ND (0.002)	ND (0.01)	ND (0.002)	ND (0.002)	ND (0.002)
Silicon (dissolved)	mg/L	6.4	6.5	7	4.7	4.8	4.2	5.4	6	6.3	7.2	5.4
Silver (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)
Sodium (dissolved)	mg/L	240	750	470	1000	800	1600	720	420	420	460	360
Strontium (dissolved)	mg/L	1.5	5.1	1.9	0.99	1.2	2.2	1	4.2	3.9	4.5	4.4
Tellurium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)
Thallium (dissolved)	mg/L	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00005)	ND (0.00005)	0.00029
Tin (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)
Titanium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)
Tungsten (dissolved)	mg/L	0.0026	0.0058	0.0057	0.0099	0.0069	0.018	0.008	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)
Uranium (dissolved)	mg/L	0.00031	0.00015	0.00025	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	0.00069	0.00068	0.0011	0.002
Vanadium (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0011	0.00066	0.00083	0.00084	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Zinc (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	0.01	0.021	0.077
Zirconium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)
General Chemistry												
Alkalinity, total (as CaCO3)	mg/L	290	140	300	180	150	260	210	180	190	200	210
Ammonia-N	mg/L	21	48	31	70	56	150	56	13	11	10	6.1
Ammonia-N/Strontium Ratio	ratio	14.0000	9.4118	16.3158	70.7071	46.6667	68.1818	56.0000	3.0952	2.8205	2.2222	1.3864
Bromide (dissolved)	mg/L	ND (5.0)	ND (10)	ND (5.0)	ND (10)	ND (10)	ND (2.0)	ND (5.0)	ND (10)	ND (10)	ND (10)	ND (5.0)
Chloride (dissolved)	mg/L	280	1500	490	1600	1300	2600	800	1000	660	650	610
Chloride/Magnesium Ratio	ratio	9.6552	19.7368	14.8485	213.3333	108.3333	236.3636	61.5385	13.3333	8.5714	7.3864	7.6250
Conductivity	umhos/cm	2000	6100	2500	5900	5000	9000	3600	4300	4100	4200	3900
Fluoride	mg/L	0.92	1.1	1.2	2.0	1.4	3.0	1.8	1.3	1.2	1.3	0.99
Hardness	mg/L	230	760	280	55	82	100	79	1300	1300	1500	1300
Nitrate (as N)	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.85	0.55	1.18	0.53
Nitrite (as N)	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.044	ND (0.010)	ND (0.010)	0.039	0.029	0.053	ND (0.010)
Nitrite/Nitrate	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.89	0.58	1.23	0.53
Orthophosphate	mg/L	ND (0.010)	ND (0.010)	0.013	0.013	ND (0.010)	0.019	0.012	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
pH, lab	s.u.	8.11	7.56	7.97	9.07	8.60	9.23	8.64	7.79	7.71	7.66	7.62
Phenolics (total)	mg/L	0.0038	0.060	0.0098	0.046	0.023	0.52	0.028	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.0012
Sulfate (dissolved)	mg/L	280	360	200	270	320	170	230	1600	1100	870	1000
Total dissolved solids (TDS)	mg/L	795	3020	1390	2760	2390	4070	2140	3050	2750	3010	2720
Total kjeldahl nitrogen (TKN)	mg/L	20	43	34	67	51	130	65	14	12	11	9.2
Total organic carbon (TOC)	mg/L	5.0	13	8.3	19	15	29	13	5.3	4.6	4.6	3.9

Notes:

ND Not detecte

Appendix N.1

Leachate and Groundwater Chemistry Data
Upper-Mid Flow Zone - Organics
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		35-VI	35-VI	41-II	41-II	47-I	47-I	67-II	67-II	68-II	68-II	72-II	72-II	75-III	75-III	P10-II
Sample ID:		35-VI	35-VI	41-II	41-II	47-I	47-I	67-II	67-II	68-II	68-II	72-II	72-II	75-III	75-III	P10-II
Sample Date:		4/16/2021	10/25/2021	4/20/2021	10/27/2021	4/21/2021	10/29/2021	4/20/2021	11/3/2021	4/19/2021	10/26/2021	4/22/2021	10/28/2021	4/20/2021	10/26/2021	4/15/2021
Parameters	**Units**															
Volatiles																
1,1,1,2-Tetrachloroethane	ug/L	ND (1.0)	ND (1.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (10)	ND (0.20)	ND (0.20)	ND (1.0)
1,1,1-Trichloroethane	ug/L	ND (0.50)	ND (0.50)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.50)
1,1,2,2-Tetrachloroethane	ug/L	ND (1.0)	ND (1.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (10)	ND (0.20)	ND (0.20)	ND (1.0)
1,1,2-Trichloroethane	ug/L	ND (1.0)	ND (1.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (10)	ND (0.20)	ND (0.20)	ND (1.0)
1,1-Dichloroethane	ug/L	ND (0.50)	ND (0.50)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.50)
1,1-Dichloroethene	ug/L	ND (0.50)	ND (0.50)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.50)
1,2-Dibromoethane (Ethylene dibromide)	ug/L	ND (1.0)	ND (1.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (10)	ND (0.20)	ND (0.20)	ND (1.0)
1,2-Dichlorobenzene	ug/L	ND (1.0)	ND (1.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (10)	ND (0.20)	ND (0.20)	ND (1.0)
1,2-Dichloroethane	ug/L	ND (1.0)	ND (1.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (10)	ND (0.20)	ND (0.20)	ND (1.0)
1,2-Dichloropropane	ug/L	ND (0.50)	ND (0.50)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.50)
1,3-Dichlorobenzene	ug/L	ND (1.0)	ND (1.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (10)	ND (0.20)	ND (0.20)	ND (1.0)
1,4-Dichlorobenzene	ug/L	ND (1.0)	ND (1.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (10)	ND (0.20)	ND (0.20)	ND (1.0)
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	ND (25)	ND (25)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (25)	ND (250)	ND (5.0)	ND (5.0)	ND (25)
2-Hexanone	ug/L	ND (25)	ND (25)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (25)	ND (250)	ND (5.0)	ND (5.0)	ND (25)
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	ND (25)	ND (25)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (25)	ND (250)	ND (5.0)	ND (5.0)	ND (25)
Acetone	ug/L	ND (50)	ND (50)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (50)	ND (500)	ND (10)	ND (10)	240
Acrolein	ug/L	ND (50)	ND (50)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (50)	ND (500)	ND (10)	ND (10)	ND (50)
Acrylonitrile	ug/L	ND (25)	ND (25)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (25)	ND (250)	ND (5.0)	ND (5.0)	ND (25)
Benzene	ug/L	ND (0.50)	ND (0.50)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.19	ND (0.10)	ND (0.10)	ND (0.50)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.50)
Bromodichloromethane	ug/L	ND (0.50)	ND (0.50)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.50)
Bromoform	ug/L	ND (1.0)	ND (1.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (10)	ND (0.20)	ND (0.20)	ND (1.0)
Bromomethane (Methyl bromide)	ug/L	ND (2.5)	ND (2.5)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.5)	ND (25)	ND (0.50)	ND (0.50)	ND (2.5)
Carbon tetrachloride	ug/L	ND (0.50)	ND (0.50)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.50)
Chlorobenzene	ug/L	ND (0.50)	ND (0.50)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.50)
Chloroethane	ug/L	ND (1.0)	ND (1.0)	ND (0.20)	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.20)	ND (0.40)	ND (0.20)	ND (0.20)	ND (1.0)	ND (10)	ND (0.20)	ND (0.20)	ND (1.0)
Chloroform (Trichloromethane)	ug/L	ND (0.50)	ND (0.50)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.50)
Chloromethane (Methyl chloride)	ug/L	ND (2.5)	ND (2.5)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.5)	ND (25)	ND (0.50)	ND (0.50)	ND (2.5)
cis-1,2-Dichloroethene	ug/L	ND (0.50)	ND (0.50)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.50)
cis-1,3-Dichloropropene	ug/L	ND (1.0)	ND (1.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (10)	ND (0.20)	ND (0.20)	ND (1.0)
Dibromochloromethane	ug/L	ND (1.0)	ND (1.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (10)	ND (0.20)	ND (0.20)	ND (1.0)
Ethylbenzene	ug/L	ND (0.50)	ND (0.50)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.50)
m&p-Xylenes	ug/L	ND (0.50)	ND (0.50)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.50)
Methyl tert butyl ether (MTBE)	ug/L	ND (1.0)	ND (1.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (10)	ND (0.20)	ND (0.20)	ND (1.0)
Methylene chloride	ug/L	ND (2.5)	ND (2.5)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.5)	ND (25)	ND (0.50)	ND (0.50)	ND (2.5)
o-Xylene	ug/L	ND (0.50)	ND (0.50)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.50)
Styrene	ug/L	ND (1.0)	ND (1.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (10)	ND (0.20)	ND (0.20)	ND (1.0)
Tetrachloroethene	ug/L	ND (0.50)	ND (0.50)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.50)
Toluene	ug/L	ND (1.0)	ND (1.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (10)	ND (0.20)	ND (0.20)	ND (1.0)
trans-1,2-Dichloroethene	ug/L	ND (0.50)	ND (0.50)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.50)
trans-1,3-Dichloropropene	ug/L	ND (1.0)	ND (1.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (10)	ND (0.20)	ND (0.20)	ND (1.0)
Trichloroethene	ug/L	ND (0.50)	ND (0.50)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.50)
Trichlorofluoromethane (CFC-11)	ug/L	ND (1.0)	ND (1.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (10)	ND (0.20)	ND (0.20)	ND (1.0)
Trihalomethanes	ug/L	ND (1.0)	ND (1.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (10)	ND (0.20)	ND (0.20)	ND (1.0)
Vinyl chloride	ug/L	ND (1.0)	ND (1.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)	ND (10)	ND (0.20)	ND (0.20)	ND (1.0)
Xylenes (total)	ug/L	ND (0.50)	ND (0.50)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.50)
Semi-Volatiles																
1,2,3,4-Tetrachlorobenzene	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
1,2,3,5-Tetrachlorobenzene	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
1,2,3-Trichlorobenzene	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
1,2,4,5-Tetrachlorobenzene	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
1,2,4-Trichlorobenzene	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
1,2-Dichlorobenzene	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
1,3,5-Trichlorobenzene	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
1,3-Dichlorobenzene	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
1,4-Dichlorobenzene	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
1-Chloronaphthalene	ug/L	ND (4.0)	ND (4.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (4.0)	ND (1.0)	ND (1.0)	ND (10)	ND (1.0)	ND (1.0)	ND (10)
1-Methylnaphthalene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (0.20)	0.65	ND (2.0)	ND (0.20)	ND (0.20)	ND (2.0)
2,2'-Oxybis(2-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
2,3,4,5-Tetrachlorophenol	ug/L	ND (1.6)	ND (1.6)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (1.6)	ND (1.6)	ND (0.40)	ND (0.40)	ND (4.0)	ND (0.40)	ND (0.40)	ND (4.0)

Leachate and Groundwater Chemistry Data
Upper-Mid Flow Zone - Organics
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		35-VI	35-VI	41-II	41-II	47-I	47-I	67-II	67-II	68-II	68-II	72-II	72-II	75-III	75-III	P10-II
Sample ID:		35-VI	35-VI	41-II	41-II	47-I	47-I	67-II	67-II	68-II	68-II	72-II	72-II	75-III	75-III	P10-II
Sample Date:		4/16/2021	10/25/2021	4/20/2021	10/27/2021	4/21/2021	10/29/2021	4/20/2021	11/3/2021	4/19/2021	10/26/2021	4/22/2021	10/28/2021	4/20/2021	10/26/2021	4/15/2021
Parameters	**Units**															
2,3,4,6-Tetrachlorophenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
2,3,4-Trichlorophenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
2,3,5,6-Tetrachlorophenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
2,3,5-Trichlorophenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
2,3,6-Trichlorophenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
2,3-Dichlorophenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
2,4,5-Trichlorophenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
2,4,6-Trichlorophenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
2,4-Dichlorophenol	ug/L	ND (1.2)	ND (1.2)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (1.2)	ND (1.2)	ND (0.30)	ND (0.30)	ND (3.0)	ND (0.30)	ND (0.30)	ND (3.0)
2,4-Dimethylphenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.70)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
2,4-Dinitrophenol	ug/L	ND (25)	ND (25)	ND (2.0)	ND (6.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (8.0)	ND (25)	ND (2.0)	ND (2.0)	ND (20)	ND (2.0)	ND (2.0)	ND (60)
2,4-Dinitrotoluene	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
2,5-Dichlorophenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
2,6-Dichlorophenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
2,6-Dinitrotoluene	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
2-Chloronaphthalene	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
2-Chlorophenol	ug/L	ND (1.2)	ND (1.2)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (1.2)	ND (1.2)	ND (0.30)	ND (0.30)	ND (3.0)	ND (0.30)	ND (0.30)	ND (3.0)
2-Methylnaphthalene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (0.20)	0.24	ND (2.0)	ND (0.20)	ND (0.20)	ND (2.0)
2-Methylphenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
2-Nitrophenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
3&4-Methylphenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
3,3'-Dichlorobenzidine	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
3,4,5-Trichlorophenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
3,4-Dichlorophenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
3,5-Dichlorophenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
4,6-Dinitro-2-methylphenol	ug/L	ND (8.0)	ND (8.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (8.0)	ND (8.0)	ND (2.0)	ND (2.0)	ND (20)	ND (2.0)	ND (2.0)	ND (20)
4-Bromophenyl phenyl ether	ug/L	ND (1.2)	ND (1.2)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (1.2)	ND (1.2)	ND (0.30)	ND (0.30)	ND (3.0)	ND (0.30)	ND (0.30)	ND (3.0)
4-Chloro-3-methylphenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
4-Chloroaniline	ug/L	ND (4.0)	ND (4.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (4.0)	ND (1.0)	ND (1.0)	ND (10)	ND (1.0)	ND (1.0)	ND (10)
4-Chlorophenyl phenyl ether	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
4-Nitrophenol	ug/L	ND (25)	ND (5.6)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (5.6)	ND (10)	ND (1.4)	ND (1.4)	ND (14)	ND (1.4)	ND (1.4)	ND (60)
5-Nitroacenaphthene	ug/L	ND (4.0)	ND (4.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (4.0)	ND (1.0)	ND (1.0)	ND (10)	ND (1.0)	ND (1.0)	ND (10)
Acenaphthene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.20)	ND (2.0)
Acenaphthylene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.20)	ND (2.0)
Anthracene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.20)	ND (2.0)
Benzo(a)anthracene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.20)	ND (2.0)
Benzo(a)pyrene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.20)	ND (2.0)
Benzo(b)fluoranthene/Benzo(j)fluoranthene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.20)	ND (2.0)
Benzo(g,h,i)perylene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.20)	ND (2.0)
Benzo(k)fluoranthene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.20)	ND (2.0)
Biphenyl (1,1-Biphenyl)	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
bis(2-Chloroethoxy)methane	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
bis(2-Chloroethyl)ether	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	ND (8.0)	ND (8.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (8.0)	ND (8.0)	ND (2.0)	ND (2.0)	ND (20)	ND (2.0)	ND (2.0)	ND (20)
Butyl benzylphthalate (BBP)	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
Chrysene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.20)	ND (2.0)
Dibenz(a,h)anthracene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.20)	ND (2.0)
Diethyl phthalate	ug/L	ND (4.0)	ND (4.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (4.0)	ND (1.0)	ND (1.0)	ND (10)	ND (1.0)	ND (1.0)	ND (10)
Dimethyl phthalate	ug/L	ND (4.0)	ND (4.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (4.0)	ND (1.0)	ND (1.0)	ND (10)	ND (1.0)	ND (1.0)	ND (10)
Di-n-butylphthalate (DBP)	ug/L	ND (8.0)	ND (8.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (8.0)	ND (8.0)	ND (2.0)	ND (2.0)	ND (20)	ND (2.0)	ND (2.0)	ND (20)
Di-n-octyl phthalate (DnOP)	ug/L	ND (3.2)	ND (3.2)	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	ND (3.2)	ND (3.2)	ND (0.80)	ND (0.80)	ND (8.0)	ND (0.80)	ND (0.80)	ND (8.0)
Diphenyl ether	ug/L	ND (1.2)	ND (1.2)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (1.2)	ND (1.2)	ND (0.30)	ND (0.30)	ND (3.0)	ND (0.30)	ND (0.30)	ND (3.0)
Fluoranthene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.20)	ND (2.0)
Fluorene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.20)	ND (2.0)
Hexachlorobenzene	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
Hexachlorobutadiene	ug/L	ND (1.6)	ND (1.6)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (1.6)	ND (1.6)	ND (0.40)	ND (0.40)	ND (4.0)	ND (0.40)	ND (0.40)	ND (4.0)
Hexachlorocyclopentadiene	ug/L	ND (8.0)	ND (8.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (8.0)	ND (8.0)	ND (2.0)	ND (2.0)	ND (20)	ND (2.0)	ND (2.0)	ND (20)
Hexachloroethane	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
Indeno(1,2,3-cd)pyrene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.20)	ND (2.0)
Isophorone	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
Naphthalene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (0.20)	0.50	ND (2.0)	ND (0.20)	ND (0.20)	ND (2.0)
Nitrobenzene	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
Nitrosodiphenylamine/Diphenylamine	ug/L	ND (4.0)	ND (4.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (4.0)	-	ND (1.0)	ND (10)	ND (1.0)	-	ND (10)
N-Nitrosodi-n-propylamine	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)

Appendix N.1

Leachate and Groundwater Chemistry Data
Upper-Mid Flow Zone - Organics
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**35-VI**	**35-VI**	**41-II**	**41-II**	**47-I**	**47-I**	**67-II**	**67-II**	**68-II**	**68-II**	**72-II**	**72-II**	**75-III**	**75-III**	**P10-II**
Sample ID:		**35-VI**	**35-VI**	**41-II**	**41-II**	**47-I**	**47-I**	**67-II**	**67-II**	**68-II**	**68-II**	**72-II**	**72-II**	**75-III**	**75-III**	**P10-II**
Sample Date:		**4/16/2021**	**10/25/2021**	**4/20/2021**	**10/27/2021**	**4/21/2021**	**10/29/2021**	**4/20/2021**	**11/3/2021**	**4/19/2021**	**10/26/2021**	**4/22/2021**	**10/28/2021**	**4/20/2021**	**10/26/2021**	**4/15/2021**
Parameters	**Units**															
Pentachlorobenzene	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
Pentachlorophenol	ug/L	ND (25)	ND (4.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (10)	ND (1.0)	ND (1.0)	ND (10)	ND (1.0)	ND (1.0)	ND (60)
Perylene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.20)	ND (2.0)
Phenanthrene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.20)	ND (2.0)
Phenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (5.0)	ND (0.50)	ND (0.50)	ND (5.0)
Pyrene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.20)	ND (2.0)
Pesticides																
2,4'-DDD	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
2,4'-DDD + 4,4'-DDD	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
2,4'-DDE	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
2,4'-DDE + 4,4'-DDE	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	0.005	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	0.006	0.017	ND (0.005)
2,4'-DDT	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
2,4'-DDT + 4,4'-DDT	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
4,4'-DDD	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
4,4'-DDE	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	0.005	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	0.006	0.017	ND (0.005)
4,4'-DDT	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Aldrin	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
alpha-BHC	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
alpha-Chlordane	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Aroclor-1242 (PCB-1242)	ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.2)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Aroclor-1248 (PCB-1248)	ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.2)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Aroclor-1254 (PCB-1254)	ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.2)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Aroclor-1260 (PCB-1260)	ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.2)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
beta-BHC	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Chlordane	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Dieldrin	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Endosulfan	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Endosulfan I	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Endosulfan II	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Endrin	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Endrin aldehyde	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Endrin ketone	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
gamma-BHC (lindane)	ug/L	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.01)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)
gamma-Chlordane	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Heptachlor	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Heptachlor epoxide	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Hexachlorobenzene	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Hexachlorobutadiene	ug/L	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.02)	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.009)
Hexachloroethane	ug/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.02)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Methoxychlor	ug/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.03)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Mirex	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Total PCBs	ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.2)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Toxaphene	ug/L	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.4)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)

Notes:

ND Not detected at the associated reporting limit.

Appendix N.1

Leachate and Groundwater Chemistry Data
Upper-Mid Flow Zone - Organics
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**P10-II**
Sample ID:		**P10-II**
Sample Date:		**10/25/2021**
Parameters	**Units**	
Volatiles		
1,1,1,2-Tetrachloroethane	ug/L	ND (1.0)
1,1,1-Trichloroethane	ug/L	ND (0.50)
1,1,2,2-Tetrachloroethane	ug/L	ND (1.0)
1,1,2-Trichloroethane	ug/L	ND (1.0)
1,1-Dichloroethane	ug/L	ND (0.50)
1,1-Dichloroethene	ug/L	ND (0.50)
1,2-Dibromoethane (Ethylene dibromide)	ug/L	ND (1.0)
1,2-Dichlorobenzene	ug/L	ND (1.0)
1,2-Dichloroethane	ug/L	ND (1.0)
1,2-Dichloropropane	ug/L	ND (0.50)
1,3-Dichlorobenzene	ug/L	ND (1.0)
1,4-Dichlorobenzene	ug/L	ND (1.0)
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	ND (25)
2-Hexanone	ug/L	ND (25)
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	ND (25)
Acetone	ug/L	280
Acrolein	ug/L	ND (50)
Acrylonitrile	ug/L	ND (25)
Benzene	ug/L	ND (0.50)
Bromodichloromethane	ug/L	ND (0.50)
Bromoform	ug/L	ND (1.0)
Bromomethane (Methyl bromide)	ug/L	ND (2.5)
Carbon tetrachloride	ug/L	ND (0.50)
Chlorobenzene	ug/L	ND (0.50)
Chloroethane	ug/L	ND (1.0)
Chloroform (Trichloromethane)	ug/L	ND (0.50)
Chloromethane (Methyl chloride)	ug/L	ND (2.5)
cis-1,2-Dichloroethene	ug/L	ND (0.50)
cis-1,3-Dichloropropene	ug/L	ND (1.0)
Dibromochloromethane	ug/L	ND (1.0)
Ethylbenzene	ug/L	ND (0.50)
m&p-Xylenes	ug/L	ND (0.50)
Methyl tert butyl ether (MTBE)	ug/L	ND (1.0)
Methylene chloride	ug/L	ND (2.5)
o-Xylene	ug/L	ND (0.50)
Styrene	ug/L	ND (1.0)
Tetrachloroethene	ug/L	ND (0.50)
Toluene	ug/L	ND (1.0)
trans-1,2-Dichloroethene	ug/L	ND (0.50)
trans-1,3-Dichloropropene	ug/L	ND (1.0)
Trichloroethene	ug/L	ND (0.50)
Trichlorofluoromethane (CFC-11)	ug/L	ND (1.0)
Trihalomethanes	ug/L	ND (1.0)
Vinyl chloride	ug/L	ND (1.0)
Xylenes (total)	ug/L	ND (0.50)
Semi-Volatiles		
1,2,3,4-Tetrachlorobenzene	ug/L	ND (2.0)
1,2,3,5-Tetrachlorobenzene	ug/L	ND (2.0)
1,2,3-Trichlorobenzene	ug/L	ND (2.0)
1,2,4,5-Tetrachlorobenzene	ug/L	ND (2.0)
1,2,4-Trichlorobenzene	ug/L	ND (2.0)
1,2-Dichlorobenzene	ug/L	ND (2.0)
1,3,5-Trichlorobenzene	ug/L	ND (2.0)
1,3-Dichlorobenzene	ug/L	ND (2.0)
1,4-Dichlorobenzene	ug/L	ND (2.0)
1-Chloronaphthalene	ug/L	ND (4.0)
1-Methylnaphthalene	ug/L	ND (0.80)
2,2'-Oxybis(2-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	ND (2.0)
2,3,4,5-Tetrachlorophenol	ug/L	ND (1.6)

Leachate and Groundwater Chemistry Data
Upper-Mid Flow Zone - Organics
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**P10-II**
Sample ID:		**P10-II**
Sample Date:		**10/25/2021**
Parameters	**Units**	
2,3,4,6-Tetrachlorophenol	ug/L	ND (2.0)
2,3,4-Trichlorophenol	ug/L	ND (2.0)
2,3,5,6-Tetrachlorophenol	ug/L	ND (2.0)
2,3,5-Trichlorophenol	ug/L	ND (2.0)
2,3,6-Trichlorophenol	ug/L	ND (2.0)
2,3-Dichlorophenol	ug/L	ND (2.0)
2,4,5-Trichlorophenol	ug/L	ND (2.0)
2,4,6-Trichlorophenol	ug/L	ND (2.0)
2,4-Dichlorophenol	ug/L	ND (1.2)
2,4-Dimethylphenol	ug/L	5.2
2,4-Dinitrophenol	ug/L	ND (25)
2,4-Dinitrotoluene	ug/L	ND (2.0)
2,5-Dichlorophenol	ug/L	ND (2.0)
2,6-Dichlorophenol	ug/L	ND (2.0)
2,6-Dinitrotoluene	ug/L	ND (2.0)
2-Chloronaphthalene	ug/L	ND (2.0)
2-Chlorophenol	ug/L	ND (1.2)
2-Methylnaphthalene	ug/L	ND (0.80)
2-Methylphenol	ug/L	2.6
2-Nitrophenol	ug/L	ND (2.0)
3&4-Methylphenol	ug/L	ND (2.0)
3,3'-Dichlorobenzidine	ug/L	ND (2.0)
3,4,5-Trichlorophenol	ug/L	ND (2.0)
3,4-Dichlorophenol	ug/L	ND (2.0)
3,5-Dichlorophenol	ug/L	ND (2.0)
4,6-Dinitro-2-methylphenol	ug/L	ND (8.0)
4-Bromophenyl phenyl ether	ug/L	ND (1.2)
4-Chloro-3-methylphenol	ug/L	ND (2.0)
4-Chloroaniline	ug/L	ND (4.0)
4-Chlorophenyl phenyl ether	ug/L	ND (2.0)
4-Nitrophenol	ug/L	ND (5.6)
5-Nitroacenaphthene	ug/L	ND (4.0)
Acenaphthene	ug/L	ND (0.80)
Acenaphthylene	ug/L	ND (0.80)
Anthracene	ug/L	ND (0.80)
Benzo(a)anthracene	ug/L	ND (0.80)
Benzo(a)pyrene	ug/L	ND (0.80)
Benzo(b)fluoranthene/Benzo(j)fluoranthene	ug/L	ND (0.80)
Benzo(g,h,i)perylene	ug/L	ND (0.80)
Benzo(k)fluoranthene	ug/L	ND (0.80)
Biphenyl (1,1-Biphenyl)	ug/L	ND (2.0)
bis(2-Chloroethoxy)methane	ug/L	ND (2.0)
bis(2-Chloroethyl)ether	ug/L	ND (2.0)
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	ND (8.0)
Butyl benzylphthalate (BBP)	ug/L	ND (2.0)
Chrysene	ug/L	ND (0.80)
Dibenz(a,h)anthracene	ug/L	ND (0.80)
Diethyl phthalate	ug/L	ND (4.0)
Dimethyl phthalate	ug/L	ND (4.0)
Di-n-butylphthalate (DBP)	ug/L	ND (8.0)
Di-n-octyl phthalate (DnOP)	ug/L	ND (3.2)
Diphenyl ether	ug/L	ND (1.2)
Fluoranthene	ug/L	ND (0.80)
Fluorene	ug/L	ND (0.80)
Hexachlorobenzene	ug/L	ND (2.0)
Hexachlorobutadiene	ug/L	ND (1.6)
Hexachlorocyclopentadiene	ug/L	ND (8.0)
Hexachloroethane	ug/L	ND (2.0)
Indeno(1,2,3-cd)pyrene	ug/L	ND (0.80)
Isophorone	ug/L	ND (2.0)
Naphthalene	ug/L	ND (0.80)
Nitrobenzene	ug/L	ND (2.0)
Nitrosodiphenylamine/Diphenylamine	ug/L	ND (4.0)
N-Nitrosodi-n-propylamine	ug/L	ND (2.0)

Leachate and Groundwater Chemistry Data
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GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**P10-II**
Sample ID:		**P10-II**
Sample Date:		**10/25/2021**
Parameters	**Units**	
Pentachlorobenzene	ug/L	ND (2.0)
Pentachlorophenol	ug/L	ND (4.0)
Perylene	ug/L	ND (0.80)
Phenanthrene	ug/L	ND (0.80)
Phenol	ug/L	ND (2.0)
Pyrene	ug/L	ND (0.80)
Pesticides		
2,4'-DDD	ug/L	ND (0.05)
2,4'-DDD + 4,4'-DDD	ug/L	ND (0.05)
2,4'-DDE	ug/L	ND (0.05)
2,4'-DDE + 4,4'-DDE	ug/L	ND (0.05)
2,4'-DDT	ug/L	ND (0.05)
2,4'-DDT + 4,4'-DDT	ug/L	ND (0.05)
4,4'-DDD	ug/L	ND (0.05)
4,4'-DDE	ug/L	ND (0.05)
4,4'-DDT	ug/L	ND (0.05)
Aldrin	ug/L	ND (0.05)
alpha-BHC	ug/L	ND (0.05)
alpha-Chlordane	ug/L	ND (0.05)
Aroclor-1242 (PCB-1242)	ug/L	ND (0.5)
Aroclor-1248 (PCB-1248)	ug/L	ND (0.5)
Aroclor-1254 (PCB-1254)	ug/L	ND (0.5)
Aroclor-1260 (PCB-1260)	ug/L	ND (0.5)
beta-BHC	ug/L	ND (0.05)
Chlordane	ug/L	ND (0.05)
Dieldrin	ug/L	ND (0.05)
Endosulfan	ug/L	ND (0.05)
Endosulfan I	ug/L	ND (0.05)
Endosulfan II	ug/L	ND (0.05)
Endrin	ug/L	ND (0.05)
Endrin aldehyde	ug/L	ND (0.05)
Endrin ketone	ug/L	ND (0.05)
gamma-BHC (lindane)	ug/L	ND (0.03)
gamma-Chlordane	ug/L	ND (0.05)
Heptachlor	ug/L	ND (0.05)
Heptachlor epoxide	ug/L	ND (0.05)
Hexachlorobenzene	ug/L	ND (0.05)
Hexachlorobutadiene	ug/L	ND (0.09)
Hexachloroethane	ug/L	ND (0.1)
Methoxychlor	ug/L	ND (0.1)
Mirex	ug/L	ND (0.05)
Total PCBs	ug/L	ND (0.5)
Toxaphene	ug/L	ND (2)

Notes:

ND Not de

Appendix N.1

Leachate and Groundwater Chemistry Data
Upper-Mid Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		29-I	29-I	29-I	29-I	29-I	29-I	35-VI	35-VI	35-VI	35-VI	36-IR	36-IR	36-IR	36-IR	40-I	40-I
Sample ID:		29-I	12-I	29-I	29-I	12-II	29-I	35-VI	35-VI	35-VI	35-VI	36-IR	36-IR	36-IR	36-IR	40-I	40-I
Sample Date:		1/27/2021	1/27/2021 Duplicate	4/21/2021	7/26/2021	7/26/2021 Duplicate	11/5/2021	1/25/2021	4/16/2021	7/26/2021	10/25/2021	1/26/2021	4/20/2021	7/27/2021	10/27/2021	1/27/2021	4/21/2021
Parameters	**Units**																
Metals																	
Aluminum (dissolved)	mg/L	ND (0.025)	0.033	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.025)	ND (0.025)	ND (0.0049)	ND (0.0049)	ND (0.025)	ND (0.025)	ND (0.0049)	ND (0.0049)	ND (0.025)	ND (0.0049)
Antimony (dissolved)	mg/L	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)
Arsenic (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.0079	0.014	0.011	0.015	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)
Barium (dissolved)	mg/L	0.025	0.023	0.021	0.021	0.021	0.021	0.035	0.034	0.036	0.035	0.021	0.019	0.02	0.02	0.017	0.018
Beryllium (dissolved)	mg/L	ND (0.002)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.0004)
Bismuth (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)
Boron (dissolved)	mg/L	1.1	1	1	1	1	1	0.53	0.53	0.63	0.58	2.8	2.9	2.2	2.7	1.2	0.72
Cadmium (dissolved)	mg/L	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00045)	0.00011
Calcium (dissolved)	mg/L	680	650	590	640	640	640	860	790	880	880	710	710	670	710	610	430
Chromium (dissolved)	mg/L	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)
Cobalt (dissolved)	mg/L	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)
Copper (dissolved)	mg/L	ND (0.0045)	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0045)	0.0014
Iron (dissolved)	mg/L	ND (0.5)	ND (0.5)	ND (0.1)	0.25	0.26	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.1)	0.66	ND (0.1)
Lead (dissolved)	mg/L	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0025)	0.00098
Lithium (dissolved)	mg/L	0.089	0.084	0.076	0.082	0.081	0.089	0.11	0.12	0.13	0.13	0.6	0.57	0.47	0.54	0.12	0.093
Magnesium (dissolved)	mg/L	88	81	78	79	79	79	83	78	91	87	110	100	95	110	100	75
Manganese (dissolved)	mg/L	0.19	0.2	0.12	0.13	0.13	0.12	0.064	0.066	0.076	0.073	0.064	0.059	0.055	0.063	0.13	0.057
Molybdenum (dissolved)	mg/L	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0025)	0.0039
Nickel (dissolved)	mg/L	ND (0.005)	ND (0.005)	0.0014	0.0016	0.0019	0.0011	ND (0.005)	ND (0.005)	0.0016	0.0014	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	0.0014
Phosphorus (dissolved)	mg/L	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.59	ND (0.5)	0.13	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.1)
Potassium (dissolved)	mg/L	38	36	36	37	37	36	67	63	74	70	37	34	37	39	28	24
Selenium (dissolved)	mg/L	ND (0.01)	ND (0.01)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	0.018	ND (0.01)	0.002	0.0034	ND (0.01)	ND (0.01)	ND (0.002)	ND (0.002)	ND (0.01)	ND (0.002)
Silicon (dissolved)	mg/L	4.9	4.7	4.6	5.1	5.1	4.7	7.1	6.3	7.3	6.8	4.4	4.5	4.5	4.4	4.6	4.9
Silver (dissolved)	mg/L	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)
Sodium (dissolved)	mg/L	480	470	440	440	450	390	1500	1400	1500	1500	650	650	630	690	330	300
Strontium (dissolved)	mg/L	5.2	4.8	4.9	5	5	5.3	9	8.9	9.5	9.7	7.5	7.6	8.1	8.6	5.2	3.7
Tellurium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	0.0012	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)
Thallium (dissolved)	mg/L	ND (0.00025)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00005)
Tin (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)
Titanium (dissolved)	mg/L	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)
Tungsten (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)
Uranium (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.0001)	ND (0.0001)	0.00069	0.0006	0.00057	0.00066	ND (0.0005)	0.0012
Vanadium (dissolved)	mg/L	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)
Zinc (dissolved)	mg/L	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)
Zirconium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)
General Chemistry																	
Alkalinity, total (as CaCO3)	mg/L	180	170	190	160	160	190	90	120	130	99	230	260	220	230	210	210
Ammonia-N	mg/L	13	12	13	14	14	12	22	22	22	22	9.1	9.3	10	9.2	3.4	2.6
Ammonia-N/Strontium Ratio	ratio	2.5000	2.5000	2.6531	2.8000	2.8000	2.2642	2.4444	2.4719	2.3158	2.2680	1.2133	1.2237	1.2346	1.0698	0.6538	0.7027
Bromide (dissolved)	mg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (50)	ND (20)	ND (20)	ND (20)	ND (20)	ND (10)	ND (10)	ND (10)	ND (10)	ND (5.0)
Chloride (dissolved)	mg/L	800	820	720	640	650	720	2700	2500	2300	2600	1000	1100	1200	1200	480	510
Chloride/Magnesium Ratio	ratio	9.0909	10.1235	9.2308	8.1013	8.2278	9.1139	32.5301	32.0513	25.2747	29.8851	9.0909	11.0000	12.6316	10.9091	4.8000	6.8000
Conductivity	umhos/cm	5300	5300	5000	4900	4900	5000	11000	11000	11000	7500	6200	6300	6500	6800	4300	3900
Fluoride	mg/L	1.1	1.1	1.2	1.4	1.3	1.2	1.0	1.1	1.2	1.1	0.99	1.0	1.1	1.0	1.0	1.2
Hardness	mg/L	2100	2000	1800	1900	1900	1900	2500	2300	2600	2600	2200	2200	2100	2200	1900	1400
Nitrate (as N)	mg/L	ND (0.10)	0.20	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	1.38	1.13
Nitrite (as N)	mg/L	0.016	0.013	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.012	ND (0.010)	ND (0.010)	0.032	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.056	ND (0.010)
Nitrite/Nitrate	mg/L	ND (0.10)	0.21	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	1.44	1.13
Orthophosphate	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.052	0.011	ND (0.010)	0.013	ND (0.010)	ND (0.50)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
pH, lab	s.u.	7.72	7.76	7.85	7.75	7.85	7.64	7.89	8.20	8.28	8.15	7.66	7.59	7.57	7.50	7.79	7.75
Phenolics (total)	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.0037	0.0038	0.0032	0.0055	ND (0.0010)	0.0011	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
Sulfate (dissolved)	mg/L	1700	1700	1700	1600	1600	1500	1700	1600	1300	1600	1700	1800	1700	1600	1600	1200
Total dissolved solids (TDS)	mg/L	3770	3690	3540	3490	3480	3690	7180	6910	6620	7000	4650	4280	4810	5030	3320	2440
Total kjeldahl nitrogen (TKN)	mg/L	13	13	14	14	15	14	25	23	24	24	9.1	9.9	9.5	10	3.9	3.3
Total organic carbon (TOC)	mg/L	6.2	6.2	5.2	4.9	5.0	4.7	13	13	13	12	2.6	2.5	2.7	2.6	3.6	3.2

Notes:

ND Not detected at the associated reporting limit.

Appendix N.1

Leachate and Groundwater Chemistry Data
Upper-Mid Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**40-I**	**40-I**	**40-I**	**41-II**	**41-II**	**41-II**	**41-II**	**46-IIR**	**46-IIR**	**46-IIR**	**46-IIR**	**47-I**	**47-I**	**47-I**	**47-I**	**47-I**
Sample ID:		**40-I**	**3-II**	**40-I**	**41-II**	**41-II**	**41-II**	**41-II**	**46-IIR**	**46-IIR**	**46-IIR**	**46-IIR**	**47-I**	**47-I**	**11-I**	**47-I**	**47-I**
Sample Date:		**7/28/2021**	**7/28/2021 Duplicate**	**11/5/2021**	**1/28/2021**	**4/20/2021**	**7/27/2021**	**10/27/2021**	**1/27/2021**	**4/21/2021**	**7/28/2021**	**11/3/2021**	**1/29/2021**	**4/21/2021**	**4/21/2021 Duplicate**	**8/3/2021**	**10/29/2021**
Parameters	**Units**																
Metals																	
Aluminum (dissolved)	mg/L	0.0051	ND (0.0049)	ND (0.0049)	0.023	ND (0.0049)	0.019	ND (0.0049)	0.0077	ND (0.0049)	ND (0.0049)	ND (0.0049)	0.029	ND (0.0049)	ND (0.0049)	ND (0.0049)	0.0055
Antimony (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Arsenic (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Barium (dissolved)	mg/L	0.016	0.016	0.016	0.037	0.031	0.033	0.052	0.069	0.076	0.068	0.063	0.015	0.017	0.016	0.017	0.017
Beryllium (dissolved)	mg/L	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)
Bismuth (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Boron (dissolved)	mg/L	1.1	1.1	1.1	0.13	0.12	0.13	0.22	0.24	0.23	0.21	0.31	0.85	0.81	0.87	0.96	0.82
Cadmium (dissolved)	mg/L	0.000091	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	0.0002	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)
Calcium (dissolved)	mg/L	520	500	530	120	110	100	160	210	200	240	180	570	580	570	580	580
Chromium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Cobalt (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Copper (dissolved)	mg/L	ND (0.0009)	ND (0.0009)	ND (0.0009)	0.0016	0.0011	ND (0.0009)	0.0013	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)
Iron (dissolved)	mg/L	0.25	0.23	0.86	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.16	ND (0.1)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Lead (dissolved)	mg/L	0.00054	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.00091	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Lithium (dissolved)	mg/L	0.12	0.11	0.12	0.016	0.014	0.018	0.0071	0.032	0.027	0.04	0.032	0.1	0.096	0.09	0.11	0.093
Magnesium (dissolved)	mg/L	96	92	87	63	58	55	69	61	67	87	56	90	95	93	90	90
Manganese (dissolved)	mg/L	0.097	0.098	0.14	0.023	0.021	0.039	0.098	0.092	0.1	0.15	0.022	0.1	0.11	0.1	0.11	0.11
Molybdenum (dissolved)	mg/L	0.0018	0.0017	0.002	0.00069	0.00056	ND (0.0005)	0.00052	0.006	0.0033	ND (0.0005)	0.0059	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Nickel (dissolved)	mg/L	0.0022	0.0018	0.0015	ND (0.001)	ND (0.001)	ND (0.001)	0.0014	0.0011	ND (0.001)	ND (0.001)	0.0011	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Phosphorus (dissolved)	mg/L	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Potassium (dissolved)	mg/L	29	30	29	1.4	1.3	1.3	1.3	11	10	11	11	23	25	25	25	25
Selenium (dissolved)	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.01)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)
Silicon (dissolved)	mg/L	4.7	4.9	4.7	7	7.6	7.6	8.1	5.1	4.6	5	5.6	3.4	3.7	3.7	3.9	3.5
Silver (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)
Sodium (dissolved)	mg/L	370	350	320	34	29	30	57	180	220	210	180	280	300	290	280	290
Strontium (dissolved)	mg/L	4.9	4.9	5.1	0.96	0.87	0.84	1.2	2.7	2.8	3.3	2.7	4.4	4.4	4.5	4.8	4.5
Tellurium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Thallium (dissolved)	mg/L	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)
Tin (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Titanium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Tungsten (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Uranium (dissolved)	mg/L	0.00059	0.00051	0.00043	0.0025	0.0015	0.00097	0.0027	0.0027	0.0021	0.0011	0.0016	ND (0.0005)	0.00019	0.00018	0.00025	0.00014
Vanadium (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Zinc (dissolved)	mg/L	0.0051	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	0.007	0.0067	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Zirconium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
General Chemistry																	
Alkalinity, total (as CaCO3)	mg/L	210	210	210	450	420	420	520	150	180	190	150	230	220	220	220	230
Ammonia-N	mg/L	3.6	3.5	3.8	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	0.24	0.19	0.28	ND (0.050)	5.0	5.0	5.0	4.9	4.6
Ammonia-N/Strontium Ratio	ratio	0.7347	0.7143	0.7451	0.0521	0.0575	0.0595	0.0417	0.0889	0.0679	0.0848	0.0185	1.1364	1.1364	1.1111	1.0208	1.0222
Bromide (dissolved)	mg/L	ND (10)	ND (10)	ND (10)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (10)	ND (10)	ND (10)	ND (5.0)	ND (10)
Chloride (dissolved)	mg/L	550	510	520	41	38	38	53	270	370	390	270	420	480	470	440	460
Chloride/Magnesium Ratio	ratio	5.7292	5.5435	5.9770	0.6508	0.6552	0.6909	0.7681	4.4262	5.5224	4.4828	4.8214	4.6667	5.0526	5.0538	4.8889	5.1111
Conductivity	umhos/cm	4200	4300	4200	1100	990	1000	1200	2200	2400	2600	2000	4100	4200	4100	4300	4300
Fluoride	mg/L	1.2	1.2	0.90	0.45	0.40	0.37	0.37	0.42	0.40	0.44	0.50	0.94	0.92	0.94	0.86	0.99
Hardness	mg/L	1700	1600	1700	570	510	480	690	790	780	970	690	1800	1800	1800	1800	1800
Nitrate (as N)	mg/L	0.67	0.76	0.92	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Nitrite (as N)	mg/L	0.075	0.093	0.021	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	0.75	0.85	0.94	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Orthophosphate	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	0.010	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
pH, lab	s.u.	7.65	8.12	7.67	7.77	7.87	7.82	7.65	7.86	7.77	7.81	7.92	7.70	7.64	7.65	7.80	7.73
Phenolics (total)	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.0010	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
Sulfate (dissolved)	mg/L	1400	1300	1300	120	83	87	110	590	570	610	590	1600	1700	1600	1500	1500
Total dissolved solids (TDS)	mg/L	2670	2820	3080	680	525	560	775	1490	1490	1620	1360	3260	3120	2930	3200	3330
Total kjeldahl nitrogen (TKN)	mg/L	3.7	3.9	4.7	0.17	0.17	0.13	0.42	0.41	0.30	0.48	0.38	5.7	5.3	5.0	4.6	5.6
Total organic carbon (TOC)	mg/L	3.5	3.4	3.0	3.0	2.1	1.4	4.2	3.7	3.2	3.2	3.5	2.9	2.6	2.7	2.6	2.5

Notes:

ND Not detecte

Appendix N.1

Leachate and Groundwater Chemistry Data
Upper-Mid Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		47-I	48-II	48-II	48-II	48-II	49-II	49-II	49-II	49-II	49-II	56-I	56-I	56-I	56-I	56-I	56-I	60-I
Sample ID:		12-IV	48-II	48-II	48-II	48-II	49-II	49-II	49-II	49-II	12-II	56-I	3-II	56-I	56-I	11-II	56-I	60-I
Sample Date:		10/29/2021	1/29/2021	4/21/2021	8/3/2021	10/29/2021	1/27/2021	4/21/2021	7/30/2021	11/4/2021	11/4/2021	1/26/2021	1/26/2021	4/14/2021	7/26/2021	7/26/2021	11/5/2021	1/29/2021
		Duplicate									Duplicate		Duplicate			Duplicate		
Parameters	**Units**																	
Metals																		
Aluminum (dissolved)	mg/L	ND (0.0049)	0.03	ND (0.0049)	ND (0.0049)	ND (0.0049)	0.0055	ND (0.0049)	ND (0.0049)	0.0053	ND (0.0049)	0.0069	ND (0.025)	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.025)
Antimony (dissolved)	mg/L	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)
Arsenic (dissolved)	mg/L	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	0.0051	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)
Barium (dissolved)	mg/L	0.018	0.03	0.032	0.032	0.029	0.046	0.032	0.028	0.038	0.038	0.036	0.038	0.037	0.037	0.037	0.038	0.024
Beryllium (dissolved)	mg/L	ND (0.0004)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)
Bismuth (dissolved)	mg/L	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)
Boron (dissolved)	mg/L	0.96	1.3	1.4	1.5	1.5	0.062	0.46	0.56	0.33	0.32	0.39	0.36	0.33	0.35	0.35	0.34	0.56
Cadmium (dissolved)	mg/L	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)
Calcium (dissolved)	mg/L	620	540	570	580	570	250	480	460	330	340	300	300	250	280	290	300	440
Chromium (dissolved)	mg/L	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)
Cobalt (dissolved)	mg/L	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0055	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)
Copper (dissolved)	mg/L	ND (0.0009)	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0045)
Iron (dissolved)	mg/L	ND (0.1)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	1.8	ND (0.1)	ND (0.1)	1.1	1.2	0.74	0.79	0.71	0.63	0.64	0.77	ND (0.5)
Lead (dissolved)	mg/L	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)
Lithium (dissolved)	mg/L	0.1	0.15	0.16	0.17	0.16	0.05	0.13	0.12	0.099	0.096	0.073	0.069	0.067	0.069	0.07	0.068	0.075
Magnesium (dissolved)	mg/L	97	83	98	100	91	120	230	230	160	160	120	120	97	110	120	110	100
Manganese (dissolved)	mg/L	0.11	0.14	0.14	0.14	0.12	0.047	0.059	0.064	0.044	0.046	0.073	0.074	0.074	0.069	0.069	0.071	0.084
Molybdenum (dissolved)	mg/L	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.011	ND (0.0005)	ND (0.0005)	0.0028	0.003	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)
Nickel (dissolved)	mg/L	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	0.02	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	0.0011	0.0011	ND (0.001)	ND (0.005)
Phosphorus (dissolved)	mg/L	ND (0.1)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.11	0.11	ND (0.1)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)
Potassium (dissolved)	mg/L	26	11	16	15	15	5.6	12	14	8	8.1	15	15	13	15	15	16	29
Selenium (dissolved)	mg/L	ND (0.002)	ND (0.01)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	0.0023	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.01)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.01)
Silicon (dissolved)	mg/L	3.6	4.7	4.7	5	4.8	5	7	7.9	7.9	8.1	3.8	4.2	3.2	3.9	3.9	3.9	3.6
Silver (dissolved)	mg/L	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)
Sodium (dissolved)	mg/L	300	310	360	400	290	410	220	190	300	290	190	190	170	200	210	210	600
Strontium (dissolved)	mg/L	4.8	4.4	5	5.2	5	3.4	5.6	6.4	4.6	4.6	6.2	5.9	5.7	6	5.8	5.8	7.1
Tellurium (dissolved)	mg/L	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)
Thallium (dissolved)	mg/L	ND (0.00005)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)
Tin (dissolved)	mg/L	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)
Titanium (dissolved)	mg/L	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)
Tungsten (dissolved)	mg/L	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)
Uranium (dissolved)	mg/L	0.00014	0.00087	0.00068	0.00097	0.00053	0.0068	0.0016	0.0011	0.0037	0.0035	ND (0.0001)	ND (0.0005)	0.00013	ND (0.0001)	ND (0.0001)	0.00027	ND (0.0005)
Vanadium (dissolved)	mg/L	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.00079	0.0008	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)
Zinc (dissolved)	mg/L	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	0.089	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)
Zirconium (dissolved)	mg/L	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)
General Chemistry																		
Alkalinity, total (as CaCO3)	mg/L	220	330	330	340	330	320	360	360	340	330	250	250	220	260	260	240	160
Ammonia-N	mg/L	4.6	1.0	1.5	1.4	1.3	0.36	1.3	1.5	0.72	0.72	1.2	1.2	1.1	1.3	1.3	1.1	5.3
Ammonia-N/Strontium Ratio	ratio	0.9583	0.2273	0.3000	0.2692	0.2600	0.1059	0.2321	0.2344	0.1565	0.1565	0.1935	0.2034	0.1930	0.2167	0.2241	0.1897	0.7465
Bromide (dissolved)	mg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (5.0)	ND (10)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (10)	ND (5.0)	ND (5.0)	ND (10)
Chloride (dissolved)	mg/L	500	470	510	650	430	730	290	210	510	520	420	420	450	440	480	480	1400
Chloride/Magnesium Ratio	ratio	5.1546	5.6627	5.2041	6.5000	4.7253	6.0833	1.2609	0.9130	3.1875	3.2500	3.5000	3.5000	4.6392	4.0000	4.0000	4.3636	14.0000
Conductivity	umhos/cm	4300	4100	4200	4900	4100	3700	3900	3900	3600	3600	2900	2800	2900	3000	3000	3000	5800
Fluoride	mg/L	0.99	0.77	0.78	0.73	0.86	1.3	1.3	1.3	1.6	1.6	0.43	0.41	0.41	0.48	0.48	0.35	0.67
Hardness	mg/L	1900	1700	1800	1900	1800	1100	2200	2100	1500	1500	1200	1200	1000	1200	1200	1200	1500
Nitrate (as N)	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Nitrite (as N)	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Orthophosphate	mg/L	ND (0.010)	0.018	0.012	ND (0.010)	0.010	ND (0.010)	0.014	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
pH, lab	s.u.	7.70	7.72	7.60	7.63	7.52	7.71	7.55	7.56	7.80	7.67	7.88	7.81	7.87	7.84	7.82	7.63	7.76
Phenolics (total)	mg/L	0.0014	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
Sulfate (dissolved)	mg/L	1600	1400	1600	1500	1600	580	1800	1500	890	940	710	710	650	590	630	660	940
Total dissolved solids (TDS)	mg/L	3120	3240	3140	3460	2940	2260	3200	3290	2560	2590	1890	1880	1970	2000	2080	2110	3920
Total kjeldahl nitrogen (TKN)	mg/L	5.6	1.3	1.6	1.9	2.1	0.44	1.5	1.9	1.1	1.2	1.5	1.4	1.2	1.5	1.5	1.6	6.1
Total organic carbon (TOC)	mg/L	2.5	2.5	2.2	2.3	2.2	2.9	2.7	2.5	3.3	3.4	3.0	2.9	2.8	2.8	2.7	2.8	8.7

Notes:

ND Not detecte

Leachate and Groundwater Chemistry Data
Upper-Mid Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		60-I	60-I	60-I	60-I	61-I	61-I	61-I	61-I	61-I	62-III	62-III	62-III	62-III	62-III	67-II	67-II	67-II
Sample ID:		60-I	60-I	11-I	60-I	61-I	11-III	61-I	61-I	61-I	62-III	62-III	4-III	62-III	62-III	67-II	67-II	67-II
Sample Date:		4/21/2021	7/30/2021	7/30/2021 Duplicate	10/29/2021	1/28/2021	1/28/2021 Duplicate	4/21/2021	7/30/2021	10/29/2021	1/28/2021	4/20/2021	4/20/2021 Duplicate	7/27/2021	10/27/2021	1/28/2021	4/20/2021	7/30/2021
Parameters	**Units**																	
Metals																		
Aluminum (dissolved)	mg/L	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.025)	0.045	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)	0.011	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)
Antimony (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Arsenic (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.0013	0.006	ND (0.001)
Barium (dissolved)	mg/L	0.027	0.028	0.027	0.03	0.013	0.015	0.015	0.015	0.014	0.039	0.032	0.031	0.034	0.035	0.023	0.022	0.014
Beryllium (dissolved)	mg/L	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)
Bismuth (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Boron (dissolved)	mg/L	0.54	0.52	0.55	0.47	1.4	1.5	1.5	1.7	1.5	0.075	0.072	0.073	0.089	0.098	2.1	1.2	1.7
Cadmium (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	0.00013
Calcium (dissolved)	mg/L	500	490	490	470	650	650	660	660	640	180	150	150	150	160	270	330	290
Chromium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Cobalt (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.00055	0.00054	0.00056	ND (0.0005)	ND (0.0005)	0.00073	0.0022	0.002
Copper (dissolved)	mg/L	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)
Iron (dissolved)	mg/L	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	0.35	0.33	0.34	0.56	0.48	2.3	4.7	0.26
Lead (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.00066	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Lithium (dissolved)	mg/L	0.069	0.071	0.07	0.063	0.24	0.23	0.25	0.25	0.22	0.022	0.018	0.018	0.021	0.022	0.081	0.074	0.074
Magnesium (dissolved)	mg/L	110	110	110	110	97	100	110	99	100	65	56	56	59	61	64	79	64
Manganese (dissolved)	mg/L	0.087	0.09	0.09	0.093	0.096	0.094	0.1	0.1	0.1	0.1	0.085	0.086	0.1	0.097	0.15	0.12	0.26
Molybdenum (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.00065	0.00071	0.00077	ND (0.0005)	0.00079	0.0044	0.0011	0.0026
Nickel (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	0.0041	0.0019	0.0019	0.0013	0.0017	0.0053	0.0061	0.0044
Phosphorus (dissolved)	mg/L	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Potassium (dissolved)	mg/L	33	33	32	32	25	25	29	28	27	3.4	3.4	3.5	3.6	4.3	41	37	37
Selenium (dissolved)	mg/L	ND (0.002)	ND (0.002)	0.0047	ND (0.002)	ND (0.01)	ND (0.01)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)
Silicon (dissolved)	mg/L	4	4	4	3.7	3.5	3.5	3.9	4.2	3.7	5.8	5.8	6	5.8	6.2	6.5	7.5	5.3
Silver (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)
Sodium (dissolved)	mg/L	680	680	680	710	390	400	440	410	400	110	100	110	100	110	500	390	440
Strontium (dissolved)	mg/L	7	7.7	7.6	7.4	5.6	5.4	5.8	6.1	5.9	0.9	0.74	0.74	0.79	0.83	4.9	5.6	5.1
Tellurium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Thallium (dissolved)	mg/L	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)
Tin (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Titanium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Tungsten (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.0013	0.0012	ND (0.001)
Uranium (dissolved)	mg/L	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.0001)	0.0022	0.0021	0.0022	0.0013	0.0017	0.00019	ND (0.0001)	0.00025
Vanadium (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Zinc (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	0.05	0.039	0.039	0.035	0.032	ND (0.005)	ND (0.005)	ND (0.005)
Zirconium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
General Chemistry																		
Alkalinity, total (as CaCO3)	mg/L	150	140	140	130	290	290	280	290	280	390	390	380	370	370	300	350	320
Ammonia-N	mg/L	5.5	5.6	5.6	5.2	4.2	4.2	4.2	4.1	3.6	0.18	0.21	0.20	0.17	0.19	22	22	15
Ammonia-N/Strontium Ratio	ratio	0.7857	0.7273	0.7368	0.7027	0.7500	0.7778	0.7241	0.6721	0.6102	0.2000	0.2838	0.2703	0.2152	0.2289	4.4898	3.9286	2.9412
Bromide (dissolved)	mg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (5.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (5.0)	ND (10)	ND (5.0)	ND (10)
Chloride (dissolved)	mg/L	1500	1300	1300	1500	710	720	750	710	710	180	120	120	170	180	810	680	610
Chloride/Magnesium Ratio	ratio	13.6364	11.8182	11.8182	13.6364	7.3196	7.2000	6.8182	7.1717	7.1000	2.7692	2.1429	2.1429	2.8814	2.9508	12.6563	8.6076	9.5313
Conductivity	umhos/cm	6000	6300	6300	6400	5100	5000	5200	5100	5100	1800	1500	1500	1600	1600	4200	4000	3900
Fluoride	mg/L	0.68	0.73	0.72	0.25	0.74	0.75	0.72	0.79	0.79	0.20	0.19	0.19	0.22	0.20	0.97	0.67	0.81
Hardness	mg/L	1700	1700	1700	1600	2000	2000	2100	2000	2000	710	600	600	620	650	950	1100	1000
Nitrate (as N)	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	1.08	ND (0.10)	1.83
Nitrite (as N)	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.011	ND (0.010)	0.174	ND (0.010)	0.189
Nitrite/Nitrate	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	1.26	ND (0.10)	2.02
Orthophosphate	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	0.017	0.011	0.010	ND (0.010)	0.035	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
pH, lab	s.u.	7.76	7.64	7.58	7.68	7.65	7.63	7.43	7.55	7.51	7.77	7.76	7.80	7.69	7.62	7.73	7.70	7.75
Phenolics (total)	mg/L	ND (0.0010)	0.0012	0.0011	0.0023	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.0018	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.0015	0.0012	0.0015
Sulfate (dissolved)	mg/L	1000	750	770	850	1600	1600	1700	1500	1500	280	230	240	220	260	670	790	660
Total dissolved solids (TDS)	mg/L	3490	4100	3620	4420	3950	3960	3570	3440	4160	1140	860	845	995	990	2480	2260	2280
Total kjeldahl nitrogen (TKN)	mg/L	5.8	6.9	5.6	6.9	4.7	4.8	4.4	5.0	4.6	0.31	0.43	0.37	0.25	0.37	23	22	13
Total organic carbon (TOC)	mg/L	8.9	9.1	9.2	9.6	2.1	2.0	1.9	3.1	1.7	2.3	1.8	1.7	1.7	1.8	6.5	4.9	4.8

Notes:

ND Not detecte

Appendix N.1

Leachate and Groundwater Chemistry Data
Upper-Mid Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**67-II**	**68-II**	**68-II**	**68-II**	**68-II**	**68-II**	**72-II**	**72-II**	**72-II**	**72-II**	**75-III**	**75-III**	**75-III**	**75-III**	**75-III**	**M5R**
Sample ID:		**67-II**	**68-II**	**68-II**	**68-II**	**2-IV**	**68-II**	**72-II**	**72-II**	**11-III**	**72-II**	**75-III**	**75-III**	**75-III**	**2-I**	**75-III**	**M5R**
Sample Date:		**10/26/2021**	**1/25/2021**	**4/19/2021**	**7/26/2021**	**7/26/2021 Duplicate**	**10/26/2021**	**4/22/2021**	**8/4/2021**	**8/4/2021 Duplicate**	**10/28/2021**	**1/27/2021**	**4/20/2021**	**7/27/2021**	**7/27/2021 Duplicate**	**10/26/2021**	**4/23/2021**
Parameters	**Units**																
Metals																	
Aluminum (dissolved)	mg/L	ND (0.025)	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.049)	ND (0.25)	ND (0.25)	ND (0.049)	0.0056	ND (0.0049)	0.015	ND (0.0049)	0.076	ND (0.0049)
Antimony (dissolved)	mg/L	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Arsenic (dissolved)	mg/L	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.01)	ND (0.05)	ND (0.05)	ND (0.01)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Barium (dissolved)	mg/L	0.011	0.024	0.024	0.025	0.024	0.023	0.041	ND (0.1)	ND (0.1)	0.041	0.013	0.0073	0.0073	0.0073	0.026	0.026
Beryllium (dissolved)	mg/L	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.004)	ND (0.02)	ND (0.02)	ND (0.004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)
Bismuth (dissolved)	mg/L	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.01)	ND (0.05)	ND (0.05)	ND (0.01)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Boron (dissolved)	mg/L	2.6	0.66	0.69	0.81	0.84	0.67	6.1	7.1	7.1	6.5	0.4	0.31	0.4	0.41	0.093	0.26
Cadmium (dissolved)	mg/L	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.0009)	ND (0.0045)	ND (0.0045)	ND (0.0009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)
Calcium (dissolved)	mg/L	290	470	530	600	590	460	4600	5000	5000	4400	270	210	230	240	85	130
Chromium (dissolved)	mg/L	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.25)	ND (0.25)	ND (0.05)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Cobalt (dissolved)	mg/L	ND (0.0025)	ND (0.0005)	ND (0.0005)	0.00099	0.001	0.00058	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.00057	ND (0.0005)
Copper (dissolved)	mg/L	ND (0.0045)	ND (0.0009)	ND (0.0009)	0.00099	ND (0.0009)	ND (0.0009)	ND (0.009)	ND (0.045)	ND (0.045)	ND (0.009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	0.0031	ND (0.0009)
Iron (dissolved)	mg/L	2.1	0.52	0.23	0.34	0.34	0.27	ND (1)	ND (5)	ND (5)	ND (1)	0.21	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	1.2
Lead (dissolved)	mg/L	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0014	ND (0.0005)
Lithium (dissolved)	mg/L	0.091	0.087	0.08	0.089	0.089	0.08	9.1	10	10	9.2	0.046	0.035	0.04	0.039	0.026	0.032
Magnesium (dissolved)	mg/L	61	140	140	160	160	130	1200	1300	1300	1200	110	81	100	97	31	43
Manganese (dissolved)	mg/L	0.1	0.27	0.23	0.45	0.46	0.24	0.52	0.61	0.64	0.54	0.059	0.05	0.063	0.062	0.057	0.17
Molybdenum (dissolved)	mg/L	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.00085	0.007
Nickel (dissolved)	mg/L	ND (0.005)	0.0025	0.0056	0.003	0.0031	0.0034	ND (0.01)	ND (0.05)	ND (0.05)	ND (0.01)	0.0096	0.0031	0.0027	0.0028	0.0029	0.0054
Phosphorus (dissolved)	mg/L	ND (0.5)	0.1	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (1)	ND (5)	ND (5)	ND (1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Potassium (dissolved)	mg/L	37	13	12	15	15	12	160	160	150	140	13	11	14	13	6.5	42
Selenium (dissolved)	mg/L	ND (0.01)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.02)	ND (0.1)	ND (0.1)	ND (0.02)	ND (0.002)	0.0022	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)
Silicon (dissolved)	mg/L	6.2	4.1	3.4	3.8	3.7	4.1	4.2	2.7	2.7	3.6	6.8	6.2	6.1	6.4	5.1	7.1
Silver (dissolved)	mg/L	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.0009)	ND (0.0045)	ND (0.0045)	ND (0.0009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)
Sodium (dissolved)	mg/L	460	87	100	110	110	88	7600	8800	8500	7500	290	250	270	270	60	490
Strontium (dissolved)	mg/L	4.5	6.9	6.9	6.8	7	6.1	82	94	91	90	3.4	2.6	3.2	3	0.94	2
Tellurium (dissolved)	mg/L	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.01)	ND (0.05)	ND (0.05)	ND (0.01)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Thallium (dissolved)	mg/L	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)
Tin (dissolved)	mg/L	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.01)	ND (0.05)	ND (0.05)	ND (0.01)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Titanium (dissolved)	mg/L	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.25)	ND (0.25)	ND (0.05)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Tungsten (dissolved)	mg/L	0.0057	ND (0.001)	0.005	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.01)	ND (0.05)	ND (0.05)	ND (0.01)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.0011
Uranium (dissolved)	mg/L	ND (0.0005)	0.00033	0.0012	0.00075	0.00078	0.00052	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	0.00049	0.0003	0.0002	0.0002	0.0017	0.00019
Vanadium (dissolved)	mg/L	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Zinc (dissolved)	mg/L	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.25)	ND (0.25)	ND (0.05)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	0.012
Zirconium (dissolved)	mg/L	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.01)	ND (0.05)	ND (0.05)	ND (0.01)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
General Chemistry																	
Alkalinity, total (as CaCO3)	mg/L	310	280	290	320	320	300	190	160	150	180	440	410	380	380	190	160
Ammonia-N	mg/L	14	0.85	0.76	0.80	0.77	0.64	20	22	22	19	2.1	1.8	2.4	2.4	0.60	23
Ammonia-N/Strontium Ratio	ratio	3.1111	0.1232	0.1101	0.1176	0.1100	0.1049	0.2439	0.2340	0.2418	0.2111	0.6176	0.6923	0.7500	0.8000	0.6383	11.5000
Bromide (dissolved)	mg/L	ND (5.0)	ND (5.0)	ND (10)	ND (5.0)	ND (5.0)	ND (5.0)	ND (500)	210	290	260	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (1.0)	ND (5.0)
Chloride (dissolved)	mg/L	690	480	550	400	430	910	24000	19000	23000	20000	510	410	560	530	92	680
Chloride/Magnesium Ratio	ratio	11.3115	3.4286	3.9286	2.5000	2.6875	7.0000	20.0000	14.6154	17.6923	16.6667	4.6364	5.0617	5.6000	5.4639	2.9677	15.8140
Conductivity	umhos/cm	3000	3300	3700	3700	3600	2400	55000	63000	63000	57000	3200	2700	3100	3100	780	3400
Fluoride	mg/L	0.91	0.37	0.36	0.41	0.40	0.37	0.46	0.38	0.39	0.49	0.30	0.32	0.38	0.36	0.22	0.80
Hardness	mg/L	970	1700	1900	2100	2100	1700	16000	18000	18000	16000	1100	870	1000	1000	340	510
Nitrate (as N)	mg/L	ND (0.10)	ND (0.10)	0.10	ND (0.10)	ND (0.10)	0.11	ND (1.0)	ND (0.50)	ND (0.50)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.80
Nitrite (as N)	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.10)	ND (0.050)	ND (0.050)	0.015	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.032	0.087
Nitrite/Nitrate	mg/L	ND (0.10)	ND (0.10)	0.10	ND (0.10)	ND (0.10)	0.11	ND (1.0)	ND (0.50)	ND (0.50)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.89
Orthophosphate	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
pH, lab	s.u.	7.72	7.59	7.39	7.65	7.59	7.66	7.45	7.09	7.07	7.37	7.66	7.60	7.75	7.58	7.94	7.90
Phenolics (total)	mg/L	0.0012	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.0055	ND (0.010)	ND (0.010)	0.013	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.0088
Sulfate (dissolved)	mg/L	640	990	1200	1300	1400	200	1600	1200	1400	1400	590	480	500	470	120	530
Total dissolved solids (TDS)	mg/L	2480	2400	2530	2910	2700	2380	38100	42800	40900	40300	2150	1680	1960	1860	565	1840
Total kjeldahl nitrogen (TKN)	mg/L	14	1.1	1.0	1.0	1.1	0.89	22	24	27	33	2.3	2.1	2.7	2.6	1.0	24
Total organic carbon (TOC)	mg/L	5.4	3.0	2.1	2.2	2.1	2.0	2.2	2.1	2.1	2.0	4.9	3.7	3.8	3.9	5.5	11

Notes:

ND Not detecte

Appendix N.1

Leachate and Groundwater Chemistry Data
Upper-Mid Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**M5R**	**M5R**	**P3-III**	**P3-III**	**P3-III**	**P3-III**	**P4-III**	**P4-III**	**P4-III**	**P4-III**	**P5-IIR**	**P5-IIR**	**P5-IIR**	**P5-IIR**	**P7-II**
Sample ID:		**M5R**	**M5R**	**P3-III**	**P3-III**	**P3-III**	**P3-III**	**P4-III**	**P4-III**	**P4-III**	**P4-III**	**P5-IIR**	**P5-IIR**	**P5-IIR**	**P5-IIR**	**P7-II**
Sample Date:		**8/12/2021**	**11/5/2021**	**1/28/2021**	**4/21/2021**	**7/30/2021**	**11/2/2021**	**1/25/2021**	**4/20/2021**	**7/26/2021**	**10/26/2021**	**1/28/2021**	**4/21/2021**	**7/29/2021**	**10/28/2021**	**1/28/2021**
Parameters	**Units**															
Metals																
Aluminum (dissolved)	mg/L	0.047	0.025	0.0061	0.0094	ND (0.0049)	ND (0.0049)	ND (0.025)	ND (0.025)	ND (0.0049)	ND (0.0049)	ND (0.025)	ND (0.0049)	0.011	ND (0.0049)	0.023
Antimony (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	0.00057	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Arsenic (dissolved)	mg/L	0.0016	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	0.0027	0.0023	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	0.0023
Barium (dissolved)	mg/L	0.028	0.024	0.043	0.037	0.041	0.043	0.034	0.037	0.035	0.033	0.012	0.013	0.015	0.013	0.031
Beryllium (dissolved)	mg/L	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)
Bismuth (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Boron (dissolved)	mg/L	0.38	0.31	0.37	0.31	0.31	0.32	0.37	0.35	0.37	0.3	0.38	0.37	0.36	0.39	0.39
Cadmium (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	0.00058	0.00021	0.00026	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)
Calcium (dissolved)	mg/L	140	100	320	340	270	300	700	720	710	680	530	490	570	500	460
Chromium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Cobalt (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	0.002	ND (0.0005)	0.00099	0.0012	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Copper (dissolved)	mg/L	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)
Iron (dissolved)	mg/L	ND (0.1)	0.23	ND (0.1)	0.39	ND (0.1)	1.7	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Lead (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Lithium (dissolved)	mg/L	0.036	0.03	0.068	0.062	0.066	0.058	0.053	0.052	0.062	0.052	0.067	0.068	0.062	0.063	0.038
Magnesium (dissolved)	mg/L	30	33	110	110	94	94	72	73	81	70	94	95	100	93	23
Manganese (dissolved)	mg/L	0.091	0.048	0.26	0.11	0.087	0.19	0.077	0.077	0.076	0.074	0.059	0.063	0.065	0.071	0.0037
Molybdenum (dissolved)	mg/L	0.017	0.0074	0.00071	0.00066	ND (0.0005)	0.00052	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.026
Nickel (dissolved)	mg/L	0.009	0.0037	0.0047	0.0046	0.0046	0.0024	ND (0.005)	ND (0.005)	0.0016	0.0014	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	0.0065
Phosphorus (dissolved)	mg/L	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.58	ND (0.5)	0.1	ND (0.1)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	0.11
Potassium (dissolved)	mg/L	57	38	19	20	17	19	42	42	48	47	11	12	13	11	89
Selenium (dissolved)	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.01)	ND (0.01)	0.0029	0.004	ND (0.01)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)
Silicon (dissolved)	mg/L	5.4	7.3	5.1	5.1	5.1	5.7	4.3	4.3	4.9	4.4	3.4	3.3	3.6	3.4	6.6
Silver (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)
Sodium (dissolved)	mg/L	890	470	300	330	280	280	1100	1200	1300	1200	97	110	140	110	430
Strontium (dissolved)	mg/L	2.5	1.8	6.8	6.3	5.2	6.2	7.5	7.8	8.1	7.7	6.2	6.5	7	6.5	4
Tellurium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	0.0017	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Thallium (dissolved)	mg/L	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)
Tin (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Titanium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Tungsten (dissolved)	mg/L	0.0035	0.0023	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	0.007
Uranium (dissolved)	mg/L	ND (0.0001)	0.00034	0.00019	0.00032	0.00018	0.00032	ND (0.0005)	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)
Vanadium (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.001
Zinc (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	0.12	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Zirconium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
General Chemistry																
Alkalinity, total (as CaCO3)	mg/L	51	160	280	260	280	270	130	120	110	100	260	260	250	250	75
Ammonia-N	mg/L	42	21	0.84	0.66	0.84	0.94	12	13	13	14	1.9	1.9	1.9	1.6	21
Ammonia-N/Strontium Ratio	ratio	16.8000	11.6667	0.1235	0.1048	0.1615	0.1516	1.6000	1.6667	1.6049	1.8182	0.3065	0.2923	0.2714	0.2462	5.2500
Bromide (dissolved)	mg/L	ND (10)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (50)	ND (20)	ND (20)	ND (20)	ND (5.0)	ND (5.0)	ND (10)	ND (5.0)	ND (10)
Chloride (dissolved)	mg/L	1200	660	670	670	630	610	2200	2300	2400	2300	290	340	380	300	590
Chloride/Magnesium Ratio	ratio	40.0000	20.0000	6.0909	6.0909	6.7021	6.4894	30.5556	31.5068	29.6296	32.8571	3.0851	3.5789	3.8000	3.2258	25.6522
Conductivity	umhos/cm	4800	3200	3700	3500	3300	3400	8600	9200	9400	6500	3200	3300	3500	3100	4200
Fluoride	mg/L	1.6	1.0	0.44	0.49	0.46	0.47	0.97	0.96	1.1	1.1	0.51	0.50	0.58	0.52	0.98
Hardness	mg/L	460	400	1300	1300	1100	1100	2000	2100	2100	2000	1700	1600	1800	1600	1200
Nitrate (as N)	mg/L	1.52	0.87	ND (0.10)	0.53	0.28	0.17	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Nitrite (as N)	mg/L	1.32	0.265	ND (0.010)	0.015	ND (0.010)	ND (0.010)	0.023	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	2.84	1.14	ND (0.10)	0.54	0.28	0.17	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Orthophosphate	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.013	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.049
pH, lab	s.u.	7.56	7.93	7.70	7.57	7.73	7.63	8.26	8.31	7.95	7.84	7.68	7.58	7.70	7.61	8.63
Phenolics (total)	mg/L	0.024	0.023	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.0016	ND (0.0010)	0.0010	0.0024	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.0013	0.65
Sulfate (dissolved)	mg/L	450	440	660	650	420	590	1300	1200	1100	1300	1300	1300	1300	1100	1300
Total dissolved solids (TDS)	mg/L	2850	1690	2420	2210	1840	1980	5520	6050	6240	5510	2460	2600	2970	2600	2850
Total kjeldahl nitrogen (TKN)	mg/L	48	26	0.83	0.76	1.1	1.5	14	15	14	15	2.2	2.1	2.2	1.8	22
Total organic carbon (TOC)	mg/L	20	11	4.3	4.0	4.2	4.2	13	14	14	12	2.3	2.4	2.6	2.7	18

Notes:

ND Not detecte

Appendix N.1

Leachate and Groundwater Chemistry Data
Upper-Mid Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**P7-II**	**P7-II**	**P7-II**	**P10-II**	**P10-II**	**P10-II**	**P10-II**	**P10-II**	**P11-II**	**P11-II**	**P11-II**	**P11-II**
Sample ID:		**P7-II**	**P7 II**	**P7-II**	**P10-II**	**P10-II**	**4-II**	**P10-II**	**P10-II**	**P11-II**	**P11-II**	**P11-II**	**P11-II**
Sample Date:		**4/21/2021**	**7/28/2021**	**10/28/2021**	**1/25/2021**	**4/15/2021**	**4/15/2021 Duplicate**	**7/26/2021**	**10/25/2021**	**1/28/2021**	**4/19/2021**	**7/28/2021**	**10/27/2021**
Parameters	**Units**												
Metals													
Aluminum (dissolved)	mg/L	0.013	0.0053	0.0056	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.0049)	ND (0.0049)	0.013	ND (0.0049)	ND (0.0049)	0.0054
Antimony (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Arsenic (dissolved)	mg/L	0.0013	ND (0.001)	0.0013	ND (0.005)	ND (0.005)	ND (0.005)	0.004	0.0035	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Barium (dissolved)	mg/L	0.028	0.03	0.016	0.021	0.02	0.021	0.02	0.02	0.01	0.011	0.011	0.01
Beryllium (dissolved)	mg/L	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)
Bismuth (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Boron (dissolved)	mg/L	0.44	0.55	0.39	2	1.6	1.6	1.8	1.5	0.36	0.36	0.33	0.36
Cadmium (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)
Calcium (dissolved)	mg/L	530	590	340	910	830	830	850	820	180	170	190	190
Chromium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Cobalt (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Copper (dissolved)	mg/L	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0045)	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)
Iron (dissolved)	mg/L	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	0.19	ND (0.1)	ND (0.1)
Lead (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Lithium (dissolved)	mg/L	0.045	0.057	0.026	0.82	0.6	0.6	0.66	0.59	0.082	0.082	0.079	0.076
Magnesium (dissolved)	mg/L	39	52	13	130	110	110	110	100	65	65	70	67
Manganese (dissolved)	mg/L	0.0086	0.011	0.0027	0.12	0.11	0.11	0.11	0.11	0.029	0.047	0.065	0.031
Molybdenum (dissolved)	mg/L	0.017	0.0071	0.028	0.014	0.015	0.015	0.018	0.011	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Nickel (dissolved)	mg/L	0.0045	0.0037	0.0073	0.0056	0.0057	0.0054	0.0045	0.0046	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Phosphorus (dissolved)	mg/L	0.17	0.16	ND (0.1)	0.68	ND (0.5)	ND (0.5)	0.13	0.1	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Potassium (dissolved)	mg/L	64	67	70	76	76	72	85	80	9	9.3	9.3	9.4
Selenium (dissolved)	mg/L	ND (0.002)	0.0095	ND (0.002)	0.029	ND (0.01)	ND (0.01)	0.0042	0.0074	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)
Silicon (dissolved)	mg/L	8	9.6	6.2	3.6	3.2	3.2	3.5	3.2	4.1	3.8	4.3	4.2
Silver (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)
Sodium (dissolved)	mg/L	490	560	300	2300	2200	2100	2300	2200	88	87	92	83
Strontium (dissolved)	mg/L	4.2	5.2	2.5	13	12	12	12	11	4.8	4.7	4.8	4.8
Tellurium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	0.0035	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Thallium (dissolved)	mg/L	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00025)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)
Tin (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Titanium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Tungsten (dissolved)	mg/L	0.0054	0.0037	0.0084	ND (0.005)	0.0052	0.0053	0.0057	0.0053	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Uranium (dissolved)	mg/L	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)
Vanadium (dissolved)	mg/L	0.00092	0.00083	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Zinc (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Zirconium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
General Chemistry													
Alkalinity, total (as CaCO3)	mg/L	94	82	69	150	140	150	130	97	320	320	310	310
Ammonia-N	mg/L	21	22	18	24	28	29	36	37	0.62	0.62	0.56	0.59
Ammonia-N/Strontium Ratio	ratio	5.0000	4.2308	7.2000	1.8462	2.3333	2.4167	3.0000	3.3636	0.1292	0.1319	0.1167	0.1229
Bromide (dissolved)	mg/L	ND (10)	ND (10)	ND (5.0)	ND (50)	ND (50)	ND (50)	ND (20)	ND (20)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
Chloride (dissolved)	mg/L	830	950	290	3900	3700	3500	3000	3100	200	210	180	200
Chloride/Magnesium Ratio	ratio	21.2821	18.2692	22.3077	30.0000	33.6364	31.8182	27.2727	31.0000	3.0769	3.2308	2.5714	2.9851
Conductivity	umhos/cm	5000	5400	3000	15000	14000	14000	14000	11000	1700	1700	1700	1700
Fluoride	mg/L	0.88	1.1	1.1	2.5	2.6	2.4	3.4	3.2	0.46	0.44	0.51	0.46
Hardness	mg/L	1500	1700	890	2800	2500	2500	2600	2400	720	700	770	760
Nitrate (as N)	mg/L	0.13	ND (0.10)	ND (0.10)	ND (0.50)	ND (0.10)	ND (0.50)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Nitrite (as N)	mg/L	0.023	ND (0.010)	ND (0.010)	ND (0.050)	ND (0.010)	ND (0.050)	ND (0.010)	0.021	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	0.15	ND (0.10)	ND (0.10)	ND (0.50)	ND (0.10)	ND (0.50)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Orthophosphate	mg/L	0.089	0.057	0.029	ND (0.50)	ND (0.10)	0.19	0.014	ND (0.10)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
pH, lab	s.u.	8.37	7.61	8.96	8.31	8.39	8.38	8.49	8.43	7.81	7.72	8.25	7.75
Phenolics (total)	mg/L	0.22	0.17	0.37	0.016	0.033	0.035	0.022	0.022	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
Sulfate (dissolved)	mg/L	1600	1400	980	2000	2100	1900	1600	2000	310	320	290	330
Total dissolved solids (TDS)	mg/L	3290	3570	2120	8910	9140	9270	9570	8620	1080	1080	1070	1150
Total kjeldahl nitrogen (TKN)	mg/L	22	23	24	28	32	31	42	39	0.76	0.69	0.68	0.74
Total organic carbon (TOC)	mg/L	10	10	14	18	18	18	16	15	1.6	1.6	1.3	1.3

Notes:

ND Not detecte

Appendix N.1

Leachate and Groundwater Chemistry Data
Lower-Mid Flow Zone - Organics
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**44-II**	**44-II**	**67-I**	**67-I**	**75-II**	**75-II**	**76-III**	**76-III**
Sample ID:		**44-II**	**44-II**	**67-I**	**67-I**	**75-II**	**75-II**	**76-III**	**76-III**
Sample Date:		**4/19/2021**	**11/3/2021**	**4/20/2021**	**10/26/2021**	**4/20/2021**	**10/26/2021**	**4/19/2021**	**11/2/2021**
Parameters	**Units**								
Volatiles									
1,1,1,2-Tetrachloroethane	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
1,1,1-Trichloroethane	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
1,1,2,2-Tetrachloroethane	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
1,1,2-Trichloroethane	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
1,1-Dichloroethane	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
1,1-Dichloroethene	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
1,2-Dibromoethane (Ethylene dibromide)	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
1,2-Dichlorobenzene	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
1,2-Dichloroethane	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
1,2-Dichloropropane	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
1,3-Dichlorobenzene	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
1,4-Dichlorobenzene	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
2-Hexanone	ug/L	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
Acetone	ug/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Acrolein	ug/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Acrylonitrile	ug/L	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
Benzene	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Bromodichloromethane	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Bromoform	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
Bromomethane (Methyl bromide)	ug/L	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Carbon tetrachloride	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Chlorobenzene	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Chloroethane	ug/L	ND (0.20)	ND (2.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (2.0)
Chloroform (Trichloromethane)	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Chloromethane (Methyl chloride)	ug/L	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
cis-1,2-Dichloroethene	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
cis-1,3-Dichloropropene	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
Dibromochloromethane	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
Ethylbenzene	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
m&p-Xylenes	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Methyl tert butyl ether (MTBE)	ug/L	ND (0.20)	ND (0.20)	0.25	0.32	0.21	ND (0.20)	ND (0.20)	ND (0.20)
Methylene chloride	ug/L	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
o-Xylene	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Styrene	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
Tetrachloroethene	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Toluene	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
trans-1,2-Dichloroethene	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
trans-1,3-Dichloropropene	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
Trichloroethene	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Trichlorofluoromethane (CFC-11)	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
Trihalomethanes	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
Vinyl chloride	ug/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
Xylenes (total)	ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Semi-Volatiles									
1,2,3,4-Tetrachlorobenzene	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
1,2,3,5-Tetrachlorobenzene	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
1,2,3-Trichlorobenzene	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
1,2,4,5-Tetrachlorobenzene	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
1,2,4-Trichlorobenzene	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
1,2-Dichlorobenzene	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
1,3,5-Trichlorobenzene	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
1,3-Dichlorobenzene	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
1,4-Dichlorobenzene	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
1-Chloronaphthalene	ug/L	ND (4.0)	ND (4.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (1.0)
1-Methylnaphthalene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)
2,2'-Oxybis(2-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
2,3,4,5-Tetrachlorophenol	ug/L	ND (1.6)	ND (1.6)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (1.6)	ND (0.40)
2,3,4,6-Tetrachlorophenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
2,3,4-Trichlorophenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
2,3,5,6-Tetrachlorophenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
2,3,5-Trichlorophenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
2,3,6-Trichlorophenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
2,3-Dichlorophenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
2,4,5-Trichlorophenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
2,4,6-Trichlorophenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
2,4-Dichlorophenol	ug/L	ND (1.2)	ND (1.2)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (1.2)	ND (0.30)
2,4-Dimethylphenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
2,4-Dinitrophenol	ug/L	ND (25)	ND (8.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (25)	ND (2.0)
2,4-Dinitrotoluene	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
2,5-Dichlorophenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
2,6-Dichlorophenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
2,6-Dinitrotoluene	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
2-Chloronaphthalene	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
2-Chlorophenol	ug/L	ND (1.2)	ND (1.2)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (1.2)	ND (0.30)
2-Methylnaphthalene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)
2-Methylphenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
2-Nitrophenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
3&4-Methylphenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
3,3'-Dichlorobenzidine	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
3,4,5-Trichlorophenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
3,4-Dichlorophenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
3,5-Dichlorophenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
4,6-Dinitro-2-methylphenol	ug/L	ND (8.0)	ND (8.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (8.0)	ND (2.0)
4-Bromophenyl phenyl ether	ug/L	ND (1.2)	ND (1.2)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (1.2)	ND (0.30)
4-Chloro-3-methylphenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)

Appendix N.1

Leachate and Groundwater Chemistry Data
Lower-Mid Flow Zone - Organics
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**44-II**	**44-II**	**67-I**	**67-I**	**75-II**	**75-II**	**76-III**	**76-III**
Sample ID:		**44-II**	**44-II**	**67-I**	**67-I**	**75-II**	**75-II**	**76-III**	**76-III**
Sample Date:		**4/19/2021**	**11/3/2021**	**4/20/2021**	**10/26/2021**	**4/20/2021**	**10/26/2021**	**4/19/2021**	**11/2/2021**
Parameters	**Units**								
4-Chloroaniline	ug/L	ND (4.0)	ND (4.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (1.0)
4-Chlorophenyl phenyl ether	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
4-Nitrophenol	ug/L	ND (10)	ND (5.6)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (10)	ND (1.4)
5-Nitroacenaphthene	ug/L	ND (4.0)	ND (4.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (1.0)
Acenaphthene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)
Acenaphthylene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)
Anthracene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)
Benzo(a)anthracene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)
Benzo(a)pyrene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)
Benzo(b)fluoranthene/Benzo(j)fluoranthene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)
Benzo(g,h,i)perylene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)
Benzo(k)fluoranthene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)
Biphenyl (1,1-Biphenyl)	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
bis(2-Chloroethoxy)methane	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
bis(2-Chloroethyl)ether	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	ND (8.0)	ND (8.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (8.0)	ND (2.0)
Butyl benzylphthalate (BBP)	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
Chrysene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)
Dibenz(a,h)anthracene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)
Diethyl phthalate	ug/L	ND (4.0)	ND (4.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (1.0)
Dimethyl phthalate	ug/L	ND (4.0)	ND (4.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (1.0)
Di-n-butylphthalate (DBP)	ug/L	ND (8.0)	ND (8.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (8.0)	ND (2.0)
Di-n-octyl phthalate (DnOP)	ug/L	ND (3.2)	ND (3.2)	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	ND (3.2)	ND (0.80)
Diphenyl ether	ug/L	ND (1.2)	ND (1.2)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (1.2)	ND (0.30)
Fluoranthene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)
Fluorene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)
Hexachlorobenzene	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
Hexachlorobutadiene	ug/L	ND (1.6)	ND (1.6)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (1.6)	ND (0.40)
Hexachlorocyclopentadiene	ug/L	ND (8.0)	ND (8.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (8.0)	ND (2.0)
Hexachloroethane	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
Indeno(1,2,3-cd)pyrene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)
Isophorone	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
Naphthalene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)
Nitrobenzene	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
Nitrosodiphenylamine/Diphenylamine	ug/L	ND (4.0)	ND (4.0)	ND (1.0)	-	ND (1.0)	-	ND (4.0)	ND (1.0)
N-Nitrosodi-n-propylamine	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
Pentachlorobenzene	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
Pentachlorophenol	ug/L	ND (10)	ND (4.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (10)	ND (1.0)
Perylene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)
Phenanthrene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)
Phenol	ug/L	ND (2.0)	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)
Pyrene	ug/L	ND (0.80)	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)
Pesticides									
2,4'-DDD	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
2,4'-DDD + 4,4'-DDD	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
2,4'-DDE	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
2,4'-DDE + 4,4'-DDE	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
2,4'-DDT	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
2,4'-DDT + 4,4'-DDT	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
4,4'-DDD	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
4,4'-DDE	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
4,4'-DDT	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Aldrin	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
alpha-BHC	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
alpha-Chlordane	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Aroclor-1242 (PCB-1242)	ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Aroclor-1248 (PCB-1248)	ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Aroclor-1254 (PCB-1254)	ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Aroclor-1260 (PCB-1260)	ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
beta-BHC	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Chlordane	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Dieldrin	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Endosulfan	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Endosulfan I	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Endosulfan II	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Endrin	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Endrin aldehyde	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Endrin ketone	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
gamma-BHC (lindane)	ug/L	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)
gamma-Chlordane	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Heptachlor	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Heptachlor epoxide	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Hexachlorobenzene	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Hexachlorobutadiene	ug/L	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.009)
Hexachloroethane	ug/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Methoxychlor	ug/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Mirex	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Total PCBs	ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Toxaphene	ug/L	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)

Notes:

ND Not detected at the associated reporting limit.

Appendix N.1

Leachate and Groundwater Chemistry Data
Lower-Mid Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		29-IV	29-IV	29-IV	29-IV	29-IV	29-IV	42-I	43-II	43-II	43-II	43-II	44-II	44-II	44-II	44-II	45-II	45-II
Sample ID:		29-IV	29-IV	12-IV	29-IV	29-IV	3-I	42-I	43-II	43-II	43-II	43-II	44-II	44-II	44-II	44-II	45-II	45-II
Sample Date:		1/27/2021	4/21/2021	4/21/2021 Duplicate	7/26/2021	11/5/2021	11/5/2021 Duplicate	11/1/2021	1/25/2021	4/20/2021	7/30/2021	10/25/2021	1/27/2021	4/19/2021	7/28/2021	11/3/2021	1/27/2021	4/19/2021
Parameters	**Units**																	
Metals																		
Aluminum (dissolved)	mg/L	ND (0.025)	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)	0.0055	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)	0.019	ND (0.0049)	ND (0.0049)	0.051	0.023	0.025
Antimony (dissolved)	mg/L	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Arsenic (dissolved)	mg/L	ND (0.005)	ND (0.001)	ND (0.001)	0.0017	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.0015	ND (0.001)	0.0014	0.0043	ND (0.001)	ND (0.001)
Barium (dissolved)	mg/L	0.026	0.025	0.025	0.025	0.023	0.023	0.037	0.016	0.016	0.015	0.016	0.041	0.041	0.043	0.043	0.04	0.026
Beryllium (dissolved)	mg/L	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)
Bismuth (dissolved)	mg/L	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Boron (dissolved)	mg/L	0.79	0.77	0.7	0.83	0.82	0.82	1.2	0.71	0.69	0.64	0.63	0.046	0.034	0.041	0.043	0.067	0.032
Cadmium (dissolved)	mg/L	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	0.000099	ND (0.00009)	ND (0.00009)
Calcium (dissolved)	mg/L	620	580	620	630	570	590	590	320	290	280	280	100	110	120	110	150	91
Chromium (dissolved)	mg/L	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Cobalt (dissolved)	mg/L	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.00059	ND (0.0005)	ND (0.0005)
Copper (dissolved)	mg/L	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	0.00099	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)
Iron (dissolved)	mg/L	ND (0.5)	0.32	0.35	ND (0.1)	0.2	0.2	3.8	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.22	ND (0.1)	0.3	0.64	ND (0.1)	ND (0.1)
Lead (dissolved)	mg/L	ND (0.0025)	ND (0.0005)	ND (0.0005)	0.00082	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0018	ND (0.0005)	ND (0.0005)
Lithium (dissolved)	mg/L	0.071	0.06	0.063	0.078	0.071	0.07	0.16	0.1	0.096	0.084	0.092	0.024	0.021	0.033	0.023	0.04	0.014
Magnesium (dissolved)	mg/L	81	75	76	88	74	72	150	77	72	72	73	43	39	53	37	50	22
Manganese (dissolved)	mg/L	0.26	0.24	0.24	0.26	0.23	0.22	0.7	0.056	0.057	0.061	0.059	0.034	0.03	0.035	0.056	0.035	0.0039
Molybdenum (dissolved)	mg/L	ND (0.0025)	ND (0.0005)	ND (0.0005)	0.015	0.00055	0.00057	0.0011	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0023	0.00072	0.00072	0.0011	ND (0.0005)	ND (0.0005)
Nickel (dissolved)	mg/L	ND (0.005)	0.0012	0.0013	0.0016	0.001	0.0011	0.0013	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.0013	0.0013	ND (0.001)	0.0015	ND (0.001)	ND (0.001)
Phosphorus (dissolved)	mg/L	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Potassium (dissolved)	mg/L	35	35	36	37	34	34	29	16	15	15	16	2.5	2.1	2.4	2.6	6.3	2.2
Selenium (dissolved)	mg/L	ND (0.01)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)
Silicon (dissolved)	mg/L	6	6	5.9	6.3	6.1	5.7	4.1	4	3.6	3.6	4.4	6.7	6	7.6	6.7	4.5	4
Silver (dissolved)	mg/L	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)
Sodium (dissolved)	mg/L	460	460	480	540	400	400	450	200	180	180	210	27	20	22	18	100	25
Strontium (dissolved)	mg/L	5	5.1	5	5.5	5.2	5.3	7	11	11	11	11	1.1	1	0.86	1.1	1.1	0.43
Tellurium (dissolved)	mg/L	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Thallium (dissolved)	mg/L	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)
Tin (dissolved)	mg/L	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Titanium (dissolved)	mg/L	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Tungsten (dissolved)	mg/L	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Uranium (dissolved)	mg/L	ND (0.0005)	0.0002	0.00022	0.0018	0.00037	0.00034	0.0031	ND (0.0001)	ND (0.0001)	ND (0.0001)	0.00033	0.0015	0.0015	0.0028	0.0017	0.00077	0.0004
Vanadium (dissolved)	mg/L	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Zinc (dissolved)	mg/L	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	0.0063	0.0081	ND (0.005)	0.0078	0.016	0.024
Zirconium (dissolved)	mg/L	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
General Chemistry																		
Alkalinity, total (as CaCO3)	mg/L	180	180	180	180	190	190	320	320	320	330	320	260	320	380	330	320	240
Ammonia-N	mg/L	15	15	15	15	12	13	3.3	2.8	2.7	2.7	2.7	ND (0.050)	ND (0.050)	ND (0.050)	0.061	0.33	0.051
Ammonia-N/Strontium Ratio	ratio	3.0000	2.9412	3.0000	2.7273	2.3077	2.4528	0.4714	0.2545	0.2455	0.2455	0.2455	0.0455	0.0500	0.0581	0.0555	0.3000	0.1186
Bromide (dissolved)	mg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (5.0)	ND (1.0)
Chloride (dissolved)	mg/L	750	750	750	890	680	670	770	340	340	300	290	34	32	23	28	220	60
Chloride/Magnesium Ratio	ratio	9.2593	10.0000	9.8684	10.1136	9.1892	9.3056	5.1333	4.4156	4.7222	4.1667	3.9726	0.7907	0.8205	0.4340	0.7568	4.4000	2.7273
Conductivity	umhos/cm	5100	5000	5000	5300	4800	4900	4700	2800	2700	2600	2000	880	870	970	820	1500	750
Fluoride	mg/L	1.2	1.3	1.3	1.5	1.3	1.3	0.90	0.60	0.66	0.71	0.68	0.24	0.23	0.25	0.27	0.23	0.20
Hardness	mg/L	1900	1800	1900	1900	1700	1800	2100	1100	1000	1000	1000	440	430	510	420	570	320
Nitrate (as N)	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Nitrite (as N)	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Orthophosphate	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
pH, lab	s.u.	7.74	7.67	7.67	7.81	7.60	7.60	7.58	7.80	7.71	7.64	7.90	7.95	7.75	7.75	7.87	7.83	7.82
Phenolics (total)	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.0013	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
Sulfate (dissolved)	mg/L	1600	1700	1700	1700	1400	1400	1300	680	690	560	550	150	110	130	86	140	53
Total dissolved solids (TDS)	mg/L	3650	3340	3630	3570	3550	3750	3830	1900	1690	1580	1660	535	520	575	490	905	410
Total kjeldahl nitrogen (TKN)	mg/L	15	15	16	15	14	14	4.2	3.2	2.8	3.1	3.2	0.15	0.13	ND (0.10)	0.29	0.44	0.14
Total organic carbon (TOC)	mg/L	5.8	5.2	5.1	4.5	4.4	4.3	5.6	1.5	1.7	1.3	1.7	2.1	1.7	1.0	1.9	1.4	1.9

Notes:

ND Not detected at the associated reporting limit.

Leachate and Groundwater Chemistry Data
Lower-Mid Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		45-II	45-II	62-II	62-II	62-II	62-II	62-II	67-I	67-I	67-I	67-I	67-I	67-I	75-II	75-II	75-II	75-II
Sample ID:		45-II	45-II	62-II	2-III	62-II	62-II	62-II	67-I	4-I	67-I	67-I	4-II	67-I	75-II	75-II	75-II	75-II
Sample Date:		7/28/2021	11/2/2021	1/28/2021	1/28/2021 Duplicate	4/20/2021	7/27/2021	10/27/2021	1/27/2021	1/27/2021 Duplicate	4/20/2021	7/28/2021	7/28/2021 Duplicate	10/26/2021	1/27/2021	4/20/2021	7/27/2021	10/26/2021
Parameters	**Units**																	
Metals																		
Aluminum (dissolved)	mg/L	ND (0.0049)	0.014	ND (0.0049)	ND (0.025)	ND (0.025)	ND (0.0049)	ND (0.0049)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.025)	ND (0.0049)	ND (0.0049)	ND (0.0049)
Antimony (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Arsenic (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)
Barium (dissolved)	mg/L	0.041	0.047	0.018	0.02	0.016	0.017	0.015	0.019	0.018	0.017	0.018	0.017	0.019	0.025	0.022	0.022	0.02
Beryllium (dissolved)	mg/L	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)
Bismuth (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)
Boron (dissolved)	mg/L	0.04	0.056	1.3	1.2	1.4	0.99	1.1	1	0.99	1	1.1	1.1	0.98	0.73	0.81	0.63	0.83
Cadmium (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)
Calcium (dissolved)	mg/L	120	120	650	620	670	520	550	500	480	500	490	470	450	260	260	240	260
Chromium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)
Cobalt (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Copper (dissolved)	mg/L	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0045)	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0009)
Iron (dissolved)	mg/L	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)
Lead (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Lithium (dissolved)	mg/L	0.027	0.027	0.27	0.28	0.24	0.2	0.2	0.14	0.13	0.13	0.13	0.12	0.12	0.085	0.082	0.071	0.091
Magnesium (dissolved)	mg/L	39	38	90	87	85	79	80	67	67	65	62	63	63	54	50	49	53
Manganese (dissolved)	mg/L	0.036	0.02	0.065	0.059	0.059	0.06	0.061	0.045	0.045	0.047	0.045	0.046	0.041	0.029	0.029	0.029	0.029
Molybdenum (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Nickel (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	0.0015	0.0014	0.0015	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)
Phosphorus (dissolved)	mg/L	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.5)	0.56	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)
Potassium (dissolved)	mg/L	4.1	4.5	58	52	54	45	46	60	58	56	62	63	61	52	50	48	50
Selenium (dissolved)	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.01)	ND (0.01)	ND (0.002)	ND (0.002)	ND (0.01)	ND (0.01)	ND (0.01)	0.0076	0.0045	ND (0.002)	ND (0.01)	0.016	0.0022	ND (0.002)
Silicon (dissolved)	mg/L	4.9	5.3	5	4.3	5.1	4.5	4.5	6.5	6.8	6.6	6.7	7.1	7.3	6.8	7.1	6.5	7.2
Silver (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)
Sodium (dissolved)	mg/L	60	57	850	850	820	640	620	780	760	760	730	740	760	750	700	670	640
Strontium (dissolved)	mg/L	0.74	0.76	9.6	8.3	8.9	9.3	9	8.6	8.1	8.8	8.9	8.8	8.4	10	10	10	9.6
Tellurium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)
Thallium (dissolved)	mg/L	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00025)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)
Tin (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)
Titanium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)
Tungsten (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)
Uranium (dissolved)	mg/L	0.00096	0.00078	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.00014	0.00011	ND (0.0001)	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.0001)
Vanadium (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Zinc (dissolved)	mg/L	0.041	0.048	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)
Zirconium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)
General Chemistry																		
Alkalinity, total (as CaCO3)	mg/L	300	300	170	170	200	210	200	160	160	170	160	160	170	170	190	180	210
Ammonia-N	mg/L	0.13	0.15	29	33	34	24	22	41	41	41	39	39	33	28	27	27	24
Ammonia-N/Strontium Ratio	ratio	0.1757	0.1974	3.0208	3.9759	3.8202	2.5806	2.4444	4.7674	5.0617	4.6591	4.3820	4.4318	3.9286	2.8000	2.7000	2.7000	2.5000
Bromide (dissolved)	mg/L	ND (1.0)	ND (1.0)	ND (20)	ND (20)	ND (10)	ND (10)	ND (10)	ND (20)	ND (20)	ND (10)	ND (10)	ND (10)	ND (10)	ND (20)	ND (10)	ND (10)	ND (10)
Chloride (dissolved)	mg/L	140	140	1500	1500	1400	1200	1200	1300	1300	1300	1200	1200	1200	1200	1100	1200	960
Chloride/Magnesium Ratio	ratio	3.5897	3.6842	16.6667	17.2414	16.4706	15.1899	15.0000	19.4030	19.4030	20.0000	19.3548	19.0476	19.0476	22.2222	22.0000	24.4898	18.1132
Conductivity	umhos/cm	1100	1100	7500	7500	7300	6200	6000	6600	6600	6500	6200	6200	4600	5400	5200	5200	3900
Fluoride	mg/L	0.27	0.24	1.0	1.0	0.97	1.0	0.96	0.99	1.1	1.1	1.2	1.3	1.1	1.1	1.1	1.1	1.1
Hardness	mg/L	470	460	2000	1900	2000	1600	1700	1500	1500	1500	1500	1400	1400	870	860	810	870
Nitrate (as N)	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Nitrite (as N)	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Orthophosphate	mg/L	ND (0.010)	ND (0.010)	ND (0.50)	ND (0.50)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.50)	ND (0.50)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.50)	ND (0.010)	ND (0.010)	ND (0.010)
pH, lab	s.u.	8.32	7.80	7.64	7.51	7.61	7.47	7.38	7.72	7.72	7.80	7.72	7.72	7.86	7.69	7.56	7.65	7.74
Phenolics (total)	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.0013	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.0011	0.0017	ND (0.0010)	ND (0.0010)	0.0010	0.0013
Sulfate (dissolved)	mg/L	99	97	1600	1600	1700	1400	1500	1300	1300	1400	1300	1300	1100	730	800	760	750
Total dissolved solids (TDS)	mg/L	605	615	5180	5170	5000	4030	3900	4340	4320	4010	3740	3600	3870	3230	2830	3020	2850
Total kjeldahl nitrogen (TKN)	mg/L	0.24	0.31	31	32	35	25	24	39	39	41	36	34	40	28	29	27	28
Total organic carbon (TOC)	mg/L	1.6	2.6	4.9	5.1	4.6	4.0	3.8	8.1	8.3	7.7	7.1	7.1	7.4	8.3	7.2	7.4	5.6

Notes:

ND Not detecte

Appendix N.1

Leachate and Groundwater Chemistry Data
Lower-Mid Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**76-III**	**76-III**	**76-III**	**76-III**	**77-II**	**77-II**	**77-II**	**P1-II**	**P1-II**	**P1-II**	**P1-II**	**P3-I**
Sample ID:		**76-III**	**76-III**	**76-III**	**76-III**	**77-II**	**77-II**	**77-II**	**P1-II**	**P1-II**	**P1-II**	**P1-II**	**P3-I**
Sample Date:		**1/27/2021**	**4/19/2021**	**7/28/2021**	**11/2/2021**	**5/7/2021**	**8/4/2021**	**10/28/2021**	**1/26/2021**	**4/19/2021**	**7/29/2021**	**10/27/2021**	**11/8/2021**
Parameters	**Units**												
Metals													
Aluminum (dissolved)	mg/L	0.0049	ND (0.0049)	0.007	ND (0.0049)	ND (0.25)	ND (0.25)	0.85	0.031	ND (0.0049)	0.0055	ND (0.0049)	ND (0.0049)
Antimony (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Arsenic (dissolved)	mg/L	0.0012	ND (0.001)	0.0011	ND (0.001)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Barium (dissolved)	mg/L	0.023	0.018	0.034	0.016	0.14	0.11	0.1	0.026	0.023	0.023	0.023	0.025
Beryllium (dissolved)	mg/L	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)
Bismuth (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Boron (dissolved)	mg/L	0.071	0.055	0.099	0.067	7.9	6.6	6.1	0.96	0.94	0.95	0.98	0.73
Cadmium (dissolved)	mg/L	0.00025	0.00011	ND (0.00009)	ND (0.00009)	ND (0.0045)	ND (0.0045)	ND (0.0045)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)
Calcium (dissolved)	mg/L	120	100	180	120	15000	12000	11000	550	500	550	510	480
Chromium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Cobalt (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Copper (dissolved)	mg/L	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.045)	ND (0.045)	ND (0.045)	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)
Iron (dissolved)	mg/L	ND (0.1)	0.13	0.34	0.15	ND (5)	ND (5)	ND (5)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	0.15
Lead (dissolved)	mg/L	0.0017	0.0014	0.0012	0.0015	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Lithium (dissolved)	mg/L	0.013	0.011	0.019	0.012	25	21	19	0.14	0.13	0.13	0.13	0.17
Magnesium (dissolved)	mg/L	32	30	50	33	4000	3100	2900	70	64	69	66	97
Manganese (dissolved)	mg/L	0.038	0.032	0.053	0.043	1.7	1.4	1.6	0.042	0.038	0.045	0.04	0.098
Molybdenum (dissolved)	mg/L	0.00066	0.00067	0.00051	0.00095	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Nickel (dissolved)	mg/L	0.0028	0.0022	0.0028	0.0023	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.005)	0.0019	0.0014	0.0014	ND (0.001)
Phosphorus (dissolved)	mg/L	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (5)	ND (5)	ND (5)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Potassium (dissolved)	mg/L	3.2	2.8	4.1	2.7	330	260	230	56	53	54	53	36
Selenium (dissolved)	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.01)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)
Silicon (dissolved)	mg/L	4.8	4.2	6.2	6.3	3.6	ND (2.5)	3.7	6.2	6	6	6.4	5.1
Silver (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.0045)	ND (0.0045)	ND (0.0045)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)
Sodium (dissolved)	mg/L	190	150	300	80	23000	18000	17000	790	730	710	680	580
Strontium (dissolved)	mg/L	0.72	0.64	1.1	0.76	250	220	220	7.3	7.2	7.4	7.5	8.4
Tellurium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Thallium (dissolved)	mg/L	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)
Tin (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Titanium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Tungsten (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.005)	0.0015	0.0011	0.0013	ND (0.001)
Uranium (dissolved)	mg/L	0.0024	0.0019	0.0023	0.0017	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.0001)	0.00012
Vanadium (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Zinc (dissolved)	mg/L	0.11	0.087	0.11	0.074	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Zirconium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
General Chemistry													
Alkalinity, total (as CaCO3)	mg/L	420	380	510	380	92	47	70	160	220	180	190	230
Ammonia-N	mg/L	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	30	35	29	34	37	38	35	18
Ammonia-N/Strontium Ratio	ratio	0.0694	0.0781	0.0455	0.0658	0.1200	0.1591	0.1318	4.6575	5.1389	5.1351	4.6667	2.1429
Bromide (dissolved)	mg/L	ND (1.0)	ND (1.0)	ND (5.0)	ND (1.0)	620	560	800	ND (20)	ND (10)	ND (10)	ND (10)	ND (10)
Chloride (dissolved)	mg/L	130	98	230	59	62000	48000	60000	1300	1200	1200	1100	1200
Chloride/Magnesium Ratio	ratio	4.0625	3.2667	4.6000	1.7879	15.5000	15.4839	20.6897	18.5714	18.7500	17.3913	16.6667	12.3711
Conductivity	umhos/cm	1600	1300	2200	1100	100000 >	100000 >	100000 >	6600	6200	6300	6100	5600
Fluoride	mg/L	0.26	0.24	0.27	0.26	0.19	0.20	0.20	1.0	1.0	1.2	0.99	0.78
Hardness	mg/L	430	380	660	440	53000	42000	39000	1700	1500	1600	1500	1600
Nitrate (as N)	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (1.0)	ND (1.0)	ND (1.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Nitrite (as N)	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.016
Nitrite/Nitrate	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (1.0)	ND (1.0)	ND (1.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Orthophosphate	mg/L	0.010	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
pH, lab	s.u.	7.73	7.75	8.15	7.79	6.80	6.43	6.65	7.54	7.72	7.54	7.43	7.46
Phenolics (total)	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	0.021	0.051	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.0015	ND (0.0010)
Sulfate (dissolved)	mg/L	230	170	290	140	1000	1200	1100	1400	1400	1500	1400	1100
Total dissolved solids (TDS)	mg/L	900	735	1220	595	95900	89800	101000	4490	3850	3850	4070	3820
Total kjeldahl nitrogen (TKN)	mg/L	0.21	0.14	0.16	0.26	35	51	40	37	36	40	39	19
Total organic carbon (TOC)	mg/L	4.7	2.7	3.3	3.2	2.7	1.5	9.3	8.9	7.9	7.2	6.7	4.9

Notes:

ND Not detecte

Appendix N.1

Leachate and Groundwater Chemistry Data
Lower Flow Zone - Organics
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		35-III	35-III	41-I	41-I	44-I	44-I	68-I	68-I	72-I	72-I	75-I	75-I	76-II	76-II	P10-I
Sample ID:		35-III	35-III	41-I	41-I	44-I	44-I	68-I	68-I	72-I	72-I	75-I	75-I	76-II	76-II	P10-I
Sample Date:		4/16/2021	10/27/2021	4/20/2021	10/27/2021	4/19/2021	11/3/2021	4/19/2021	10/26/2021	4/22/2021	10/28/2021	4/20/2021	10/26/2021	4/19/2021	11/2/2021	4/15/2021
Parameters	**Units**															
Volatiles																
1,1,1,2-Tetrachloroethane	ug/L	ND (0.20)	ND (4.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.50)	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)
1,1,1-Trichloroethane	ug/L	ND (0.10)	ND (2.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.25)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)
1,1,2,2-Tetrachloroethane	ug/L	ND (0.20)	ND (4.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.50)	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)
1,1,2-Trichloroethane	ug/L	ND (0.20)	ND (4.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.50)	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)
1,1-Dichloroethane	ug/L	ND (0.10)	ND (2.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.25)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)
1,1-Dichloroethene	ug/L	ND (0.10)	ND (2.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.25)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)
1,2-Dibromoethane (Ethylene dibromide)	ug/L	ND (0.20)	ND (4.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.50)	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)
1,2-Dichlorobenzene	ug/L	ND (0.20)	ND (4.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.50)	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)
1,2-Dichloroethane	ug/L	ND (0.20)	ND (4.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.50)	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)
1,2-Dichloropropane	ug/L	ND (0.10)	ND (2.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.25)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)
1,3-Dichlorobenzene	ug/L	ND (0.20)	ND (4.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.50)	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)
1,4-Dichlorobenzene	ug/L	ND (0.20)	ND (4.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.50)	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	ND (5.0)	ND (100)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (13)	ND (250)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (25)
2-Hexanone	ug/L	ND (5.0)	ND (100)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (13)	ND (250)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (25)
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	ND (5.0)	ND (100)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (13)	ND (250)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (25)
Acetone	ug/L	ND (10)	340	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (25)	ND (500)	ND (10)	ND (10)	ND (10)	ND (10)	ND (50)
Acrolein	ug/L	ND (10)	ND (200)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (25)	ND (500)	ND (10)	ND (10)	ND (10)	ND (10)	ND (50)
Acrylonitrile	ug/L	ND (5.0)	ND (100)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (13)	ND (250)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (25)
Benzene	ug/L	ND (0.10)	ND (2.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.25)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)
Bromodichloromethane	ug/L	ND (0.10)	ND (2.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.25)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)
Bromoform	ug/L	ND (0.20)	ND (4.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.50)	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)
Bromomethane (Methyl bromide)	ug/L	ND (0.50)	ND (10)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (1.3)	ND (25)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.5)
Carbon tetrachloride	ug/L	ND (0.10)	ND (2.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.25)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)
Chlorobenzene	ug/L	ND (0.10)	ND (2.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.25)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)
Chloroethane	ug/L	ND (0.20)	ND (4.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.50)	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)
Chloroform (Trichloromethane)	ug/L	ND (0.10)	ND (2.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.25)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)
Chloromethane (Methyl chloride)	ug/L	ND (0.50)	ND (10)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (1.3)	ND (25)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.5)
cis-1,2-Dichloroethene	ug/L	ND (0.10)	ND (2.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.25)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)
cis-1,3-Dichloropropene	ug/L	ND (0.20)	ND (4.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.50)	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)
Dibromochloromethane	ug/L	ND (0.20)	ND (4.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.50)	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)
Ethylbenzene	ug/L	ND (0.10)	2.7	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.25)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)
m&p-Xylenes	ug/L	ND (0.10)	ND (2.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.25)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)
Methyl tert butyl ether (MTBE)	ug/L	ND (0.20)	ND (4.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.50)	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)
Methylene chloride	ug/L	ND (0.50)	ND (10)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (1.3)	ND (25)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.5)
o-Xylene	ug/L	ND (0.10)	ND (2.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.25)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)
Styrene	ug/L	ND (0.20)	ND (4.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.50)	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)
Tetrachloroethene	ug/L	ND (0.10)	ND (2.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.25)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)
Toluene	ug/L	ND (0.20)	ND (4.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.50)	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)
trans-1,2-Dichloroethene	ug/L	ND (0.10)	ND (2.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.25)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)
trans-1,3-Dichloropropene	ug/L	ND (0.20)	ND (4.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.50)	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)
Trichloroethene	ug/L	ND (0.10)	ND (2.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.25)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)
Trichlorofluoromethane (CFC-11)	ug/L	ND (0.20)	ND (4.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.50)	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)
Trihalomethanes	ug/L	ND (0.20)	ND (4.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.50)	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)
Vinyl chloride	ug/L	ND (0.20)	ND (4.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.50)	ND (10)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (1.0)
Xylenes (total)	ug/L	ND (0.10)	ND (2.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.25)	ND (5.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.50)
Semi-Volatiles																
1,2,3,4-Tetrachlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
1,2,3,5-Tetrachlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
1,2,3-Trichlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
1,2,4,5-Tetrachlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
1,2,4-Trichlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
1,2-Dichlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
1,3,5-Trichlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
1,3-Dichlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
1,4-Dichlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
1-Chloronaphthalene	ug/L	ND (4.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (4.0)	ND (10)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (1.0)	ND (10)
1-Methylnaphthalene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (2.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)	ND (2.0)
2,2'-Oxybis(2-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
2,3,4,5-Tetrachlorophenol	ug/L	ND (1.6)	ND (0.40)	ND (0.40)	ND (0.40)	ND (1.6)	ND (1.6)	ND (4.0)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (1.6)	ND (0.40)	ND (4.0)

Appendix N.1

Leachate and Groundwater Chemistry Data
Lower Flow Zone - Organics
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		35-III	35-III	41-I	41-I	44-I	44-I	68-I	68-I	72-I	72-I	75-I	75-I	76-II	76-II	P10-I
Sample ID:		35-III	35-III	41-I	41-I	44-I	44-I	68-I	68-I	72-I	72-I	75-I	75-I	76-II	76-II	P10-I
Sample Date:		4/16/2021	10/27/2021	4/20/2021	10/27/2021	4/19/2021	11/3/2021	4/19/2021	10/26/2021	4/22/2021	10/28/2021	4/20/2021	10/26/2021	4/19/2021	11/2/2021	4/15/2021
Parameters	**Units**															
2,3,4,6-Tetrachlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
2,3,4-Trichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
2,3,5,6-Tetrachlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
2,3,5-Trichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
2,3,6-Trichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
2,3-Dichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
2,4,5-Trichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
2,4,6-Trichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
2,4-Dichlorophenol	ug/L	ND (1.2)	ND (0.30)	ND (0.30)	ND (0.30)	ND (1.2)	ND (1.2)	ND (3.0)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (1.2)	ND (0.30)	ND (3.0)
2,4-Dimethylphenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
2,4-Dinitrophenol	ug/L	ND (25)	ND (6.0)	ND (2.0)	ND (6.0)	ND (25)	ND (8.0)	ND (60)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (25)	ND (2.0)	ND (60)
2,4-Dinitrotoluene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
2,5-Dichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
2,6-Dichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
2,6-Dinitrotoluene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
2-Chloronaphthalene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
2-Chlorophenol	ug/L	ND (1.2)	ND (0.30)	ND (0.30)	ND (0.30)	ND (1.2)	ND (1.2)	ND (3.0)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (1.2)	ND (0.30)	ND (3.0)
2-Methylnaphthalene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (2.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)	ND (2.0)
2-Methylphenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
2-Nitrophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
3&4-Methylphenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
3,3'-Dichlorobenzidine	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
3,4,5-Trichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
3,4-Dichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
3,5-Dichlorophenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
4,6-Dinitro-2-methylphenol	ug/L	ND (8.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (8.0)	ND (8.0)	ND (20)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (8.0)	ND (2.0)	ND (20)
4-Bromophenyl phenyl ether	ug/L	ND (1.2)	ND (0.30)	ND (0.30)	ND (0.30)	ND (1.2)	ND (1.2)	ND (3.0)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (1.2)	ND (0.30)	ND (3.0)
4-Chloro-3-methylphenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
4-Chloroaniline	ug/L	ND (4.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (4.0)	ND (10)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (1.0)	ND (10)
4-Chlorophenyl phenyl ether	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
4-Nitrophenol	ug/L	ND (25)	ND (1.4)	ND (1.4)	ND (1.4)	ND (10)	ND (5.6)	ND (25)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (10)	ND (1.4)	ND (60)
5-Nitroacenaphthene	ug/L	ND (4.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (4.0)	ND (10)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (1.0)	ND (10)
Acenaphthene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (2.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)	ND (2.0)
Acenaphthylene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (2.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)	ND (2.0)
Anthracene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (2.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)	ND (2.0)
Benzo(a)anthracene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (2.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)	ND (2.0)
Benzo(a)pyrene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (2.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)	ND (2.0)
Benzo(b)fluoranthene/Benzo(j)fluoranthene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (2.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)	ND (2.0)
Benzo(g,h,i)perylene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (2.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)	ND (2.0)
Benzo(k)fluoranthene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (2.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)	ND (2.0)
Biphenyl (1,1-Biphenyl)	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
bis(2-Chloroethoxy)methane	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
bis(2-Chloroethyl)ether	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	ND (8.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (8.0)	ND (8.0)	ND (20)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (8.0)	ND (2.0)	ND (20)
Butyl benzylphthalate (BBP)	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
Chrysene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (2.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)	ND (2.0)
Dibenz(a,h)anthracene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (2.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)	ND (2.0)
Diethyl phthalate	ug/L	ND (4.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (4.0)	ND (10)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (1.0)	ND (10)
Dimethyl phthalate	ug/L	ND (4.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (4.0)	ND (10)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (1.0)	ND (10)
Di-n-butylphthalate (DBP)	ug/L	ND (8.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (8.0)	ND (8.0)	ND (20)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (8.0)	ND (2.0)	ND (20)
Di-n-octyl phthalate (DnOP)	ug/L	ND (3.2)	ND (0.80)	ND (0.80)	ND (0.80)	ND (3.2)	ND (3.2)	ND (8.0)	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	ND (3.2)	ND (0.80)	ND (8.0)
Diphenyl ether	ug/L	ND (1.2)	ND (0.30)	ND (0.30)	ND (0.30)	ND (1.2)	ND (1.2)	ND (3.0)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (1.2)	ND (0.30)	ND (3.0)
Fluoranthene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (2.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)	ND (2.0)
Fluorene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (2.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)	ND (2.0)
Hexachlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
Hexachlorobutadiene	ug/L	ND (1.6)	ND (0.40)	ND (0.40)	ND (0.40)	ND (1.6)	ND (1.6)	ND (4.0)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (1.6)	ND (0.40)	ND (4.0)
Hexachlorocyclopentadiene	ug/L	ND (8.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (8.0)	ND (8.0)	ND (20)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (8.0)	ND (2.0)	ND (20)
Hexachloroethane	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
Indeno(1,2,3-cd)pyrene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (2.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)	ND (2.0)
Isophorone	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
Naphthalene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (2.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)	ND (2.0)
Nitrobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
Nitrosodiphenylamine/Diphenylamine	ug/L	ND (4.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (4.0)	ND (4.0)	ND (10)	-	ND (1.0)	ND (1.0)	ND (1.0)	-	ND (4.0)	ND (1.0)	ND (10)
N-Nitrosodi-n-propylamine	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)

Appendix N.1

Leachate and Groundwater Chemistry Data
Lower Flow Zone - Organics
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**35-III**	**35-III**	**41-I**	**41-I**	**44-I**	**44-I**	**68-I**	**68-I**	**72-I**	**72-I**	**75-I**	**75-I**	**76-II**	**76-II**	**P10-I**
Sample ID:		**35-III**	**35-III**	**41-I**	**41-I**	**44-I**	**44-I**	**68-I**	**68-I**	**72-I**	**72-I**	**75-I**	**75-I**	**76-II**	**76-II**	**P10-I**
Sample Date:		**4/16/2021**	**10/27/2021**	**4/20/2021**	**10/27/2021**	**4/19/2021**	**11/3/2021**	**4/19/2021**	**10/26/2021**	**4/22/2021**	**10/28/2021**	**4/20/2021**	**10/26/2021**	**4/19/2021**	**11/2/2021**	**4/15/2021**
Parameters	**Units**															
Pentachlorobenzene	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
Pentachlorophenol	ug/L	ND (25)	ND (1.0)	ND (1.0)	ND (1.0)	ND (10)	ND (4.0)	ND (25)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (10)	ND (1.0)	ND (60)
Perylene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (2.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)	ND (2.0)
Phenanthrene	ug/L	ND (0.80)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (2.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)	ND (2.0)
Phenol	ug/L	ND (2.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (2.0)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (2.0)	ND (0.50)	ND (5.0)
Pyrene	ug/L	ND (0.80)	0.22	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.80)	ND (2.0)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.80)	ND (0.20)	ND (2.0)
Pesticides																
2,4'-DDD	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (1)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
2,4'-DDD + 4,4'-DDD	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (1)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
2,4'-DDE	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (1)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
2,4'-DDE + 4,4'-DDE	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (1)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
2,4'-DDT	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (1)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
2,4'-DDT + 4,4'-DDT	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (1)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
4,4'-DDD	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (1)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
4,4'-DDE	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (1)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
4,4'-DDT	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (1)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Aldrin	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (1)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
alpha-BHC	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (1)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
alpha-Chlordane	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (1)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Aroclor-1242 (PCB-1242)	ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (20)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Aroclor-1248 (PCB-1248)	ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (20)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Aroclor-1254 (PCB-1254)	ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (20)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Aroclor-1260 (PCB-1260)	ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (20)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
beta-BHC	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (1)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Chlordane	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (1)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Dieldrin	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (1)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Endosulfan	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (1)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Endosulfan I	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (1)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Endosulfan II	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (1)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Endrin	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (1)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Endrin aldehyde	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (1)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Endrin ketone	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (1)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
gamma-BHC (lindane)	ug/L	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (1)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)
gamma-Chlordane	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (1)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Heptachlor	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (1)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Heptachlor epoxide	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (1)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Hexachlorobenzene	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (1)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Hexachlorobutadiene	ug/L	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.009)	ND (1)	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.009)	ND (0.009)
Hexachloroethane	ug/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (1)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Methoxychlor	ug/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (5)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Mirex	ug/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (1)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Total PCBs	ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (20)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Toxaphene	ug/L	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (20)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)

Notes:

ND Not detected at the associated reporting limit.

Appendix N.1

Leachate and Groundwater Chemistry Data
Lower Flow Zone - Organics
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**P10-I**
Sample ID:		**P10-I**
Sample Date:		**10/25/2021**
Parameters	**Units**	
Volatiles		
1,1,1,2-Tetrachloroethane	ug/L	ND (1.0)
1,1,1-Trichloroethane	ug/L	ND (0.50)
1,1,2,2-Tetrachloroethane	ug/L	ND (1.0)
1,1,2-Trichloroethane	ug/L	ND (1.0)
1,1-Dichloroethane	ug/L	ND (0.50)
1,1-Dichloroethene	ug/L	ND (0.50)
1,2-Dibromoethane (Ethylene dibromide)	ug/L	ND (1.0)
1,2-Dichlorobenzene	ug/L	ND (1.0)
1,2-Dichloroethane	ug/L	ND (1.0)
1,2-Dichloropropane	ug/L	ND (0.50)
1,3-Dichlorobenzene	ug/L	ND (1.0)
1,4-Dichlorobenzene	ug/L	ND (1.0)
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	ND (25)
2-Hexanone	ug/L	ND (25)
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	ND (25)
Acetone	ug/L	ND (50)
Acrolein	ug/L	ND (50)
Acrylonitrile	ug/L	ND (25)
Benzene	ug/L	ND (0.50)
Bromodichloromethane	ug/L	ND (0.50)
Bromoform	ug/L	ND (1.0)
Bromomethane (Methyl bromide)	ug/L	ND (2.5)
Carbon tetrachloride	ug/L	ND (0.50)
Chlorobenzene	ug/L	ND (0.50)
Chloroethane	ug/L	ND (1.0)
Chloroform (Trichloromethane)	ug/L	ND (0.50)
Chloromethane (Methyl chloride)	ug/L	ND (2.5)
cis-1,2-Dichloroethene	ug/L	ND (0.50)
cis-1,3-Dichloropropene	ug/L	ND (1.0)
Dibromochloromethane	ug/L	ND (1.0)
Ethylbenzene	ug/L	ND (0.50)
m&p-Xylenes	ug/L	ND (0.50)
Methyl tert butyl ether (MTBE)	ug/L	ND (1.0)
Methylene chloride	ug/L	ND (2.5)
o-Xylene	ug/L	ND (0.50)
Styrene	ug/L	ND (1.0)
Tetrachloroethene	ug/L	ND (0.50)
Toluene	ug/L	ND (1.0)
trans-1,2-Dichloroethene	ug/L	ND (0.50)
trans-1,3-Dichloropropene	ug/L	ND (1.0)
Trichloroethene	ug/L	ND (0.50)
Trichlorofluoromethane (CFC-11)	ug/L	ND (1.0)
Trihalomethanes	ug/L	ND (1.0)
Vinyl chloride	ug/L	ND (1.0)
Xylenes (total)	ug/L	ND (0.50)
Semi-Volatiles		
1,2,3,4-Tetrachlorobenzene	ug/L	ND (2.0)
1,2,3,5-Tetrachlorobenzene	ug/L	ND (2.0)
1,2,3-Trichlorobenzene	ug/L	ND (2.0)
1,2,4,5-Tetrachlorobenzene	ug/L	ND (2.0)
1,2,4-Trichlorobenzene	ug/L	ND (2.0)
1,2-Dichlorobenzene	ug/L	ND (2.0)
1,3,5-Trichlorobenzene	ug/L	ND (2.0)
1,3-Dichlorobenzene	ug/L	ND (2.0)
1,4-Dichlorobenzene	ug/L	ND (2.0)
1-Chloronaphthalene	ug/L	ND (4.0)
1-Methylnaphthalene	ug/L	ND (0.80)
2,2'-Oxybis(2-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	ND (2.0)
2,3,4,5-Tetrachlorophenol	ug/L	ND (1.6)

Appendix N.1

Leachate and Groundwater Chemistry Data
Lower Flow Zone - Organics
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GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**P10-I**
Sample ID:		**P10-I**
Sample Date:		**10/25/2021**
Parameters	**Units**	
2,3,4,6-Tetrachlorophenol	ug/L	ND (2.0)
2,3,4-Trichlorophenol	ug/L	ND (2.0)
2,3,5,6-Tetrachlorophenol	ug/L	ND (2.0)
2,3,5-Trichlorophenol	ug/L	ND (2.0)
2,3,6-Trichlorophenol	ug/L	ND (2.0)
2,3-Dichlorophenol	ug/L	ND (2.0)
2,4,5-Trichlorophenol	ug/L	ND (2.0)
2,4,6-Trichlorophenol	ug/L	ND (2.0)
2,4-Dichlorophenol	ug/L	ND (1.2)
2,4-Dimethylphenol	ug/L	ND (2.0)
2,4-Dinitrophenol	ug/L	ND (25)
2,4-Dinitrotoluene	ug/L	ND (2.0)
2,5-Dichlorophenol	ug/L	ND (2.0)
2,6-Dichlorophenol	ug/L	ND (2.0)
2,6-Dinitrotoluene	ug/L	ND (2.0)
2-Chloronaphthalene	ug/L	ND (2.0)
2-Chlorophenol	ug/L	ND (1.2)
2-Methylnaphthalene	ug/L	ND (0.80)
2-Methylphenol	ug/L	ND (2.0)
2-Nitrophenol	ug/L	ND (2.0)
3&4-Methylphenol	ug/L	ND (2.0)
3,3'-Dichlorobenzidine	ug/L	ND (2.0)
3,4,5-Trichlorophenol	ug/L	ND (2.0)
3,4-Dichlorophenol	ug/L	ND (2.0)
3,5-Dichlorophenol	ug/L	ND (2.0)
4,6-Dinitro-2-methylphenol	ug/L	ND (8.0)
4-Bromophenyl phenyl ether	ug/L	ND (1.2)
4-Chloro-3-methylphenol	ug/L	ND (2.0)
4-Chloroaniline	ug/L	ND (4.0)
4-Chlorophenyl phenyl ether	ug/L	ND (2.0)
4-Nitrophenol	ug/L	ND (5.6)
5-Nitroacenaphthene	ug/L	ND (4.0)
Acenaphthene	ug/L	ND (0.80)
Acenaphthylene	ug/L	ND (0.80)
Anthracene	ug/L	ND (0.80)
Benzo(a)anthracene	ug/L	ND (0.80)
Benzo(a)pyrene	ug/L	ND (0.80)
Benzo(b)fluoranthene/Benzo(j)fluoranthene	ug/L	ND (0.80)
Benzo(g,h,i)perylene	ug/L	ND (0.80)
Benzo(k)fluoranthene	ug/L	ND (0.80)
Biphenyl (1,1-Biphenyl)	ug/L	ND (2.0)
bis(2-Chloroethoxy)methane	ug/L	ND (2.0)
bis(2-Chloroethyl)ether	ug/L	ND (2.0)
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	ND (8.0)
Butyl benzylphthalate (BBP)	ug/L	ND (2.0)
Chrysene	ug/L	ND (0.80)
Dibenz(a,h)anthracene	ug/L	ND (0.80)
Diethyl phthalate	ug/L	ND (4.0)
Dimethyl phthalate	ug/L	ND (4.0)
Di-n-butylphthalate (DBP)	ug/L	ND (8.0)
Di-n-octyl phthalate (DnOP)	ug/L	ND (3.2)
Diphenyl ether	ug/L	ND (1.2)
Fluoranthene	ug/L	ND (0.80)
Fluorene	ug/L	ND (0.80)
Hexachlorobenzene	ug/L	ND (2.0)
Hexachlorobutadiene	ug/L	ND (1.6)
Hexachlorocyclopentadiene	ug/L	ND (8.0)
Hexachloroethane	ug/L	ND (2.0)
Indeno(1,2,3-cd)pyrene	ug/L	ND (0.80)
Isophorone	ug/L	ND (2.0)
Naphthalene	ug/L	ND (0.80)
Nitrobenzene	ug/L	ND (2.0)
Nitrosodiphenylamine/Diphenylamine	ug/L	ND (4.0)
N-Nitrosodi-n-propylamine	ug/L	ND (2.0)

Leachate and Groundwater Chemistry Data
Lower Flow Zone - Organics
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**P10-I**
Sample ID:		**P10-I**
Sample Date:		**10/25/2021**
Parameters	**Units**	
Pentachlorobenzene	ug/L	ND (2.0)
Pentachlorophenol	ug/L	ND (4.0)
Perylene	ug/L	ND (0.80)
Phenanthrene	ug/L	ND (0.80)
Phenol	ug/L	ND (2.0)
Pyrene	ug/L	ND (0.80)
Pesticides		
2,4'-DDD	ug/L	ND (0.005)
2,4'-DDD + 4,4'-DDD	ug/L	ND (0.005)
2,4'-DDE	ug/L	ND (0.005)
2,4'-DDE + 4,4'-DDE	ug/L	ND (0.005)
2,4'-DDT	ug/L	ND (0.005)
2,4'-DDT + 4,4'-DDT	ug/L	ND (0.005)
4,4'-DDD	ug/L	ND (0.005)
4,4'-DDE	ug/L	ND (0.005)
4,4'-DDT	ug/L	ND (0.005)
Aldrin	ug/L	ND (0.005)
alpha-BHC	ug/L	ND (0.005)
alpha-Chlordane	ug/L	ND (0.005)
Aroclor-1242 (PCB-1242)	ug/L	ND (0.05)
Aroclor-1248 (PCB-1248)	ug/L	ND (0.05)
Aroclor-1254 (PCB-1254)	ug/L	ND (0.05)
Aroclor-1260 (PCB-1260)	ug/L	ND (0.05)
beta-BHC	ug/L	ND (0.005)
Chlordane	ug/L	ND (0.005)
Dieldrin	ug/L	ND (0.005)
Endosulfan	ug/L	ND (0.005)
Endosulfan I	ug/L	ND (0.005)
Endosulfan II	ug/L	ND (0.005)
Endrin	ug/L	ND (0.005)
Endrin aldehyde	ug/L	ND (0.005)
Endrin ketone	ug/L	ND (0.005)
gamma-BHC (lindane)	ug/L	ND (0.003)
gamma-Chlordane	ug/L	ND (0.005)
Heptachlor	ug/L	ND (0.005)
Heptachlor epoxide	ug/L	ND (0.005)
Hexachlorobenzene	ug/L	ND (0.005)
Hexachlorobutadiene	ug/L	ND (0.009)
Hexachloroethane	ug/L	ND (0.01)
Methoxychlor	ug/L	ND (0.01)
Mirex	ug/L	ND (0.005)
Total PCBs	ug/L	ND (0.05)
Toxaphene	ug/L	ND (0.2)

Notes:

ND Not de

Appendix N.1

Leachate and Groundwater Chemistry Data
Lower Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		14-I	14-I	14-I	14-I	35-III	35-III	35-III	35-III	35-III	36-IIR	36-IIR	36-IIR	36-IIR	41-I	41-I	41-I
Sample ID:		14-I	14-I	14-I	14-I	35-III	35-III	2-II	35-III	35-III	36-IIR	36-IIR	36-IIR	36-IIR	41-I	41-I	41-I
Sample Date:		1/27/2021	4/19/2021	7/28/2021	11/2/2021	1/26/2021	4/16/2021	4/16/2021 Duplicate	7/26/2021	10/25/2021	1/26/2021	4/20/2021	7/27/2021	10/27/2021	1/28/2021	4/20/2021	7/27/2021
Parameters	**Units**																
Metals																	
Aluminum (dissolved)	mg/L	ND (0.0049)	0.14	0.0066	0.0098	ND (0.025)	0.0057	0.02	0.007	0.008	ND (0.025)	0.044	ND (0.0049)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.0049)
Antimony (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0005)
Arsenic (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	0.0011	0.0011	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	0.0012	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)
Barium (dissolved)	mg/L	0.012	0.017	0.012	0.012	0.11	0.087	0.085	0.11	0.072	0.028	0.025	0.023	0.021	0.013	0.015	0.015
Beryllium (dissolved)	mg/L	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.002)	ND (0.0004)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.0004)
Bismuth (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)
Boron (dissolved)	mg/L	0.12	0.023	0.1	0.12	0.43	0.32	0.32	0.41	0.4	5.4	5.2	3.8	5.1	0.55	0.52	0.41
Cadmium (dissolved)	mg/L	0.0008	0.00059	0.00024	0.00044	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00045)	ND (0.00009)
Calcium (dissolved)	mg/L	140	83	140	140	780	660	670	820	650	1700	1600	1500	1600	620	670	640
Chromium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.005)
Cobalt (dissolved)	mg/L	ND (0.0005)	0.00058	0.003	0.00076	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0005)
Copper (dissolved)	mg/L	ND (0.0009)	0.0047	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0045)	ND (0.0009)	ND (0.0045)	ND (0.0045)	ND (0.0045)	ND (0.0009)
Iron (dissolved)	mg/L	ND (0.1)	0.3	0.16	ND (0.1)	1.2	3.6	3.8	2.8	1.3	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.1)
Lead (dissolved)	mg/L	ND (0.0005)	0.0014	0.00067	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0005)
Lithium (dissolved)	mg/L	0.089	0.011	0.086	0.08	0.3	0.22	0.21	0.35	0.22	2.7	2.5	2.2	2.5	0.088	0.066	0.059
Magnesium (dissolved)	mg/L	120	35	130	120	72	55	56	73	51	420	390	380	390	62	66	66
Manganese (dissolved)	mg/L	0.0078	0.017	0.1	0.043	0.11	0.16	0.17	0.1	0.082	0.1	0.1	0.11	0.1	0.074	0.077	0.077
Molybdenum (dissolved)	mg/L	0.001	ND (0.0005)	0.00082	0.00086	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0005)
Nickel (dissolved)	mg/L	0.0028	0.0021	0.003	0.0023	ND (0.005)	0.0026	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)
Phosphorus (dissolved)	mg/L	ND (0.1)	0.1	ND (0.1)	ND (0.1)	ND (0.5)	0.47	0.48	0.64	0.38	ND (0.5)	0.55	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.1)
Potassium (dissolved)	mg/L	4.2	3.3	4	4.3	21	16	16	21	17	66	59	65	62	22	20	20
Selenium (dissolved)	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.01)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.01)	ND (0.01)	0.0028	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.002)
Silicon (dissolved)	mg/L	7.6	2.5	7.4	8.1	4.9	5	5	5.2	5.8	5.2	4.8	5	4.5	3.9	4.1	4.2
Silver (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00045)	ND (0.00009)
Sodium (dissolved)	mg/L	33	21	36	33	360	220	220	340	250	2700	2500	2500	2500	380	390	400
Strontium (dissolved)	mg/L	2.3	0.75	2.3	2.3	4.9	3.9	4	5.2	4.1	30	29	30	28	7.4	7.5	8
Tellurium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)
Thallium (dissolved)	mg/L	0.000055	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00025)	ND (0.00005)	ND (0.00025)	ND (0.00025)	ND (0.00025)	ND (0.00005)
Tin (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)
Titanium (dissolved)	mg/L	ND (0.005)	0.0067	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.005)
Tungsten (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.012	0.011	0.0097	0.0096	ND (0.005)	ND (0.005)	ND (0.001)
Uranium (dissolved)	mg/L	0.012	0.002	0.01	0.0088	ND (0.0005)	0.00024	0.00025	ND (0.0001)	0.00031	ND (0.0005)	ND (0.0005)	0.0002	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.00024
Vanadium (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0005)
Zinc (dissolved)	mg/L	0.015	0.011	0.012	0.0099	ND (0.025)	0.014	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.005)
Zirconium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)
General Chemistry																	
Alkalinity, total (as CaCO3)	mg/L	400	190	410	410	220	220	220	230	240	280	260	270	230	230	230	230
Ammonia-N	mg/L	ND (0.050)	ND (0.050)	0.059	ND (0.050)	3.2	2.3	2.4	2.7	2.4	8.3	8.8	8.6	8.5	8.7	7.3	6.3
Ammonia-N/Strontium Ratio	ratio	0.0217	0.0667	0.0257	0.0217	0.6531	0.5897	0.6000	0.5192	0.5854	0.2767	0.3034	0.2867	0.3036	1.1757	0.9733	0.7875
Bromide (dissolved)	mg/L	ND (5.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (10)	ND (10)	ND (10)	ND (10)	5.8	72	71	67	ND (100)	ND (10)	ND (10)	ND (10)
Chloride (dissolved)	mg/L	78	48	92	82	940	530	510	980	650	6400	6500	6800	6600	720	780	790
Chloride/Magnesium Ratio	ratio	0.6500	1.3714	0.7077	0.6833	13.0556	9.6364	9.1071	13.4247	12.7451	15.2381	16.6667	17.8947	16.9231	11.6129	11.8182	11.9697
Conductivity	umhos/cm	1600	840	1600	1500	5100	3600	3600	5300	2900	21000	21000	21000	21000	4800	4900	4900
Fluoride	mg/L	0.27	0.18	0.30	0.30	0.35	0.34	0.30	0.39	0.39	0.61	0.64	0.63	0.68	0.78	0.76	0.80
Hardness	mg/L	850	350	900	840	2200	1900	1900	2400	1800	5900	5700	5400	5500	1800	1900	1900
Nitrate (as N)	mg/L	ND (0.10)	0.59	ND (0.10)	0.17	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Nitrite (as N)	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	ND (0.10)	0.59	ND (0.10)	0.17	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Orthophosphate	mg/L	0.012	0.029	0.010	0.020	0.25	0.030	0.044	0.020	0.25	ND (0.50)	0.020	0.018	0.021	0.011	ND (0.010)	ND (0.010)
pH, lab	s.u.	7.98	7.81	7.82	7.79	7.79	7.60	7.60	7.70	7.81	7.39	7.58	7.41	7.84	7.64	7.53	7.57
Phenolics (total)	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.0011	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.0018	ND (0.0010)	0.0040	ND (0.0010)	ND (0.0010)	ND (0.0010)
Sulfate (dissolved)	mg/L	390	180	410	360	1300	1200	1200	1100	1200	1600	1600	1600	2000	1500	1500	1400
Total dissolved solids (TDS)	mg/L	1030	430	1250	1040	3450	2950	2810	3550	3190	13500	12900	14000	15500	3730	3370	3480
Total kjeldahl nitrogen (TKN)	mg/L	0.16	0.52	0.22	0.18	3.7	2.7	2.8	3.1	2.9	8.3	9.5	8.5	9.0	9.3	8.2	6.2
Total organic carbon (TOC)	mg/L	1.6	7.3	1.5	1.1	5.9	5.7	5.9	5.2	8.2	2.4	2.0	2.0	1.9	2.9	2.2	2.1

Notes:

ND Not detected at the associated reporting limit.

Appendix N.1

Leachate and Groundwater Chemistry Data
Lower Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**41-I**	**41-I**	**43-I**	**43-I**	**43-I**	**43-I**	**43-I**	**43-I**	**44-I**	**44-I**	**44-I**	**44-I**	**44-I**	**45-I**	**45-I**	**45-I**	**45-I**
Sample ID:		**41-I**	**4-I**	**43-I**	**43-I**	**2-IV**	**43-I**	**43-I**	**4-II**	**44-I**	**44-I**	**2-I**	**44-I**	**44-I**	**45-I**	**45-I**	**45-I**	**45-I**
Sample Date:		**10/27/2021**	**10/27/2021 Duplicate**	**1/25/2021**	**4/20/2021**	**4/20/2021 Duplicate**	**7/30/2021**	**10/25/2021**	**10/25/2021 Duplicate**	**1/27/2021**	**4/19/2021**	**4/19/2021 Duplicate**	**7/28/2021**	**11/3/2021**	**1/27/2021**	**4/19/2021**	**7/28/2021**	**11/2/2021**
Parameters	**Units**																	
Metals																		
Aluminum (dissolved)	mg/L	ND (0.0049)	ND (0.0049)	ND (0.025)	ND (0.0049)	ND (0.025)	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)	0.019	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)
Antimony (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Arsenic (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Barium (dissolved)	mg/L	0.013	0.014	0.012	0.015	0.015	0.012	0.011	0.011	0.019	0.02	0.02	0.019	0.026	0.049	0.047	0.047	0.048
Beryllium (dissolved)	mg/L	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.0004)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)
Bismuth (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Boron (dissolved)	mg/L	0.39	0.39	0.81	0.97	0.91	0.8	0.76	0.76	0.23	0.19	0.2	0.28	0.18	0.039	0.037	0.036	0.038
Cadmium (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	0.00012	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)
Calcium (dissolved)	mg/L	590	600	710	660	710	670	690	690	270	220	240	440	180	120	110	110	110
Chromium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Cobalt (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Copper (dissolved)	mg/L	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0009)	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)
Iron (dissolved)	mg/L	ND (0.1)	ND (0.1)	ND (0.5)	0.19	ND (0.5)	ND (0.1)	0.86	1.6	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.24	ND (0.1)
Lead (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Lithium (dissolved)	mg/L	0.047	0.049	0.17	0.24	0.22	0.18	0.19	0.19	0.06	0.048	0.045	0.073	0.039	0.029	0.027	0.028	0.027
Magnesium (dissolved)	mg/L	60	59	88	90	92	86	92	86	47	37	39	52	42	37	32	36	36
Manganese (dissolved)	mg/L	0.072	0.073	0.069	0.067	0.065	0.069	0.099	0.13	0.04	0.032	0.033	0.044	0.034	0.024	0.024	0.032	0.025
Molybdenum (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Nickel (dissolved)	mg/L	0.001	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Phosphorus (dissolved)	mg/L	ND (0.1)	ND (0.1)	0.52	ND (0.1)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Potassium (dissolved)	mg/L	16	16	34	38	35	31	31	30	11	9.3	9.8	13	9.8	2.7	2.4	2.6	2.8
Selenium (dissolved)	mg/L	ND (0.002)	ND (0.002)	ND (0.01)	0.0047	ND (0.01)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)
Silicon (dissolved)	mg/L	4.1	4	5	4.7	4.4	4.8	4.8	4.5	3.6	3.4	3.6	3.9	3.9	5.2	4.9	5	5.1
Silver (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)
Sodium (dissolved)	mg/L	340	330	500	600	600	480	460	440	230	200	210	260	190	18	17	17	17
Strontium (dissolved)	mg/L	7.2	7	12	13	12	13	13	13	10	9.7	9.8	11	9.6	2.2	2.1	2.1	2.2
Tellurium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	0.0011	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Thallium (dissolved)	mg/L	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00005)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)
Tin (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Titanium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Tungsten (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Uranium (dissolved)	mg/L	0.00025	0.00024	ND (0.0005)	ND (0.0001)	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	ND (0.0001)	0.00023	0.00022	0.0002	0.0002
Vanadium (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Zinc (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	0.016	0.015	0.014	0.013
Zirconium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
General Chemistry																		
Alkalinity, total (as CaCO3)	mg/L	260	250	280	240	230	260	270	270	360	360	370	350	350	300	300	300	300
Ammonia-N	mg/L	4.5	4.5	14	16	16	12	11	11	1.7	1.4	1.4	2.7	1.2	0.077	0.081	0.17	0.099
Ammonia-N/Strontium Ratio	ratio	0.6250	0.6429	1.1667	1.2308	1.3333	0.9231	0.8462	0.8462	0.1700	0.1443	0.1429	0.2455	0.1250	0.0350	0.0386	0.0810	0.0450
Bromide (dissolved)	mg/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Chloride (dissolved)	mg/L	570	550	960	1200	1200	860	780	840	310	280	290	340	340	40	46	42	50
Chloride/Magnesium Ratio	ratio	9.5000	9.3220	10.9091	13.3333	13.0435	10.0000	8.4783	9.7674	6.5957	7.5676	7.4359	6.5385	8.0952	1.0811	1.4375	1.1667	1.3889
Conductivity	umhos/cm	4300	4300	5700	6300	6400	5500	3700	3800	2600	2400	2400	3100	2700	870	880	840	860
Fluoride	mg/L	0.72	0.72	0.73	0.80	0.80	0.77	0.73	0.75	0.50	0.48	0.51	0.63	0.56	0.22	0.24	0.26	0.24
Hardness	mg/L	1700	1700	2100	2000	2100	2000	2100	2100	860	710	760	1300	620	450	420	430	430
Nitrate (as N)	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Nitrite (as N)	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Orthophosphate	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.012	ND (0.010)	ND (0.010)	0.014	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
pH, lab	s.u.	7.54	7.74	7.66	7.66	7.58	7.68	7.87	7.87	7.66	7.69	7.66	7.76	7.72	7.95	7.78	8.32	7.98
Phenolics (total)	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.0032	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.0038	ND (0.0010)
Sulfate (dissolved)	mg/L	1400	1300	1600	1700	1700	1400	1400	1500	580	510	520	840	600	100	100	99	100
Total dissolved solids (TDS)	mg/L	3210	3200	3970	4550	4240	3680	3900	3920	1750	1460	1400	2080	1260	500	480	480	530
Total kjeldahl nitrogen (TKN)	mg/L	4.6	4.6	14	17	17	13	13	12	1.8	1.5	1.5	3.0	1.4	0.18	0.17	0.22	0.19
Total organic carbon (TOC)	mg/L	1.8	1.9	2.8	2.9	2.7	1.9	1.8	2.1	1.7	1.8	2.0	2.2	1.7	0.93	0.91	0.99	1.3

Notes:

ND Not detecte

Appendix N.1

Leachate and Groundwater Chemistry Data
Lower Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**46-IR**	**46-IR**	**46-IR**	**46-IR**	**46-IR**	**48-I**	**48-I**	**48-I**	**48-I**	**48-I**	**48-I**	**48-I**	**60-IV**	**60-IV**	**60-IV**	**60-IV**
Sample ID:		**46-IR**	**46-IR**	**4-IV**	**46-IR**	**46-IR**	**48-I**	**11-I**	**48-I**	**11-II**	**48-I**	**48-I**	**11-I**	**60-IV**	**11-II**	**60-IV**	**11-III**
Sample Date:		**1/27/2021**	**4/21/2021**	**4/21/2021**	**7/28/2021**	**11/3/2021**	**1/29/2021**	**1/29/2021**	**4/21/2021**	**4/21/2021**	**8/3/2021**	**10/29/2021**	**10/29/2021**	**1/29/2021**	**1/29/2021**	**4/21/2021**	**4/21/2021**
				Duplicate				**Duplicate**		**Duplicate**			**Duplicate**		**Duplicate**		**Duplicate**
Parameters	**Units**																
Metals																	
Aluminum (dissolved)	mg/L	ND (0.025)	ND (0.0049)	ND (0.0049)	ND (0.0049)	0.0072	0.033	ND (0.025)	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.025)	0.036	ND (0.0049)	ND (0.0049)
Antimony (dissolved)	mg/L	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)
Arsenic (dissolved)	mg/L	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)
Barium (dissolved)	mg/L	0.018	0.023	0.024	0.021	0.033	0.01	0.012	0.013	0.013	0.016	0.013	0.013	0.014	0.013	0.015	0.016
Beryllium (dissolved)	mg/L	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.002)	ND (0.0004)	ND (0.0004)
Bismuth (dissolved)	mg/L	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)
Boron (dissolved)	mg/L	0.84	0.89	0.82	0.81	0.85	2.1	2.1	2.2	2.3	2	1.9	2	1.4	1.4	1.4	1.3
Cadmium (dissolved)	mg/L	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)
Calcium (dissolved)	mg/L	650	630	650	610	650	760	800	830	820	1000	760	790	670	670	670	710
Chromium (dissolved)	mg/L	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)
Cobalt (dissolved)	mg/L	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)
Copper (dissolved)	mg/L	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0045)	ND (0.0009)	ND (0.0009)
Iron (dissolved)	mg/L	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	0.12	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.5)	0.14	0.41
Lead (dissolved)	mg/L	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)
Lithium (dissolved)	mg/L	0.13	0.12	0.13	0.12	0.17	0.72	0.72	0.73	0.73	1.2	0.6	0.62	0.39	0.38	0.34	0.35
Magnesium (dissolved)	mg/L	73	70	75	73	79	170	170	200	200	230	170	170	110	110	120	130
Manganese (dissolved)	mg/L	0.11	0.093	0.095	0.1	0.67	0.091	0.091	0.097	0.098	0.12	0.094	0.094	0.091	0.09	0.095	0.1
Molybdenum (dissolved)	mg/L	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)
Nickel (dissolved)	mg/L	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)
Phosphorus (dissolved)	mg/L	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.1)
Potassium (dissolved)	mg/L	55	53	57	63	57	25	24	28	28	31	25	25	36	36	39	42
Selenium (dissolved)	mg/L	ND (0.01)	0.0026	ND (0.002)	0.005	0.012	ND (0.01)	ND (0.01)	ND (0.002)	0.003	0.0047	ND (0.002)	ND (0.002)	ND (0.01)	ND (0.01)	0.0024	ND (0.002)
Silicon (dissolved)	mg/L	3.9	4	4.1	4.1	4.1	3.5	3.6	4	4	4.1	4	4	3	3.1	3.3	3.4
Silver (dissolved)	mg/L	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)
Sodium (dissolved)	mg/L	810	740	770	820	810	610	620	710	700	960	620	620	650	670	680	710
Strontium (dissolved)	mg/L	8.1	8.5	8.4	9.1	8.9	12	12	12	12	15	10	11	8.4	8.3	8.5	8.3
Tellurium (dissolved)	mg/L	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)
Thallium (dissolved)	mg/L	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00025)	ND (0.00005)	ND (0.00005)
Tin (dissolved)	mg/L	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)
Titanium (dissolved)	mg/L	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)
Tungsten (dissolved)	mg/L	ND (0.005)	ND (0.001)	ND (0.001)	0.0012	0.013	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)
Uranium (dissolved)	mg/L	ND (0.0005)	ND (0.0001)	0.00011	0.00011	ND (0.0001)	0.00051	ND (0.0005)	0.00047	0.00049	0.00055	0.00043	0.00044	ND (0.0005)	ND (0.0005)	0.00018	0.00019
Vanadium (dissolved)	mg/L	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)
Zinc (dissolved)	mg/L	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)
Zirconium (dissolved)	mg/L	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)
General Chemistry																	
Alkalinity, total (as CaCO3)	mg/L	150	160	160	130	97	310	310	330	310	290	310	310	180	180	180	180
Ammonia-N	mg/L	34	32	32	35	29	2.9	2.9	3.1	3.1	3.5	2.5	2.5	7.6	7.6	8.1	8.1
Ammonia-N/Strontium Ratio	ratio	4.1975	3.7647	3.8095	3.8462	3.2584	0.2417	0.2417	0.2583	0.2583	0.2333	0.2500	0.2273	0.9048	0.9157	0.9529	0.9759
Bromide (dissolved)	mg/L	ND (20)	ND (10)	ND (10)	ND (10)	ND (10)	17	18	ND (20)	ND (20)	23	ND (20)	ND (20)	ND (10)	ND (10)	ND (10)	ND (10)
Chloride (dissolved)	mg/L	1300	1300	1300	1500	1400	1500	1500	1700	1800	2200	1400	1400	1300	1300	1300	1300
Chloride/Magnesium Ratio	ratio	17.8082	18.5714	17.3333	20.5479	17.7215	8.8235	8.8235	8.5000	9.0000	9.5652	8.2353	8.2353	11.8182	11.8182	10.8333	10.0000
Conductivity	umhos/cm	7000	6800	6800	7200	7200	7300	7300	8000	8000	11000	7300	7400	6800	6800	6800	6700
Fluoride	mg/L	1.0	1.0	1.0	1.3	1.2	0.80	0.79	0.77	0.77	0.67	0.85	0.85	0.96	0.96	0.98	0.96
Hardness	mg/L	1900	1900	1900	1800	1900	2600	2700	2900	2900	3500	2600	2600	2100	2100	2100	2300
Nitrate (as N)	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.23	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Nitrite (as N)	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.017	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.24	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Orthophosphate	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
pH, lab	s.u.	7.84	7.72	7.76	8.03	7.52	7.65	7.55	7.41	7.37	7.54	7.39	7.56	7.56	7.61	7.64	7.57
Phenolics (total)	mg/L	ND (0.0010)	ND (0.0010)	0.0011	ND (0.0010)	0.0018	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.0011	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
Sulfate (dissolved)	mg/L	1700	1800	1800	1800	1700	1600	1600	1700	1700	1200	1400	1500	1700	1700	1800	1800
Total dissolved solids (TDS)	mg/L	4910	4630	4610	4900	5080	5470	5510	5550	5760	7180	4770	5580	4940	4990	4830	5090
Total kjeldahl nitrogen (TKN)	mg/L	32	32	29	31	31	3.6	3.4	3.2	4.0	4.3	3.4	3.1	8.3	8.7	8.7	8.3
Total organic carbon (TOC)	mg/L	7.4	6.7	6.4	7.8	6.9	1.5	1.6	1.4	1.5	1.5	1.5	1.5	3.5	3.4	3.6	3.7

Notes:

ND Not detecte

Appendix N.1

Leachate and Groundwater Chemistry Data
Lower Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**60-IV**	**60-IV**	**62-I**	**62-I**	**62-I**	**62-I**	**68-I**	**68-I**	**68-I**	**68-I**	**68-I**	**72-I**	**72-I**	**72-I**	**72-I**	**75-I**	**75-I**
Sample ID:		**60-IV**	**60-IV**	**62-I**	**62-I**	**62-I**	**62-I**	**68-I**	**2-IV**	**68-I**	**68-I**	**68-I**	**72-I**	**72-I**	**72-I**	**12-I**	**75-I**	**2-I**
Sample Date:		**7/30/2021**	**10/29/2021**	**1/28/2021**	**4/20/2021**	**7/27/2021**	**10/27/2021**	**1/25/2021**	**1/25/2021**	**4/19/2021**	**7/26/2021**	**10/26/2021**	**4/22/2021**	**8/4/2021**	**10/28/2021**	**10/28/2021**	**1/27/2021**	**1/27/2021**
									Duplicate							**Duplicate**		**Duplicate**
Parameters	**Units**																	
Metals																		
Aluminum (dissolved)	mg/L	ND (0.0049)	ND (0.0049)	ND (0.025)	ND (0.025)	ND (0.0049)	ND (0.0049)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.0049)	ND (0.0049)	ND (0.049)	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.025)	ND (0.025)
Antimony (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.0025)	ND (0.0025)
Arsenic (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.01)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.005)
Barium (dissolved)	mg/L	0.015	0.014	0.014	0.016	0.016	0.015	0.021	0.019	0.018	0.021	0.018	0.12	0.15	0.13	0.13	0.011	0.011
Beryllium (dissolved)	mg/L	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.004)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.002)	ND (0.002)
Bismuth (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.01)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.005)
Boron (dissolved)	mg/L	1.4	1.3	1.3	1.4	1.3	1.3	0.92	1	1	0.98	0.72	4.5	5.4	5.6	5.6	1.5	1.5
Cadmium (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.0009)	ND (0.0045)	ND (0.0045)	ND (0.0045)	ND (0.00045)	ND (0.00045)
Calcium (dissolved)	mg/L	680	680	700	690	700	730	700	760	760	780	710	12000	16000	13000	13000	760	750
Chromium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.025)	ND (0.025)
Cobalt (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.0025)	ND (0.0025)
Copper (dissolved)	mg/L	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0045)	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.009)	ND (0.045)	ND (0.045)	ND (0.045)	ND (0.0045)	ND (0.0045)
Iron (dissolved)	mg/L	0.18	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.1)	ND (1)	ND (5)	ND (5)	ND (5)	ND (0.5)	ND (0.5)
Lead (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.0025)	ND (0.0025)
Lithium (dissolved)	mg/L	0.37	0.35	0.36	0.35	0.35	0.35	0.2	0.19	0.17	0.2	0.12	19	25	23	24	0.48	0.48
Magnesium (dissolved)	mg/L	120	110	100	100	100	100	94	99	92	100	82	3200	4000	3600	3600	120	120
Manganese (dissolved)	mg/L	0.099	0.091	0.085	0.079	0.08	0.079	0.073	0.078	0.067	0.078	0.074	1.7	2.6	2	2.2	0.1	0.1
Molybdenum (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.0025)	ND (0.0025)
Nickel (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.01)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.005)
Phosphorus (dissolved)	mg/L	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.1)	0.51	0.5	ND (0.5)	ND (0.1)	ND (0.1)	ND (1)	ND (5)	ND (5)	ND (5)	ND (0.5)	ND (0.5)
Potassium (dissolved)	mg/L	38	38	49	47	51	49	42	42	37	44	34	280	310	270	280	31	30
Selenium (dissolved)	mg/L	0.0029	ND (0.002)	ND (0.01)	ND (0.01)	ND (0.002)	ND (0.002)	0.011	ND (0.01)	ND (0.01)	ND (0.002)	ND (0.002)	ND (0.02)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.01)	ND (0.01)
Silicon (dissolved)	mg/L	3.3	3.2	3.8	3.8	4	4	3.8	4.1	4.1	4.4	4.4	5.9	ND (2.5)	4.1	3.2	3.5	3.4
Silver (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.0009)	ND (0.0045)	ND (0.0045)	ND (0.0045)	ND (0.00045)	ND (0.00045)
Sodium (dissolved)	mg/L	680	680	850	830	840	820	720	760	700	820	590	18000	23000	21000	21000	750	740
Strontium (dissolved)	mg/L	8.6	8.4	11	11	11	11	9.5	10	9.3	10	8.4	220	300	270	280	13	12
Tellurium (dissolved)	mg/L	0.0011	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.01)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.005)
Thallium (dissolved)	mg/L	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00025)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.00025)	ND (0.00025)
Tin (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.01)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.005)
Titanium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.05)	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.025)	ND (0.025)
Tungsten (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.01)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.005)
Uranium (dissolved)	mg/L	0.00019	0.00016	ND (0.0005)	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0001)	0.00013	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.0005)	ND (0.0005)
Vanadium (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.0025)	ND (0.0025)
Zinc (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.05)	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.025)	ND (0.025)
Zirconium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.01)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.005)
General Chemistry																		
Alkalinity, total (as CaCO3)	mg/L	170	170	180	190	190	180	200	200	210	210	210	88	55	68	60	220	220
Ammonia-N	mg/L	8.0	7.2	24	24	24	22	17	17	15	15	11	29	39	36	36	6.8	6.7
Ammonia-N/Strontium Ratio	ratio	0.9302	0.8571	2.1818	2.1818	2.1818	2.0000	1.7895	1.7000	1.6129	1.5000	1.3095	0.1318	0.1300	0.1333	0.1286	0.5231	0.5583
Bromide (dissolved)	mg/L	ND (20)	ND (10)	ND (20)	ND (10)	ND (20)	ND (20)	ND (10)	ND (20)	ND (10)	ND (10)	ND (10)	ND (1000)	ND (500)	860	1000	ND (50)	ND (20)
Chloride (dissolved)	mg/L	1200	1200	1600	1600	1400	1400	1500	1400	1400	1500	1100	60000	68000	67000	73000	1500	1500
Chloride/Magnesium Ratio	ratio	10.0000	10.9091	16.0000	16.0000	14.0000	14.0000	15.9574	14.1414	15.2174	15.0000	13.4146	18.7500	17.0000	18.6111	20.2778	12.5000	12.5000
Conductivity	umhos/cm	7000	6900	7800	7700	7800	7600	7300	7200	7000	7200	4500	100000 >	100000 >	100000 >	100000 >	7400	7300
Fluoride	mg/L	1.0	1.0	0.98	0.93	1.0	0.96	0.91	0.90	0.85	1.1	0.87	0.19	0.15	0.15	0.15	0.77	0.79
Hardness	mg/L	2200	2200	2200	2100	2200	2200	2100	2300	2300	2400	2100	43000	56000	48000	49000	2400	2400
Nitrate (as N)	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (0.10)	ND (0.10)
Nitrite (as N)	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (0.10)	ND (0.10)
Orthophosphate	mg/L	ND (0.010)	ND (0.010)	0.011	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.50)	ND (0.50)	ND (0.010)	ND (0.010)	ND (0.010)	0.011	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
pH, lab	s.u.	7.49	7.48	7.54	7.37	7.39	7.27	7.77	7.43	7.39	7.58	7.64	6.81	6.49	6.70	6.58	7.59	7.65
Phenolics (total)	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.012	0.039	0.057	0.064	ND (0.0010)	ND (0.0010)
Sulfate (dissolved)	mg/L	1400	1500	1700	1800	1500	1600	1700	1600	1700	1500	1500	1500	910	870	890	1600	1600
Total dissolved solids (TDS)	mg/L	4760	4910	5540	5240	5560	5470	5080	4970	4860	5390	4290	94500	86700	115000	123000	5380	5330
Total kjeldahl nitrogen (TKN)	mg/L	8.5	8.1	26	26	25	23	18	17	15	15	12	34	48	39	45	7.8	6.4
Total organic carbon (TOC)	mg/L	3.6	3.4	3.9	3.6	3.5	3.5	4.0	4.0	3.8	3.5	2.7	1.1	0.88	0.73	3.7	2.6	2.6

Notes:

ND Not detecte

Appendix N.1

Leachate and Groundwater Chemistry Data
Lower Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		75-I	75-I	75-I	75-I	76-II	76-II	76-II	76-II	77-I	77-I	77-I	L1	L1	L1	L1	P1-I	P1-I
Sample ID:		75-I	75-I	75-I	2-I	76-II	76-II	76-II	76-II	77-I	77-I	77-I	L1	L1	L1	L1	P1-I	P1-I
Sample Date:		4/20/2021	7/27/2021	10/26/2021	11/3/2021 Duplicate	1/27/2021	4/19/2021	7/28/2021	11/2/2021	5/7/2021	8/4/2021	10/28/2021	1/29/2021	4/23/2021	8/12/2021	11/5/2021	1/26/2021	4/19/2021
Parameters	**Units**																	
Metals																		
Aluminum (dissolved)	mg/L	ND (0.0049)	ND (0.0049)	ND (0.0049)	0.036	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.025)	ND (0.0049)	ND (0.0049)	ND (0.0049)	0.036	ND (0.025)
Antimony (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)
Arsenic (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	0.004	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)
Barium (dissolved)	mg/L	0.012	0.012	0.011	0.041	0.03	0.019	0.051	0.019	0.16	0.14	0.13	0.015	0.017	0.017	0.015	0.024	0.022
Beryllium (dissolved)	mg/L	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.002)
Bismuth (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)
Boron (dissolved)	mg/L	1.4	1.4	1.4	0.043	0.076	0.062	0.1	0.077	6.6	5.7	5.3	0.72	0.59	0.72	0.61	0.99	0.97
Cadmium (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	0.00034	0.00016	ND (0.00009)	0.00033	ND (0.0045)	ND (0.0045)	ND (0.0045)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)
Calcium (dissolved)	mg/L	750	740	810	110	130	100	220	120	19000	16000	15000	660	650	710	660	720	550
Chromium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)
Cobalt (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0006	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)
Copper (dissolved)	mg/L	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	0.0012	0.00095	ND (0.0009)	0.0011	0.072	ND (0.045)	ND (0.045)	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0045)
Iron (dissolved)	mg/L	ND (0.1)	ND (0.1)	ND (0.1)	0.59	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (5)	ND (5)	ND (5)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.5)
Lead (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0016	0.0029	0.0017	0.0015	0.0046	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)
Lithium (dissolved)	mg/L	0.51	0.48	0.59	0.023	0.013	0.01	0.025	0.012	27	26	26	0.15	0.13	0.15	0.13	0.15	0.13
Magnesium (dissolved)	mg/L	130	110	140	38	36	28	60	34	4900	4100	3700	71	79	81	72	71	61
Manganese (dissolved)	mg/L	0.11	0.11	0.12	0.056	0.027	0.019	0.047	0.043	2.7	2.3	2.1	0.07	0.071	0.076	0.065	0.039	0.032
Molybdenum (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0011	0.00063	0.00056	0.00054	0.00096	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)
Nickel (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	0.0015	0.0033	0.0024	0.0041	0.0037	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)
Phosphorus (dissolved)	mg/L	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (5)	ND (5)	ND (5)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.5)
Potassium (dissolved)	mg/L	34	32	35	2.7	3.4	2.5	4.3	2.9	380	320	290	33	38	37	33	56	48
Selenium (dissolved)	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.01)	ND (0.002)	ND (0.002)	0.002	ND (0.01)	ND (0.01)
Silicon (dissolved)	mg/L	3.6	3.4	3.9	6.7	4.6	4.1	5.9	6.3	ND (2.5)	ND (2.5)	ND (2.5)	3.9	4.5	4.7	4.6	7.3	5.7
Silver (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.0045)	ND (0.0045)	ND (0.0045)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)
Sodium (dissolved)	mg/L	760	750	860	18	230	170	380	120	27000	24000	23000	550	560	600	530	780	690
Strontium (dissolved)	mg/L	13	13	13	1.1	0.95	0.65	1.2	0.84	320	300	290	9.3	9	9.1	8.5	7.1	6.3
Tellurium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)
Thallium (dissolved)	mg/L	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00025)
Tin (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)
Titanium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)
Tungsten (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)
Uranium (dissolved)	mg/L	ND (0.0001)	0.00011	ND (0.0001)	0.0016	0.0025	0.0019	0.0032	0.0018	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.0005)	ND (0.0001)	0.00018	0.00022	ND (0.0005)	ND (0.0005)
Vanadium (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)
Zinc (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	0.0077	0.13	0.098	0.14	0.11	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)
Zirconium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)
General Chemistry																		
Alkalinity, total (as CaCO3)	mg/L	210	220	210	330	470	420	520	400	64	54	58	250	260	240	240	170	210
Ammonia-N	mg/L	6.1	6.9	6.5	0.059	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	40	42	39	16	15	15	12	38	38
Ammonia-N/Strontium Ratio	ratio	0.4692	0.5308	0.5000	0.0536	0.0526	0.0769	0.0417	0.0595	0.1250	0.1400	0.1345	1.7204	1.6667	1.6484	1.4118	5.3521	6.0317
Bromide (dissolved)	mg/L	10	ND (20)	12	ND (1.0)	ND (5.0)	ND (1.0)	ND (5.0)	ND (1.0)	850	850	870	ND (5.0)	ND (10)	ND (10)	ND (10)	ND (20)	ND (10)
Chloride (dissolved)	mg/L	1700	1400	1700	32	160	100	380	98	82000	72000	65000	1000	1000	1100	940	1300	1200
Chloride/Magnesium Ratio	ratio	13.0769	12.7273	12.1429	0.8421	4.4444	3.5714	6.3333	2.8824	16.7347	17.5610	17.5676	14.0845	12.6582	13.5802	13.0556	18.3099	19.6721
Conductivity	umhos/cm	7700	7500	6200	840	1900	1400	2900	1300	100000 >	100000 >	100000 >	5900	5800	5700	5500	6700	6300
Fluoride	mg/L	0.83	0.91	0.84	0.26	0.26	0.27	0.25	0.28	0.15	0.14	0.16	0.85	0.74	0.87	0.82	0.99	0.98
Hardness	mg/L	2400	2300	2600	420	470	370	780	450	67000	56000	52000	1900	1900	2100	1900	2100	1600
Nitrate (as N)	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (1.0)	ND (1.0)	ND (1.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Nitrite (as N)	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (1.0)	ND (1.0)	ND (1.0)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Orthophosphate	mg/L	ND (0.010)	ND (0.010)	0.011	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.015	ND (0.010)	ND (0.010)	ND (0.010)	0.011	ND (0.010)
pH, lab	s.u.	7.35	7.47	7.59	7.85	7.89	7.77	7.67	7.71	6.71	6.51	6.62	7.69	7.60	7.55	7.47	7.56	7.49
Phenolics (total)	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0050)	0.030	0.065	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
Sulfate (dissolved)	mg/L	1700	1400	1700	95	260	180	350	170	900	980	920	1600	1600	1300	1500	1500	1600
Total dissolved solids (TDS)	mg/L	5370	5560	5800	505	1070	760	1620	635	129000	127000	136000	4380	3860	4140	3820	4570	4390
Total kjeldahl nitrogen (TKN)	mg/L	7.7	6.8	7.3	0.37	0.20	0.14	0.21	0.27	40	52	49	17	15	16	13	37	34
Total organic carbon (TOC)	mg/L	2.7	2.5	2.7	2.2	3.4	3.2	3.3	3.2	1.3	0.69	1.9	4.0	3.5	3.3	3.0	8.8	7.4

Notes:

ND Not detecte

Appendix N.1

Leachate and Groundwater Chemistry Data
Lower Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		P1-I	P1-I	P1-I	P2-I	P4-I	P4-I	P4-I	P4-I	P4-I	P4-I	P5-IR	P5-IR	P5-IR	P5-IR	P7-IR
Sample ID:		P1-I	2-III	P1-I	P2-I	P4-I	P4-I	2-III	P4-I	P4-I	4-IV	P5-IR	P5-IR	P5-IR	P5-IR	P7-IR
Sample Date:		7/29/2021	7/29/2021 Duplicate	10/27/2021	11/2/2021	1/25/2021	4/20/2021	4/20/2021 Duplicate	7/26/2021	10/26/2021	10/26/2021 Duplicate	1/28/2021	4/21/2021	7/29/2021	10/28/2021	2/2/2021
Parameters	**Units**															
Metals																
Aluminum (dissolved)	mg/L	0.012	0.012	ND (0.0049)	0.006	ND (0.025)	ND (0.0049)	ND (0.025)	ND (0.0049)	ND (0.0049)	ND (0.0049)	ND (0.025)	0.0055	ND (0.0049)	ND (0.025)	0.012
Antimony (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)
Arsenic (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	0.0026	ND (0.005)	0.0025	0.0022	0.0023	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	0.0042
Barium (dissolved)	mg/L	0.022	0.022	0.021	0.021	0.024	0.025	0.026	0.026	0.025	0.025	0.026	0.028	0.027	0.027	0.026
Beryllium (dissolved)	mg/L	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.0004)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.0004)
Bismuth (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)
Boron (dissolved)	mg/L	1	1.1	1	0.94	1.1	1.2	1.3	1.2	1.3	1.3	0.79	0.76	0.83	0.9	0.45
Cadmium (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)
Calcium (dissolved)	mg/L	540	550	570	520	840	800	870	860	860	870	600	630	640	610	90
Chromium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)
Cobalt (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	0.0022	ND (0.0025)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)
Copper (dissolved)	mg/L	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0009)	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0009)
Iron (dissolved)	mg/L	ND (0.1)	ND (0.1)	ND (0.1)	0.17	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.1)
Lead (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)
Lithium (dissolved)	mg/L	0.13	0.14	0.15	0.23	0.4	0.42	0.4	0.41	0.44	0.44	0.079	0.076	0.096	0.082	0.064
Magnesium (dissolved)	mg/L	68	68	67	85	120	120	120	130	120	130	48	53	57	52	11
Manganese (dissolved)	mg/L	0.038	0.037	0.037	0.2	0.076	0.075	0.079	0.079	0.074	0.072	0.044	0.043	0.047	0.045	ND (0.002)
Molybdenum (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0025)	0.053
Nickel (dissolved)	mg/L	0.0015	0.0015	0.0014	0.004	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	0.0021	0.0024	ND (0.005)	0.017
Phosphorus (dissolved)	mg/L	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.64	ND (0.1)	0.54	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.1)
Potassium (dissolved)	mg/L	55	56	54	43	77	79	73	84	81	83	65	75	70	68	92
Selenium (dissolved)	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.01)	ND (0.002)	ND (0.01)	0.0028	ND (0.002)	0.0032	ND (0.01)	ND (0.002)	0.0026	ND (0.01)	0.0067
Silicon (dissolved)	mg/L	6.7	6.5	6.2	5.7	4.6	4.4	4.6	5.2	4.8	5.3	5	5.7	5.4	5.4	8.4
Silver (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00009)
Sodium (dissolved)	mg/L	700	690	700	760	1300	1300	1300	1400	1400	1400	890	940	880	910	320
Strontium (dissolved)	mg/L	6.8	6.8	7.2	6.4	10	11	11	11	11	11	5.3	5.4	6.1	5.9	2.4
Tellurium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)
Thallium (dissolved)	mg/L	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00005)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00005)
Tin (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)
Titanium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)
Tungsten (dissolved)	mg/L	0.0011	0.0011	0.0011	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	0.0028	0.0024	ND (0.005)	0.015
Uranium (dissolved)	mg/L	ND (0.0001)	ND (0.0001)	ND (0.0001)	0.0025	ND (0.0005)	ND (0.0001)	ND (0.0005)	0.0001	0.00012	0.00011	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.0005)	ND (0.0001)
Vanadium (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0025)	0.0027
Zinc (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.005)
Zirconium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)
General Chemistry																
Alkalinity, total (as CaCO3)	mg/L	190	190	180	210	91	110	99	100	110	110	60	72	72	68	76
Ammonia-N	mg/L	38	38	36	19	36	37	37	36	34	34	56	56	55	51	23
Ammonia-N/Strontium Ratio	ratio	5.5882	5.5882	5.0000	2.9688	3.6000	3.3636	3.3636	3.2727	3.0909	3.0909	10.5660	10.3704	9.0164	8.6441	9.5833
Bromide (dissolved)	mg/L	ND (10)	ND (10)	ND (10)	ND (20)	ND (50)	ND (20)	ND (20)	ND (10)	ND (20)	ND (20)	ND (20)	ND (10)	ND (10)	ND (10)	ND (5.0)
Chloride (dissolved)	mg/L	1100	1200	1100	1300	2500	2500	2500	2300	2600	2700	1300	1300	1300	1300	550
Chloride/Magnesium Ratio	ratio	16.1765	17.6471	16.4179	15.2941	20.8333	20.8333	20.8333	17.6923	21.6667	20.7692	27.0833	24.5283	22.8070	25.0000	50.0000
Conductivity	umhos/cm	6200	6200	6300	6900	10000	11000	11000	11000	7700	7300	7400	7200	7100	7100	3000
Fluoride	mg/L	1.1	1.1	0.98	0.76	1.2	1.1	1.1	1.3	1.1	1.2	1.6	1.5	1.6	1.2	1.2
Hardness	mg/L	1600	1600	1700	1700	2600	2500	2700	2700	2600	2700	1700	1800	1800	1700	270
Nitrate (as N)	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	0.20	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Nitrite (as N)	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	0.20	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Orthophosphate	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.011	0.013	0.012	0.016	ND (0.010)	0.012	ND (0.50)	0.012	0.011	ND (0.010)	ND (0.010)
pH, lab	s.u.	7.60	7.55	7.39	7.70	8.16	8.13	8.17	8.12	8.04	7.99	7.57	7.56	7.40	7.66	9.12
Phenolics (total)	mg/L	0.0012	0.0016	0.0013	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.0010	0.0012	0.0092	0.0075	0.0091	0.011	1.2
Sulfate (dissolved)	mg/L	1500	1500	1500	1500	1900	1800	1700	1700	1700	1800	1900	2000	1700	1900	560
Total dissolved solids (TDS)	mg/L	3680	3890	4400	4310	6930	6350	6980	7690	6640	7400	5080	5030	4750	4900	1520
Total kjeldahl nitrogen (TKN)	mg/L	38	36	37	20	34	38	39	36	36	36	54	56	55	71	26
Total organic carbon (TOC)	mg/L	7.2	7.0	6.4	4.8	7.3	7.0	7.0	7.4	6.7	6.7	11	10	11	9.5	42

Notes:

ND Not detecte

Appendix N.1

Leachate and Groundwater Chemistry Data
Lower Flow Zone - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**P7-IR**	**P7-IR**	**P7-IR**	**P7-IR**	**P7-IR**	**P10-I**	**P10-I**	**P10-I**	**P10-I**	**P11-I**	**P11-I**	**P11-I**	**P11-I**	**P11-I**
Sample ID:		**P7-IR**	**4-I**	**P7 IR**	**P7-IR**	**2-III**	**P10-I**	**P10-I**	**P10-I**	**P10-I**	**P11-I**	**P11-I**	**P11-I**	**P11-I**	**2-IV**
Sample Date:		**4/21/2021**	**4/21/2021**	**7/28/2021**	**10/28/2021**	**10/28/2021**	**1/25/2021**	**4/15/2021**	**7/26/2021**	**10/25/2021**	**1/26/2021**	**4/19/2021**	**7/26/2021**	**10/27/2021**	**10/27/2021**
			Duplicate			**Duplicate**									**Duplicate**
Parameters	**Units**														
Metals															
Aluminum (dissolved)	mg/L	ND (0.0049)	0.093	ND (0.0049)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.0049)	ND (0.0049)	ND (0.025)	ND (0.025)	ND (0.0049)	ND (0.0049)	ND (0.0049)
Antimony (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Arsenic (dissolved)	mg/L	0.0041	0.0035	0.0066	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	0.0023	0.0019	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)
Barium (dissolved)	mg/L	0.041	0.043	0.074	0.038	0.037	0.025	0.027	0.026	0.025	0.023	0.02	0.021	0.021	0.021
Beryllium (dissolved)	mg/L	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.002)	ND (0.002)	ND (0.0004)	ND (0.0004)	ND (0.0004)
Bismuth (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)
Boron (dissolved)	mg/L	0.5	0.47	1.1	1.6	1.5	1.3	1.3	1.3	1.3	1.2	1.1	1.2	1.2	1.2
Cadmium (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)
Calcium (dissolved)	mg/L	190	390	850	790	790	850	870	890	900	730	660	730	700	680
Chromium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)
Cobalt (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Copper (dissolved)	mg/L	ND (0.0009)	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0045)	ND (0.0045)	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0045)	ND (0.0045)	ND (0.0009)	ND (0.0009)	ND (0.0009)
Iron (dissolved)	mg/L	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)
Lead (dissolved)	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Lithium (dissolved)	mg/L	0.071	0.08	0.81	0.69	0.64	0.66	0.64	0.72	0.68	0.27	0.24	0.3	0.29	0.29
Magnesium (dissolved)	mg/L	11	13	140	140	130	130	120	150	140	95	82	97	92	91
Manganese (dissolved)	mg/L	ND (0.002)	0.0086	0.016	0.04	0.038	0.097	0.099	0.1	0.1	0.069	0.061	0.068	0.066	0.065
Molybdenum (dissolved)	mg/L	0.032	0.0066	0.0072	0.0049	0.0035	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Nickel (dissolved)	mg/L	0.013	0.013	0.005	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	0.0011	0.0012	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)
Phosphorus (dissolved)	mg/L	ND (0.1)	0.12	ND (0.1)	ND (0.5)	ND (0.5)	0.57	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)
Potassium (dissolved)	mg/L	85	86	110	74	74	71	69	78	73	67	56	70	64	64
Selenium (dissolved)	mg/L	0.0053	0.0033	0.031	ND (0.01)	ND (0.01)	0.016	ND (0.01)	0.0027	0.0033	ND (0.01)	ND (0.01)	ND (0.002)	ND (0.002)	ND (0.002)
Silicon (dissolved)	mg/L	6.5	5.9	6.9	8.8	9.1	3.4	3.5	4.3	3.9	4.8	3.9	5.2	4.6	4.6
Silver (dissolved)	mg/L	ND (0.00009)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00045)	ND (0.00045)	ND (0.00009)	ND (0.00009)	ND (0.00009)
Sodium (dissolved)	mg/L	300	320	950	1100	1100	1400	1400	1500	1500	1000	860	1000	970	930
Strontium (dissolved)	mg/L	2.8	3.4	11	12	11	12	13	13	13	8.9	8	9	9	8.8
Tellurium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)
Thallium (dissolved)	mg/L	ND (0.00005)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00025)	ND (0.00025)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00025)	ND (0.00025)	ND (0.00005)	ND (0.00005)	ND (0.00005)
Tin (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)
Titanium (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)
Tungsten (dissolved)	mg/L	0.013	0.014	0.005	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)
Uranium (dissolved)	mg/L	ND (0.0001)	0.00025	0.00098	0.00082	0.00072	ND (0.0005)	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.0005)	ND (0.0005)	ND (0.0001)	ND (0.0001)	ND (0.0001)
Vanadium (dissolved)	mg/L	0.0032	0.0052	0.0031	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.0005)	ND (0.0005)	ND (0.0005)
Zinc (dissolved)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.005)
Zirconium (dissolved)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.005)	ND (0.001)	ND (0.001)	ND (0.001)
General Chemistry															
Alkalinity, total (as CaCO3)	mg/L	42	48	2.7	87	100	140	140	140	140	130	160	150	130	130
Ammonia-N	mg/L	21	22	20	21	21	28	11	28	26	41	40	41	37	38
Ammonia-N/Strontium Ratio	ratio	7.5000	6.4706	1.8182	1.7500	1.9091	2.3333	0.8462	2.1538	2.0000	4.6067	5.0000	4.5556	4.1111	4.3182
Bromide (dissolved)	mg/L	ND (5.0)	ND (5.0)	16	26	25	ND (50)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	ND (10)	ND (20)	ND (20)
Chloride (dissolved)	mg/L	270	410	1700	2900	2800	2800	2800	2600	2500	1600	1700	1700	1500	1700
Chloride/Magnesium Ratio	ratio	24.5455	31.5385	12.1429	20.7143	21.5385	21.5385	23.3333	17.3333	17.8571	16.8421	20.7317	17.5258	16.3043	18.6813
Conductivity	umhos/cm	2100	3300	6800	12000	11000	11000	11000	11000	7300	8200	8200	8300	8300	8300
Fluoride	mg/L	1.3	1.3	1.2	0.61	0.59	0.98	1.0	1.2	1.1	0.99	0.99	1.2	1.0	1.1
Hardness	mg/L	520	1000	2700	2600	2500	2600	2700	2800	2800	2200	2000	2200	2100	2100
Nitrate (as N)	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Nitrite (as N)	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Orthophosphate	mg/L	ND (0.010)	0.011	ND (0.010)	0.018	0.018	0.014	ND (0.010)	0.011	ND (0.010)	ND (0.010)	0.011	ND (0.010)	ND (0.010)	ND (0.010)
pH, lab	s.u.	9.00	8.92	8.64	7.38	7.76	7.83	7.86	7.85	7.88	7.65	7.46	7.61	7.26	7.24
Phenolics (total)	mg/L	0.89	0.90	0.31	0.043	0.046	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.0011	ND (0.0010)
Sulfate (dissolved)	mg/L	550	1200	870	1500	1500	1800	1700	1500	1600	1800	1800	1600	1600	1800
Total dissolved solids (TDS)	mg/L	1490	2260	5460	7190	7100	7480	7540	7900	7420	5690	5740	5840	5880	5820
Total kjeldahl nitrogen (TKN)	mg/L	21	28	18	22	22	31	29	29	29	38	39	43	41	39
Total organic carbon (TOC)	mg/L	17	18	10	7.7	8.2	5.7	5.5	5.5	5.3	6.7	6.6	5.9	5.9	5.8

Notes:

ND Not detecte

Appendix N.1

Leachate and Groundwater Chemistry Data
Rochester Shale - Organics
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**76-I**	**76-I**
Sample ID:		**76-I**	**76-1**
Sample Date:		**4/19/2021**	**11/2/2021**
Parameters	**Units**		
Volatiles			
1,1,1,2-Tetrachloroethane	ug/L	ND (1.0)	ND (1.0)
1,1,1-Trichloroethane	ug/L	ND (0.50)	ND (0.50)
1,1,2,2-Tetrachloroethane	ug/L	ND (1.0)	ND (1.0)
1,1,2-Trichloroethane	ug/L	ND (1.0)	ND (1.0)
1,1-Dichloroethane	ug/L	ND (0.50)	ND (0.50)
1,1-Dichloroethene	ug/L	ND (0.50)	ND (0.50)
1,2-Dibromoethane (Ethylene dibromide)	ug/L	ND (1.0)	ND (1.0)
1,2-Dichlorobenzene	ug/L	ND (1.0)	ND (1.0)
1,2-Dichloroethane	ug/L	ND (1.0)	ND (1.0)
1,2-Dichloropropane	ug/L	ND (0.50)	ND (0.50)
1,3-Dichlorobenzene	ug/L	ND (1.0)	ND (1.0)
1,4-Dichlorobenzene	ug/L	ND (1.0)	ND (1.0)
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	ND (25)	ND (25)
2-Hexanone	ug/L	ND (25)	ND (25)
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	ND (25)	ND (25)
Acetone	ug/L	ND (50)	ND (50)
Acrolein	ug/L	ND (50)	ND (50)
Acrylonitrile	ug/L	ND (25)	ND (25)
Benzene	ug/L	ND (0.50)	ND (0.50)
Bromodichloromethane	ug/L	ND (0.50)	ND (0.50)
Bromoform	ug/L	ND (1.0)	ND (1.0)
Bromomethane (Methyl bromide)	ug/L	ND (2.5)	ND (2.5)
Carbon tetrachloride	ug/L	ND (0.50)	ND (0.50)
Chlorobenzene	ug/L	ND (0.50)	ND (0.50)
Chloroethane	ug/L	ND (1.0)	ND (2.0)
Chloroform (Trichloromethane)	ug/L	ND (0.50)	ND (0.50)
Chloromethane (Methyl chloride)	ug/L	ND (2.5)	ND (2.5)
cis-1,2-Dichloroethene	ug/L	ND (0.50)	ND (0.50)
cis-1,3-Dichloropropene	ug/L	ND (1.0)	ND (1.0)
Dibromochloromethane	ug/L	ND (1.0)	ND (1.0)
Ethylbenzene	ug/L	ND (0.50)	ND (0.50)
m&p-Xylenes	ug/L	ND (0.50)	ND (0.50)
Methyl tert butyl ether (MTBE)	ug/L	ND (1.0)	ND (1.0)
Methylene chloride	ug/L	ND (2.5)	ND (2.5)
o-Xylene	ug/L	ND (0.50)	ND (0.50)
Styrene	ug/L	ND (1.0)	ND (1.0)
Tetrachloroethene	ug/L	ND (0.50)	ND (0.50)
Toluene	ug/L	ND (1.0)	ND (1.0)
trans-1,2-Dichloroethene	ug/L	ND (0.50)	ND (0.50)
trans-1,3-Dichloropropene	ug/L	ND (1.0)	ND (1.0)
Trichloroethene	ug/L	ND (0.50)	ND (0.50)
Trichlorofluoromethane (CFC-11)	ug/L	ND (1.0)	ND (1.0)
Trihalomethanes	ug/L	ND (1.0)	ND (1.0)
Vinyl chloride	ug/L	ND (1.0)	ND (1.0)
Xylenes (total)	ug/L	ND (0.50)	ND (0.50)
Semi-Volatiles			
1,2,3,4-Tetrachlorobenzene	ug/L	ND (5.0)	ND (5.0)
1,2,3,5-Tetrachlorobenzene	ug/L	ND (5.0)	ND (5.0)
1,2,3-Trichlorobenzene	ug/L	ND (5.0)	ND (5.0)
1,2,4,5-Tetrachlorobenzene	ug/L	ND (5.0)	ND (5.0)
1,2,4-Trichlorobenzene	ug/L	ND (5.0)	ND (5.0)
1,2-Dichlorobenzene	ug/L	ND (5.0)	ND (5.0)
1,3,5-Trichlorobenzene	ug/L	ND (5.0)	ND (5.0)
1,3-Dichlorobenzene	ug/L	ND (5.0)	ND (5.0)
1,4-Dichlorobenzene	ug/L	ND (5.0)	ND (5.0)
1-Chloronaphthalene	ug/L	ND (10)	ND (10)
1-Methylnaphthalene	ug/L	ND (2.0)	ND (2.0)
2,2'-Oxybis(2-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	ND (5.0)	ND (5.0)
2,3,4,5-Tetrachlorophenol	ug/L	ND (4.0)	ND (4.0)
2,3,4,6-Tetrachlorophenol	ug/L	ND (5.0)	ND (5.0)
2,3,4-Trichlorophenol	ug/L	ND (5.0)	ND (5.0)
2,3,5,6-Tetrachlorophenol	ug/L	ND (5.0)	ND (5.0)
2,3,5-Trichlorophenol	ug/L	ND (5.0)	ND (5.0)
2,3,6-Trichlorophenol	ug/L	ND (5.0)	ND (5.0)
2,3-Dichlorophenol	ug/L	ND (5.0)	ND (5.0)
2,4,5-Trichlorophenol	ug/L	ND (5.0)	ND (5.0)
2,4,6-Trichlorophenol	ug/L	ND (5.0)	ND (5.0)
2,4-Dichlorophenol	ug/L	ND (3.0)	ND (3.0)
2,4-Dimethylphenol	ug/L	ND (5.0)	ND (5.0)
2,4-Dinitrophenol	ug/L	ND (60)	ND (20)
2,4-Dinitrotoluene	ug/L	ND (5.0)	ND (5.0)
2,5-Dichlorophenol	ug/L	ND (5.0)	ND (5.0)
2,6-Dichlorophenol	ug/L	ND (5.0)	ND (5.0)
2,6-Dinitrotoluene	ug/L	ND (5.0)	ND (5.0)
2-Chloronaphthalene	ug/L	ND (5.0)	ND (5.0)
2-Chlorophenol	ug/L	ND (3.0)	ND (3.0)
2-Methylnaphthalene	ug/L	ND (2.0)	ND (2.0)
2-Methylphenol	ug/L	ND (5.0)	ND (5.0)
2-Nitrophenol	ug/L	ND (5.0)	ND (5.0)
3&4-Methylphenol	ug/L	ND (5.0)	ND (5.0)
3,3'-Dichlorobenzidine	ug/L	ND (5.0)	ND (5.0)
3,4,5-Trichlorophenol	ug/L	ND (5.0)	ND (5.0)
3,4-Dichlorophenol	ug/L	ND (5.0)	ND (5.0)
3,5-Dichlorophenol	ug/L	ND (5.0)	ND (5.0)
4,6-Dinitro-2-methylphenol	ug/L	ND (20)	ND (20)
4-Bromophenyl phenyl ether	ug/L	ND (3.0)	ND (3.0)
4-Chloro-3-methylphenol	ug/L	ND (5.0)	ND (5.0)

Appendix N.1

Leachate and Groundwater Chemistry Data
Rochester Shale - Organics
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:		**76-I**	**76-I**
Sample ID:		**76-I**	**76-1**
Sample Date:		**4/19/2021**	**11/2/2021**
Parameters	**Units**		
4-Chloroaniline	ug/L	ND (10)	ND (10)
4-Chlorophenyl phenyl ether	ug/L	ND (5.0)	ND (5.0)
4-Nitrophenol	ug/L	ND (25)	ND (14)
5-Nitroacenaphthene	ug/L	ND (10)	ND (10)
Acenaphthene	ug/L	ND (2.0)	ND (2.0)
Acenaphthylene	ug/L	ND (2.0)	ND (2.0)
Anthracene	ug/L	ND (2.0)	ND (2.0)
Benzo(a)anthracene	ug/L	ND (2.0)	ND (2.0)
Benzo(a)pyrene	ug/L	ND (2.0)	ND (2.0)
Benzo(b)fluoranthene/Benzo(j)fluoranthene	ug/L	ND (2.0)	ND (2.0)
Benzo(g,h,i)perylene	ug/L	ND (2.0)	ND (2.0)
Benzo(k)fluoranthene	ug/L	ND (2.0)	ND (2.0)
Biphenyl (1,1-Biphenyl)	ug/L	ND (5.0)	ND (5.0)
bis(2-Chloroethoxy)methane	ug/L	ND (5.0)	ND (5.0)
bis(2-Chloroethyl)ether	ug/L	ND (5.0)	ND (5.0)
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	ND (20)	ND (20)
Butyl benzylphthalate (BBP)	ug/L	ND (5.0)	ND (5.0)
Chrysene	ug/L	ND (2.0)	ND (2.0)
Dibenz(a,h)anthracene	ug/L	ND (2.0)	ND (2.0)
Diethyl phthalate	ug/L	ND (10)	ND (10)
Dimethyl phthalate	ug/L	ND (10)	ND (10)
Di-n-butylphthalate (DBP)	ug/L	ND (20)	ND (20)
Di-n-octyl phthalate (DnOP)	ug/L	ND (8.0)	ND (8.0)
Diphenyl ether	ug/L	ND (3.0)	ND (3.0)
Fluoranthene	ug/L	ND (2.0)	ND (2.0)
Fluorene	ug/L	ND (2.0)	ND (2.0)
Hexachlorobenzene	ug/L	ND (5.0)	ND (5.0)
Hexachlorobutadiene	ug/L	ND (4.0)	ND (4.0)
Hexachlorocyclopentadiene	ug/L	ND (20)	ND (20)
Hexachloroethane	ug/L	ND (5.0)	ND (5.0)
Indeno(1,2,3-cd)pyrene	ug/L	ND (2.0)	ND (2.0)
Isophorone	ug/L	ND (5.0)	ND (5.0)
Naphthalene	ug/L	ND (2.0)	ND (2.0)
Nitrobenzene	ug/L	ND (5.0)	ND (5.0)
Nitrosodiphenylamine/Diphenylamine	ug/L	ND (10)	ND (10)
N-Nitrosodi-n-propylamine	ug/L	ND (5.0)	ND (5.0)
Pentachlorobenzene	ug/L	ND (5.0)	ND (5.0)
Pentachlorophenol	ug/L	ND (25)	ND (10)
Perylene	ug/L	ND (2.0)	ND (2.0)
Phenanthrene	ug/L	ND (2.0)	ND (2.0)
Phenol	ug/L	ND (5.0)	ND (5.0)
Pyrene	ug/L	ND (2.0)	ND (2.0)
Pesticides			
2,4'-DDD	ug/L	ND (0.05)	ND (0.05)
2,4'-DDD + 4,4'-DDD	ug/L	ND (0.05)	ND (0.05)
2,4'-DDE	ug/L	ND (0.05)	ND (0.05)
2,4'-DDE + 4,4'-DDE	ug/L	ND (0.05)	ND (0.05)
2,4'-DDT	ug/L	ND (0.05)	ND (0.05)
2,4'-DDT + 4,4'-DDT	ug/L	ND (0.05)	ND (0.05)
4,4'-DDD	ug/L	ND (0.05)	ND (0.05)
4,4'-DDE	ug/L	ND (0.05)	ND (0.05)
4,4'-DDT	ug/L	ND (0.05)	ND (0.05)
Aldrin	ug/L	ND (0.05)	ND (0.05)
alpha-BHC	ug/L	ND (0.05)	ND (0.05)
alpha-Chlordane	ug/L	ND (0.05)	ND (0.05)
Aroclor-1242 (PCB-1242)	ug/L	ND (0.5)	ND (0.5)
Aroclor-1248 (PCB-1248)	ug/L	ND (0.5)	ND (0.5)
Aroclor-1254 (PCB-1254)	ug/L	ND (0.5)	ND (0.5)
Aroclor-1260 (PCB-1260)	ug/L	ND (0.5)	ND (0.5)
beta-BHC	ug/L	ND (0.05)	ND (0.05)
Chlordane	ug/L	ND (0.05)	ND (0.05)
Dieldrin	ug/L	ND (0.05)	ND (0.05)
Endosulfan	ug/L	ND (0.05)	ND (0.05)
Endosulfan I	ug/L	ND (0.05)	ND (0.05)
Endosulfan II	ug/L	ND (0.05)	ND (0.05)
Endrin	ug/L	ND (0.05)	ND (0.05)
Endrin aldehyde	ug/L	ND (0.05)	ND (0.05)
Endrin ketone	ug/L	ND (0.05)	ND (0.05)
gamma-BHC (lindane)	ug/L	ND (0.03)	ND (0.03)
gamma-Chlordane	ug/L	ND (0.05)	ND (0.05)
Heptachlor	ug/L	ND (0.05)	ND (0.05)
Heptachlor epoxide	ug/L	ND (0.05)	ND (0.05)
Hexachlorobenzene	ug/L	ND (0.05)	ND (0.05)
Hexachlorobutadiene	ug/L	ND (0.09)	ND (0.09)
Hexachloroethane	ug/L	ND (0.1)	ND (0.1)
Methoxychlor	ug/L	ND (0.1)	ND (0.1)
Mirex	ug/L	ND (0.05)	ND (0.05)
Total PCBs	ug/L	ND (0.5)	ND (0.5)
Toxaphene	ug/L	ND (2)	ND (2)

Notes:

ND Not detected at the associated reporting limit.

Appendix N.1

Leachate and Groundwater Chemistry Data
Rochester Shale - General Chemistry and Metals
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

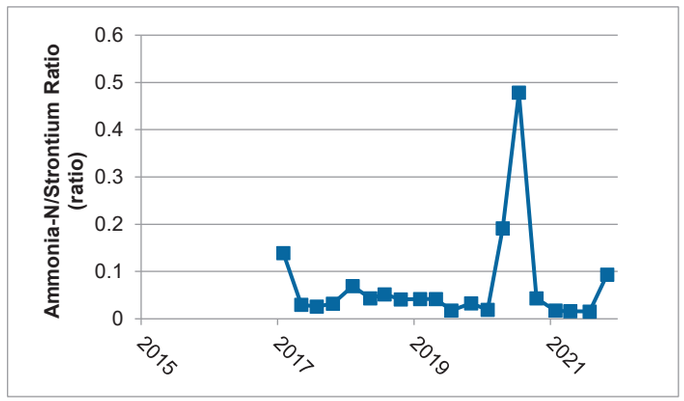
Sample Location:		**76-I**	**76-I**	**76-I**	**76-I**
Sample ID:		**76-I**	**76-I**	**76-I**	**76-1**
Sample Date:		**1/27/2021**	**4/19/2021**	**7/28/2021**	**11/2/2021**
Parameters	**Units**				
Metals					
Aluminum (dissolved)	mg/L	ND (0.049)	ND (0.25)	ND (0.25)	0.042
Antimony (dissolved)	mg/L	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.0025)
Arsenic (dissolved)	mg/L	ND (0.01)	ND (0.05)	ND (0.05)	ND (0.005)
Barium (dissolved)	mg/L	0.11	ND (0.1)	0.1	0.1
Beryllium (dissolved)	mg/L	ND (0.004)	ND (0.02)	ND (0.02)	ND (0.002)
Bismuth (dissolved)	mg/L	ND (0.01)	ND (0.05)	ND (0.05)	ND (0.005)
Boron (dissolved)	mg/L	7.3	7.4	7.4	7.5
Cadmium (dissolved)	mg/L	ND (0.0009)	ND (0.0045)	ND (0.0045)	ND (0.00045)
Calcium (dissolved)	mg/L	11000	9500	10000	9800
Chromium (dissolved)	mg/L	ND (0.05)	ND (0.25)	ND (0.25)	ND (0.025)
Cobalt (dissolved)	mg/L	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.0025)
Copper (dissolved)	mg/L	ND (0.009)	ND (0.045)	ND (0.045)	ND (0.0045)
Iron (dissolved)	mg/L	ND (1)	ND (5)	ND (5)	ND (0.5)
Lead (dissolved)	mg/L	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.0025)
Lithium (dissolved)	mg/L	21	18	20	18
Magnesium (dissolved)	mg/L	2700	2300	2600	2400
Manganese (dissolved)	mg/L	1.4	1.2	1.3	1.3
Molybdenum (dissolved)	mg/L	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.0025)
Nickel (dissolved)	mg/L	ND (0.01)	ND (0.05)	ND (0.05)	ND (0.005)
Phosphorus (dissolved)	mg/L	ND (1)	ND (5)	ND (5)	ND (0.5)
Potassium (dissolved)	mg/L	320	230	260	290
Selenium (dissolved)	mg/L	ND (0.02)	ND (0.1)	ND (0.1)	ND (0.01)
Silicon (dissolved)	mg/L	3.7	4	3.8	3.7
Silver (dissolved)	mg/L	ND (0.0009)	ND (0.0045)	ND (0.0045)	ND (0.00045)
Sodium (dissolved)	mg/L	18000	14000	16000	15000
Strontium (dissolved)	mg/L	220	180	190	190
Tellurium (dissolved)	mg/L	ND (0.01)	ND (0.05)	ND (0.05)	ND (0.005)
Thallium (dissolved)	mg/L	ND (0.0005)	ND (0.0025)	ND (0.0025)	ND (0.00025)
Tin (dissolved)	mg/L	ND (0.01)	ND (0.05)	ND (0.05)	ND (0.005)
Titanium (dissolved)	mg/L	ND (0.05)	ND (0.25)	ND (0.25)	ND (0.025)
Tungsten (dissolved)	mg/L	ND (0.01)	ND (0.05)	ND (0.05)	ND (0.005)
Uranium (dissolved)	mg/L	ND (0.001)	ND (0.005)	ND (0.005)	0.0012
Vanadium (dissolved)	mg/L	ND (0.005)	ND (0.025)	ND (0.025)	ND (0.0025)
Zinc (dissolved)	mg/L	ND (0.05)	ND (0.25)	ND (0.25)	ND (0.025)
Zirconium (dissolved)	mg/L	ND (0.01)	ND (0.05)	ND (0.05)	ND (0.005)
General Chemistry					
Alkalinity, total (as CaCO3)	mg/L	130	160	120	130
Ammonia-N	mg/L	37	35	34	30
Ammonia-N/Strontium Ratio	ratio	0.1682	0.1944	0.1789	0.1579
Bromide (dissolved)	mg/L	640	610	540	590
Chloride (dissolved)	mg/L	53000	51000	50000	49000
Chloride/Magnesium Ratio	ratio	19.6296	22.1739	19.2308	20.4167
Conductivity	umhos/cm	100000 >	110000	100000 >	120000
Fluoride	mg/L	0.16	0.18	0.21	0.18
Hardness	mg/L	40000	33000	36000	34000
Nitrate (as N)	mg/L	ND (2.0)	ND (1.0)	ND (1.0)	ND (1.0)
Nitrite (as N)	mg/L	ND (0.20)	ND (0.10)	ND (0.10)	ND (0.10)
Nitrite/Nitrate	mg/L	ND (2.0)	ND (1.0)	ND (1.0)	ND (1.0)
Orthophosphate	mg/L	ND (0.50)	ND (0.010)	ND (0.010)	ND (0.20)
pH, lab	s.u.	6.89	6.88	6.81	6.92
Phenolics (total)	mg/L	0.0032	ND (0.010)	0.016	ND (0.010)
Sulfate (dissolved)	mg/L	1000	1000	1000	1300
Total dissolved solids (TDS)	mg/L	94800	86400	81800	71100
Total kjeldahl nitrogen (TKN)	mg/L	38	38	35	39
Total organic carbon (TOC)	mg/L	5.9	10	8.8	7.2

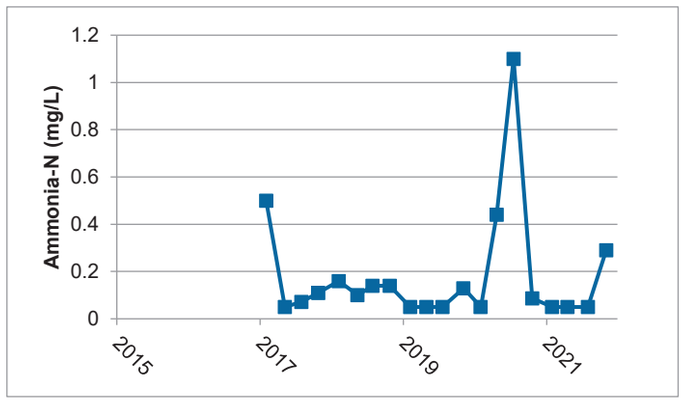
Notes:

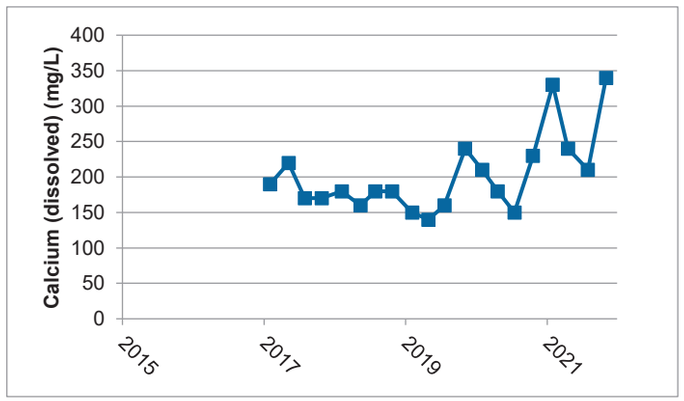
ND Not detected at the associated reporting limit.

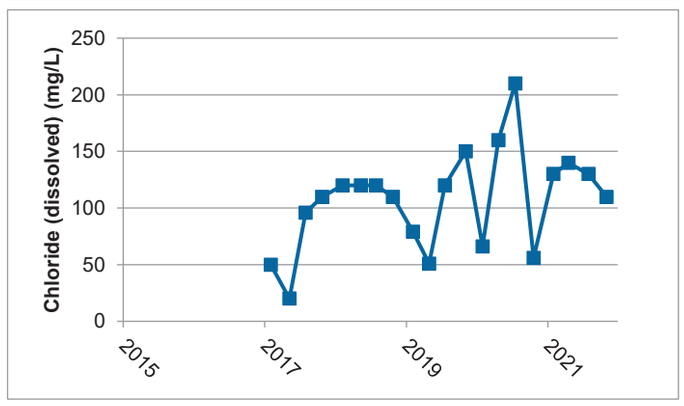
Appendix N.2

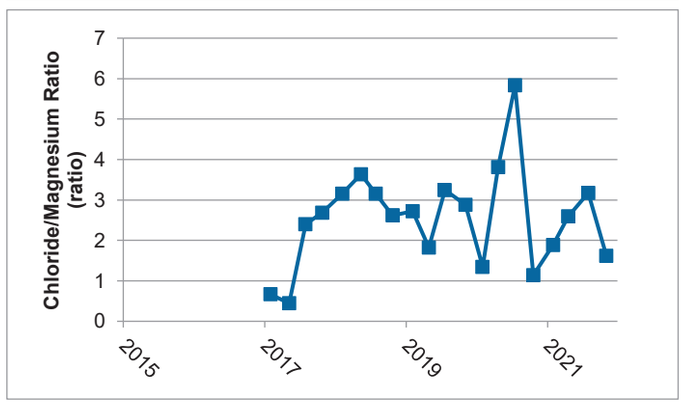
Groundwater Quality Plots

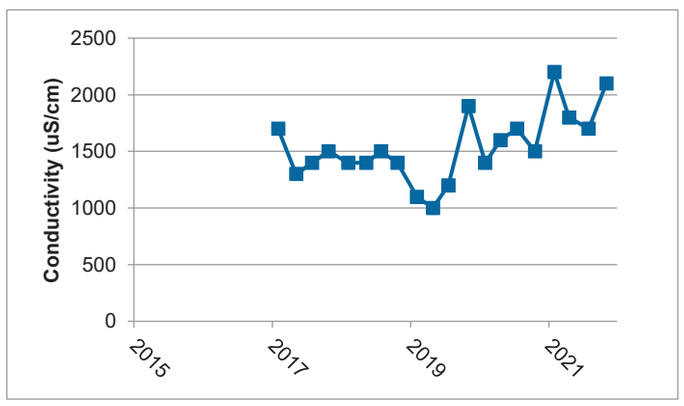


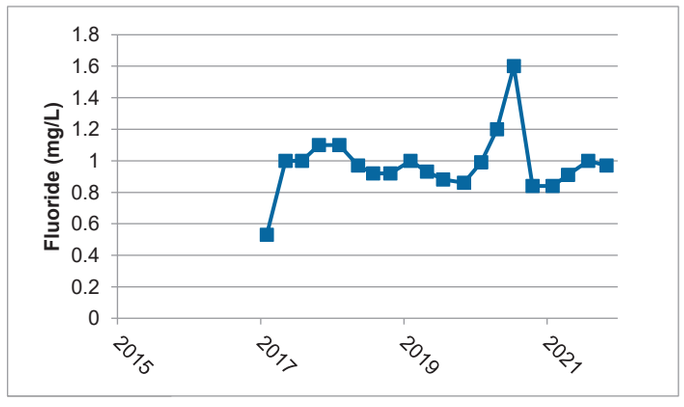


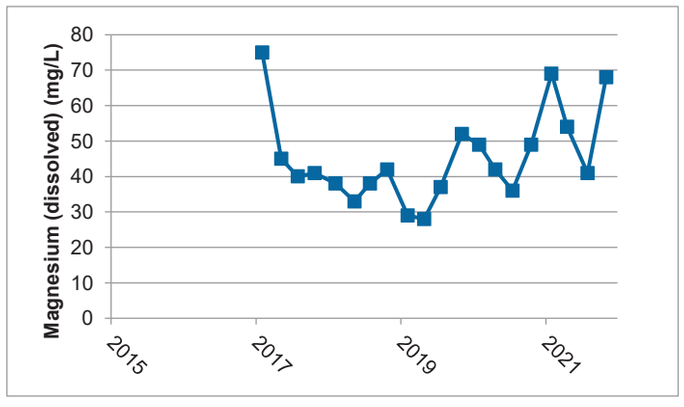


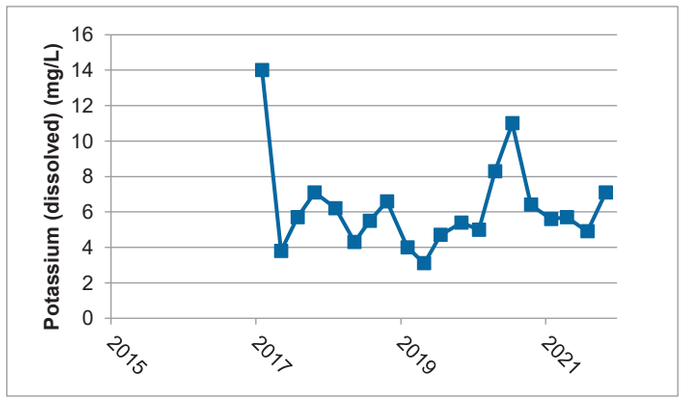




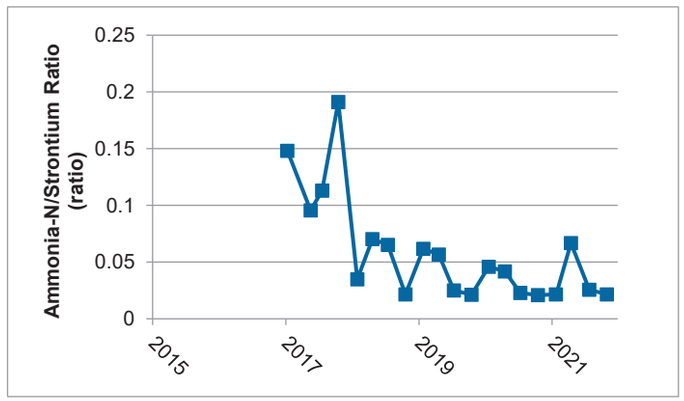


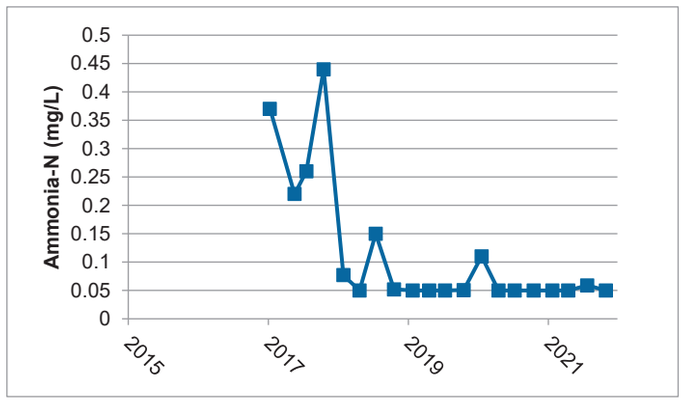


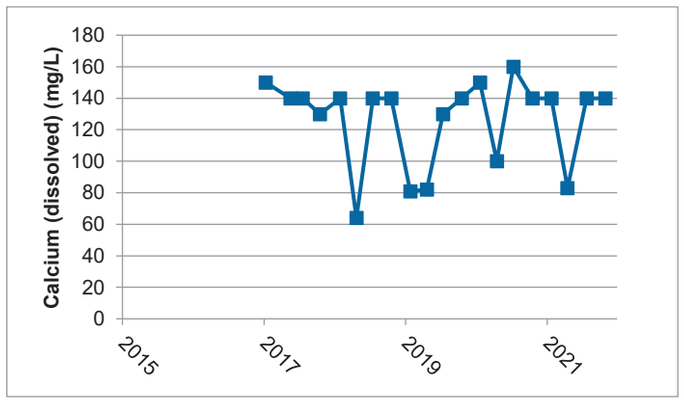


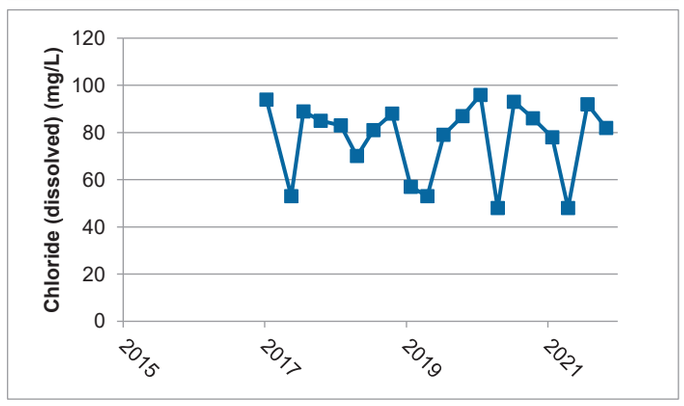


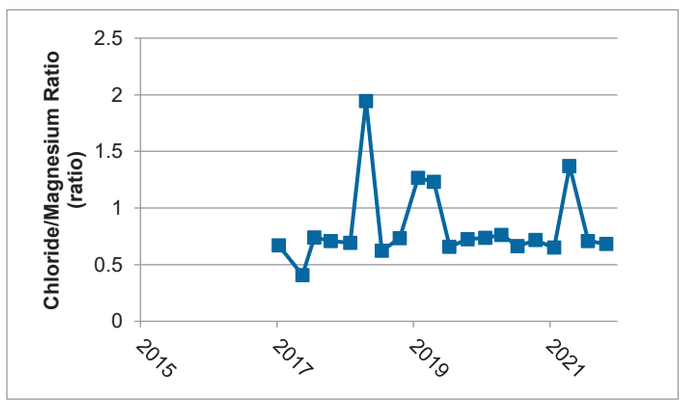
Appendix F.2 - Figure 1
9-I - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario

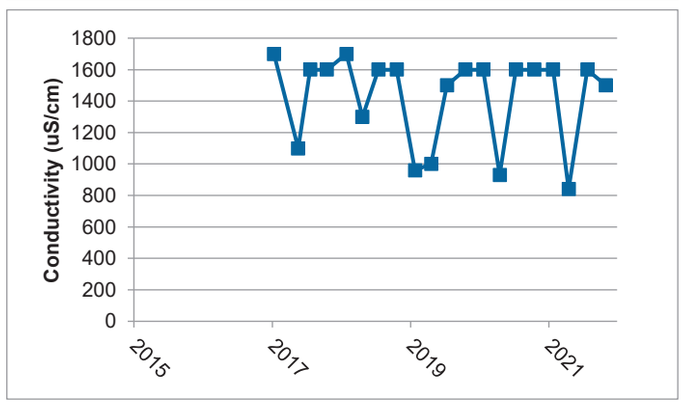


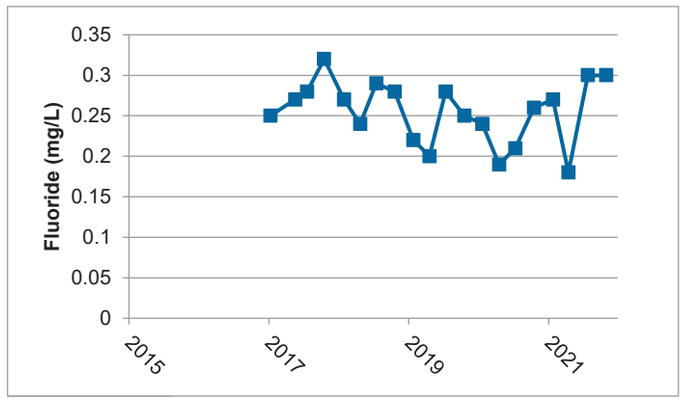


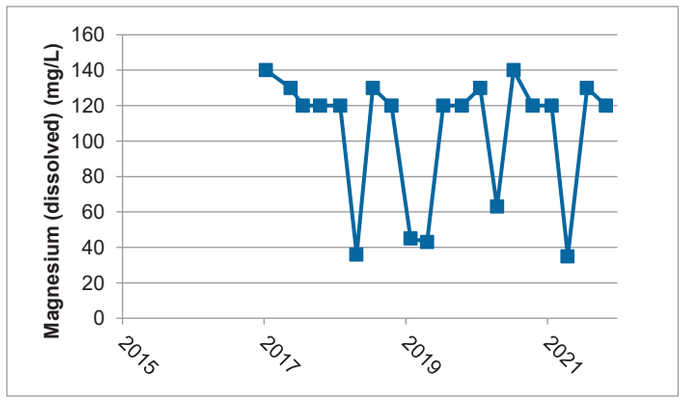


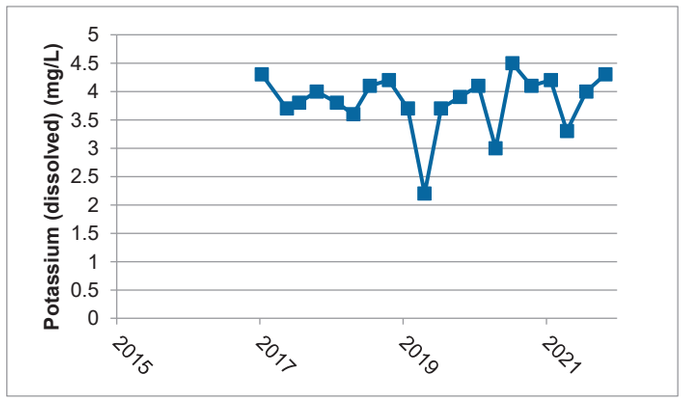




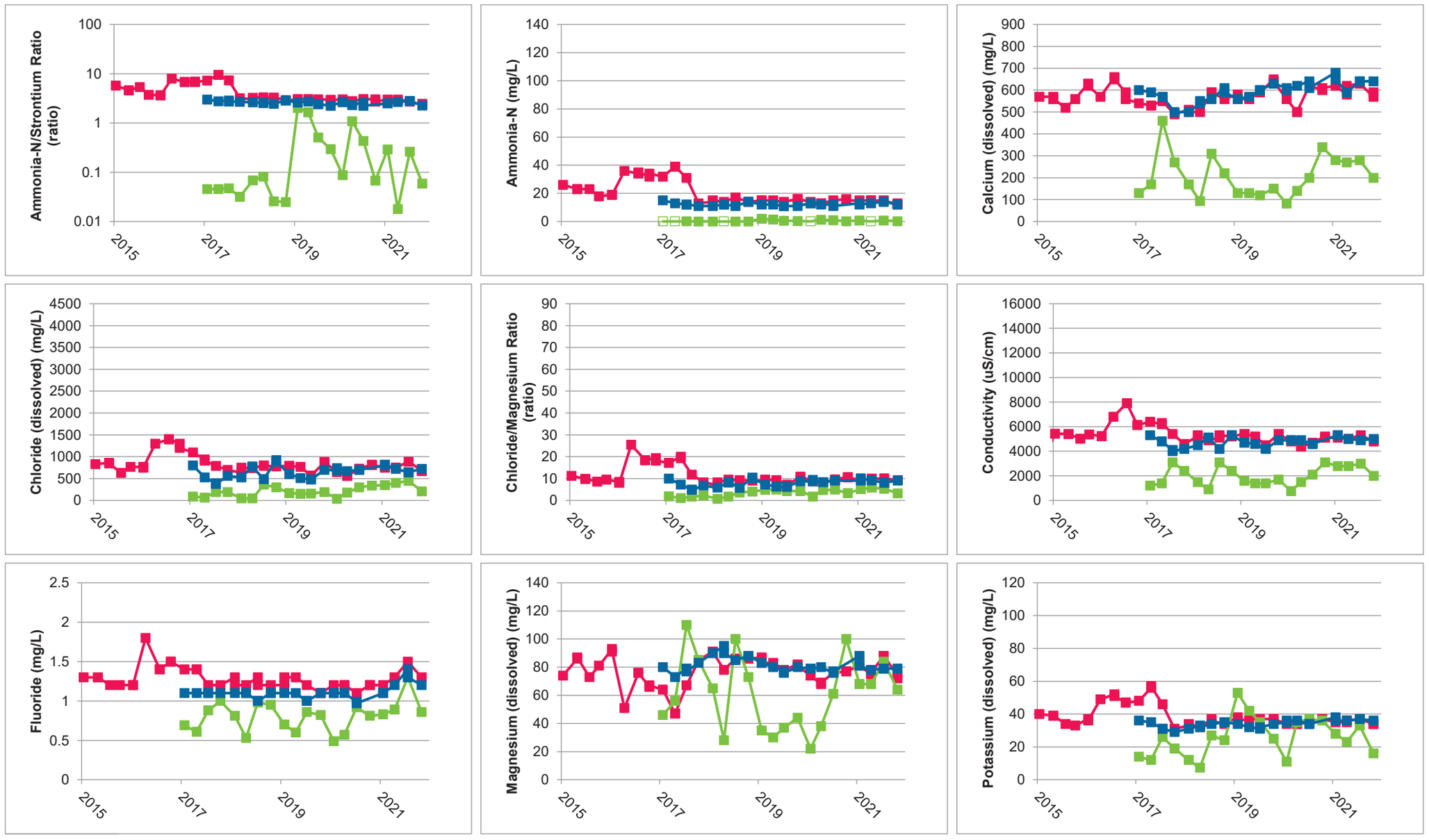




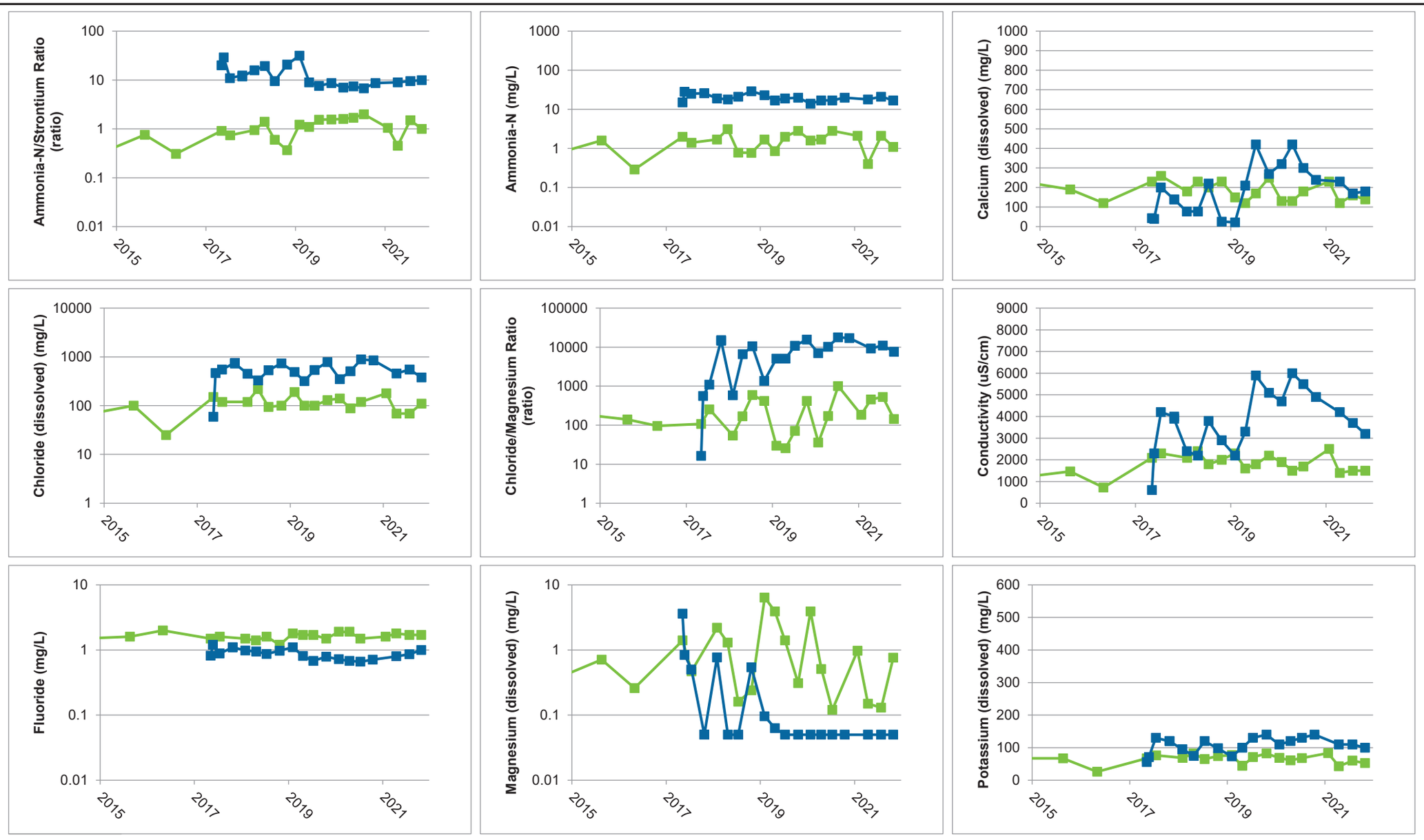




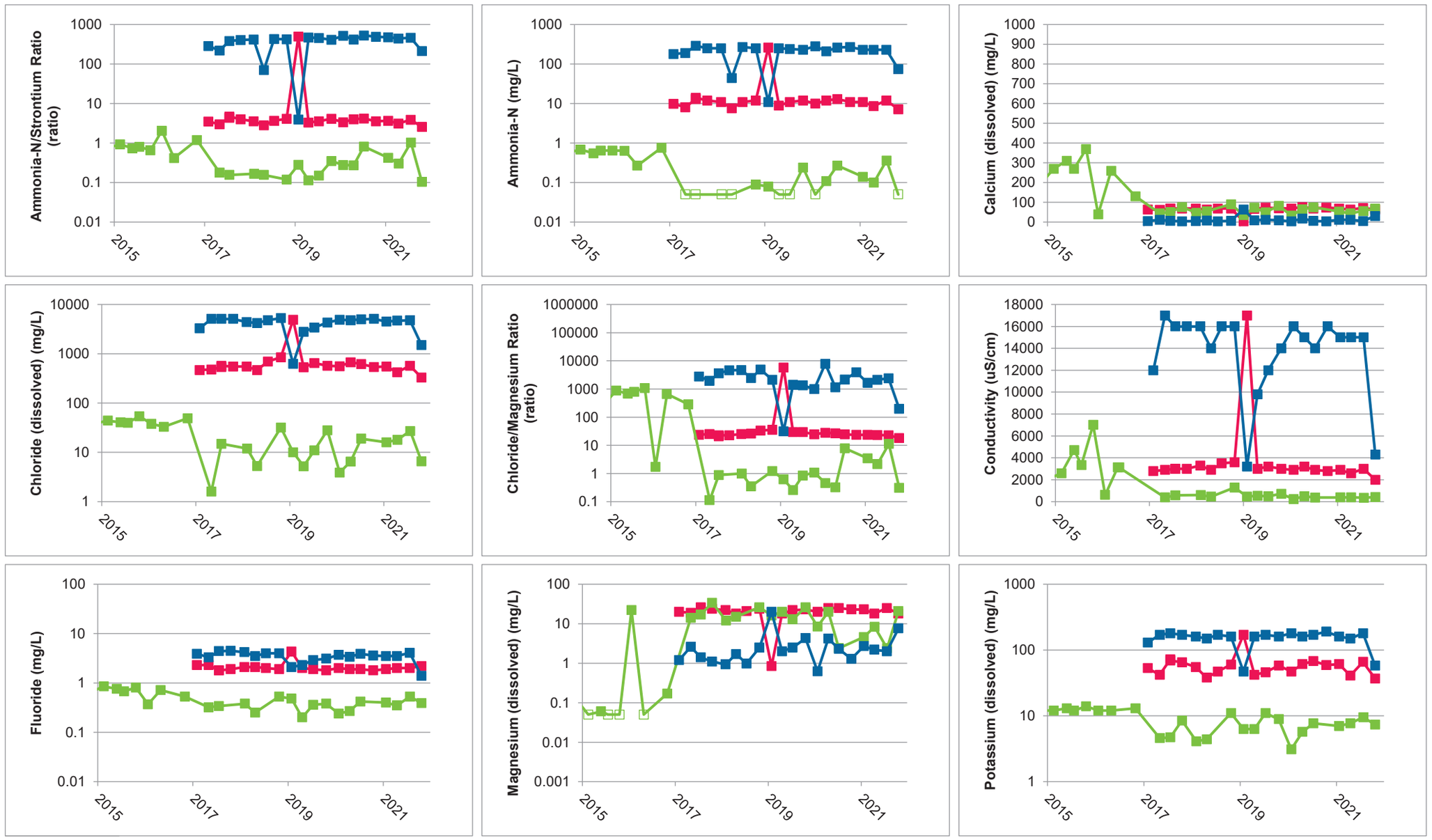
Appendix F.2 - Figure 2
14-I - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



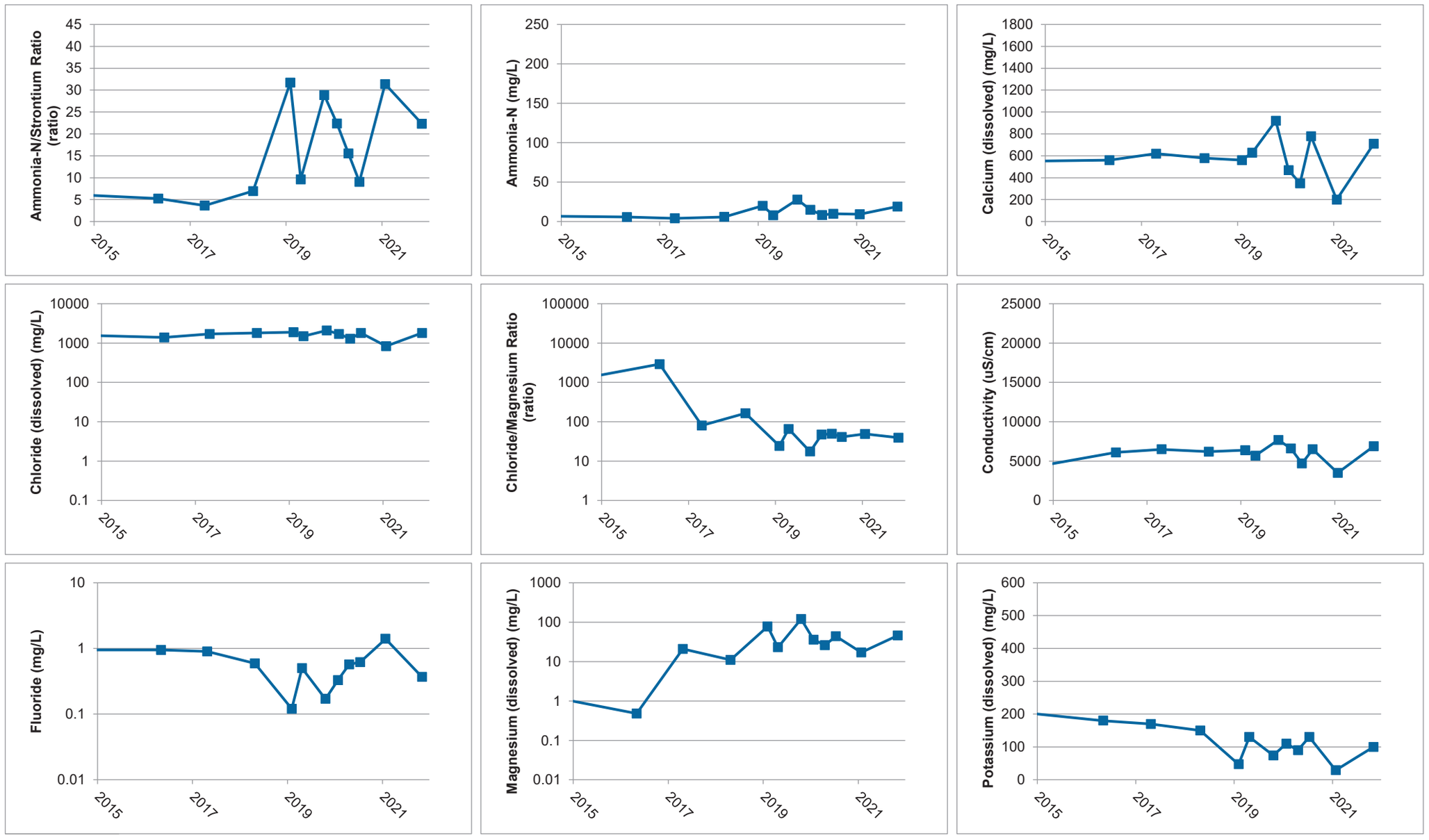
Appendix F.2 - Figure 3
29 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



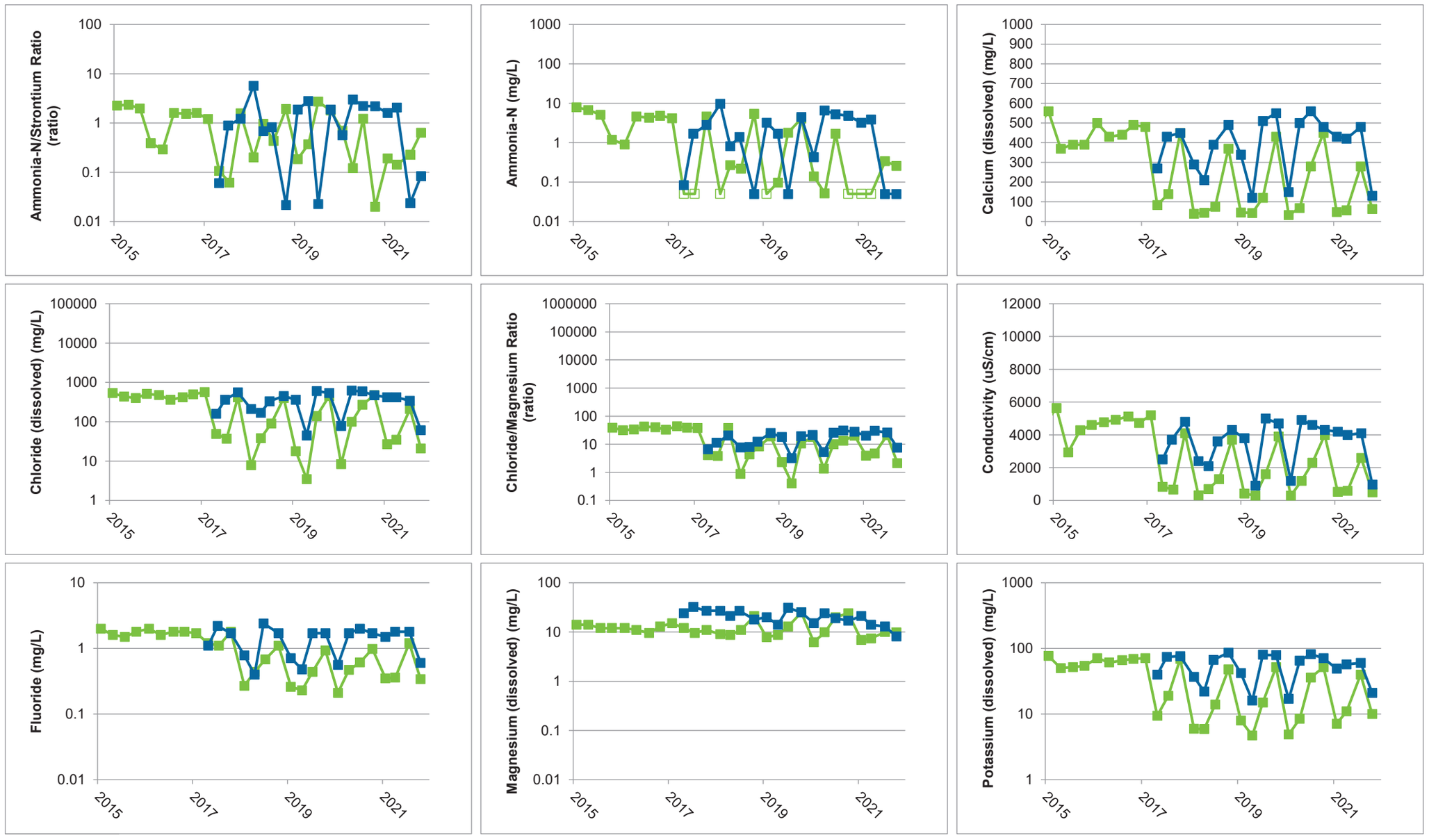
Appendix F.2 - Figure 4
30 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



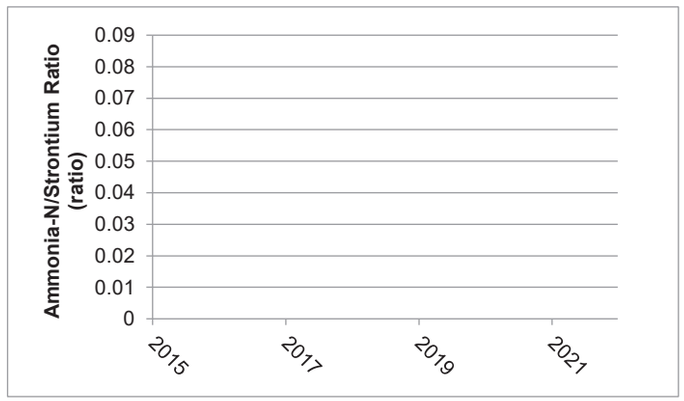
Appendix F.2 - Figure 5
31 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario

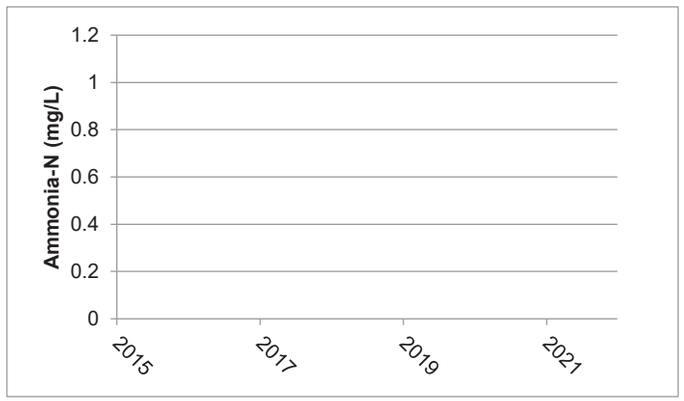


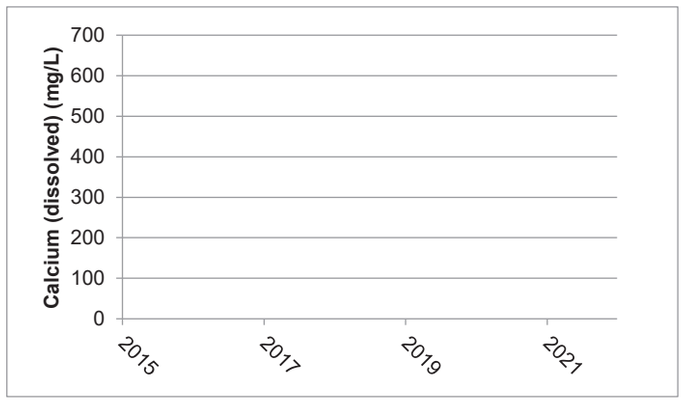
Appendix F.2 - Figure 6
32-II - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario

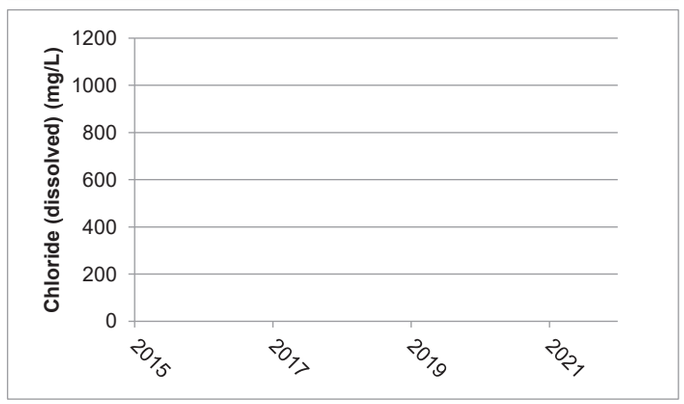


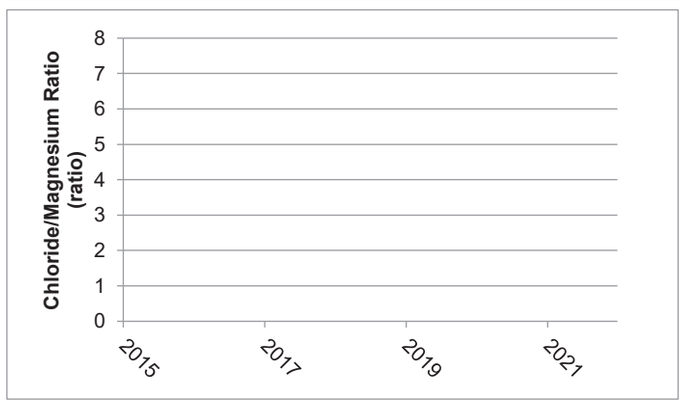
Appendix F.2 - Figure 7
33 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario

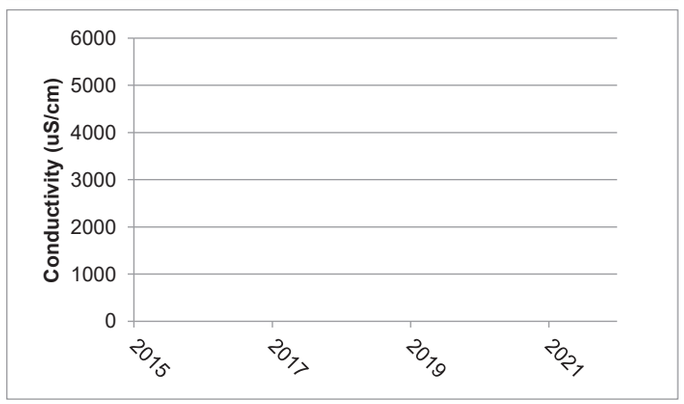


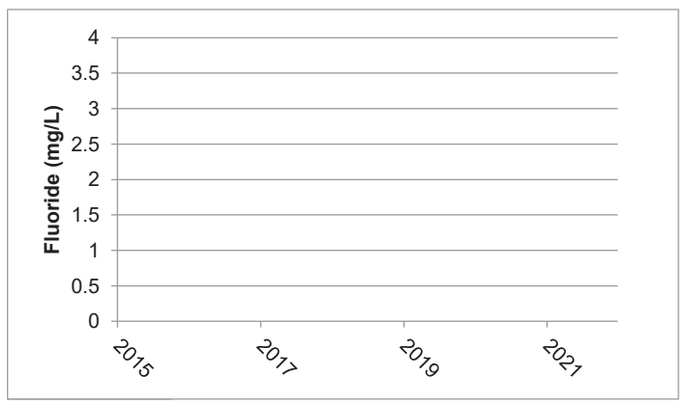


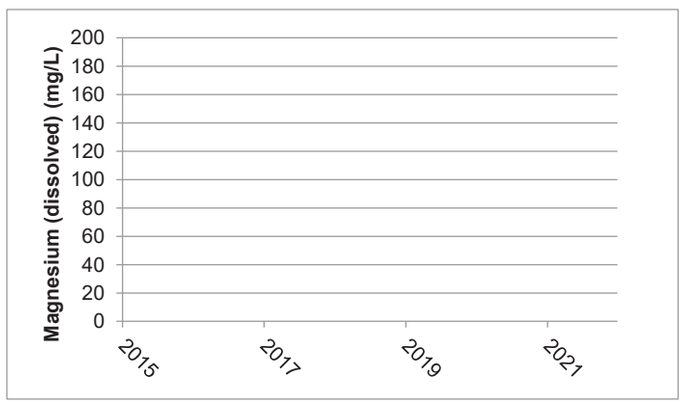


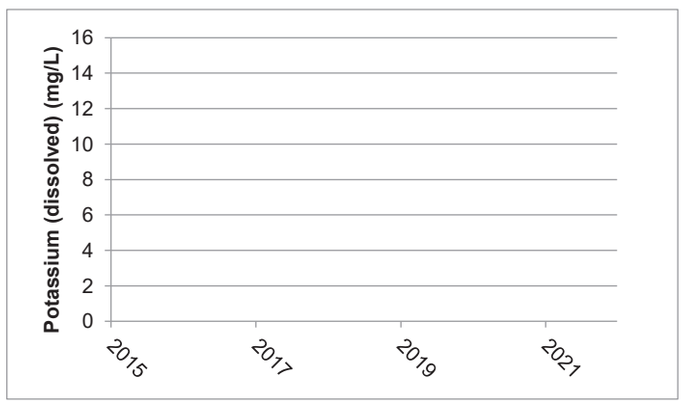




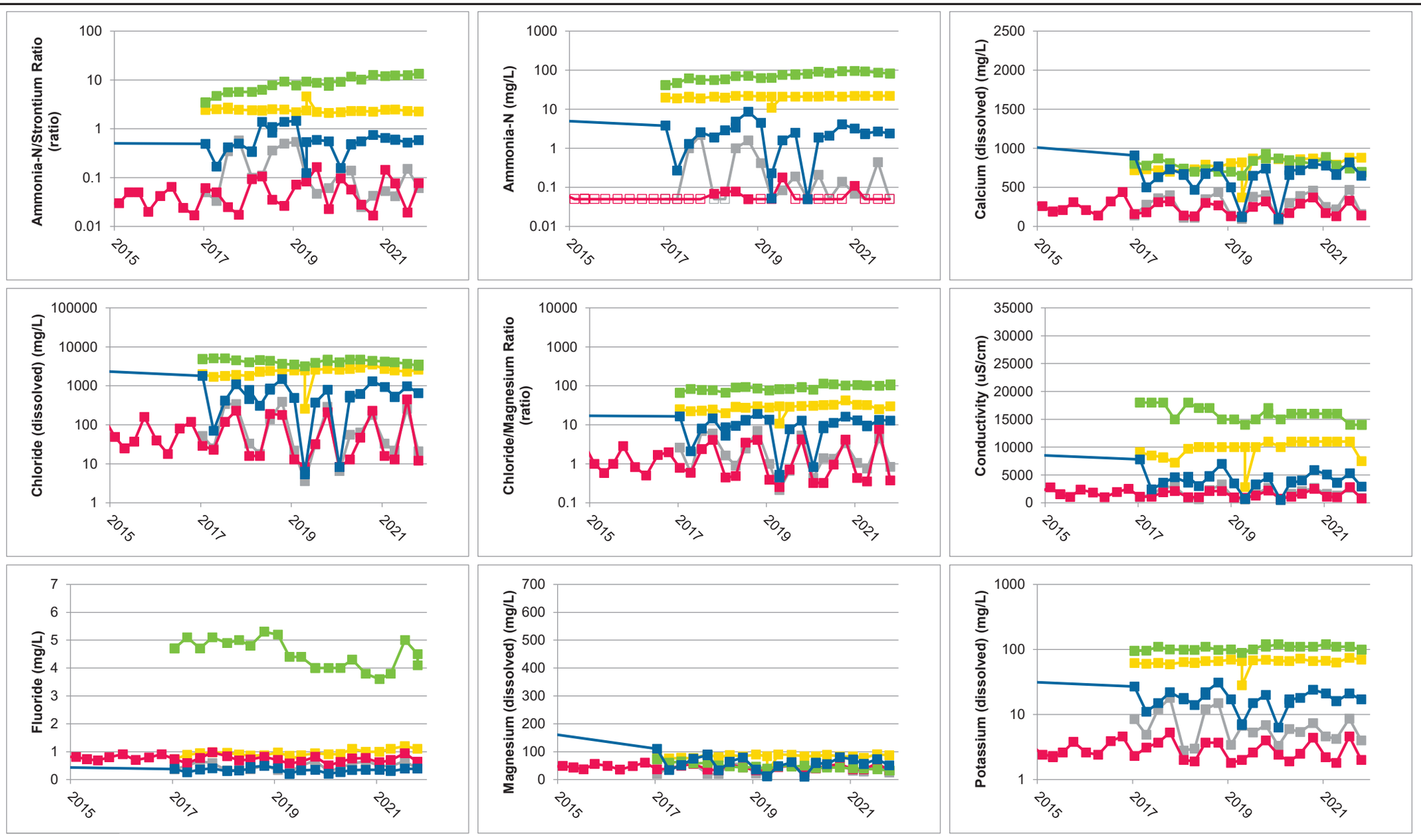




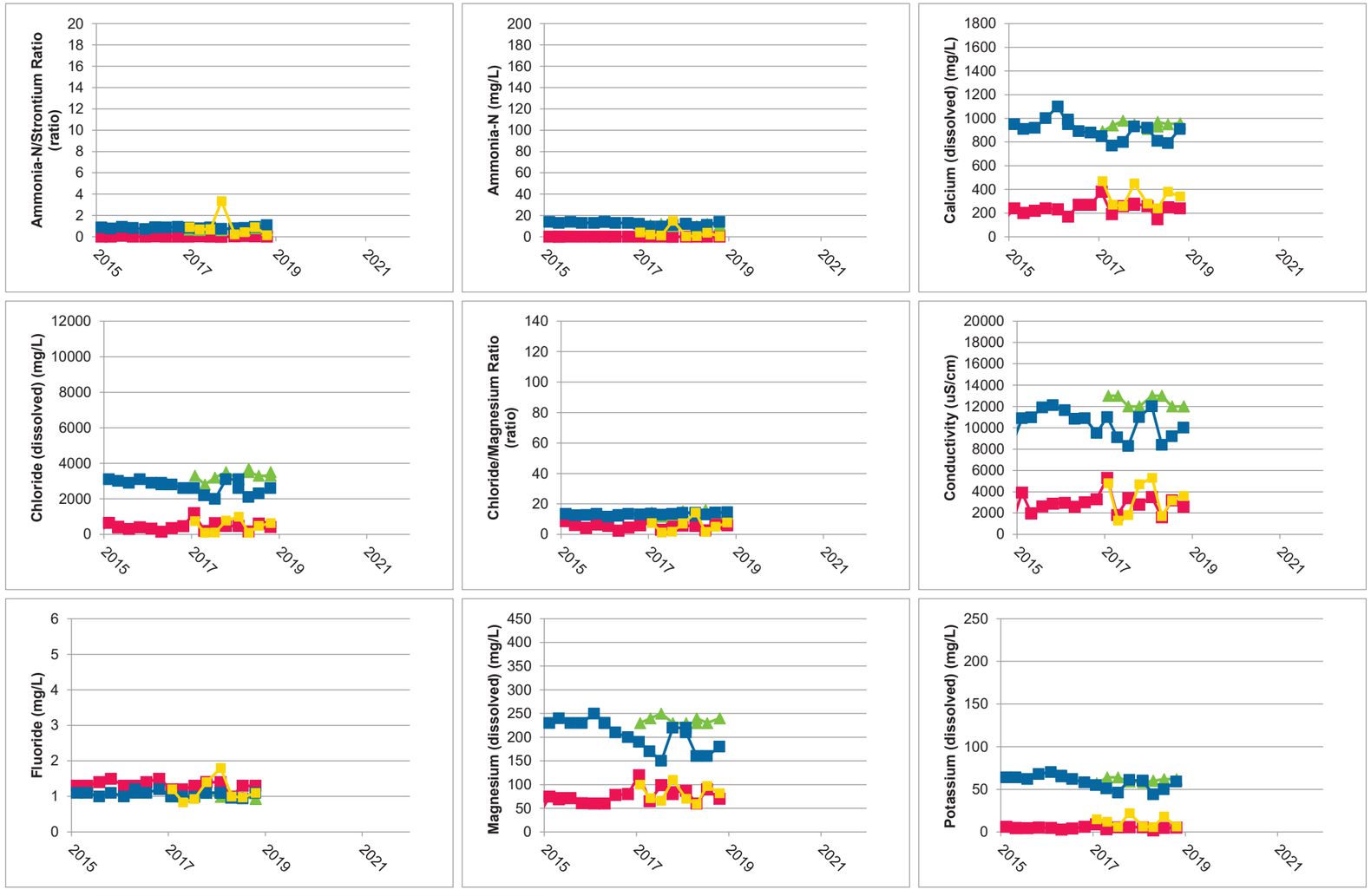




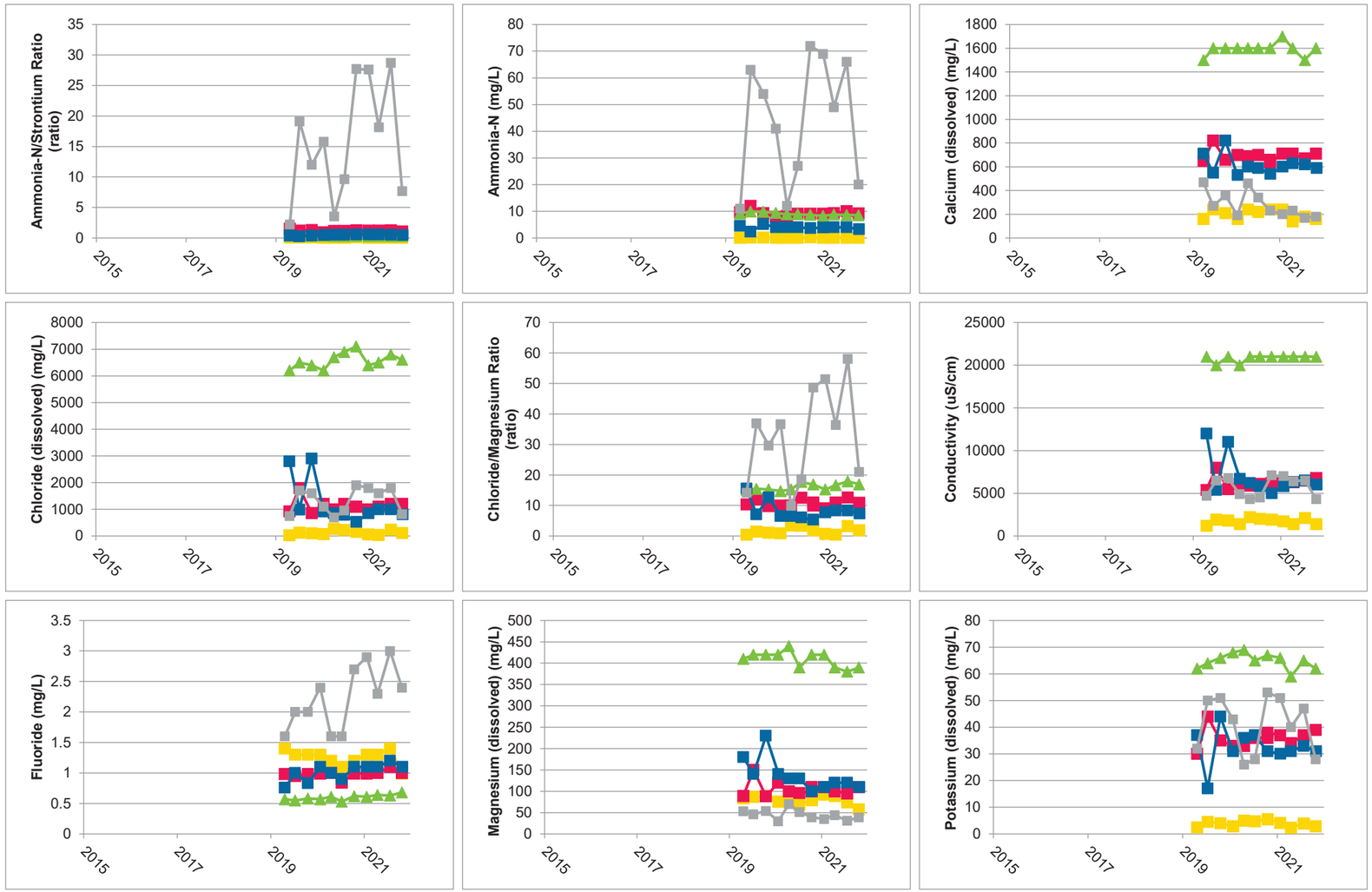
Appendix F.2 - Figure 8
34-III - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



Appendix F.2 - Figure 9
35 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario

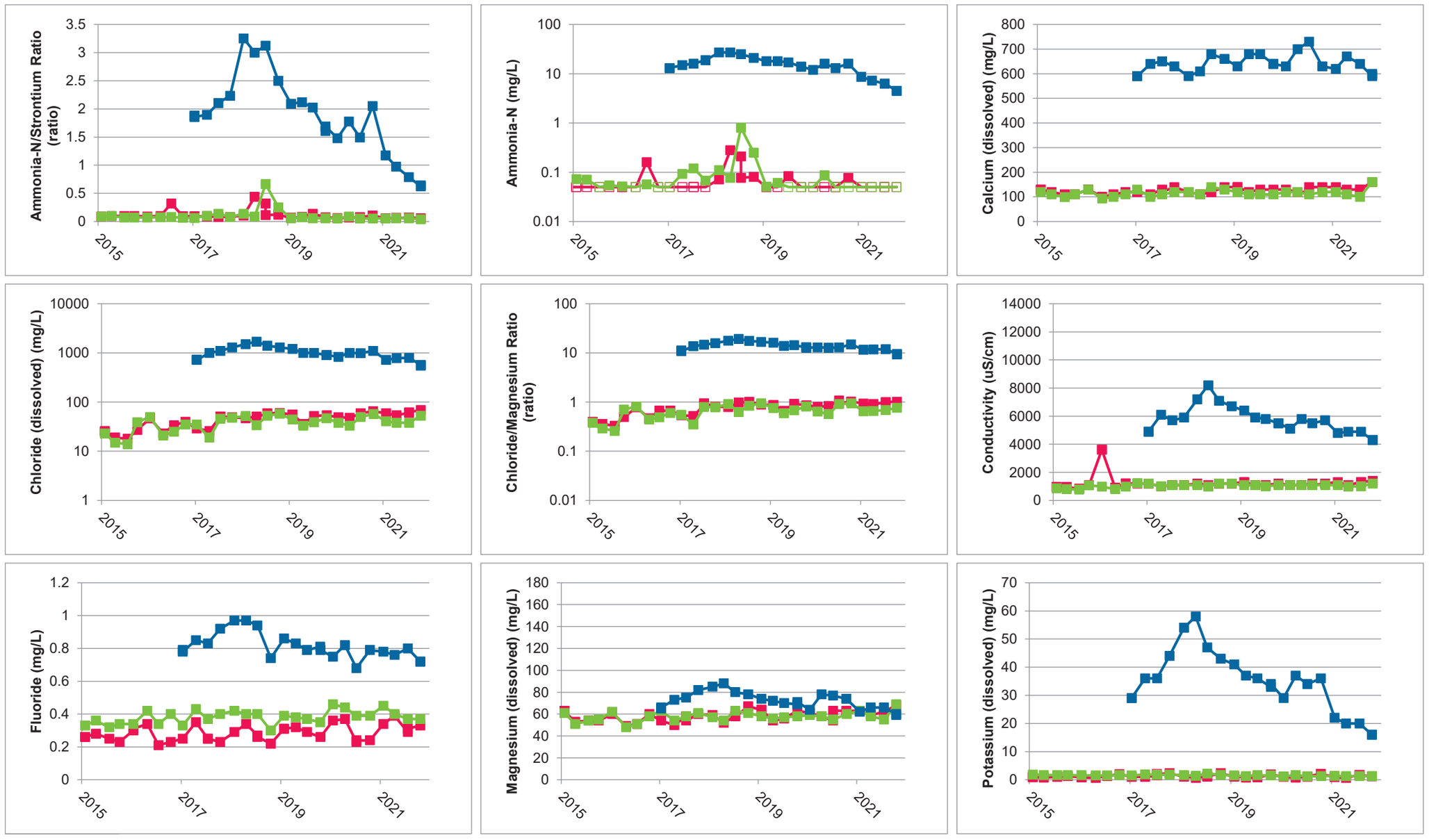


Appendix F.2 - Figure 10A
36 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario

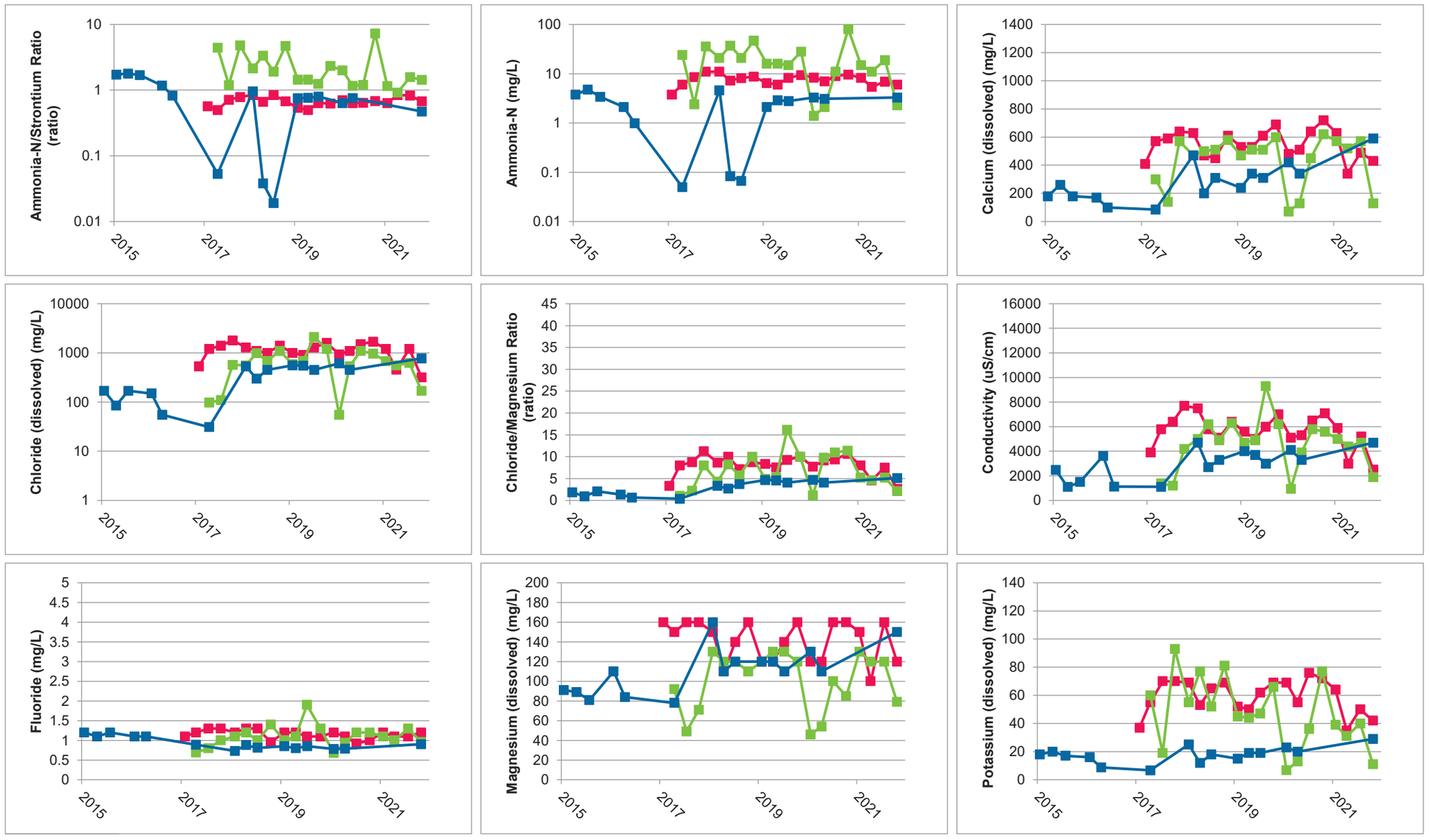


Appendix F.2 - Figure 10B
36 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario

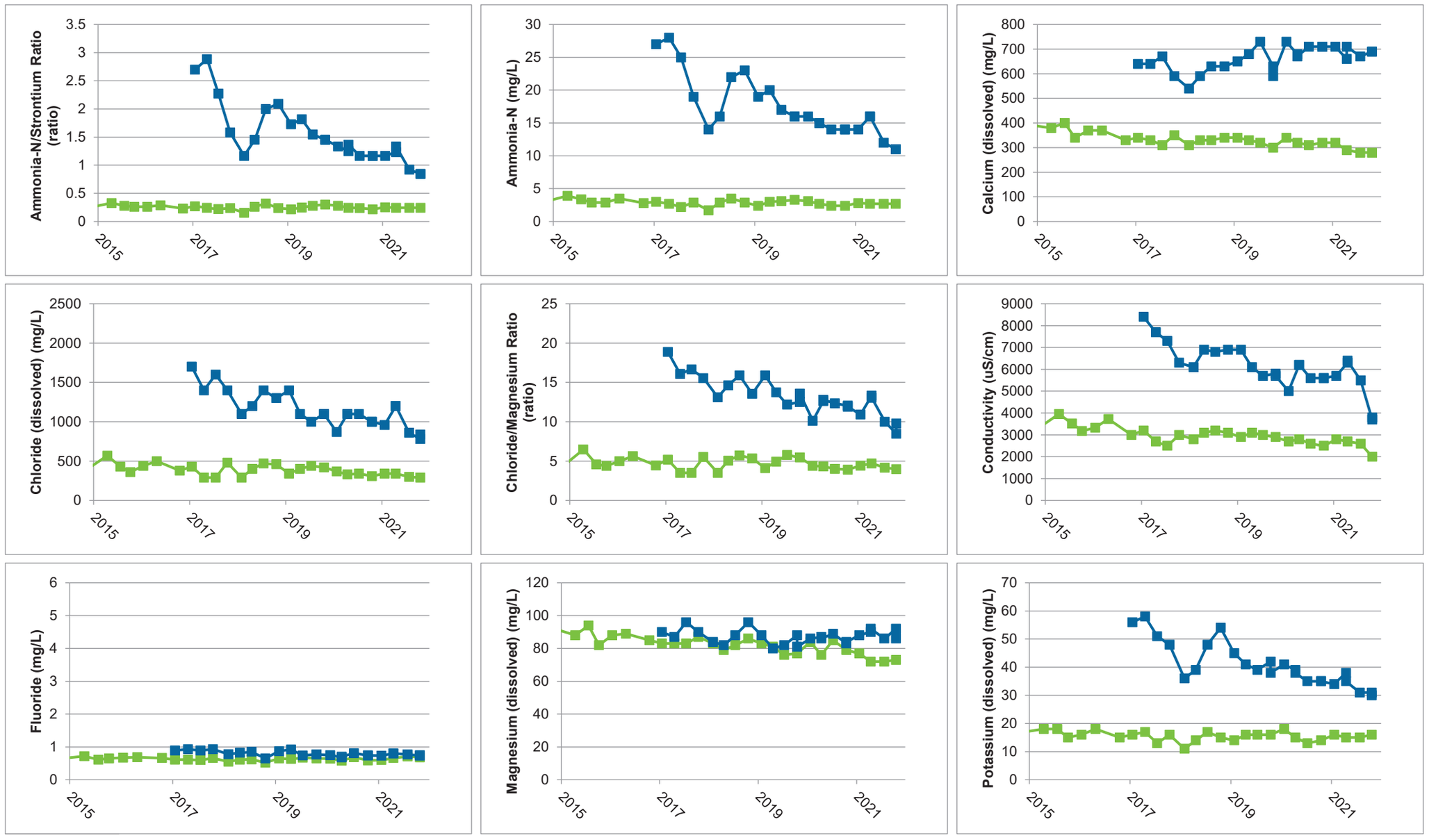
Appendix F.2 - Figure 11
40 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



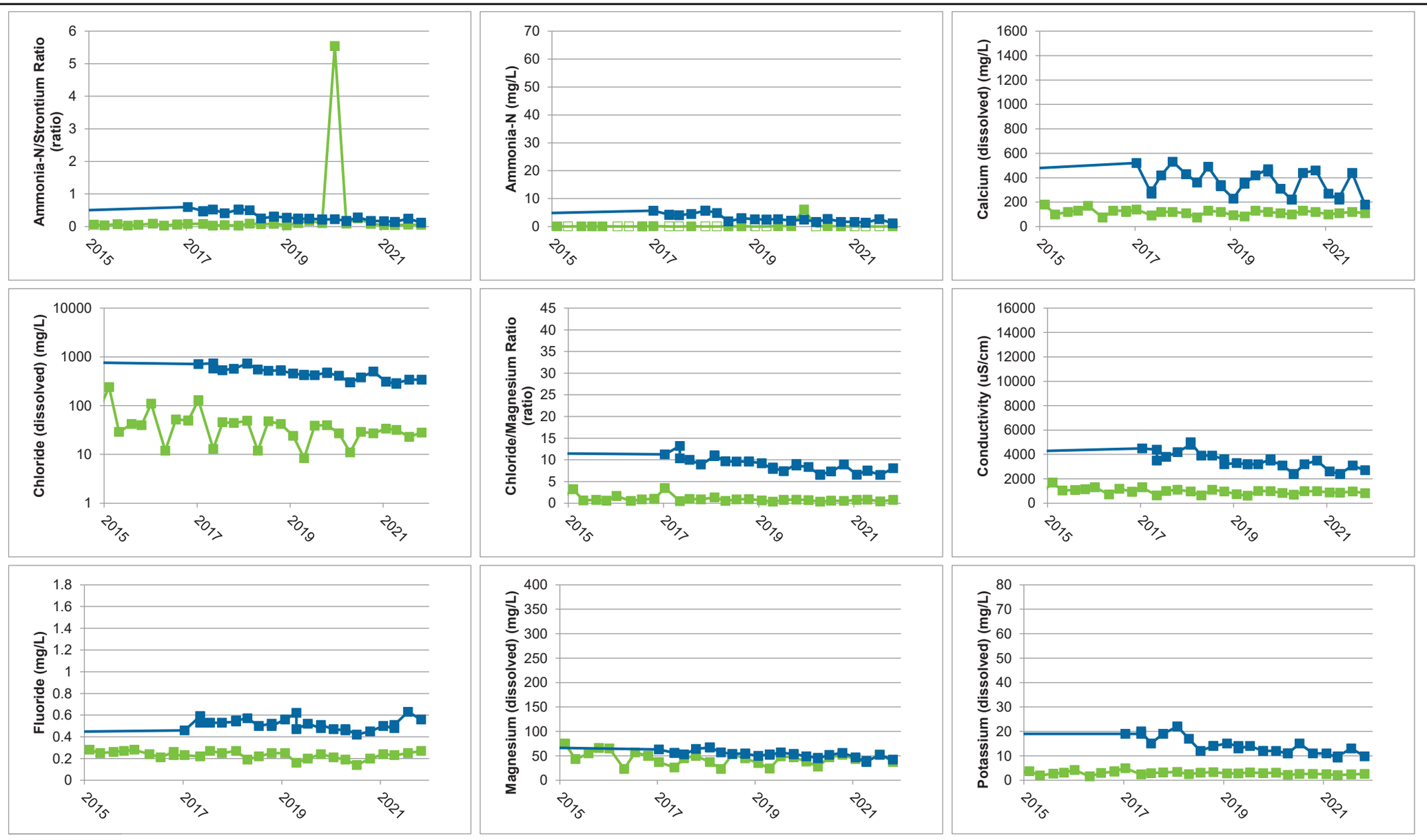
Appendix F.2 - Figure 12
41 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



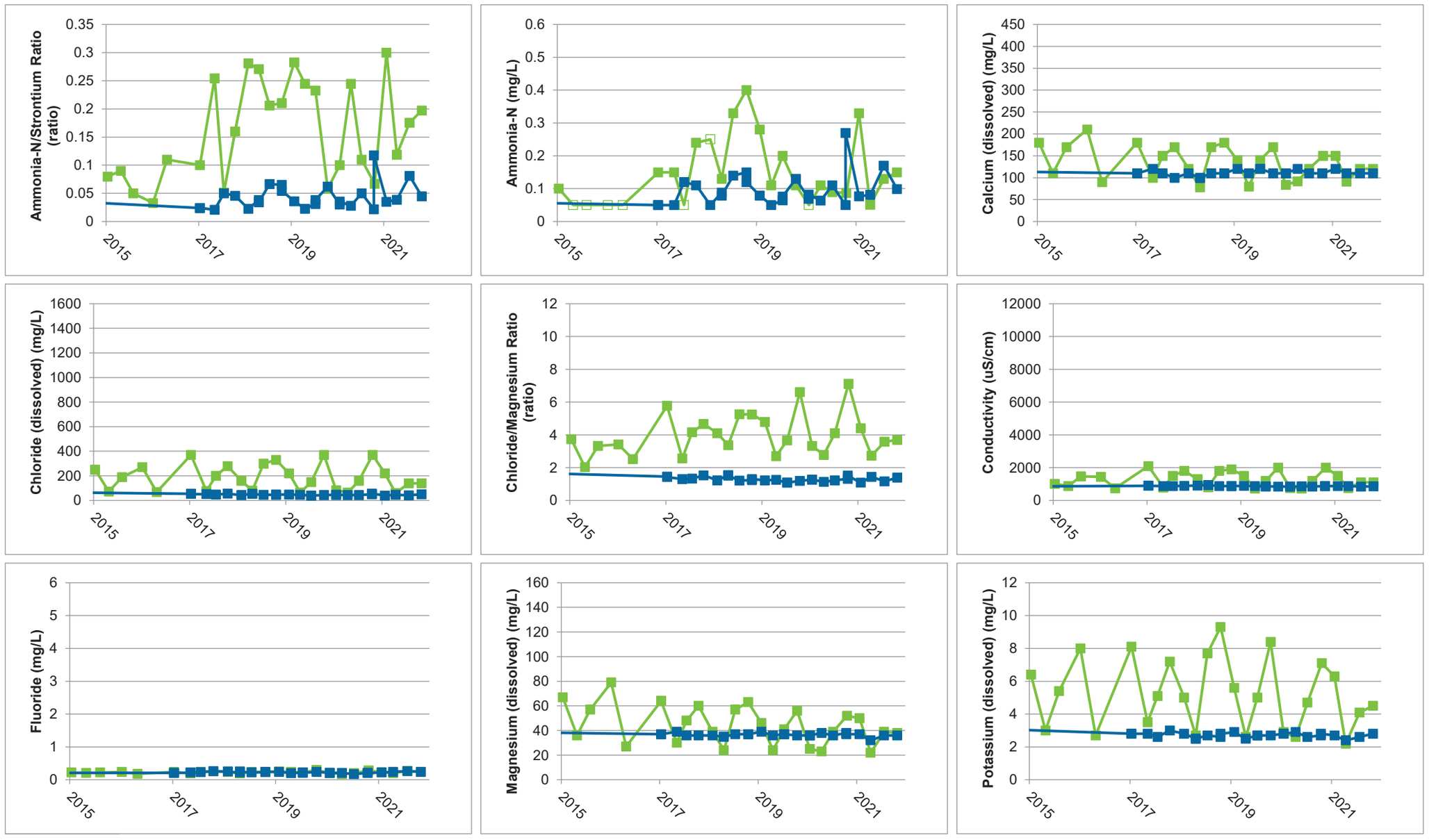
Appendix F.2 - Figure 13
42 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



Appendix F.2 - Figure 14
43 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario

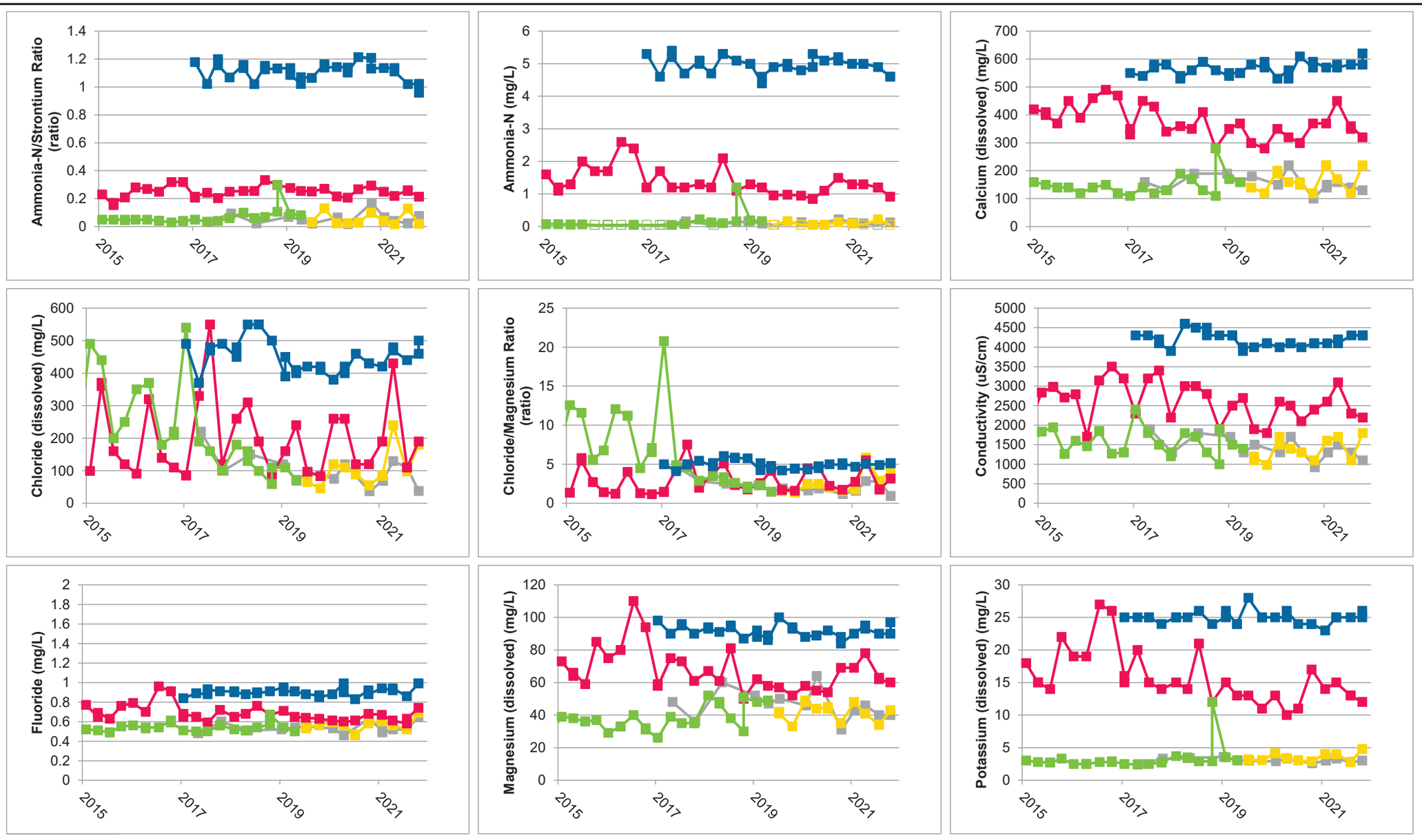


Appendix F.2 - Figure 15
44 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario

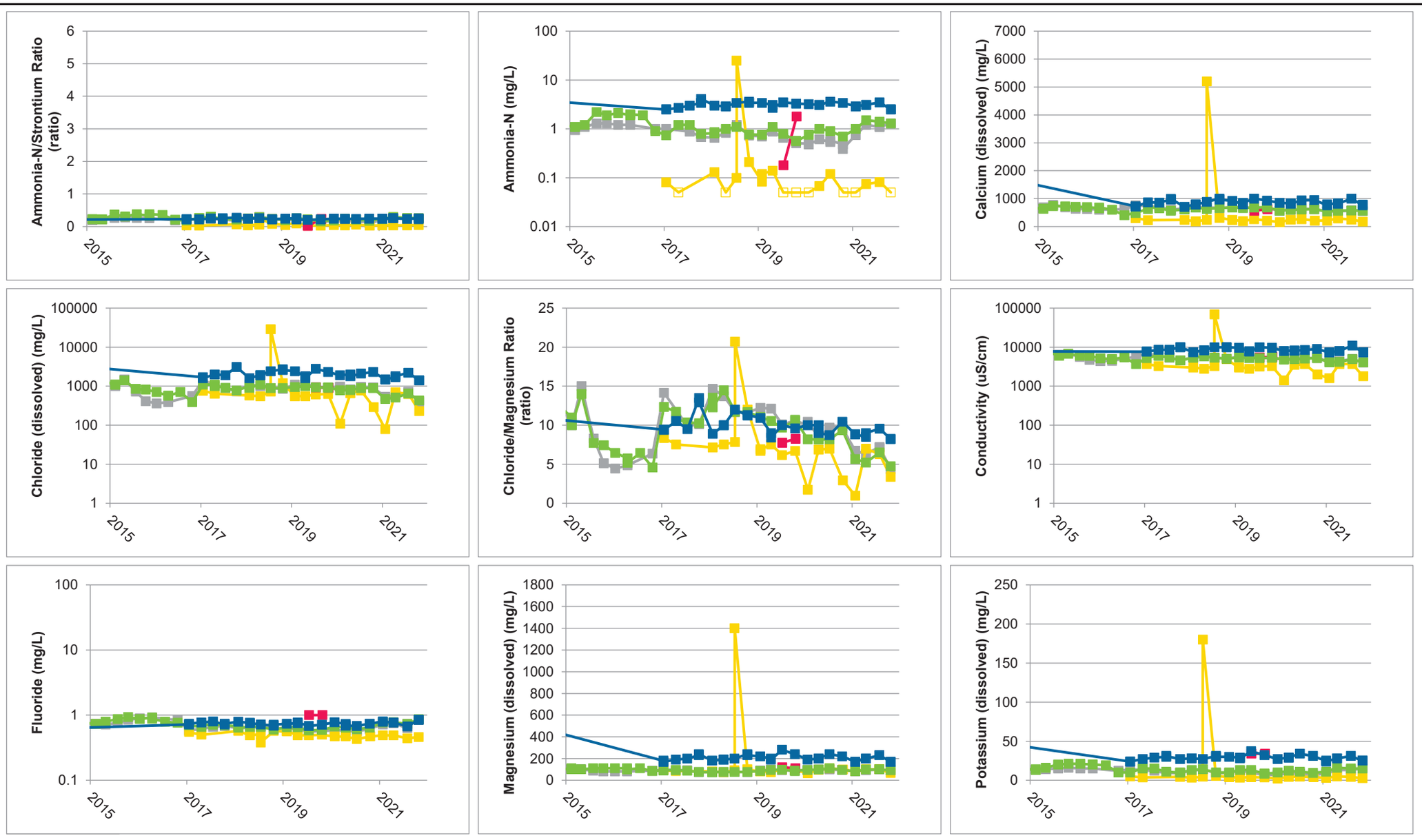


Appendix F.2 - Figure 16
45 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario

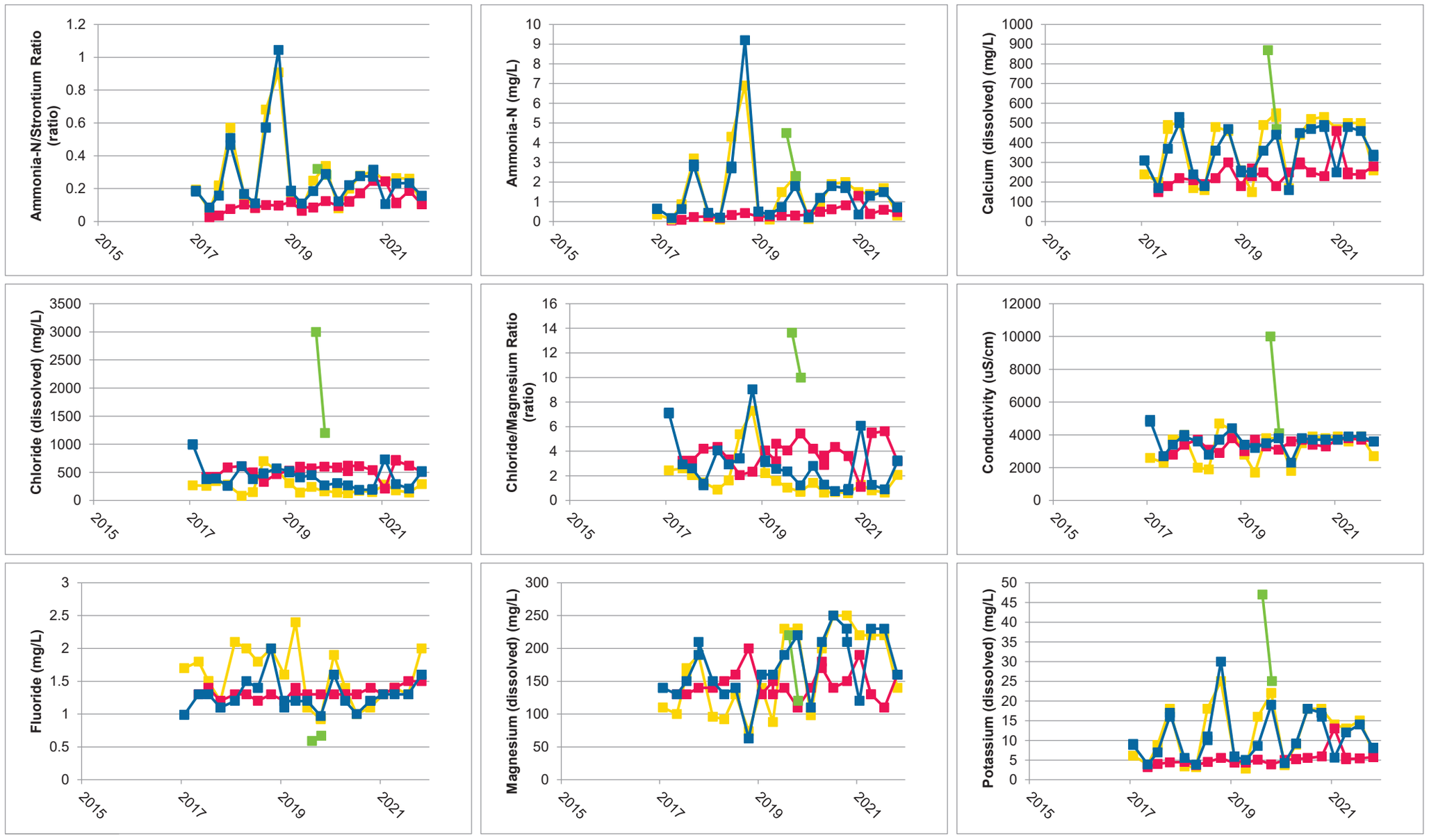
Appendix F.2 - Figure 17
46 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



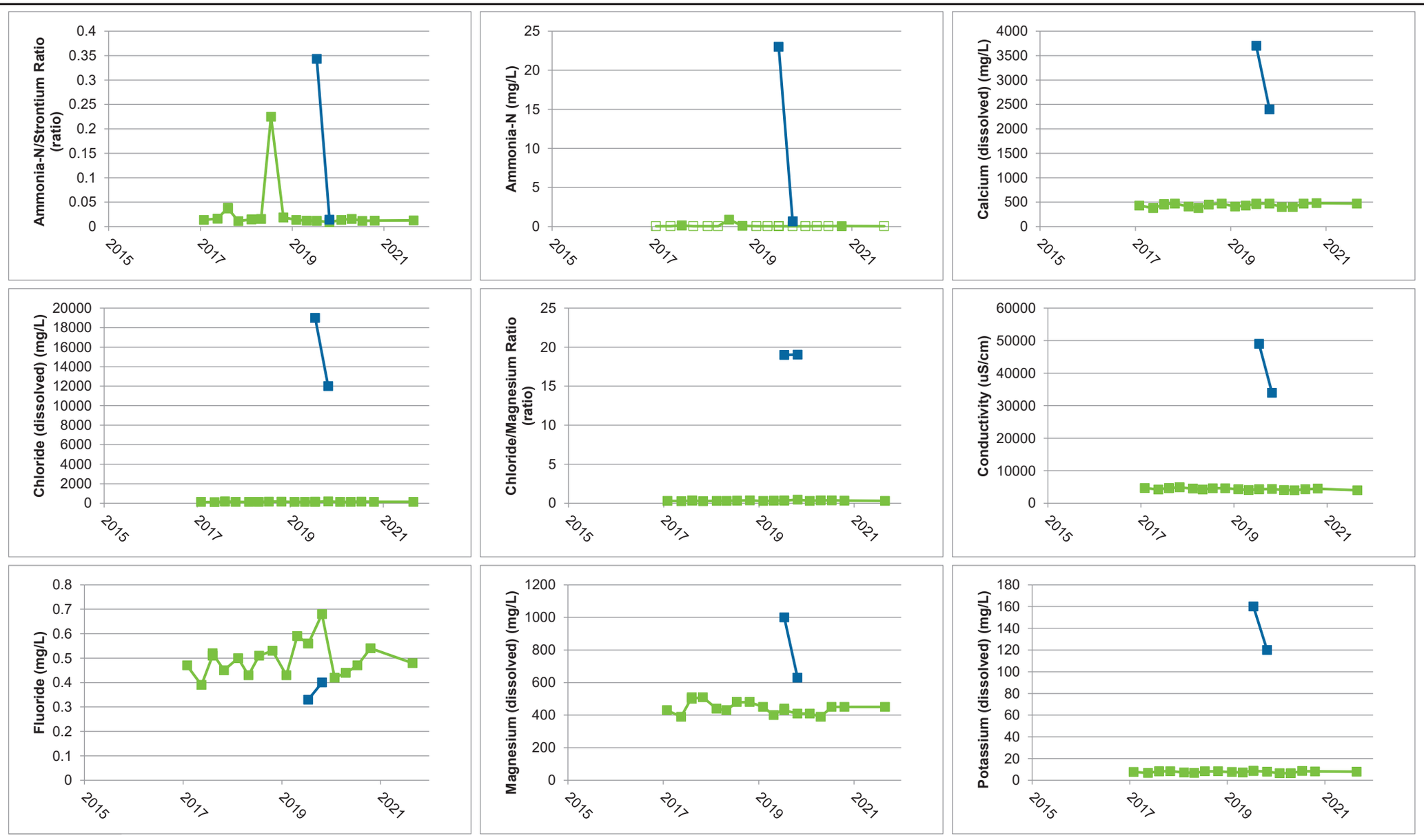
Appendix F.2 - Figure 18
47 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



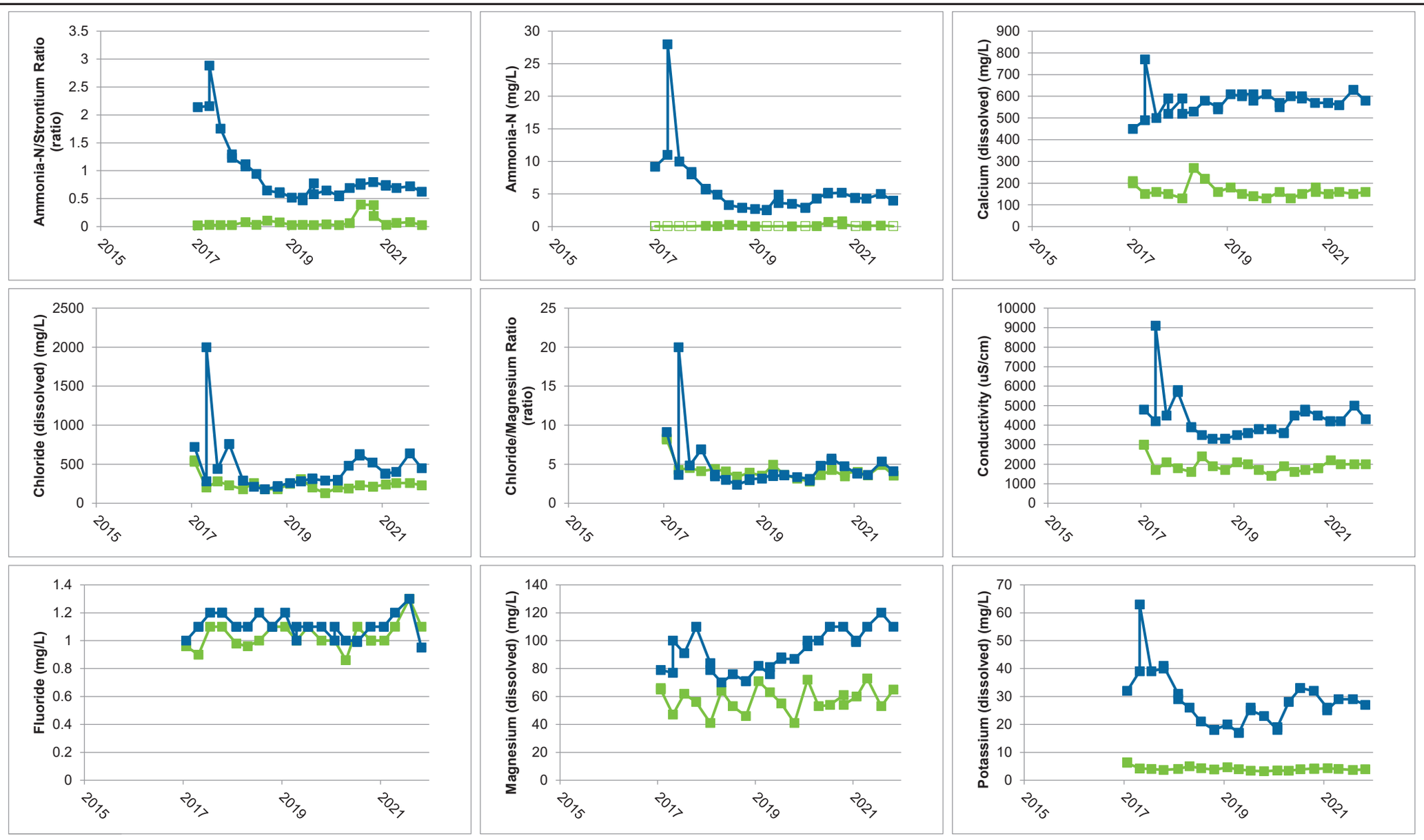
Appendix F.2 - Figure 19
48 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



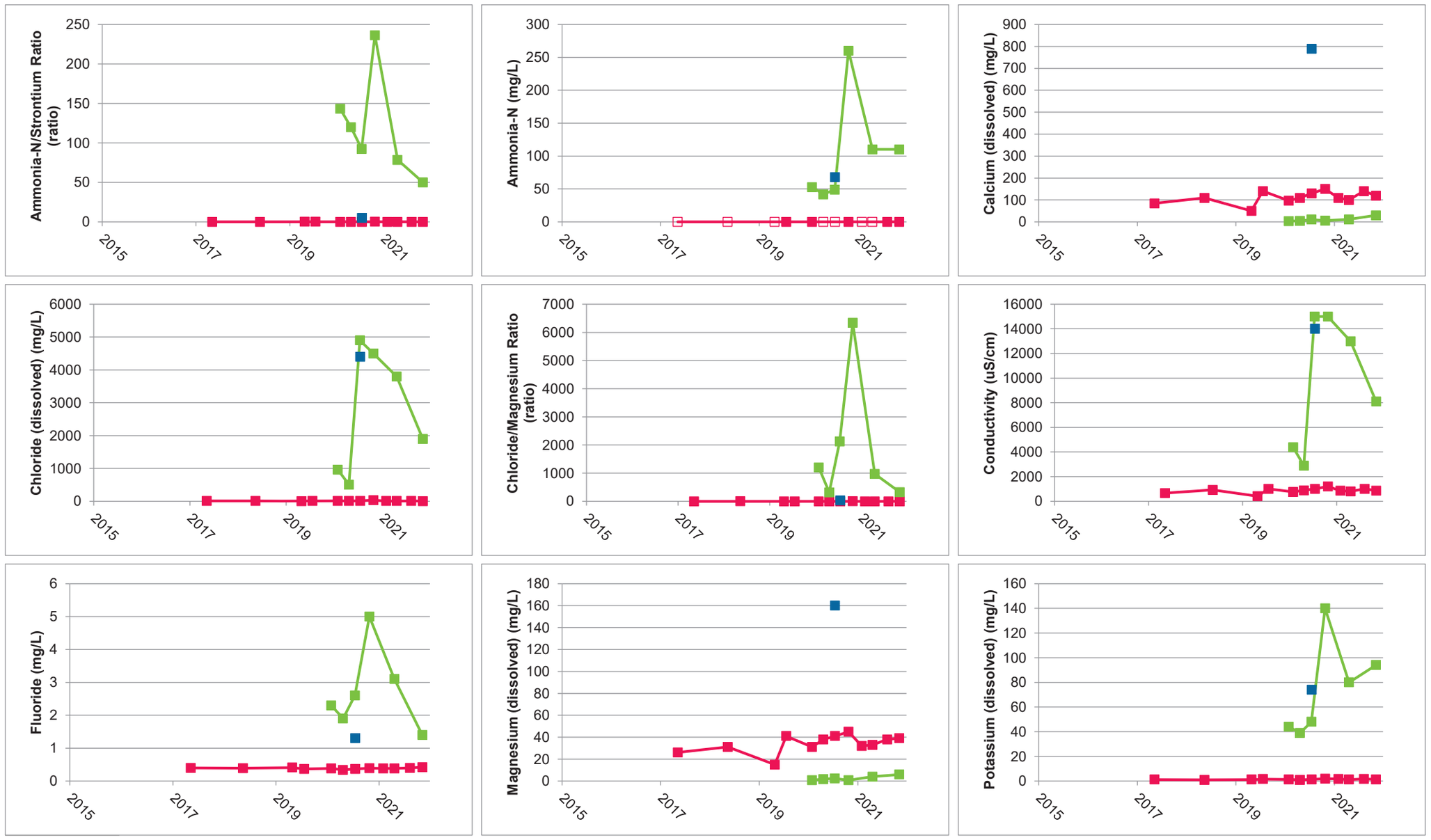
Appendix F.2 - Figure 20
49 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



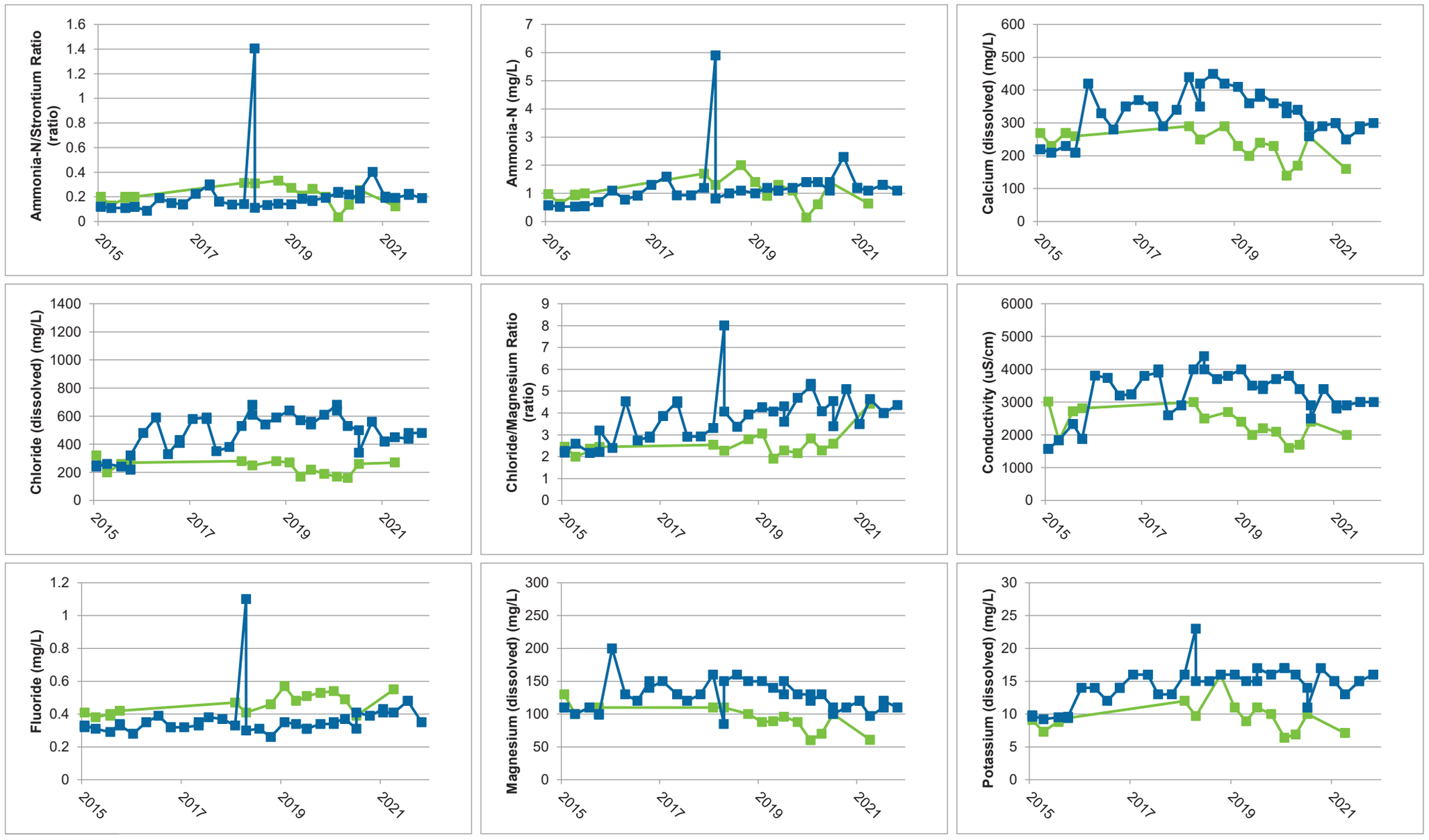
Appendix F.2 - Figure 21
50 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



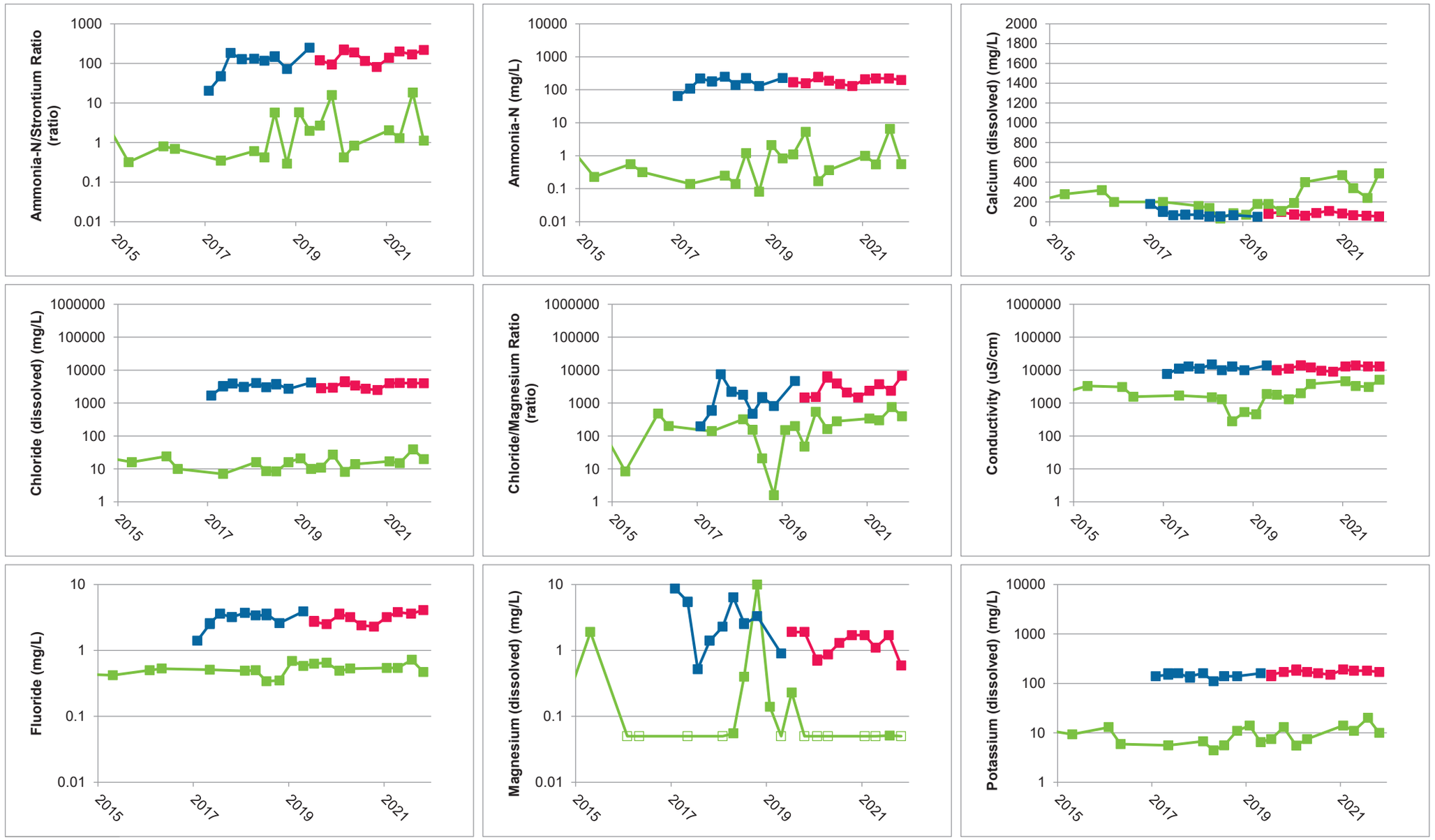
Appendix F.2 - Figure 22
51 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



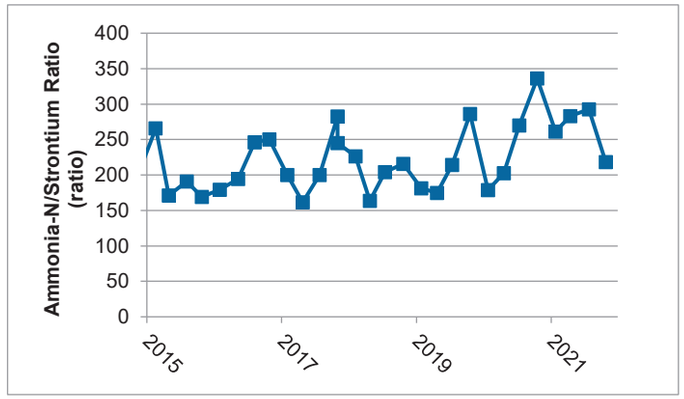
Appendix F.2 - Figure 23
52 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario

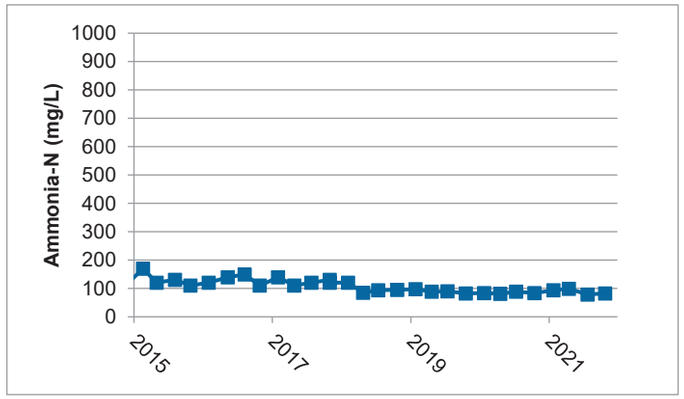


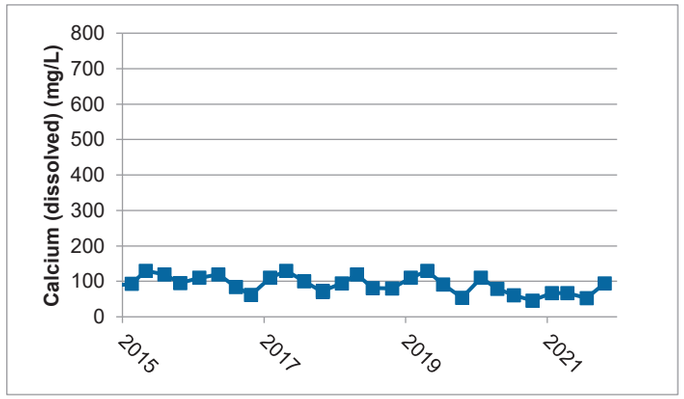
Appendix F.2 - Figure 24
56 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario

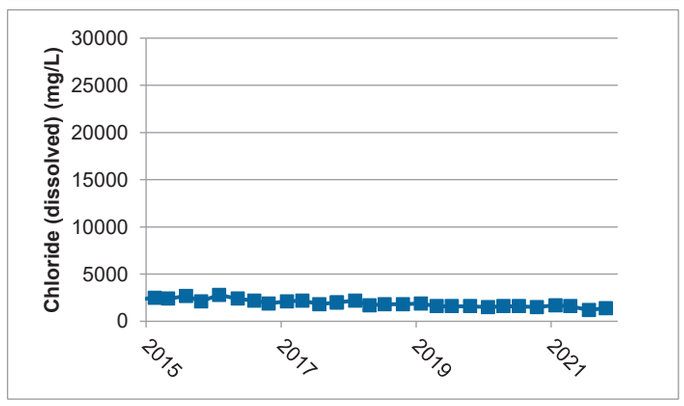


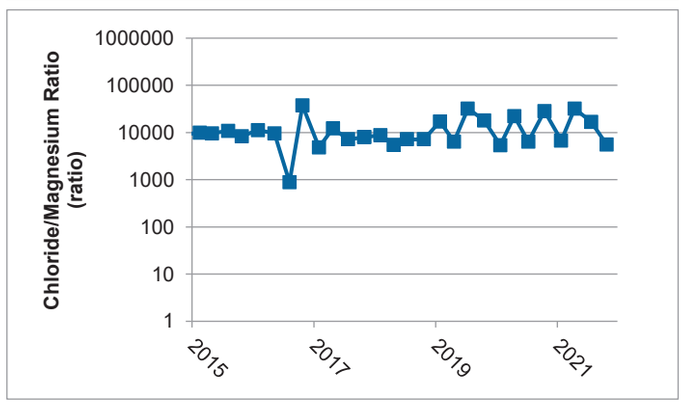
Appendix F.2 - Figure 25
57 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario

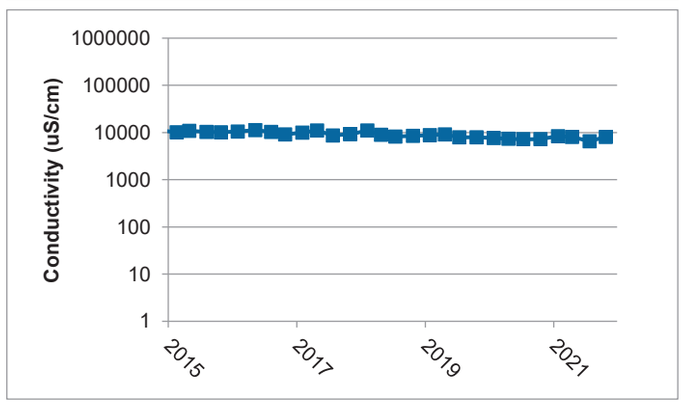


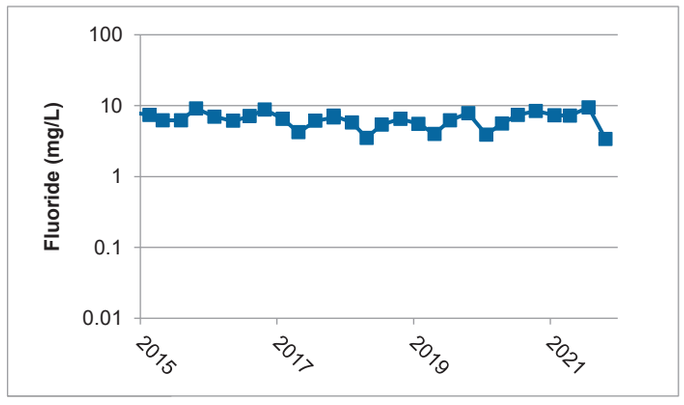


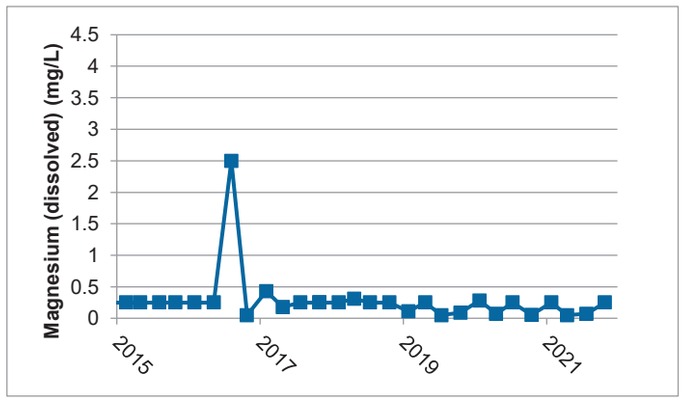


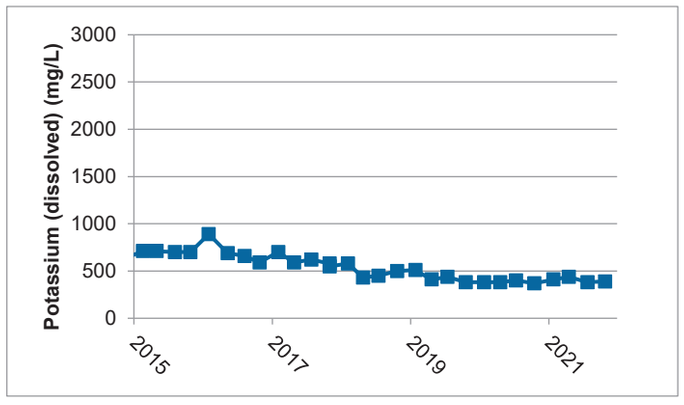




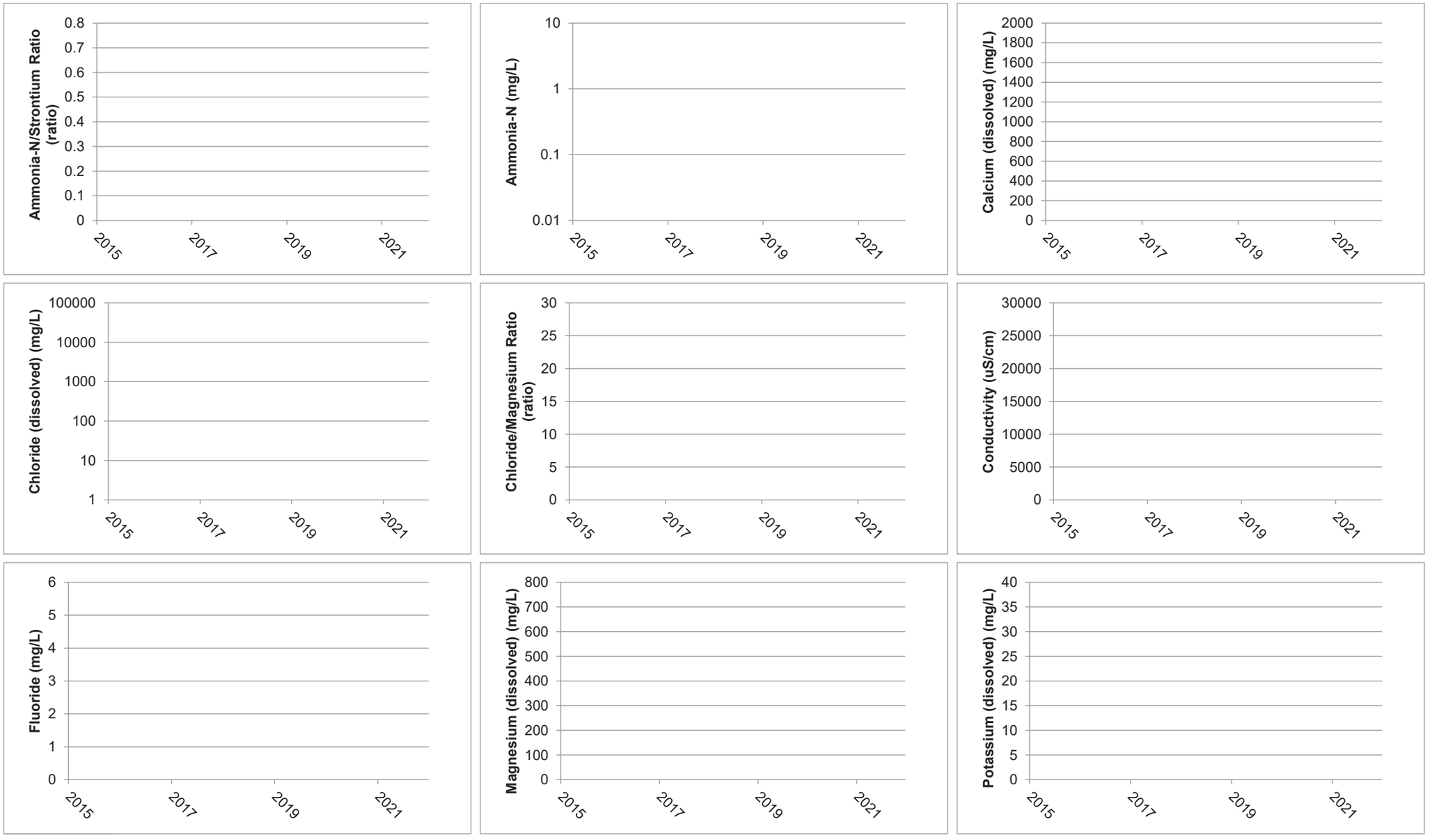




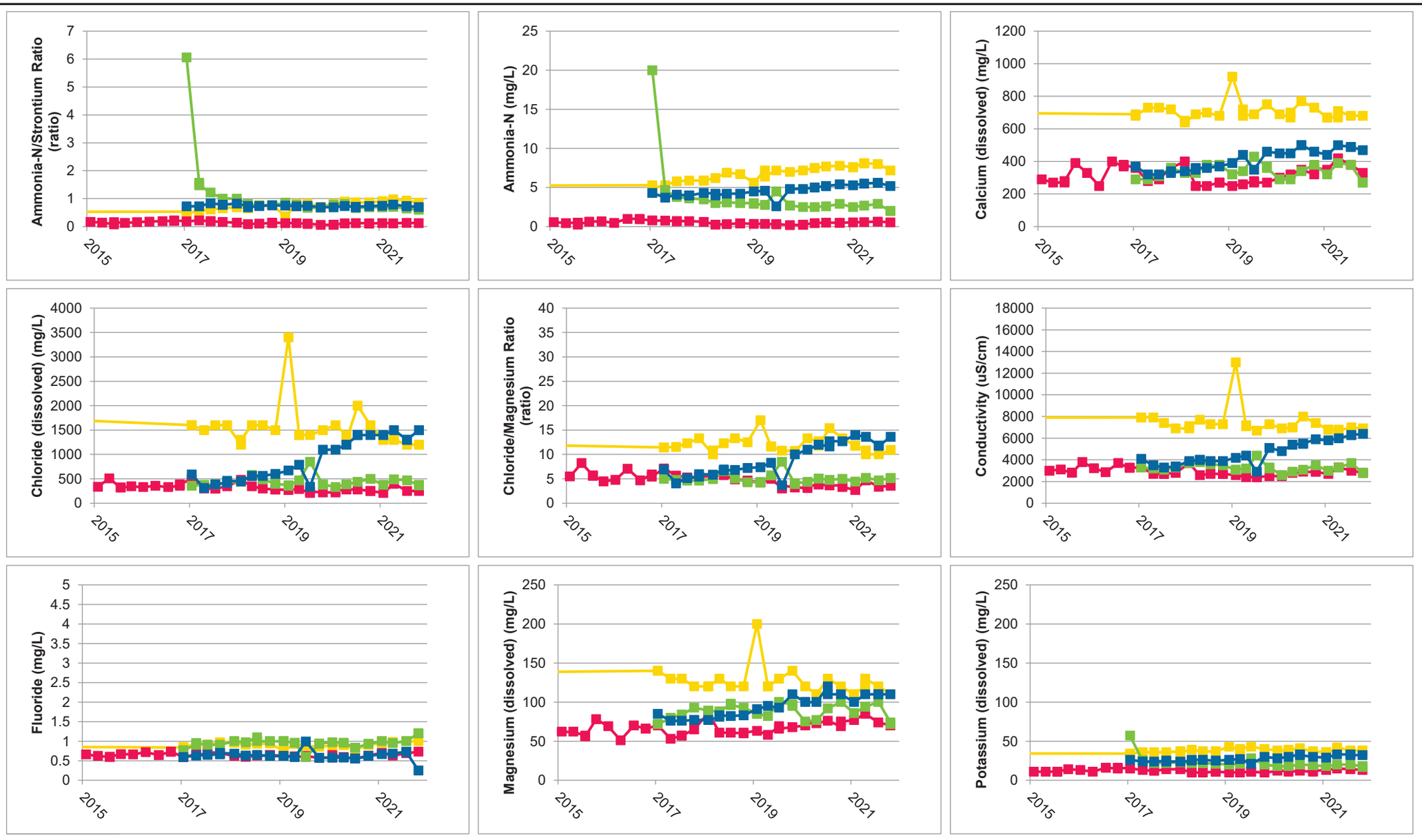




Appendix F.2 - Figure 26
58-I - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario

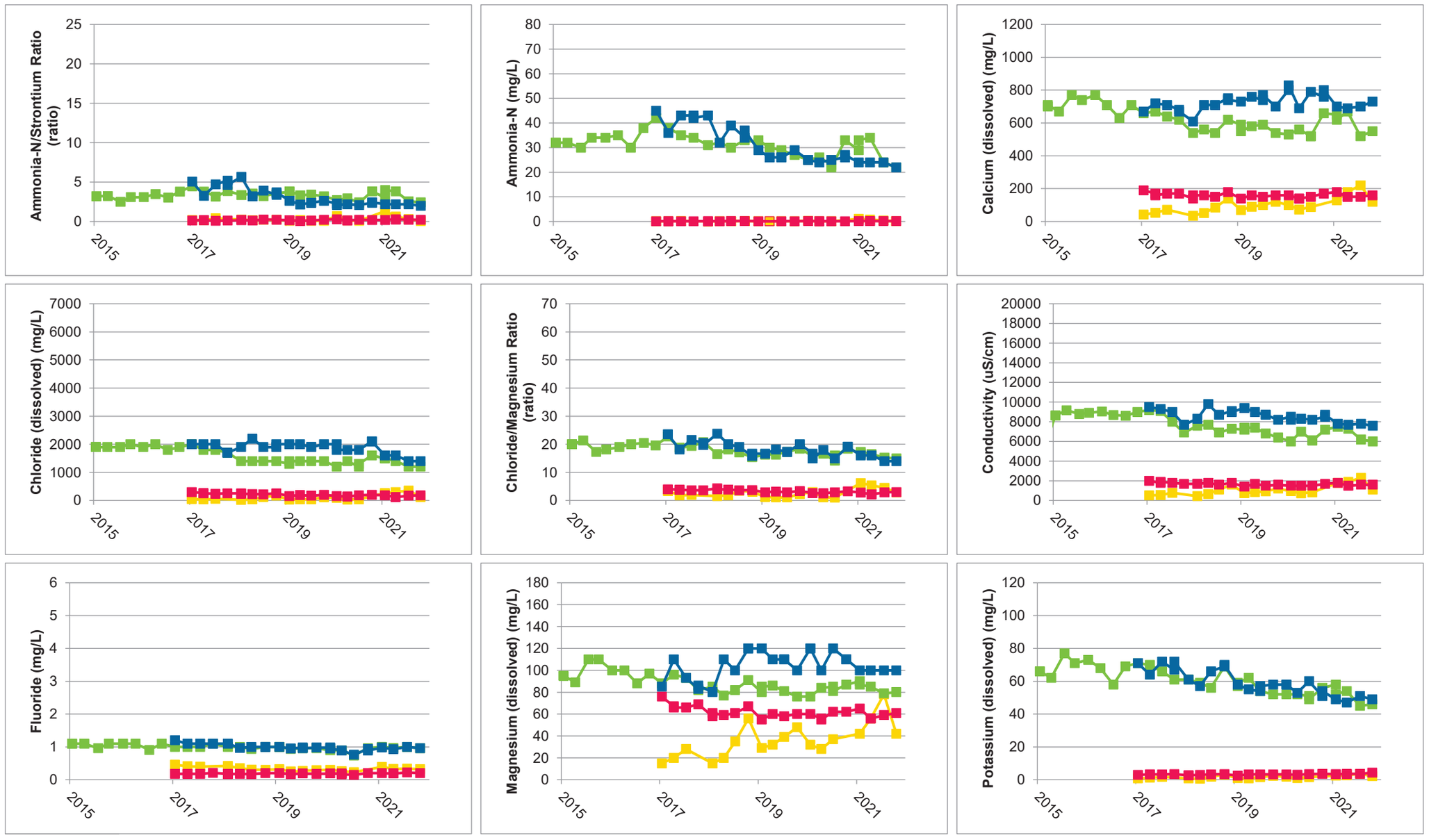


Appendix F.2 - Figure 27
59-III - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario

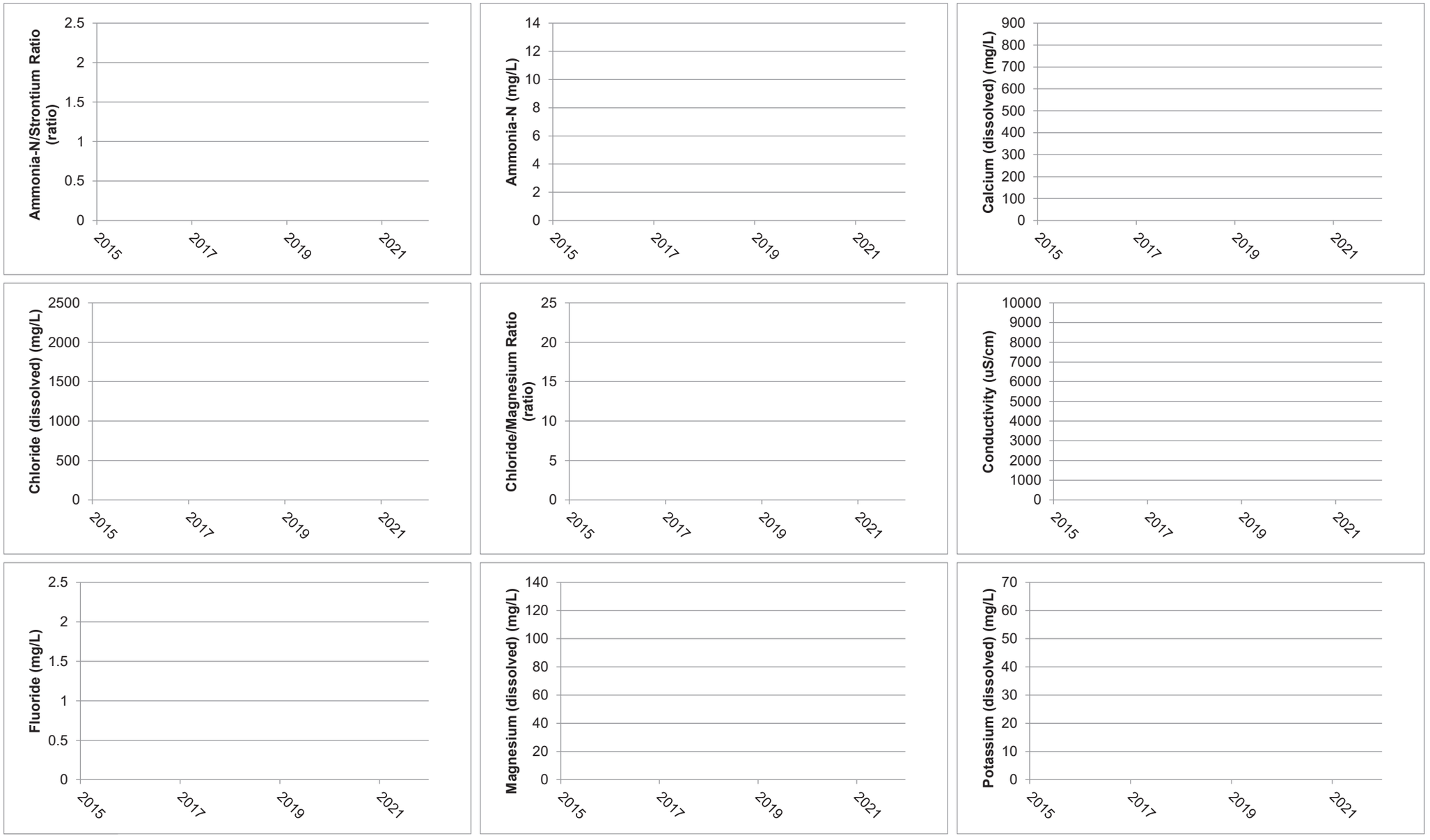


Appendix F.2 - Figure 28
60 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario

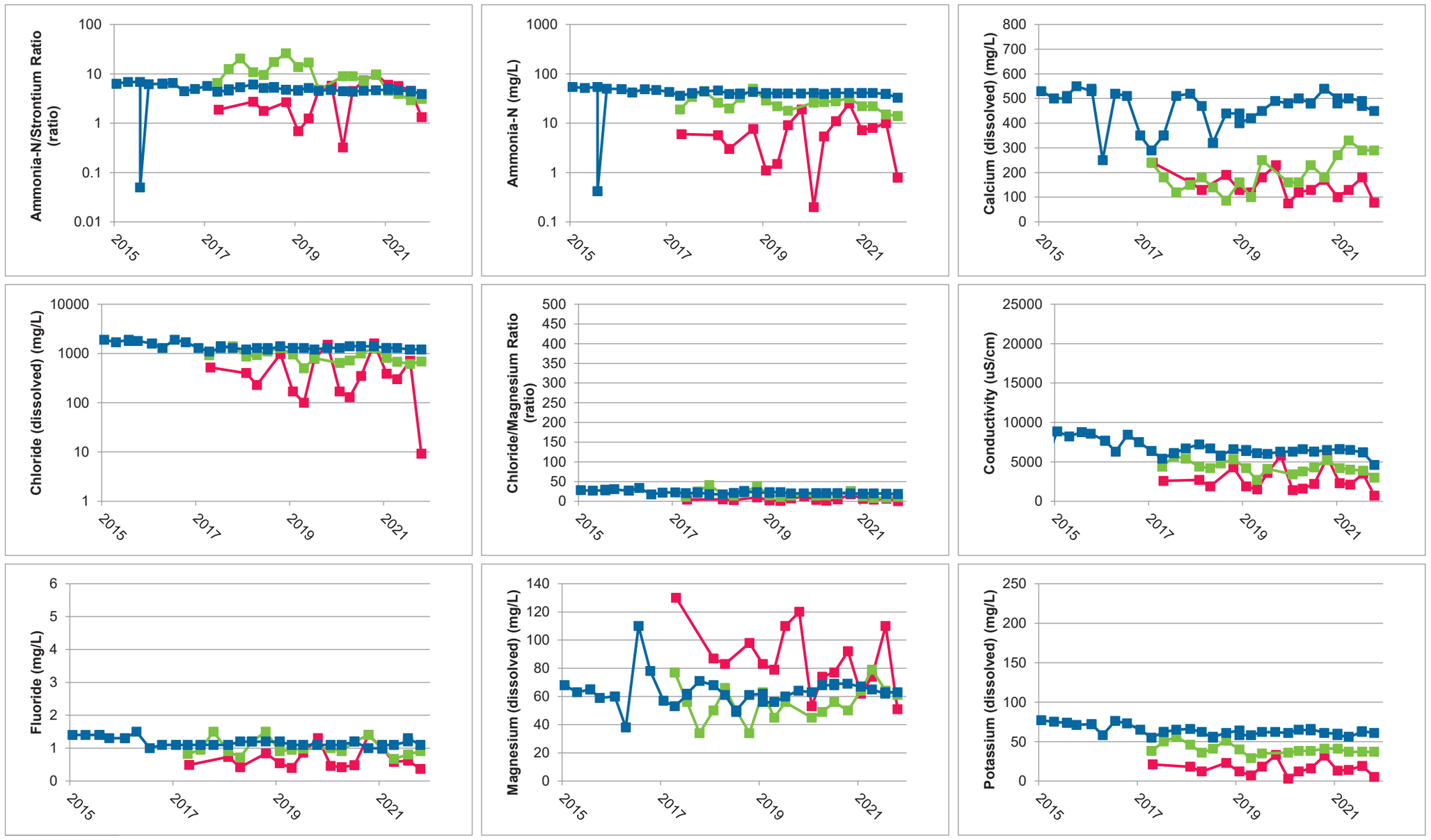
Appendix F.2 - Figure 29
61 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



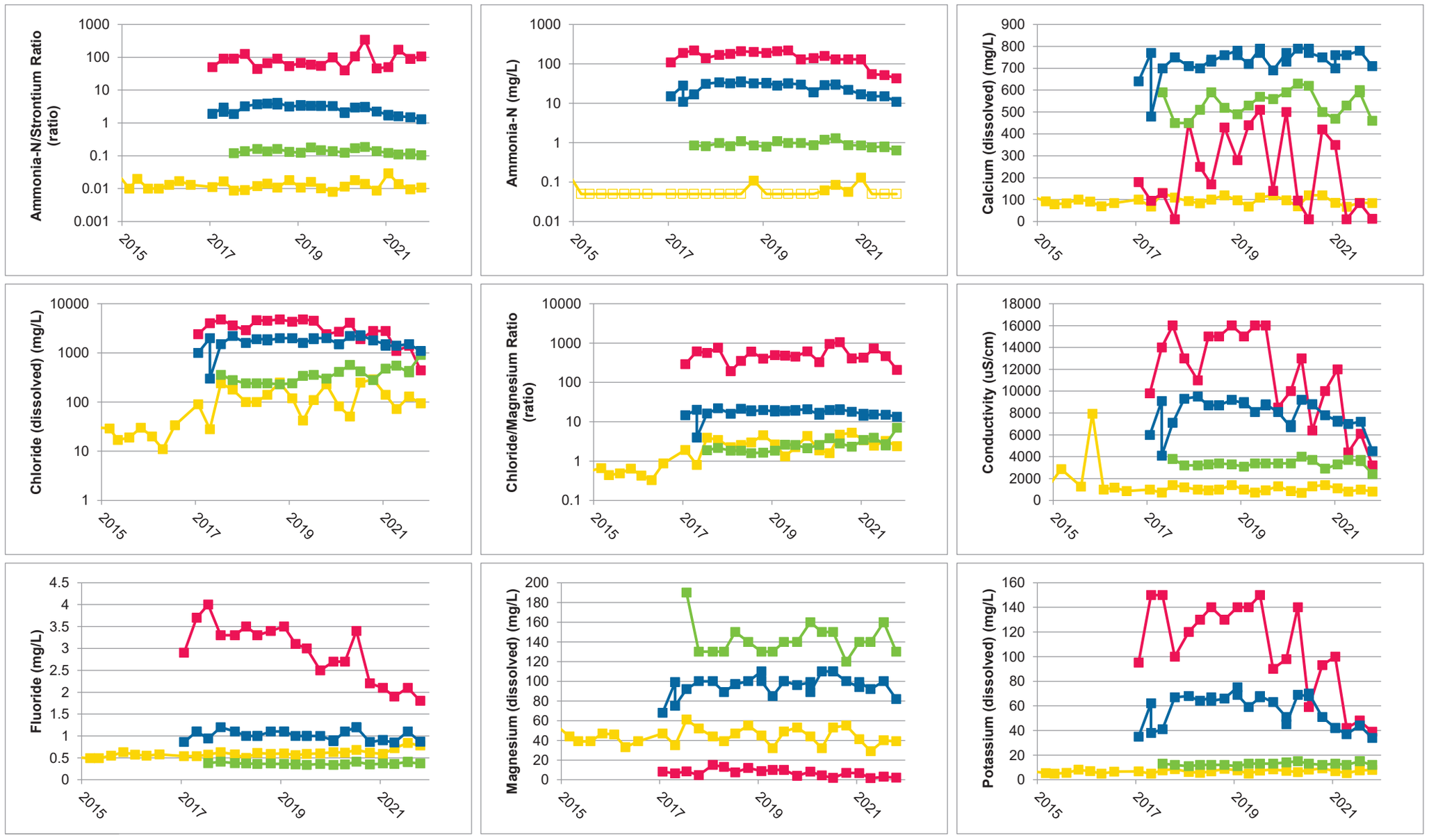
Appendix F.2 - Figure 30
62 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



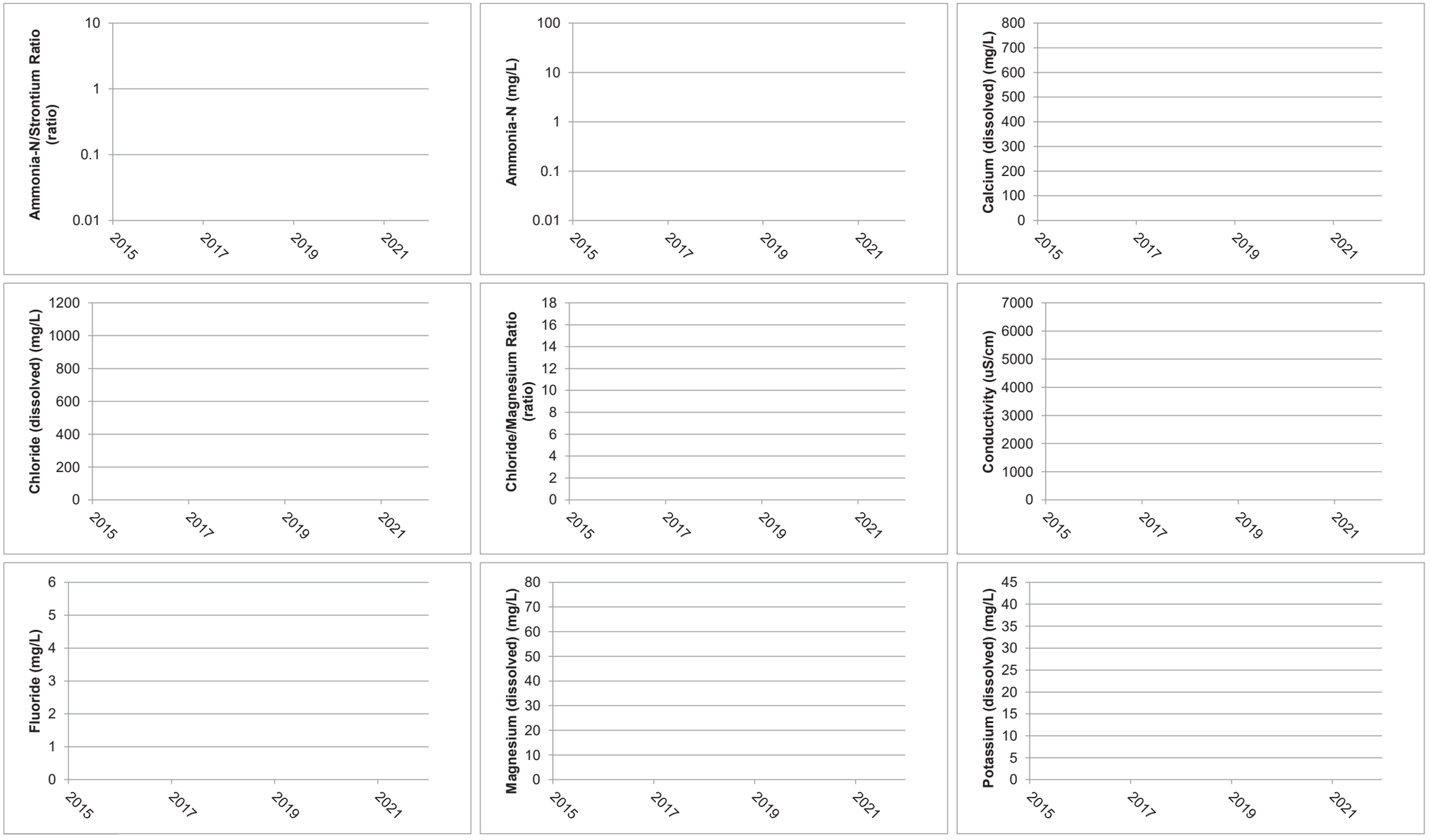
Appendix F.2 - Figure 31
66-I - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



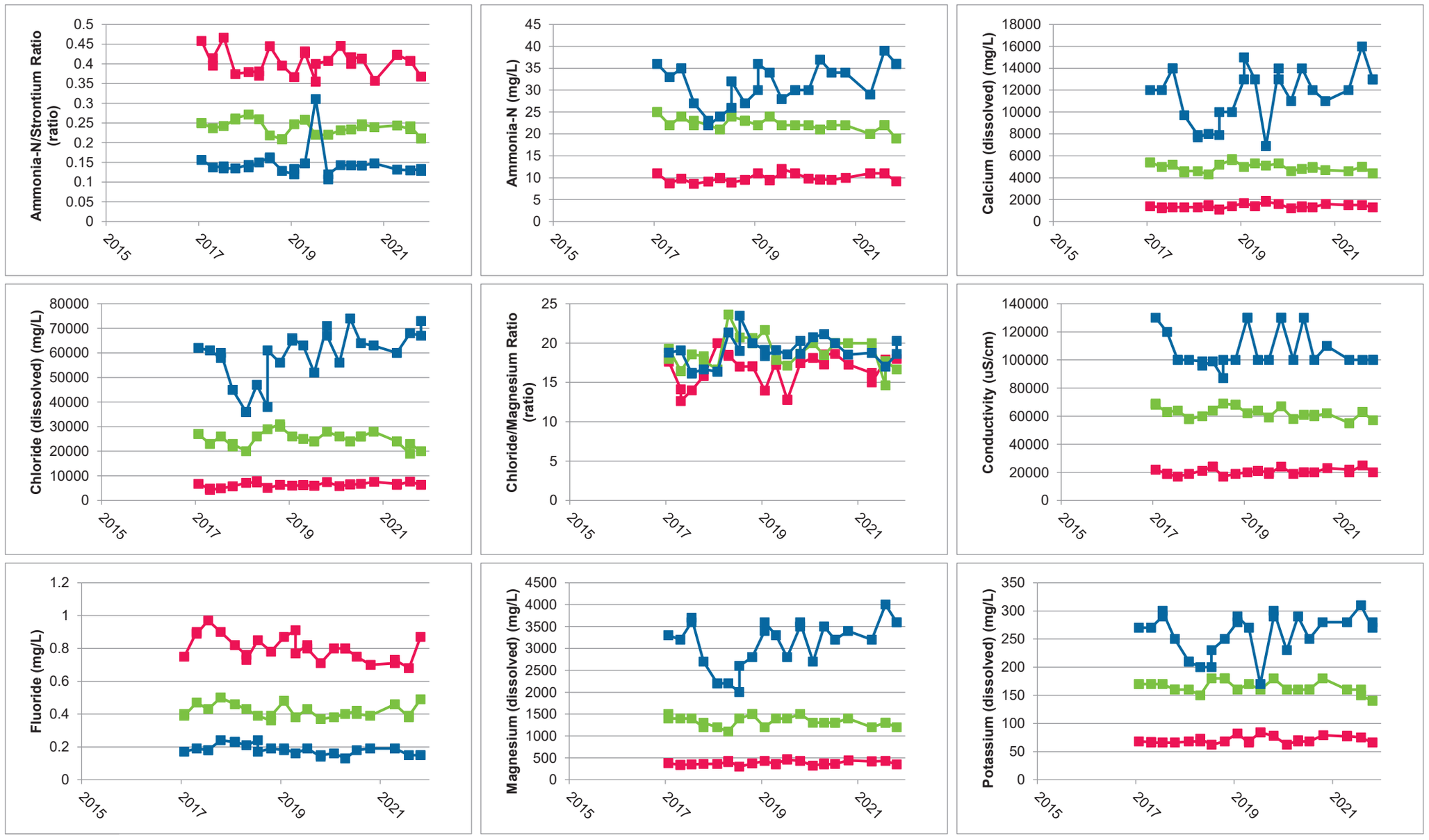
Appendix F.2 - Figure 32
67 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



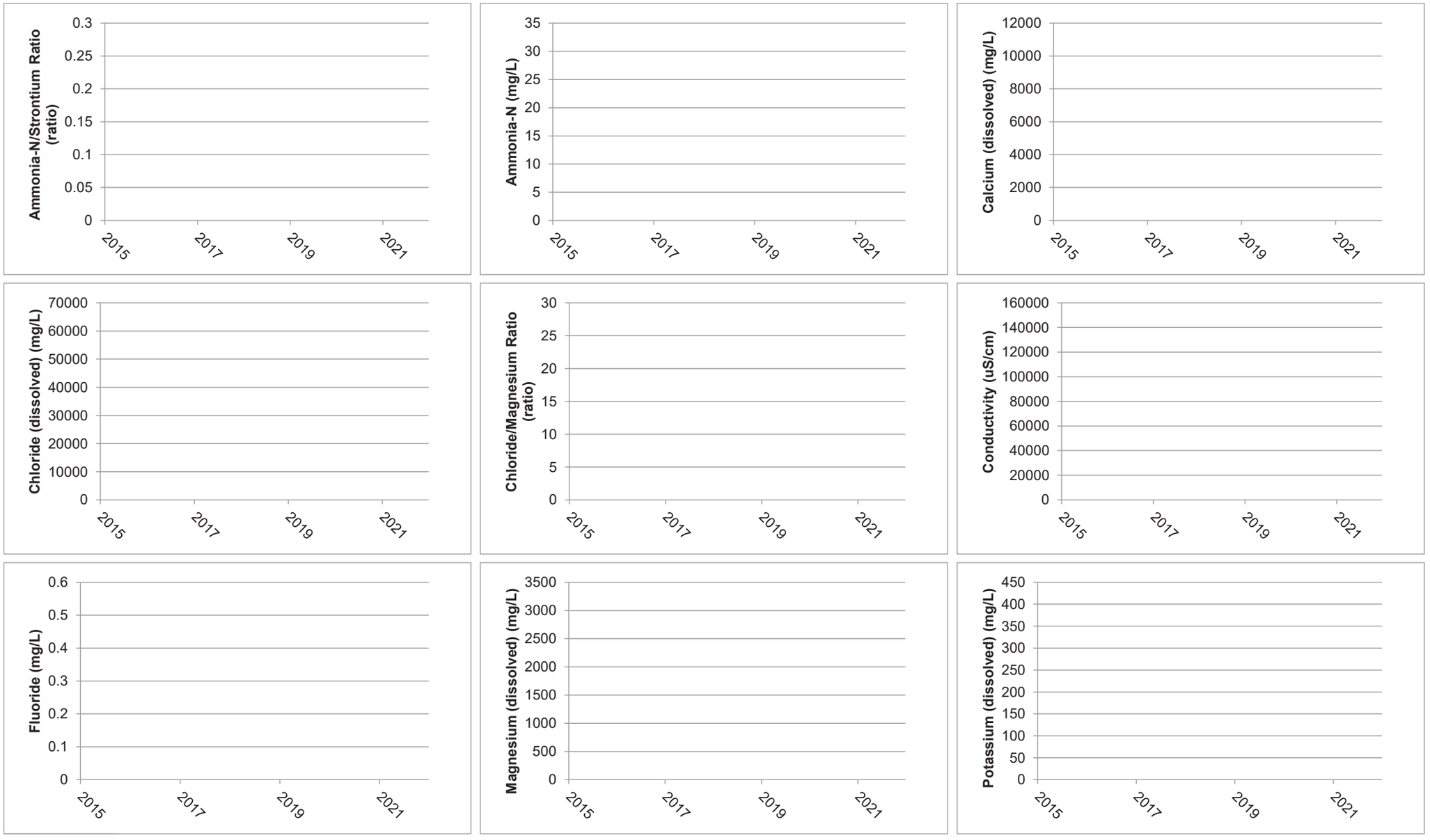
Appendix F.2 - Figure 33
68 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



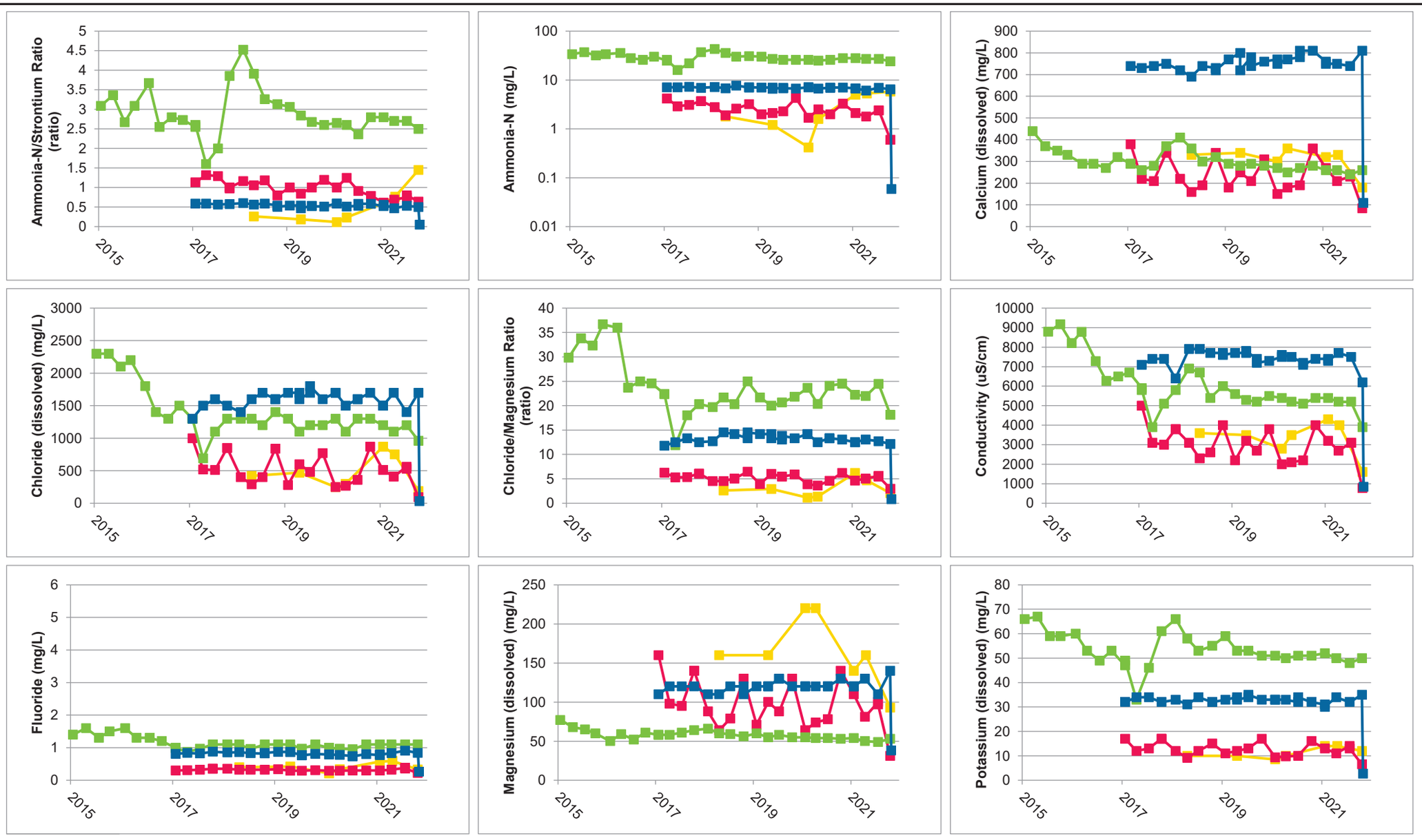
Appendix F.2 - Figure 34
71-II - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



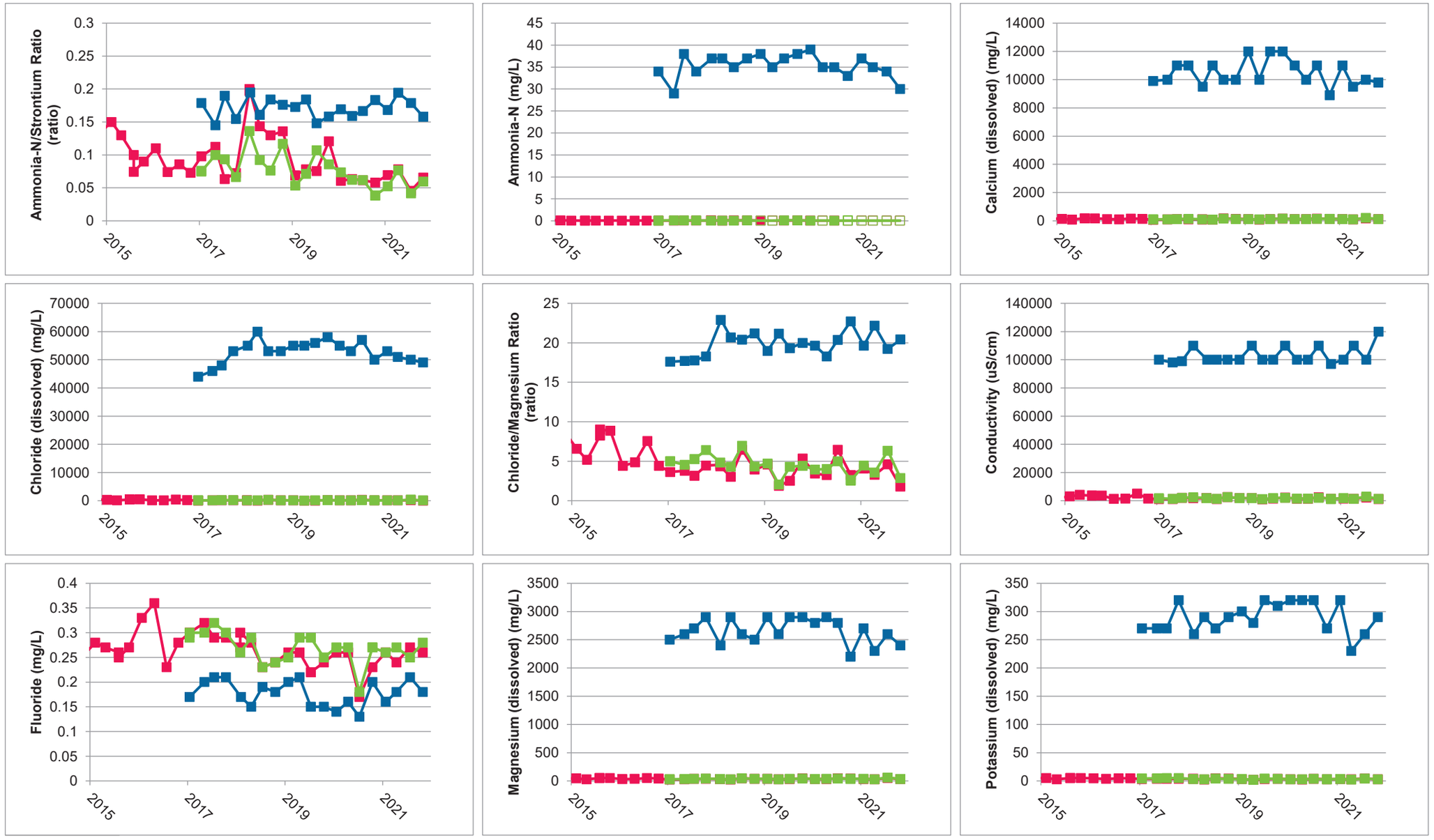
Appendix F.2 - Figure 35
72 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



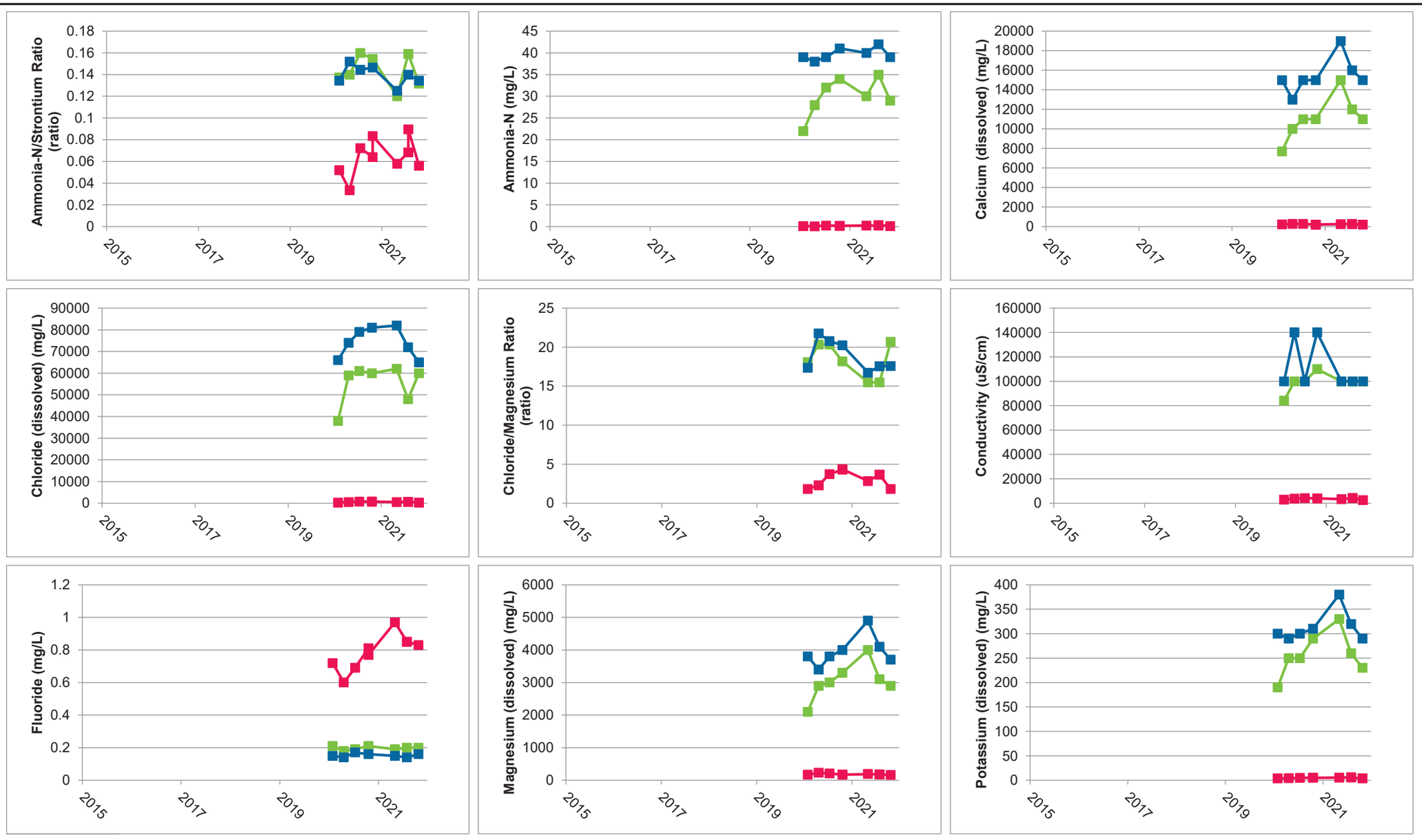
Appendix F.2 - Figure 36
74-I - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



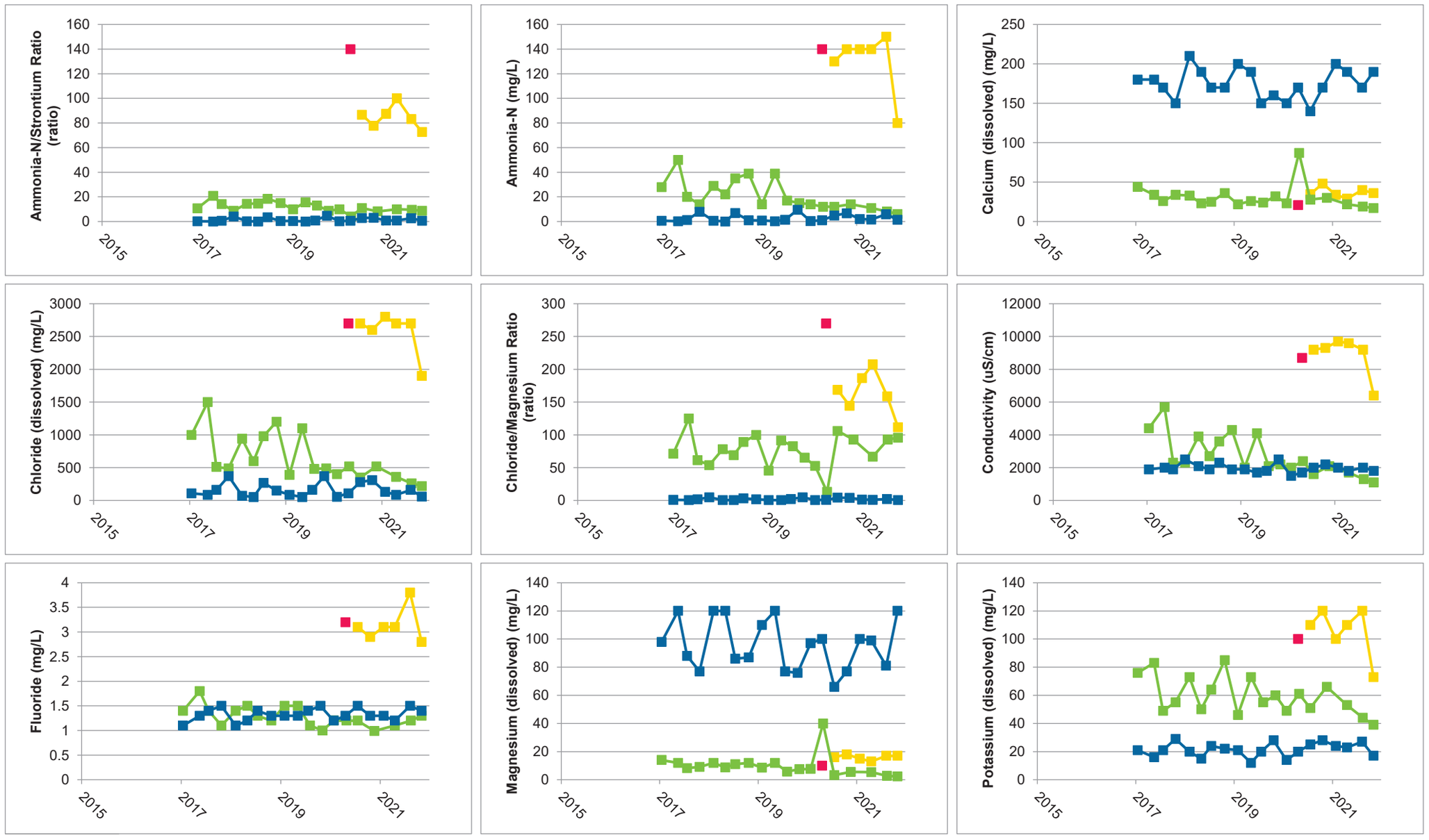
Appendix F.2 - Figure 37
75 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



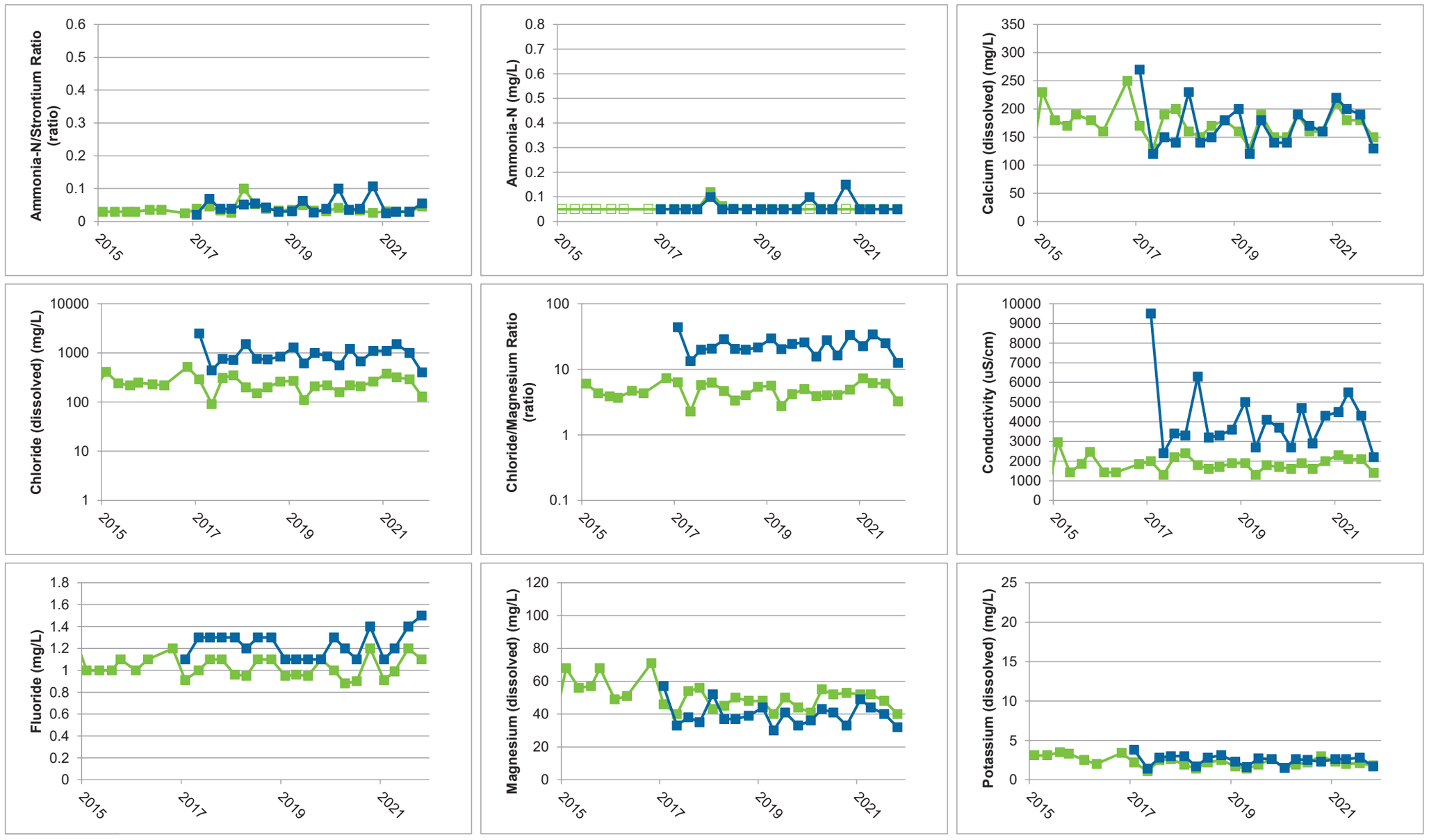
Appendix F.2 - Figure 38
76 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



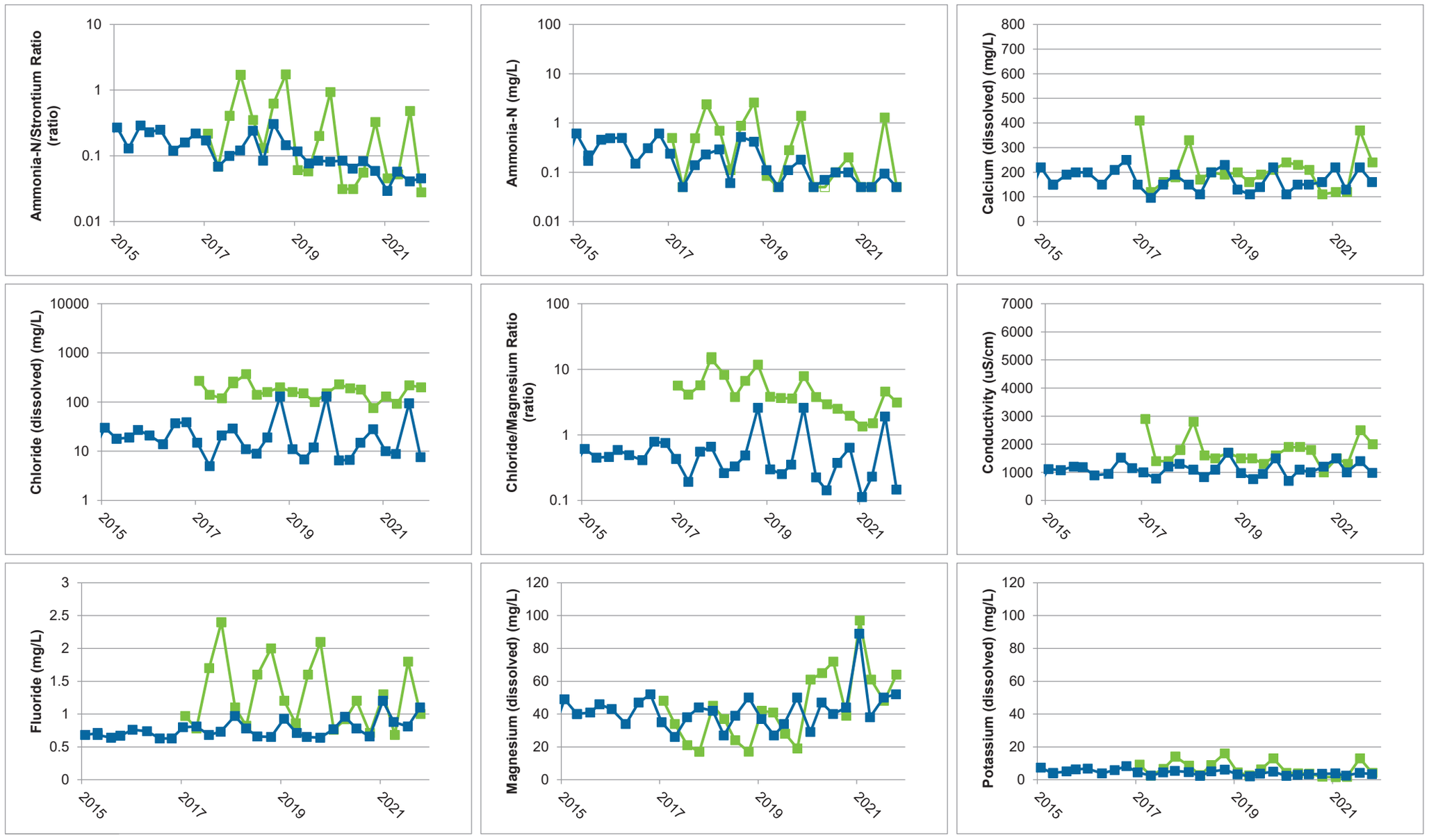
Appendix F.2 - Figure 39
77 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



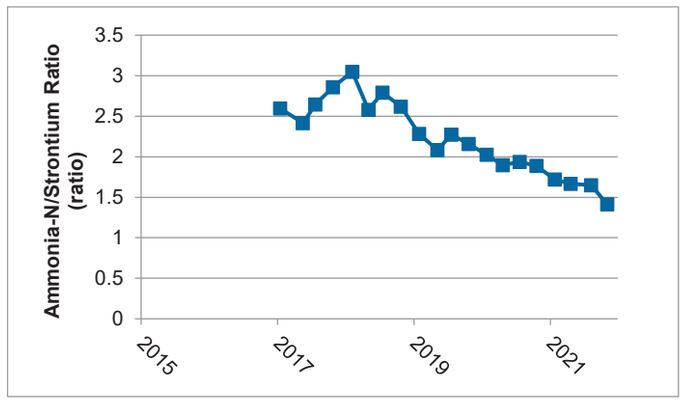
Appendix F.2 - Figure 40
CW Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario

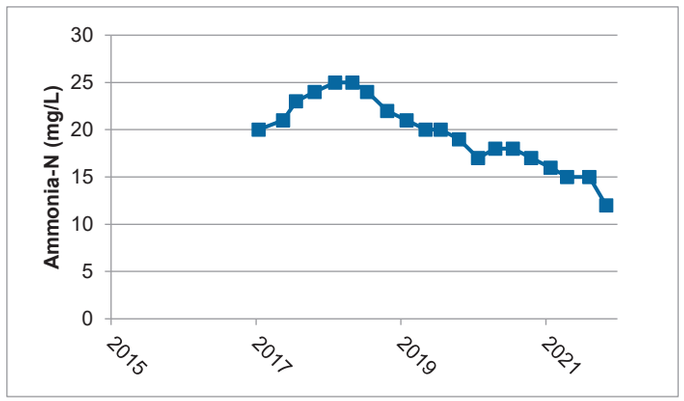


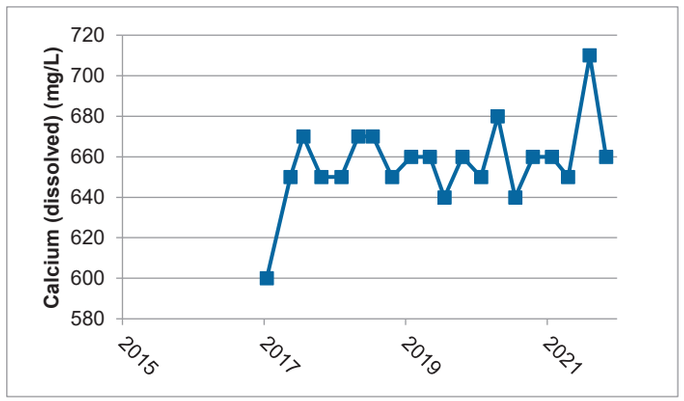
Appendix F.2 - Figure 41
G11 and G13 - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario

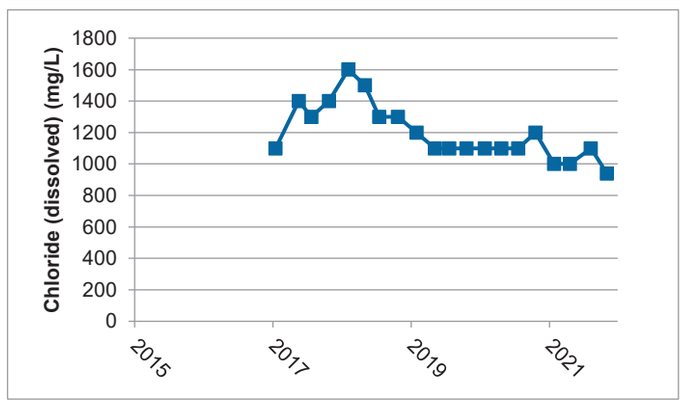


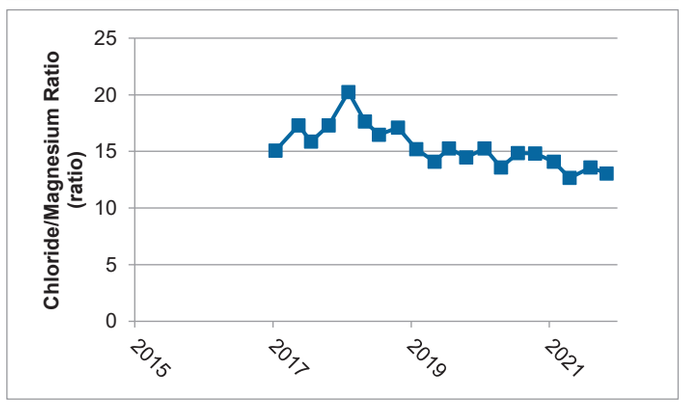
Appendix F.2 - Figure 42
G24 & G27 - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario

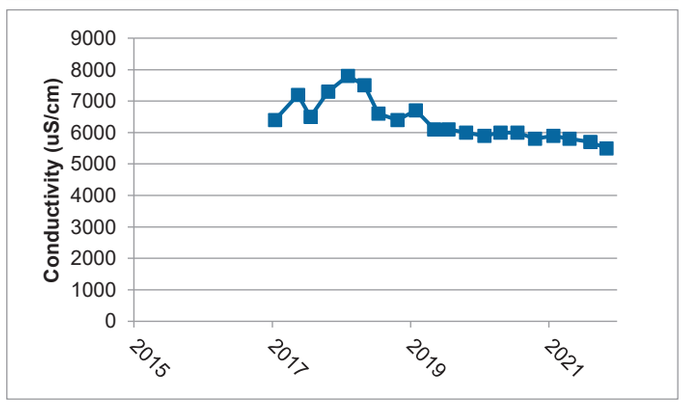


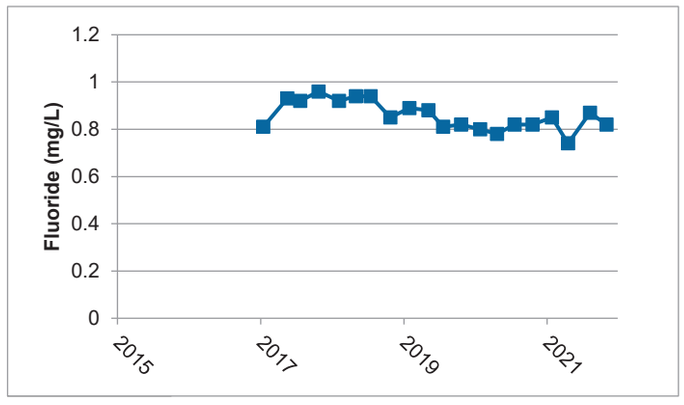


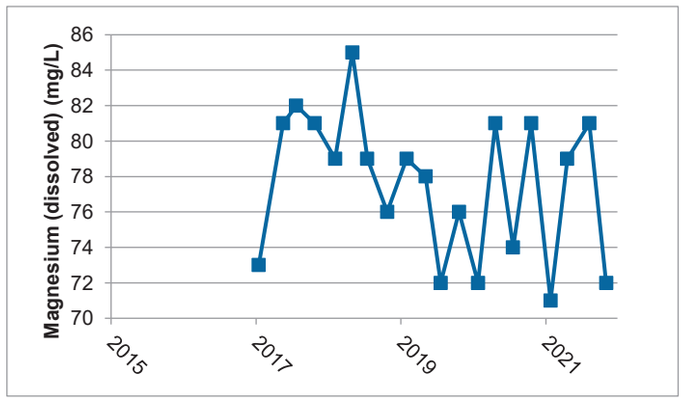


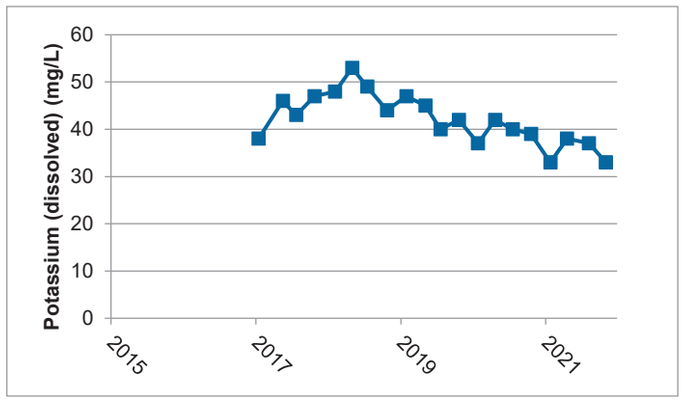




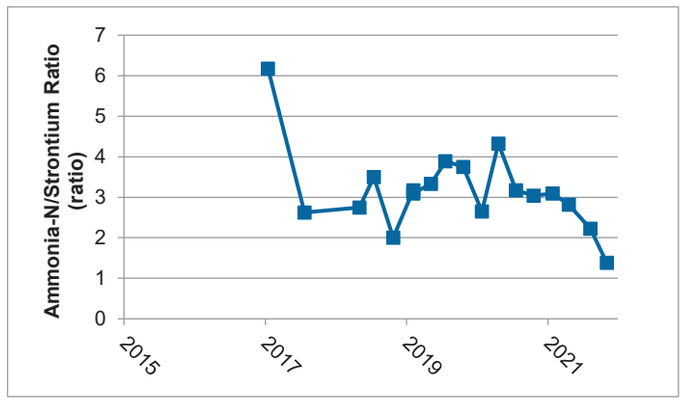


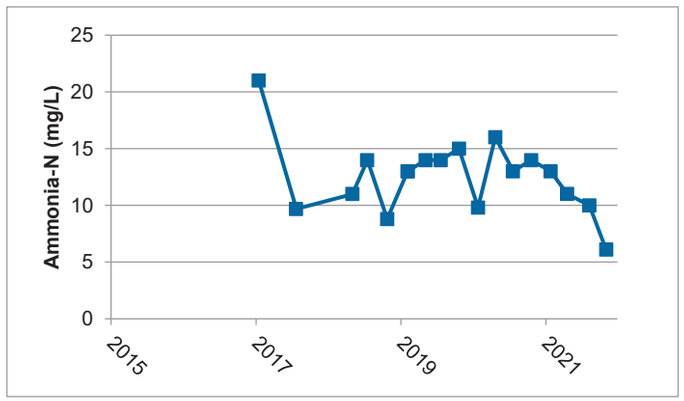


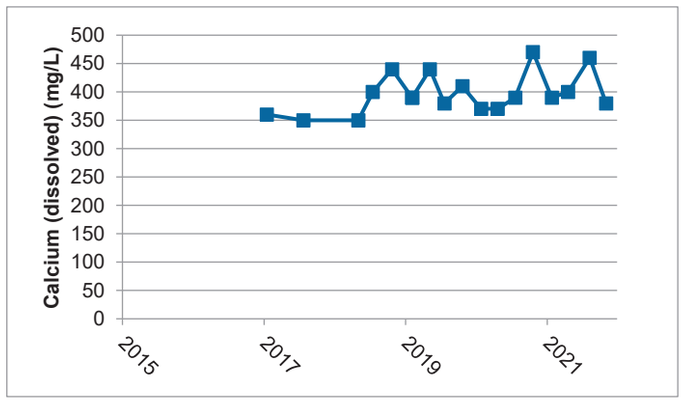


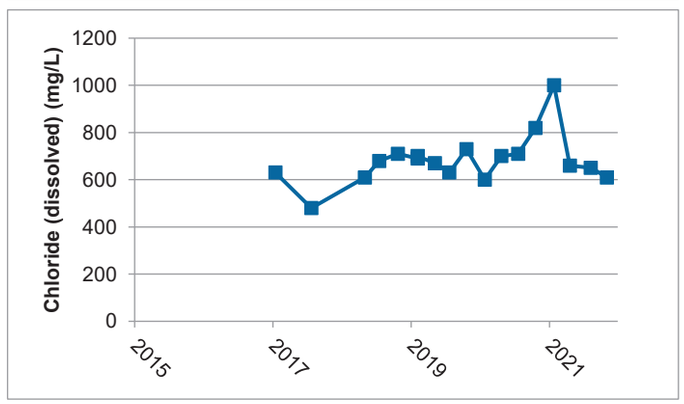


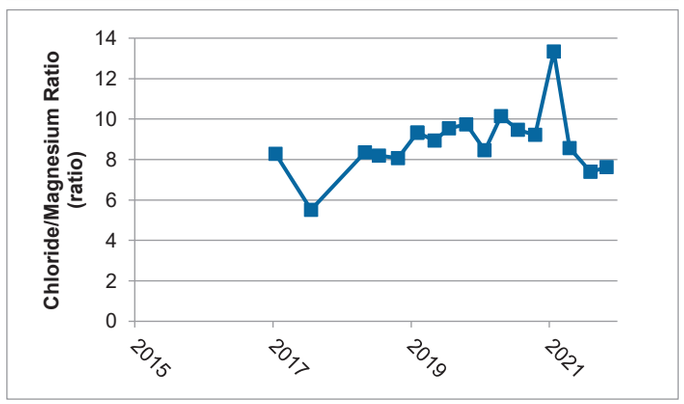
Appendix F.2 - Figure 43
L1 - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario

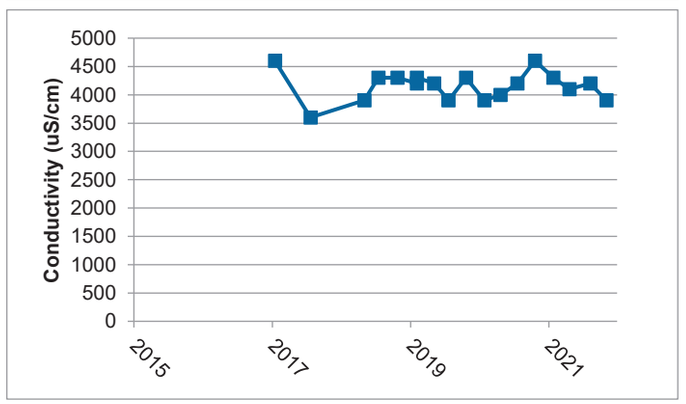


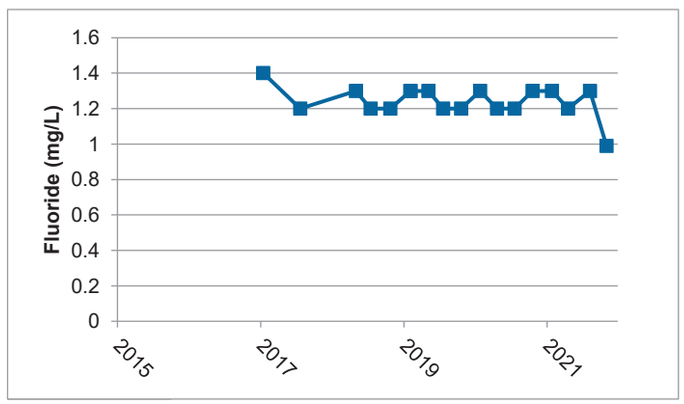


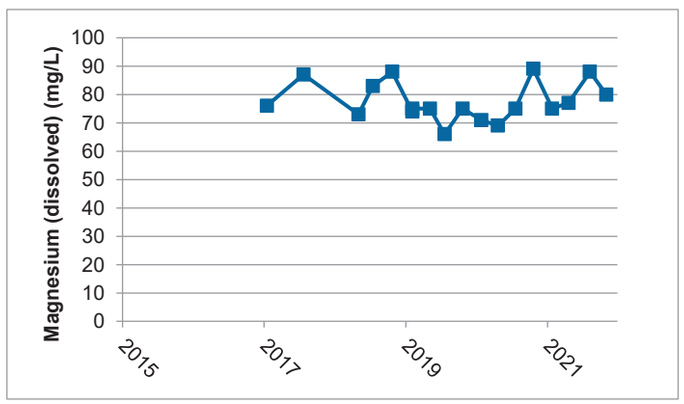


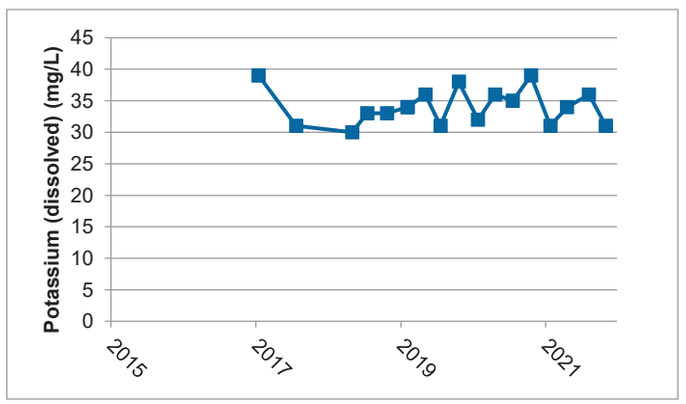




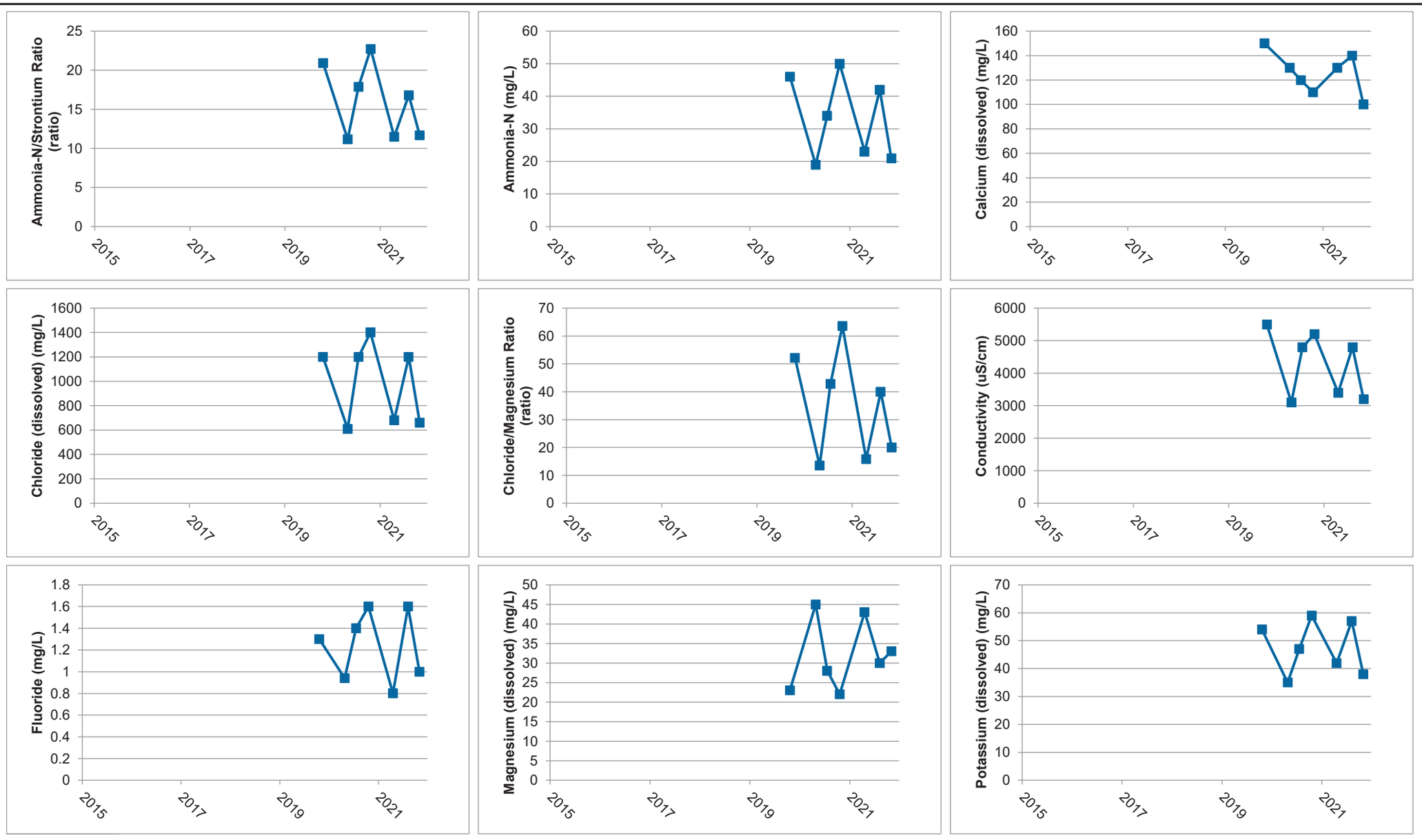




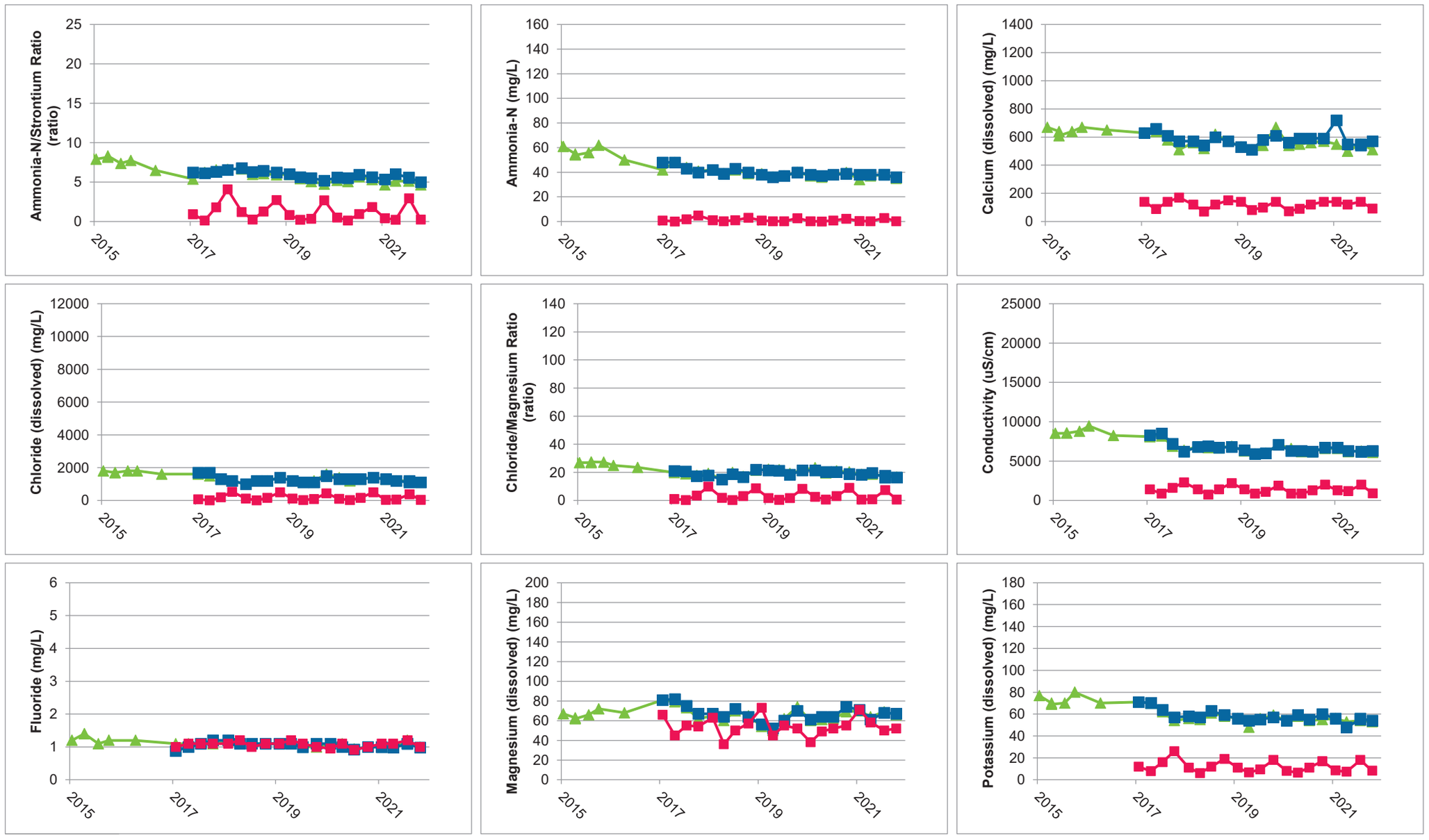




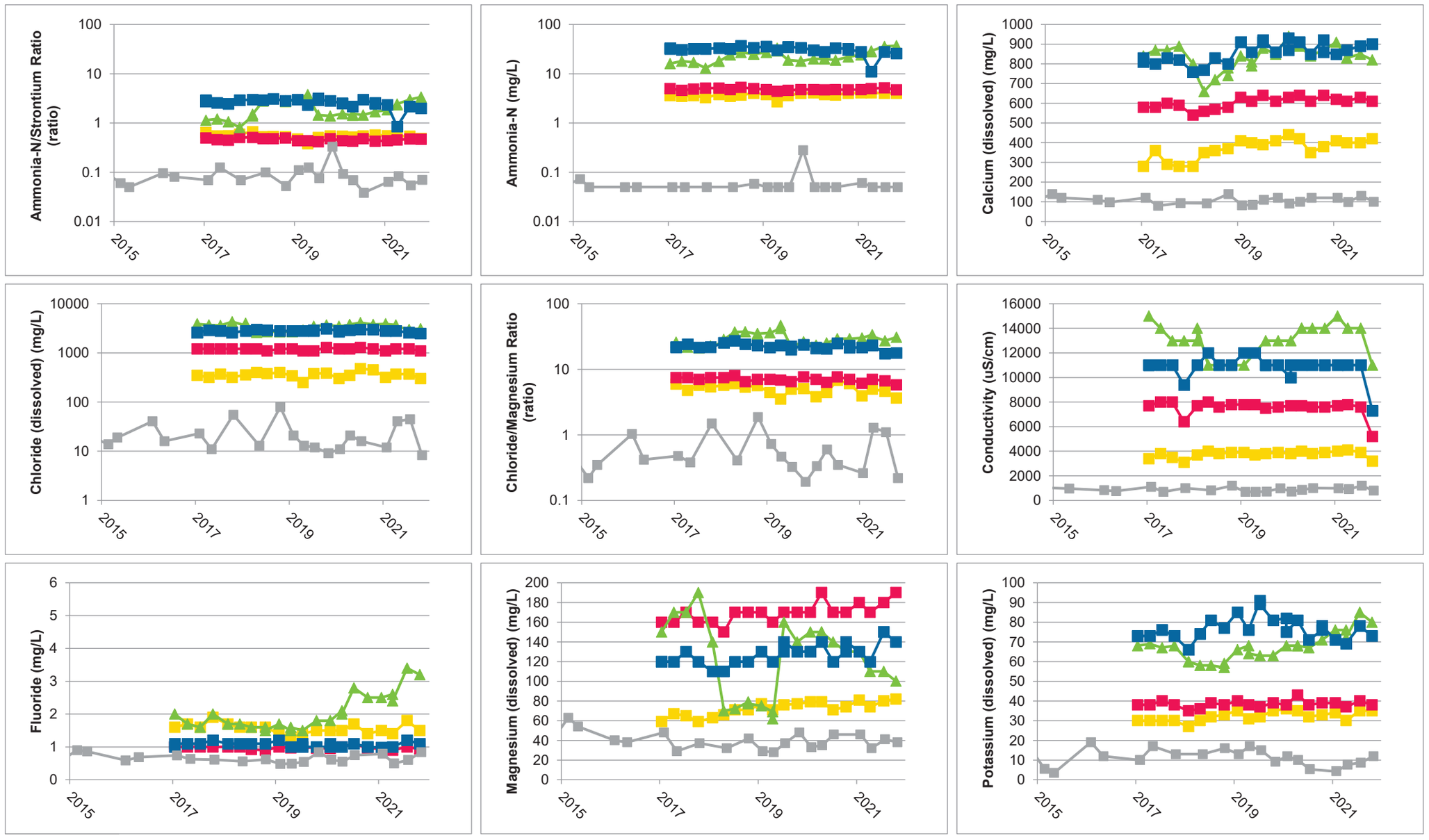
Appendix F.2 - Figure 44
M4 - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



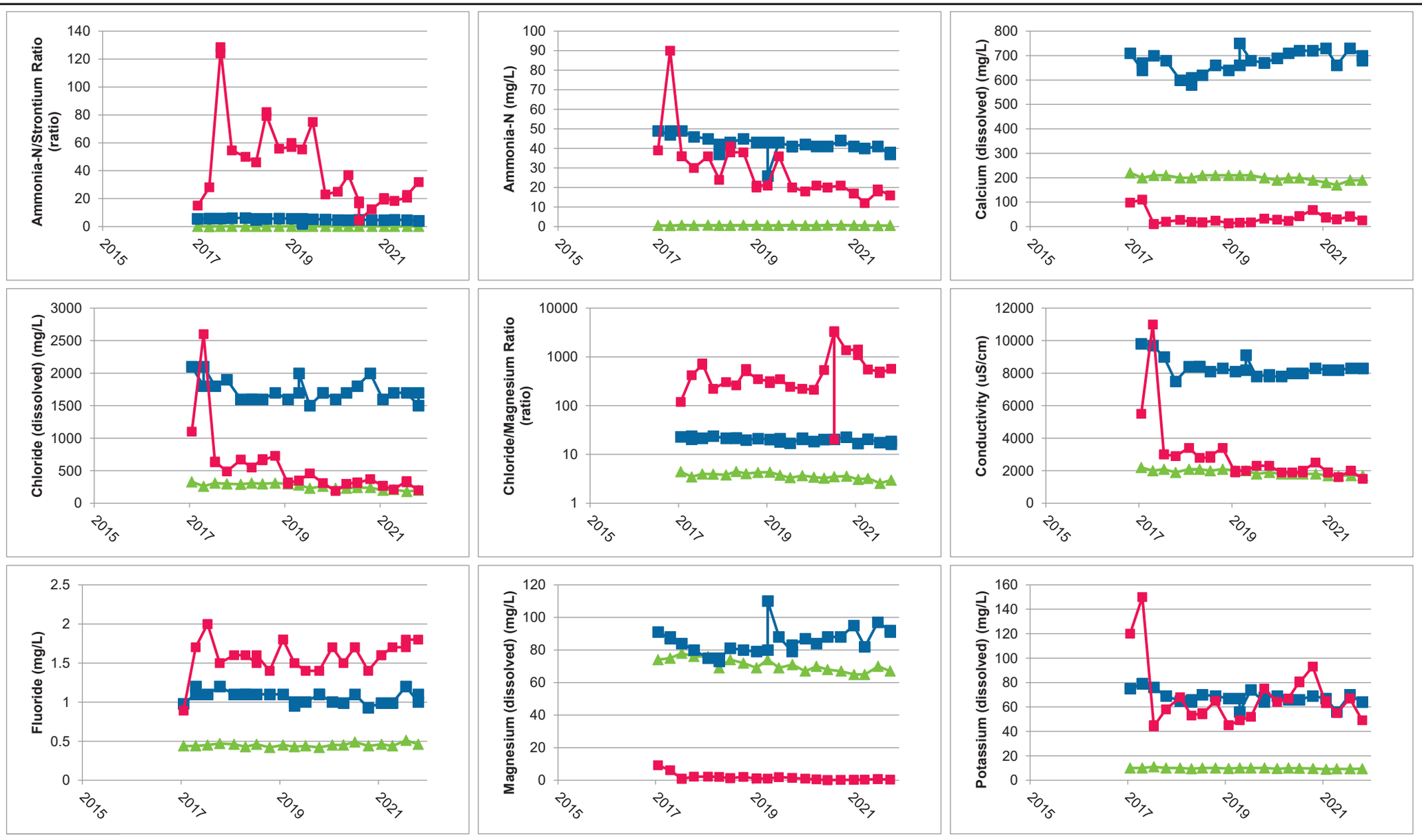
Appendix F.2 - Figure 45
M5R - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



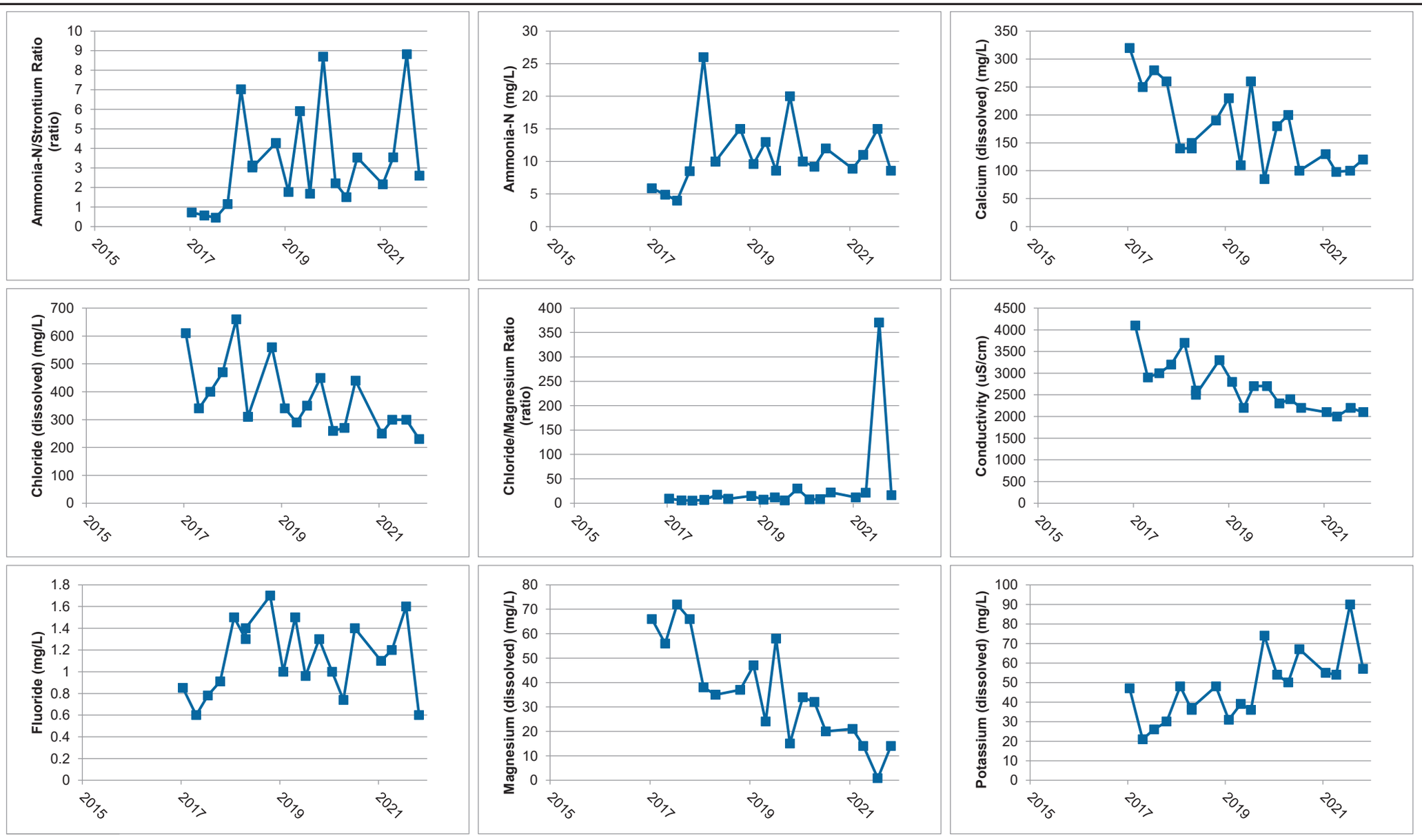
Appendix F.2 - Figure 46
P1 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



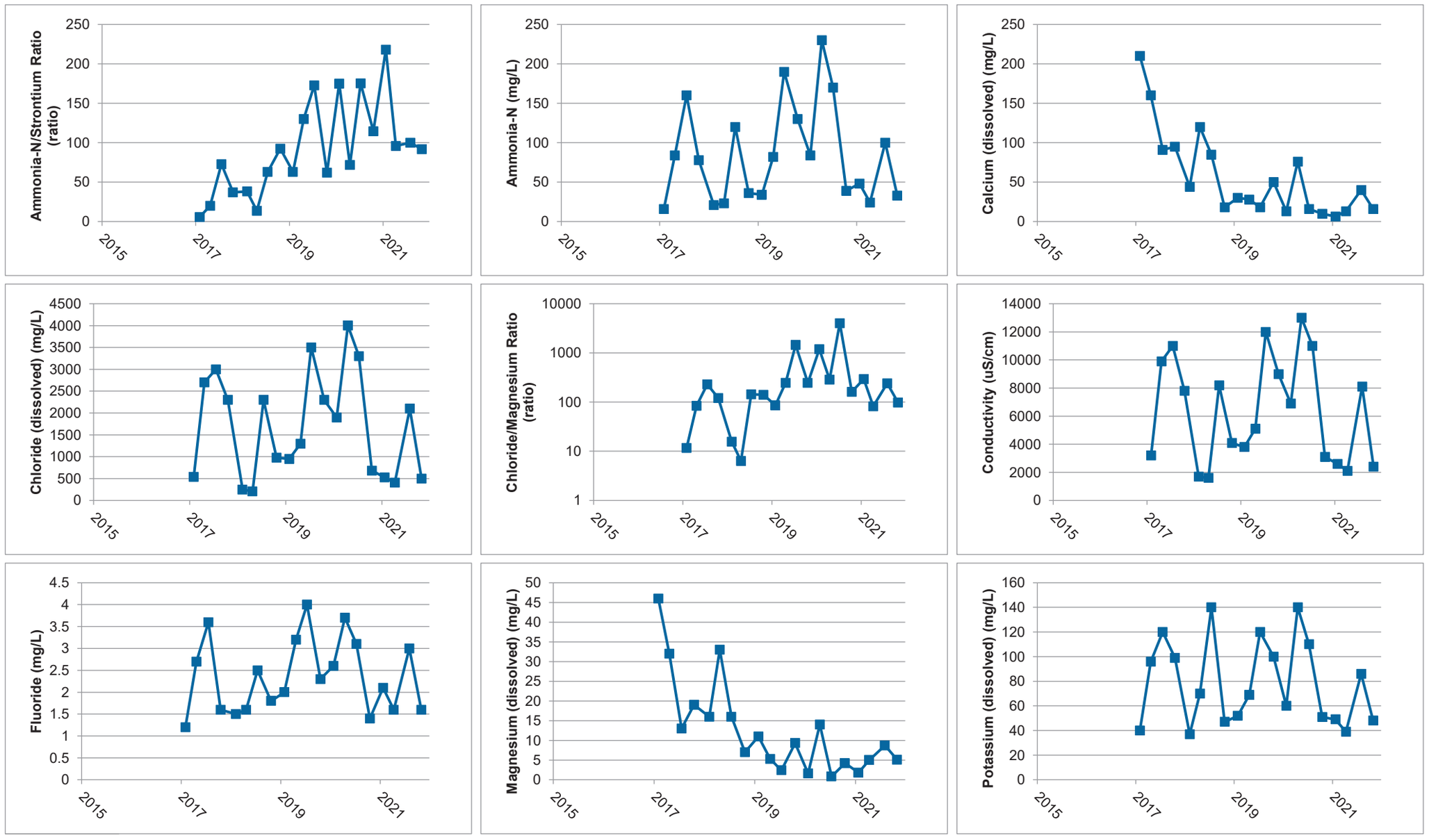
Appendix F.2 - Figure 47
P10 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



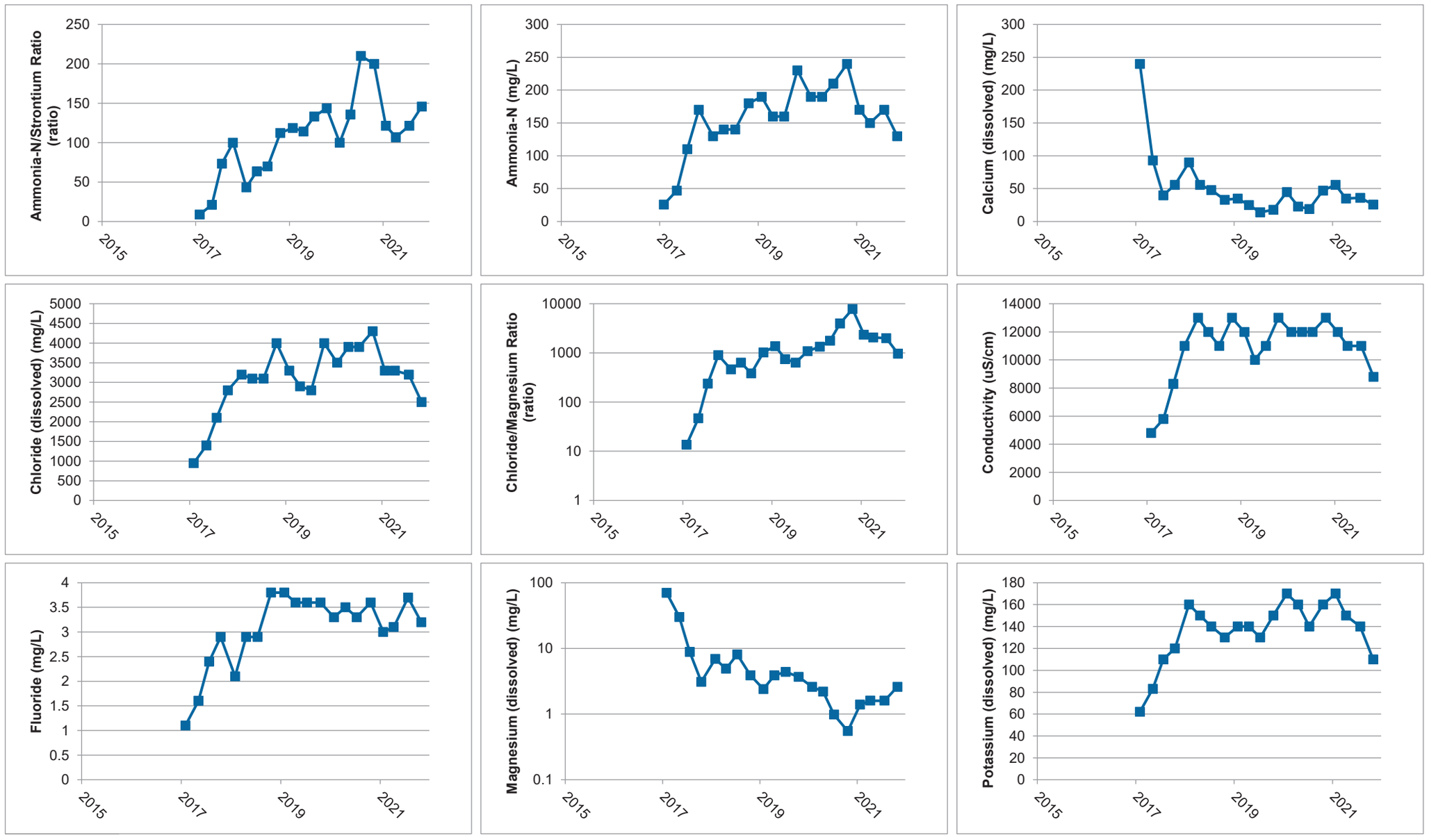
Appendix F.2 - Figure 48
P11 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



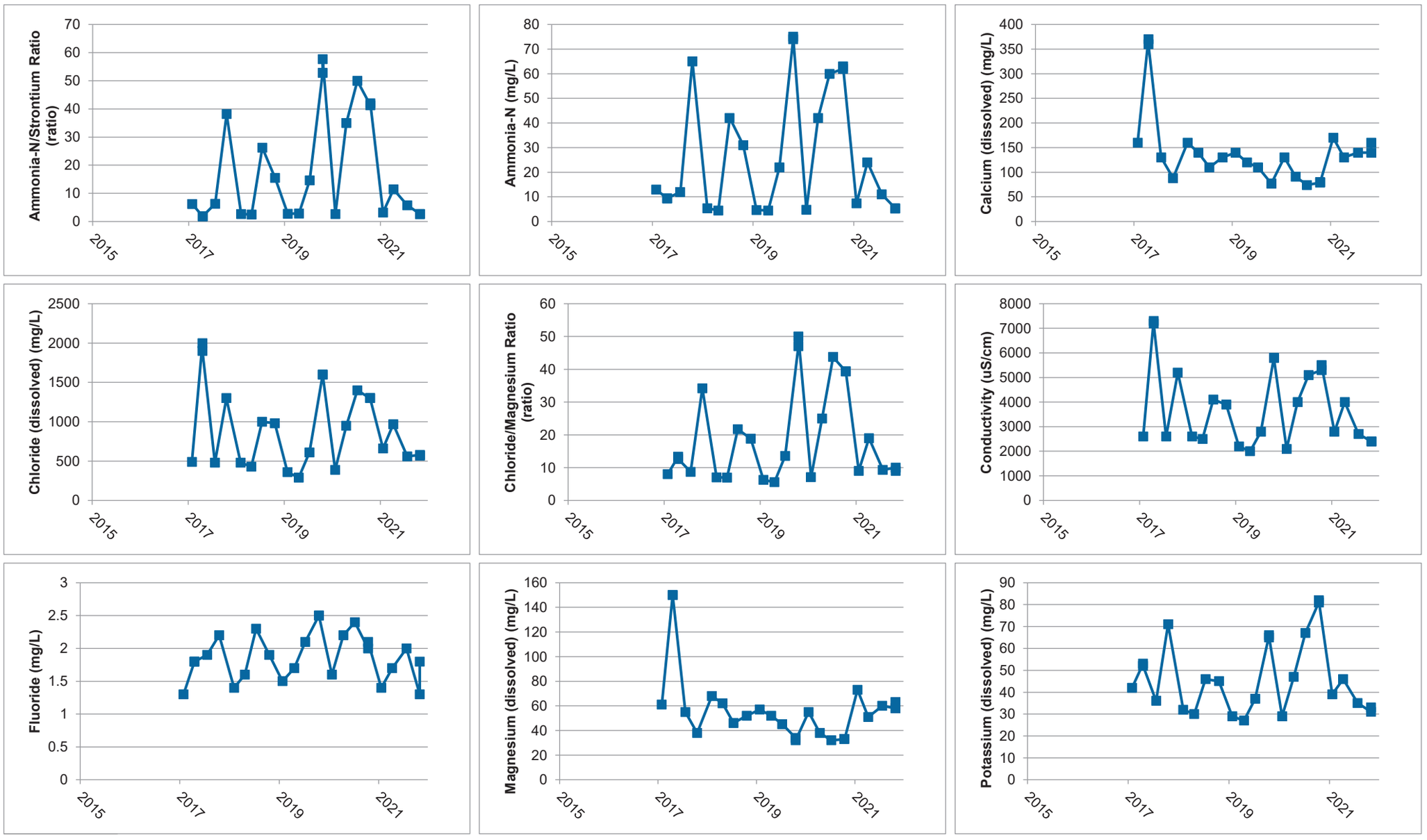
Appendix F.2 - Figure 49
P12 - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



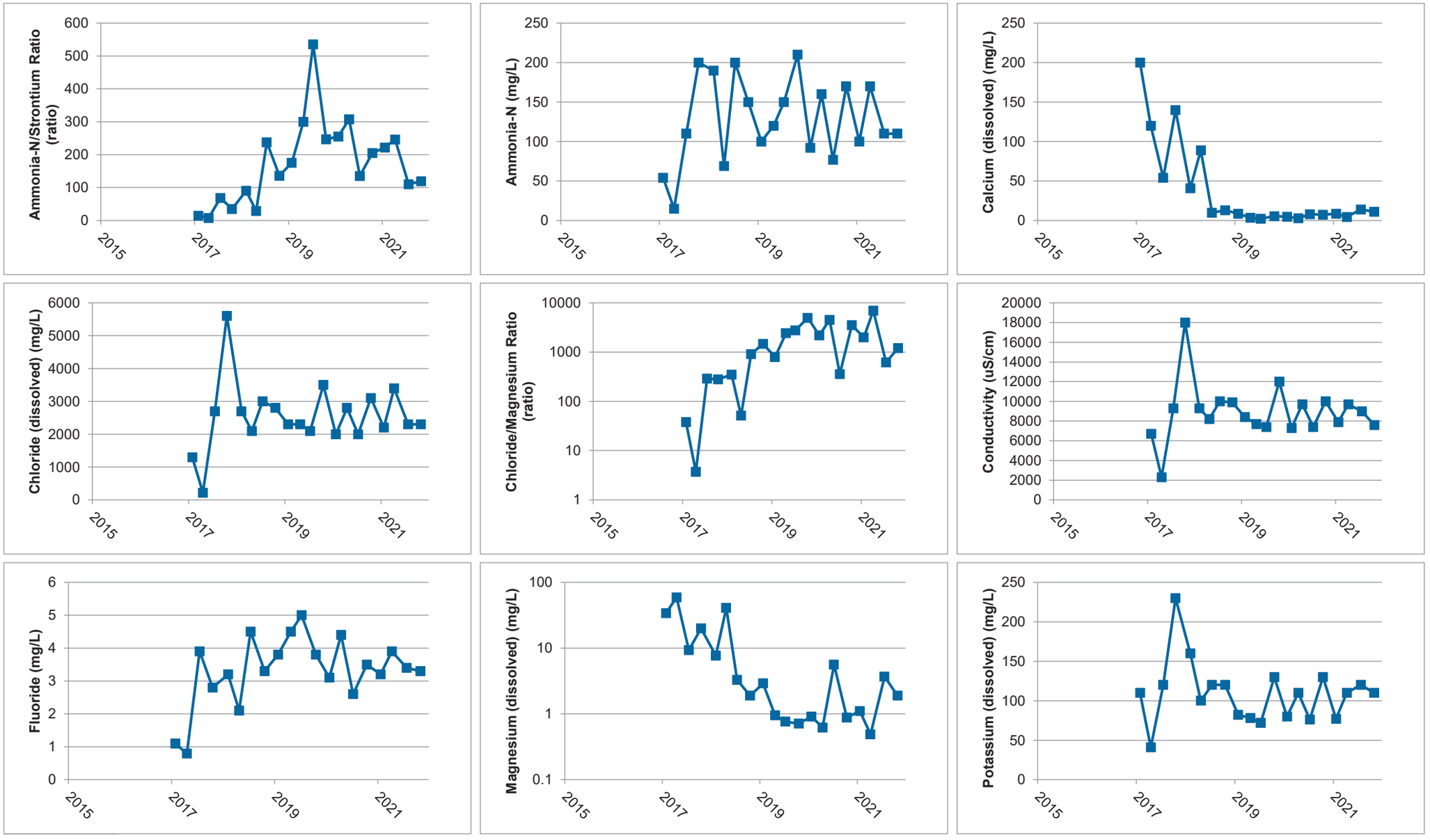
Appendix F.2 - Figure 50
P14 - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



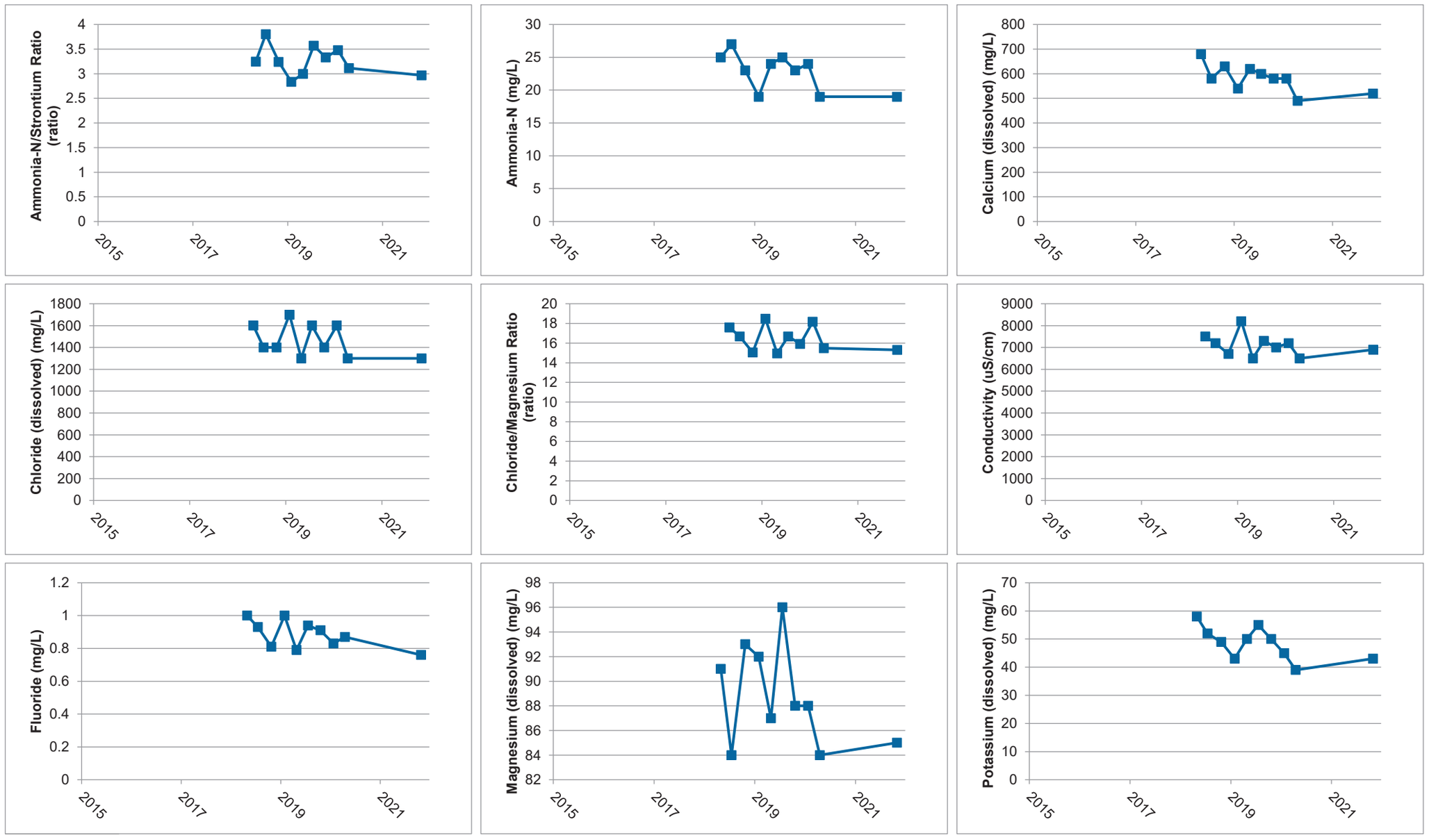
Appendix F.2 - Figure 51
P15 - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



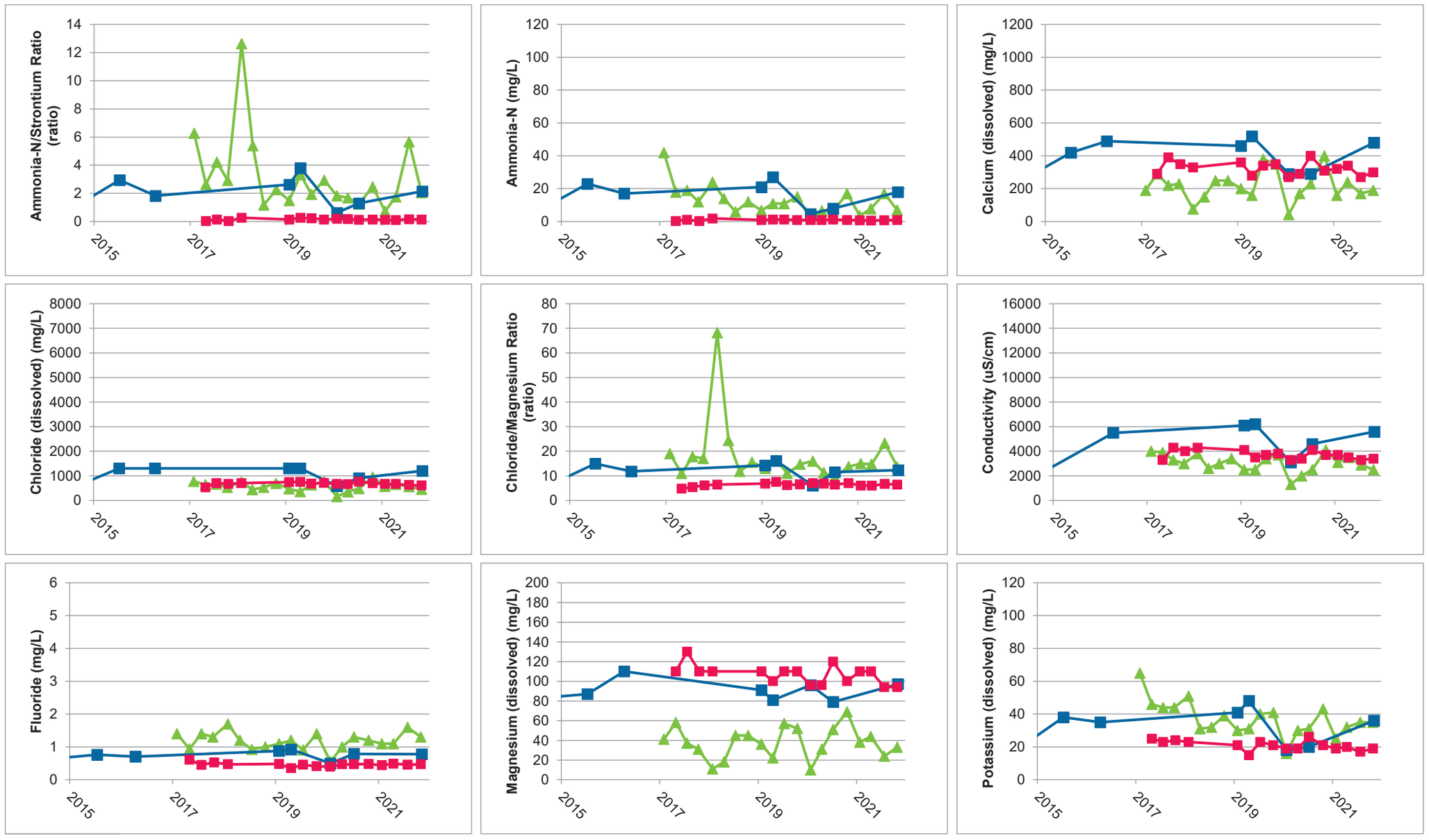
Appendix F.2 - Figure 52
P16 - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



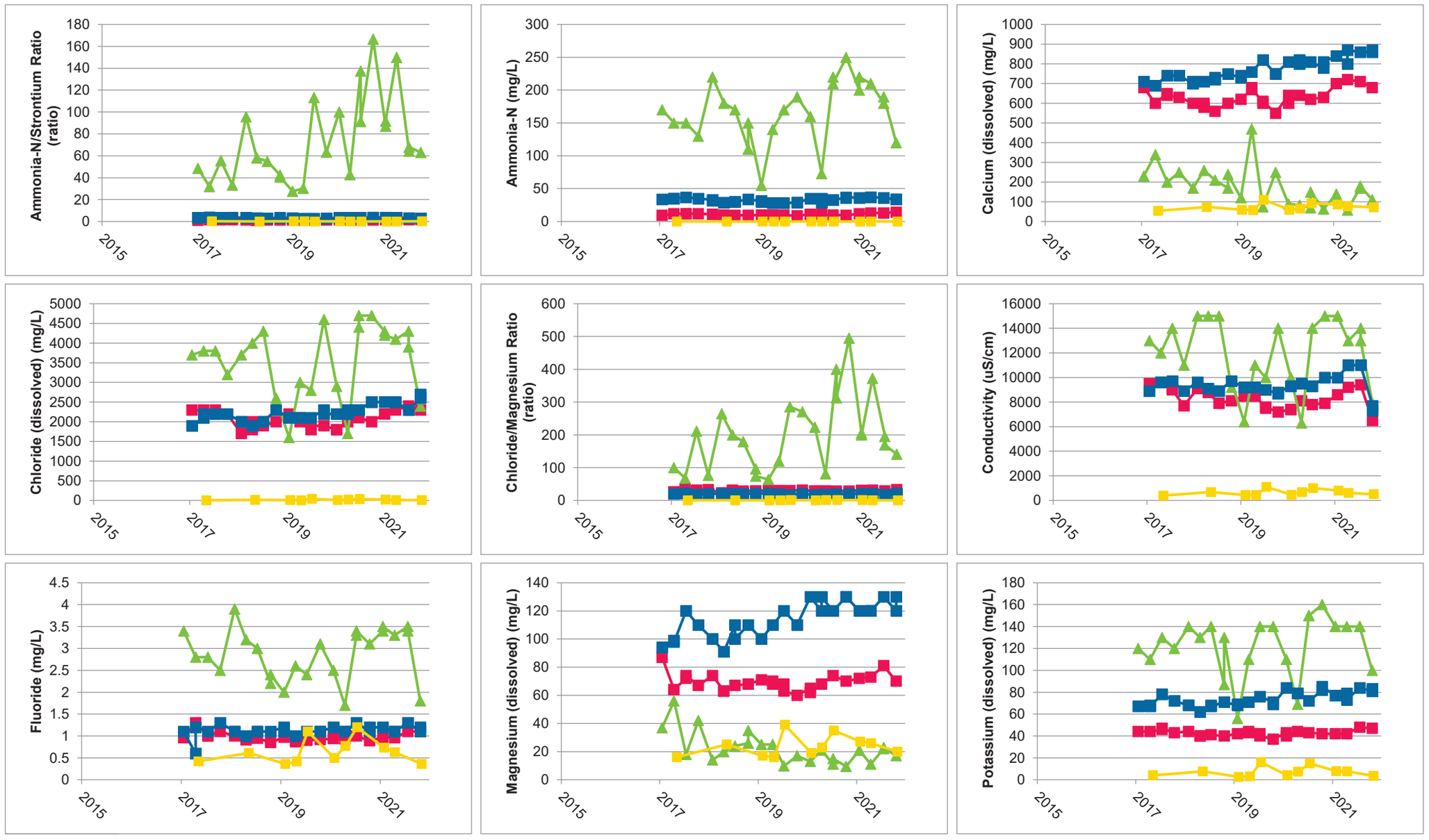
Appendix F.2 - Figure 53
P17 - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



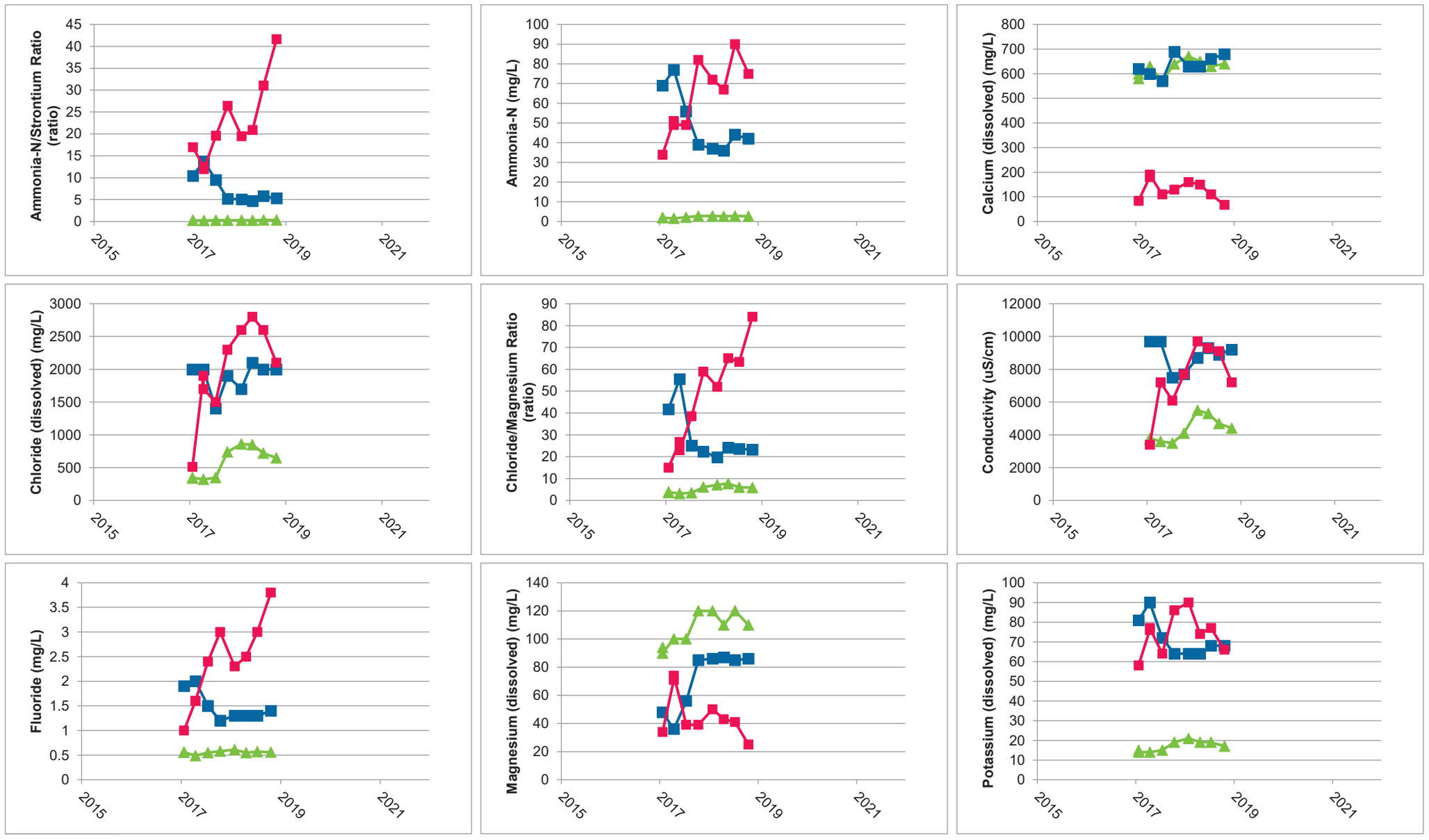
Appendix F.2 - Figure 54
P2-I - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



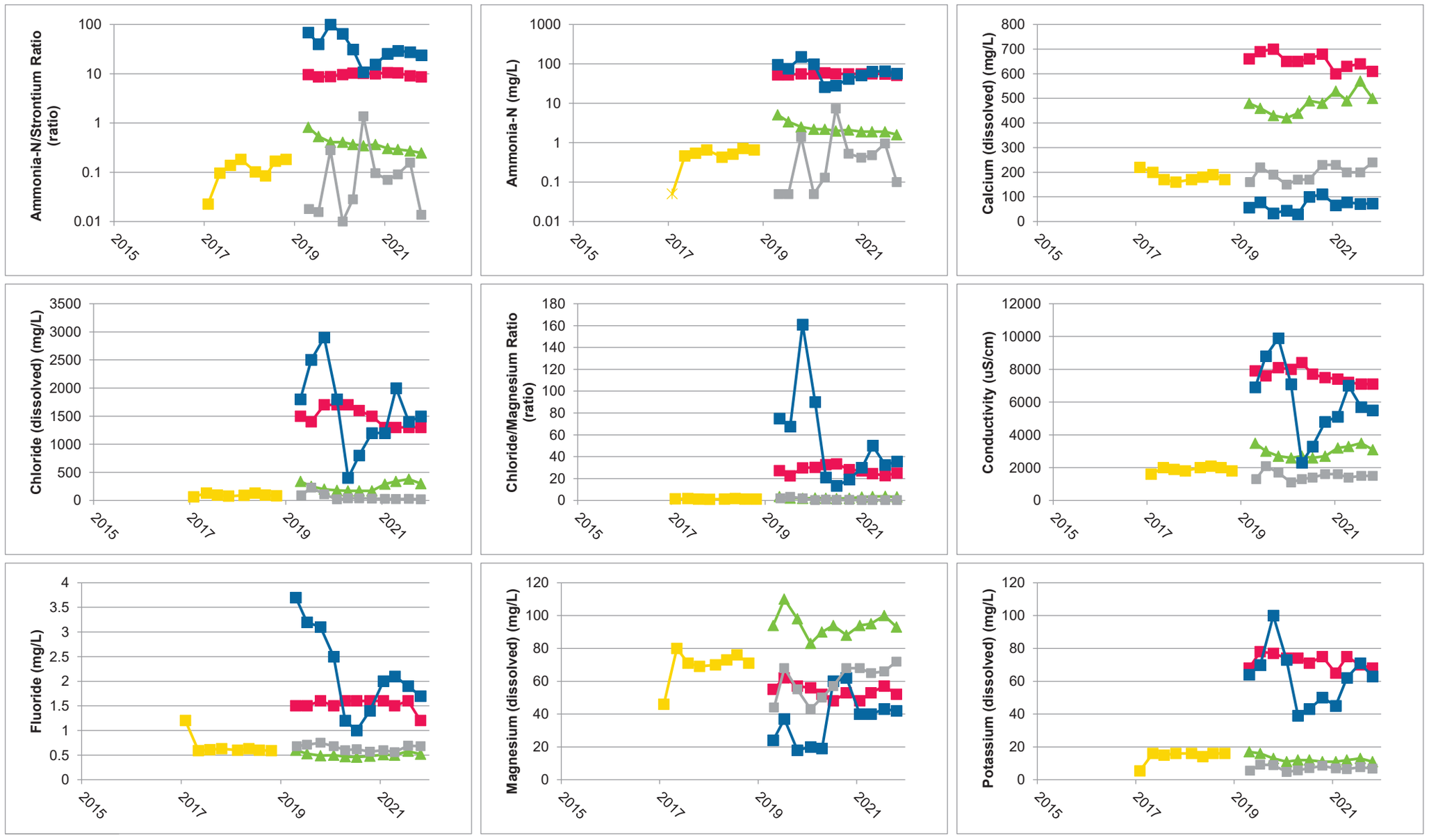
Appendix F.2 - Figure 55
P3 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



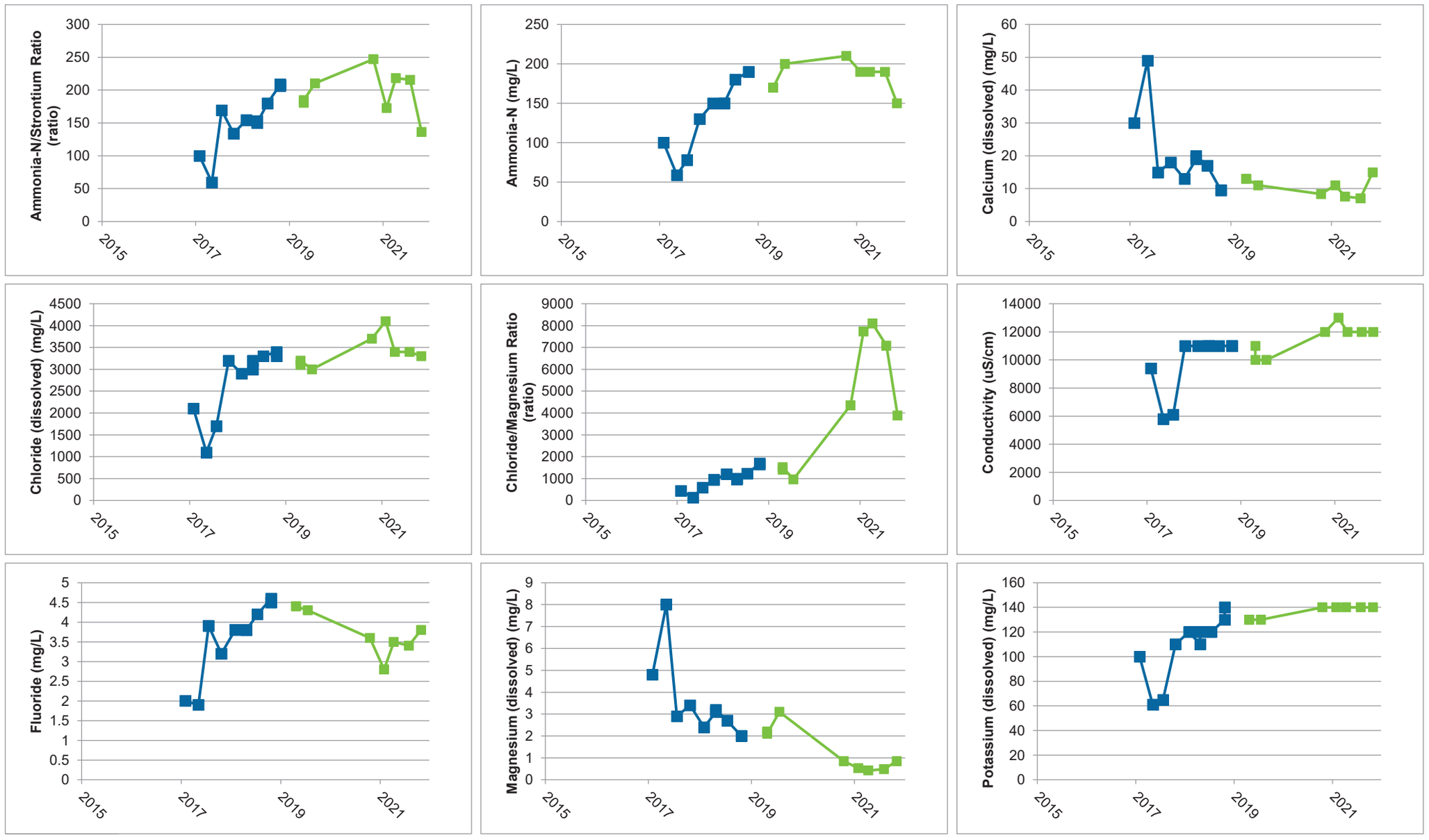
Appendix F.2 - Figure 56
P4 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



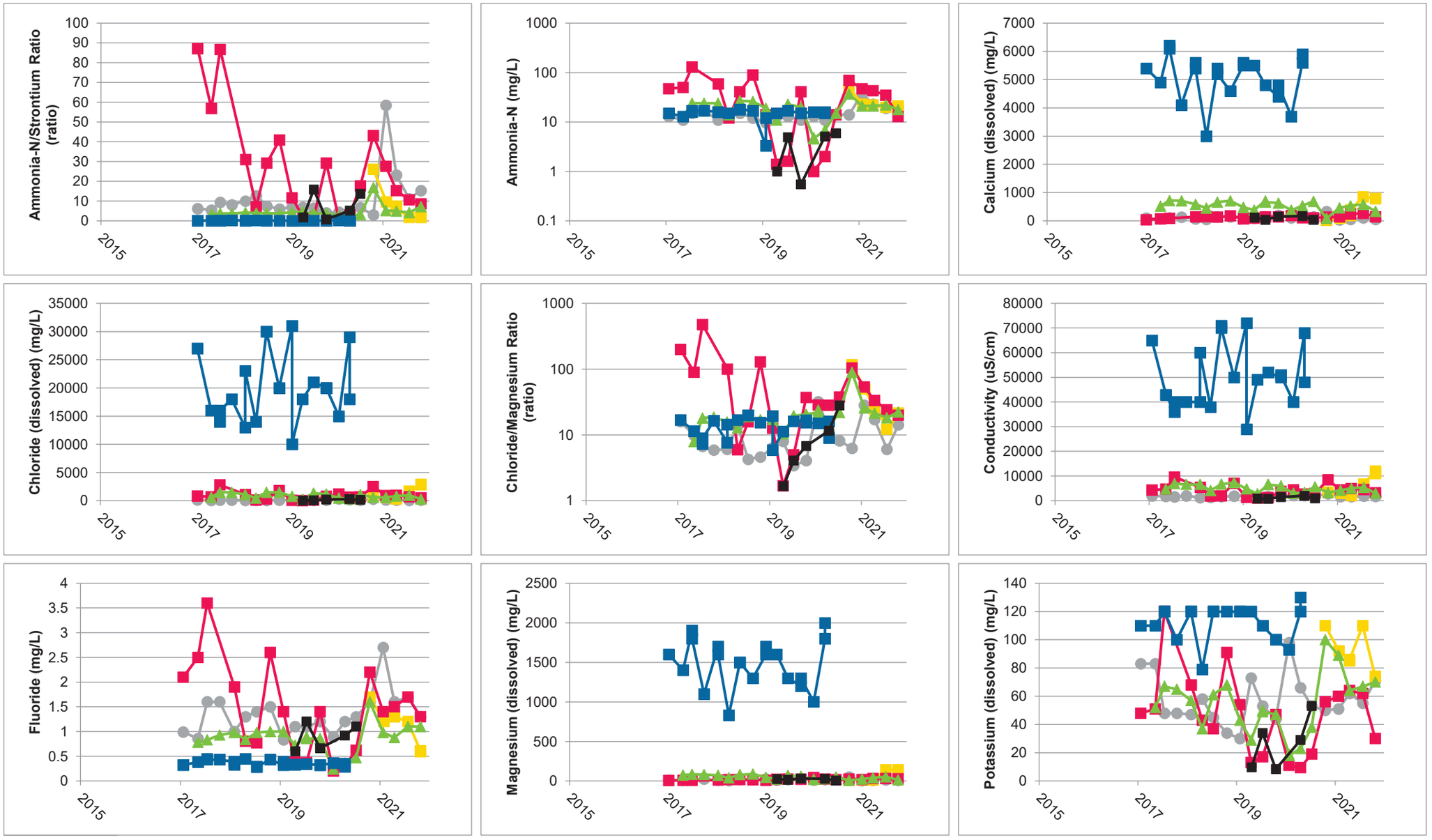
Appendix F.2 - Figure 57
P5 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



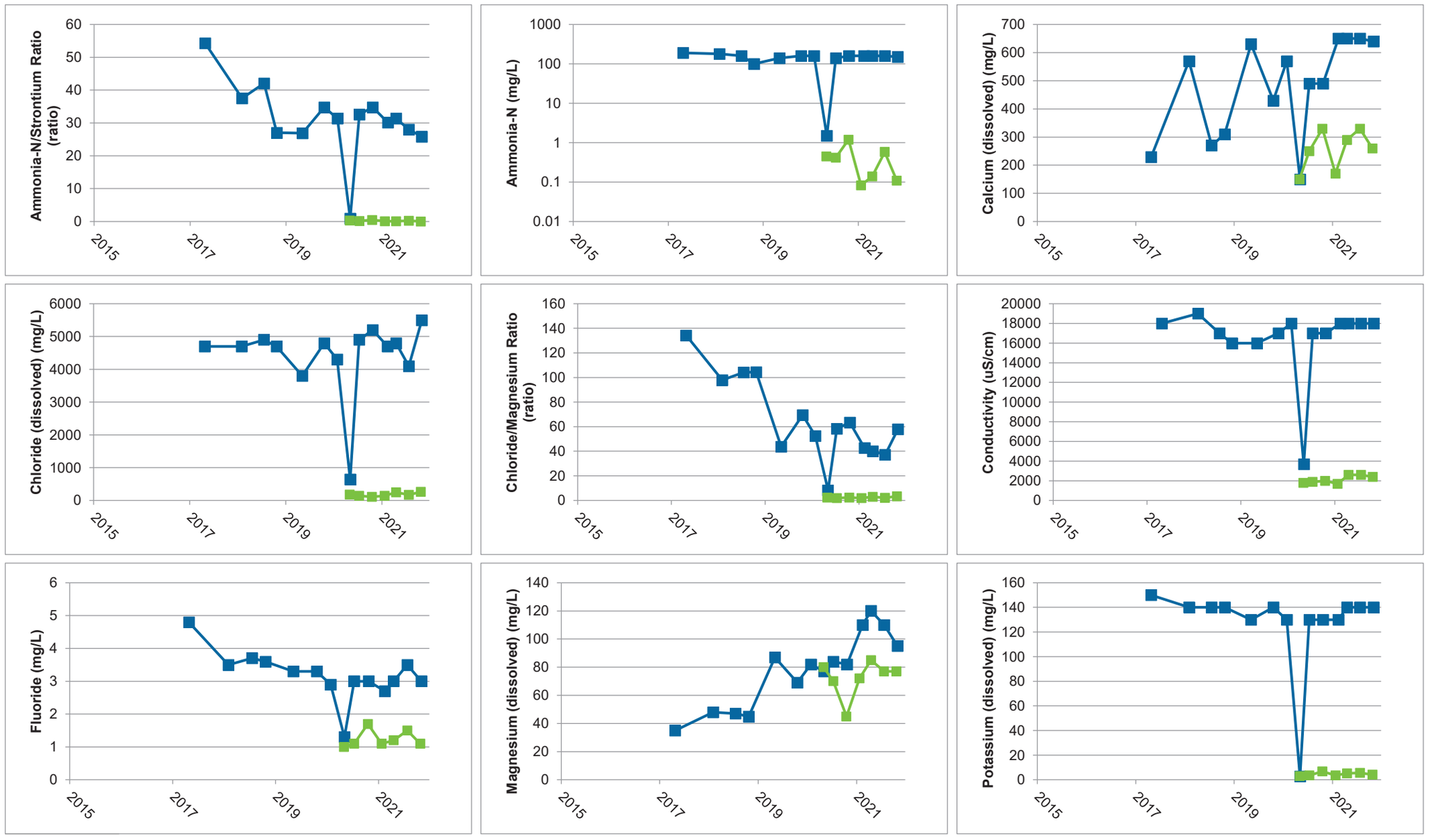
Appendix F.2 - Figure 58
P5R Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



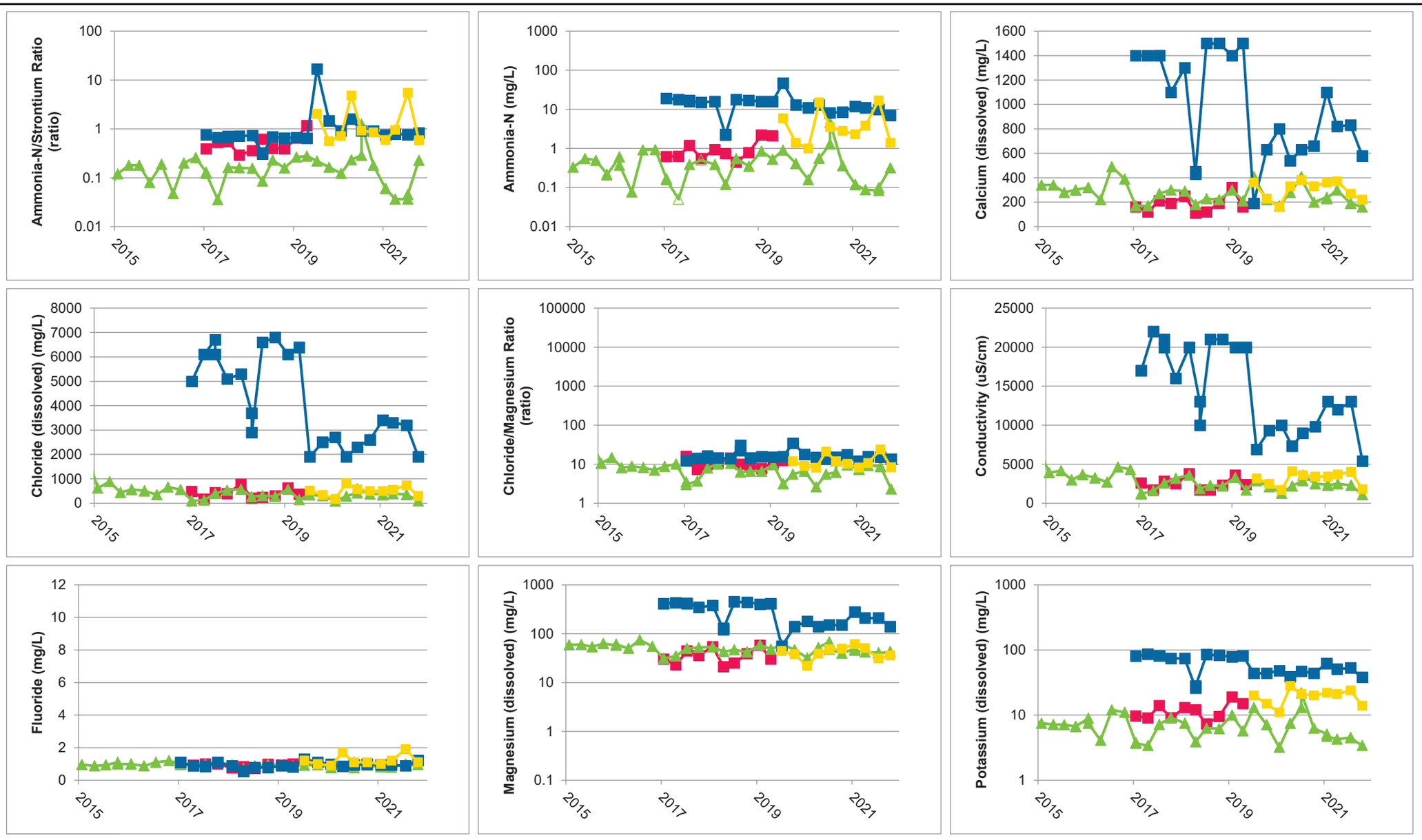
Appendix F.2 - Figure 59
P6 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



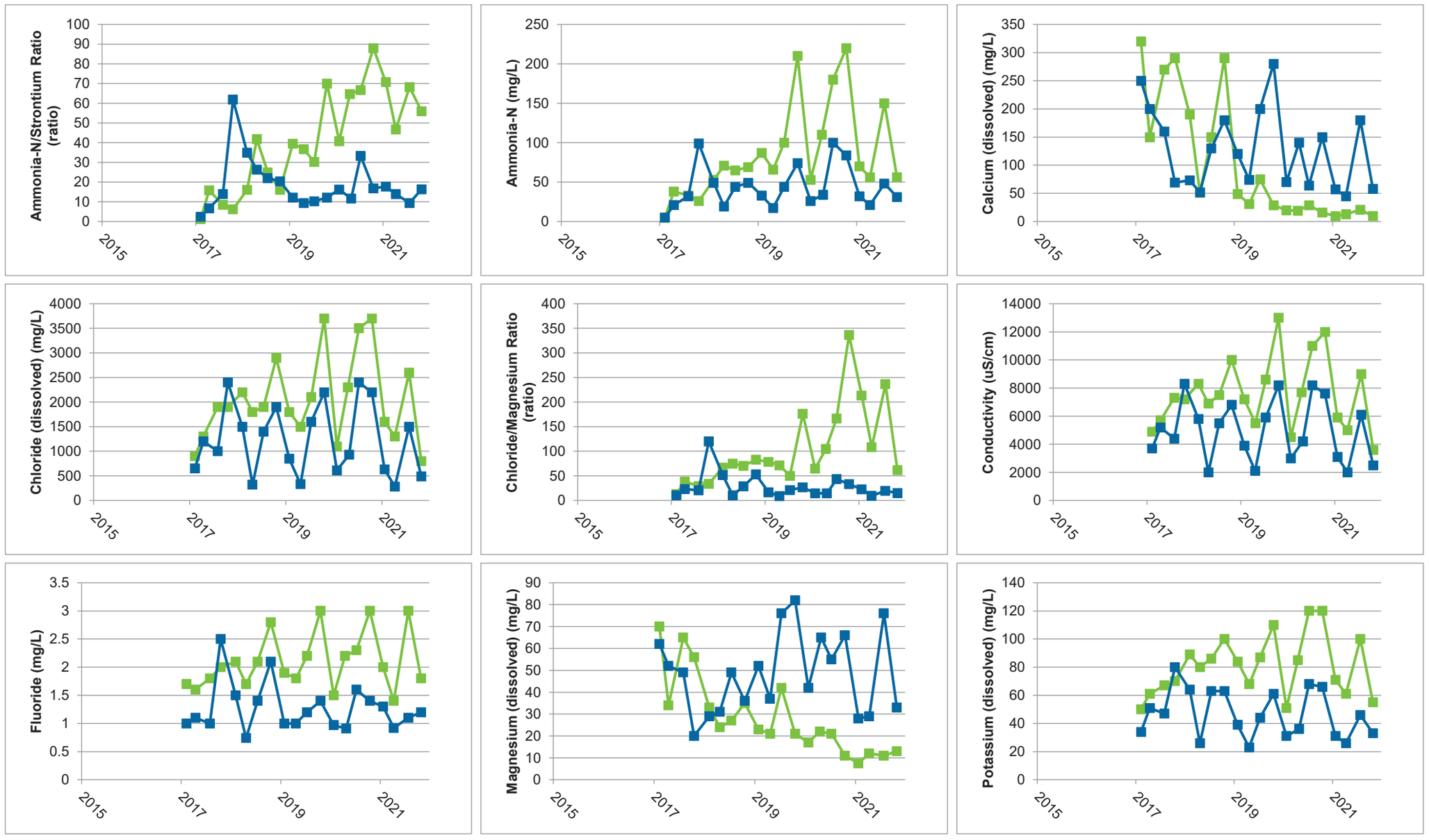
Appendix F.2 - Figure 60
P7 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



Appendix F.2 - Figure 61
P8 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



Appendix F.2 - Figure 62
P9 Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario



Appendix F.2 - Figure 63
ST Nest - Concentration versus Time
2021 Annual Monitoring Report
GFL Environmental, Stoney Creek Regional Facility
Stoney Creek, Ontario

Appendix O

Surface Water Quality Data

Surface Water Quality Data
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:			T-16	T-16	T-16	T-16	T-16	T-16	T-21	T-21
Sample ID:			T-16	T-16	T-35	T-16	T-16	T-16	T-21	T-21
Sample Date:			3/22/2021	4/30/2021	4/30/2021	7/2/2021	8/5/2021	10/5/2021	3/22/2021	8/5/2021
		PWQO			Duplicate					
Parameters	**Units**									
Metals										
Aluminum	mg/L	0.075	0.027	0.070	0.070	**0.40**	0.061	**0.22**	--	--
Aluminum (dissolved) (0.2 filter)	mg/L	75	0.006	0.008	ND (0.005)	0.009	ND (0.005)	0.01	--	--
Arsenic	mg/L	0.005	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.0011	ND (0.0010)	--	--
Beryllium	mg/L	0.011	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	--	--
Boron	mg/L	0.2	0.098	0.061	0.062	0.081	0.11	0.14	0.088	0.10
Cadmium	mg/L	0.0002	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	0.00013	--	--
Calcium	mg/L		130	87	91	82	110	85	--	--
Chromium	mg/L	0.001	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)
Cobalt	mg/L	0.0009	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	--	--
Copper	mg/L	0.005	0.0019	0.0020	0.0022	0.0040	0.0017	0.0042	--	--
Iron	mg/L	0.3	ND (0.10)	ND (0.10)	ND (0.10)	**0.52**	0.10	**0.31**	--	--
Lead	mg/L	0.005	ND (0.00050)	ND (0.00050)	ND (0.00050)	0.0011	ND (0.00050)	0.00090	--	--
Magnesium	mg/L		45	28	29	25	40	26	--	--
Manganese	mg/L		0.041	0.020	0.021	0.023	0.024	0.018	--	--
Mercury	mg/L	0.0002	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	--	--
Molybdenum	mg/L	0.04	0.0025	0.0020	0.0021	0.0025	0.0030	0.0026	--	--
Nickel	mg/L	0.025	0.0016	0.0015	0.0013	0.0020	0.0013	0.0019	0.0016	0.0024
Selenium	mg/L	0.1	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	--	--
Silver	mg/L	0.0001	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	--	--
Sodium	mg/L		190	140	150	120	140	110	--	--
Strontium	mg/L		2.1	1.5	1.5	1.4	2.2	1.2	--	--
Vanadium	mg/L	0.006	ND (0.00050)	0.00079	0.00074	0.0016	0.0011	0.0015	--	--
Zinc	mg/L	0.03	**0.034**	0.025	0.026	0.029	0.0081	**0.047**	--	--
General Chemistry										
Alkalinity, total (as CaCO3)	mg/L		200	160	160	160	210	210	210	200
Ammonia-N	mg/L		ND (0.050)	ND (0.050)	ND (0.050)	0.22	ND (0.050)	ND (0.050)	ND (0.050)	0.071
Ammonia-N/Strontium Ratio	ratio		0.0238	0.0333	0.0333	0.1571	0.0227	0.0417	--	--
Biochemical oxygen demand (total BOD5)	mg/L		ND (2)	ND (2)	ND (2)	2	ND (2)	ND (2)	--	--
Chloride (dissolved)	mg/L		320	220	230	190	200	150	260	180
Chloride/Magnesium Ratio	ratio		7.1111	7.8571	7.9310	7.6000	5.0000	5.7692	--	--
Conductivity	umhos/cm		--	--	--	--	--	--	1700	1500
Dissolved organic carbon (DOC) (dissolved)	mg/L		2.6	3.5	3.5	4.4	2.8	4.4	--	--
Hardness	mg/L		500	330	330	310	440	350	--	--
Nitrate (as N)	mg/L		0.83	1.11	1.10	1.44	0.40	2.57	--	--
Nitrite (as N)	mg/L		0.011	0.022	0.022	0.019	ND (0.010)	0.014	--	--
Nitrite/Nitrate	mg/L		0.84	1.13	1.12	1.46	0.40	2.59	--	--
pH, lab	s.u.	6.5-8.5	8.27	8.26	8.20	8.23	8.46	8.34	8.26	8.22
Phenolics (total)	mg/L	0.001	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
Phosphorus	mg/L	0.01	**0.024**	**0.033**	**0.035**	**0.16**	**0.084**	**0.098**	--	--
Sulfate (dissolved)	mg/L		250	140	140	150	250	150	--	--
Total suspended solids (TSS)	mg/L		ND (10)	ND (10)	ND (10)	17	ND (10)	ND (10)	19	48

Appendix O

Surface Water Quality Data
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:			**T-15R**	**T-15R**	**T-15R**	**T-15R**	**T-15R**	**T-15R**	**T-15R**	**T-15R**	**T-15R**	**T-23**	**T-23**
Sample ID:			**T-15**	**T-15R**	**T-15R**	**T-15R**	**T-15R**	**T-15R**	**T-15R**	**T-15R**	**T-35**	**T-23**	**T-23**
Sample Date:		**PWQO**	**1/11/2021**	**3/22/2021**	**4/30/2021**	**7/2/2021**	**8/5/2021**	**9/20/2021**	**10/5/2021**	**11/9/2021**	**11/9/2021 Duplicate**	**3/22/2021**	**8/5/2021**
Parameters	**Units**												
Metals													
Aluminum	mg/L	0.075	0.028	0.0095	0.032	**0.57**	0.038	0.025	**0.47**	0.047	0.052	--	--
Aluminum (dissolved) (0.2 filter)	mg/L	75	ND (0.005)	ND (0.005)	0.008	0.006	ND (0.005)	ND (0.005)	0.005	ND (0.005)	ND (0.005)	--	--
Arsenic	mg/L	0.005	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.0011	ND (0.0010)	ND (0.0010)	0.0011	ND (0.0010)	ND (0.0010)	--	--
Beryllium	mg/L	0.011	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	--	--
Boron	mg/L	0.2	0.068	0.092	0.076	0.065	0.11	0.11	0.11	0.10	0.11	0.085	0.12
Cadmium	mg/L	0.0002	0.00012	0.00015	0.00018	0.00011	**0.00026**	0.00017	ND (0.000090)	0.00012	**0.00022**	--	--
Calcium	mg/L		140	170	130	83	150	140	95	130	140	--	--
Chromium	mg/L	0.001	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)
Cobalt	mg/L	0.0009	ND (0.00050)	ND (0.00050)	ND (0.00050)	0.00051	ND (0.00050)	ND (0.00050)	0.00052	0.00076	0.00071	--	--
Copper	mg/L	0.005	0.0010	ND (0.00090)	0.0010	0.0030	ND (0.00090)	0.0011	0.0044	0.0010	0.0013	--	--
Iron	mg/L	0.3	ND (0.10)	ND (0.10)	ND (0.10)	**0.72**	ND (0.10)	ND (0.10)	**0.73**	ND (0.10)	ND (0.10)	--	--
Lead	mg/L	0.005	ND (0.00050)	ND (0.00050)	ND (0.00050)	0.0010	ND (0.00050)	ND (0.00050)	0.0021	0.00074	0.00079	--	--
Magnesium	mg/L		37	43	36	21	40	33	22	33	33	--	--
Manganese	mg/L		0.029	0.012	0.021	0.17	0.19	0.081	0.10	0.11	0.12	--	--
Mercury	mg/L	0.0002	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	--	--
Molybdenum	mg/L	0.04	0.0017	0.0013	0.0015	0.0019	0.0016	0.0030	0.010	0.0034	0.0032	--	--
Nickel	mg/L	0.025	0.0024	0.0024	0.0020	0.0027	0.0046	0.0028	0.0034	0.0037	0.0041	0.0011	0.0011
Selenium	mg/L	0.1	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	--	--
Silver	mg/L	0.0001	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	--	--
Sodium	mg/L		89	130	150	85	100	81	57	73	74	--	--
Strontium	mg/L		3.0	3.7	2.9	1.7	4.7	3.2	1.6	2.6	2.6	--	--
Vanadium	mg/L	0.006	ND (0.00050)	ND (0.00050)	ND (0.00050)	0.0018	ND (0.00050)	ND (0.00050)	0.0018	0.00053	ND (0.00050)	--	--
Zinc	mg/L	0.03	**0.066**	**0.090**	**0.083**	**0.050**	**0.13**	**0.070**	**0.036**	**0.065**	**0.063**	--	--
General Chemistry													
Alkalinity, total (as CaCO3)	mg/L		200	220	170	140	230	220	140	210	210	210	200
Ammonia-N	mg/L		ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	0.052	0.090	0.099	0.18	0.16
Ammonia-N/Strontium Ratio	ratio		0.0167	0.0135	0.0172	0.0294	0.0106	0.0156	0.0325	0.0346	0.0381	--	--
Biochemical oxygen demand (total BOD5)	mg/L		ND (2)	ND (2)	ND (2)	3	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	--	--
Chloride (dissolved)	mg/L		140	220	230	130	160	130	61	100	110	190	150
Chloride/Magnesium Ratio	ratio		3.7838	5.1163	6.3889	6.1905	4.0000	3.9394	2.7727	3.0303	3.3333	--	--
Conductivity	umhos/cm		--	--	--	--	--	--	--	--	--	1500	1400
Dissolved organic carbon (DOC) (dissolved)	mg/L		2.3	2.0	3.4	6.0	2.5	2.5	4.8	2.7	2.8	--	--
Hardness	mg/L		510	620	470	280	560	470	320	460	460	--	--
Nitrate (as N)	mg/L		1.54	0.68	0.51	0.31	0.16	0.61	0.39	0.63	0.63	--	--
Nitrite (as N)	mg/L		ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.014	0.013	0.013	--	--
Nitrite/Nitrate	mg/L		1.54	0.68	0.51	0.31	0.16	0.61	0.41	0.64	0.65	--	--
pH, lab	s.u.	6.5-8.5	7.81	8.05	7.94	7.95	8.18	8.13	8.01	8.05	8.05	8.28	8.44
Phenolics (total)	mg/L	0.001	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
Phosphorus	mg/L	0.01	0.009	0.008	**0.013**	**0.055**	0.006	0.007	**0.10**	**0.028**	**0.027**	--	--
Sulfate (dissolved)	mg/L		290	310	270	150	350	260	210	260	270	--	--
Total suspended solids (TSS)	mg/L		ND (10)	ND (10)	ND (10)	35	ND (10)	ND (10)	16	ND (10)	ND (10)	ND (10)	ND (10)

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Sample Location:			**T-15R**	**T-15R**
Sample ID:			**T-15R**	**T-15R**
Sample Date:			**3/22/2021**	**8/5/2021**
Parameters	**Units**	**PWQO**		
Volatiles				
1,1,1,2-Tetrachloroethane	ug/L	20	ND (0.20)	ND (0.20)
1,1,1-Trichloroethane	ug/L	10	ND (0.10)	ND (0.10)
1,1,2,2-Tetrachloroethane	ug/L	70	ND (0.20)	ND (0.20)
1,1,2-Trichloroethane	ug/L	800	ND (0.20)	ND (0.20)
1,1-Dichloroethane	ug/L	200	ND (0.10)	ND (0.10)
1,1-Dichloroethene	ug/L	40	ND (0.10)	ND (0.10)
1,2-Dibromoethane (Ethylene dibromide)	ug/L	5	ND (0.20)	ND (0.20)
1,2-Dichlorobenzene	ug/L	2.5	ND (0.20)	ND (0.20)
1,2-Dichloroethane	ug/L	100	ND (0.20)	ND (0.20)
1,2-Dichloropropane	ug/L	0.7	ND (0.10)	ND (0.10)
1,3-Dichlorobenzene	ug/L	2.5	ND (0.20)	ND (0.20)
1,4-Dichlorobenzene	ug/L	4	ND (0.20)	ND (0.20)
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	400	ND (5.0)	ND (5.0)
2-Hexanone	ug/L		ND (5.0)	ND (5.0)
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L		ND (5.0)	ND (5.0)
Acetone	ug/L		ND (10)	ND (10)
Acrolein	ug/L	0.03	ND (10)	ND (10)
Acrylonitrile	ug/L		ND (5.0)	ND (5.0)
Benzene	ug/L	100	ND (0.10)	ND (0.10)
Bromodichloromethane	ug/L	200	ND (0.10)	ND (0.10)
Bromoform	ug/L	60	ND (0.20)	ND (0.20)
Bromomethane (Methyl bromide)	ug/L	0.9	ND (0.50)	ND (0.50)
Carbon tetrachloride	ug/L		ND (0.10)	ND (0.10)
Chlorobenzene	ug/L	15	ND (0.10)	ND (0.10)
Chloroethane	ug/L		ND (0.20)	ND (0.20)
Chloroform (Trichloromethane)	ug/L		ND (0.10)	ND (0.10)
Chloromethane (Methyl chloride)	ug/L	700	ND (0.50)	ND (0.50)
cis-1,2-Dichloroethene	ug/L	200	ND (0.10)	ND (0.10)
cis-1,3-Dichloropropene	ug/L		ND (0.20)	ND (0.20)
Dibromochloromethane	ug/L	40	ND (0.20)	ND (0.20)
Ethylbenzene	ug/L	8	ND (0.10)	ND (0.10)
m&p-Xylenes	ug/L	2	ND (0.10)	ND (0.10)
Methyl tert butyl ether (MTBE)	ug/L	200	ND (0.20)	ND (0.20)
Methylene chloride	ug/L	100	ND (0.50)	ND (0.50)
o-Xylene	ug/L	40	ND (0.10)	ND (0.10)
Styrene	ug/L	4	ND (0.20)	ND (0.20)
Tetrachloroethene	ug/L	50	ND (0.10)	ND (0.10)
Toluene	ug/L	0.8	ND (0.20)	ND (0.20)
trans-1,2-Dichloroethene	ug/L	200	ND (0.10)	ND (0.10)
trans-1,3-Dichloropropene	ug/L	7	ND (0.20)	ND (0.20)
Trichloroethene	ug/L	20	ND (0.10)	ND (0.10)
Trichlorofluoromethane (CFC-11)	ug/L		ND (0.20)	ND (0.20)
Vinyl chloride	ug/L	600	ND (0.20)	ND (0.20)
Xylenes (total)	ug/L		ND (0.10)	ND (0.10)
Semi-Volatiles				
1,2,3,4-Tetrachlorobenzene	ug/L	0.1	ND (0.50)	ND (0.50)
1,2,3,5-Tetrachlorobenzene	ug/L	0.1	ND (0.50)	ND (0.50)
1,2,3-Trichlorobenzene	ug/L	0.9	ND (0.50)	ND (0.50)
1,2,4,5-Tetrachlorobenzene	ug/L	0.15	ND (0.50)	ND (0.50)
1,2,4-Trichlorobenzene	ug/L	0.5	ND (0.50)	ND (0.50)
1,4-Dichlorobenzene	ug/L	4	ND (0.50)	ND (0.50)
1-Chloronaphthalene	ug/L	0.1	ND (1.0)	ND (1.0)
1H-Indole	ug/L		ND (1.0)	ND (1.0)

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Sample Location:			**T-15R**	**T-15R**
Sample ID:			**T-15R**	**T-15R**
Sample Date:			**3/22/2021**	**8/5/2021**
		PWQO		
Parameters	**Units**			
1-Methylnaphthalene	ug/L	2	ND (0.20)	ND (0.20)
2,2'-Oxybis(2-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L		ND (0.50)	ND (0.50)
2,3,4,5-Tetrachlorophenol	ug/L		ND (0.40)	ND (0.40)
2,3,4,6-Tetrachlorophenol	ug/L		ND (0.50)	ND (0.50)
2,3,4-Trichlorophenol	ug/L	18	ND (0.50)	ND (0.50)
2,3,5,6-Tetrachlorophenol	ug/L		ND (0.50)	ND (0.50)
2,3,5-Trichlorophenol	ug/L		ND (0.50)	ND (0.50)
2,4,5-Trichlorophenol	ug/L	18	ND (0.50)	ND (0.50)
2,4,6-Trichlorophenol	ug/L	18	ND (0.50)	ND (0.50)
2,4-Dichlorophenol	ug/L	0.2	ND (0.30)	ND (0.30)
2,4-Dimethylphenol	ug/L	10	ND (0.50)	ND (0.50)
2,4-Dinitrophenol	ug/L		ND (2.0)	ND (2.0)
2,4-Dinitrotoluene	ug/L	4	ND (0.50)	ND (0.50)
2,6-Dichlorophenol	ug/L	0.2	ND (0.50)	ND (0.50)
2,6-Dinitrotoluene	ug/L	6	ND (0.50)	ND (0.50)
2-Chloronaphthalene	ug/L	0.2	ND (0.50)	ND (0.50)
2-Chlorophenol	ug/L	7	ND (0.30)	ND (0.30)
2-Methylnaphthalene	ug/L	2	ND (0.20)	ND (0.20)
2-Methylphenol	ug/L	1	ND (0.50)	ND (0.50)
2-Nitrophenol	ug/L	0.5	ND (0.50)	ND (0.50)
3&4-Methylphenol	ug/L	1	ND (0.50)	ND (0.50)
3,3'-Dichlorobenzidine	ug/L	0.6	ND (0.50)	ND (0.50)
3,4,5-Trichlorophenol	ug/L		ND (0.50)	ND (0.50)
4,6-Dinitro-2-methylphenol	ug/L	0.2	ND (2.0)	ND (2.0)
4-Bromophenyl phenyl ether	ug/L	0.05	ND (0.30)	ND (0.30)
4-Chloro-3-methylphenol	ug/L	3	ND (0.50)	ND (0.50)
4-Chloroaniline	ug/L		ND (1.0)	ND (1.0)
4-Chlorophenyl phenyl ether	ug/L	0.05	ND (0.50)	ND (0.50)
4-Nitrophenol	ug/L	50	ND (1.4)	ND (1.4)
5-Nitroacenaphthene	ug/L		ND (1.0)	ND (1.0)
Acenaphthene	ug/L		ND (0.20)	ND (0.20)
Acenaphthylene	ug/L		ND (0.20)	ND (0.20)
Anthracene	ug/L	0.0008	ND (0.20)	ND (0.20)
Benzo(a)anthracene	ug/L	0.0004	ND (0.20)	ND (0.20)
Benzo(a)pyrene	ug/L		ND (0.20)	ND (0.20)
Benzo(b)fluoranthene/Benzo(j)fluoranthene	ug/L		ND (0.20)	ND (0.20)
Benzo(g,h,i)perylene	ug/L	0.00002	ND (0.20)	ND (0.20)
Benzo(k)fluoranthene	ug/L	0.0002	ND (0.20)	ND (0.20)
Biphenyl (1,1-Biphenyl)	ug/L	0.2	ND (0.50)	ND (0.50)
bis(2-Chloroethoxy)methane	ug/L		ND (0.50)	ND (0.50)
bis(2-Chloroethyl)ether	ug/L	200	ND (0.50)	ND (0.50)
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	0.6	ND (2.0)	ND (2.0)
Butyl benzylphthalate (BBP)	ug/L	0.2	ND (0.50)	ND (0.50)
Camphene	ug/L	2	ND (1.0)	ND (1.0)
Chrysene	ug/L	0.0001	ND (0.20)	ND (0.20)
Dibenz(a,h)anthracene	ug/L	0.002	ND (0.20)	ND (0.20)
Diethyl phthalate	ug/L		ND (1.0)	ND (1.0)
Dimethyl phthalate	ug/L		ND (1.0)	ND (1.0)
Di-n-butylphthalate (DBP)	ug/L	4	ND (2.0)	ND (2.0)
Di-n-octyl phthalate (DnOP)	ug/L		ND (0.80)	ND (0.80)
Diphenyl ether	ug/L	0.03	ND (0.30)	ND (0.30)
Fluoranthene	ug/L	0.0008	ND (0.20)	ND (0.20)
Fluorene	ug/L	0.2	ND (0.20)	ND (0.20)
Hexachlorobenzene	ug/L	0.0065	ND (0.50)	ND (0.50)
Hexachlorobutadiene	ug/L	0.009	ND (0.40)	ND (0.40)
Hexachlorocyclopentadiene	ug/L	0.06	ND (2.0)	ND (2.0)

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Sample Location:			**T-15R**	**T-15R**
Sample ID:			**T-15R**	**T-15R**
Sample Date:			**3/22/2021**	**8/5/2021**
		PWQO		
Parameters	**Units**			
Hexachloroethane	ug/L	1	ND (0.50)	ND (0.50)
Indeno(1,2,3-cd)pyrene	ug/L		ND (0.20)	ND (0.20)
Isophorone	ug/L		ND (0.50)	ND (0.50)
Naphthalene	ug/L	7	ND (0.20)	ND (0.20)
Nitrobenzene	ug/L	0.02	ND (0.50)	ND (0.50)
Nitrosodiphenylamine/Diphenylamine	ug/L	3	ND (1.0)	ND (1.0)
N-Nitrosodi-n-propylamine	ug/L		ND (0.50)	ND (0.50)
Pentachlorobenzene	ug/L	0.03	ND (0.50)	ND (0.50)
Pentachlorophenol	ug/L	0.5	ND (1.0)	ND (1.0)
Perylene	ug/L	0.00007	ND (0.20)	ND (0.20)
Phenanthrene	ug/L	0.03	ND (0.20)	ND (0.20)
Phenol	ug/L	5	ND (0.50)	ND (0.50)
Pyrene	ug/L		ND (0.20)	ND (0.20)
Pesticides				
2,4'-DDD	ug/L		ND (0.005)	ND (0.005)
2,4'-DDD + 4,4'-DDD	ug/L		ND (0.005)	ND (0.005)
2,4'-DDE	ug/L		ND (0.005)	ND (0.005)
2,4'-DDE + 4,4'-DDE	ug/L		ND (0.005)	ND (0.005)
2,4'-DDT	ug/L		ND (0.005)	ND (0.005)
2,4'-DDT + 4,4'-DDT	ug/L		ND (0.005)	ND (0.005)
4,4'-DDD	ug/L		ND (0.005)	ND (0.005)
4,4'-DDE	ug/L		ND (0.005)	ND (0.005)
4,4'-DDT	ug/L	0.003	ND (0.005)	ND (0.005)
Aldrin	ug/L	0.001	ND (0.005)	ND (0.005)
Aldrin & Dieldrin	ug/L		ND (0.005)	ND (0.005)
alpha-BHC	ug/L		ND (0.005)	ND (0.005)
alpha-Chlordane	ug/L		ND (0.005)	ND (0.005)
beta-BHC	ug/L		ND (0.005)	ND (0.005)
Chlordane	ug/L	0.06	ND (0.005)	ND (0.005)
DDT and metabolites	ug/L		ND (0.005)	ND (0.005)
delta-BHC	ug/L		ND (0.005)	ND (0.005)
Dieldrin	ug/L	0.001	ND (0.005)	ND (0.005)
Endosulfan	ug/L	0.003	ND (0.005)	ND (0.005)
Endosulfan I	ug/L		ND (0.005)	ND (0.005)
Endosulfan II	ug/L		ND (0.005)	ND (0.005)
Endosulfan sulfate	ug/L		ND (0.005)	ND (0.005)
Endrin	ug/L	0.002	ND (0.005)	ND (0.005)
Endrin aldehyde	ug/L		ND (0.005)	ND (0.005)
Endrin ketone	ug/L		ND (0.005)	ND (0.005)
gamma-BHC (lindane)	ug/L	0.01	ND (0.003)	ND (0.003)
gamma-Chlordane	ug/L		ND (0.005)	ND (0.005)
Heptachlor	ug/L	0.001	ND (0.005)	ND (0.005)
Heptachlor epoxide	ug/L	0.001	ND (0.005)	ND (0.005)
Heptachlor/Heptachlor epoxide	ug/L		ND (0.005)	ND (0.005)
Hexachlorobenzene	ug/L	0.0065	ND (0.005)	ND (0.005)
Methoxychlor	ug/L	0.04	ND (0.01)	ND (0.01)
Mirex	ug/L	0.001	ND (0.005)	ND (0.005)
Octachlorostyrene	ug/L		ND (0.005)	ND (0.005)
Total PCBs	ug/L	0.001	ND (0.05)	ND (0.05)
Total trichlorobenzenes	ug/L		ND (0.5)	ND (0.5)
Toxaphene	ug/L	0.008	ND (0.2)	ND (0.2)

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Sample Location:			**T-13**	**T-13**	**T-13**	**T-13**	**T-13**	**T-28**	**T-28**
Sample ID:			**T-13**	**T-13**	**T-13**	**T-13**	**T-13**	**T-28**	**T-28**
Sample Date:			**3/22/2021**	**4/30/2021**	**7/2/2021**	**8/5/2021**	**10/5/2021**	**3/22/2021**	**8/5/2021**
Parameters	**Units**	**PWQO**							
Metals									
Aluminum	mg/L	0.075	0.024	**0.16**	**0.53**	**0.093**	**0.31**	--	--
Aluminum (dissolved) (0.2 filter)	mg/L	75	0.007	0.006	0.008	0.006	0.009	--	--
Arsenic	mg/L	0.005	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	--	--
Beryllium	mg/L	0.011	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	--	--
Boron	mg/L	0.2	0.096	0.062	0.065	0.090	0.070	0.098	0.090
Cadmium	mg/L	0.0002	ND (0.000090)	0.00010	0.00012	ND (0.000090)	0.000090	--	--
Calcium	mg/L		130	100	83	120	77	--	--
Chromium	mg/L	0.001	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)
Cobalt	mg/L	0.0009	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	--	--
Copper	mg/L	0.005	0.0021	0.0033	0.0042	0.0030	**0.0051**	--	--
Iron	mg/L	0.3	ND (0.10)	0.22	**0.68**	0.14	**0.41**	--	--
Lead	mg/L	0.005	ND (0.00050)	0.00071	0.0015	0.00059	0.00096	--	--
Magnesium	mg/L		47	35	25	43	22	--	--
Manganese	mg/L		ND (0.0020)	0.0091	0.017	0.0082	0.012	--	--
Mercury	mg/L	0.0002	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	--	--
Molybdenum	mg/L	0.04	0.0032	0.0032	0.0032	0.0034	0.0027	--	--
Nickel	mg/L	0.025	0.0018	0.0022	0.0024	0.0018	0.0023	0.0017	0.0015
Selenium	mg/L	0.1	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	--	--
Silver	mg/L	0.0001	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	--	--
Sodium	mg/L		210	180	110	130	74	--	--
Strontium	mg/L		2.4	1.9	1.6	2.1	1.6	--	--
Vanadium	mg/L	0.006	0.00050	0.0010	0.0019	0.0012	0.0013	--	--
Zinc	mg/L	0.03	**0.053**	**0.061**	**0.053**	**0.035**	**0.060**	--	--
General Chemistry									
Alkalinity, total (as CaCO3)	mg/L		200	180	160	210	170	200	210
Ammonia-N	mg/L		ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)
Ammonia-N/Strontium Ratio	ratio		0.0208	0.0263	0.0313	0.0238	0.0313	--	--
Biochemical oxygen demand (total BOD5)	mg/L		ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	--	--
Chloride (dissolved)	mg/L		350	290	160	190	110	340	220
Chloride/Magnesium Ratio	ratio		7.4468	8.2857	6.4000	4.4186	5.0000	--	--
Conductivity	umhos/cm		--	--	--	--	--	1900	1500
Dissolved organic carbon (DOC) (dissolved)	mg/L		2.4	3.4	4.1	2.5	4.4	--	--
Hardness	mg/L		510	390	310	460	290	--	--
Nitrate (as N)	mg/L		0.90	1.03	1.10	0.35	1.33	--	--
Nitrite (as N)	mg/L		ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.018	--	--
Nitrite/Nitrate	mg/L		0.90	1.03	1.10	0.35	1.35	--	--
pH, lab	s.u.	6.5-8.5	8.40	8.30	8.29	8.45	8.28	8.24	8.44
Phenolics (total)	mg/L	0.001	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
Phosphorus	mg/L	0.01	**0.036**	**0.036**	**0.067**	**0.080**	**0.074**	--	--
Sulfate (dissolved)	mg/L		250	180	160	260	130	--	--
Total suspended solids (TSS)	mg/L		ND (10)	ND (10)	18	10	11	ND (10)	ND (10)

Appendix O

Surface Water Quality Data
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:			NORTH SUMP	NORTH SUMP	NORTH SUMP	T-3A	T-3A	T-3A	T-3A	T-3A	T-3A	T-3A	T-3A
Sample ID:			NORTH SUMP	T-35	NORTH SUMP	T-35	T-3A	T-3A	T-3A	T-3A	T-35	T-3A	T-3A
Sample Date:			3/22/2021	3/22/2021	8/5/2021	1/11/2021	1/11/2021	3/22/2021	4/30/2021	7/2/2021	8/5/2021	8/5/2021	9/20/2021
		PWQO		Duplicate		Duplicate					Duplicate		
Parameters	**Units**												
Metals													
Aluminum	mg/L	0.075	0.055	0.040	**0.084**	**0.38**	**0.32**	**0.13**	**0.95**	0.050	0.049	0.063	**0.13**
Aluminum (dissolved) (0.2 filter)	mg/L	75	0.009	0.01	0.01	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	0.013	0.006	ND (0.005)
Arsenic	mg/L	0.005	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
Beryllium	mg/L	0.011	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)
Boron	mg/L	0.2	**0.37**	**0.36**	**0.54**	**0.45**	**0.48**	**0.51**	**0.53**	**0.57**	0.088	**0.62**	**0.67**
Cadmium	mg/L	0.0002	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	0.00011	ND (0.000090)	ND (0.000090)
Calcium	mg/L		230	230	300	330	320	320	350	310	120	350	340
Chromium	mg/L	0.001	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)
Cobalt	mg/L	0.0009	ND (0.00050)	ND (0.00050)	ND (0.00050)	**0.0010**	**0.00097**	0.00059	**0.0014**	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)
Copper	mg/L	0.005	0.0031	0.0029	0.0038	0.0019	0.0019	0.0030	0.0026	0.0017	0.0014	0.0014	0.0023
Iron	mg/L	0.3	0.21	0.12	**0.40**	**0.65**	**0.53**	**0.66**	**1.9**	0.12	ND (0.10)	0.15	0.27
Lead	mg/L	0.005	0.0041	0.0030	**0.0057**	0.0025	0.0028	**0.0086**	**0.0051**	0.00068	ND (0.00050)	0.0013	0.0014
Magnesium	mg/L		73	72	110	76	75	76	81	75	51	90	71
Manganese	mg/L		0.026	0.022	0.15	0.36	0.36	0.21	0.31	0.14	0.016	0.039	0.37
Mercury	mg/L	0.0002	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Molybdenum	mg/L	0.04	0.0044	0.0043	0.0065	0.0053	0.0052	0.0038	0.0043	0.0064	0.0041	0.0055	0.0072
Nickel	mg/L	0.025	0.0038	0.0040	0.0032	0.0063	0.0059	0.0043	0.0067	0.0039	0.0029	0.0042	0.0062
Potassium	mg/L		--	--	--	--	--	--	--	--	--	--	--
Selenium	mg/L	0.1	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)
Silver	mg/L	0.0001	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)
Sodium	mg/L		200	200	330	240	240	290	300	300	120	360	260
Strontium	mg/L		2.8	2.8	4.4	3.5	3.4	3.5	3.8	3.6	2.5	4.5	3.7
Vanadium	mg/L	0.006	0.00079	0.00075	0.0014	0.0013	0.0012	0.00097	0.0025	0.00062	0.00081	0.00067	0.00077
Zinc	mg/L	0.03	0.026	0.025	0.017	**0.088**	**0.084**	**0.057**	**0.053**	0.018	**0.094**	0.014	**0.057**
General Chemistry													
Alkalinity, total (as CaCO3)	mg/L		180	180	170	220	220	220	210	110	230	160	210
Ammonia-N	mg/L		ND (0.050)	ND (0.050)	0.086	3.4	3.4	4.4	3.8	0.82	ND (0.050)	0.51	1.9
Ammonia-N/Strontium Ratio	ratio		0.0179	0.0179	0.0195	0.9714	1.0000	1.2571	1.0000	0.2278	0.0200	0.1133	0.5135
Biochemical oxygen demand (total BOD5)	mg/L		ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	3	ND (2)	ND (2)	2	3
Chloride (dissolved)	mg/L		330	320	570	370	370	440	480	520	180	600	410
Chloride/Magnesium Ratio	ratio		4.5205	4.4444	5.1818	4.8684	4.9333	5.7895	5.9259	6.9333	3.5294	6.6667	5.7746
Dissolved organic carbon (DOC) (dissolved)	mg/L		3.1	3.1	3.6	4.2	4.3	3.9	4.0	4.8	2.8	5.1	4.0
Hardness	mg/L		900	890	1200	1100	1100	1200	1200	1100	520	1200	1100
Nitrate (as N)	mg/L		0.43	0.44	0.16	0.90	0.88	0.49	0.47	0.66	0.37	1.74	0.52
Nitrite (as N)	mg/L		ND (0.010)	ND (0.010)	ND (0.010)	0.054	0.055	0.052	0.067	0.299	0.013	0.453	0.365
Nitrite/Nitrate	mg/L		0.43	0.44	0.16	0.96	0.93	0.54	0.54	0.96	0.38	2.19	0.89
pH, lab	s.u.	6.5-8.5	8.24	8.23	8.15	7.63	7.64	8.06	7.93	7.83	**8.53**	8.06	7.93
Phenolics (total)	mg/L	0.001	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
Phosphorus	mg/L	0.01	**0.014**	**0.013**	**0.09**	**0.040**	**0.042**	**0.030**	**0.068**	**0.024**	**0.048**	**0.021**	**0.016**
Sulfate (dissolved)	mg/L		570	600	840	850	810	850	860	880	300	990	830
Total kjeldahl nitrogen (TKN)	mg/L		--	--	--	--	--	--	--	--	--	--	--
Total organic carbon (TOC)	mg/L		--	--	--	--	--	--	--	--	--	--	--
Total suspended solids (TSS)	mg/L		12	ND (10)	12	23	15	11	39	ND (10)	ND (10)	19	12

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Sample Location:		T-3A	T-3A	T-3A	T-3R	T-3R	T-3R	T-3R	T-1R	T-1R	T-1R	T-1R	T-1R
Sample ID:		T-35	T-3A	T-3A	T-3R	T-3R	T-3R	T-3R	T-1R	T-1R	T-1R	T-1R	T-1R
Sample Date:		9/20/2021 DUP	10/5/2021	11/9/2021	3/22/2021	9/20/2021	10/5/2021	11/9/2021	1/11/2021	3/22/2021	4/30/2021	7/2/2021	8/5/2021
Parameters	**Units**												
Metals													
Aluminum	mg/L	0.036	0.14	0.47	0.52	0.093	0.097	0.022	0.096	0.026	0.044	0.027	0.017
Aluminum (dissolved) (0.2 filter)	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	0.14	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	0.031	0.025	0.014
Arsenic	mg/L	ND (0.0010)	ND (0.0010)	0.0011	ND (0.0010)	ND (0.0010)	0.0015	ND (0.0010)	0.0011	0.0024	0.0031	0.0050	0.0061
Beryllium	mg/L	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)
Boron	mg/L	0.63	0.57	0.38	0.016	0.21	0.21	0.24	0.19	0.42	0.47	0.39	0.46
Cadmium	mg/L	ND (0.000090)	ND (0.000090)	0.00027	ND (0.000090)	ND (0.000090)	ND (0.000090)	0.00069	0.000093	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)
Calcium	mg/L	340	270	200	180	120	110	150	120	230	220	100	280
Chromium	mg/L	ND (0.0050)	ND (0.0050)	ND (0.0050)	0.0067	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)
Cobalt	mg/L	ND (0.00050)	ND (0.00050)	0.0025	0.0010	ND (0.00050)	ND (0.00050)	0.0020	0.00060	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)
Copper	mg/L	0.0013	0.0024	0.0039	0.012	0.0033	0.0043	0.0065	0.0036	ND (0.00090)	ND (0.00090)	0.0019	0.00091
Iron	mg/L	0.11	0.33	0.90	0.64	0.10	0.19	ND (0.10)	0.24	1.1	0.19	0.23	0.20
Lead	mg/L	0.0012	0.0076	0.021	0.0019	0.00080	0.0024	0.0066	0.0022	0.00088	ND (0.00050)	0.00053	0.00068
Magnesium	mg/L	72	60	47	0.66	26	23	34	29	41	38	13	41
Manganese	mg/L	0.36	0.26	0.71	0.020	0.0031	0.061	0.52	0.054	0.17	0.031	0.045	0.072
Mercury	mg/L	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Molybdenum	mg/L	0.0070	0.012	0.022	0.0089	0.010	0.038	0.017	0.024	0.020	0.027	0.055	0.035
Nickel	mg/L	0.0052	0.0063	0.014	0.0054	0.0021	0.0044	0.017	0.0071	0.0053	0.0079	0.011	0.0095
Potassium	mg/L		--	--	--	--	--	--	--	--	--	--	--
Selenium	mg/L	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)
Silver	mg/L	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)
Sodium	mg/L	270	230	160	160	77	89	120	99	580	930	1300	980
Strontium	mg/L	3.7	3.1	2.0	3.2	0.79	0.61	0.97	1.0	3.4	3.7	1.8	4.9
Vanadium	mg/L	0.00057	0.0011	0.0024	0.0053	0.0015	0.0013	0.00084	0.00087	0.0012	0.0014	0.0022	0.0017
Zinc	mg/L	0.049	0.063	0.061	0.070	0.015	0.014	0.063	0.28	0.011	ND (0.0050)	ND (0.0050)	0.0057
General Chemistry													
Alkalinity, total (as CaCO3)	mg/L	210	200	180	120	170	120	170	160	220	120	170	110
Ammonia-N	mg/L	2.0	2.1	1.5	0.67	ND (0.050)	ND (0.050)	0.32	3.0	35	54	86	50
Ammonia-N/Strontium Ratio	ratio	0.5405	0.6774	0.7500	0.2094	0.0633	0.0820	0.3299	3.0000	10.2941	14.5946	47.7778	10.2041
Biochemical oxygen demand (total BOD5)	mg/L	3	4	4	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	9	16	25	10
Chloride (dissolved)	mg/L	420	340	180	130	81	49	120	310	740	1300	1800	1500
Chloride/Magnesium Ratio	ratio	5.8333	5.6667	3.8298	196.9697	3.1154	2.1304	3.5294	10.6897	18.0488	34.2105	138.4615	36.5854
Dissolved organic carbon (DOC) (dissolved)	mg/L	4.1	4.0	8.0	4.9	3.2	6.5	7.2	7.3	12	19	29	18
Hardness	mg/L	1100	920	670	450	400	380	500	440	780	660	240	880
Nitrate (as N)	mg/L	0.54	0.62	0.38	4.84	0.15	0.63	0.10	0.85	0.12	ND (0.10)	ND (0.10)	ND (0.10)
Nitrite (as N)	mg/L	0.365	0.209	0.057	1.02	ND (0.010)	0.014	ND (0.010)	0.043	0.016	ND (0.010)	ND (0.010)	0.010
Nitrite/Nitrate	mg/L	0.90	0.82	0.44	5.86	0.15	0.64	0.10	0.90	0.13	ND (0.10)	ND (0.10)	ND (0.10)
pH, lab	s.u.	7.91	8.11	7.94	11.2	8.07	7.92	7.88	7.73	7.96	8.28	9.18	7.92
Phenolics (total)	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.0014	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.0062	0.062	0.14	0.22	0.080
Phosphorus	mg/L	0.013	0.023	0.12	0.041	0.018	0.25	0.11	0.033	0.035	0.035	0.080	0.034
Sulfate (dissolved)	mg/L	790	670	500	370	280	320	370	320	600	760	560	980
Total kjeldahl nitrogen (TKN)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--
Total organic carbon (TOC)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--
Total suspended solids (TSS)	mg/L	ND (10)	ND (10)	35	37	ND (10)	10	ND (10)	ND (10)	11	ND (10)	ND (10)	10

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Sample Location:		**T-1R**	**T-1R**	**T-1R**	**T-1R**	**TS-1**	**TS-1**	**TS-1**	**TS-1**	**TS-1**	**TS-1**
Sample ID:		**T-1R**	**T-1R**	**T-35**	**T-1R**	**TS-1**	**TS-1**	**TS-1**	**TS-35**	**TS-1**	**TS-1**
Sample Date:		**9/20/2021**	**10/5/2021**	**10/5/2021 Duplicate**	**11/9/2021**	**3/22/2021**	**4/30/2021**	**7/2/2021**	**7/2/2021 Duplicate**	**8/5/2021**	**10/5/2021**
Parameters	**Units**										
Metals											
Aluminum	mg/L	0.049	0.0066	0.0055	0.022	**0.20**	**0.10**	**0.95**	**0.38**	**0.25**	**0.14**
Aluminum (dissolved) (0.2 filter)	mg/L	0.009	ND (0.005)	ND (0.005)	0.011	ND (0.005)	0.011	0.01	0.011	ND (0.005)	ND (0.005)
Arsenic	mg/L	0.0041	0.0026	0.0020	0.0030	ND (0.0010)	ND (0.0010)	0.0025	0.0024	0.0028	0.0025
Beryllium	mg/L	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)
Boron	mg/L	**0.38**	**0.39**	**0.38**	**0.35**	0.11	0.11	0.12	0.13	0.12	0.19
Cadmium	mg/L	**0.00030**	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)
Calcium	mg/L	200	220	220	120	58	44	31	28	23	98
Chromium	mg/L	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)
Cobalt	mg/L	**0.0015**	**0.00092**	**0.0013**	ND (0.00050)	ND (0.00050)	ND (0.00050)	0.00073	ND (0.00050)	ND (0.00050)	ND (0.00050)
Copper	mg/L	0.0018	ND (0.00090)	0.0014	ND (0.00090)	0.0030	0.0020	0.0044	0.0032	0.0021	0.0043
Iron	mg/L	**0.91**	**1.6**	**0.93**	**0.43**	**0.36**	0.11	**1.5**	**0.56**	**0.38**	0.23
Lead	mg/L	0.0025	0.0011	0.0017	0.00073	0.00070	ND (0.00050)	0.0028	0.0012	0.0015	0.0016
Magnesium	mg/L	30	35	33	29	18	17	17	16	14	19
Manganese	mg/L	0.37	0.24	0.29	0.090	0.059	0.0086	0.063	0.054	0.023	0.18
Mercury	mg/L	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Molybdenum	mg/L	0.040	0.025	0.024	0.031	0.0056	0.0055	0.0059	0.0066	0.0054	**0.047**
Nickel	mg/L	0.011	0.0073	0.0088	0.0070	0.0031	0.0026	0.0036	0.0026	0.0028	0.0035
Potassium	mg/L	--	--	--	--	--	11	12	--	11	6.8
Selenium	mg/L	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)
Silver	mg/L	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)
Sodium	mg/L	880	560	530	700	26	25	28	29	31	81
Strontium	mg/L	3.3	3.2	3.1	2.0	0.41	0.42	0.37	0.36	0.35	0.53
Vanadium	mg/L	0.0022	0.00066	0.00062	0.0019	0.00077	0.00058	0.0032	0.0021	0.0030	0.0016
Zinc	mg/L	0.028	**0.043**	**0.10**	0.020	0.0056	ND (0.0050)	0.015	0.0097	0.0084	ND (0.0050)
General Chemistry											
Alkalinity, total (as CaCO3)	mg/L	130	240	240	160	140	92	61	57	57	120
Ammonia-N	mg/L	48	25	29	37	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	0.18
Ammonia-N/Strontium Ratio	ratio	14.5455	7.8125	9.3548	18.5000	0.1220	0.1190	0.1351	0.1389	0.1429	0.3396
Biochemical oxygen demand (total BOD5)	mg/L	9	6	8	7	5	ND (2)	ND (2)	ND (2)	ND (2)	4
Chloride (dissolved)	mg/L	1400	830	760	1000	29	27	32	32	34	44
Chloride/Magnesium Ratio	ratio	46.6667	23.7143	23.0303	34.4828	1.6111	1.5882	1.8824	2.0000	2.4286	2.3158
Dissolved organic carbon (DOC) (dissolved)	mg/L	20	10	11	15	6.5	6.6	5.9	5.9	7.1	8.6
Hardness	mg/L	590	710	690	410	220	180	130	130	110	340
Nitrate (as N)	mg/L	ND (0.10)	0.60	0.92	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.36
Nitrite (as N)	mg/L	0.015	0.117	0.159	0.046	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.060
Nitrite/Nitrate	mg/L	ND (0.10)	0.72	1.08	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.42
pH, lab	s.u.	8.07	7.98	7.91	7.98	8.17	**8.72**	**8.92**	**8.60**	**8.97**	7.73
Phenolics (total)	mg/L	**0.12**	**0.048**	**0.048**	**0.14**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
Phosphorus	mg/L	**0.074**	**0.024**	**0.024**	**0.049**	**0.085**	**0.018**	**0.059**	**0.041**	**0.077**	**0.58**
Sulfate (dissolved)	mg/L	710	550	520	410	110	110	100	100	84	280
Total kjeldahl nitrogen (TKN)	mg/L	--	--	--	--	--	0.32	0.47	--	0.69	0.91
Total organic carbon (TOC)	mg/L	--	--	--	--	--	7.2	6.3	--	8.4	9.8
Total suspended solids (TSS)	mg/L	12	ND (10)	ND (10)	ND (10)	12	ND (10)	10	ND (10)	17	10

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Sample Location:			NORTH SUMP	NORTH SUMP	T-3A	T-3A	T-3R	T-1R	T-1R	TS-1	TS-1
Sample ID:			NORTH SUMP	NORTH SUMP	T-3A	T-3A	T-3R	T-1R	T-1R	TS-1	TS-1
Sample Date:			3/22/2021	8/5/2021	3/22/2021	8/5/2021	3/22/2021	3/22/2021	8/5/2021	3/22/2021	8/5/2021
Parameters	**Units**	**PWQO**									
Volatiles											
1,1,1,2-Tetrachloroethane	ug/L	20	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.50)	ND (1.0)	ND (0.20)	ND (0.20)
1,1,1-Trichloroethane	ug/L	10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.25)	ND (0.50)	ND (0.10)	ND (0.10)
1,1,2,2-Tetrachloroethane	ug/L	70	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.50)	ND (1.0)	ND (0.20)	ND (0.20)
1,1,2-Trichloroethane	ug/L	800	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.50)	ND (1.0)	ND (0.20)	ND (0.20)
1,1-Dichloroethane	ug/L	200	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.25)	ND (0.50)	ND (0.10)	ND (0.10)
1,1-Dichloroethene	ug/L	40	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.25)	ND (0.50)	ND (0.10)	ND (0.10)
1,2-Dibromoethane (Ethylene dibromide)	ug/L	5	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.50)	ND (1.0)	ND (0.20)	ND (0.20)
1,2-Dichlorobenzene	ug/L	2.5	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.50)	ND (1.0)	ND (0.20)	ND (0.20)
1,2-Dichloroethane	ug/L	100	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.50)	ND (1.0)	ND (0.20)	ND (0.20)
1,2-Dichloropropane	ug/L	0.7	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.25)	ND (0.50)	ND (0.10)	ND (0.10)
1,3-Dichlorobenzene	ug/L	2.5	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.50)	ND (1.0)	ND (0.20)	ND (0.20)
1,4-Dichlorobenzene	ug/L	4	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.50)	ND (1.0)	ND (0.20)	ND (0.20)
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	400	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (13)	ND (25)	ND (5.0)	ND (5.0)
2-Hexanone	ug/L		ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (13)	ND (25)	ND (5.0)	ND (5.0)
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L		ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (13)	ND (25)	ND (5.0)	ND (5.0)
Acetone	ug/L		ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (25)	72	ND (10)	ND (10)
Acrolein	ug/L	0.03	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (25)	ND (50)	ND (10)	ND (10)
Acrylonitrile	ug/L		ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (13)	ND (25)	ND (5.0)	ND (5.0)
Benzene	ug/L	100	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.25)	0.72	ND (0.10)	ND (0.10)
Bromodichloromethane	ug/L	200	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.25)	ND (0.50)	ND (0.10)	ND (0.10)
Bromoform	ug/L	60	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.50)	ND (1.0)	ND (0.20)	ND (0.20)
Bromomethane (Methyl bromide)	ug/L	0.9	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (1.3)	ND (2.5)	ND (0.50)	ND (0.50)
Carbon tetrachloride	ug/L		ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.25)	ND (0.50)	ND (0.10)	ND (0.10)
Chlorobenzene	ug/L	15	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.25)	ND (0.50)	ND (0.10)	ND (0.10)
Chloroethane	ug/L		ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.50)	ND (1.0)	ND (0.20)	ND (0.20)
Chloroform (Trichloromethane)	ug/L		ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.32	ND (0.25)	ND (0.50)	ND (0.10)	ND (0.10)
Chloromethane (Methyl chloride)	ug/L	700	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (1.3)	ND (2.5)	ND (0.50)	ND (0.50)
cis-1,2-Dichloroethene	ug/L	200	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.25)	ND (0.50)	ND (0.10)	ND (0.10)
cis-1,3-Dichloropropene	ug/L		ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.50)	ND (1.0)	ND (0.20)	ND (0.20)
Dibromochloromethane	ug/L	40	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.50)	ND (1.0)	ND (0.20)	ND (0.20)
Ethylbenzene	ug/L	8	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.26	ND (0.25)	ND (0.50)	ND (0.10)	ND (0.10)
m&p-Xylenes	ug/L	2	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.44	ND (0.25)	ND (0.50)	ND (0.10)	ND (0.10)
Methyl tert butyl ether (MTBE)	ug/L	200	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.50)	ND (1.0)	ND (0.20)	ND (0.20)
Methylene chloride	ug/L	100	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (1.3)	ND (2.5)	ND (0.50)	ND (0.50)
o-Xylene	ug/L	40	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.60	ND (0.25)	ND (0.50)	ND (0.10)	ND (0.10)
Styrene	ug/L	4	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.50)	ND (1.0)	ND (0.20)	ND (0.20)
Tetrachloroethene	ug/L	50	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.25)	ND (0.50)	ND (0.10)	ND (0.10)
Toluene	ug/L	0.8	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.50)	ND (1.0)	ND (0.20)	ND (0.20)
trans-1,2-Dichloroethene	ug/L	200	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.25)	ND (0.50)	ND (0.10)	ND (0.10)
trans-1,3-Dichloropropene	ug/L	7	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.50)	ND (1.0)	ND (0.20)	ND (0.20)
Trichloroethene	ug/L	20	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.25)	ND (0.50)	ND (0.10)	ND (0.10)
Trichlorofluoromethane (CFC-11)	ug/L		ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.50)	ND (1.0)	ND (0.20)	ND (0.20)
Vinyl chloride	ug/L	600	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.50)	ND (1.0)	ND (0.20)	ND (0.20)
Xylenes (total)	ug/L		ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	1.0	ND (0.25)	ND (0.50)	ND (0.10)	ND (0.10)
Semi-Volatiles											
1,2,3,4-Tetrachlorobenzene	ug/L	0.1	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
1,2,3,5-Tetrachlorobenzene	ug/L	0.1	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
1,2,3-Trichlorobenzene	ug/L	0.9	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
1,2,4,5-Tetrachlorobenzene	ug/L	0.15	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
1,2,4-Trichlorobenzene	ug/L	0.5	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
1,4-Dichlorobenzene	ug/L	4	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
1-Chloronaphthalene	ug/L	0.1	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
1H-Indole	ug/L		ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)

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Sample Location:			NORTH SUMP	NORTH SUMP	T-3A	T-3A	T-3R	T-1R	T-1R	TS-1	TS-1
Sample ID:			NORTH SUMP	NORTH SUMP	T-3A	T-3A	T-3R	T-1R	T-1R	TS-1	TS-1
Sample Date:			3/22/2021	8/5/2021	3/22/2021	8/5/2021	3/22/2021	3/22/2021	8/5/2021	3/22/2021	8/5/2021
Parameters	**Units**	**PWQO**									
1-Methylnaphthalene	ug/L	2	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
2,2'-Oxybis(2-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L		ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
2,3,4,5-Tetrachlorophenol	ug/L		ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)
2,3,4,6-Tetrachlorophenol	ug/L		ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
2,3,4-Trichlorophenol	ug/L	18	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
2,3,5,6-Tetrachlorophenol	ug/L		ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
2,3,5-Trichlorophenol	ug/L		ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
2,4,5-Trichlorophenol	ug/L	18	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
2,4,6-Trichlorophenol	ug/L	18	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
2,4-Dichlorophenol	ug/L	0.2	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)
2,4-Dimethylphenol	ug/L	10	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	4.3	ND (0.50)	ND (0.50)
2,4-Dinitrophenol	ug/L		ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
2,4-Dinitrotoluene	ug/L	4	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
2,6-Dichlorophenol	ug/L	0.2	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
2,6-Dinitrotoluene	ug/L	6	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
2-Chloronaphthalene	ug/L	0.2	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
2-Chlorophenol	ug/L	7	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)
2-Methylnaphthalene	ug/L	2	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	0.25	ND (0.20)	ND (0.20)
2-Methylphenol	ug/L	1	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	2.1	ND (0.50)	ND (0.50)	ND (0.50)
2-Nitrophenol	ug/L	0.5	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
3&4-Methylphenol	ug/L	1	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
3,3'-Dichlorobenzidine	ug/L	0.6	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
3,4,5-Trichlorophenol	ug/L		ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
4,6-Dinitro-2-methylphenol	ug/L	0.2	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
4-Bromophenyl phenyl ether	ug/L	0.05	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)
4-Chloro-3-methylphenol	ug/L	3	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
4-Chloroaniline	ug/L		ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
4-Chlorophenyl phenyl ether	ug/L	0.05	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
4-Nitrophenol	ug/L	50	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)
5-Nitroacenaphthene	ug/L		ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Acenaphthene	ug/L		ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
Acenaphthylene	ug/L		ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
Anthracene	ug/L	0.0008	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
Benzo(a)anthracene	ug/L	0.0004	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
Benzo(a)pyrene	ug/L		ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
Benzo(b)fluoranthene/Benzo(j)fluoranthene	ug/L		ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
Benzo(g,h,i)perylene	ug/L	0.00002	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
Benzo(k)fluoranthene	ug/L	0.0002	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
Biphenyl (1,1-Biphenyl)	ug/L	0.2	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
bis(2-Chloroethoxy)methane	ug/L		ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
bis(2-Chloroethyl)ether	ug/L	200	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	0.6	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Butyl benzylphthalate (BBP)	ug/L	0.2	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Camphene	ug/L	2	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Chrysene	ug/L	0.0001	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
Dibenz(a,h)anthracene	ug/L	0.002	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
Diethyl phthalate	ug/L		ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Dimethyl phthalate	ug/L		ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Di-n-butylphthalate (DBP)	ug/L	4	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Di-n-octyl phthalate (DnOP)	ug/L		ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)
Diphenyl ether	ug/L	0.03	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)	ND (0.30)
Fluoranthene	ug/L	0.0008	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
Fluorene	ug/L	0.2	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
Hexachlorobenzene	ug/L	0.0065	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Hexachlorobutadiene	ug/L	0.009	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)
Hexachlorocyclopentadiene	ug/L	0.06	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)

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Stoney Creek, Ontario

Sample Location:			NORTH SUMP	NORTH SUMP	T-3A	T-3A	T-3R	T-1R	T-1R	TS-1	TS-1
Sample ID:			NORTH SUMP	NORTH SUMP	T-3A	T-3A	T-3R	T-1R	T-1R	TS-1	TS-1
Sample Date:			3/22/2021	8/5/2021	3/22/2021	8/5/2021	3/22/2021	3/22/2021	8/5/2021	3/22/2021	8/5/2021
		PWQO									
Parameters	**Units**										
Hexachloroethane	ug/L	1	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Indeno(1,2,3-cd)pyrene	ug/L		ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
Isophorone	ug/L		ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Naphthalene	ug/L	7	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	0.47	ND (0.70)	ND (0.20)	ND (0.20)
Nitrobenzene	ug/L	0.02	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Nitrosodiphenylamine/Diphenylamine	ug/L	3	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
N-Nitrosodi-n-propylamine	ug/L		ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Pentachlorobenzene	ug/L	0.03	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Pentachlorophenol	ug/L	0.5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Perylene	ug/L	0.00007	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
Phenanthrene	ug/L	0.03	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
Phenol	ug/L	5	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Pyrene	ug/L		ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
Pesticides											
2,4'-DDD	ug/L		ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.03)	ND (0.005)
2,4'-DDD + 4,4'-DDD	ug/L		ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.03)	ND (0.005)
2,4'-DDE	ug/L		ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.03)	ND (0.005)
2,4'-DDE + 4,4'-DDE	ug/L		ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.03)	ND (0.005)
2,4'-DDT	ug/L		ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.03)	ND (0.005)
2,4'-DDT + 4,4'-DDT	ug/L		ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.03)	ND (0.005)
4,4'-DDD	ug/L		ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.03)	ND (0.005)
4,4'-DDE	ug/L		ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.03)	ND (0.005)
4,4'-DDT	ug/L	0.003	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.03)	ND (0.005)
Aldrin	ug/L	0.001	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.03)	ND (0.005)
Aldrin & Dieldrin	ug/L		ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.03)	ND (0.005)
alpha-BHC	ug/L		ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.03)	ND (0.005)
alpha-Chlordane	ug/L		ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.03)	ND (0.005)
beta-BHC	ug/L		ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.007)	ND (0.03)	ND (0.005)
Chlordane	ug/L	0.06	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.03)	ND (0.005)
DDT and metabolites	ug/L		ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.03)	ND (0.005)
delta-BHC	ug/L		ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.03)	ND (0.005)
Dieldrin	ug/L	0.001	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.03)	ND (0.005)
Endosulfan	ug/L	0.003	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.03)	ND (0.005)
Endosulfan I	ug/L		ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.03)	ND (0.005)
Endosulfan II	ug/L		ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.03)	ND (0.005)
Endosulfan sulfate	ug/L		ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.03)	ND (0.005)
Endrin	ug/L	0.002	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.03)	ND (0.005)
Endrin aldehyde	ug/L		ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.03)	ND (0.005)
Endrin ketone	ug/L		ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.03)	ND (0.005)
gamma-BHC (lindane)	ug/L	0.01	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.02)	ND (0.003)
gamma-Chlordane	ug/L		ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.03)	ND (0.005)
Heptachlor	ug/L	0.001	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.007)	ND (0.03)	ND (0.005)
Heptachlor epoxide	ug/L	0.001	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.03)	ND (0.005)
Heptachlor/Heptachlor epoxide	ug/L		ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.007)	ND (0.03)	ND (0.005)
Hexachlorobenzene	ug/L	0.0065	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.03)	ND (0.005)
Methoxychlor	ug/L	0.04	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.07)	ND (0.01)
Mirex	ug/L	0.001	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.03)	ND (0.005)
Octachlorostyrene	ug/L		ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.03)	ND (0.005)
Total PCBs	ug/L	0.001	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.3)	ND (0.05)
Total trichlorobenzenes	ug/L		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Toxaphene	ug/L	0.008	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (1)	ND (0.2)

Appendix O

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Sample Location:			T-12	T-12	T-12	T-12	T-12	T-29	T-29	T-29	T-29	T-29	T-30
Sample ID:			T-12	T-12	T-12	T-12	T-12	T-29	T-29	T-29	T-29	T-29	T-30
Sample Date:			3/22/2021	4/30/2021	7/2/2021	8/5/2021	10/5/2021	3/22/2021	4/30/2021	7/2/2021	8/5/2021	10/5/2021	3/22/2021
Parameters	**Units**	**PWQO**											
Metals													
Aluminum	mg/L	0.075	0.039	**0.13**	**0.52**	0.070	**0.50**	0.029	**0.12**	**0.51**	0.065	**0.62**	0.050
Aluminum (dissolved) (0.2 filter)	mg/L	75	0.006	0.006	0.006	0.009	0.009	ND (0.005)	0.007	0.006	0.009	0.01	ND (0.005)
Arsenic	mg/L	0.005	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
Beryllium	mg/L	0.011	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)
Boron	mg/L	0.2	0.065	0.050	0.061	0.077	0.065	0.064	0.050	0.059	0.073	0.065	0.070
Cadmium	mg/L	0.0002	0.00017	0.00011	0.00014	0.00017	0.00012	0.00016	0.00019	0.00013	0.00012	0.00017	0.00019
Calcium	mg/L		120	110	88	120	86	130	110	84	120	85	130
Chromium	mg/L	0.001	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)
Cobalt	mg/L	0.0009	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)
Copper	mg/L	0.005	0.0019	0.0017	0.0038	0.0019	0.0043	0.0016	0.0017	0.0038	0.0015	0.0045	0.0019
Iron	mg/L	0.3	ND (0.10)	0.13	**0.65**	0.13	**0.60**	ND (0.10)	0.13	**0.65**	ND (0.10)	**0.82**	ND (0.10)
Lead	mg/L	0.005	ND (0.00050)	ND (0.00050)	0.0011	ND (0.00050)	0.0011	ND (0.00050)	ND (0.00050)	0.0010	ND (0.00050)	0.0015	ND (0.00050)
Magnesium	mg/L		52	40	27	50	24	51	39	26	50	24	51
Manganese	mg/L		0.0094	0.014	0.025	0.013	0.027	0.0092	0.014	0.024	0.0098	0.038	0.013
Mercury	mg/L	0.0002	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Molybdenum	mg/L	0.04	0.0040	0.0040	0.0034	0.0043	0.0030	0.0037	0.0039	0.0033	0.0043	0.0031	0.0040
Nickel	mg/L	0.025	0.0028	0.0027	0.0029	0.0030	0.0031	0.0028	0.0025	0.0027	0.0029	0.0029	0.0031
Selenium	mg/L	0.1	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)
Silver	mg/L	0.0001	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)
Sodium	mg/L		170	160	100	120	75	170	160	100	120	74	180
Strontium	mg/L		2.6	2.1	1.9	2.5	1.9	2.5	2.1	1.8	2.6	1.9	2.6
Vanadium	mg/L	0.006	ND (0.00050)	0.00078	0.0016	0.00070	0.0015	ND (0.00050)	0.00081	0.0016	0.00068	0.0017	0.00053
Zinc	mg/L	0.03	**0.11**	**0.10**	**0.099**	**0.12**	**0.11**	**0.11**	**0.093**	**0.094**	**0.12**	**0.11**	**0.12**
General Chemistry													
Alkalinity, total (as CaCO3)	mg/L		210	200	170	240	190	210	200	170	230	190	210
Ammonia-N	mg/L		ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	0.053
Ammonia-N/Strontium Ratio	ratio		0.0192	0.0238	0.0263	0.0200	0.0263	0.0200	0.0238	0.0278	0.0192	0.0263	0.0204
Biochemical oxygen demand (total BOD5)	mg/L		ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Chloride (dissolved)	mg/L		290	270	140	190	110	280	270	150	180	110	300
Chloride/Magnesium Ratio	ratio		5.5769	6.7500	5.1852	3.8000	4.5833	5.4902	6.9231	5.7692	3.6000	4.5833	5.8824
Dissolved organic carbon (DOC) (dissolved)	mg/L		2.3	3.2	3.8	2.4	1.8	2.4	3.3	3.8	2.3	4.9	2.4
Hardness	mg/L		530	420	320	500	320	540	440	310	510	320	540
Nitrate (as N)	mg/L		0.78	0.90	0.97	0.38	1.22	0.74	0.89	1.00	0.43	1.27	0.71
Nitrite (as N)	mg/L		ND (0.010)	0.011	0.020	ND (0.010)	0.020	ND (0.010)	0.011	0.022	ND (0.010)	0.029	ND (0.010)
Nitrite/Nitrate	mg/L		0.78	0.92	0.99	0.38	1.24	0.74	0.90	1.02	0.43	1.30	0.71
pH, lab	s.u.	6.5-8.5	8.50	8.38	8.22	8.50	8.29	**8.54**	8.34	8.23	**8.53**	8.18	**8.54**
Phenolics (total)	mg/L	0.001	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
Phosphorus	mg/L	0.01	**0.043**	**0.054**	**0.069**	**0.046**	**0.081**	**0.038**	**0.052**	**0.075**	**0.043**	**0.082**	**0.044**
Sulfate (dissolved)	mg/L		260	200	170	270	140	260	200	160	270	140	260
Total suspended solids (TSS)	mg/L		ND (10)	ND (10)	16	ND (10)	11	ND (10)	ND (10)	15	ND (10)	30	ND (10)

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Sample Location:		**T-30**	**T-30**	**T-30**	**T-30**	**T-31**	**T-31**	**T-31**	**T-31**	**T-31**	**T-32**	**T-32**	**T-32**
Sample ID:		**T-30**	**T-30**	**T-30**	**T-30**	**T-31**	**T-31**	**T-31**	**T-31**	**T-31**	**T-32**	**T-32**	**T-32**
Sample Date:		**4/30/2021**	**7/2/2021**	**8/5/2021**	**10/5/2021**	**3/22/2021**	**4/30/2021**	**7/2/2021**	**8/5/2021**	**10/5/2021**	**3/22/2021**	**4/30/2021**	**7/2/2021**
Parameters	**Units**												
Metals													
Aluminum	mg/L	**0.29**	**0.57**	**0.14**	**0.50**	0.023	**0.097**	**0.41**	0.051	**0.44**	**0.078**	0.075	**0.50**
Aluminum (dissolved) (0.2 filter)	mg/L	0.008	0.007	0.007	0.01	ND (0.005)	0.009	0.009	0.009	0.011	ND (0.005)	0.007	0.008
Arsenic	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
Beryllium	mg/L	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)	ND (0.00040)
Boron	mg/L	0.053	0.061	0.080	0.069	0.079	0.059	0.074	0.088	0.073	0.084	0.063	0.066
Cadmium	mg/L	0.00020	0.00017	0.00019	0.00014	0.00014	0.00013	0.00011	0.00013	0.00016	0.00013	0.00015	0.00017
Calcium	mg/L	120	89	120	90	130	110	84	130	89	140	120	88
Chromium	mg/L	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)
Cobalt	mg/L	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)
Copper	mg/L	0.0032	0.0046	0.0033	0.0045	0.0018	0.0020	0.0037	0.0021	0.0049	0.0020	0.0019	**0.0053**
Iron	mg/L	**0.48**	**0.66**	0.27	**0.61**	ND (0.10)	0.12	**0.51**	ND (0.10)	**0.57**	0.13	ND (0.10)	**0.61**
Lead	mg/L	0.0019	0.0012	0.00077	0.0013	ND (0.00050)	ND (0.00050)	0.00096	ND (0.00050)	0.0018	ND (0.00050)	ND (0.00050)	0.0012
Magnesium	mg/L	40	27	52	24	53	41	25	52	23	50	39	27
Manganese	mg/L	0.033	0.035	0.022	0.031	0.012	0.018	0.034	0.014	0.041	0.016	0.012	0.030
Mercury	mg/L	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Molybdenum	mg/L	0.0039	0.0033	0.0041	0.0029	0.0040	0.0038	0.0031	0.0042	0.0033	0.0036	0.0034	0.0029
Nickel	mg/L	0.0026	0.0030	0.0034	0.0030	0.0033	0.0027	0.0025	0.0029	0.0030	0.0033	0.0028	0.0028
Selenium	mg/L	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)	ND (0.0020)
Silver	mg/L	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)	ND (0.000090)
Sodium	mg/L	180	110	120	78	210	200	120	120	89	210	210	120
Strontium	mg/L	2.4	1.8	2.6	1.9	2.5	2.2	1.7	2.6	1.7	2.4	2.0	1.7
Vanadium	mg/L	0.0015	0.0018	0.00094	0.0015	ND (0.00050)	0.00099	0.0015	0.00084	0.0017	0.00051	0.00082	0.0017
Zinc	mg/L	**0.12**	**0.088**	**0.15**	**0.10**	**0.12**	**0.095**	**0.071**	**0.089**	**0.10**	**0.13**	**0.10**	**0.076**
General Chemistry													
Alkalinity, total (as CaCO3)	mg/L	190	160	230	190	200	190	160	230	180	220	200	170
Ammonia-N	mg/L	ND (0.050)	0.097	0.069	0.066	0.060	ND (0.050)	0.085	ND (0.050)	0.11	ND (0.050)	0.086	0.072
Ammonia-N/Strontium Ratio	ratio	0.0208	0.0539	0.0265	0.0347	0.0240	0.0227	0.0500	0.0192	0.0647	0.0208	0.0430	0.0424
Biochemical oxygen demand (total BOD5)	mg/L	4	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	4
Chloride (dissolved)	mg/L	320	150	190	120	340	320	180	190	140	340	330	170
Chloride/Magnesium Ratio	ratio	8.0000	5.5556	3.6538	5.0000	6.4151	7.8049	7.2000	3.6538	6.0870	6.8000	8.4615	6.2963
Dissolved organic carbon (DOC) (dissolved)	mg/L	3.4	4.0	2.6	4.9	2.6	3.7	4.3	2.9	5.0	2.5	3.5	4.2
Hardness	mg/L	440	320	500	320	550	440	320	510	320	560	440	320
Nitrate (as N)	mg/L	1.38	0.98	0.43	1.34	0.81	0.95	1.03	0.41	1.28	0.89	1.02	1.03
Nitrite (as N)	mg/L	0.025	0.025	0.015	0.025	0.012	0.015	0.033	0.014	0.040	0.013	0.017	0.025
Nitrite/Nitrate	mg/L	1.40	1.01	0.45	1.36	0.82	0.96	1.07	0.42	1.32	0.90	1.03	1.05
pH, lab	s.u.	8.24	8.20	8.48	8.16	8.48	8.33	8.26	**8.53**	8.26	8.26	8.21	8.33
Phenolics (total)	mg/L	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
Phosphorus	mg/L	**0.13**	**0.081**	**0.062**	**0.084**	**0.035**	**0.043**	**0.078**	**0.034**	**0.091**	**0.040**	**0.041**	**0.078**
Sulfate (dissolved)	mg/L	200	170	280	140	290	220	170	250	140	270	210	170
Total suspended solids (TSS)	mg/L	110	14	ND (10)	ND (10)	ND (10)	ND (10)	14	ND (10)	16	ND (10)	ND (10)	12

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Sample Location:		**T-32**	**T-32**
Sample ID:		**T-32**	**T-32**
Sample Date:		**8/5/2021**	**10/5/2021**
Parameters	**Units**		
Metals			
Aluminum	mg/L	0.069	**0.58**
Aluminum (dissolved) (0.2 filter)	mg/L	0.006	0.011
Arsenic	mg/L	ND (0.0010)	ND (0.0010)
Beryllium	mg/L	ND (0.00040)	ND (0.00040)
Boron	mg/L	0.095	0.085
Cadmium	mg/L	0.000095	0.00017
Calcium	mg/L	120	91
Chromium	mg/L	ND (0.0050)	ND (0.0050)
Cobalt	mg/L	ND (0.00050)	ND (0.00050)
Copper	mg/L	0.0024	**0.0066**
Iron	mg/L	0.12	**0.81**
Lead	mg/L	ND (0.00050)	0.0026
Magnesium	mg/L	47	23
Manganese	mg/L	0.010	0.060
Mercury	mg/L	ND (0.00010)	ND (0.00010)
Molybdenum	mg/L	0.0036	0.0033
Nickel	mg/L	0.0025	0.0034
Selenium	mg/L	ND (0.0020)	ND (0.0020)
Silver	mg/L	ND (0.000090)	ND (0.000090)
Sodium	mg/L	130	92
Strontium	mg/L	2.2	1.7
Vanadium	mg/L	0.00090	0.0019
Zinc	mg/L	**0.091**	**0.11**
General Chemistry			
Alkalinity, total (as CaCO3)	mg/L	220	190
Ammonia-N	mg/L	0.13	0.060
Ammonia-N/Strontium Ratio	ratio	0.0591	0.0353
Biochemical oxygen demand (total BOD5)	mg/L	ND (2)	ND (2)
Chloride (dissolved)	mg/L	190	130
Chloride/Magnesium Ratio	ratio	4.0426	5.6522
Dissolved organic carbon (DOC) (dissolved)	mg/L	2.5	5.1
Hardness	mg/L	500	320
Nitrate (as N)	mg/L	0.42	1.33
Nitrite (as N)	mg/L	0.011	0.030
Nitrite/Nitrate	mg/L	0.43	1.36
pH, lab	s.u.	8.44	8.28
Phenolics (total)	mg/L	ND (0.0010)	ND (0.0010)
Phosphorus	mg/L	**0.074**	**0.10**
Sulfate (dissolved)	mg/L	280	150
Total suspended solids (TSS)	mg/L	ND (10)	17

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Sample Location:			**T-12**	**T-12**
Sample ID:			**T-12**	**T-12**
Sample Date:			**3/22/2021**	**8/5/2021**
Parameters	**Units**	**PWQO**		
Volatiles				
1,1,1,2-Tetrachloroethane	ug/L	20	ND (0.20)	ND (0.20)
1,1,1-Trichloroethane	ug/L	10	ND (0.10)	ND (0.10)
1,1,2,2-Tetrachloroethane	ug/L	70	ND (0.20)	ND (0.20)
1,1,2-Trichloroethane	ug/L	800	ND (0.20)	ND (0.20)
1,1-Dichloroethane	ug/L	200	ND (0.10)	ND (0.10)
1,1-Dichloroethene	ug/L	40	ND (0.10)	ND (0.10)
1,2-Dibromoethane (Ethylene dibromide)	ug/L	5	ND (0.20)	ND (0.20)
1,2-Dichlorobenzene	ug/L	2.5	ND (0.20)	ND (0.20)
1,2-Dichloroethane	ug/L	100	ND (0.20)	ND (0.20)
1,2-Dichloropropane	ug/L	0.7	ND (0.10)	ND (0.10)
1,3-Dichlorobenzene	ug/L	2.5	ND (0.20)	ND (0.20)
1,4-Dichlorobenzene	ug/L	4	ND (0.20)	ND (0.20)
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	400	ND (5.0)	ND (5.0)
2-Hexanone	ug/L		ND (5.0)	ND (5.0)
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L		ND (5.0)	ND (5.0)
Acetone	ug/L		ND (10)	ND (10)
Acrolein	ug/L	0.03	ND (10)	ND (10)
Acrylonitrile	ug/L		ND (5.0)	ND (5.0)
Benzene	ug/L	100	ND (0.10)	ND (0.10)
Bromodichloromethane	ug/L	200	ND (0.10)	ND (0.10)
Bromoform	ug/L	60	ND (0.20)	ND (0.20)
Bromomethane (Methyl bromide)	ug/L	0.9	ND (0.50)	ND (0.50)
Carbon tetrachloride	ug/L		ND (0.10)	ND (0.10)
Chlorobenzene	ug/L	15	ND (0.10)	ND (0.10)
Chloroethane	ug/L		ND (0.20)	ND (0.20)
Chloroform (Trichloromethane)	ug/L		ND (0.10)	ND (0.10)
Chloromethane (Methyl chloride)	ug/L	700	ND (0.50)	ND (0.50)
cis-1,2-Dichloroethene	ug/L	200	ND (0.10)	ND (0.10)
cis-1,3-Dichloropropene	ug/L		ND (0.20)	ND (0.20)
Dibromochloromethane	ug/L	40	ND (0.20)	ND (0.20)
Ethylbenzene	ug/L	8	ND (0.10)	ND (0.10)
m&p-Xylenes	ug/L	2	ND (0.10)	ND (0.10)
Methyl tert butyl ether (MTBE)	ug/L	200	ND (0.20)	ND (0.20)
Methylene chloride	ug/L	100	ND (0.50)	ND (0.50)
o-Xylene	ug/L	40	ND (0.10)	ND (0.10)
Styrene	ug/L	4	ND (0.20)	ND (0.20)
Tetrachloroethene	ug/L	50	ND (0.10)	ND (0.10)
Toluene	ug/L	0.8	ND (0.20)	ND (0.20)
trans-1,2-Dichloroethene	ug/L	200	ND (0.10)	ND (0.10)
trans-1,3-Dichloropropene	ug/L	7	ND (0.20)	ND (0.20)
Trichloroethene	ug/L	20	ND (0.10)	ND (0.10)
Trichlorofluoromethane (CFC-11)	ug/L		ND (0.20)	ND (0.20)
Vinyl chloride	ug/L	600	ND (0.20)	ND (0.20)
Xylenes (total)	ug/L		ND (0.10)	ND (0.10)
Semi-Volatiles				
1,2,3,4-Tetrachlorobenzene	ug/L	0.1	ND (0.50)	ND (0.50)
1,2,3,5-Tetrachlorobenzene	ug/L	0.1	ND (0.50)	ND (0.50)
1,2,3-Trichlorobenzene	ug/L	0.9	ND (0.50)	ND (0.50)
1,2,4,5-Tetrachlorobenzene	ug/L	0.15	ND (0.50)	ND (0.50)
1,2,4-Trichlorobenzene	ug/L	0.5	ND (0.50)	ND (0.50)
1,4-Dichlorobenzene	ug/L	4	ND (0.50)	ND (0.50)
1-Chloronaphthalene	ug/L	0.1	ND (1.0)	ND (1.0)
1H-Indole	ug/L		ND (1.0)	ND (1.0)

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Sample Location:			**T-12**	**T-12**
Sample ID:			**T-12**	**T-12**
Sample Date:			**3/22/2021**	**8/5/2021**
		PWQO		
Parameters	**Units**			
1-Methylnaphthalene	ug/L	2	ND (0.20)	ND (0.20)
2,2'-Oxybis(2-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L		ND (0.50)	ND (0.50)
2,3,4,5-Tetrachlorophenol	ug/L		ND (0.40)	ND (0.40)
2,3,4,6-Tetrachlorophenol	ug/L		ND (0.50)	ND (0.50)
2,3,4-Trichlorophenol	ug/L	18	ND (0.50)	ND (0.50)
2,3,5,6-Tetrachlorophenol	ug/L		ND (0.50)	ND (0.50)
2,3,5-Trichlorophenol	ug/L		ND (0.50)	ND (0.50)
2,4,5-Trichlorophenol	ug/L	18	ND (0.50)	ND (0.50)
2,4,6-Trichlorophenol	ug/L	18	ND (0.50)	ND (0.50)
2,4-Dichlorophenol	ug/L	0.2	ND (0.30)	ND (0.30)
2,4-Dimethylphenol	ug/L	10	ND (0.50)	ND (0.50)
2,4-Dinitrophenol	ug/L		ND (2.0)	ND (2.0)
2,4-Dinitrotoluene	ug/L	4	ND (0.50)	ND (0.50)
2,6-Dichlorophenol	ug/L	0.2	ND (0.50)	ND (0.50)
2,6-Dinitrotoluene	ug/L	6	ND (0.50)	ND (0.50)
2-Chloronaphthalene	ug/L	0.2	ND (0.50)	ND (0.50)
2-Chlorophenol	ug/L	7	ND (0.30)	ND (0.30)
2-Methylnaphthalene	ug/L	2	ND (0.20)	ND (0.20)
2-Methylphenol	ug/L	1	ND (0.50)	ND (0.50)
2-Nitrophenol	ug/L	0.5	ND (0.50)	ND (0.50)
3&4-Methylphenol	ug/L	1	ND (0.50)	ND (0.50)
3,3'-Dichlorobenzidine	ug/L	0.6	ND (0.50)	ND (0.50)
3,4,5-Trichlorophenol	ug/L		ND (0.50)	ND (0.50)
4,6-Dinitro-2-methylphenol	ug/L	0.2	ND (2.0)	ND (2.0)
4-Bromophenyl phenyl ether	ug/L	0.05	ND (0.30)	ND (0.30)
4-Chloro-3-methylphenol	ug/L	3	ND (0.50)	ND (0.50)
4-Chloroaniline	ug/L		ND (1.0)	ND (1.0)
4-Chlorophenyl phenyl ether	ug/L	0.05	ND (0.50)	ND (0.50)
4-Nitrophenol	ug/L	50	ND (1.4)	ND (1.4)
5-Nitroacenaphthene	ug/L		ND (1.0)	ND (1.0)
Acenaphthene	ug/L		ND (0.20)	ND (0.20)
Acenaphthylene	ug/L		ND (0.20)	ND (0.20)
Anthracene	ug/L	0.0008	ND (0.20)	ND (0.20)
Benzo(a)anthracene	ug/L	0.0004	ND (0.20)	ND (0.20)
Benzo(a)pyrene	ug/L		ND (0.20)	ND (0.20)
Benzo(b)fluoranthene/Benzo(j)fluoranthene	ug/L		ND (0.20)	ND (0.20)
Benzo(g,h,i)perylene	ug/L	0.00002	ND (0.20)	ND (0.20)
Benzo(k)fluoranthene	ug/L	0.0002	ND (0.20)	ND (0.20)
Biphenyl (1,1-Biphenyl)	ug/L	0.2	ND (0.50)	ND (0.50)
bis(2-Chloroethoxy)methane	ug/L		ND (0.50)	ND (0.50)
bis(2-Chloroethyl)ether	ug/L	200	ND (0.50)	ND (0.50)
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	0.6	ND (2.0)	ND (2.0)
Butyl benzylphthalate (BBP)	ug/L	0.2	ND (0.50)	ND (0.50)
Camphene	ug/L	2	ND (1.0)	ND (1.0)
Chrysene	ug/L	0.0001	ND (0.20)	ND (0.20)
Dibenz(a,h)anthracene	ug/L	0.002	ND (0.20)	ND (0.20)
Diethyl phthalate	ug/L		ND (1.0)	ND (1.0)
Dimethyl phthalate	ug/L		ND (1.0)	ND (1.0)
Di-n-butylphthalate (DBP)	ug/L	4	ND (2.0)	ND (2.0)
Di-n-octyl phthalate (DnOP)	ug/L		ND (0.80)	ND (0.80)
Diphenyl ether	ug/L	0.03	ND (0.30)	ND (0.30)
Fluoranthene	ug/L	0.0008	ND (0.20)	ND (0.20)
Fluorene	ug/L	0.2	ND (0.20)	ND (0.20)
Hexachlorobenzene	ug/L	0.0065	ND (0.50)	ND (0.50)
Hexachlorobutadiene	ug/L	0.009	ND (0.40)	ND (0.40)
Hexachlorocyclopentadiene	ug/L	0.06	ND (2.0)	ND (2.0)

Surface Water Quality Data
2021 Annual Monitoring Report
GFL Environmental Stoney Creek Regional Facility
Stoney Creek, Ontario

Sample Location:			**T-12**	**T-12**
Sample ID:			**T-12**	**T-12**
Sample Date:			**3/22/2021**	**8/5/2021**
		PWQO		
Parameters	**Units**			
Hexachloroethane	ug/L	1	ND (0.50)	ND (0.50)
Indeno(1,2,3-cd)pyrene	ug/L		ND (0.20)	ND (0.20)
Isophorone	ug/L		ND (0.50)	ND (0.50)
Naphthalene	ug/L	7	ND (0.20)	ND (0.20)
Nitrobenzene	ug/L	0.02	ND (0.50)	ND (0.50)
Nitrosodiphenylamine/Diphenylamine	ug/L	3	ND (1.0)	ND (1.0)
N-Nitrosodi-n-propylamine	ug/L		ND (0.50)	ND (0.50)
Pentachlorobenzene	ug/L	0.03	ND (0.50)	ND (0.50)
Pentachlorophenol	ug/L	0.5	ND (1.0)	ND (1.0)
Perylene	ug/L	0.00007	ND (0.20)	ND (0.20)
Phenanthrene	ug/L	0.03	ND (0.20)	ND (0.20)
Phenol	ug/L	5	ND (0.50)	ND (0.50)
Pyrene	ug/L		ND (0.20)	ND (0.20)
Pesticides				
2,4'-DDD	ug/L		ND (0.005)	ND (0.005)
2,4'-DDD + 4,4'-DDD	ug/L		ND (0.005)	ND (0.005)
2,4'-DDE	ug/L		ND (0.005)	ND (0.005)
2,4'-DDE + 4,4'-DDE	ug/L		ND (0.005)	ND (0.005)
2,4'-DDT	ug/L		ND (0.005)	ND (0.005)
2,4'-DDT + 4,4'-DDT	ug/L		ND (0.005)	ND (0.005)
4,4'-DDD	ug/L		ND (0.005)	ND (0.005)
4,4'-DDE	ug/L		ND (0.005)	ND (0.005)
4,4'-DDT	ug/L	0.003	ND (0.005)	ND (0.005)
Aldrin	ug/L	0.001	ND (0.005)	ND (0.005)
Aldrin & Dieldrin	ug/L		ND (0.005)	ND (0.005)
alpha-BHC	ug/L		ND (0.005)	ND (0.005)
alpha-Chlordane	ug/L		ND (0.005)	ND (0.005)
beta-BHC	ug/L		ND (0.005)	ND (0.005)
Chlordane	ug/L	0.06	ND (0.005)	ND (0.005)
DDT and metabolites	ug/L		ND (0.005)	ND (0.005)
delta-BHC	ug/L		ND (0.005)	ND (0.005)
Dieldrin	ug/L	0.001	ND (0.005)	ND (0.005)
Endosulfan	ug/L	0.003	ND (0.005)	ND (0.005)
Endosulfan I	ug/L		ND (0.005)	ND (0.005)
Endosulfan II	ug/L		ND (0.005)	ND (0.005)
Endosulfan sulfate	ug/L		ND (0.005)	ND (0.005)
Endrin	ug/L	0.002	ND (0.005)	ND (0.005)
Endrin aldehyde	ug/L		ND (0.005)	ND (0.005)
Endrin ketone	ug/L		ND (0.005)	ND (0.005)
gamma-BHC (lindane)	ug/L	0.01	ND (0.003)	ND (0.003)
gamma-Chlordane	ug/L		ND (0.005)	ND (0.005)
Heptachlor	ug/L	0.001	ND (0.005)	ND (0.005)
Heptachlor epoxide	ug/L	0.001	ND (0.005)	ND (0.005)
Heptachlor/Heptachlor epoxide	ug/L		ND (0.005)	ND (0.005)
Hexachlorobenzene	ug/L	0.0065	ND (0.005)	ND (0.005)
Methoxychlor	ug/L	0.04	ND (0.01)	ND (0.01)
Mirex	ug/L	0.001	ND (0.005)	ND (0.005)
Octachlorostyrene	ug/L		ND (0.005)	ND (0.005)
Total PCBs	ug/L	0.001	ND (0.05)	ND (0.05)
Total trichlorobenzenes	ug/L		ND (0.5)	ND (0.5)
Toxaphene	ug/L	0.008	ND (0.2)	ND (0.2)

Appendix P

Ambient PM_{10} Monitoring Report - Annual 2021 - Rotek Environmental Inc.

Annual 2021

GFL GREEN FOR LIFE

environmental

Ambient PM_{10} Monitoring Program

GFL Environmental
Stoney Creek Regional Facility
65 Green Mountain Road West
Stoney Creek, Ontario
L8J 1X5

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Appendices

1.0 Introduction

Rotek Environmental Inc. was retained by GFL Environmental to assess and report on the 2021 Ambient PM_{10} Monitoring Program for the Stoney Creek Regional Facility located at 65 Green Mountain Road West, Stoney Creek, Ontario. The monitoring program is required under Environmental Compliance Approval Number A181008 (Air) issued by the Ministry of the Environment, Conservation and Parks (MECP).

2.0 Facility Description

The Stoney Creek Regional Facility is owned and operated by GFL Environmental. The site is located in Stoney Creek at the Northwest corner of the intersection of Mud Street and Upper Centennial Parkway. The facility is approved for the disposal of non-hazardous, solid industrial waste. The 73.9 ha (185.5 acres) site is bounded by First Road West to the west, Mud Street to the south, Upper Centennial Parkway to the east and Green Mountain Road to the north.

3.0 Sampling Program Methodology

PM_{10}, particulate matter < 10 µm, was continuously monitored throughout the year utilizing a Met One BAM 1020 continuous particulate monitor. The Met One Instruments Model BAM 1020 has longstanding U.S. Environmental Protection Agency (EPA) designation as a Federal Equivalent Method (FEM) for continuous PM_{10} particulate monitoring. The BAM 1020 automatically measures and records airborne particulate concentration levels in micrograms per cubic meter using the industry-proven principle of beta ray attenuation. The PM_{10} monitoring site is located on the Stoney Creek Regional Facility east property line, placing the monitor downwind of facility operations and southwest prevailing winds.

Meteorological parameters were also monitored and logged for the year. These parameters include wind speed, wind gust, wind direction, ambient temperature, relative humidity and precipitation. Monthly data matrices, station service logs and data edit records are retained in a historical data base by Rotek Environmental Inc.

During the month of September, 2021, the PM_{10} monitoring station (MECP Station ID 29147), including meteorological sensors, were re-located to the facility's north property line along Green Mountain Road (new MECP Station ID 29247). The move was to better capture facility emissions due to changing landfill configuration, as well, assess the impact on new offsite residential development.

The results of the PM_{10} monitoring program were compared to the applicable MECP 1-Hour and 24-Hour Reportable Thresholds (RT).

4.0 Ministry of the Environment, Conservation and Parks PM_{10} Ambient Air Quality Reportable Thresholds - Table 1

Contaminant Name		Criterion Type	Average Period	Average Type	Value	Units
Particulate Matter < 10 µm	PM_{10}	RT	1 Hr	Clock	100	µg/m^3
		RT	24 Hr	Clock	50	µg/m^3

5.0 PM_{10} Monitoring Results

There were 21 episodes of elevated PM_{10} during 2021, 12 of which were attributable to facility activity. These episodes included 4 exceedances of the PM_{10} daily (50 µg/m^3) and 36 exceedances of the PM_{10} hourly (100 µg/m^3) MECP Reportable Thresholds. An exceedance summary table detailing episode dates, times, PM_{10} values and contributing factors can be found in Appendix A.

5.1 PM_{10} Continuous Data Statistics

The 2021 PM_{10} data set has been summarized in Tables 2 and 3, these include:

- Maximum 24-hour clock average
- Maximum 1-hour clock average
- Number of clock daily averages > 50 µg/m^3
- Number of clock 1-hour averages > 100 µg/m^3
- Monthly arithmetic means
- Number of valid clock hours
- Overall percent valid data

PM_{10} Continuous Data Statistics (MECP Station ID 29147) **- 2021 - Table 2**

Stats	Max 24 Hr Clock Ave	Max 1 Hr Clock Ave	No. Days > 50 µg/m^3	No. Hours > 100 µg/m^3	Monthly Mean	Valid Clock Hours	Percent Valid Data
Month	**PM_{10}**	**PM_{10}**	**No.**	**No.**	**PM_{10}**	**No.**	**PM_{10}**
	µg/m^3	µg/m^3	Days	Hrs	µg/m^3	Hrs	%
January	23	37	0	0	9	744	100.0
February	25	132	0	2	12	672	100.0
March	92	999 [1]	1	2	14	740	99.5
April	24	61	0	0	11	715	99.3
May	51	217	1	3	19	720	96.8
June	55	451	1	8	19	719	99.9
July	58	159	1	10	21	736	98.9
August	37	108	0	2	23	734	98.7
September	24	70	0	0	NA [2]	456	100.0
Totals			4	27		6236	
Means					16		99.2

Note 1: Top end of PM_{10} monitor range.
Note 2: Monthly average unavailable, does not meet 75% data threshold.

PM_{10} Continuous Data Statistics (MECP Station ID 29247) - 2021 - Table 3

Stats	Max 24 Hr Clock Ave	Max 1 Hr Clock Ave	No. Days > 50 µg/m³	No. Hours > 100 µg/m³	Monthly Mean	Valid Clock Hours	Percent Valid Data
Month	PM_{10} µg/m³	PM_{10} µg/m³	No. Days	No. Hrs	PM_{10} µg/m³	No. Hrs	PM_{10} %
September	44	216	0	5	NA [3]	262	99.2
October	24	113	0	1	9	714	96.0
November	37	195	0	3	10	719	99.9
December	24	92	0	0	9	661	88.8
Totals			0	9		2356	
Means					9		96.0

Note 3: Monthly average unavailable, does not meet 75% data threshold.

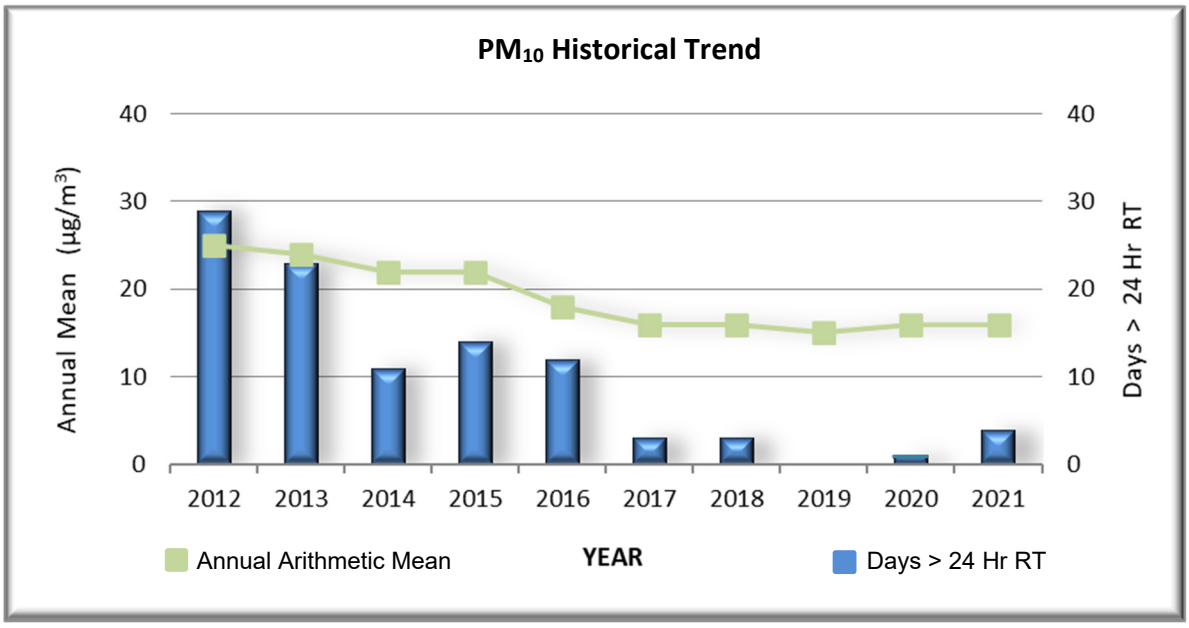
5.2 PM_{10} Historical Trend (MECP Station ID 29147)

The ten-year historical trend data have been tabulated in Table 4 and graphically illustrated in Figures 1 and 2. There was no change in the annual trend line for 2021 when compared to 2020 (16 µg/m³). There was also no change in the annual trend line for the city average overall (20 µg/m³). The city trend data was calculated by averaging the annual means of three Hamilton PM_{10} monitoring sites located on Land Street, Strathearne Avenue and Beach Boulevard.

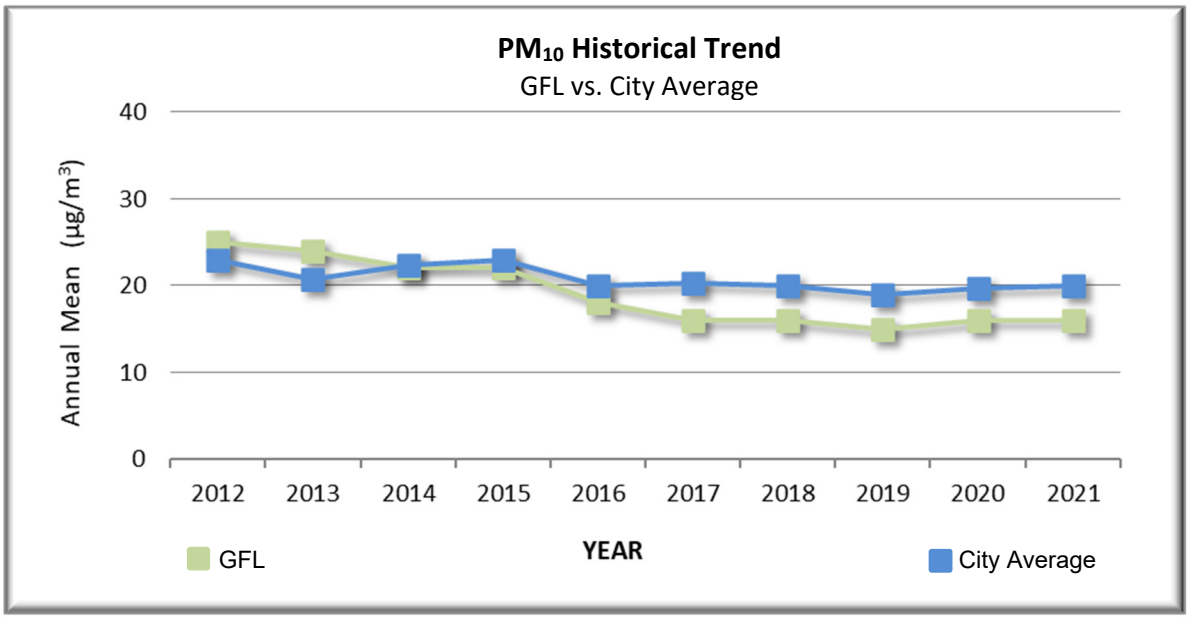
PM_{10} Historical Trend (MECP Station ID 29147) - Table 4

Statistics	Year									
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
No. of Samples	8748	8632	8650	8689	8681	8678	8589	8724	8702	6236
Arithmetic Mean	25	24	22	22	18	16	16	15	16	16
Maximum 24 Hr Ave	225	202	178	98	123	70	62	49	67	92
Days > 24 Hr RT	29	23	11	14	12	3	3	0	1	4

PM_{10} Historical Trend Graph - Figure 1



PM_{10} Historical Trend Graph - GFL vs. City Average - Figure 2



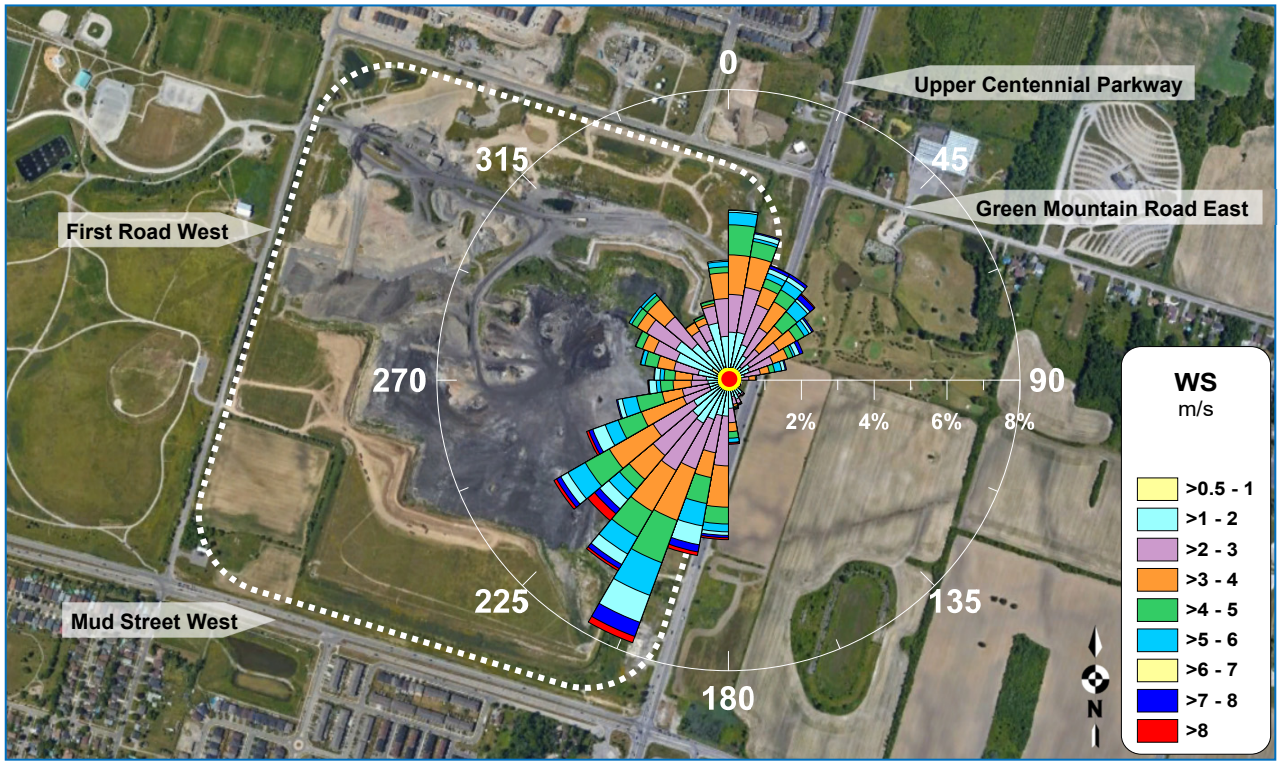
5.3 Wind Frequency Distribution

To illustrate annual wind frequency distribution information, distributions of wind speeds, and the frequency of the varying wind directions, we have included a wind rose graphic overlays superimposed on an aerial view of the facility.

Wind roses summarize the occurrence of winds at a location, showing their strength, direction and frequency. Each branch of the rose represents wind coming from that direction, with north to the top of the graphic. The branches are divided into segments of different colours, which represent wind speed ranges from that direction. The length of each segment within a branch is proportional to the frequency of winds blowing within the corresponding range of speeds from that direction.

The majority and magnitude of branches in the annual wind rose illustrations below indicate a predominant wind direction vector out of the south south-west for STN29147 and south-west for STN29247 (these branches represent the plot data when the wind was blowing from these vectors). Wind frequency distribution tables have been included for 2021 which summarizes wind frequency distribution in tabular format (Table 5 and 6).

Wind Rose - STN29147 - Figure 3



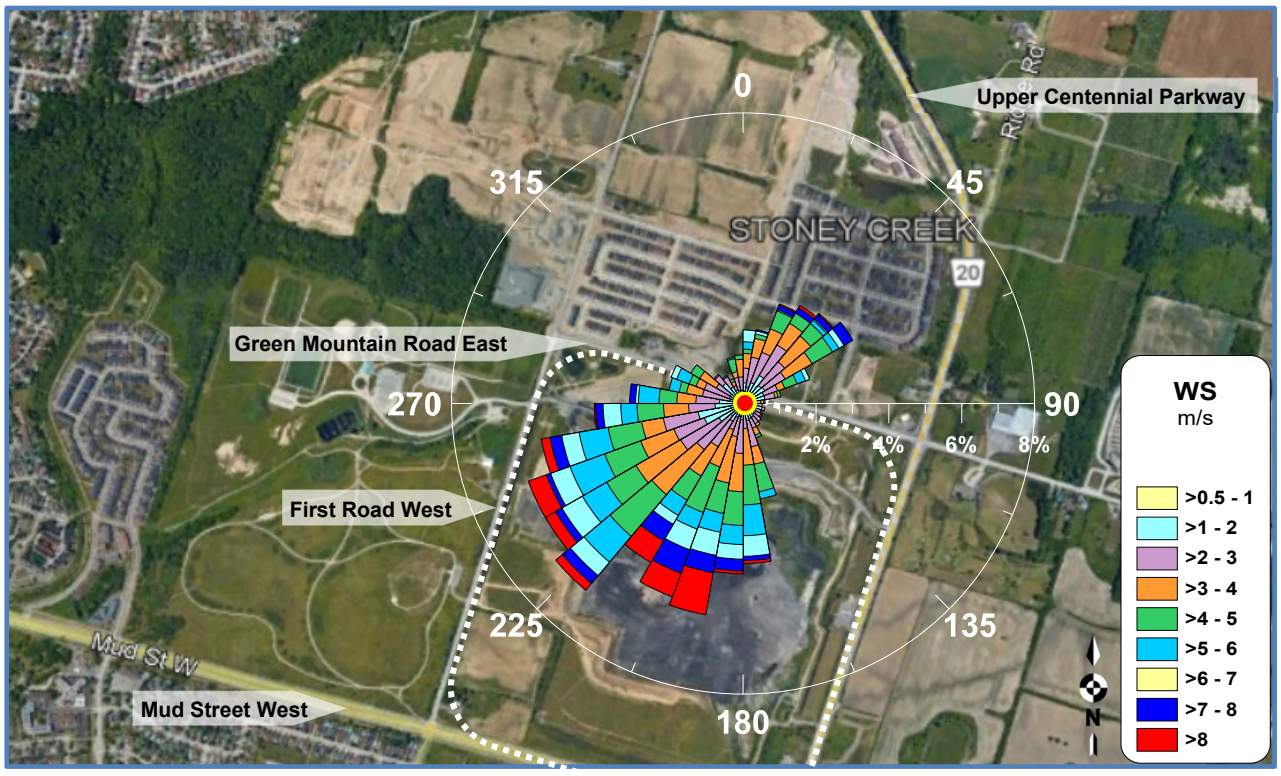
Wind Rose - STN29147 2021	True North	By : BB	**Figure 3**
		Approx. Scale :	1:15000
GFL - Stoney Creek Regional Facility		Date Revised :	17 June, 2022

ROTEK

Wind Frequency Distribution - STN29147 - Table 5

Wind Speed Class	0.50 to 1.00	1.00 to 2.00	2.00 to 3.00	3.00 to 4.00	4.00 to 5.00	5.00 to 6.00	6.00 to 7.00	7.00 to 8.00	> 8.00	All
	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	
Wind Direction	%	%	%	%	%	%	%	%	%	%
N	1.42	4.72	4.21	3.02	1.62	0.71	0.21	0.08	0.00	15.99
NE	0.69	2.29	3.71	3.07	1.47	0.91	0.61	0.41	0.05	13.21
E	0.50	0.94	0.92	0.74	0.28	0.25	0.10	0.07	0.00	3.80
SE	0.41	1.39	0.38	0.05	0.03	0.00	0.00	0.00	0.00	2.26
S	0.59	2.74	3.30	2.41	1.68	1.17	0.86	0.36	0.20	13.31
SW	0.79	4.24	5.79	5.96	3.40	2.49	1.75	1.04	0.64	26.10
W	0.53	2.21	2.62	2.51	2.08	0.89	0.59	0.07	0.03	11.53
NW	1.40	4.49	3.32	1.67	0.64	0.18	0.02	0.00	0.00	11.72
All	6.33	23.02	24.25	19.43	11.20	6.60	4.14	2.03	0.92	97.92

Wind Rose - STN29247 - Figure 4



Wind Rose - STN29247 2021		By : BB	Figure 4	ROTEK
	True North	Approx. Scale :	1:15000	
GFL - Stoney Creek Regional Facility		Date Revised :	17 June, 2022	

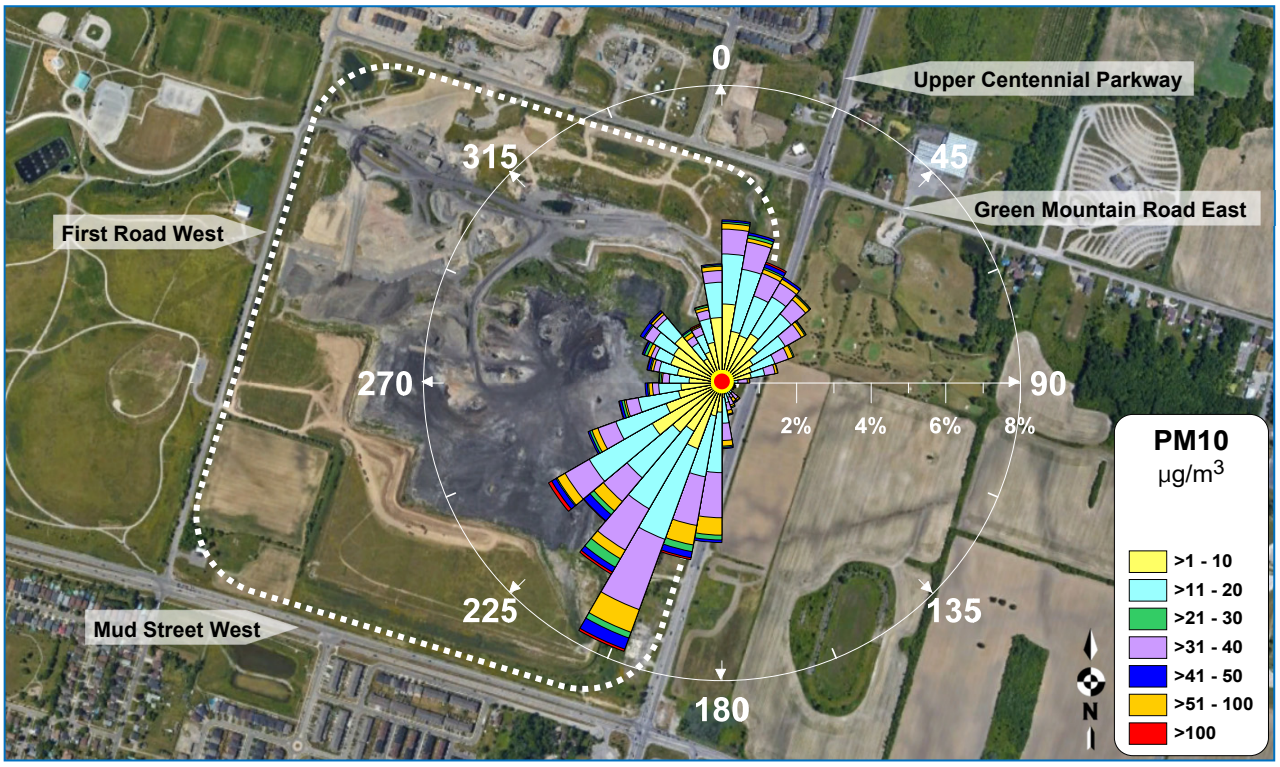
Wind Frequency Distribution - STN29247 - Table 6

Wind Speed Class	0.50 to 1.00	1.00 to 2.00	2.00 to 3.00	3.00 to 4.00	4.00 to 5.00	5.00 to 6.00	6.00 to 7.00	7.00 to 8.00	> 8.00	All
	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	
Wind Direction	%	%	%	%	%	%	%	%	%	%
N	0.87	1.93	2.66	1.68	0.84	0.22	0.36	0.07	0.00	8.63
NE	0.95	2.26	3.61	3.06	2.22	0.66	0.26	0.55	2.15	15.72
E	0.40	1.38	1.02	0.26	0.18	0.00	0.07	0.00	0.44	3.75
SE	0.51	1.31	0.87	0.33	0.07	0.00	0.00	0.00	0.00	3.09
S	0.29	1.42	2.44	4.08	3.68	2.15	1.68	1.13	1.64	18.51
SW	0.44	2.11	4.05	5.39	4.74	3.10	2.30	1.86	2.11	26.10
W	0.62	3.06	3.13	2.62	2.26	2.19	1.13	0.55	0.47	16.03
NW	0.58	1.68	1.53	0.77	0.55	0.26	0.15	0.00	0.00	5.52
All	4.66	15.15	19.31	18.19	14.54	8.58	5.95	4.16	6.81	97.35

5.4 PM_{10} Pollution Rose

Pollution roses have been included to graphically summarize the annual PM_{10} data set. The pollution rose shows PM_{10} mean source strength by wind sector category. The spokes in the graphics below represent PM_{10} hourly averages when the wind was blowing from a specific wind direction vector.

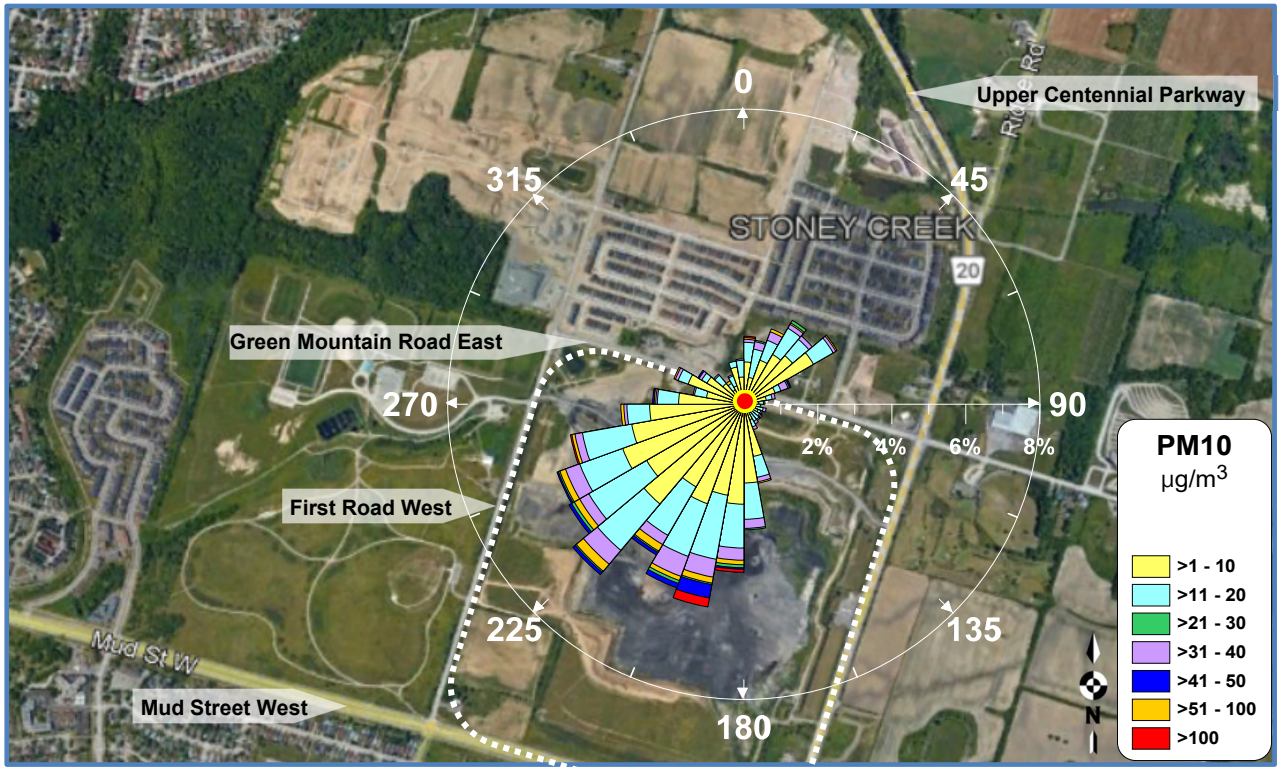
PM_{10} Pollution Rose - STN29147 - Figure 5



PM_{10} Pollution Rose - STN29147 2021		By : BB	**Figure 5**
	True North	Approx. Scale :	1:15000
GFL - Stoney Creek Regional Facility		Date Revised :	24 Mar, 2021

ROTEK

PM_{10} Pollution Rose - STN29247 - Figure 6



PM_{10} Pollution Rose - STN29247 2021		By : BB	**Figure 6**	ROTEK
	True North	Approx. Scale :	1:15000	
GFL - Stoney Creek Regional Facility		Date Revised :	17 June, 2022	

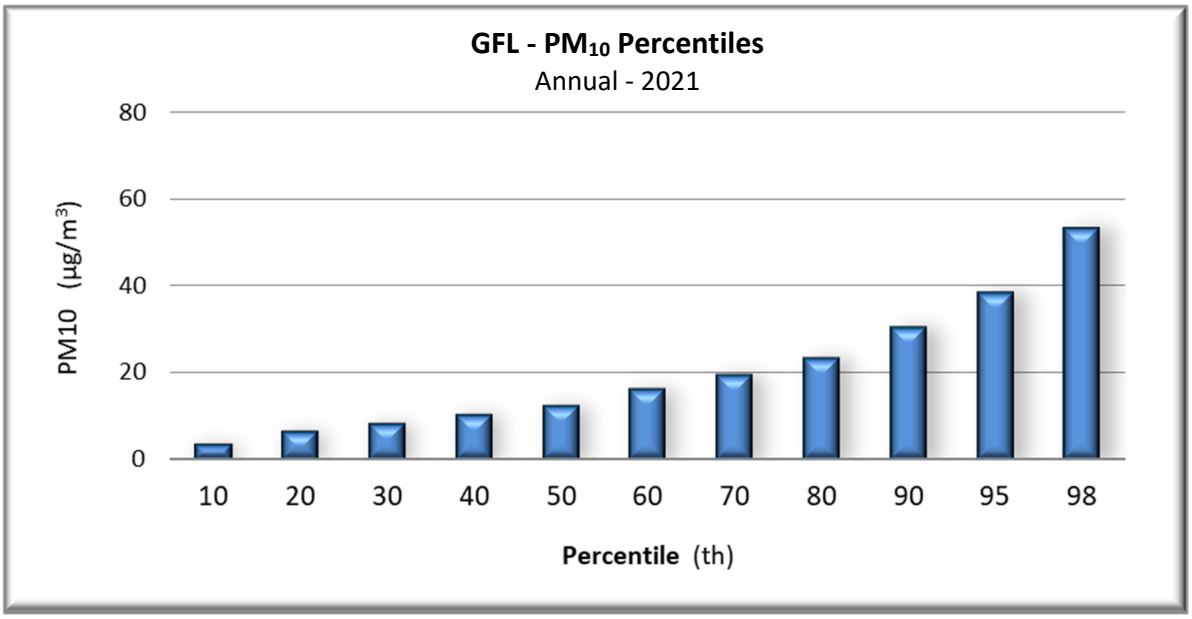
5.5 PM_{10} - Percentile Distribution

PM_{10} percentiles are the proportion of values in the dataset that a particular PM_{10} concentration is greater than or equal to. For instance, if you take a PM_{10} value of 30 µg/m^3 and this concentration was greater than or equal to 90 % of all concentrations in the dataset then the percentile for 30 µg/m^3 would be 90 (it would be in the 90th percentile). Percentile rank is defined simply as the proportion of a distribution that a pollutant concentration is greater than. Figures 7 and 8 below are graphical summaries of the PM_{10} 10th to 98th percentiles for the 2021 datasets.

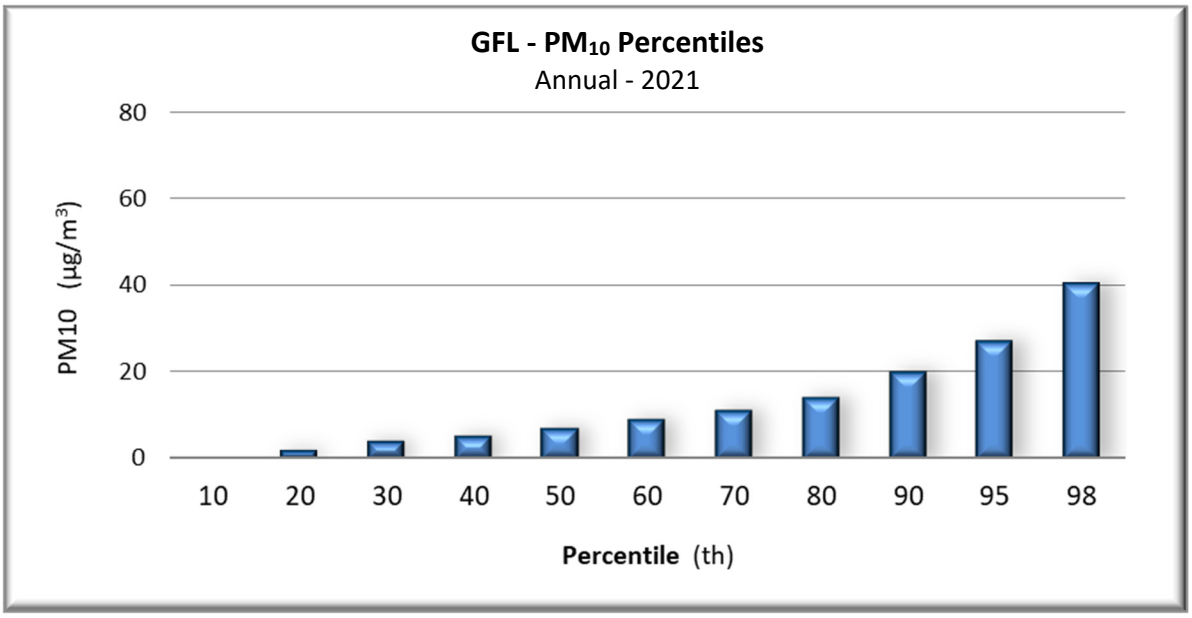
Use of percentile statistics is a means of ensuring that air quality criteria used for regulatory assessment are not unduly affected by acute short-term events or other significant sources of particulate not directly associated with the industrial activities of a particular industry.

It is therefore useful to evaluate the higher percentiles at a monitoring site in order to identify which directions contribute more to the overall higher percentile statistics. The PM_{10} pollution roses below, Figures 9 and 10, illustrate the directional attribution of the 90th to 98th percentiles. For STN29147 the primary PM_{10} sources contributing to this percentile range appears to be Upper Centennial Parkway / Mud Street vehicular traffic, long range transport of particulate matter out of the south vector with a minor contribution from facility activity. For STN29247 the primary PM_{10} sources are facility activity, long range transport and Green Mountain Road vehicular traffic.

PM_{10} Annual Percentiles - STN29147 - Figure 7



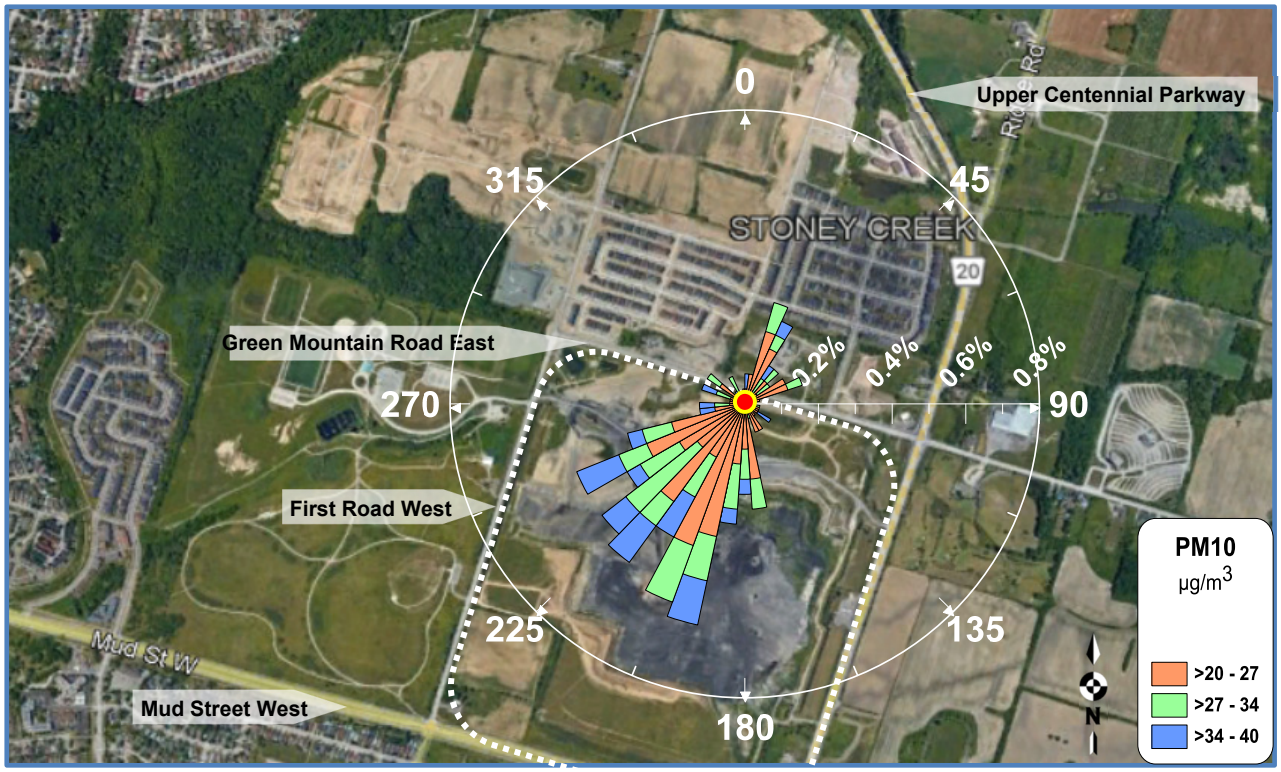
PM_{10} Annual Percentiles - STN29247 - Figure 8



PM_{10} Pollution Rose (90^{th} to 98^{th} Percentiles) **- STN29147 - Figure 9**

PM_{10} Pollution Rose - STN29147 Percentile - 90^{th} to 98^{th}		By : BB	**Figure 9**	ROTEK
	True North	Approx. Scale :	1:15000	
GFL - Stoney Creek Regional Facility		Date Revised :	20 June, 2022	

PM_{10} Pollution Rose (90th to 98th Percentiles) - STN29247 - Figure 10



PM_{10} Pollution Rose - STN29247 Percentile - 90th to 98th		By : BB	Figure 10	ROTEK
	True North	Approx. Scale :	1:15000	
GFL - Stoney Creek Regional Facility		Date Revised :	20 June, 2022	

6.0 Missing / Invalid Data Summary

Notwithstanding the MECP minimum 90% valid data performance measure, emitters are to notify, as soon as practical, the Ministry of any system or equipment failures resulting in missing data of 24 hours or more in length with plans and schedule for repairing the failed system or equipment. The following table details the problems that resulted in a loss of data greater than 24 hours with a description of remedial actions.

Missing / Invalid Data Summary - Table 7

Missing / Invalid Data				
Start Date	Start Time EST	End Date	End Time EST	Description
09 Oct, 2021	05:00	10 Oct, 2021	09:00	Temperature sensor failure.
03 Dec, 2021	00:00	06 Dec, 2021	08:00	Tape break.

7.0 Quality Assurance

Quality assurance measures were implemented during the sampling program to ensure data integrity. The operation, service and maintenance of the BAM 1020 were in accordance with the manufacturer's operations manual and protocols as prescribed by the Ministry of the Environment, Conservation and Parks "Operations Manual for Air Quality Monitoring in Ontario", January 2018. Detailed instrument and station service logs can be found in Appendix C.

Ministry of the Environment, Conservation and Parks - Audit Program

The Ministry of the Environment, Conservation and Parks performs regular audits of activities and processes related to the collection of air quality data under the Source Emissions Monitoring program. The audit program provides an indication of the effectiveness of quality control activities used by station operators and data management staff. Performance audits are independent evaluations of data quality produced by the analyzers and are performed in addition to the normal quality control activities carried out by Rotek Environmental. Auditing analyzer and sampler performance, quality control activities of the operator, siting criteria, assessment of the complete sampling system and completeness and quality of the site logging information are also verified by Ministry staff and are incorporated in their audit reports.

There were 4 MECP audits conducted during 2021. Audit dates were March 31st, June 17th, August 16th and December 17th. All site, sampler and operator performance criteria were found to be acceptable. Copies of the MECP audit reports can be found in Appendix D.

8.0 Conclusions

- There were 21 episodes of elevated PM_{10} during 2021, 12 of which were attributable to facility activity. These episodes included 4 exceedances of the PM_{10} daily (50 µg/m^3) and 36 exceedances of the PM_{10} hourly (100 µg/m^3) MECP Reportable Thresholds.

- There was no change in the annual mean trend lines for STN29147 (16 µg/m^3) or for the city average overall (20 µg/m^3).

- A PM_{10} percentile statistics evaluation indicates that the primary PM_{10} sources contributing to the 90th to 98th percentiles for STN29147 appear to be Upper Centennial Parkway / Mud Street vehicular traffic, long range transport of particulate out of the south vector with a minor contribution from facility activity. For STN29247 the primary PM_{10} sources are facility activity, long range transport out of the south vector and Green Mountain Road vehicular traffic.

- Overall valid data recovery for STN29147 was 99.2% and 96.0% for STN29247. This exceeds the MECP minimum target of 90% and desirable target of 95%. There were 4 Ministry of the Environment, Conservation and Parks PM_{10} sample program performance audits conducted during 2021. All sampler, operator and site audit criteria were found to be acceptable.

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Stoney Creek Regional Facility

Appendix A

2021

PM_{10} Exceedance Summary Table

PM_{10} Exceedance Summary - STN29147 - 2021

Reportable Thresholds			Hours > 100 µg/m³	Days > 50 µg/m³	Contributing Factors
PM_{10} Event	Date	Time	PM_{10} 1 Hr Average	PM_{10} 24 Hr Average	
		EST	µg/m³	µg/m³	Description
1	15 February, 2021	22:00	113	---	Facility not a contributing factor - NNE winds.
2	16 February, 2021	01:00	132	---	Facility not a contributing factor - NNE winds.
3	12 March, 2021	00:00	---	92	Facility activity combined with high winds.
		13:00	999	---	
		14:00	999	---	
4	17 May, 2021	07:00	131	---	Property landscape maintenance.
5	20 May, 2021	00:00	---	51	Centennial traffic, regional PM_{10} episode.
6	25 May, 2021	13:00	217	---	High winds, fugitive dust emissions.
		14:00	154	---	
7	15 June, 2021	11:00	107	---	Construction along Green Mountain Road.
8	25 June, 2021	00:00	---	55	Movement of clean fill close to PM_{10} station.
		09:00	118	---	
		10:00	271	---	
		11:00	451	---	
9	28 June, 2021	13:00	172	---	Movement of clean fill close to PM_{10} station.
		14:00	140	---	
		15:00	138	---	
10	29 June, 2021	15:00	118	---	Movement of clean fill close to PM_{10} station.
11	05 July, 2021	13:00	108	---	Movement of clean fill close to PM_{10} station.
		15:00	159	---	
12	15 July, 2021	13:00	132	---	Movement of clean fill close to PM_{10} station.
		14:00	108	---	
		15:00	117	---	
13	20 July, 2021	00:00	---	58	Earth moving activity to the south-west of monitoring station combined with the regional impact of wild fire smoke from forest fires in north- western Ontario.
		10:00	103	---	
		11:00	107	---	
		12:00	112	---	
14	22 July, 2021	07:00	128	---	Outside operational hours, source unknown.
15	26 July, 2021	05:00	137	---	Outside operational hours, offsite construction.
16	10 August, 2021	15:00	108	---	Offsite construction not related to facility.
17	20 August, 2021	07:00	108	---	Berm construction - north of main entrance.

Note: Seventeen PM_{10} events, nine of which are attributable to facility activity.

PM_{10} Exceedance Summary - STN29247- 2021

Reportable Thresholds			Hours > 100 µg/m³	Days > 50 µg/m³	Contributing Factors
PM_{10} Event	Date	Time	PM_{10} 1 Hr Average	PM_{10} 24 Hr Average	Description
		EST	µg/m³	µg/m³	
1	21 September, 2021	10:00	116	---	Site access road maintenance, fugitive dust.
		11:00	155	---	
		12:00	216	---	
		13:00	117	---	
		14:00	128	---	
2	12 October, 2021	12:00	113	---	Facility activity, fugitive dust emissions.
3	08 November, 2021	12:00	195	---	Facility activity was a contributing factor.
		14:00	107	---	
4	09 November, 2021	09:00	117	---	Offsite construction not related to GFL activity.

Note: Four PM_{10} events, three of which are attributable to facility activity.

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Stoney Creek Regional Facility

Appendix B

2021

Monthly
- Data Matrices
- Wind Roses
- PM_{10} Pollution Roses
- Trend Graphs

Station : STN29147

Parameter : PM10, µg/m^3

Month, Year : January, 2021

terrapure

Monthly Data Matrix

1 Hr MECP Reportable Threshold - 100 µg/m^3

24 Hr MECP Reportable Threshold - 50 µg/m^3

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	15	12	11	8	7	7	7	8	9	7	8	10	9	7	4	7	11	6	2	3	1	2	2	1	7	1	15
02	1	0	1	1	4	6	4	1	1	1	2	2	2	3	3	2	7	9	3	3	5	4	1	1	3	0	9
03	4	5	4	2	5	6	7	5	5	7	4	4	4	1	14	7	5	4	5	8	10	10	18	13	7	1	18
04	12	17	14	13	14	12	12	9	6	8	8	10	19	8	29	19	23	17	17	14	11	16	16	17	14	6	29
05	11	15	19	15	13	16	22	18	20	16	18	16	11	10	8	7	7	8	5	5	8	9	16	15	13	5	22
06	16	16	9	9	11	16	13	13	6	2	7	11	9	3	4	10	4	0	2	7	9	6	8	9	8	0	16
07	2	1	1	1	6	7	3	7	7	7	6	7	12	10	8	8	14	16	15	15	7	1	1	4	7	1	16
08	6	6	4	7	24	5	0	1	1	6	17	22	24	20	29	28	31	29	26	23	19	14	9	5	15	0	31
09	5	2	1	2	5	4	2	1	1	1	10	13	11	6	5	8	10	11	10	8	5	2	4	4	5	1	13
10	6	6	1	3	7	5	3	7	5	1	17	9	6	2	0	6	10	8	16	19	16	10	10	10	8	0	19
11	10	15	13	18	19	16	26	22	35	34	30	29	28	26	8	18	14	12	9	8	9	9	11	17	18	8	35
12	16	11	11	17	14	19	18	13	12	11	11	12	12	12	13	10	6	7	8	6	6	8	11	11	11	6	19
13	16	17	12	11	10	21	24	25	25	25	24	21	18	23	24	17	18	17	17	21	19	20	17	15	19	10	25
14	17	23	20	22	20	20	22	27	23	25	24	18	24	28	34	37	29	26	18	15	20	15	18	17	23	15	37
15	17	18	19	23	20	18	11	11	11	17	11	12	15	12	17	12	13	16	11	19	12	9	3	1	14	1	23
16	2	6	6	5	6	6	8	9	8	7	14	14	12	16	13	12	10	15	12	11	16	7	7	5	9	2	16
17	4	8	11	11	12	11	11	12	10	11	11	9	9	5	5	7	9	9	5	6	6	5	8	8	8	4	12
18	7	5	2	2	3	1	1	4	4	2	1	3	3	3	6	6	4	3	0	0	1	0	2	3	3	0	7
19	3	3	5	10	12	10	11	12	11	9	8	4	3	4	5	6	8	9	12	13	9	7	10	9	8	3	13
20	7	5	5	5	3	1	1	1	1	0	1	1	4	6	1	1	5	7	6	5	4	3	5	6	4	0	7
21	9	10	14	19	8	9	9	5	4	4	6	9	8	6	7	10	11	7	4	9	10	6	2	1	8	1	19
22	1	1	4	4	4	7	5	1	0	2	4	8	7	5	9	11	7	4	3	0	1	1	1	1	4	0	11
23	1	1	1	1	2	3	3	7	6	1	3	3	4	5	2	1	1	1	1	1	1	1	1	3	2	1	7
24	3	1	0	1	1	0	1	2	2	2	4	5	4	3	2	2	4	9	9	6	1	2	7	6	3	0	9
25	6	8	7	8	10	9	20	24	32	29	22	17	28	32	27	20	24	17	9	9	9	6	2	1	16	1	32
26	3	5	5	4	5	15	18	17	18	12	11	8	4	4	5	6	6	7	2	3	7	2	1	21	8	1	21
27	4	3	4	4	6	6	2	1	2	2	0	1	2	3	5	3	3	3	5	5	4	7	3	0	3	0	7
28	4	3	3	5	0	0	4	7	11	18	5	4	18	22	5	2	0	0	2	6	4	1	1	1	5	0	22
29	1	1	1	1	4	6	6	4	20	20	24	27	18	5	21	13	9	5	0	1	1	1	0	1	8	0	27
30	0	5	3	0	6	9	7	6	9	12	22	11	16	13	15	16	22	29	24	31	26	12	8	6	13	0	31
31	9	9	6	5	5	2	1	1	0	4	37	23	25	17	6	14	14	8	2	1	1	1	1	5	8	0	37

Maximum 1 Hr Average	**37**
Maximum 24 Hr Average	**23**
Number of Days > 50 µg/m^3	**0**
Number of Hours > 100 µg/m^3	**0**

Total Hours	**744**
Number of Valid Hours	**744**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	9	**0**	**37**

Station : STN29147
Parameter : WS, m/s
Month, Year : January, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	1.4	1.6	1.9	0.9	0.4	0.6	1.4	1.5	1.4	2.9	3.4	4.1	3.9	3.3	3.5	3.1	3.4	4.3	4.7	3.1	2.6	2.7	2.9	2.4	1.3	0.4	4.7
02	2.1	2.2	1.7	1.5	2.2	2.7	2.0	1.4	1.3	1.0	1.2	1.8	1.4	1.0	1.8	2.1	1.2	1.6	1.7	1.5	1.4	1.7	1.5	1.4	6.0	1.0	2.7
03	1.6	1.6	1.7	2.7	2.5	3.2	2.5	2.4	2.9	2.3	1.7	1.1	0.4	0.7	1.4	2.0	1.9	1.1	1.7	0.8	1.0	1.2	1.2	1.0	3.1	0.4	3.2
04	0.3	0.7	1.3	1.0	0.1	0.3	0.3	0.8	0.7	1.1	0.7	0.3	1.2	1.5	1.1	1.2	1.2	1.2	1.2	1.3	1.4	1.5	1.4	1.3	2.0	0.1	1.5
05	1.1	1.0	1.2	1.1	0.7	0.9	0.8	0.4	0.9	1.3	1.4	1.7	1.8	2.5	2.2	2.2	1.9	1.9	2.6	2.0	1.6	1.3	2.3	1.7	2.0	0.4	2.6
06	1.1	0.9	1.0	1.6	1.0	0.9	1.3	2.8	3.4	2.8	2.2	1.6	1.4	1.9	2.1	4.1	5.1	5.4	5.0	5.0	4.9	2.6	1.4	2.4	1.4	0.9	5.4
07	3.9	4.3	4.1	4.1	4.0	4.2	5.0	4.8	3.6	3.1	2.5	1.8	1.2	0.8	1.1	2.2	1.6	1.1	1.0	1.8	3.8	3.8	2.8	2.3	2.5	0.8	5.0
08	1.8	1.7	1.6	1.3	3.8	3.7	3.8	4.0	4.3	3.1	1.1	1.5	1.4	1.3	0.7	0.8	0.9	0.7	0.5	1.1	2.3	2.7	2.8	2.9	4.3	0.5	4.3
09	3.6	3.2	3.2	1.5	1.7	3.3	3.2	4.1	4.4	3.4	4.1	3.1	3.3	1.8	0.6	2.2	1.4	1.9	1.8	2.0	2.6	1.8	1.4	1.5	0.7	0.6	4.4
10	1.6	1.4	1.4	2.8	1.5	0.9	0.6	0.4	0.3	1.2	2.4	2.8	3.0	4.0	3.6	3.1	2.4	1.5	1.0	1.2	1.3	1.7	1.6	1.2	0.4	0.3	4.0
11	1.9	2.3	1.7	1.4	1.7	1.3	1.2	0.5	1.4	2.3	2.9	4.6	3.9	3.6	3.7	4.6	4.6	5.3	4.9	3.6	3.9	4.8	5.4	6.1	5.1	0.5	6.1
12	5.0	4.7	4.1	2.8	4.3	3.6	2.7	3.0	2.8	3.3	3.9	3.3	3.0	3.0	2.3	3.0	4.0	3.4	3.0	3.0	4.0	3.3	2.8	2.8	2.2	2.3	5.0
13	2.4	2.4	2.4	2.6	3.3	4.5	4.4	5.1	5.3	5.3	4.8	4.9	5.4	6.4	5.9	6.2	5.1	5.4	4.8	4.5	4.1	3.6	3.3	3.0	0.7	2.4	6.4
14	3.1	2.6	2.7	2.5	2.1	2.2	2.6	2.0	1.3	1.2	1.6	1.3	1.6	2.3	2.3	1.7	1.2	1.3	1.5	1.4	1.3	1.9	2.5	2.5	1.9	1.2	3.1
15	2.3	2.9	3.3	3.5	3.0	3.2	3.3	2.8	2.2	1.7	1.6	2.3	3.0	3.9	3.2	2.1	4.2	3.7	3.1	1.7	2.7	3.2	3.0	2.3	0.2	1.6	4.2
16	3.2	3.0	2.2	2.0	2.0	1.5	1.7	1.0	1.1	2.0	3.5	4.4	4.3	4.5	5.0	3.1	3.1	4.0	4.5	4.8	4.6	4.9	4.7	5.4	0.5	1.0	5.4
17	5.5	5.5	5.1	6.0	5.6	5.2	5.0	5.6	6.7	6.5	5.8	5.5	5.2	5.3	4.7	4.4	3.9	3.8	3.4	3.1	3.0	2.9	2.1	1.7	3.1	1.7	6.7
18	1.7	1.1	0.8	1.1	1.1	0.9	0.8	1.5	1.3	1.8	2.0	2.2	3.4	2.6	3.1	3.0	1.7	2.5	3.3	3.1	3.0	2.5	2.6	2.2	4.6	0.8	3.4
19	2.6	3.2	4.1	4.8	4.8	4.2	4.0	4.4	4.9	6.1	5.7	6.8	6.9	7.1	6.6	7.4	4.8	2.3	1.7	3.5	3.7	3.2	3.0	2.4	4.3	1.7	7.4
20	2.1	2.0	1.9	2.1	3.0	2.6	2.1	1.6	2.1	1.7	1.6	3.0	4.3	4.6	4.2	5.0	4.1	3.0	2.4	2.4	4.0	5.8	7.1	7.1	2.4	1.6	7.1
21	8.4	7.3	8.0	7.3	5.9	4.9	5.4	5.4	4.9	5.4	6.7	7.4	6.3	7.0	7.1	5.8	6.0	5.2	4.7	5.4	4.1	5.2	4.4	5.4	0.6	4.1	8.4
22	4.8	6.2	5.8	5.8	6.1	5.8	2.7	2.3	3.6	3.3	4.0	3.7	3.4	4.2	4.3	3.8	4.1	3.6	3.6	3.0	2.5	3.4	3.3	3.6	0.9	2.3	6.2
23	3.3	3.2	2.8	2.0	1.8	2.4	2.7	2.1	2.1	2.5	3.2	4.4	3.8	3.6	3.3	2.6	2.6	2.5	1.4	1.3	1.3	1.2	1.6	3.0	1.8	1.2	4.4
24	2.2	2.3	2.1	2.1	2.6	1.7	1.8	1.9	2.5	2.1	1.2	1.1	1.5	1.6	1.2	1.8	1.5	2.2	2.5	2.3	1.7	1.3	0.8	0.1	1.0	0.1	2.6
25	0.2	0.4	0.8	0.6	0.1	0.7	0.3	0.6	1.1	0.8	0.8	0.8	1.2	1.5	2.0	1.8	1.5	1.5	1.7	2.0	2.1	2.2	2.8	3.4	0.4	0.1	3.4
26	3.5	3.7	4.1	4.5	5.5	5.2	5.5	5.8	6.3	5.4	5.4	5.1	4.8	4.7	4.3	3.6	3.0	5.0	5.1	5.1	4.7	3.6	3.4	3.0	2.0	3.0	6.3
27	2.5	1.6	1.6	1.4	1.5	1.5	2.0	1.6	1.7	1.6	1.2	1.3	1.5	1.7	1.9	1.9	1.8	1.7	1.8	1.6	1.7	1.5	1.4	1.2	3.9	1.2	2.5
28	1.4	1.1	0.9	0.9	0.8	1.0	0.7	2.5	2.4	2.7	2.7	2.3	2.6	3.8	3.4	3.5	3.1	2.5	3.5	3.9	2.2	2.2	2.7	2.6	1.3	0.7	3.9
29	2.0	1.3	1.2	2.1	1.4	3.5	3.4	3.7	2.5	3.0	2.6	3.5	3.1	3.2	3.1	3.0	2.5	2.9	2.4	1.5	0.7	0.4	0.9	1.0	1.6	0.4	3.7
30	0.4	0.9	1.2	1.1	1.4	1.7	1.6	1.0	0.6	0.5	0.6	0.9	0.9	1.4	0.6	1.2	1.7	1.5	1.7	1.4	1.4	2.0	2.3	2.4	0.9	0.4	2.4
31	2.2	3.1	2.6	3.3	4.2	5.0	5.5	5.5	6.1	6.3	6.1	6.6	7.2	7.1	7.2	7.4	7.1	6.5	7.1	6.9	7.1	6.4	6.4	6.5	2.3	2.2	7.4

Total Hours	**744**
Number of Valid Hours	**744**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	2.8	**0.1**	**8.4**

Station : STN29147
Parameter : WGust, m/s
Month, Year : January, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	2.4	3.4	3.3	2.4	1.2	1.2	2.9	3.0	2.8	5.5	6.8	8.0	7.6	6.6	6.2	5.8	7.9	8.1	8.7	6.0	4.9	5.0	5.2	4.4	5.0	1.2	8.7
02	3.8	4.4	4.0	6.4	6.8	5.8	6.8	4.4	4.2	3.1	4.2	4.5	4.4	3.8	4.0	4.5	3.7	3.3	4.2	4.0	3.5	3.6	3.5	2.9	4.3	2.9	6.8
03	3.1	3.2	3.4	5.4	5.2	5.9	4.5	4.8	5.6	4.5	3.0	2.0	1.2	1.8	3.1	4.0	3.6	3.4	3.5	2.9	1.8	2.2	2.0	2.2	3.4	1.2	5.9
04	2.1	2.6	2.7	2.9	0.8	0.9	1.2	3.2	2.7	2.7	2.7	1.1	2.7	2.9	2.7	2.4	2.2	2.0	2.2	2.1	2.1	2.5	2.4	2.1	2.2	0.8	3.2
05	2.1	1.7	1.9	1.9	1.5	1.6	1.5	1.3	1.7	2.1	2.4	3.0	3.7	4.4	3.7	3.9	3.9	3.8	5.1	4.2	3.6	2.8	4.0	3.2	2.9	1.3	5.1
06	3.0	2.5	2.4	5.4	3.4	3.0	4.3	7.9	7.9	6.3	5.6	5.2	4.3	6.6	5.0	8.7	10.4	9.8	10.2	10.8	8.9	7.5	3.8	5.6	6.2	2.4	10.8
07	7.6	7.7	7.1	7.1	7.2	7.4	8.6	8.4	6.3	6.2	4.9	4.8	4.5	3.1	3.1	4.2	2.8	1.8	1.7	5.4	6.8	7.0	4.7	4.8	5.6	1.7	8.6
08	4.3	3.8	3.7	3.8	6.2	6.0	6.1	6.4	7.6	7.5	3.1	4.2	4.0	3.2	2.4	2.2	1.8	1.5	1.1	2.2	5.1	5.3	5.9	5.5	4.3	1.1	7.6
09	5.1	5.1	5.3	5.4	4.1	4.9	5.6	6.1	6.7	5.2	6.2	5.3	5.6	3.6	1.9	4.4	4.2	5.7	5.1	5.1	5.9	4.8	3.6	3.3	4.9	1.9	6.7
10	3.4	3.4	3.2	3.7	3.3	3.3	1.7	1.5	1.3	3.3	3.8	4.3	6.4	7.6	7.6	7.1	5.0	2.5	1.7	1.9	2.1	2.7	2.4	1.8	3.5	1.3	7.6
11	2.7	2.9	2.6	2.4	2.6	2.1	2.3	1.5	2.7	3.5	6.5	8.0	7.0	8.4	7.4	8.4	10.0	10.1	9.0	7.4	6.9	8.3	9.7	10.3	5.9	1.5	10.3
12	10.3	9.1	8.4	6.8	7.4	7.5	5.4	5.9	5.4	6.1	7.3	6.0	5.6	5.8	4.3	6.5	8.0	6.2	5.6	6.4	7.2	6.6	5.4	5.7	6.6	4.3	10.3
13	4.5	5.7	4.7	4.8	7.4	8.5	7.8	9.3	9.7	9.7	8.4	9.9	12.3	12.2	12.6	12.1	8.7	8.7	8.1	7.5	6.5	6.3	6.3	4.8	8.2	4.5	12.6
14	5.3	4.5	4.3	4.0	4.0	3.6	4.2	3.1	3.1	2.4	2.5	2.4	3.9	4.1	4.2	2.8	2.3	1.9	2.4	2.3	2.3	3.2	4.2	4.2	3.4	1.9	5.3
15	4.5	5.4	6.8	6.0	5.4	5.6	6.3	5.2	4.5	3.3	2.8	3.7	5.1	6.4	6.1	4.2	7.8	6.8	6.7	3.3	5.5	6.5	6.0	5.9	5.4	2.8	7.8
16	6.2	5.7	3.4	4.0	3.7	2.9	4.0	1.8	2.1	4.2	5.9	8.1	7.9	8.3	8.2	8.0	7.0	7.1	9.4	9.7	10.3	8.1	8.3	9.8	6.4	1.8	10.3
17	11.3	11.5	10.0	10.9	9.6	9.0	9.4	10.4	11.8	11.7	10.1	10.4	9.2	9.0	8.9	8.1	7.1	7.1	6.2	5.6	6.0	5.2	4.1	3.2	8.6	3.2	11.8
18	3.4	3.3	2.3	3.4	3.3	2.9	2.6	2.6	2.7	3.2	4.1	5.4	6.0	4.7	5.7	6.4	3.4	5.8	7.1	5.3	5.1	4.7	4.9	3.6	4.2	2.3	7.1
19	4.7	7.2	7.9	8.5	8.2	7.4	8.5	8.0	9.5	11.3	12.8	12.1	14.3	12.5	11.4	13.0	9.9	4.4	4.1	8.8	7.5	6.4	6.8	7.3	8.9	4.1	14.3
20	6.3	6.7	5.5	6.1	7.2	6.8	6.4	5.0	7.1	5.4	5.8	6.6	7.5	8.7	6.8	9.0	8.2	6.4	4.5	4.8	7.5	11.0	12.3	13.0	7.3	4.5	13.0
21	14.3	12.8	14.2	15.1	10.8	11.6	10.4	10.4	11.8	12.0	12.0	13.5	11.6	12.1	12.1	10.5	11.7	10.6	8.9	10.6	7.9	11.3	8.2	11.5	11.5	7.9	15.1
22	9.5	12.4	11.6	9.8	10.3	10.1	8.9	8.2	12.2	10.0	11.2	9.8	11.3	11.4	11.9	10.5	10.7	10.1	10.3	9.5	8.2	7.0	7.7	7.1	10.0	7.0	12.4
23	7.5	6.8	6.3	5.3	6.0	6.7	8.5	6.8	5.6	8.9	9.7	10.7	10.6	10.0	11.9	8.8	8.4	8.3	4.9	3.9	3.8	4.3	5.1	5.0	7.2	3.8	11.9
24	4.8	3.8	3.9	3.8	4.1	3.2	2.9	3.3	4.0	3.9	3.3	3.2	3.9	4.1	3.5	4.3	3.1	3.6	4.1	4.1	2.9	2.2	1.6	0.8	3.4	0.8	4.8
25	0.9	1.1	1.7	1.4	0.8	1.6	0.9	1.5	2.3	2.0	2.4	2.3	3.3	3.6	3.2	3.1	2.7	2.5	2.8	4.6	4.5	4.1	6.6	5.8	2.7	0.8	6.6
26	6.0	6.6	7.2	8.8	10.0	9.0	11.3	11.3	12.5	10.2	10.8	10.8	9.5	8.9	7.7	6.2	5.0	9.6	8.7	8.8	8.6	6.6	7.4	7.4	8.7	5.0	12.5
27	6.7	6.4	5.2	4.3	4.9	3.5	4.6	5.2	6.0	5.1	4.4	3.8	5.9	6.0	5.6	6.4	5.0	5.2	5.5	4.9	6.2	4.8	6.1	3.6	5.2	3.5	6.7
28	4.2	3.3	2.5	2.8	2.9	2.9	2.5	4.9	7.0	9.6	9.7	6.8	9.6	11.6	11.2	11.5	8.8	6.8	6.9	6.8	5.5	7.3	7.7	8.5	6.7	2.5	11.6
29	6.6	3.9	3.9	3.9	3.7	5.0	6.6	5.9	6.5	8.0	8.6	10.2	9.7	11.3	10.7	8.7	7.9	9.0	8.5	5.0	2.4	2.0	3.6	3.5	6.5	2.0	11.3
30	1.4	1.9	2.3	2.3	2.1	3.1	3.0	2.3	1.5	1.7	2.1	2.7	3.4	2.9	2.9	4.4	2.6	2.0	2.3	1.9	1.8	2.9	3.2	3.5	2.5	1.4	4.4
31	3.4	5.2	4.8	7.4	8.4	9.2	9.9	10.1	10.7	11.2	10.5	11.9	12.2	13.4	12.7	13.5	13.5	12.2	13.5	11.7	14.5	12.3	11.7	13.1	10.7	3.4	14.5

Total Hours	**744**
Number of Valid Hours	**744**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	5.9	**0.8**	**15.1**

Station : STN29147

Parameter : WD, degrees

Month, Year : January, 2021

terrapure

Monthly Data Matrix

	Hour (Eastern Standard Time)																							
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**
01	216	221	193	206	70	108	106	110	68	77	80	78	74	78	74	68	64	76	73	80	67	65	62	73
02	62	60	33	347	351	358	348	321	318	308	305	286	288	296	278	259	260	251	238	228	218	171	165	94
03	77	68	80	71	78	99	71	62	61	58	61	58	74	300	269	271	265	289	275	288	279	240	254	307
04	312	333	355	1	321	327	324	347	292	264	314	309	209	220	243	199	173	179	187	189	185	192	184	180
05	179	156	146	164	155	176	168	136	358	7	18	13	17	10	24	40	58	57	57	47	37	29	2	356
06	350	299	339	348	339	319	317	346	355	353	348	344	330	328	352	7	3	2	1	360	359	352	348	355
07	1	8	4	7	3	3	6	2	0	1	3	0	326	290	251	209	188	152	104	44	12	5	3	358
08	351	350	350	350	3	5	2	4	6	356	325	349	350	25	23	4	68	88	73	1	358	358	354	354
09	358	358	355	346	346	355	357	9	7	2	0	0	9	3	347	259	296	321	316	314	315	321	307	299
10	286	301	280	263	299	318	277	254	336	221	189	204	231	261	256	238	236	245	197	198	207	232	230	217
11	238	252	261	276	260	204	211	210	191	184	216	244	249	239	236	245	232	256	241	232	239	246	249	244
12	243	244	247	226	242	236	233	222	219	234	241	221	220	214	231	233	232	230	228	233	239	233	225	220
13	225	224	210	207	204	208	206	205	207	211	212	214	218	214	216	215	209	205	210	208	204	207	205	200
14	208	206	204	214	229	238	254	255	226	187	181	185	203	206	185	154	156	141	114	103	91	95	97	89
15	82	78	82	89	91	104	108	98	88	42	35	42	46	49	64	65	134	152	142	149	214	224	221	204
16	217	208	204	213	226	217	227	216	223	216	241	256	263	256	253	282	280	256	259	253	276	247	252	242
17	239	239	232	236	239	242	236	240	243	247	256	257	237	241	238	241	239	247	248	241	237	247	264	274
18	274	304	322	342	358	304	279	238	211	215	247	260	251	258	250	271	268	260	265	253	246	234	223	204
19	209	226	234	240	240	233	232	231	237	241	250	268	264	263	252	251	252	251	232	235	239	236	271	285
20	305	286	284	286	285	303	324	313	336	334	289	260	258	269	248	241	230	228	214	210	199	202	199	206
21	207	206	205	207	210	222	222	225	220	228	241	243	238	241	239	240	241	237	233	235	238	257	263	258
22	260	254	247	249	247	253	297	292	305	300	303	296	294	284	281	289	286	287	287	290	290	274	274	273
23	275	274	278	286	312	318	311	293	295	303	319	316	314	316	313	319	313	319	311	291	301	297	278	250
24	269	251	266	258	244	240	230	224	239	261	269	241	187	212	198	203	207	186	180	165	152	139	162	133
25	144	144	114	126	118	201	163	173	163	100	63	298	59	61	59	68	51	52	53	60	67	76	86	80
26	72	67	66	64	69	68	71	71	73	71	70	77	76	68	55	39	21	3	360	1	1	358	357	355
27	352	339	333	325	343	287	275	333	343	338	334	325	330	310	310	317	299	307	328	338	323	316	330	336
28	339	341	340	317	316	339	289	268	312	333	335	332	318	328	319	318	299	289	264	262	284	339	325	317
29	329	312	298	278	286	257	243	245	261	305	326	329	337	333	319	334	330	322	340	346	348	347	341	350
30	309	244	227	196	198	211	212	203	183	147	208	313	46	22	175	160	140	140	146	161	150	120	123	120
31	131	101	101	81	75	77	71	71	64	64	66	63	67	70	65	63	69	76	73	72	75	73	73	67

Total Hours	**744**
Number of Valid Hours	**744**
Percent Valid Data	**100.0 %**

Station : STN29147
Parameter : ATEM, °C
Month, Year : January, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	-2.8	-2.2	-2.5	-3.3	-3.8	-3.3	-1.8	-1.5	-2.0	-1.2	-0.4	-0.1	-0.3	-0.3	-0.2	0.0	-0.4	-1.2	-1.0	-1.0	-0.9	-0.6	-0.3	0.0	-1.3	-3.8	0.0
02	0.1	0.4	0.6	0.6	-0.1	-0.5	-0.8	-0.8	-1.1	-0.3	0.0	0.0	0.4	0.7	0.5	0.2	0.0	-0.2	-0.5	-0.6	-0.7	-0.9	-1.2	-1.2	-0.2	-1.2	0.7
03	-1.2	-1.2	-0.9	-0.8	-0.7	-0.9	-1.0	-0.6	-0.7	-0.5	0.1	0.2	0.6	0.6	0.9	0.9	0.7	0.6	0.6	0.5	0.4	0.3	0.2	0.0	-0.1	-1.2	0.9
04	0.1	-0.1	0.1	0.0	-0.1	-0.1	-0.2	-0.2	0.0	0.2	0.6	0.9	1.1	1.0	1.2	1.3	1.0	0.4	0.3	0.1	0.0	0.0	-0.1	-0.1	0.3	-0.2	1.3
05	-0.1	-0.2	-0.3	-0.3	-0.2	-0.1	-0.1	0.0	0.1	0.6	1.1	1.3	1.3	1.1	0.9	0.8	0.6	0.5	0.5	0.4	0.2	0.1	0.0	0.0	0.3	-0.3	1.3
06	-0.1	0.0	0.2	0.2	0.0	-0.1	-0.3	-0.5	-1.2	-0.8	-0.3	0.3	0.9	1.4	2.0	2.2	1.8	1.3	1.0	0.9	0.5	0.0	-0.2	0.0	0.4	-1.2	2.2
07	0.0	-0.4	-0.8	-1.2	-1.7	-2.0	-2.4	-2.8	-3.0	-3.2	-3.0	-2.9	-2.4	-1.3	-0.2	-0.8	-1.7	-2.9	-3.7	-3.4	-3.0	-3.3	-3.6	-4.0	-2.2	-4.0	0.0
08	-4.6	-5.5	-6.2	-6.4	-6.8	-7.4	-7.9	-8.5	-8.8	-9.2	-8.4	-7.9	-7.2	-7.1	-5.7	-4.6	-5.0	-6.0	-6.4	-6.2	-4.8	-4.3	-4.2	-4.5	-6.4	-9.2	-4.2
09	-4.1	-3.9	-3.9	-4.1	-4.0	-3.5	-3.3	-3.0	-2.4	-1.3	0.3	1.7	2.0	3.4	4.8	4.3	2.6	1.7	0.4	-0.6	-0.9	-1.5	-2.2	-2.7	-0.8	-4.1	4.8
10	-3.3	-3.2	-3.8	-4.3	-4.6	-4.8	-5.4	-5.7	-3.2	-1.4	-2.0	-1.6	-0.5	-0.1	0.1	0.5	0.0	-0.7	-1.5	-2.1	-2.8	-2.8	-3.1	-4.2	-2.5	-5.7	0.5
11	-3.9	-3.6	-3.8	-4.1	-4.2	-3.9	-4.2	-4.1	-4.2	-3.2	-1.7	-2.1	-1.2	-0.6	-0.4	-0.8	-0.8	-1.1	-1.3	-1.3	-1.4	-1.5	-1.6	-1.8	-2.4	-4.2	-0.4
12	-1.8	-2.0	-2.1	-2.2	-2.5	-2.7	-2.7	-2.7	-2.8	-2.7	-2.5	-2.4	-2.2	-2.0	-1.7	-1.4	-1.3	-1.5	-1.5	-1.5	-1.6	-2.0	-2.0	-1.8	-2.1	-2.8	-1.3
13	-1.7	-1.5	-1.3	-1.3	-0.9	-0.3	-0.2	-0.1	0.2	0.3	0.7	1.4	1.9	1.9	1.7	1.8	1.9	1.6	1.5	1.3	1.4	1.6	1.9	1.7	0.6	-1.7	1.9
14	1.7	1.5	1.5	1.2	0.9	1.1	1.2	1.2	1.2	1.5	1.8	2.7	2.9	3.5	3.3	3.1	2.7	1.9	1.1	1.4	1.5	1.5	2.0	2.1	1.9	0.9	3.5
15	1.6	1.4	1.3	1.2	1.0	1.2	1.5	1.5	1.8	1.6	2.1	2.9	3.4	3.4	3.4	3.3	3.8	3.2	2.9	2.4	2.3	1.6	0.9	0.5	2.1	0.5	3.8
16	0.4	0.3	-0.2	-0.1	-0.1	-0.1	-0.2	-0.3	0.1	0.8	1.2	1.3	1.8	2.5	2.4	1.7	0.6	-0.1	-0.3	-0.4	-0.7	-0.9	-0.6	-0.5	0.4	-0.9	2.5
17	-0.6	-0.5	-0.6	-0.3	-0.1	0.1	0.3	0.4	0.7	1.2	2.0	2.5	2.0	2.1	2.1	2.0	1.7	1.2	0.8	0.6	0.5	0.3	-0.1	-0.3	0.8	-0.6	2.5
18	-0.4	-0.6	-1.2	-1.5	-1.7	-1.8	-1.7	-1.8	-1.7	-1.1	-0.4	0.3	0.5	0.6	0.3	-0.3	-0.8	-0.8	-0.8	-1.0	-1.4	-1.8	-1.9	-2.1	-1.0	-2.1	0.6
19	-1.7	-1.2	-1.1	-1.1	-1.3	-1.5	-1.6	-1.7	-1.5	-1.2	-1.1	-1.7	-1.7	-1.8	-1.9	-1.8	-2.3	-2.7	-2.5	-2.0	-2.2	-2.2	-2.5	-2.7	-1.8	-2.7	-1.1
20	-3.4	-4.0	-4.5	-4.9	-5.6	-6.0	-6.0	-6.4	-6.3	-6.3	-5.7	-5.6	-5.4	-5.0	-5.0	-4.9	-5.2	-5.6	-5.9	-5.9	-5.4	-3.7	-3.4	-2.8	-5.1	-6.4	-2.8
21	-2.6	-2.3	-1.8	-1.5	-1.2	-0.5	-0.1	-0.7	-0.6	0.5	1.7	2.2	2.4	2.3	2.3	2.3	1.9	1.7	1.7	1.5	1.6	1.5	1.3	1.5	0.6	-2.6	2.4
22	1.1	1.0	0.8	0.6	0.6	0.5	-0.3	-0.8	-1.3	-1.8	-1.8	-2.5	-3.0	-3.3	-3.3	-3.7	-4.5	-4.9	-5.3	-5.5	-5.8	-6.0	-6.7	-7.2	-2.6	-7.2	1.1
23	-7.4	-7.9	-7.9	-7.8	-7.9	-8.4	-9.1	-9.4	-8.7	-7.3	-6.4	-5.6	-4.9	-4.2	-3.9	-4.8	-5.2	-6.0	-6.3	-6.3	-6.3	-6.3	-6.2	-6.3	-6.7	-9.4	-3.9
24	-6.3	-6.3	-6.2	-6.2	-6.4	-6.4	-6.5	-6.4	-5.7	-4.7	-3.5	-3.2	-3.4	-3.3	-2.9	-2.6	-3.0	-3.6	-4.1	-4.3	-4.4	-4.4	-4.8	-5.0	-4.7	-6.5	-2.6
25	-4.5	-4.4	-4.2	-4.2	-4.2	-4.1	-4.5	-4.7	-3.7	-1.0	-0.4	0.2	0.1	0.0	0.0	-0.2	-0.9	-1.5	-1.7	-1.4	-1.1	-0.9	-0.8	-1.3	-2.1	-4.7	0.2
26	-1.5	-1.4	-0.9	-0.7	-0.8	-0.7	-0.5	-0.5	-0.5	-1.7	-2.4	-2.4	-2.2	-2.4	-2.6	-2.4	-2.2	-2.4	-3.1	-3.2	-3.4	-3.5	-3.7	-4.3	-2.1	-4.3	-0.5
27	-4.6	-4.7	-5.2	-5.8	-4.9	-5.8	-5.4	-5.3	-4.9	-3.6	-2.6	-2.5	-2.2	-2.0	-2.5	-2.8	-3.6	-4.7	-5.2	-6.3	-7.0	-7.9	-8.1	-8.7	-4.8	-8.7	-2.0
28	-9.1	-9.7	-10.4	-10.7	-11.5	-11.5	-12.5	-12.7	-10.6	-9.6	-9.3	-8.4	-7.9	-8.1	-7.3	-7.2	-7.9	-8.5	-8.8	-8.3	-7.8	-7.7	-8.7	-9.3	-9.3	-12.7	-7.2
29	-9.6	-10.4	-11.2	-11.8	-12.7	-13.0	-12.5	-11.1	-9.8	-8.0	-6.9	-6.0	-5.8	-6.0	-5.8	-6.1	-6.4	-6.8	-7.5	-7.6	-7.6	-7.5	-7.4	-7.7	-8.6	-13.0	-5.8
30	-9.3	-10.4	-10.7	-11.5	-10.4	-9.2	-8.2	-8.4	-8.3	-6.4	-4.5	-3.8	-3.3	-3.4	-1.9	-1.9	-3.5	-5.1	-6.1	-6.7	-7.1	-7.5	-7.9	-7.8	-6.8	-11.5	-1.9
31	-7.4	-6.7	-6.8	-6.6	-6.0	-5.6	-5.6	-5.6	-5.5	-5.5	-5.4	-4.9	-4.5	-4.2	-4.1	-3.4	-3.5	-3.6	-3.9	-4.1	-4.0	-4.1	-3.7	-3.3	-4.9	-7.4	-3.3

Total Hours	**744**
Number of Valid Hours	**744**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	-2.3	**-13.0**	**4.8**

Station : STN29147

Parameter : RH, %

Month, Year : January, 2021

terrapure

Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	86	84	84	86	88	86	82	81	83	77	70	68	70	72	71	71	79	94	95	95	96	96	97	97	84	68	97
02	97	97	97	97	98	98	98	98	97	94	88	86	87	87	88	89	90	91	92	93	94	94	95	95	93	86	98
03	96	96	96	95	94	93	93	92	94	96	96	96	95	93	91	91	91	92	92	92	93	93	93	94	94	91	96
04	94	94	93	91	91	91	91	90	89	89	87	84	82	82	81	81	84	86	88	89	90	91	92	92	88	81	94
05	92	92	93	94	94	94	94	94	93	92	90	89	89	91	94	95	95	95	95	94	95	95	95	94	93	89	95
06	88	87	82	79	82	84	85	84	80	75	72	72	72	72	71	67	67	70	69	68	69	73	74	73	76	67	88
07	73	73	74	75	77	76	77	76	78	78	77	78	76	70	65	68	72	78	81	81	78	79	78	79	76	65	81
08	80	81	82	82	82	83	84	87	88	90	91	89	90	90	85	74	75	79	82	85	72	66	70	73	82	66	91
09	72	69	67	63	59	60	64	66	62	59	49	40	35	30	27	42	47	43	52	58	59	64	68	71	55	27	72
10	73	75	79	83	87	89	91	93	92	85	86	84	80	75	73	71	74	78	81	83	86	86	87	89	83	71	93
11	92	92	92	92	92	91	92	92	92	90	89	90	86	83	78	79	76	70	73	74	76	78	75	72	84	70	92
12	71	73	76	78	80	82	83	84	85	84	86	89	91	93	94	94	92	92	93	93	92	90	91	92	87	71	94
13	92	91	90	92	94	93	90	89	88	88	88	85	82	82	83	82	82	82	83	84	85	86	87	88	87	82	94
14	88	89	89	90	90	91	90	90	90	90	89	85	82	80	82	83	85	88	91	92	92	92	88	90	88	80	92
15	92	93	94	93	92	91	89	88	87	88	89	88	86	87	87	86	79	85	88	91	94	94	94	94	90	79	94
16	95	94	93	93	90	91	91	90	90	88	85	83	82	78	76	74	76	79	78	80	78	78	77	78	84	74	95
17	80	84	86	86	87	86	86	87	86	86	81	79	80	80	80	80	80	81	82	84	85	86	91	94	84	79	94
18	94	94	93	92	87	86	85	85	86	84	83	78	73	76	82	90	95	93	80	82	84	85	89	92	86	73	95
19	92	90	87	84	84	85	84	84	83	82	81	76	69	63	62	59	63	68	71	72	81	85	85	80	78	59	92
20	80	77	75	72	76	78	77	77	71	65	61	63	65	64	67	66	66	64	66	66	69	72	74	75	70	61	80
21	76	77	77	78	79	74	68	70	71	70	68	68	69	70	71	71	72	73	76	81	79	78	74	68	73	68	81
22	67	65	68	71	72	73	80	80	75	70	64	66	68	67	62	59	67	66	64	65	63	64	69	74	68	59	80
23	76	79	80	80	73	67	69	71	69	65	60	55	52	49	48	50	50	55	58	58	59	61	63	68	63	48	80
24	71	74	75	76	77	79	79	80	76	67	58	55	56	56	55	56	60	70	78	77	77	76	76	78	70	55	80
25	76	76	75	75	74	72	75	76	75	67	65	62	64	65	67	69	74	80	82	82	82	80	81	77	74	62	82
26	72	72	73	71	68	68	66	63	66	81	95	96	96	96	96	96	96	96	95	93	93	90	85	84	84	63	96
27	84	83	83	84	81	82	83	74	70	65	60	60	55	52	54	55	58	64	66	69	70	74	74	75	70	52	84
28	77	80	83	85	85	85	84	86	69	59	54	54	50	55	57	58	62	66	72	83	82	77	69	66	71	50	86
29	66	68	71	74	77	80	79	78	77	71	61	54	53	58	62	66	68	66	68	69	70	71	72	71	69	53	80
30	73	79	82	83	84	85	85	84	85	82	73	70	65	64	58	56	62	67	71	73	75	75	76	77	74	56	85
31	76	74	73	72	74	75	77	77	77	78	75	74	70	70	69	70	70	79	79	79	80	81	80	86	76	69	86

Total Hours	**744**
Number of Valid Hours	**744**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	79	**27**	**98**

Station : STN29147
Parameter : Precipitation, mm
Month, Year : January, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																								
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Total**	**Max**
01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	1.7	0.4	0.1	0.1	0.1	0.7	1.0	4.6	1.7
02	7.3	3.9	0.7	1.8	1.6	0.7	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16.2	7.3
03	-	-	-	-	-	-	-	-	0.6	1.2	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0	1.2
04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	0.1	-	-	0.2	0.1	-	-	0.6	0.2
06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	1.5	0.5	0.2	-	0.2	-	0.1	2.9	1.5
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	-	0.2	-	-	-	-	-	-	1.0	0.7
19	-	-	-	-	-	-	-	-	-	-	0.2	0.2	-	-	-	-	-	-	-	-	-	-	0.2	-	0.7	0.2
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
26	-	-	-	-	-	-	-	-	-	0.4	0.7	0.2	0.1	0.1	0.2	-	-	-	-	-	-	-	-	-	1.8	0.7
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0

Total Hours	**744**
Number of Valid Hours	**744**
Percent Valid Data	**100.0 %**

Monthly :	**Total**	**Max**
	29.8	**7.3**

Station : STN29147

Parameter : PM10, µg/m^3

Month, Year : February, 2021

terrapure

Monthly Data Matrix

1 Hr MECP Reportable Threshold - 100 µg/m^3

24 Hr MECP Reportable Threshold - 50 µg/m^3

	Hour (Eastern Standard Time)																										
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	0	1	1	19	6	5	5	1	6	9	9	13	13	12	9	9	8	6	31	20	20	15	7	9	10	0	31
02	11	12	8	23	6	17	6	9	12	27	4	18	10	17	16	8	11	14	10	6	5	7	5	3	11	3	27
03	6	2	0	1	0	0	2	1	3	8	16	16	19	16	19	22	9	9	8	8	4	0	3	3	7	0	22
04	5	0	1	6	1	3	6	5	7	9	20	25	18	24	35	38	35	51	28	28	16	21	15	6	17	0	51
05	4	1	3	4	4	4	5	7	5	0	1	4	9	15	17	13	10	6	7	8	7	6	2	0	6	0	17
06	3	4	3	3	5	5	5	5	4	5	7	7	15	13	11	7	7	8	6	8	7	6	15	7	7	3	15
07	8	8	9	15	12	9	7	8	10	9	8	19	17	11	9	8	9	7	3	1	5	8	8	7	9	1	19
08	5	5	3	5	9	9	9	15	19	18	16	7	27	21	11	11	11	8	8	10	10	10	10	12	11	3	27
09	10	9	16	16	5	6	23	18	14	11	8	8	7	5	7	20	10	10	23	15	14	13	11	9	12	5	23
10	10	12	13	13	12	12	16	15	28	11	22	15	16	9	11	16	17	16	10	10	10	9	9	9	13	9	28
11	9	10	13	11	15	10	9	11	71	35	11	12	18	25	17	21	19	16	14	18	13	12	8	8	17	8	71
12	10	8	4	6	30	11	26	8	9	8	1	1	1	2	5	4	1	2	3	0	19	16	19	14	9	0	30
13	13	11	8	7	7	5	3	7	8	6	6	1	1	1	1	3	3	3	6	4	4	6	1	1	5	1	13
14	2	9	8	7	9	3	2	5	6	8	11	11	15	11	15	11	24	24	30	6	4	3	5	7	10	2	30
15	7	18	9	9	10	14	11	11	9	5	6	34	10	11	10	14	11	15	8	3	4	9	113	37	16	3	113
16	65	132	45	20	23	29	3	1	1	0	9	12	9	25	1	2	5	5	4	4	0	0	3	4	17	0	132
17	5	3	0	1	4	6	5	3	2	5	6	7	9	3	0	3	7	9	32	16	25	17	22	14	9	0	32
18	11	7	6	6	7	17	24	38	36	58	29	26	21	13	10	7	6	4	8	8	3	3	15	8	15	3	58
19	14	9	11	13	6	2	2	21	1	5	26	17	8	9	11	15	11	12	11	7	5	6	8	8	10	1	26
20	6	4	5	9	11	12	19	20	23	21	19	19	20	19	16	7	8	9	10	11	5	0	1	15	12	0	23
21	12	5	4	26	17	33	18	35	18	16	28	31	30	20	27	21	33	39	37	40	32	31	24	24	25	4	40
22	26	23	8	7	9	9	5	6	10	9	8	7	5	4	4	5	9	16	15	9	20	13	15	14	11	4	26
23	16	16	13	11	15	15	12	9	5	4	7	10	8	7	5	7	9	6	6	8	12	13	15	12	10	4	16
24	9	16	7	11	19	20	16	16	7	40	22	19	11	10	10	15	17	16	16	10	6	2	2	3	13	2	40
25	1	1	1	3	2	3	1	1	3	5	4	4	6	7	5	5	5	4	3	7	5	2	4	3	4	1	7
26	4	6	6	7	15	14	13	10	28	62	37	26	25	18	22	8	15	18	21	18	18	14	20	12	18	4	62
27	18	18	16	15	5	6	6	4	4	2	1	5	9	10	17	16	10	11	21	19	12	11	11	12	11	1	21
28	12	11	10	10	12	15	13	14	6	10	14	16	11	12	11	8	8	8	8	12	10	4	4	2	10	2	16

Maximum 1 Hr Average	**132**
Maximum 24 Hr Average	**25**
Number of Days > 50 µg/m^3	**0**
Number of Hours > 100 µg/m^3	**2**

Total Hours	**672**
Number of Valid Hours	**672**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	12	**0**	**132**

Station : STN29147

Parameter : WS, m/s

Month, Year : February, 2021

terrapure

Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	7.4	7.0	7.7	7.6	7.2	7.1	6.7	6.0	6.6	6.5	5.7	5.8	5.7	5.4	5.7	6.0	6.0	5.8	5.5	5.9	5.3	4.9	5.0	5.2	6.2	4.9	7.7
02	5.2	4.1	3.4	4.0	4.0	4.4	5.4	5.5	5.0	5.3	4.9	4.6	3.8	5.2	5.4	5.2	3.5	5.2	3.7	3.1	4.0	3.9	4.1	2.2	4.4	2.2	5.5
03	2.1	1.4	1.0	1.0	1.8	1.6	2.0	1.9	2.1	2.2	2.3	2.4	2.6	2.5	2.7	2.5	2.6	2.5	2.4	3.0	2.9	3.0	2.7	2.5	2.2	1.0	3.0
04	1.6	1.9	2.1	2.4	1.8	2.2	3.2	4.0	3.1	2.7	2.6	3.6	4.3	4.6	4.7	3.6	2.5	1.7	1.8	2.1	1.5	0.5	2.5	5.1	2.8	0.5	5.1
05	6.7	7.4	7.1	7.1	7.5	8.7	9.1	9.4	8.2	8.9	8.8	8.6	9.4	9.1	7.5	7.4	5.6	6.1	5.5	5.0	6.5	6.4	4.5	2.8	7.2	2.8	9.4
06	5.0	5.1	5.4	5.6	5.8	6.2	5.1	4.8	5.6	6.6	7.8	8.6	9.6	8.6	7.9	7.3	4.6	3.2	2.7	3.3	2.7	2.2	1.5	1.6	5.3	1.5	9.6
07	0.6	0.5	1.4	1.4	2.3	3.5	5.3	4.4	5.0	5.6	5.0	4.0	5.6	6.2	6.3	6.6	5.6	4.4	4.1	3.6	3.3	3.4	4.1	4.1	4.0	0.5	6.6
08	4.4	3.6	4.2	4.4	3.8	3.4	3.6	3.1	3.1	2.8	3.0	3.8	4.9	4.4	4.0	2.8	2.3	1.5	0.8	0.1	1.3	0.8	0.7	0.5	2.8	0.1	4.9
09	0.3	0.0	1.0	1.0	1.0	0.8	0.6	0.4	0.4	0.7	0.9	1.0	1.2	1.5	1.0	2.5	4.6	3.2	3.1	3.2	3.5	2.6	3.0	2.9	1.7	0.0	4.6
10	3.2	2.9	3.1	3.6	4.7	4.9	4.2	4.1	3.2	3.6	4.0	4.3	3.7	4.0	3.8	3.6	2.5	2.0	1.3	1.1	1.2	1.1	1.3	1.3	3.0	1.1	4.9
11	1.2	1.7	1.3	1.5	1.7	1.9	1.7	1.8	1.3	1.5	2.3	3.1	2.7	2.0	2.3	2.8	2.5	2.6	3.5	4.0	2.5	2.9	3.1	3.2	2.3	1.2	4.0
12	3.7	4.3	3.7	4.4	4.9	4.2	2.0	1.5	2.2	3.1	3.5	3.7	4.4	4.3	4.9	4.8	5.6	5.3	4.8	4.4	2.5	1.4	1.2	0.5	3.6	0.5	5.6
13	1.6	1.6	2.1	2.0	3.4	2.6	2.2	3.8	3.5	4.5	4.4	4.6	5.4	5.9	6.5	6.5	5.7	5.2	4.8	4.8	3.7	1.9	2.3	2.5	3.8	1.6	6.5
14	1.6	1.5	1.1	1.1	1.4	2.3	2.7	2.6	2.2	1.6	0.8	1.1	1.7	2.5	2.1	2.4	2.6	2.0	1.9	1.2	1.0	1.0	0.7	0.9	1.7	0.7	2.7
15	0.8	0.6	0.7	0.6	0.7	0.8	0.7	0.5	1.4	1.5	0.8	1.2	2.1	2.6	2.9	2.8	3.7	3.9	5.1	5.7	6.4	7.7	7.3	6.9	2.8	0.5	7.7
16	6.9	7.4	9.3	9.4	7.2	8.4	7.9	7.2	7.3	6.3	5.5	3.7	1.4	1.6	3.6	3.8	3.3	3.7	2.9	2.8	2.5	2.9	3.3	3.4	5.1	1.4	9.4
17	3.4	3.8	2.5	3.5	3.7	4.2	4.7	3.9	3.2	3.0	2.7	2.8	3.1	3.6	3.6	3.3	2.1	1.7	1.5	1.7	1.5	1.2	0.7	0.7	2.8	0.7	4.7
18	0.9	1.5	2.8	2.9	1.7	2.2	2.4	3.4	4.2	4.0	4.0	4.0	3.7	3.6	4.1	4.5	4.5	4.0	3.9	3.3	3.3	2.8	1.9	2.3	3.2	0.9	4.5
19	1.4	1.6	1.4	1.0	2.0	2.4	2.7	2.7	2.3	1.3	0.7	1.1	3.3	4.1	3.5	4.3	5.1	4.5	3.9	2.8	2.9	3.1	4.1	4.1	2.8	0.7	5.1
20	4.2	4.2	3.9	3.4	3.8	3.3	3.5	3.8	4.8	4.8	4.9	5.3	5.5	6.2	6.3	5.7	5.5	4.5	3.4	3.5	4.2	3.9	4.2	4.1	4.5	3.3	6.3
21	4.2	3.4	3.7	3.3	3.8	3.4	3.7	3.6	3.7	4.3	3.7	3.4	3.6	3.7	3.4	2.9	2.3	1.4	1.2	1.8	1.7	1.1	0.5	0.5	2.8	0.5	4.3
22	1.4	1.4	1.5	1.8	7.2	8.6	9.6	8.6	8.1	7.9	7.3	6.1	6.7	7.0	6.8	7.5	7.4	7.0	6.5	6.0	7.0	7.2	7.2	7.2	6.4	1.4	9.6
23	7.1	8.4	9.0	8.1	6.1	6.0	5.9	5.6	5.0	5.1	5.4	6.9	6.9	5.4	5.5	5.5	5.5	4.4	2.9	3.8	3.5	3.5	3.5	3.4	5.5	2.9	9.0
24	3.3	3.3	2.7	2.9	2.7	2.6	4.0	4.9	5.0	5.5	7.0	7.0	7.0	7.6	7.4	7.2	5.7	6.5	6.5	5.6	4.6	4.2	3.8	3.2	5.0	2.6	7.6
25	2.5	2.6	2.3	4.1	2.5	2.5	1.9	1.8	2.3	2.6	3.3	4.4	4.5	5.5	4.3	5.2	4.5	3.3	3.0	3.5	4.3	4.6	2.8	3.0	3.4	1.8	5.5
26	3.4	2.7	2.0	1.6	1.7	2.4	2.8	2.1	2.4	2.9	3.4	4.8	4.4	2.6	2.2	3.0	3.2	2.1	1.4	1.9	1.5	1.5	1.5	1.0	2.4	1.0	4.8
27	1.7	1.4	1.4	3.8	3.9	4.0	4.2	4.0	7.1	6.5	6.5	7.4	7.6	6.7	6.5	5.4	4.1	3.1	1.9	3.2	4.0	3.9	3.5	2.7	4.4	1.4	7.6
28	3.0	2.1	1.6	1.0	1.6	1.3	1.2	1.8	3.2	2.9	2.4	2.3	1.6	1.9	1.3	1.5	1.4	0.8	0.6	2.4	4.1	5.4	6.5	5.8	2.4	0.6	6.5

Total Hours	**672**
Number of Valid Hours	**672**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	3.7	**0.0**	**9.6**

Station : STN29147
Parameter : WGust, m/s
Month, Year : February, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	13.9	12.8	13.2	12.3	12.3	12.7	12.3	11.5	11.1	12.5	9.4	11.5	9.7	10.2	10.2	10.7	10.2	10.1	9.7	9.3	8.6	8.3	7.7	8.9	10.8	7.7	13.9
02	8.2	7.5	6.6	6.9	7.3	7.7	9.6	8.9	8.6	9.2	9.3	8.0	7.4	9.5	10.0	9.4	9.1	10.9	9.6	9.7	10.9	10.5	9.0	5.8	8.7	5.8	10.9
03	6.9	5.5	4.2	5.2	5.6	5.7	6.0	5.5	7.9	7.0	6.0	6.3	8.3	7.9	8.7	7.7	7.7	7.9	6.2	7.1	8.2	7.6	7.0	6.3	6.8	4.2	8.7
04	4.5	4.2	4.9	4.7	3.6	3.4	5.2	7.5	5.8	5.2	4.7	6.2	7.1	7.3	7.7	5.3	4.0	3.1	2.9	5.2	4.6	1.4	7.5	10.9	5.3	1.4	10.9
05	11.8	11.4	11.0	10.6	12.9	18.2	18.1	18.3	17.4	18.3	16.8	17.1	21.5	21.5	16.3	15.9	10.7	11.4	10.3	11.0	11.5	11.8	9.1	5.2	14.1	5.2	21.5
06	11.2	10.8	11.6	11.5	12.2	11.3	10.9	9.4	12.1	12.4	16.0	16.1	15.7	14.9	13.7	13.6	11.6	7.0	5.0	6.7	5.7	4.4	2.8	3.2	10.4	2.8	16.1
07	1.9	1.5	3.2	2.2	4.6	7.0	8.8	7.1	8.5	9.6	9.7	10.3	11.1	12.1	10.9	11.1	10.7	10.2	7.9	6.0	5.7	6.2	6.8	6.9	7.5	1.5	12.1
08	6.4	6.3	6.5	6.4	6.3	5.5	5.7	5.3	5.4	5.1	5.7	8.3	8.5	7.7	7.2	5.3	4.7	2.9	2.3	1.5	2.3	1.8	1.5	1.3	5.0	1.3	8.5
09	1.2	0.5	2.9	2.9	2.5	2.7	2.4	2.1	2.0	2.2	2.7	3.2	4.0	5.3	3.8	5.5	7.7	6.2	5.6	5.6	5.5	5.0	4.4	4.1	3.8	0.5	7.7
10	4.8	4.7	4.7	5.7	6.7	7.3	6.5	5.8	5.3	5.8	6.5	7.0	7.1	7.2	6.8	5.5	4.8	4.1	3.5	3.3	3.3	3.1	4.0	4.2	5.3	3.1	7.3
11	3.9	2.9	3.7	4.0	4.0	2.7	3.2	3.3	4.3	4.2	4.3	5.5	5.6	4.7	5.2	5.4	4.6	6.2	6.0	6.9	5.4	5.3	5.5	5.2	4.7	2.7	6.9
12	6.4	6.7	6.5	7.6	7.2	6.8	5.3	5.2	5.1	6.3	6.6	6.9	7.6	8.8	9.0	9.6	10.1	9.9	8.6	9.1	6.0	4.1	3.6	2.7	6.9	2.7	10.1
13	4.3	4.4	4.1	4.7	5.9	6.3	5.3	6.8	7.5	8.3	7.9	8.9	10.0	12.0	12.1	11.6	10.3	11.1	9.2	8.3	6.9	5.1	4.5	5.6	7.5	4.1	12.1
14	4.2	3.8	3.9	3.4	3.0	3.6	4.3	3.8	3.2	3.2	2.7	2.9	2.9	3.8	3.5	3.6	3.9	3.0	2.9	2.9	3.7	3.5	2.6	2.9	3.4	2.6	4.3
15	2.4	2.1	2.3	1.9	2.0	2.0	1.9	1.7	3.0	3.1	2.3	3.6	4.2	4.7	5.1	4.9	7.0	7.3	10.1	10.4	11.6	12.4	13.3	14.3	5.6	1.7	14.3
16	12.5	15.1	18.1	17.3	16.1	16.0	15.4	11.9	12.0	10.8	9.6	7.8	5.4	5.1	6.9	8.7	8.7	10.2	8.8	8.6	8.2	6.8	5.4	5.8	10.5	5.1	18.1
17	5.6	6.0	4.9	5.9	5.9	7.0	7.2	6.4	5.1	4.9	4.4	5.4	5.7	7.0	6.1	6.5	4.2	3.4	3.2	2.8	2.4	1.9	1.9	1.6	4.8	1.6	7.2
18	1.8	3.1	5.0	4.6	3.4	4.5	4.7	7.3	8.4	8.6	8.1	7.7	6.8	6.4	8.1	7.7	8.1	7.0	7.9	6.9	6.6	5.7	3.4	4.5	6.1	1.8	8.6
19	3.0	3.3	2.7	2.4	4.4	4.5	4.4	4.2	4.5	3.3	2.6	4.3	6.5	7.0	7.5	8.6	8.1	7.5	6.6	4.9	4.9	5.6	6.8	6.6	5.2	2.4	8.6
20	7.9	6.7	6.3	5.7	6.0	5.6	6.2	6.7	7.6	8.2	7.7	8.6	8.8	9.8	10.8	9.1	9.6	7.4	5.5	5.7	6.3	6.6	6.2	6.0	7.3	5.5	10.8
21	6.6	5.5	6.3	6.7	6.3	6.4	6.7	5.8	6.4	7.2	6.4	5.9	6.6	7.1	5.9	5.2	4.2	2.7	1.8	2.7	2.5	2.0	1.6	1.3	5.0	1.3	7.2
22	2.5	3.2	3.2	5.9	12.5	14.3	14.9	14.5	12.7	13.5	14.1	11.4	14.2	12.9	12.2	12.8	12.6	12.4	12.1	12.6	13.0	12.5	11.6	13.9	11.5	2.5	14.9
23	13.5	14.1	15.5	14.8	10.7	11.0	10.1	10.4	9.5	9.2	9.4	12.8	12.9	12.1	9.5	9.4	9.3	7.7	5.5	6.9	7.1	6.1	6.1	5.8	10.0	5.5	15.5
24	5.5	5.7	4.5	4.7	4.5	3.8	6.7	7.1	7.6	9.4	11.3	11.9	12.7	15.8	14.1	13.5	11.2	11.7	15.2	14.4	14.4	13.0	13.3	12.8	10.2	3.8	15.8
25	10.5	4.6	7.9	11.4	7.8	8.0	5.8	6.0	7.3	7.3	7.7	7.5	8.1	9.3	10.0	8.2	8.1	6.3	5.0	7.3	7.7	7.7	5.9	5.1	7.5	4.6	11.4
26	6.0	4.0	3.3	3.4	2.9	4.1	4.1	3.7	3.7	4.5	5.7	7.6	7.2	5.1	3.3	5.0	4.9	4.6	2.5	3.6	3.3	3.4	2.6	2.0	4.2	2.0	7.6
27	2.7	2.1	2.2	6.4	6.2	7.0	7.7	8.6	12.0	13.4	12.8	14.3	12.5	12.0	11.2	9.8	8.5	6.6	3.7	5.4	6.1	6.6	6.0	5.1	7.9	2.1	14.3
28	4.7	3.4	3.0	2.2	2.7	2.7	2.7	4.6	6.1	5.0	4.8	3.7	3.3	3.2	2.9	2.9	2.4	1.9	2.0	5.1	7.2	8.4	10.2	11.2	4.4	1.9	11.2

Total Hours	**672**
Number of Valid Hours	**672**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	7.2	**0.5**	**21.5**

Station : STN29147

Parameter : WD, degrees

Month, Year : February, 2021

terrapure

Monthly Data Matrix

	Hour (Eastern Standard Time)																							
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**
01	61	55	51	39	37	42	39	37	41	37	12	21	25	26	29	33	39	39	10	9	8	10	8	7
02	4	1	358	0	3	6	5	4	3	7	359	2	360	1	1	4	357	358	353	352	356	357	5	352
03	348	346	308	330	323	322	315	339	345	344	348	344	329	328	329	305	294	293	299	319	319	320	314	311
04	298	301	286	284	242	214	228	232	233	225	216	204	206	202	188	177	181	166	134	101	99	53	221	176
05	163	160	163	179	198	221	229	228	226	228	229	224	225	230	230	235	236	238	242	236	240	243	239	227
06	239	236	236	233	236	242	235	231	232	230	234	243	246	246	243	246	231	223	212	219	214	199	192	206
07	261	325	281	215	214	232	256	248	257	257	273	289	275	274	272	268	275	273	256	239	241	236	240	245
08	249	239	249	250	240	238	248	248	239	250	241	235	252	261	244	236	218	258	300	288	171	167	163	141
09	158	99	353	349	354	348	348	332	304	328	331	338	324	285	258	225	250	266	270	261	266	281	258	246
10	246	244	243	243	249	249	252	256	258	244	258	259	250	241	238	249	247	262	286	299	298	298	311	319
11	256	259	315	308	294	264	267	281	319	357	20	19	29	53	53	65	58	27	16	3	354	354	357	2
12	8	11	2	1	7	2	358	347	58	94	90	87	78	72	57	49	39	39	37	34	359	355	354	344
13	351	355	353	354	6	5	31	98	95	94	93	91	80	72	66	65	71	73	78	89	94	1	358	358
14	354	353	339	311	268	243	276	264	254	258	331	187	180	181	180	171	180	183	212	298	337	339	311	305
15	305	303	294	305	314	307	313	343	355	359	360	14	35	26	33	33	22	26	29	27	13	19	24	30
16	27	30	47	47	23	23	22	11	5	2	358	358	348	303	265	284	296	298	302	306	303	287	273	266
17	243	246	224	239	241	246	251	248	237	246	233	231	237	222	220	213	213	209	213	238	241	233	248	324
18	341	353	1	7	354	66	83	84	88	97	86	89	72	72	60	62	70	79	83	82	77	85	81	71
19	83	73	61	18	2	358	1	359	357	357	309	251	243	259	282	268	253	265	252	236	239	243	261	254
20	250	255	254	244	247	237	235	240	254	264	257	258	252	249	250	253	256	250	246	245	256	252	252	251
21	248	242	239	234	236	228	217	207	201	204	207	220	218	209	209	215	187	170	140	118	132	141	79	79
22	159	157	168	196	181	176	179	186	193	203	211	213	231	240	240	243	246	246	245	236	235	236	232	226
23	226	231	232	227	213	211	209	211	216	232	243	266	275	275	266	261	262	251	226	210	213	212	215	223
24	229	227	211	206	197	183	182	179	182	178	186	195	211	229	237	238	238	255	279	286	302	314	321	325
25	306	268	249	299	310	299	293	298	309	294	274	257	248	250	268	254	267	244	235	208	207	210	226	226
26	247	264	266	265	227	231	242	212	192	181	178	190	185	177	153	116	137	106	55	76	71	103	126	7
27	18	122	169	173	169	177	187	220	207	224	242	245	259	263	250	240	235	225	191	191	206	206	209	199
28	187	186	163	125	38	27	31	33	28	78	27	19	40	13	23	7	21	333	344	184	185	186	191	208

Total Hours	**672**
Number of Valid Hours	**672**
Percent Valid Data	**100.0 %**

Station : STN29147
Parameter : ATEM, °C
Month, Year : February, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	-3.8	-4.5	-4.9	-5.4	-5.7	-5.7	-5.7	-6.1	-5.8	-5.7	-7.7	-7.0	-6.4	-6.3	-6.1	-5.2	-4.4	-4.0	-5.3	-5.3	-5.2	-5.4	-5.1	-5.4	-5.5	-7.7	-3.8
02	-5.9	-6.5	-7.3	-8.0	-7.9	-7.5	-7.8	-7.8	-6.9	-5.8	-5.0	-4.3	-2.7	-1.0	-0.5	-0.2	0.2	1.2	0.0	-1.1	-1.1	-1.0	-1.2	-2.0	-3.8	-8.0	1.2
03	-2.5	-3.5	-5.3	-5.6	-5.5	-6.0	-6.5	-6.3	-6.0	-4.6	-1.9	-0.1	1.5	1.9	2.1	2.0	0.5	-1.3	-2.3	-2.7	-3.1	-3.4	-3.8	-3.9	-2.8	-6.5	2.1
04	-4.1	-3.9	-5.1	-5.5	-6.4	-8.2	-8.1	-7.7	-6.0	-3.9	-2.1	-1.4	-0.4	-0.1	0.2	-0.2	-0.7	-1.8	-2.9	-2.2	-0.7	-1.0	-1.0	-0.2	-3.1	-8.2	0.2
05	0.1	0.2	0.3	0.6	1.6	0.8	-0.7	-1.7	-2.5	-3.3	-3.9	-4.3	-4.7	-5.4	-5.9	-6.6	-7.0	-7.5	-8.0	-8.3	-8.0	-7.8	-7.9	-7.6	-4.1	-8.3	1.6
06	-7.8	-8.6	-9.2	-9.5	-9.7	-9.9	-10.3	-10.2	-9.2	-8.4	-7.8	-7.5	-7.3	-7.1	-6.6	-6.5	-6.9	-7.9	-8.3	-7.9	-7.9	-7.9	-8.1	-7.9	-8.3	-10.3	-6.5
07	-8.0	-8.3	-8.8	-8.8	-8.7	-9.0	-9.0	-9.1	-9.3	-8.7	-7.7	-8.1	-9.0	-9.7	-10.0	-10.5	-11.5	-12.4	-13.0	-13.8	-14.2	-14.5	-14.7	-14.7	-10.5	-14.7	-7.7
08	-14.7	-15.0	-15.1	-14.9	-15.3	-15.0	-14.6	-14.4	-13.5	-12.2	-10.8	-10.0	-9.0	-8.6	-8.3	-7.9	-8.6	-9.2	-9.3	-9.0	-9.3	-10.0	-10.0	-9.9	-11.4	-15.3	-7.9
09	-9.9	-9.7	-9.3	-9.4	-9.6	-9.6	-9.7	-9.6	-8.9	-7.4	-6.0	-5.2	-4.1	-3.4	-3.2	-3.8	-5.0	-6.3	-7.3	-8.3	-9.5	-10.4	-11.0	-11.5	-7.8	-11.5	-3.2
10	-11.5	-11.7	-12.3	-12.7	-12.8	-12.9	-13.5	-13.9	-12.0	-10.6	-9.9	-8.8	-7.8	-7.2	-7.2	-7.4	-7.6	-7.7	-7.9	-7.9	-8.1	-8.2	-8.3	-8.3	-9.8	-13.9	-7.2
11	-8.3	-8.5	-8.6	-9.0	-9.8	-10.6	-11.1	-10.4	-9.1	-8.0	-7.1	-6.2	-5.2	-4.8	-4.6	-4.5	-4.7	-5.4	-6.1	-7.3	-8.6	-9.4	-9.5	-9.4	-7.8	-11.1	-4.5
12	-9.3	-9.4	-9.8	-10.5	-11.3	-12.0	-12.5	-12.4	-10.6	-9.8	-9.4	-8.8	-8.3	-7.9	-7.1	-7.0	-7.7	-7.8	-7.9	-8.0	-9.9	-10.7	-11.3	-11.4	-9.6	-12.5	-7.0
13	-11.8	-11.6	-11.7	-12.1	-11.3	-10.5	-10.1	-9.6	-9.4	-9.2	-9.2	-8.7	-8.3	-7.7	-7.5	-7.5	-7.6	-7.7	-8.0	-8.2	-8.3	-9.8	-10.2	-10.4	-9.4	-12.1	-7.5
14	-10.6	-10.5	-10.7	-11.0	-10.9	-12.1	-13.2	-13.4	-12.0	-10.1	-7.6	-6.4	-6.5	-6.0	-5.2	-5.4	-6.0	-7.1	-7.5	-7.8	-7.6	-7.2	-8.0	-9.1	-8.8	-13.4	-5.2
15	-9.6	-10.2	-9.8	-9.4	-8.9	-8.4	-8.3	-8.1	-7.6	-6.9	-6.2	-4.5	-5.0	-5.0	-5.1	-4.9	-4.8	-5.2	-5.7	-6.7	-7.7	-8.7	-8.6	-7.7	-7.2	-10.2	-4.5
16	-7.6	-7.1	-5.1	-4.7	-6.8	-7.8	-8.3	-9.2	-10.1	-10.4	-10.8	-10.7	-10.0	-8.7	-8.0	-7.4	-7.2	-8.4	-9.8	-10.6	-11.4	-12.0	-13.0	-13.7	-9.1	-13.7	-4.7
17	-13.8	-13.9	-13.0	-11.9	-11.9	-12.2	-12.5	-12.7	-12.1	-9.4	-7.9	-7.1	-6.0	-5.7	-5.6	-6.1	-6.4	-6.5	-7.1	-7.4	-7.7	-8.3	-8.9	-8.6	-9.3	-13.9	-5.6
18	-8.1	-7.8	-7.4	-7.1	-7.0	-6.2	-5.9	-5.7	-5.2	-4.9	-4.3	-3.8	-3.8	-4.2	-3.9	-4.2	-4.2	-4.3	-4.4	-4.9	-5.5	-5.8	-6.1	-6.2	-5.5	-8.1	-3.8
19	-5.8	-5.9	-6.0	-5.9	-5.9	-6.1	-6.2	-6.2	-6.4	-6.0	-4.0	-2.6	-3.0	-3.2	-3.4	-3.6	-3.8	-4.2	-5.0	-5.9	-6.3	-6.5	-6.2	-5.8	-5.2	-6.5	-2.6
20	-5.6	-5.7	-6.2	-7.0	-7.5	-7.9	-7.7	-7.3	-6.6	-6.2	-5.4	-4.5	-4.1	-4.1	-3.7	-3.4	-3.5	-4.2	-5.5	-6.3	-6.6	-7.1	-7.7	-8.1	-5.9	-8.1	-3.4
21	-8.4	-8.9	-9.5	-10.1	-10.5	-10.6	-11.0	-11.3	-11.7	-9.5	-6.9	-5.1	-3.9	-3.5	-3.0	-3.1	-3.9	-5.1	-5.9	-6.2	-6.1	-5.6	-5.4	-5.4	-7.1	-11.7	-3.0
22	-5.5	-4.3	-2.3	-2.1	-0.9	-1.1	-1.3	-0.6	0.5	1.4	1.9	2.2	2.2	2.2	2.1	1.8	1.4	1.1	1.1	0.8	0.0	-0.3	-0.8	-1.1	-0.1	-5.5	2.2
23	-0.8	0.0	0.1	-0.7	-0.7	-0.2	0.1	0.2	0.6	1.2	1.7	2.1	2.6	2.8	3.0	3.4	3.7	3.7	3.1	2.4	2.2	1.8	1.1	0.7	1.4	-0.8	3.7
24	0.5	0.3	-0.4	-0.8	-0.8	-0.8	-0.6	0.6	1.5	3.3	5.2	6.7	7.2	8.2	8.0	7.5	6.4	5.6	4.8	3.1	2.5	1.6	1.0	0.3	3.0	-0.8	8.2
25	-0.4	-1.0	-1.1	-0.8	-2.1	-2.5	-2.6	-2.5	-1.5	-1.1	-0.6	-0.2	0.3	0.3	0.7	0.5	0.0	-0.6	-1.1	-1.3	-2.0	-2.3	-2.2	-2.0	-1.1	-2.6	0.7
26	-2.3	-3.0	-3.6	-4.1	-5.4	-5.5	-5.0	-4.8	-4.0	-2.1	-0.1	1.0	1.2	1.2	1.7	1.6	1.7	1.2	-0.6	-0.8	-0.9	-1.1	-2.7	-2.3	-1.6	-5.5	1.7
27	-1.7	-2.7	-2.2	0.5	2.3	2.5	2.3	2.5	3.0	3.4	3.8	3.9	4.0	3.8	4.4	4.5	4.3	3.7	2.3	0.9	0.7	0.8	0.4	0.0	2.0	-2.7	4.5
28	-1.3	-1.9	-2.1	-2.1	-1.3	-0.8	-0.9	-1.0	0.0	0.8	1.2	1.3	1.6	2.0	3.1	3.2	2.9	2.9	2.6	3.0	4.4	4.8	5.1	5.7	1.4	-2.1	5.7

Total Hours	**672**
Number of Valid Hours	**672**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	-5.2	**-15.3**	**8.2**

Station : STN29147
Parameter : RH, %
Month, Year : February, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	92	94	96	95	95	95	94	94	94	93	91	92	93	92	89	80	73	68	60	56	55	58	60	61	82	55	96
02	60	59	59	61	63	64	61	63	64	65	62	55	47	48	55	58	60	51	57	60	60	58	57	57	59	47	65
03	57	60	67	70	68	68	70	68	67	64	57	50	41	38	37	41	52	58	60	60	59	60	62	62	58	37	70
04	62	62	68	71	74	81	86	88	85	78	73	71	68	72	70	70	68	72	75	72	62	65	68	89	73	62	89
05	96	97	97	97	94	86	81	78	80	80	78	78	71	69	73	79	83	85	84	77	66	64	65	67	80	64	97
06	64	63	64	65	67	69	70	69	64	61	58	57	58	60	59	60	63	68	72	75	76	78	80	79	67	57	80
07	80	82	82	81	82	86	87	86	83	78	72	64	59	57	57	56	61	63	64	66	67	65	64	64	71	56	87
08	65	65	67	69	72	73	74	74	73	69	64	56	53	52	54	54	59	64	64	64	71	84	88	89	67	52	89
09	89	90	91	92	92	92	92	92	92	85	72	64	55	50	49	52	58	64	68	70	72	76	78	80	76	49	92
10	83	83	85	85	83	81	82	82	75	70	69	65	60	55	57	58	59	60	61	63	65	65	66	67	70	55	85
11	68	71	72	71	74	76	77	77	74	70	71	68	58	53	48	49	52	53	58	61	65	68	70	69	66	48	77
12	67	70	71	71	82	88	90	90	91	88	85	83	80	76	75	80	91	89	89	88	82	79	77	81	82	67	91
13	85	85	81	80	82	87	84	74	74	79	85	86	83	83	86	86	76	77	85	87	89	90	92	91	84	74	92
14	90	90	89	87	85	86	88	88	83	74	64	61	63	61	58	57	59	63	65	68	72	72	72	75	74	57	90
15	78	81	84	84	84	82	82	81	81	86	84	75	74	73	76	73	67	69	75	85	91	93	93	94	81	67	94
16	94	94	96	96	95	94	94	91	89	85	83	81	81	77	74	70	68	68	65	60	62	67	72	78	81	60	96
17	81	85	85	87	84	81	78	77	75	64	59	56	50	48	48	49	51	54	58	58	60	62	65	69	66	48	87
18	72	74	76	77	78	71	62	61	60	54	52	53	58	74	75	81	81	82	83	86	90	89	91	91	74	52	91
19	92	92	91	91	93	94	95	95	94	93	90	80	76	73	71	70	70	73	74	76	77	78	82	87	84	70	95
20	86	87	87	87	89	91	91	90	87	85	80	76	75	75	73	70	68	70	75	78	81	85	88	90	82	68	91
21	89	86	86	86	87	84	86	86	90	92	90	80	72	66	62	64	65	68	72	74	72	68	66	66	77	62	92
22	68	70	67	69	85	96	97	97	97	97	95	88	85	82	82	82	84	85	82	81	83	82	81	81	84	67	97
23	84	83	82	84	84	87	94	95	94	91	88	83	80	81	81	79	76	75	78	81	82	82	84	84	84	75	95
24	83	84	86	88	90	91	92	85	80	70	61	57	57	56	58	61	65	70	75	78	73	71	71	71	74	56	92
25	71	75	76	71	70	69	68	68	61	59	56	53	55	53	51	53	59	61	61	64	74	79	80	78	65	51	80
26	80	83	85	84	88	89	87	85	83	75	63	58	58	55	52	52	53	54	71	73	65	58	65	63	70	52	89
27	63	66	65	70	76	83	92	95	94	93	88	81	78	77	74	73	72	75	80	87	91	91	92	93	81	63	95
28	95	97	97	97	97	97	98	98	98	98	98	94	95	96	95	92	93	93	94	95	92	90	95	97	95	90	98

Total Hours	**672**
Number of Valid Hours	**672**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	75	**37**	**98**

Station : STN29147
Parameter : Precipitation, mm
Month, Year : February, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																								
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Total**	**Max**
01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	0.1	0.1
02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	0.6	0.6
05	1.3	1.0	0.2	0.7	0.2	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.7	1.3
06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	0.1	0.1
09	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	0.1
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
12	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	0.1
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
14	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	0.1	0.1
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
16	-	0.1	-	0.6	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	0.9	0.6
17	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	0.1	0.1
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
19	-	-	-	0.1	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	0.1
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
22	-	-	-	-	-	0.2	0.1	-	0.1	0.1	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	0.7	0.2
23	-	-	-	-	-	-	-	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	0.2
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
27	-	-	-	-	0.1	-	2.9	2.3	0.9	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.3	2.9
28	-	-	-	-	-	-	-	-	-	-	-	0.2	1.6	-	-	-	-	-	-	-	-	-	-	-	1.8	1.6

Total Hours	**672**
Number of Valid Hours	**672**
Percent Valid Data	**100.0 %**

Monthly :	**Total**	**Max**
	15.2	**2.9**

Station : STN29147

Parameter : PM10, µg/m^3

Month, Year : March, 2021

terrapure

Monthly Data Matrix

1 Hr MECP Reportable Threshold - 100 µg/m^3

24 Hr MECP Reportable Threshold - 50 µg/m^3

	Hour (Eastern Standard Time)																										
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	4	8	7	9	10	5	0	1	7	9	8	10	9	5	1	7	9	5	18	4	6	8	7	3	7	0	18
02	3	1	1	1	2	2	0	6	3	5	7	5	5	9	7	4	7	5	3	7	10	9	7	5	5	0	10
03	6	9	10	9	8	9	11	12	21	19	18	---	31	23	17	17	18	19	16	18	20	15	14	11	15	6	31
04	16	12	8	6	3	1	1	1	4	18	19	8	8	37	34	25	8	7	7	15	2	0	2	3	10	0	37
05	1	0	1	0	4	6	3	1	52	46	69	60	52	56	77	77	23	13	10	3	1	1	3	7	24	0	77
06	0	1	5	6	1	1	2	4	4	1	1	1	0	3	1	1	0	0	1	4	5	4	5	5	2	0	6
07	2	2	2	1	1	1	1	4	9	9	6	3	0	1	2	4	2	1	1	0	2	2	5	8	3	0	9
08	5	5	6	4	7	8	4	6	8	8	6	8	11	20	17	14	18	15	21	20	15	20	14	14	11	4	21
09	15	18	16	16	13	11	12	12	12	14	22	23	28	28	29	25	18	24	24	21	20	15	19	17	19	11	29
10	21	19	7	9	12	14	23	18	30	62	18	27	28	22	24	23	26	33	38	25	40	33	14	38	25	7	62
11	13	32	25	9	34	15	10	38	4	31	25	30	16	42	22	28	61	22	16	18	12	13	7	1	22	1	61
12	1	1	1	1	0	5	7	6	7	15	11	11	56	999	999	52	10	8	5	3	2	0	1	6	92	0	999
13	5	4	6	4	2	2	3	0	1	0	1	1	1	1	5	9	10	6	1	1	6	5	3	4	3	0	10
14	6	7	5	4	3	4	6	7	1	3	9	6	5	8	8	3	3	6	7	8	5	2	5	4	5	1	9
15	2	4	2	1	0	6	10	7	10	12	9	16	17	7	10	13	10	6	31	4	4	4	3	4	8	0	31
16	6	6	4	3	6	7	9	11	12	15	13	11	10	9	8	10	15	18	12	12	11	6	6	9	10	3	18
17	11	11	9	7	8	16	25	23	26	23	25	25	23	29	43	10	28	35	23	34	9	17	14	26	21	7	43
18	21	15	18	24	13	10	10	9	14	6	3	5	8	14	12	15	11	7	2	2	4	5	8	7	10	2	24
19	2	1	1	4	8	2	3	18	18	7	8	7	5	6	9	23	18	18	17	24	8	10	10	7	10	1	24
20	8	9	8	9	8	6	25	22	11	8	3	3	4	5	9	7	6	8	8	16	12	11	10	13	10	3	25
21	14	12	10	9	9	7	5	7	8	7	7	6	6	6	9	11	18	20	15	16	21	12	11	8	11	5	21
22	7	4	5	11	12	28	42	---	---	---	32	33	27	27	41	18	24	11	10	32	16	34	23	15	22	4	42
23	22	23	18	10	19	24	19	83	21	7	16	34	47	26	33	33	28	27	20	20	15	19	24	21	25	7	83
24	8	15	10	11	20	17	6	7	19	14	18	17	18	12	19	17	10	9	23	36	46	33	16	8	17	6	46
25	8	10	11	9	7	6	15	20	7	2	2	9	18	17	17	19	16	3	5	10	6	26	12	8	11	2	26
26	1	1	5	3	1	2	2	1	1	1	2	0	1	0	1	2	1	1	0	1	1	1	1	1	1	0	5
27	0	1	0	1	3	1	1	5	12	8	16	18	20	16	17	8	5	4	8	5	6	5	3	2	7	0	20
28	1	4	6	3	1	1	2	2	3	6	9	7	4	4	6	6	1	0	0	1	1	1	1	1	3	0	9
29	1	2	1	1	1	4	3	1	3	2	3	4	0	1	2	0	1	12	15	12	10	6	5	7	4	0	15
30	2	2	6	7	8	11	13	24	17	12	19	7	21	14	19	26	8	20	12	5	26	1	17	8	13	1	26
31	16	11	11	8	7	8	8	10	11	8	4	8	16	17	14	17	10	10	26	18	21	25	14	11	13	4	26

Maximum 1 Hr Average	**999**
Maximum 24 Hr Average	**92**
Number of Days > 50 µg/m^3	**1**
Number of Hours > 100 µg/m^3	**2**

Total Hours	**744**
Number of Valid Hours	**740**
Percent Valid Data	**99.5 %**

Monthly :	**Ave**	**Min**	**Max**
	14	**0**	**999**

Station : STN29147
Parameter : WS, m/s
Month, Year : March, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	5.0	4.5	4.3	3.8	3.8	3.5	4.3	3.7	4.1	3.1	3.6	3.5	3.4	4.1	5.1	5.4	4.7	5.1	5.4	4.4	4.0	3.6	2.6	2.8	1.3	2.6	5.4
02	2.6	2.0	1.8	1.7	1.9	1.4	1.3	1.1	1.5	1.9	2.8	3.6	4.8	5.1	5.2	6.1	5.9	5.9	6.3	6.1	6.7	6.0	5.3	6.6	6.0	1.1	6.7
03	7.2	6.5	6.4	5.8	5.0	5.0	4.4	4.2	4.4	5.0	4.5	4.3	4.2	3.9	5.1	5.0	5.1	3.5	1.8	1.9	1.2	1.6	0.9	0.3	3.1	0.3	7.2
04	0.8	1.1	1.5	2.5	2.6	2.3	4.2	5.4	6.1	5.5	5.9	5.5	4.8	3.0	3.0	3.1	3.0	2.7	2.6	2.2	2.5	2.5	2.3	2.3	2.0	0.8	6.1
05	2.8	2.7	2.2	1.7	1.6	2.2	2.4	2.1	2.7	3.4	4.0	3.9	4.2	4.3	5.1	4.9	5.2	4.4	3.7	3.2	3.7	3.5	3.2	4.2	2.0	1.6	5.2
06	4.4	4.3	4.4	3.3	4.1	2.1	1.0	1.3	1.8	1.9	2.7	3.3	2.9	3.4	3.4	3.5	2.8	3.2	2.9	2.1	1.7	1.5	2.1	1.5	1.4	1.0	4.4
07	1.0	1.0	0.9	1.0	0.6	1.0	0.9	0.9	0.9	0.5	1.8	2.0	1.8	2.1	1.8	1.9	3.1	2.3	1.7	1.3	0.6	1.5	1.4	1.2	2.5	0.5	3.1
08	1.3	1.6	2.0	2.1	1.9	2.8	3.6	4.6	5.2	6.0	7.3	8.7	8.1	7.7	7.5	7.2	7.0	6.6	5.6	5.3	4.6	3.7	3.6	3.0	4.3	1.3	8.7
09	2.6	1.4	2.2	1.5	2.6	3.1	2.2	1.6	1.1	1.0	1.3	1.6	1.8	1.8	2.5	2.6	2.8	2.6	2.4	2.5	1.9	1.8	1.7	1.3	0.7	1.0	3.1
10	2.1	2.2	1.9	1.6	1.7	1.5	0.7	0.4	2.1	4.2	5.9	6.4	7.1	6.6	6.3	5.3	5.5	5.1	5.9	5.4	4.7	6.8	6.3	6.9	0.4	0.4	7.1
11	6.6	6.2	7.1	6.7	6.2	6.8	7.0	6.2	5.7	7.2	7.8	8.3	9.6	8.1	8.6	9.5	10.1	8.5	7.8	5.7	5.5	4.4	4.5	4.7	5.1	4.4	10.1
12	5.2	4.4	3.8	4.7	3.6	1.7	2.0	2.8	4.4	5.7	6.8	8.1	8.4	8.5	6.1	4.5	3.9	3.7	4.0	3.1	3.0	2.6	3.3	3.6	2.2	1.7	8.5
13	3.5	2.7	3.2	2.2	1.1	1.6	1.9	2.2	2.8	3.5	4.4	5.3	5.4	5.8	6.2	6.4	5.8	6.3	6.4	7.6	6.4	5.6	5.7	4.5	0.7	1.1	7.6
14	5.1	3.1	2.6	3.2	2.9	3.1	3.6	2.5	3.0	4.2	4.3	4.7	5.0	5.2	5.9	6.4	5.1	5.0	6.1	5.1	5.1	3.8	2.3	2.5	1.9	2.3	6.4
15	5.0	6.4	6.1	4.5	3.3	3.5	3.6	3.7	4.2	4.2	4.2	4.5	4.1	3.3	3.3	3.9	4.1	2.8	2.4	2.9	3.6	3.7	3.5	3.0	0.2	2.4	6.4
16	2.3	2.6	4.0	4.2	4.1	4.5	3.1	2.3	1.6	2.4	1.0	2.1	2.9	3.6	3.4	3.9	3.9	3.5	3.1	3.3	2.8	2.1	2.5	2.3	0.5	1.0	4.5
17	1.8	1.5	1.4	1.8	1.3	1.1	1.2	0.9	0.5	0.7	0.8	1.9	3.2	3.0	2.2	2.2	2.5	1.7	2.1	1.8	2.4	2.4	2.9	1.5	3.1	0.5	3.2
18	2.2	3.0	4.8	5.5	4.1	4.8	6.8	5.8	5.7	6.0	6.2	7.0	6.4	7.0	7.1	5.1	5.5	6.0	5.3	6.5	6.6	7.5	7.4	7.3	4.6	2.2	7.5
19	7.2	6.9	6.3	6.4	6.1	6.4	6.2	6.3	6.6	6.3	6.0	4.8	4.0	2.6	1.3	1.0	0.7	2.0	2.3	2.6	3.4	3.3	3.3	2.9	4.3	0.7	7.2
20	2.6	2.6	2.6	3.0	2.4	2.8	2.6	2.1	2.8	3.4	4.3	4.1	3.2	3.0	2.9	2.4	2.6	3.7	3.2	2.9	2.8	2.9	2.6	3.1	2.4	2.1	4.3
21	3.3	3.6	3.1	2.0	2.2	2.8	3.0	2.5	2.2	1.9	3.2	4.4	3.1	1.6	2.3	2.6	2.2	2.0	1.5	1.4	1.6	1.6	1.7	1.6	0.6	1.4	4.4
22	1.5	0.7	1.5	2.3	2.3	1.2	1.0	---	3.5	5.7	6.3	5.2	4.5	5.0	5.2	5.5	4.4	2.8	1.0	0.6	1.6	2.0	1.1	0.8	0.9	0.6	6.3
23	0.4	1.1	2.9	2.9	1.3	0.5	0.8	0.9	2.0	2.4	1.7	1.6	2.7	3.0	2.9	2.9	2.9	2.2	3.2	2.5	2.1	2.1	1.6	1.9	1.8	0.4	3.2
24	1.7	1.9	2.2	0.8	1.0	1.3	3.5	3.9	5.6	6.3	6.4	5.6	6.0	5.8	3.1	2.4	1.9	1.8	1.2	0.8	1.3	2.7	4.1	4.2	1.0	0.8	6.4
25	4.5	4.7	3.5	3.9	3.9	3.1	3.1	3.8	4.9	5.7	5.3	6.2	5.3	4.8	4.9	4.2	4.4	1.4	0.9	1.7	3.0	3.5	2.7	3.1	0.4	0.9	6.2
26	3.7	4.1	4.9	5.5	5.6	4.9	2.6	2.1	7.2	8.5	4.5	4.1	4.1	3.7	3.8	6.9	6.4	4.5	4.8	4.9	2.9	1.5	0.8	0.7	2.0	0.7	8.5
27	0.7	0.7	1.1	1.1	1.0	1.0	1.3	1.3	1.0	1.9	2.4	2.2	2.2	2.6	2.6	3.5	4.1	3.7	2.6	2.9	2.7	2.8	3.0	3.7	3.9	0.7	4.1
28	3.8	3.5	4.0	3.7	3.7	3.7	2.6	3.0	2.8	1.1	1.3	4.3	4.3	5.7	6.9	5.9	7.5	6.7	6.0	5.5	5.3	4.8	4.8	4.4	1.3	1.1	7.5
29	4.5	4.3	3.9	3.5	3.2	2.5	2.2	3.0	4.4	4.1	3.4	4.1	4.5	3.6	3.6	4.7	5.2	5.1	3.7	3.8	3.7	4.0	3.7	2.9	1.6	2.2	5.2
30	3.3	3.7	3.4	4.0	5.4	5.1	5.8	7.0	7.6	8.4	8.9	9.3	9.4	8.7	8.1	8.3	6.8	7.6	7.0	5.5	6.0	5.6	5.7	5.6	0.9	3.3	9.4
31	5.7	4.9	4.4	3.4	4.3	6.0	4.5	3.0	1.8	2.2	3.1	3.1	3.5	4.5	4.4	3.2	3.2	2.9	2.7	2.6	2.2	4.3	4.8	4.3	2.3	1.8	6.0

Total Hours	**744**
Number of Valid Hours	**743**
Percent Valid Data	**99.9 %**

Monthly :	**Ave**	**Min**	**Max**
	3.7	**0.3**	**10.1**

Station : STN29147
Parameter : WGust, m/s
Month, Year : March, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	11.5	11.4	9.8	9.6	12.8	12.1	11.2	12.9	12.5	9.1	9.7	10.7	11.8	12.0	14.4	16.9	14.1	14.8	16.2	12.9	13.7	10.6	10.0	8.7	12.1	8.7	16.9
02	8.3	7.2	6.5	7.2	5.7	6.1	3.7	4.2	3.2	3.8	5.7	8.1	9.8	9.8	9.1	10.6	11.3	11.7	12.6	11.4	11.7	10.4	10.0	12.8	8.4	3.2	12.8
03	13.2	11.7	11.9	12.0	9.7	9.0	8.4	7.6	9.1	8.5	7.5	7.1	7.8	7.6	8.4	8.2	8.5	7.4	4.4	6.4	3.9	4.7	2.5	1.3	7.8	1.3	13.2
04	3.5	3.8	4.8	5.9	6.4	4.9	8.4	11.2	11.5	13.2	10.2	10.6	10.2	9.4	8.7	10.0	9.6	8.5	8.7	6.8	8.2	8.4	7.0	6.8	8.2	3.5	13.2
05	8.0	7.6	7.4	5.0	4.3	5.7	7.7	6.3	9.0	11.7	12.6	11.3	11.5	14.4	13.3	15.7	14.5	13.8	10.9	8.9	9.8	8.8	9.5	12.1	10.0	4.3	15.7
06	8.3	8.2	8.9	6.8	7.1	4.3	2.7	4.5	5.3	6.6	8.7	10.3	9.5	11.0	10.6	9.1	8.2	9.3	8.3	6.5	4.8	4.3	5.4	5.2	7.2	2.7	11.0
07	4.1	3.1	2.7	2.8	1.9	2.6	2.9	2.8	2.4	2.1	6.0	6.0	6.9	9.1	6.6	5.3	6.0	5.8	5.2	4.0	3.1	2.2	2.2	1.9	4.1	1.9	9.1
08	2.1	2.6	3.0	3.8	3.0	4.7	6.1	8.2	9.0	9.6	12.9	14.4	14.0	13.0	13.6	11.5	12.9	11.5	11.0	9.1	8.1	7.4	6.6	5.1	8.5	2.1	14.4
09	4.8	2.8	3.3	3.1	4.1	4.5	6.7	4.9	4.9	3.3	4.0	4.5	4.1	5.5	4.7	4.9	4.8	5.0	3.3	4.3	2.6	2.6	2.9	2.3	4.1	2.3	6.7
10	3.0	3.0	2.5	2.4	2.5	2.3	1.8	1.5	5.6	7.8	11.9	11.0	12.7	11.3	12.4	10.4	10.4	9.5	10.6	10.0	8.6	10.5	10.6	11.6	7.7	1.5	12.7
11	11.3	11.5	11.7	12.6	10.9	11.8	12.7	11.0	10.7	13.2	14.8	16.7	18.0	16.1	16.2	19.8	20.4	17.9	21.4	12.9	11.5	12.5	10.5	11.0	14.0	10.5	21.4
12	9.0	7.9	7.3	8.6	8.3	3.1	3.6	5.5	7.5	9.8	11.9	14.3	16.6	20.9	17.4	15.1	12.7	12.5	12.0	13.4	10.6	9.8	8.3	9.5	10.7	3.1	20.9
13	8.5	8.7	7.8	5.5	4.0	3.1	3.6	4.1	7.6	6.8	9.5	10.0	10.6	10.7	11.5	11.2	11.4	11.2	14.5	13.5	12.8	11.1	10.2	8.6	9.0	3.1	14.5
14	10.2	7.3	4.2	4.4	4.8	5.6	6.0	9.1	8.2	10.3	12.0	11.3	12.8	12.2	14.0	12.9	11.7	12.2	13.6	11.8	12.4	9.6	7.0	7.2	9.6	4.2	14.0
15	9.9	11.2	11.9	8.8	6.1	6.1	6.6	6.6	7.7	7.7	7.6	8.1	7.8	6.7	6.1	7.5	7.2	5.1	4.6	5.7	7.0	7.6	6.3	6.3	7.3	4.6	11.9
16	4.8	5.0	7.9	7.4	8.3	8.0	6.2	4.3	3.5	3.8	3.8	4.1	5.3	5.4	5.3	6.9	6.7	6.1	5.2	5.7	4.6	3.8	3.8	4.1	5.4	3.5	8.3
17	3.2	3.0	2.4	2.7	2.6	2.2	2.2	2.3	1.4	2.7	2.2	5.1	5.6	5.5	3.8	4.5	4.8	3.4	3.4	4.0	4.7	4.9	5.7	3.3	3.6	1.4	5.7
18	5.1	5.6	9.3	9.0	8.0	9.3	11.6	10.4	9.8	10.9	11.5	12.2	10.3	12.2	11.9	9.6	9.8	10.6	10.2	11.9	13.0	14.4	14.2	14.4	10.6	5.1	14.4
19	14.2	12.5	11.7	11.6	10.6	13.1	11.0	11.7	11.4	10.4	10.0	8.9	6.8	6.0	3.9	2.9	2.8	3.9	4.0	4.8	5.7	5.5	5.4	4.8	8.1	2.8	14.2
20	4.1	4.3	4.2	5.8	4.4	4.5	4.2	4.6	5.0	6.9	7.3	7.7	7.4	7.3	6.7	6.7	5.8	6.4	5.4	4.2	4.4	4.0	3.8	4.3	5.4	3.8	7.7
21	4.5	4.4	4.3	3.1	3.0	3.6	4.0	4.1	3.9	4.7	6.7	8.6	6.2	5.4	4.3	4.3	3.4	3.2	2.6	2.7	2.9	3.5	2.5	2.5	4.1	2.5	8.6
22	3.0	1.8	3.2	3.4	3.6	2.5	2.4	---	5.2	10.2	9.8	9.0	9.3	9.8	9.7	9.3	8.8	5.9	2.8	1.3	2.2	3.4	1.9	1.9	5.2	1.3	10.2
23	1.8	3.5	4.2	4.2	3.8	1.3	2.0	2.4	3.5	4.6	4.5	3.8	4.3	4.8	4.8	5.3	5.2	4.7	6.8	4.9	4.0	3.8	3.1	3.4	3.9	1.3	6.8
24	3.1	2.9	3.9	2.9	2.8	4.9	5.9	7.1	10.0	10.7	9.9	10.1	12.5	10.8	8.0	3.8	3.9	3.6	3.0	2.5	2.5	6.1	7.9	7.0	6.1	2.5	12.5
25	8.0	8.1	6.6	7.1	7.5	5.6	5.3	6.7	9.1	10.8	10.4	11.6	11.0	9.3	11.0	9.2	9.1	5.6	2.7	2.9	5.2	6.7	5.8	4.9	7.5	2.7	11.6
26	5.8	7.1	8.9	14.1	11.7	10.6	6.1	4.3	16.2	18.3	12.3	12.9	12.8	10.0	10.3	12.5	13.5	10.8	10.3	11.9	9.2	5.5	2.7	2.2	10.0	2.2	18.3
27	1.7	1.5	2.2	2.2	2.0	1.7	2.1	2.0	2.4	3.2	4.1	4.9	4.0	3.9	4.1	6.1	6.7	6.3	5.6	4.5	4.6	4.8	4.6	6.1	3.8	1.5	6.7
28	5.8	5.6	6.2	6.1	6.7	6.0	4.4	5.2	4.9	2.6	3.7	10.7	8.9	12.5	16.6	15.0	18.2	15.8	17.9	13.8	13.3	14.1	16.0	13.9	10.2	2.6	18.2
29	13.3	14.1	9.9	10.5	12.0	11.6	6.9	7.0	9.2	9.1	8.7	8.6	10.4	7.4	7.5	9.6	10.0	8.2	6.1	6.8	5.8	6.2	5.8	5.0	8.7	5.0	14.1
30	4.8	5.8	5.6	6.9	8.4	8.3	9.1	11.9	12.1	14.9	15.2	16.3	15.9	17.2	15.0	16.1	13.4	14.7	11.7	9.9	10.4	9.2	10.4	9.5	11.4	4.8	17.2
31	9.4	8.1	7.9	6.3	8.9	12.3	11.9	8.0	5.9	8.6	8.2	8.1	9.3	11.1	10.0	9.6	9.7	8.6	8.7	7.7	5.2	9.5	8.0	8.4	8.7	5.2	12.3

Total Hours	**744**
Number of Valid Hours	**743**
Percent Valid Data	**99.9 %**

Monthly :	**Ave**	**Min**	**Max**
	7.8	**1.3**	**21.4**

Station : STN29147

Parameter : WD, degrees

Month, Year : March, 2021

terrapure

Monthly Data Matrix

	Hour (Eastern Standard Time)																							
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**
01	255	287	283	279	301	305	312	317	308	291	289	312	309	318	314	306	317	319	309	310	327	321	324	317
02	321	336	350	326	315	330	295	272	250	211	217	214	210	203	211	207	210	225	225	218	215	217	224	224
03	225	230	231	230	230	233	234	234	242	249	258	250	260	265	255	254	253	276	287	301	305	351	23	352
04	358	334	318	356	1	359	7	2	2	359	3	4	4	341	329	340	334	329	332	323	320	317	319	324
05	323	320	320	317	300	310	299	305	323	327	313	314	310	297	290	291	306	308	308	315	316	312	320	354
06	359	4	4	358	5	3	352	299	306	313	317	317	325	311	319	320	320	316	317	300	304	305	314	315
07	321	325	299	300	285	321	333	345	14	22	343	348	327	292	331	290	255	276	308	330	316	264	235	231
08	229	209	203	209	187	191	202	199	191	198	200	202	207	211	209	205	207	206	213	212	216	226	237	246
09	278	285	275	289	272	271	290	317	312	320	0	34	89	180	187	180	186	178	173	175	142	157	115	69
10	345	11	347	343	333	330	332	330	197	188	198	201	203	207	208	204	205	207	200	199	196	202	201	202
11	204	207	205	205	207	205	201	203	206	204	207	209	210	212	217	225	223	221	247	279	277	288	285	280
12	259	237	234	243	245	211	198	206	236	247	245	247	261	281	294	307	318	317	319	312	314	315	334	333
13	346	334	354	343	308	274	263	254	268	229	237	255	249	246	251	259	243	230	222	226	221	219	223	231
14	248	278	261	250	258	264	267	296	329	341	330	337	336	337	351	354	346	345	356	358	359	351	336	352
15	6	15	12	6	4	15	7	4	24	37	47	49	66	78	65	67	60	67	75	64	70	83	75	65
16	59	49	38	42	45	47	49	45	24	38	36	28	24	33	36	41	57	58	50	46	43	21	5	11
17	36	28	35	17	18	25	36	68	136	191	172	87	39	47	61	90	62	22	360	25	20	22	23	17
18	359	11	11	13	24	22	19	23	28	32	37	39	36	41	47	56	52	50	41	29	29	34	33	31
19	22	26	26	24	17	13	12	18	28	38	41	43	63	76	51	204	191	219	199	198	215	222	223	235
20	227	230	219	229	215	209	218	225	243	244	249	253	254	239	226	246	241	201	200	195	199	195	202	191
21	197	193	197	200	194	184	184	183	187	205	203	211	190	121	30	26	21	36	47	36	3	349	11	35
22	61	131	177	189	187	183	203	---	192	194	199	202	210	199	200	200	209	211	180	145	167	347	9	3
23	27	154	189	181	150	26	218	193	167	185	178	22	41	28	44	55	53	32	10	359	356	351	339	338
24	333	334	334	1	6	143	167	173	174	182	186	199	195	198	2	358	354	351	341	286	240	213	193	199
25	215	229	223	213	216	199	193	205	214	223	224	220	222	201	194	203	209	298	1	26	39	28	1	22
26	18	38	35	40	40	21	23	160	217	238	288	301	294	293	289	267	274	277	271	271	282	301	294	255
27	145	120	115	87	109	115	129	134	137	154	180	176	151	16	32	25	34	41	41	18	12	4	1	3
28	13	15	9	9	6	9	12	355	0	21	251	216	230	268	275	280	277	278	283	284	284	289	294	295
29	287	286	283	299	319	314	282	273	274	275	279	264	246	241	247	218	196	197	190	188	184	184	187	182
30	183	189	188	190	189	187	188	191	191	199	200	203	207	211	206	203	202	199	200	198	200	201	203	204
31	199	196	202	215	214	220	253	309	298	299	285	282	265	276	274	293	294	317	337	350	354	1	4	3

Total Hours	**744**
Number of Valid Hours	**743**
Percent Valid Data	**99.9 %**

Station : STN29147
Parameter : ATEM, °C
Month, Year : March, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																										
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	6.2	5.2	4.3	3.8	3.3	2.1	0.8	0.1	-0.2	-0.1	0.4	-0.3	-1.3	-1.6	-2.3	-2.4	-3.6	-5.1	-6.5	-7.0	-8.2	-8.6	-9.0	-9.3	-1.6	-9.3	6.2
02	-9.6	-9.9	-10.0	-10.1	-9.9	-10.3	-10.3	-9.9	-9.3	-8.3	-6.9	-5.6	-4.3	-3.7	-3.2	-3.0	-3.1	-3.2	-3.0	-2.7	-2.6	-2.2	-1.3	-0.4	-6.0	-10.3	-0.4
03	0.0	0.1	0.0	-0.1	-0.4	-0.6	-0.9	-0.6	1.0	2.3	3.6	4.5	5.2	5.9	6.1	6.1	5.7	4.9	3.7	3.5	2.6	2.2	1.3	1.3	2.4	-0.9	6.1
04	1.2	1.3	1.2	0.8	0.0	-0.3	-1.0	-1.9	-3.2	-2.9	-3.3	-2.9	-2.5	-1.8	-2.0	-2.9	-3.6	-4.6	-5.8	-6.7	-7.5	-8.2	-8.3	-7.8	-3.0	-8.3	1.3
05	-7.4	-7.6	-7.9	-8.5	-8.7	-8.8	-9.0	-7.8	-6.0	-4.5	-3.1	-2.2	-1.3	0.2	0.8	0.7	-0.3	-0.7	-0.9	-1.1	-1.2	-1.6	-1.8	-2.8	-3.8	-9.0	0.8
06	-3.8	-4.4	-5.2	-5.6	-6.1	-6.5	-6.5	-6.2	-5.5	-4.8	-4.1	-2.8	-2.1	-1.3	-1.3	-0.8	-1.0	-2.4	-3.6	-4.3	-4.7	-5.2	-5.4	-6.1	-4.2	-6.5	-0.8
07	-6.8	-7.2	-7.9	-8.2	-8.7	-8.8	-8.5	-7.5	-6.0	-3.8	-2.5	-2.2	-0.8	-0.4	-0.1	0.1	-0.7	-1.7	-3.2	-4.3	-5.2	-5.6	-6.0	-6.5	-4.7	-8.8	0.1
08	-7.0	-7.6	-7.9	-7.2	-7.7	-7.4	-4.5	-3.2	-2.3	-1.2	1.0	3.3	4.7	6.0	7.2	7.4	8.1	7.5	7.8	7.4	7.2	7.2	6.7	5.7	1.3	-7.9	8.1
09	4.6	3.6	3.0	2.2	1.6	1.5	1.2	2.5	4.5	5.8	6.8	7.7	8.3	9.2	9.8	10.2	10.0	8.2	5.9	4.0	2.7	2.3	2.1	2.8	5.0	1.2	10.2
10	1.9	1.6	1.1	0.9	0.7	0.5	0.3	1.5	4.3	8.5	13.1	15.2	16.7	17.3	17.6	17.3	16.4	15.2	14.2	14.2	13.2	13.6	13.5	13.7	9.7	0.3	17.6
11	14.0	14.0	13.6	12.9	13.1	12.8	12.9	13.2	14.7	15.8	15.7	16.9	15.8	17.3	18.1	17.9	17.8	16.2	15.3	12.8	11.0	9.5	7.9	6.8	14.0	6.8	18.1
12	5.7	5.1	4.3	4.0	3.4	2.4	1.7	3.0	4.9	6.5	8.2	9.8	11.3	11.0	9.5	8.0	5.4	3.1	1.4	-0.3	-1.5	-2.5	-3.2	-3.5	4.1	-3.5	11.3
13	-3.8	-4.0	-4.4	-4.9	-5.4	-6.2	-6.2	-4.5	-2.9	-2.3	-0.7	1.0	2.2	3.2	4.1	4.9	5.3	4.0	2.0	0.4	0.2	0.5	1.1	1.6	-0.6	-6.2	5.3
14	2.5	1.9	0.9	0.3	0.1	0.0	0.2	1.8	3.0	2.7	3.3	3.0	2.3	2.0	1.4	0.6	-0.1	-1.1	-2.6	-3.2	-3.6	-4.0	-4.2	-4.5	0.1	-4.5	3.3
15	-4.5	-5.4	-6.1	-6.6	-7.2	-7.6	-7.6	-7.3	-6.5	-5.8	-5.0	-4.7	-4.0	-3.5	-2.7	-2.9	-3.0	-3.8	-4.2	-3.9	-3.4	-3.4	-3.7	-3.7	-4.9	-7.6	-2.7
16	-3.5	-3.4	-3.0	-2.6	-2.3	-2.2	-2.3	-1.9	-1.4	-0.7	0.1	0.3	0.4	0.9	1.3	1.5	1.4	1.2	1.2	1.2	1.3	1.3	1.3	1.1	-0.4	-3.5	1.5
17	1.0	0.8	0.6	0.8	1.0	1.2	1.2	1.6	2.4	3.7	6.1	7.4	7.1	7.4	8.8	10.4	10.0	8.3	4.4	3.3	2.7	2.5	2.4	2.4	4.1	0.6	10.4
18	2.6	2.5	3.2	3.0	2.5	2.2	2.0	1.7	2.0	2.5	3.4	4.3	4.4	4.5	4.6	4.3	3.5	3.5	3.4	3.4	2.7	1.9	1.0	-0.1	2.9	-0.1	4.6
19	-1.0	-1.7	-2.3	-2.8	-3.3	-3.9	-4.4	-4.0	-3.2	-2.2	-1.5	-0.7	0.0	1.1	2.5	3.7	4.8	4.4	2.7	1.3	0.1	-0.6	-1.0	-1.3	-0.6	-4.4	4.8
20	-1.8	-1.9	-1.5	-1.3	-2.0	-2.9	-2.4	0.3	4.0	6.9	8.6	10.1	11.9	12.6	13.1	13.4	13.4	11.4	8.8	5.9	5.0	3.7	2.4	0.3	4.9	-2.9	13.4
21	0.5	0.5	1.3	0.1	-0.4	-0.7	-0.5	2.3	6.1	10.3	13.0	14.3	15.0	15.2	13.0	12.0	10.7	8.4	5.8	4.2	3.1	3.0	3.8	3.7	6.0	-0.7	15.2
22	3.2	1.8	0.3	1.6	2.1	1.1	2.0	---	9.6	11.9	14.4	15.9	17.3	18.4	19.1	18.9	18.5	17.8	14.5	10.7	10.1	5.9	5.7	4.9	9.8	0.3	19.1
23	4.9	5.9	6.3	6.4	5.6	5.1	4.7	8.2	10.9	13.2	14.4	15.0	14.0	13.8	12.6	12.7	11.1	8.4	6.3	5.3	5.1	5.3	5.5	5.8	8.6	4.7	15.0
24	5.9	6.1	6.1	6.0	5.5	7.3	10.7	11.1	12.8	14.7	16.1	17.6	18.3	19.1	10.9	8.5	7.9	7.1	6.1	6.6	7.3	9.5	11.8	13.0	10.3	5.5	19.1
25	13.6	13.0	12.0	11.2	10.5	8.8	7.4	9.2	11.7	14.1	15.7	17.3	19.1	20.1	19.8	19.1	18.6	18.1	17.2	16.5	14.6	11.7	9.0	7.8	14.0	7.4	20.1
26	7.9	7.1	6.8	6.9	6.2	5.2	5.1	5.9	10.0	8.3	7.5	7.2	7.8	9.1	9.7	8.2	6.3	5.7	4.8	4.2	4.1	4.3	4.4	4.5	6.6	4.1	10.0
27	4.4	4.4	4.2	4.0	3.8	3.8	3.9	4.3	5.3	5.9	6.7	7.6	8.1	7.2	7.7	7.5	5.7	4.9	3.8	2.9	2.6	2.5	2.5	2.7	4.9	2.5	8.1
28	2.7	2.7	2.6	2.6	2.6	2.6	2.7	2.7	2.9	3.5	4.3	5.4	7.2	8.8	8.4	7.3	5.6	4.6	2.9	2.3	2.3	2.1	2.2	1.9	3.9	1.9	8.8
29	1.5	1.2	1.0	0.9	0.9	0.6	0.5	0.6	1.0	1.6	2.3	3.0	3.7	4.3	5.4	5.3	5.0	4.2	3.4	1.8	0.5	0.0	-0.1	-0.1	2.0	-0.1	5.4
30	0.1	1.1	1.9	2.8	3.7	4.0	4.7	7.3	10.0	12.2	13.9	15.5	16.9	17.7	19.2	19.3	19.1	18.2	16.8	16.1	15.7	14.6	15.0	15.4	11.7	0.1	19.3
31	15.2	13.8	13.5	13.4	13.0	12.2	10.7	7.8	7.1	7.4	7.0	7.0	8.6	10.3	10.5	10.3	9.6	8.1	6.5	5.7	5.2	4.0	2.4	2.0	8.8	2.0	15.2

Total Hours	**744**
Number of Valid Hours	**743**
Percent Valid Data	**99.9 %**

Monthly :	**Ave**	**Min**	**Max**
	3.4	**-10.3**	**20.1**

Station : STN29147
Parameter : RH, %
Month, Year : March, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	96	80	79	80	76	73	71	67	59	62	62	69	75	72	64	51	52	52	55	54	70	63	65	65	67	51	96
02	66	65	65	65	66	66	66	65	63	63	63	62	59	60	61	63	64	51	45	49	59	63	61	62	61	45	66
03	61	62	65	67	70	72	74	74	70	68	66	64	64	62	61	61	62	65	69	69	73	75	77	77	68	61	77
04	79	81	80	78	74	75	75	72	69	51	53	50	46	39	39	39	42	47	52	58	63	68	62	57	60	39	81
05	51	50	52	55	58	58	61	58	49	45	46	46	45	42	41	44	51	54	54	56	54	56	57	67	52	41	67
06	67	67	63	65	63	64	64	64	62	62	60	54	51	48	47	45	45	46	52	58	61	62	65	67	58	45	67
07	70	70	70	70	70	70	69	65	63	56	46	41	37	33	33	35	38	40	45	48	52	57	60	62	54	33	70
08	66	73	74	70	76	79	81	82	82	76	66	52	47	46	45	46	46	51	54	56	57	57	62	66	63	45	82
09	71	74	76	80	83	84	86	81	73	66	61	57	54	53	52	49	53	62	69	74	79	79	82	77	70	49	86
10	86	88	91	93	95	95	94	94	80	59	36	31	28	28	28	30	32	35	36	36	40	37	39	39	56	28	95
11	40	41	42	44	44	45	47	52	54	53	53	54	64	58	53	55	56	65	70	54	46	51	58	61	53	40	70
12	66	69	73	74	76	79	82	78	69	57	44	36	32	34	41	45	53	52	51	55	55	55	59	59	58	32	82
13	60	60	60	62	66	70	71	64	57	55	51	46	42	39	37	37	38	49	58	63	60	57	58	59	55	37	71
14	56	60	66	70	71	73	73	69	65	62	50	47	42	34	29	29	30	33	37	41	42	44	46	47	51	29	73
15	43	36	35	34	36	37	35	35	38	40	38	37	35	33	27	22	21	35	49	53	54	52	46	46	38	21	54
16	45	45	52	59	61	62	58	56	52	50	45	47	50	52	55	62	66	70	75	79	81	83	83	82	61	45	83
17	82	84	83	78	76	77	76	79	76	71	60	58	62	62	58	55	57	63	80	87	91	93	96	96	75	55	96
18	94	93	82	79	84	86	87	90	88	83	78	69	72	72	71	73	80	75	71	49	44	34	32	32	72	32	94
19	34	35	36	38	38	38	45	44	40	39	37	37	33	28	26	26	26	28	36	39	47	51	55	63	38	26	63
20	67	70	67	63	65	70	67	56	46	39	32	27	23	21	20	20	21	28	31	34	34	36	41	55	43	20	70
21	55	53	44	48	50	50	51	52	46	31	25	18	17	22	32	34	37	45	54	63	72	72	62	61	46	17	72
22	65	71	76	64	56	60	58	---	40	32	24	23	21	19	16	15	14	15	21	36	32	68	66	67	42	14	76
23	66	59	47	41	43	51	54	39	34	29	29	33	35	33	32	31	39	50	59	67	65	63	63	64	47	29	67
24	65	66	68	75	82	83	75	76	74	68	64	60	58	56	72	79	81	83	87	89	90	88	85	77	75	56	90
25	69	68	70	72	74	79	84	78	70	61	56	50	44	43	43	43	43	44	47	50	57	72	82	90	62	43	90
26	92	95	97	97	98	98	98	98	93	89	93	84	80	74	73	77	81	81	82	82	83	83	84	84	87	73	98
27	86	87	86	85	86	87	89	89	86	84	83	82	80	82	80	79	83	86	90	94	96	97	97	97	87	79	97
28	96	96	97	97	97	97	97	98	98	98	98	98	96	87	81	81	81	78	80	76	77	78	75	73	89	73	98
29	73	74	76	75	65	63	68	73	66	62	59	56	55	53	51	55	59	61	65	70	80	84	82	79	67	51	84
30	80	78	73	68	62	60	57	50	43	36	33	32	30	28	25	26	28	29	32	34	34	37	35	35	44	25	80
31	35	44	47	54	66	86	90	84	88	84	75	65	57	45	42	39	38	41	46	51	49	55	67	66	59	35	90

Total Hours	**744**
Number of Valid Hours	**743**
Percent Valid Data	**99.9 %**

Monthly :	**Ave**	**Min**	**Max**
	60	**14**	**98**

Station : STN29147
Parameter : Precipitation, mm
Month, Year : March, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																								
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Total**	**Max**
01	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	0.1	0.1
02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
11	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	-	-	-	-	-	-	0.2	0.2
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	0.2	-	-	0.7	0.5
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	0.1	0.7	1.1	0.7
26	0.2	2.3	4.3	8.9	5.9	4.9	3.7	1.0	0.2	0.2	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	31.7	8.9
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
28	-	-	-	-	-	-	-	0.2	1.1	1.7	1.3	2.7	0.9	0.1	-	-	0.1	-	-	-	-	-	-	-	8.2	2.7
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
31	-	-	-	-	-	0.4	-	0.1	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	0.4

Total Hours	**743**
Number of Valid Hours	**744**
Percent Valid Data	**100.0 %**

Monthly :	**Total**	**Max**
	42.7	**8.9**

Station : STN29147

Parameter : PM10, µg/m^3

Month, Year : April, 2021

terrapure

Monthly Data Matrix

1 Hr MECP Reportable Threshold - 100 µg/m^3

24 Hr MECP Reportable Threshold - 50 µg/m^3

	Hour (Eastern Standard Time)																										
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	18	13	11	9	4	1	0	27	28	26	22	16	---	31	10	12	17	10	8	8	8	6	6	6	13	0	31
02	5	8	8	5	1	2	6	9	6	5	4	2	3	2	2	3	2	3	2	3	4	3	5	5	4	1	9
03	8	10	7	7	8	8	9	9	10	9	9	12	10	9	11	8	9	17	15	21	16	15	23	11	11	7	23
04	12	16	24	15	19	15	25	35	19	17	18	22	24	22	20	23	27	28	33	26	20	19	21	20	22	12	35
05	33	23	17	6	10	15	18	44	30	9	25	22	18	26	48	38	37	24	18	17	18	26	33	19	24	6	48
06	20	24	4	19	33	22	30	36	33	35	19	19	14	14	17	10	12	15	14	15	6	5	5	3	18	3	36
07	3	3	3	5	6	4	4	8	10	9	18	7	8	9	17	21	14	8	8	11	7	7	8	8	9	3	21
08	4	5	8	7	6	5	4	6	9	3	19	11	9	6	7	22	12	12	26	17	9	23	39	4	11	3	39
09	31	4	21	32	---	29	6	16	9	8	10	12	19	21	22	13	10	7	2	28	3	21	0	3	14	0	32
10	7	26	---	17	---	19	14	30	30	3	5	21	18	13	12	11	12	12	21	3	7	29	8	22	15	3	30
11	5	9	11	10	16	13	12	9	10	12	8	3	7	12	10	8	5	7	3	2	5	7	10	8	8	2	16
12	7	5	4	3	5	5	6	9	11	7	4	4	7	8	1	2	9	6	2	2	1	1	0	0	5	0	11
13	1	2	2	1	4	7	1	1	20	21	11	11	8	9	23	28	12	12	8	7	10	10	22	11	10	1	28
14	10	23	37	1	25	16	19	13	9	7	11	10	11	12	16	16	5	15	12	11	10	25	---	16	14	1	37
15	10	2	19	9	6	0	3	9	6	1	1	1	1	2	4	1	15	1	1	3	5	1	1	5	4	0	19
16	6	4	3	4	1	1	0	1	0	1	4	8	9	6	7	7	1	19	2	1	4	11	4	1	4	0	19
17	2	7	1	2	7	1	1	9	6	1	5	4	0	6	9	4	2	8	10	21	5	19	26	14	7	0	26
18	9	18	0	1	16	10	4	1	4	9	1	1	7	8	14	1	16	0	4	15	4	2	17	1	7	0	18
19	1	19	12	13	12	26	8	4	28	17	7	17	16	15	25	22	9	7	16	11	22	9	1	1	13	1	28
20	3	3	1	1	1	1	7	6	2	1	1	11	9	1	0	8	9	7	0	1	1	1	8	7	4	0	11
21	5	7	4	4	7	2	1	3	10	6	2	17	1	1	0	3	4	3	0	1	1	1	1	1	4	0	17
22	4	6	1	2	2	2	4	3	0	16	9	10	10	2	1	5	23	8	1	1	1	3	4	9	5	0	23
23	12	9	6	6	2	0	5	14	29	2	8	13	26	26	32	31	22	22	27	15	23	22	19	29	17	0	32
24	3	31	6	8	28	7	7	22	11	21	17	27	24	22	19	24	16	14	16	2	19	26	13	37	18	2	37
25	14	26	19	15	17	13	9	26	7	9	7	7	6	2	5	7	5	4	3	2	3	0	0	1	9	0	26
26	0	1	0	4	6	5	8	7	9	10	7	6	6	7	6	8	18	15	13	17	14	7	2	7	8	0	18
27	7	9	11	10	9	6	9	11	6	16	7	8	11	12	13	9	8	9	8	10	11	11	9	8	10	6	16
28	7	8	19	0	0	10	26	6	58	61	21	22	4	25	29	16	5	29	24	9	26	8	18	12	18	0	61
29	7	3	4	20	0	0	16	0	3	19	0	0	0	7	10	5	18	10	20	4	7	7	0	1	7	0	20
30	5	5	4	2	3	4	5	7	4	2	5	9	6	30	8	16	9	8	9	9	17	7	7	6	8	2	30

Maximum 1 Hr Average	**61**
Maximum 24 Hr Average	**24**
Number of Days > 50 µg/m^3	**0**
Number of Hours > 100 µg/m^3	**0**

Total Hours	**720**
Number of Valid Hours	**715**
Percent Valid Data	**99.3 %**

Monthly :	**Ave**	**Min**	**Max**
	11	**0**	**61**

Station : STN29147
Parameter : WS, m/s
Month, Year : April, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	3.2	2.8	2.7	2.8	2.5	2.5	2.6	2.6	3.4	2.8	2.9	4.0	2.3	3.0	3.7	4.1	3.8	4.0	3.7	3.8	2.4	2.1	1.7	1.8	3.0	1.7	4.1
02	2.4	3.1	1.3	1.6	1.4	1.8	3.6	5.3	5.9	6.1	5.5	3.1	2.5	2.8	2.8	2.3	2.9	2.5	2.3	2.2	1.8	1.4	1.5	1.7	2.8	1.3	6.1
03	2.2	2.8	3.0	3.2	2.4	2.6	3.6	4.8	4.8	5.2	5.2	5.7	7.2	7.4	6.9	5.5	4.0	2.8	1.8	1.4	1.0	0.9	1.3	1.8	3.6	0.9	7.4
04	2.2	2.3	1.8	2.2	1.8	1.2	1.4	0.9	2.3	2.8	2.1	1.7	2.2	2.2	2.4	2.7	4.0	3.8	3.4	3.5	2.2	1.6	1.1	1.3	2.2	0.9	4.0
05	2.3	2.2	2.0	1.5	2.3	1.7	1.4	1.1	2.2	1.8	2.0	2.1	2.2	1.9	0.7	0.6	0.9	1.8	3.0	2.6	1.8	0.9	1.0	0.7	1.7	0.6	3.0
06	1.0	0.9	0.9	1.2	0.9	2.1	1.5	1.8	1.9	2.2	2.1	2.9	3.4	3.6	3.9	3.4	3.2	2.6	2.4	1.6	3.1	3.6	5.3	1.4	2.4	0.9	5.3
07	2.7	3.5	2.6	2.7	3.3	3.1	2.3	3.7	4.4	4.5	4.9	4.1	4.6	4.6	3.8	4.0	3.7	3.2	2.9	3.0	2.2	2.2	2.3	2.2	3.4	2.2	4.9
08	2.7	2.7	2.9	2.9	3.2	3.7	4.4	4.6	4.1	4.1	4.4	4.6	4.7	4.6	4.3	4.4	4.4	4.5	4.0	3.2	2.5	1.3	2.6	2.2	3.6	1.3	4.7
09	1.7	1.1	1.0	0.9	1.6	0.6	3.9	4.6	5.8	5.4	4.6	4.6	5.2	4.9	4.4	3.0	2.3	1.7	1.2	0.6	2.8	4.1	5.0	4.6	3.2	0.6	5.8
10	5.6	3.9	2.8	4.2	2.5	1.2	1.3	0.6	1.8	2.0	2.5	3.3	4.3	3.7	3.7	3.3	3.0	3.3	3.5	3.0	1.8	1.5	1.7	5.5	2.9	0.6	5.6
11	4.2	2.7	3.2	1.4	1.9	1.9	2.2	1.6	1.1	0.7	2.1	1.8	2.6	2.5	2.2	1.5	1.4	2.3	2.4	1.8	1.7	1.9	1.6	1.0	2.0	0.7	4.2
12	0.9	1.4	1.6	1.9	1.1	1.0	0.9	0.5	0.9	1.5	2.2	3.2	3.7	4.1	3.6	3.9	3.9	3.3	3.5	3.5	3.1	3.5	3.7	3.7	2.5	0.5	4.1
13	2.9	1.1	0.9	1.0	1.6	1.1	0.5	0.3	0.5	1.6	2.0	2.0	2.2	2.3	4.0	5.0	4.4	4.3	4.0	2.7	1.9	2.0	1.3	0.9	2.1	0.3	5.0
14	0.5	1.7	2.2	1.5	2.6	2.3	1.6	1.4	2.9	3.8	4.6	5.1	5.7	4.6	4.9	4.0	2.9	4.7	5.0	1.8	0.6	0.6	1.7	2.4	2.9	0.5	5.7
15	1.1	0.9	1.3	1.2	1.8	2.0	1.6	3.4	3.7	5.0	3.8	2.4	4.7	4.2	3.3	3.6	4.6	3.7	2.0	1.8	1.8	2.1	2.7	2.8	2.7	0.9	5.0
16	3.3	2.3	2.7	2.7	2.7	2.7	2.9	2.7	3.0	3.0	2.6	2.7	3.0	3.2	2.9	3.1	3.0	2.3	1.9	1.8	1.4	1.2	1.2	1.2	2.5	1.2	3.3
17	1.1	0.6	0.8	1.0	0.9	1.0	2.0	2.7	2.9	2.6	1.7	2.5	2.6	2.5	3.0	3.2	4.1	5.0	3.4	1.6	0.9	2.1	2.4	2.7	2.2	0.6	5.0
18	1.5	1.8	1.7	1.8	2.5	3.6	2.6	1.7	1.6	2.3	2.6	4.0	5.5	5.9	4.6	2.0	2.9	3.3	2.1	2.5	2.2	2.1	3.0	2.5	2.8	1.5	5.9
19	2.5	2.9	3.0	3.1	3.3	3.2	3.3	4.2	4.1	3.9	4.6	5.1	6.9	7.1	7.9	6.1	6.4	5.9	5.7	2.7	4.2	4.6	3.5	2.8	4.5	2.5	7.9
20	3.8	3.8	4.0	4.5	4.1	3.5	4.0	4.8	6.3	6.2	6.2	5.3	5.3	4.7	3.8	4.5	3.4	2.3	1.3	0.9	1.0	2.2	2.4	2.1	3.8	0.9	6.3
21	2.8	3.1	3.0	2.7	1.5	2.3	1.4	1.3	1.4	3.4	2.0	1.8	2.6	2.2	2.3	2.4	2.9	3.1	3.2	2.6	2.6	2.8	2.1	1.8	2.4	1.3	3.4
22	2.8	3.8	4.7	4.1	4.4	5.4	4.0	3.8	3.7	3.9	3.8	4.2	5.6	6.9	4.8	4.6	4.9	3.7	3.5	2.2	2.4	2.2	2.8	3.2	4.0	2.2	6.9
23	3.3	3.3	3.2	4.0	5.3	5.3	5.1	3.9	5.2	5.8	5.7	5.7	6.4	6.3	7.0	6.9	6.5	5.1	4.1	3.6	3.6	4.2	3.8	3.8	4.9	3.2	7.0
24	4.8	4.7	3.9	3.5	3.4	3.1	2.7	3.3	2.8	2.8	2.8	2.7	4.0	5.2	3.9	4.5	3.6	2.7	2.3	1.7	1.6	2.2	2.0	2.0	3.2	1.6	5.2
25	1.8	1.6	2.1	2.1	2.6	3.9	3.4	3.6	2.7	3.2	3.9	4.2	3.7	4.4	4.5	4.1	3.9	3.5	3.2	3.0	2.9	2.1	1.8	1.9	3.1	1.6	4.5
26	2.2	1.7	1.3	2.2	3.1	3.4	4.2	3.7	3.2	2.9	2.4	2.1	1.7	2.5	1.9	2.8	3.0	2.6	2.3	1.8	1.6	1.3	1.9	2.2	2.4	1.3	4.2
27	2.7	3.4	3.3	4.0	4.1	3.5	3.7	4.7	4.6	4.2	3.9	3.0	3.2	2.8	3.3	3.5	3.1	2.9	2.2	3.2	2.3	4.3	4.1	3.9	3.5	2.2	4.7
28	3.1	2.3	2.5	2.1	1.9	2.3	1.5	1.1	0.8	2.0	3.9	2.2	1.0	1.8	3.0	2.9	1.9	1.7	2.4	1.6	1.9	1.7	3.0	3.1	2.2	0.8	3.9
29	2.6	3.4	3.0	2.9	2.4	2.2	2.8	2.8	3.1	3.5	3.3	3.7	4.1	3.1	2.7	2.8	1.0	1.0	1.8	2.6	3.5	4.0	3.1	3.7	2.9	1.0	4.1
30	4.8	5.1	4.0	4.0	4.0	4.1	5.0	4.3	5.8	5.2	5.1	5.2	4.9	5.0	4.8	5.1	4.8	5.2	5.1	4.0	3.8	3.2	3.1	3.2	4.5	3.1	5.8

Total Hours	**720**
Number of Valid Hours	**720**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	3.0	**0.3**	**7.9**

Station : STN29147
Parameter : WGust, m/s
Month, Year : April, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	7.3	7.3	7.7	8.3	7.0	7.5	6.9	9.2	10.6	8.4	7.6	7.8	7.8	8.8	10.3	12.6	12.0	10.7	10.0	9.8	8.0	6.2	5.8	6.6	8.5	5.8	12.6
02	6.2	7.8	4.7	4.2	4.6	7.7	9.8	11.9	12.1	11.2	10.6	8.1	9.4	8.5	10.9	8.2	8.9	8.1	7.6	6.7	5.0	4.0	3.3	3.1	7.6	3.1	12.1
03	3.3	4.8	6.0	5.1	3.6	4.0	5.9	7.4	8.5	8.5	9.6	11.0	14.3	13.2	12.1	10.2	12.0	4.8	3.4	2.5	2.1	1.9	2.7	2.7	6.7	1.9	14.3
04	3.9	3.7	3.1	4.4	4.1	1.9	3.6	2.9	4.8	5.5	4.6	4.4	5.0	5.1	5.0	5.8	6.8	6.0	5.1	5.1	4.3	3.4	2.4	2.2	4.3	1.9	6.8
05	3.8	3.4	2.9	2.5	3.5	2.5	4.4	3.6	3.7	3.3	4.1	4.4	3.7	3.3	1.8	1.9	2.5	3.7	5.1	4.5	3.5	1.8	2.1	1.3	3.2	1.3	5.1
06	1.5	1.6	3.3	3.2	2.8	4.0	2.8	3.1	3.1	3.9	3.7	4.7	5.3	6.6	6.2	5.6	6.0	4.6	4.6	3.0	5.1	6.6	9.7	5.0	4.4	1.5	9.7
07	5.6	6.3	4.2	4.0	5.0	4.9	4.8	5.3	6.3	6.9	7.4	6.3	7.4	7.9	6.8	7.0	6.6	5.6	5.9	5.4	3.7	3.8	3.8	3.3	5.6	3.3	7.9
08	4.1	4.3	4.2	4.4	4.9	5.3	6.3	6.3	6.6	6.0	6.4	6.6	7.2	6.6	6.4	8.1	8.0	7.0	6.2	5.7	8.3	4.3	4.8	3.5	5.9	3.5	8.3
09	2.8	2.1	2.0	3.4	5.4	2.3	6.7	7.7	9.6	9.1	8.3	9.3	9.8	9.3	8.0	8.7	3.8	3.0	2.6	3.0	5.6	7.6	7.2	7.3	6.0	2.0	9.8
10	8.6	7.9	6.8	7.1	4.8	2.3	2.9	1.6	3.7	3.4	4.4	5.9	7.4	6.3	6.1	5.7	6.3	5.5	5.5	5.8	4.2	3.0	5.4	8.4	5.4	1.6	8.6
11	7.7	6.0	6.6	5.7	4.2	3.9	3.5	6.1	2.7	1.9	4.2	3.7	3.9	4.3	4.0	3.0	2.9	5.8	4.8	3.2	4.9	4.6	4.7	2.6	4.4	1.9	7.7
12	3.4	3.8	3.5	3.8	3.4	2.9	2.2	1.5	1.9	3.2	4.0	5.4	6.2	6.6	5.4	6.0	5.8	5.2	5.3	5.5	5.3	5.3	5.9	6.2	4.5	1.5	6.6
13	5.9	2.7	2.7	2.4	2.6	2.1	1.3	1.4	2.0	3.3	5.1	4.5	4.8	5.4	7.7	8.2	7.2	7.2	6.9	4.9	3.5	2.7	3.5	2.8	4.2	1.3	8.2
14	1.8	4.4	3.5	2.5	4.9	5.0	4.3	4.1	6.6	7.0	8.6	10.1	10.3	9.8	9.9	9.2	6.4	10.0	9.9	3.8	2.5	2.4	6.2	7.2	6.3	1.8	10.3
15	3.6	2.6	3.8	3.7	5.0	5.0	5.3	6.1	8.6	9.1	8.0	10.4	8.9	7.9	7.5	7.0	9.7	8.3	6.0	5.6	6.4	5.5	6.3	8.7	6.6	2.6	10.4
16	9.5	7.3	7.5	10.7	10.3	7.6	8.3	9.6	8.2	8.6	8.7	9.5	8.7	8.9	8.9	8.4	8.5	6.6	5.9	4.9	4.5	3.7	4.3	3.4	7.6	3.4	10.7
17	3.2	2.2	2.3	3.9	3.0	2.5	3.4	4.7	5.3	4.3	4.2	4.9	5.7	5.8	6.2	7.0	8.0	9.2	7.5	3.9	2.1	3.8	3.1	3.3	4.6	2.1	9.2
18	4.5	5.0	4.6	3.7	4.5	5.6	4.2	4.3	4.4	5.2	5.7	8.2	9.8	14.0	10.1	5.0	5.3	5.6	3.9	3.8	3.3	3.5	4.2	3.6	5.5	3.3	14.0
19	4.3	4.9	4.7	5.7	5.1	5.4	5.8	7.5	7.3	7.3	10.3	10.0	13.8	13.0	13.0	11.8	15.6	15.1	15.4	9.4	8.7	9.9	9.2	5.1	9.1	4.3	15.6
20	6.8	7.2	8.6	8.5	7.4	6.7	8.0	11.2	12.6	12.3	11.6	9.8	10.7	8.9	10.5	9.4	5.3	5.2	4.4	3.3	3.3	4.0	4.9	4.7	7.7	3.3	12.6
21	4.9	6.3	6.6	6.2	4.9	5.3	4.4	3.6	4.8	7.9	4.4	6.1	8.2	7.3	8.3	8.8	8.3	13.5	10.8	9.3	7.9	8.7	7.5	5.3	7.1	3.6	13.5
22	5.5	6.5	7.2	6.7	7.9	8.3	8.9	9.4	13.2	11.9	12.0	14.0	14.2	12.7	11.4	12.2	15.4	12.0	11.1	6.9	3.5	4.0	4.8	5.5	9.4	3.5	15.4
23	6.5	6.2	5.6	8.8	9.3	7.8	8.3	7.2	11.0	9.8	10.6	9.7	10.6	10.7	13.4	13.1	11.8	11.3	8.6	6.8	6.6	7.9	6.9	7.1	9.0	5.6	13.4
24	7.7	8.9	7.0	7.3	6.1	5.1	5.3	5.9	5.4	5.1	5.5	6.1	9.4	9.2	8.0	8.8	7.5	4.9	4.7	3.3	4.0	3.8	4.0	3.6	6.1	3.3	9.4
25	3.6	3.3	4.0	4.1	5.4	6.5	6.2	6.6	8.1	9.8	10.3	11.3	11.8	12.7	13.4	13.4	11.6	11.0	9.1	10.3	8.9	7.1	5.5	6.1	8.3	3.3	13.4
26	5.9	4.6	4.5	6.2	6.1	5.8	7.9	6.8	5.7	6.0	5.3	5.7	4.9	6.1	4.7	6.2	5.5	5.5	4.2	2.7	2.6	3.3	3.3	3.7	5.1	2.6	7.9
27	4.4	6.8	5.8	7.0	7.3	6.2	6.2	7.9	7.8	6.9	6.3	5.1	5.6	4.3	6.0	6.2	5.2	4.7	5.0	5.3	4.5	7.1	8.1	7.5	6.1	4.3	8.1
28	5.6	3.8	4.3	4.5	3.4	3.4	3.1	3.6	2.8	5.2	10.2	5.4	3.4	5.1	5.6	5.9	3.7	3.5	5.0	4.6	3.5	4.8	5.7	5.3	4.6	2.8	10.2
29	4.9	5.7	5.5	5.0	4.7	4.0	4.6	5.9	6.8	6.1	5.6	6.0	7.3	7.1	4.9	5.0	3.8	2.0	4.1	4.7	6.7	7.8	9.3	8.2	5.7	2.0	9.3
30	8.1	8.9	8.7	10.1	10.3	10.2	16.1	12.6	15.8	15.5	15.5	16.2	14.9	16.7	16.9	16.3	14.8	15.4	16.1	15.0	11.1	11.7	10.4	10.4	13.2	8.1	16.9

Total Hours	**720**
Number of Valid Hours	**720**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	6.4	**1.3**	**16.9**

Station : STN29147
Parameter : WD, degrees
Month, Year : April, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																							
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**
01	353	349	348	339	345	346	341	321	316	330	345	356	343	345	337	336	330	345	351	352	339	333	335	346
02	354	353	336	343	348	347	353	355	359	2	2	359	327	332	333	328	334	332	311	312	307	297	293	271
03	240	247	240	236	222	178	188	194	202	200	205	212	209	206	205	209	232	182	147	159	177	269	331	336
04	353	355	4	2	1	348	349	341	359	13	19	46	49	64	60	122	184	179	184	174	170	179	180	327
05	4	23	11	350	15	1	55	18	26	26	40	30	16	3	14	330	295	193	191	116	51	82	109	144
06	149	122	105	48	95	15	335	350	5	16	16	21	25	30	46	51	43	35	9	358	359	4	22	355
07	2	13	5	356	2	5	1	6	9	18	15	14	22	35	35	31	27	23	7	0	342	344	350	345
08	355	358	8	2	4	359	5	7	11	9	13	16	17	19	14	18	6	1	357	353	344	244	196	192
09	172	56	28	85	128	55	172	175	179	184	183	196	215	208	207	1	22	2	116	53	142	152	165	171
10	175	179	165	183	185	193	347	49	8	31	50	47	59	47	44	36	29	12	1	358	340	336	132	171
11	163	144	161	5	7	342	339	312	303	168	186	199	26	36	26	25	47	63	21	344	337	290	336	334
12	347	352	343	4	345	10	53	91	179	139	27	25	22	22	15	7	14	13	8	13	13	6	10	18
13	18	329	311	355	3	6	360	358	215	220	244	239	191	172	193	196	197	201	203	205	270	251	191	70
14	80	203	194	206	218	294	319	303	267	253	240	226	246	258	249	253	233	254	253	268	318	305	243	310
15	319	328	319	299	292	287	294	266	263	257	271	310	253	257	280.0	239.0	231.0	275.0	293.0	295.0	289.0	305.0	284.0	289
16	282	289	294	292	294	303	297	305	311	320	314	309	298	292	289	291	310	331	333	315	325	288	293	306
17	310	321	331	332	348	307	243	238	254	244	272	261	253	255	234	235	229	232	220	264	235	246	251	256
18	306	309	301	279	243	252	254	276	276	231	207	224	201	204	206	160	179	189	223	249	233	229	245	227
19	219	214	215	206	197	201	204	206	206	212	211	214	203	203	202	214	227	228	269	299	274	277	272	221
20	217	220	235	248	265	265	249	271	267	266	250	260	261	269	283	265	250	277	318	340	346	358	9	5
21	6	1	357	355	339	352	338	339	334	356	357	321	308	316	301	302	308	325	318	301	306	310	317	294
22	270	250	256	257	269	259	276	282	302	302	292	300	280	265	276	289	297	309	309	303	257	231	225	220
23	218	210	214	231	246	250	252	251	247	237	222	211	206	206	231	230	232	229	226	216	219	233	231	233
24	239	236	234	232	233	232	220	224	233	210	203	200	189	187	201	201	208	219	246	246	218	215	225	233
25	221	218	227	228	228	244	239	247	308	312	294	295	314	310	311	312	314	328	332	317	329	307	323	347
26	349	340	338	354	358	4	9	10	24	40	54	51	104	129	157	164	193	181	180	184	138	103	48	34
27	55	57	49	45	40	30	24	16	21	31	28	15	20	19	19	24	21	18	12	6	48	16	32	31
28	41	23	18	11	354	7	354	345	2	352	38	65	153	181	24	22	13	29	22	75	15	348	14	12
29	24	11	35	51	37	37	40	52	52	51	24	17	24	35	34	6	51	206	216	223	238	271	291	279
30	267	259	267	281	287	286	288	291	286	288	302	305	300	310	307	316	315	315	319	318	316	314	311	311

Total Hours	**720**
Number of Valid Hours	**720**
Percent Valid Data	**100.0 %**

Station : STN29147
Parameter : ATEM, °C
Month, Year : April, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	1.0	0.2	-0.2	-1.0	-1.6	-2.2	-2.1	-1.1	-0.1	-0.3	-1.0	-0.8	0.2	0.1	1.2	0.7	-1.9	-2.6	-2.3	-2.3	-2.5	-2.8	-3.0	-3.2	-1.2	-3.2	1.2
02	-3.1	-3.0	-4.0	-4.1	-4.4	-4.5	-3.6	-2.9	-2.3	-1.2	-0.1	1.3	3.0	3.6	4.2	4.9	4.6	3.9	2.7	1.6	0.4	-0.6	-1.5	-2.0	-0.3	-4.5	4.9
03	-2.8	-2.9	-3.1	-3.2	-3.0	-4.7	-3.4	0.4	2.4	3.9	6.1	7.0	7.6	7.8	7.5	7.2	5.4	7.1	6.6	5.9	4.6	3.7	2.9	2.1	2.7	-4.7	7.8
04	1.8	1.4	1.3	1.4	1.2	0.4	1.1	3.3	5.7	7.6	9.5	11.1	12.4	13.4	14.4	14.5	13.8	13.0	10.5	7.6	6.0	5.4	4.7	5.6	7.0	0.4	14.5
05	7.2	7.0	6.6	5.4	5.6	5.2	5.7	7.3	7.5	8.2	9.1	9.1	9.1	9.0	10.2	10.5	8.9	8.3	8.0	8.1	6.6	5.9	6.4	6.7	7.6	5.2	10.5
06	5.3	6.5	5.6	4.7	4.7	4.1	4.1	4.9	6.0	6.4	7.8	8.4	8.3	9.2	9.7	9.8	8.3	7.4	6.5	5.9	5.6	4.9	4.9	5.4	6.4	4.1	9.8
07	5.6	5.2	4.5	4.2	3.9	3.9	4.5	5.7	7.0	7.7	7.8	9.2	9.6	10.1	11.0	11.1	10.0	9.4	8.3	7.4	7.2	7.3	6.8	5.9	7.2	3.9	11.1
08	5.4	5.2	5.3	5.6	5.4	5.2	5.2	6.0	6.8	7.6	8.1	8.4	9.2	9.4	9.9	10.3	9.9	9.2	8.5	8.5	8.1	9.0	10.6	10.9	7.8	5.2	10.9
09	11.0	10.7	9.3	9.7	10.9	7.9	12.1	13.8	14.6	15.4	15.5	17.3	19.1	19.8	20.9	16.8	13.6	11.6	10.4	10.1	12.1	14.6	14.1	13.3	13.5	7.9	20.9
10	12.7	11.9	10.1	11.5	11.1	9.8	8.5	10.5	11.3	12.6	13.6	14.4	14.4	14.4	14.3	12.3	10.7	9.5	8.6	8.0	8.2	8.7	11.1	16.6	11.5	8.0	16.6
11	16.1	14.0	14.5	10.0	8.7	7.3	7.6	8.3	9.2	11.1	14.0	15.7	14.1	12.8	11.7	10.4	10.8	11.5	8.7	7.4	7.3	8.1	8.9	8.9	10.7	7.3	16.1
12	8.6	7.9	8.2	7.6	7.3	6.9	7.0	7.6	8.4	9.3	7.6	7.0	6.2	5.3	5.3	5.0	4.5	4.7	4.5	4.7	5.0	5.1	5.2	5.3	6.4	4.5	9.3
13	5.2	5.2	5.4	5.7	5.8	5.9	6.3	7.0	7.8	8.5	9.9	11.7	13.2	14.7	15.6	15.0	14.8	14.2	12.5	11.1	9.7	9.1	7.3	5.4	9.5	5.2	15.6
14	5.0	5.1	4.9	4.5	4.7	5.6	7.6	9.5	10.5	11.3	12.6	13.4	13.7	14.1	14.4	14.4	13.5	12.2	11.1	10.2	9.7	9.7	9.3	6.3	9.7	4.5	14.4
15	5.1	5.2	5.0	4.8	4.5	4.0	4.0	4.5	4.8	4.8	6.0	5.1	5.4	6.5	6.3	6.4	6.3	5.8	5.3	5.0	5.0	4.9	4.8	4.9	5.2	4.0	6.5
16	4.4	3.8	4.1	4.0	4.0	3.7	4.0	4.5	5.6	5.9	6.3	7.0	7.5	7.7	7.2	6.7	6.4	6.1	5.7	5.6	5.2	4.4	4.5	4.7	5.4	3.7	7.7
17	4.8	5.1	5.1	4.8	4.3	3.6	3.8	4.6	5.7	6.9	8.1	8.5	10.2	11.4	11.4	11.7	11.6	11.2	10.2	9.1	7.3	7.2	6.5	6.1	7.5	3.6	11.7
18	6.6	6.7	6.1	5.5	5.4	5.3	6.0	7.5	9.9	10.3	11.3	12.8	12.8	10.7	10.1	8.4	9.9	11.2	10.6	9.9	8.4	7.3	6.8	6.1	8.6	5.3	12.8
19	6.0	5.6	5.7	5.5	4.8	5.3	7.1	8.1	10.1	12.1	14.0	15.0	15.4	15.8	15.6	15.5	14.9	14.8	13.1	10.0	8.3	6.9	5.5	5.0	10.0	4.8	15.8
20	5.0	4.7	4.7	4.4	3.5	2.9	3.1	3.6	4.3	5.2	5.5	4.9	5.1	4.9	3.7	1.5	1.0	0.7	0.2	0.0	-0.1	-0.3	-0.8	-0.9	2.8	-0.9	5.5
21	-1.0	-1.2	-2.0	-2.6	-2.4	-2.4	-2.1	-1.6	-1.0	-1.4	-0.2	1.5	1.7	2.4	2.4	2.6	2.0	1.6	-0.1	-0.8	-1.0	-1.5	-2.0	-2.7	-0.5	-2.7	2.6
22	-3.0	-3.1	-3.0	-2.9	-2.6	-2.7	-1.6	-0.1	1.7	2.2	2.2	2.7	3.5	3.5	2.1	4.3	4.8	4.4	3.5	2.7	1.6	1.1	1.0	0.7	1.0	-3.1	4.8
23	0.8	0.6	0.2	0.7	1.1	1.0	2.1	3.9	6.6	9.2	11.2	12.8	13.6	14.9	15.5	15.6	15.1	14.3	13.1	11.5	10.1	10.0	9.4	9.0	8.4	0.2	15.6
24	8.7	8.7	8.2	7.7	7.1	6.7	7.5	9.3	11.7	13.8	15.1	15.8	16.2	16.5	16.5	16.1	15.6	15.2	14.5	13.3	12.2	10.9	10.1	10.5	12.0	6.7	16.5
25	10.3	9.9	9.5	9.5	9.4	8.9	8.6	9.2	10.8	10.8	10.1	10.5	9.6	8.7	7.5	6.5	5.8	4.3	2.9	2.3	1.6	1.3	1.4	1.4	7.1	1.3	10.8
26	0.5	-0.1	-0.4	-0.5	-0.4	-0.4	0.2	0.7	1.8	2.5	3.7	4.9	6.3	7.6	8.4	8.4	7.1	6.3	6.2	5.7	5.0	5.7	5.3	4.9	3.7	-0.5	8.4
27	4.4	4.0	3.8	3.9	3.9	3.8	4.7	5.1	5.5	6.5	7.4	8.0	8.1	8.2	8.2	7.1	6.5	5.7	5.4	5.1	5.6	6.0	6.6	7.0	5.9	3.8	8.2
28	7.0	6.8	7.1	6.7	6.2	5.6	6.0	8.3	10.5	10.5	8.6	9.7	12.3	15.2	13.7	12.6	14.9	15.1	12.0	9.4	9.9	8.5	7.0	7.0	9.6	5.6	15.2
29	6.7	6.2	6.2	6.3	6.2	6.4	6.5	6.7	6.5	6.3	6.3	6.3	6.6	7.0	7.2	7.1	7.2	7.8	8.6	9.2	9.6	9.7	8.8	8.3	7.2	6.2	9.7
30	7.7	7.6	8.0	8.0	7.8	7.1	6.8	6.5	6.7	7.3	8.1	8.6	8.0	7.4	6.0	5.6	6.7	7.0	6.5	6.1	5.6	5.1	4.3	3.9	6.8	3.9	8.6

Total Hours	**720**
Number of Valid Hours	**720**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	6.6	**-4.7**	**20.9**

Station : STN29147
Parameter : RH, %
Month, Year : April, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																										
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	60	57	58	54	57	59	55	48	41	52	64	66	59	53	39	44	49	48	45	41	39	42	45	46	51	39	66
02	42	36	45	46	46	47	40	32	29	25	24	26	25	24	23	24	24	25	30	35	38	39	44	49	34	23	49
03	55	57	57	55	53	67	62	67	71	67	52	41	31	30	31	31	56	46	47	50	56	62	80	87	55	30	87
04	87	89	91	91	94	95	90	84	66	49	42	37	37	37	35	37	42	43	50	56	58	58	59	57	62	35	95
05	52	49	49	54	50	52	54	49	49	50	51	54	54	51	46	48	73	86	88	81	81	80	75	70	60	46	88
06	78	68	72	80	85	86	88	89	83	82	74	67	63	56	53	51	57	57	58	59	60	65	65	61	69	51	89
07	54	59	69	75	78	77	72	67	56	57	58	51	47	48	42	40	46	51	59	66	68	69	71	78	61	40	78
08	81	82	81	80	85	91	93	90	86	82	80	77	74	73	71	70	71	74	76	75	77	75	72	73	79	70	93
09	75	76	74	76	85	90	83	78	75	72	71	67	63	61	52	56	66	70	76	79	80	76	77	80	73	52	90
10	81	83	88	85	85	89	90	86	80	77	74	72	72	70	68	74	79	83	89	91	90	87	77	60	80	60	91
11	68	75	81	90	93	95	96	97	97	97	97	87	86	88	90	96	97	97	97	98	98	98	99	99	92	68	99
12	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
13	99	99	99	99	99	99	99	99	99	99	99	81	73	66	64	65	60	58	60	69	76	75	82	91	84	58	99
14	96	94	88	88	85	79	71	63	60	58	51	48	44	40	37	36	43	48	44	49	53	53	59	81	61	36	96
15	86	82	77	76	78	80	80	77	74	76	70	73	73	66	66	67	72	75	76	79	81	80	81	81	76	66	86
16	79	81	82	82	79	78	78	78	75	72	72	69	68	68	71	73	74	75	77	78	82	92	93	91	78	68	93
17	91	90	89	89	90	91	91	90	86	80	73	71	63	56	57	57	59	64	72	76	82	81	81	83	78	56	91
18	79	74	73	74	77	78	76	70	59	60	57	53	57	65	71	88	82	76	69	53	54	61	56	56	67	53	88
19	58	78	84	88	91	93	87	84	78	64	49	43	39	38	40	39	35	38	50	74	80	86	88	89	66	35	93
20	88	87	83	75	73	74	75	69	61	56	52	54	52	53	63	83	91	92	94	95	96	97	97	97	77	52	97
21	97	97	97	97	97	97	97	97	95	90	79	62	54	49	53	52	54	53	56	58	56	58	62	67	74	49	97
22	71	73	73	73	74	76	78	72	58	56	57	56	56	60	78	61	47	43	44	45	53	55	56	59	61	43	78
23	61	65	70	72	69	67	62	56	47	41	42	48	53	52	45	42	43	45	48	52	55	53	54	55	54	41	72
24	55	54	55	57	59	61	60	56	50	42	37	35	33	33	32	33	31	32	35	37	45	53	60	60	46	31	61
25	62	66	70	72	72	83	92	90	78	71	70	62	58	55	55	55	55	58	62	64	62	62	63	61	67	55	92
26	61	63	66	66	63	63	60	58	56	52	46	40	32	29	27	34	54	58	57	59	66	59	65	72	54	27	72
27	70	73	75	77	80	83	80	78	78	75	70	66	69	67	69	74	75	78	79	76	79	73	71	69	74	66	83
28	70	73	75	82	87	92	92	82	74	76	85	83	75	71	72	74	68	66	74	83	82	86	93	98	80	66	98
29	98	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	94	91	98	91	99
30	89	88	86	84	81	81	82	82	80	75	69	62	60	55	58	58	47	43	43	48	51	54	57	60	66	43	89

Total Hours	**720**
Number of Valid Hours	**720**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	69	**23**	**99**

Station : STN29147
Parameter : Precipitation, mm
Month, Year : April, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																								
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Total**	**Max**
01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	2.7	0.2	0.1	-	-	-	-	-	3.5	2.7
06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
09	-	-	-	0.2	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	0.6
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
11	-	-	0.5	2.3	2.2	1.3	4.6	2.3	1.3	0.1	-	-	-	-	0.1	-	-	-	0.2	-	-	-	-	0.4	15.5	4.6
12	-	0.1	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	0.1
13	0.1	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	0.1
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	1.0	1.1	1.0
15	0.5	-	0.1	-	-	-	-	-	-	-	-	0.4	-	-	-	-	-	-	-	-	-	-	-	-	1.0	0.5
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
18	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	1.3	1.1	-	-	-	-	-	-	-	-	2.8	1.3
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	0.5	0.4	1.0	0.5
20	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	0.4	0.2	0.2	0.5	0.5	0.5	1.1	3.8	1.1
21	0.9	0.2	1.6	0.7	0.4	0.2	0.2	0.7	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.1	1.6
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	-	-	-	-	0.2	0.2
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
25	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	0.1
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	0.1	0.1
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	0.2	0.2
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
29	-	-	-	-	-	-	-	-	-	-	1.5	0.7	0.7	0.2	0.7	0.2	0.2	2.1	1.0	0.2	0.2	0.2	-	-	8.1	2.1
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0

Total Hours	**720**
Number of Valid Hours	**720**
Percent Valid Data	**100.0 %**

Monthly :	**Total**	**Max**
	44.0	**4.6**

Station : STN29147

Parameter : PM10, µg/m^3

Month, Year : May, 2021

terrapure

Monthly Data Matrix

1 Hr MECP Reportable Threshold - 100 µg/m^3

24 Hr MECP Reportable Threshold - 50 µg/m^3

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	5	6	10	4	0	4	5	4	5	5	3	4	9	9	7	7	6	22	16	21	---	22	0	4	8	0	22
02	6	7	5	1	19	16	1	7	8	22	20	14	18	33	13	10	11	19	3	20	5	5	7	16	12	1	33
03	1	2	9	4	0	4	18	17	1	6	12	7	8	7	2	7	9	9	2	1	4	5	3	4	6	0	18
04	6	9	9	7	1	1	11	7	9	13	6	19	1	1	4	17	21	21	23	11	3	1	1	1	8	1	23
05	6	2	4	7	1	5	6	1	18	---	20	---	24	1	4	9	7	8	6	3	2	1	1	1	6	1	24
06	1	9	9	1	1	2	16	1	5	8	5	8	11	9	7	11	9	3	3	3	2	2	2	8	6	1	16
07	11	1	16	11	2	1	19	1	1	1	18	1	2	7	19	7	1	3	9	11	8	18	18	6	8	1	19
08	4	21	9	4	2	17	2	5	7	17	1	1	4	8	3	3	6	10	8	8	11	6	16	10	8	1	21
09	6	8	19	1	1	4	23	---	20	7	2	3	6	1	4	9	10	13	8	1	19	1	1	19	8	1	23
10	7	0	0	1	8	8	7	9	20	2	8	17	30	9	21	15	39	30	0	2	4	4	7	8	11	0	39
11	3	1	1	1	2	3	20	7	8	33	28	11	26	17	30	36	3	6	7	6	7	4	1	1	11	1	36
12	4	8	3	1	4	4	4	22	25	7	16	18	6	7	9	11	14	11	8	10	9	8	13	7	10	1	25
13	3	7	6	5	3	5	18	28	17	24	14	34	16	18	15	68	22	17	12	16	20	14	12	24	17	3	68
14	14	12	19	13	12	11	30	79	33	28	31	20	29	28	53	52	50	38	26	8	18	25	18	9	27	8	79
15	24	33	35	24	23	30	32	32	30	24	28	22	15	31	14	25	27	18	27	19	17	32	33	39	26	14	39
16	38	30	28	23	28	40	30	31	28	14	29	23	19	23	23	28	50	29	20	25	34	70	32	29	30	14	70
17	27	24	19	14	12	19	35	131	45	34	14	17	17	18	24	41	---	---	---	---	---	---	---	---	---	12	131
18	---	---	---	---	---	---	---	---	---	---	---	---	30	55	48	82	55	37	37	45	56	52	30	25	---	25	82
19	38	40	36	22	31	58	57	34	46	34	44	31	30	25	36	21	23	22	27	37	79	60	49	54	39	21	79
20	47	32	36	47	60	37	42	65	74	90	71	52	60	69	51	55	50	34	30	40	52	63	42	34	51	30	90
21	29	30	25	27	31	36	39	50	43	46	38	69	98	54	32	33	55	21	21	31	43	32	20	20	38	20	98
22	21	19	15	20	9	11	25	15	23	34	15	25	28	48	14	13	11	20	11	11	21	17	16	21	19	9	48
23	15	30	30	32	16	22	22	18	42	22	20	20	24	27	20	23	20	21	16	6	20	20	13	12	21	6	42
24	10	12	10	4	7	10	10	11	11	14	13	11	18	15	11	11	20	17	2	8	20	15	37	17	13	2	37
25	23	12	13	10	10	14	41	26	46	34	43	33	64	217	154	99	54	49	39	25	22	16	33	27	46	10	217
26	26	28	24	22	22	25	31	25	23	20	25	21	12	22	22	28	17	16	16	18	23	1	7	8	20	1	31
27	8	12	7	5	7	9	8	17	16	23	21	17	19	30	20	25	8	28	20	18	11	15	16	12	16	5	30
28	11	10	10	31	22	14	12	7	6	4	4	5	3	3	6	4	0	4	7	5	7	6	6	9	8	0	31
29	9	9	10	11	7	5	8	9	10	11	16	11	10	8	8	13	11	9	13	12	10	11	17	20	11	5	20
30	24	26	12	12	11	11	10	9	9	11	16	18	9	9	10	9	9	10	8	17	17	18	11	11	13	8	26
31	11	19	16	13	19	15	14	23	19	18	24	16	36	26	20	39	28	14	11	18	14	18	11	13	19	11	39

Maximum 1 Hr Average	**217**
Maximum 24 Hr Average	**51**
Number of Days > 50 µg/m^3	**1**
Number of Hours > 100 µg/m^3	**3**

Total Hours	**744**
Number of Valid Hours	**720**
Percent Valid Data	**96.8 %**

Monthly :	**Ave**	**Min**	**Max**
	19	**0**	**217**

Station : STN29147
Parameter : WS, m/s
Month, Year : May, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	2.7	2.1	1.8	2.0	1.4	0.9	1.4	1.9	1.1	1.2	2.6	4.1	4.9	6.8	8.3	7.7	6.7	5.9	6.3	5.6	4.7	5.3	6.1	6.1	1.3	0.9	8.3
02	6.1	6.1	5.2	5.1	4.3	2.8	2.6	1.3	2.1	3.3	2.9	2.7	2.0	2.8	2.8	3.4	4.3	4.1	4.0	3.2	3.3	3.8	3.2	3.7	6.0	1.3	6.1
03	3.5	3.6	3.6	3.0	2.8	2.5	2.5	2.9	3.1	2.0	2.5	2.9	3.6	3.4	3.1	3.4	4.0	4.5	4.9	5.0	5.3	5.4	5.2	4.7	3.1	2.0	5.4
04	5.0	4.1	3.8	2.5	1.8	1.6	1.4	1.8	2.2	2.6	2.2	2.2	2.6	2.0	1.4	0.9	0.7	0.8	1.0	2.7	2.0	2.0	2.2	1.7	2.0	0.7	5.0
05	1.5	1.5	1.2	1.4	1.7	2.3	2.1	1.9	2.3	2.1	2.2	2.0	2.2	2.8	2.7	3.3	3.0	3.4	2.9	2.3	2.0	2.0	2.0	1.8	2.0	1.2	3.4
06	1.7	1.7	1.8	1.8	1.2	1.1	1.0	1.3	1.3	1.2	1.5	2.4	2.5	2.1	2.8	2.6	2.4	1.9	1.8	1.6	1.2	1.9	3.6	3.8	1.4	1.0	3.8
07	2.9	1.2	0.8	1.9	1.8	1.5	2.4	2.7	2.2	3.1	3.1	2.5	2.3	1.9	2.1	2.5	1.9	1.5	1.0	0.8	1.3	0.8	0.6	0.9	2.5	0.6	3.1
08	0.8	0.8	0.6	1.0	1.8	1.4	3.1	3.5	2.8	2.2	1.9	1.7	3.2	2.8	2.6	3.4	3.1	2.2	2.1	2.8	2.9	2.8	3.3	3.1	4.3	0.6	3.5
09	3.0	0.6	1.4	1.1	1.9	2.2	0.8	0.9	1.1	1.9	2.8	2.7	2.8	3.0	1.9	1.8	2.8	2.7	2.0	1.8	1.5	1.7	1.6	1.3	0.7	0.6	3.0
10	0.7	1.2	1.5	3.1	3.5	3.0	1.6	1.9	2.4	3.3	3.1	2.4	2.1	3.3	3.5	4.0	6.1	4.2	3.4	2.7	2.2	1.8	1.7	1.7	0.4	0.7	6.1
11	1.8	2.0	2.1	2.1	1.8	1.9	2.3	2.9	3.7	4.2	4.9	2.9	4.1	3.9	4.2	3.9	2.5	3.0	2.8	2.4	2.4	2.1	1.7	2.3	5.1	1.7	4.9
12	3.1	3.8	2.5	2.1	2.0	1.2	1.7	2.1	4.0	4.9	4.3	3.4	2.7	2.8	3.2	3.2	3.7	3.7	3.1	2.9	1.9	1.7	1.1	1.3	2.2	1.1	4.9
13	1.2	1.0	1.6	2.1	1.8	1.4	1.1	1.1	0.8	1.1	1.3	1.7	1.4	1.8	1.4	0.9	2.9	2.6	2.8	2.8	1.7	1.4	1.1	0.9	0.7	0.8	2.9
14	0.8	0.5	0.9	1.3	2.4	1.7	1.5	1.9	2.0	2.8	2.6	3.4	3.3	4.1	6.2	6.1	6.3	6.0	4.8	4.0	3.4	3.3	3.2	2.8	1.9	0.5	6.3
15	3.5	2.7	2.1	3.4	1.6	1.8	2.2	2.3	2.6	2.9	2.9	3.0	2.8	3.9	4.5	5.1	4.7	3.6	2.7	2.0	1.6	1.4	1.6	2.2	0.2	1.4	5.1
16	2.0	1.7	1.9	1.8	1.5	2.0	2.4	1.4	1.3	1.7	1.8	2.0	1.4	1.4	1.5	3.6	2.9	2.6	2.3	1.9	2.2	2.3	2.3	2.0	0.5	1.3	3.6
17	1.7	1.8	2.4	2.6	1.5	2.2	1.3	0.8	1.3	1.8	2.2	2.7	3.0	2.9	2.7	3.2	3.1	3.3	3.3	2.4	2.7	2.4	3.1	2.8	3.1	0.8	3.3
18	1.8	1.2	1.7	1.3	2.2	2.5	2.3	2.3	2.4	2.3	3.2	2.4	2.5	4.4	4.6	4.8	5.3	4.0	3.7	2.9	2.4	1.9	2.6	1.5	4.6	1.2	5.3
19	0.6	0.4	1.2	2.1	1.4	0.8	0.7	0.9	2.3	2.8	2.6	2.4	3.3	3.6	3.2	2.2	2.0	2.9	0.6	0.3	0.3	1.0	1.4	1.4	4.3	0.3	3.6
20	1.7	0.8	0.6	0.4	1.0	0.8	0.8	1.2	0.7	1.7	1.4	2.3	3.0	2.7	2.4	3.0	2.8	2.4	1.3	0.5	0.4	0.4	2.4	2.8	2.4	0.4	3.0
21	1.6	1.5	1.3	1.2	2.4	3.1	3.4	3.7	3.9	3.6	5.1	5.9	6.4	6.2	5.3	5.5	4.7	4.4	3.4	2.7	3.0	3.4	3.7	3.3	0.6	1.2	6.4
22	3.4	3.3	3.4	3.6	3.7	4.7	3.9	3.2	2.2	1.9	2.7	4.1	4.6	7.0	4.9	3.9	1.8	1.8	2.5	2.3	2.3	2.8	2.7	3.1	0.9	1.8	7.0
23	3.4	4.6	3.3	2.4	2.6	3.5	3.5	3.1	3.4	2.8	2.8	3.0	3.6	4.7	5.6	5.3	4.2	3.8	3.6	3.1	2.9	2.2	1.9	1.9	1.8	1.9	5.6
24	2.1	2.3	2.3	2.5	3.0	3.1	3.4	4.1	4.4	3.9	3.8	3.6	3.4	2.9	3.1	2.8	3.5	2.7	1.7	0.7	0.4	0.6	1.7	1.9	1.0	0.4	4.4
25	2.1	3.1	3.5	3.6	4.0	4.7	4.9	5.5	5.5	6.3	5.2	4.9	5.8	8.1	8.5	7.7	6.6	5.8	4.6	4.2	4.5	4.9	4.8	4.6	0.4	2.1	8.5
26	4.3	3.9	4.7	4.6	4.3	4.8	4.5	4.4	5.3	4.8	7.2	5.1	5.1	5.9	6.2	6.2	6.9	5.0	2.9	2.3	3.3	4.1	2.6	2.0	2.0	2.0	7.2
27	1.9	1.7	1.6	2.0	1.8	1.7	2.8	3.7	3.0	2.4	2.6	2.6	2.5	2.4	2.4	2.6	2.9	3.7	3.6	3.6	3.2	3.6	3.4	4.1	3.9	1.6	4.1
28	4.2	4.4	5.6	7.1	7.0	7.5	6.9	7.3	7.2	7.6	7.8	7.6	7.2	7.1	6.4	6.6	6.8	6.8	5.8	5.9	5.5	5.2	5.4	4.7	1.3	4.2	7.8
29	4.8	5.2	5.5	5.2	4.3	4.1	4.6	5.7	5.9	5.7	6.2	5.5	5.8	6.1	5.7	5.5	4.2	3.5	2.7	2.0	1.6	1.8	1.7	1.3	1.6	1.3	6.2
30	1.5	3.3	2.9	1.9	3.0	2.7	3.0	3.5	3.2	3.1	3.0	3.5	3.3	3.7	3.6	3.0	2.6	3.2	1.9	1.2	1.4	2.4	3.8	3.7	0.9	1.2	3.8
31	3.1	1.9	1.5	2.7	1.5	2.9	1.3	1.5	2.5	2.1	2.8	3.1	3.1	3.4	4.9	6.5	6.6	5.9	4.7	3.7	3.3	3.7	2.9	2.7	2.3	1.3	6.6

Total Hours	**744**
Number of Valid Hours	**744**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	3.0	**0.3**	**8.5**

Station : STN29147
Parameter : WGust, m/s
Month, Year : May, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	9.0	6.7	6.1	5.8	5.1	3.0	3.5	3.9	2.9	3.7	6.0	8.9	9.9	13.7	14.1	13.5	14.8	11.6	12.3	10.3	8.2	9.6	9.9	10.2	8.4	2.9	14.8
02	12.5	12.2	10.5	8.5	8.6	6.3	4.6	2.8	4.2	5.5	5.5	4.8	4.3	5.5	5.6	5.9	8.1	7.5	7.3	5.8	6.5	7.6	5.4	10.6	6.9	2.8	12.5
03	6.6	6.2	6.2	5.3	4.7	4.0	4.5	5.1	4.8	4.0	4.2	5.3	5.3	4.7	4.5	5.2	5.9	6.7	7.2	8.1	8.0	9.1	7.9	9.4	6.0	4.0	9.4
04	9.9	7.5	7.1	4.9	5.0	3.2	3.6	3.8	3.6	4.1	3.8	3.5	4.4	3.5	3.2	2.4	1.8	2.9	3.0	8.9	6.6	8.0	7.5	5.1	4.9	1.8	9.9
05	5.3	5.6	3.8	4.6	6.3	7.1	7.7	6.2	7.3	7.6	7.3	7.1	6.9	9.4	9.9	9.9	9.9	9.8	9.2	7.4	6.2	6.6	5.9	5.3	7.2	3.8	9.9
06	5.0	4.9	5.0	3.7	2.6	3.7	3.8	3.5	3.5	4.8	5.4	8.8	8.4	7.8	8.8	8.5	7.3	5.9	5.9	6.9	4.6	6.3	8.0	7.3	5.9	2.6	8.8
07	4.9	2.9	2.5	3.2	3.4	2.5	4.5	5.0	5.3	5.5	5.5	4.3	4.9	4.3	5.0	5.0	4.9	3.4	2.1	1.8	3.3	2.0	1.3	1.6	3.7	1.3	5.5
08	1.4	1.7	1.4	3.7	5.9	4.3	7.7	7.1	5.5	5.4	5.8	6.7	10.1	7.2	8.2	10.2	10.0	6.6	5.4	5.6	4.6	4.5	5.3	4.7	5.8	1.4	10.2
09	4.3	2.5	2.4	2.3	3.2	3.4	1.8	2.0	3.3	4.2	4.8	4.4	4.6	5.1	3.1	3.3	5.7	4.3	4.0	2.7	2.6	3.4	4.3	3.5	3.6	1.8	5.7
10	2.0	4.8	4.1	4.7	5.2	5.5	5.3	6.5	8.6	9.8	9.6	7.5	7.1	7.5	9.8	12.1	13.5	13.4	9.2	8.8	5.7	5.9	6.1	5.4	7.4	2.0	13.5
11	5.9	4.0	5.0	4.2	4.6	3.9	7.4	9.6	11.9	11.6	11.2	10.8	11.0	11.3	12.6	12.1	8.7	9.5	10.6	8.7	7.6	7.0	8.3	5.3	8.5	3.9	12.6
12	7.1	7.5	5.8	5.6	5.0	3.8	4.2	6.2	8.1	9.0	8.4	6.4	6.2	6.4	6.4	7.7	7.5	7.5	6.5	6.6	6.7	5.0	3.7	3.7	6.3	3.7	9.0
13	4.1	4.0	4.3	4.0	3.5	3.8	3.7	3.3	2.5	2.8	3.9	5.8	4.0	4.3	5.7	2.6	5.9	4.8	4.9	4.9	5.2	5.5	3.2	3.1	4.2	2.5	5.9
14	2.0	1.4	2.5	2.5	4.3	3.0	3.2	4.3	5.2	6.1	8.1	8.1	8.4	10.6	11.3	10.5	10.8	10.4	8.6	7.0	6.3	5.9	5.8	5.1	6.3	1.4	11.3
15	5.2	5.1	4.3	4.7	3.2	3.6	3.4	3.7	5.1	5.7	7.7	6.8	7.7	8.2	8.0	10.4	9.0	7.6	5.1	4.2	3.0	1.9	2.5	3.4	5.4	1.9	10.4
16	3.1	2.9	2.8	2.9	2.4	3.8	3.6	3.0	2.9	4.0	4.7	4.0	3.5	3.7	4.6	5.7	6.0	5.2	4.6	2.9	3.1	3.7	3.6	2.7	3.7	2.4	6.0
17	2.5	3.0	3.8	5.7	3.1	3.8	2.6	1.9	3.6	5.5	5.0	5.7	8.1	6.5	6.3	6.1	7.2	5.8	6.1	4.9	5.0	4.3	4.4	4.6	4.8	1.9	8.1
18	2.9	2.4	2.9	2.1	3.7	4.0	4.1	4.3	4.8	5.1	6.6	7.7	6.9	8.8	10.7	8.6	9.5	7.2	6.4	5.2	4.4	4.2	3.2	3.0	5.4	2.1	10.7
19	1.7	1.0	3.0	3.3	3.0	1.3	1.5	3.1	4.5	5.8	5.2	6.3	7.2	7.2	6.9	4.7	4.5	5.4	2.1	1.1	1.6	2.2	2.7	2.5	3.7	1.0	7.2
20	3.0	2.7	1.6	1.2	2.1	1.5	2.3	3.6	3.0	4.2	4.1	7.3	5.1	5.2	4.7	5.0	5.0	4.1	3.2	1.5	1.6	1.3	3.5	4.3	3.4	1.2	7.3
21	3.0	2.4	2.3	2.4	3.7	5.0	6.5	7.5	7.9	7.5	9.8	11.2	12.5	10.9	10.9	9.9	8.9	8.4	6.3	5.0	5.0	5.5	6.5	5.7	6.9	2.3	12.5
22	6.0	6.1	6.1	6.7	6.5	7.5	6.2	6.0	7.1	7.5	9.5	9.4	11.9	12.3	9.6	9.4	6.0	5.6	7.3	6.0	4.1	5.8	4.9	5.4	7.2	4.1	12.3
23	6.1	8.6	5.8	3.9	5.1	6.0	6.8	9.0	8.3	8.7	9.0	8.0	7.1	8.2	9.2	9.5	7.9	6.3	6.8	6.1	5.3	4.6	3.3	3.8	6.8	3.3	9.5
24	3.9	4.1	4.3	5.3	5.7	5.4	6.1	7.4	7.2	6.3	6.6	6.8	6.5	5.1	5.5	5.3	6.1	5.0	3.9	1.4	1.1	1.5	2.9	3.5	4.9	1.1	7.4
25	3.4	5.5	6.0	6.5	6.8	7.4	8.4	9.2	9.5	10.3	8.7	9.6	11.4	16.7	15.8	15.1	14.7	11.8	10.0	7.5	9.3	9.8	8.5	7.8	9.6	3.4	16.7
26	7.2	7.0	8.0	8.1	7.6	11.1	12.3	8.8	11.3	9.4	12.7	12.9	9.6	11.3	11.7	12.2	11.9	10.3	8.2	7.6	10.7	10.1	7.2	6.9	9.8	6.9	12.9
27	5.6	6.0	5.1	5.1	5.9	5.3	5.4	7.3	6.8	6.2	5.5	5.8	5.7	6.3	5.8	5.3	5.9	7.3	6.7	6.8	6.3	6.6	6.2	7.5	6.1	5.1	7.5
28	7.7	8.4	14.6	14.0	12.9	14.0	14.4	13.6	13.1	13.2	14.5	13.1	12.7	14.0	12.5	12.2	14.2	12.5	11.3	11.4	10.9	9.5	10.5	8.1	12.2	7.7	14.6
29	9.4	9.5	10.4	10.9	8.8	8.5	8.2	10.2	9.8	12.0	11.1	11.8	14.0	12.4	10.4	9.4	8.2	7.8	5.4	3.9	3.2	3.2	3.6	2.7	8.5	2.7	14.0
30	2.6	4.9	4.3	3.4	4.5	4.9	6.2	6.3	5.7	5.5	5.1	5.8	6.5	7.0	6.3	6.3	4.7	5.6	3.9	2.1	2.6	3.7	5.5	6.0	5.0	2.1	7.0
31	5.7	3.2	2.6	3.8	4.4	5.3	4.7	6.4	6.3	6.4	7.9	7.1	7.7	8.1	10.1	11.3	10.9	9.7	9.1	7.3	6.8	7.2	5.8	6.7	6.9	2.6	11.3

Total Hours	**744**
Number of Valid Hours	**744**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	6.3	**1.0**	**16.7**

Station : STN29147

Parameter : WD, degrees

Month, Year : May, 2021

terrapure

Monthly Data Matrix

	Hour (Eastern Standard Time)																							
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**
01	307	301	308	316	310	310	341	22	223	174	195	212	200	204	200	214	226	207	216	205	197	200	204	208
02	219	224	215	213	215	256	35	85	36	35	62	54	60	49	82	67	54	55	45	39	36	20	41	17
03	15	13	14	16	13	3	355	358	357	1	3	14	15	11	7	12	9	7	8	15	14	13	13	24
04	31	31	35	20	51	62	71	48	18	24	29	2	3	21	21	2	22	43	303	291	305	308	305	305
05	318	313	313	310	304	305	310	302	301	295	288	305	309	316	311	314	305	322	313	312	295	298	298	305
06	295	289	284	282	294	294	309	334	0	333	324	289	311	283	281	299	276	305	302	303	304	277	229	208
07	190	239	249	194	196	158	123	106	72	74	65	69	69	62	72	69	56	80	87	84	107	140	150	342
08	346	358	309	311	331	319	337	357	13	344	317	299	288	282	327	286	289	282	285	261	246	241	244	239
09	250	227	260	227	234	241	224	178	134	79	71	75	64	62	73	65	161	189	186	197	234	286	288	341
10	325	305	300	270	258	273	300	290	290	306	299	303	299	268	276	281	275	286	288	288	289	292	309	304
11	302	282	289	281	276	245	288	293	299	289	282	300	297	290	287	294	300	300	308	308	303	312	303	283
12	272	263	284	291	295	304	321	337	355	6	16	13	19	359	15	7	17	17	26	0	316	319	310	301
13	298	300	291	288	290	309	312	276	37	320	18	176	35	60	3	13	189	216	209	211	285	315	315	309
14	291	294	213	238	238	223	207	235	245	239	246	237	238	198	199	201	198	200	205	216	218	224	234	241
15	250	241	227	243	202	199	188	208	214	224	199	218	198	203	193	201	212	203	201	198	224	203	203	195
16	204	205	193	208	208	192	187	175	210	237	138	138	139	139	76	78	118	138	207	192	193	195	206	191
17	184	190	213	205	215	228	228	339	226	193	203	200	202	202	205	174	200	204	206	198	210	223	251	247
18	214	211	220	181	213	226	220	210	228	248	240	249	224	195	213	207	206	212	205	203	199	250	255	230
19	220	188	148	222	212	179	87	141	186	184	188	193	179	188	191	196	200	205	3	162	149	172	183	182
20	185	77	13	15	308	353	186	353	1	231	37	39	24	28	50	37	51	35	46	357	306	224	155	185
21	183	183	182	192	186	184	196	216	215	219	240	238	237	245	233	204	217	221	213	197	191	202	207	213
22	224	226	227	230	235	248	256	264	303	296	292	276	277	265	266	269	299	287	293	274	220	226	221	229
23	231	242	246	237	270	254	251	282	280	302	318	337	58	42	44	42	45	44	48	69	66	38	40	34
24	65	60	56	56	56	47	52	46	40	32	31	30	28	33	30	43	47	70	70	54	12	209	189	190
25	188	197	205	204	195	199	198	203	206	205	202	203	233	231	232	225	229	225	220	213	205	204	204	203
26	204	209	200	208	213	213	224	220	228	225	237	231	229	232	248	261	259	263	286	308	322	333	321	300
27	312	295	306	295	300	316	345	4	15	46	32	54	43	54	45	39	52	61	50	42	31	19	18	11
28	12	30	47	55	51	47	54	57	47	45	43	46	49	48	47	55	51	40	56	48	42	45	44	37
29	37	39	35	32	26	29	34	37	42	55	66	56	62	74	80	74	61	62	58	3	349	11	5	347
30	354	8	12	348	6	6	13	34	29	27	30	31	26	36	57	67	58	106	135	169	237	253	260	262
31	241	241	240	248	235	271	310	327	257	309	278	235	229	227	208	195	200	203	210	218	217	230	224	215

Total Hours	**744**
Number of Valid Hours	**744**
Percent Valid Data	**100.0 %**

Station : STN29147
Parameter : ATEM, °C
Month, Year : May, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	3.5	2.9	2.6	2.4	1.8	2.0	3.6	4.4	5.9	7.6	8.9	10.1	10.7	10.9	11.5	12.8	13.0	12.6	11.9	10.6	9.4	9.7	11.1	11.8	8.0	1.8	13.0
02	13.4	13.9	13.1	12.6	12.3	12.4	11.6	11.9	13.1	12.3	13.6	13.4	14.7	16.3	16.8	17.4	14.4	10.7	9.2	7.3	7.1	7.2	8.2	8.2	12.1	7.1	17.4
03	8.4	6.8	6.3	5.9	5.9	6.0	6.6	6.8	6.6	7.6	8.2	8.2	6.9	6.1	5.8	5.7	6.0	6.3	6.0	5.8	5.6	5.3	5.3	5.5	6.4	5.3	8.4
04	5.6	5.6	5.6	5.5	5.7	5.8	6.4	6.9	7.1	7.1	6.5	6.0	6.3	7.3	7.5	8.9	9.5	9.4	9.0	11.1	10.9	10.2	9.2	8.5	7.6	5.5	11.1
05	8.4	8.5	8.5	8.4	7.9	6.9	6.6	6.9	7.7	8.3	8.9	9.5	11.2	11.3	11.3	10.8	10.6	9.6	8.5	8.2	7.0	6.5	5.9	5.6	8.5	5.6	11.3
06	5.0	4.3	3.8	3.0	2.7	3.3	5.8	7.3	8.4	10.0	10.5	11.9	12.4	13.4	13.8	13.8	13.9	12.6	11.5	10.9	10.2	9.5	7.6	5.6	8.8	2.7	13.9
07	5.5	5.6	5.8	5.5	5.1	5.0	5.2	5.1	5.3	5.5	5.9	6.4	7.2	7.6	8.4	9.6	9.5	9.7	8.9	6.9	5.5	4.4	3.4	3.0	6.3	3.0	9.7
08	2.9	3.0	2.8	3.9	5.0	5.2	6.2	7.1	8.0	9.8	11.7	12.7	11.8	11.1	11.0	11.1	9.6	9.8	9.1	8.4	8.0	7.0	7.1	6.1	7.9	2.8	12.7
09	5.4	4.7	4.0	2.9	2.5	2.9	5.4	8.2	9.8	10.3	10.0	10.2	10.2	10.0	9.8	9.7	9.2	8.2	7.5	6.8	6.3	6.1	6.4	6.5	7.2	2.5	10.3
10	4.9	4.7	4.2	3.1	2.6	2.9	6.0	7.9	9.8	11.0	12.1	11.7	11.8	12.9	13.1	12.7	12.6	11.3	10.1	8.8	7.7	7.2	6.4	5.4	8.4	2.6	13.1
11	4.7	3.7	3.3	2.9	2.5	2.3	4.7	6.4	7.9	8.4	8.7	8.9	10.0	10.1	10.2	8.8	8.3	8.6	7.7	6.7	6.1	5.7	5.4	5.0	6.5	2.3	10.2
12	4.5	3.8	4.2	4.3	3.8	5.5	7.7	9.9	12.0	13.1	13.9	14.7	15.4	16.4	17.0	17.4	17.3	16.4	14.8	13.8	12.9	11.8	10.7	9.9	11.3	3.8	17.4
13	9.7	9.4	8.7	8.2	7.5	9.1	10.2	12.3	14.5	16.4	17.6	18.6	18.1	18.7	18.6	18.9	18.0	16.7	16.1	15.1	14.4	14.2	12.8	11.5	14.0	7.5	18.9
14	10.2	9.6	7.2	7.7	8.3	9.1	11.2	14.3	16.9	18.0	18.8	19.6	20.4	20.3	20.3	20.1	19.6	18.6	17.6	16.0	14.7	14.1	13.5	12.3	14.9	7.2	20.4
15	12.0	11.5	9.4	9.9	6.8	7.1	9.3	13.6	16.6	18.8	20.2	21.2	21.1	20.4	20.8	21.0	20.1	19.5	18.9	17.4	16.6	14.9	13.5	13.1	15.6	6.8	21.2
16	12.5	10.3	8.9	8.5	7.1	7.1	9.5	13.3	17.3	20.0	19.7	20.7	21.4	21.7	21.6	20.3	20.5	20.6	18.6	16.9	15.1	13.5	13.1	11.0	15.4	7.1	21.7
17	9.6	9.3	10.3	9.7	8.5	9.5	12.7	16.2	18.3	20.1	21.1	21.8	22.5	22.8	23.1	23.3	23.3	22.9	21.7	19.4	18.2	17.6	17.2	16.8	17.3	8.5	23.3
18	13.8	11.4	12.5	9.4	10.5	12.5	14.9	17.6	20.3	22.6	24.2	25.0	25.6	25.8	26.1	26.2	25.5	24.8	23.9	22.1	19.9	19.2	18.7	15.7	19.5	9.4	26.2
19	14.0	13.5	13.8	13.7	13.4	13.7	19.8	22.1	22.9	24.0	24.9	26.7	27.6	28.1	27.7	27.5	27.4	26.9	23.9	21.7	20.1	20.1	19.2	17.4	21.3	13.4	28.1
20	17.4	17.6	17.5	16.9	16.8	17.0	20.1	20.5	20.2	24.0	25.9	28.0	26.8	26.4	28.9	29.1	28.9	27.5	25.5	23.0	21.0	20.1	19.1	19.7	22.4	16.8	29.1
21	17.8	16.9	16.7	16.4	17.2	17.7	20.2	23.0	25.4	27.1	29.2	30.0	30.6	31.1	30.8	29.6	29.2	29.0	28.2	25.8	23.0	21.7	20.7	20.1	24.1	16.4	31.1
22	20.0	20.0	19.8	19.2	19.6	20.2	20.6	21.8	24.5	25.4	25.5	25.4	25.3	23.8	23.4	23.9	24.8	25.6	25.5	24.2	22.1	20.8	20.3	20.3	22.6	19.2	25.6
23	20.3	20.2	19.6	18.8	18.8	20.5	21.8	24.1	25.6	27.0	26.1	25.5	22.5	21.3	21.5	21.5	21.7	21.2	20.0	18.5	17.5	16.1	15.5	14.6	20.8	14.6	27.0
24	14.2	13.6	13.1	12.5	12.3	12.6	13.6	14.2	14.4	14.4	14.7	14.7	15.9	16.9	17.4	17.7	17.6	17.3	16.9	15.9	14.9	14.2	14.9	15.3	15.0	12.3	17.7
25	15.7	15.9	16.3	16.8	16.7	17.4	19.5	22.2	23.2	24.9	26.4	28.9	29.7	30.8	30.9	29.8	29.2	28.5	27.6	26.6	25.7	24.9	23.9	23.1	23.9	15.7	30.9
26	22.4	22.3	21.4	21.2	21.2	21.4	21.2	21.2	21.1	21.9	22.7	21.9	22.1	22.6	23.3	24.0	24.1	23.0	19.6	19.4	17.4	15.3	13.7	12.1	20.7	12.1	24.1
27	10.5	8.8	8.0	7.0	6.4	7.3	8.8	10.5	12.3	14.0	15.1	16.0	16.3	17.3	17.8	17.2	16.9	15.0	13.8	12.6	11.6	10.7	9.9	9.4	12.2	6.4	17.8
28	8.9	9.0	9.6	9.3	8.4	7.3	6.2	5.6	4.9	3.9	3.3	3.3	3.6	4.0	4.0	4.0	4.2	4.6	4.9	5.4	5.6	5.8	6.0	6.1	5.7	3.3	9.6
29	5.8	6.0	6.3	6.6	6.4	6.3	7.0	7.6	8.2	9.0	10.4	11.3	12.3	12.9	13.5	13.9	14.5	13.7	12.7	11.1	10.4	10.5	10.3	9.3	9.8	5.8	14.5
30	9.2	9.9	8.9	8.0	8.2	8.5	9.6	10.6	11.3	12.2	12.9	13.7	14.3	15.5	16.2	17.0	16.8	16.6	16.2	14.6	13.1	12.9	12.5	12.1	12.5	8.0	17.0
31	11.3	9.2	8.6	8.5	7.1	9.2	13.6	14.9	16.9	18.9	20.0	20.3	21.2	21.8	21.9	21.3	20.8	20.0	19.1	17.9	16.9	16.3	15.6	15.0	16.1	7.1	21.9

Total Hours	**744**
Number of Valid Hours	**744**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	13.6	**1.8**	**31.1**

Station : STN29147
Parameter : RH, %
Month, Year : May, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																										
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	63	66	68	70	74	74	65	53	46	34	40	43	46	42	34	28	20	30	40	48	56	61	57	53	50	20	74
02	51	53	59	63	67	69	69	66	62	62	55	54	52	49	47	47	54	64	71	79	80	82	83	84	63	47	84
03	84	90	92	95	96	97	97	93	94	91	90	94	97	98	99	99	99	99	99	96	96	96	95	92	95	84	99
04	88	89	90	92	91	92	92	91	90	91	93	97	98	98	97	93	93	92	92	90	88	87	87	88	92	87	98
05	87	85	85	85	86	85	86	84	81	78	77	74	69	62	58	60	60	67	70	67	74	77	78	77	76	58	87
06	76	78	80	82	83	81	72	68	65	59	45	33	31	32	31	31	31	33	34	39	41	46	63	83	55	31	83
07	84	82	79	85	90	92	87	82	81	76	73	71	67	63	60	54	50	47	51	62	68	75	80	84	73	47	92
08	90	95	96	89	85	87	75	65	61	56	49	44	49	54	54	57	63	60	64	72	74	79	80	80	70	44	96
09	81	83	83	87	87	86	75	61	53	54	56	45	44	48	42	41	55	73	80	84	86	86	80	66	68	41	87
10	67	63	66	70	73	76	71	66	59	50	46	46	46	40	37	38	35	40	41	44	49	51	54	55	53	35	76
11	60	66	69	72	74	76	69	63	55	51	48	50	46	44	43	46	50	48	52	59	65	71	76	79	60	43	79
12	82	85	82	80	82	74	64	55	39	31	26	28	27	27	25	22	20	20	25	30	33	35	37	39	45	20	85
13	37	36	40	43	46	44	43	39	36	33	30	28	28	29	27	27	34	37	38	38	41	37	39	41	36	27	46
14	44	45	59	54	50	50	49	38	27	24	23	21	20	22	25	25	25	26	28	31	34	33	33	35	34	20	59
15	35	37	45	43	59	60	56	44	36	29	27	25	26	27	23	22	23	24	26	30	29	37	42	45	35	22	60
16	44	56	63	62	71	72	67	55	34	22	27	24	23	23	23	25	27	28	34	40	46	51	50	60	43	22	72
17	68	71	68	73	80	74	62	50	40	35	36	33	32	31	29	28	29	30	32	41	42	42	41	41	46	28	80
18	55	66	60	76	73	62	54	48	41	34	30	28	27	30	28	28	28	28	30	33	38	36	37	50	43	27	76
19	58	61	58	58	57	59	46	39	35	33	32	27	25	23	23	24	26	27	42	47	53	49	54	61	42	23	61
20	63	61	61	64	65	60	55	54	56	47	44	37	40	42	35	34	33	37	42	51	60	63	63	58	51	33	65
21	66	71	73	76	72	72	61	50	44	40	31	28	27	26	27	32	31	30	33	40	52	58	61	64	49	26	76
22	64	62	62	66	65	61	61	58	52	51	52	55	55	62	66	65	62	58	58	63	73	75	74	71	62	51	75
23	68	67	72	77	80	77	73	64	60	56	59	61	71	69	62	59	56	56	57	63	63	70	75	79	66	56	80
24	79	79	79	81	77	78	68	68	73	74	71	69	63	60	58	56	49	48	47	53	60	64	60	56	65	47	81
25	54	56	61	67	75	83	85	78	75	69	64	54	40	31	28	30	33	37	40	42	45	48	53	58	54	28	85
26	61	61	64	66	67	67	75	81	82	79	72	72	69	71	67	57	55	59	79	75	70	64	65	66	69	55	82
27	65	70	71	76	79	76	72	68	62	55	48	44	43	42	41	42	42	44	46	45	42	38	52	55	55	38	79
28	57	61	63	58	61	70	79	80	85	93	95	95	95	95	96	96	94	92	85	81	82	79	78	81	81	57	96
29	87	72	66	63	64	65	64	62	61	58	48	53	46	40	38	34	33	38	41	54	53	50	47	50	54	33	87
30	50	44	51	57	55	58	58	59	62	61	64	58	51	44	38	31	27	29	33	41	46	44	43	48	48	27	64
31	55	67	70	70	74	65	46	39	37	33	31	30	28	28	33	34	34	37	37	38	40	41	45	49	44	28	74

Total Hours	**744**
Number of Valid Hours	**744**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	57	**20**	**99**

Station : STN29147
Parameter : Precipitation, mm
Month, Year : May, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																								
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Total**	**Max**
01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
03	-	-	-	-	-	-	-	-	-	-	-	0.1	0.4	0.4	0.4	0.4	-	-	0.1	-	0.7	0.9	-	-	3.3	0.9
04	-	-	-	-	-	-	-	-	-	-	0.2	0.5	-	-	-	-	-	-	-	-	-	-	-	-	0.7	0.5
05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
07	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	0.1
08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
26	-	-	-	-	-	-	0.5	-	1.2	-	-	-	-	-	-	-	-	0.7	0.5	-	-	0.1	-	-	3.1	1.2
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
28	-	-	-	-	-	1.0	0.2	0.6	0.7	1.6	3.5	3.3	3.7	3.3	2.9	1.8	0.4	0.2	-	-	-	-	-	-	23.3	3.7
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0

Total Hours	**744**
Number of Valid Hours	**744**
Percent Valid Data	**100.0 %**

Monthly :	**Total**	**Max**
	30.5	**3.7**

Station : STN29147

Parameter : PM10, µg/m^3

Month, Year : June, 2021

terrapure

Monthly Data Matrix

1 Hr MECP Reportable Threshold - 100 µg/m^3

24 Hr MECP Reportable Threshold - 50 µg/m^3

	Hour (Eastern Standard Time)																										
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	15	12	21	2	23	15	28	47	28	16	38	32	28	26	30	24	20	23	16	15	12	16	14	19	22	2	47
02	18	23	21	24	27	32	37	30	22	41	19	18	13	29	25	20	24	16	25	24	11	5	5	10	22	5	41
03	9	12	10	6	10	6	1	4	12	13	32	13	14	20	8	9	10	8	8	12	10	6	6	7	10	1	32
04	7	11	12	7	7	12	18	14	17	17	25	20	22	26	28	22	18	13	12	12	21	20	23	20	17	7	28
05	25	20	20	14	16	23	22	18	21	30	34	16	21	16	21	21	26	32	20	16	16	21	18	19	21	14	34
06	21	15	15	15	20	19	13	16	16	15	16	19	21	27	18	22	11	20	15	12	21	23	21	18	18	11	27
07	0	7	14	20	20	20	15	25	14	24	28	18	25	16	27	18	16	8	7	5	7	7	7	11	15	0	28
08	7	6	8	6	8	9	10	11	10	10	10	21	19	20	16	31	20	5	7	8	8	10	12	11	12	5	31
09	9	11	10	10	11	7	8	17	23	19	20	17	49	17	22	21	24	14	16	26	21	22	19	18	18	7	49
10	15	19	12	17	7	7	6	10	18	35	30	32	19	17	27	26	22	11	10	10	5	1	7	5	15	1	35
11	2	6	8	9	9	7	6	9	11	23	17	15	19	15	18	19	18	13	11	12	10	17	20	5	12	2	23
12	7	9	7	5	6	1	10	17	22	8	10	11	10	10	13	21	10	25	9	46	42	22	7	10	14	1	46
13	14	26	15	20	20	24	23	28	13	13	14	18	15	10	17	16	24	26	40	3	8	12	9	5	17	3	40
14	1	1	7	10	10	12	14	18	20	10	9	10	11	9	11	11	10	11	10	7	2	1	8	10	9	1	20
15	7	7	11	10	7	5	8	24	28	46	32	107	52	20	20	17	18	21	18	21	11	11	11	19	22	5	107
16	11	20	13	11	8	10	13	11	11	10	10	13	22	12	11	11	12	9	10	13	10	8	8	9	12	8	22
17	10	12	13	6	8	14	18	26	43	47	---	25	19	21	17	23	22	14	17	16	25	1	17	18	19	1	47
18	14	18	18	24	22	39	24	18	16	13	19	10	11	10	21	20	21	21	19	8	17	10	17	15	18	8	39
19	16	21	20	20	18	20	20	24	23	25	27	24	30	25	27	39	28	10	12	17	17	18	21	9	21	9	39
20	12	15	17	13	22	16	13	13	13	16	8	21	20	24	22	18	16	18	24	23	17	14	16	21	17	8	24
21	24	25	12	10	6	3	5	7	8	18	19	12	11	8	21	21	41	20	12	13	11	5	1	3	13	1	41
22	10	9	5	7	7	2	3	22	36	21	16	20	13	30	33	11	7	5	8	5	21	5	18	11	14	2	36
23	12	13	9	8	11	13	13	14	21	16	25	19	19	27	25	36	25	19	10	12	9	19	22	14	17	8	36
24	14	13	13	9	9	23	17	24	27	33	36	47	47	34	23	59	37	26	25	23	22	13	14	10	25	9	59
25	6	16	9	8	15	12	25	35	76	118	271	451	83	57	25	24	8	10	9	8	10	16	8	18	55	6	451
26	14	13	16	10	12	11	7	4	8	16	20	21	17	15	14	18	15	23	23	18	21	16	18	26	16	4	26
27	11	20	23	18	13	16	17	10	11	17	31	20	13	18	23	17	10	11	13	12	8	6	8	10	15	6	31
28	10	11	12	12	12	12	12	24	18	13	21	17	32	172	140	138	18	21	27	34	11	12	15	19	34	10	172
29	16	10	18	17	22	27	25	27	23	25	31	48	52	73	78	118	18	26	6	7	16	14	14	15	30	6	118
30	12	17	7	7	7	9	9	10	33	17	24	11	12	12	9	11	10	10	10	6	6	10	13	15	12	6	33

Maximum 1 Hr Average	**451**
Maximum 24 Hr Average	**55**
Number of Days > 50 µg/m^3	**1**
Number of Hours > 100 µg/m^3	**8**

Total Hours	**720**
Number of Valid Hours	**719**
Percent Valid Data	**99.9 %**

Monthly :	**Ave**	**Min**	**Max**
	19	**0**	**451**

Station : STN29147
Parameter : WS, m/s
Month, Year : June, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	2.9	2.8	3.2	2.3	2.5	3.0	3.3	2.7	2.5	2.1	3.0	3.7	3.9	4.2	4.6	5.1	5.8	5.3	4.4	3.5	3.0	2.4	2.4	2.0	3.4	2.0	5.8
02	1.8	2.3	0.8	1.9	1.9	1.1	1.3	1.1	1.2	1.5	1.8	2.2	2.1	2.9	2.5	3.4	3.4	2.9	2.4	2.1	3.4	1.8	1.4	2.3	2.1	0.8	3.4
03	2.8	1.8	1.3	1.5	0.8	1.1	0.9	0.5	1.2	1.5	0.9	1.2	1.9	2.2	2.7	3.3	3.2	3.6	3.7	3.4	3.2	3.2	3.4	2.9	2.2	0.5	3.7
04	3.1	3.0	3.5	3.7	3.8	3.9	3.8	4.2	4.7	4.7	4.0	3.9	3.9	4.8	4.8	4.9	4.6	4.8	3.9	3.8	3.7	3.8	3.9	3.6	4.0	3.0	4.9
05	3.6	3.8	4.0	3.9	4.6	5.0	6.1	5.9	5.4	6.1	6.6	6.7	6.6	6.0	6.7	7.0	7.2	6.4	5.5	4.5	3.8	4.0	4.5	4.2	5.3	3.6	7.2
06	4.0	4.1	3.7	3.5	3.6	3.8	4.1	4.3	5.7	5.3	4.8	5.2	6.2	6.6	6.9	7.1	5.5	5.3	4.6	3.6	2.3	2.5	3.0	3.9	4.6	2.3	7.1
07	3.6	3.7	3.3	3.0	3.2	3.3	3.7	3.7	3.7	4.1	4.7	6.0	6.7	6.7	6.3	6.2	6.1	5.2	3.6	2.9	3.1	3.0	2.9	2.5	4.2	2.5	6.7
08	2.9	3.0	2.9	2.4	1.6	1.9	2.7	2.9	2.9	2.8	2.5	3.2	2.2	2.8	2.9	3.3	1.7	1.6	2.0	1.4	1.6	2.1	1.9	1.6	2.4	1.4	3.3
09	0.9	1.1	0.9	1.0	2.0	1.2	0.9	1.2	2.3	2.1	2.4	2.9	2.6	3.0	3.7	3.9	3.4	2.8	1.9	2.1	2.1	2.2	1.3	2.0	2.1	0.9	3.9
10	2.2	2.3	1.9	1.9	2.8	3.2	3.8	4.7	5.1	5.4	5.7	5.5	5.3	5.5	5.6	5.0	4.1	3.7	3.6	2.9	2.9	3.0	2.3	2.6	3.8	1.9	5.7
11	2.9	2.8	3.0	2.8	3.2	3.8	3.8	4.1	4.4	4.9	4.8	5.2	4.7	4.4	4.7	4.3	4.3	3.6	2.9	2.9	4.4	4.2	3.9	3.8	3.9	2.8	5.2
12	3.5	3.2	3.5	2.7	1.9	2.6	2.7	2.7	4.0	4.2	3.8	3.8	3.7	4.1	3.9	3.6	3.0	2.1	1.7	0.9	0.2	0.9	1.3	1.3	2.7	0.2	4.2
13	1.9	0.7	0.5	0.6	0.6	0.3	0.7	1.5	1.6	1.4	2.5	2.5	3.5	3.6	3.8	3.5	3.2	3.5	2.7	2.5	2.6	1.9	1.3	2.2	2.0	0.3	3.8
14	3.1	3.9	2.8	4.0	3.8	3.2	2.4	3.9	2.4	3.5	2.7	2.5	2.5	3.8	4.0	3.4	2.7	2.8	0.7	2.3	1.2	1.3	1.8	1.6	2.8	0.7	4.0
15	1.4	1.5	1.3	1.3	1.3	1.5	2.3	2.7	1.9	2.7	3.3	3.9	3.7	4.4	4.6	3.8	4.5	5.3	4.1	4.0	3.2	2.5	2.2	1.3	2.9	1.3	5.3
16	1.6	1.6	1.4	1.5	2.4	2.0	2.6	2.8	2.6	1.8	2.4	2.7	3.0	3.0	2.7	2.5	2.5	2.9	2.3	1.8	1.4	1.3	1.1	0.9	2.1	0.9	3.0
17	1.5	2.5	1.8	2.0	1.9	1.9	1.5	1.9	3.0	3.1	2.8	3.1	4.1	5.3	5.5	5.6	6.1	6.2	5.6	4.2	3.7	3.7	3.6	3.3	3.5	1.5	6.2
18	3.9	4.2	4.5	5.5	5.7	5.2	5.3	5.5	4.2	4.9	6.1	4.9	4.0	4.5	5.7	5.8	6.7	5.8	4.6	4.3	4.5	4.1	3.8	3.5	4.9	3.5	6.7
19	2.9	1.1	2.2	2.3	2.8	3.1	4.0	3.8	3.8	4.2	4.9	5.5	5.4	4.5	4.1	4.4	2.9	1.3	3.1	2.9	2.7	3.1	3.0	2.1	3.3	1.1	5.5
20	1.9	1.9	1.7	2.0	1.5	1.6	0.6	0.7	0.7	1.7	2.1	3.1	2.8	2.7	3.2	3.1	2.7	1.7	3.2	3.2	3.2	3.3	3.0	2.6	2.3	0.6	3.3
21	2.4	3.8	3.8	6.2	6.3	6.4	5.7	5.4	6.8	7.6	8.4	7.1	5.9	6.1	6.8	5.0	4.2	4.0	3.3	3.5	3.0	3.1	3.2	3.4	5.1	2.4	8.4
22	3.1	2.7	2.2	1.7	1.4	1.4	1.4	1.8	2.1	1.7	2.1	2.6	2.5	2.6	2.8	2.7	2.5	2.7	2.2	1.5	2.0	2.1	1.8	2.6	2.2	1.4	3.1
23	2.9	1.8	1.8	2.2	2.4	2.6	1.2	0.9	2.7	3.3	2.6	3.3	3.7	4.8	5.7	6.2	6.3	5.6	4.5	3.8	3.2	2.8	3.5	3.8	3.4	0.9	6.3
24	3.4	3.4	3.2	3.0	3.2	3.5	4.8	6.2	6.3	7.2	7.4	7.7	8.2	9.0	8.0	7.1	5.8	4.7	4.1	4.3	4.6	4.8	5.1	5.4	5.4	3.0	9.0
25	5.4	5.1	4.7	4.6	4.8	5.0	5.2	6.2	6.2	6.9	6.5	6.4	5.6	4.0	2.6	2.9	3.5	4.3	3.2	1.8	1.7	4.8	6.0	7.4	4.8	1.7	7.4
26	8.2	8.9	6.4	8.5	7.4	6.4	6.2	5.7	5.7	5.8	6.2	6.4	6.7	6.5	5.9	6.0	6.3	5.9	6.8	6.4	6.5	6.4	7.3	7.5	6.7	5.7	8.9
27	7.4	7.5	6.9	7.0	6.4	6.2	6.5	6.5	5.9	6.8	7.4	7.5	8.1	8.0	7.9	8.2	6.8	5.6	5.5	4.9	4.5	4.6	4.5	4.5	6.5	4.5	8.2
28	3.8	3.6	3.0	3.0	3.0	3.8	3.8	3.7	4.0	3.6	4.3	4.9	5.1	5.1	4.1	4.2	3.5	2.4	1.4	2.5	1.4	1.8	1.6	2.1	3.3	1.4	5.1
29	2.2	1.5	1.1	1.2	2.0	1.6	2.3	3.2	3.7	3.5	3.6	4.0	5.6	5.9	6.2	3.4	2.7	2.0	2.0	2.8	3.6	3.8	5.0	4.0	3.2	1.1	6.2
30	3.2	3.8	3.7	3.5	3.3	3.1	3.1	3.8	4.2	3.5	4.0	4.5	5.4	5.1	4.1	3.6	3.1	2.3	2.4	1.6	1.3	0.6	0.9	0.3	3.1	0.3	5.4

Total Hours	**720**
Number of Valid Hours	**720**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	3.6	**0.2**	**9.0**

Station : STN29147
Parameter : WGust, m/s
Month, Year : June, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	6.3	5.0	5.4	4.6	5.1	5.8	5.4	4.8	5.2	4.8	6.9	7.4	9.7	8.6	8.6	9.3	10.0	9.4	7.1	7.3	4.9	4.7	4.5	3.7	6.4	3.7	10.0
02	3.0	4.0	2.1	2.9	3.0	2.4	2.3	1.9	2.7	3.6	5.0	6.0	5.4	5.5	5.1	6.3	6.1	6.4	4.8	4.1	9.0	4.8	2.4	3.7	4.3	1.9	9.0
03	4.1	3.8	2.4	2.6	2.3	1.7	1.7	1.5	2.0	3.2	2.3	3.1	3.6	5.2	5.1	5.7	5.9	7.0	6.6	5.5	5.3	5.6	5.8	5.1	4.0	1.5	7.0
04	5.6	5.4	6.8	7.1	7.4	6.7	6.1	7.1	7.6	7.9	6.9	7.0	7.6	8.0	8.4	8.8	9.1	9.5	8.6	6.7	6.4	6.4	6.4	6.5	7.3	5.4	9.5
05	6.4	6.6	6.7	6.7	9.5	9.4	10.3	9.7	11.2	12.5	11.6	11.4	11.6	11.5	14.3	13.4	14.6	13.6	12.9	8.5	7.0	7.2	7.6	7.5	10.1	6.4	14.6
06	6.9	7.0	6.7	5.5	5.9	7.1	7.1	7.6	10.4	9.3	9.1	9.7	11.2	11.8	11.7	12.2	11.3	9.9	10.1	7.7	4.3	3.9	4.8	5.9	8.2	3.9	12.2
07	5.4	5.5	4.9	4.8	5.5	6.2	6.1	7.0	7.1	8.2	9.2	11.0	11.5	12.0	11.5	13.0	12.2	9.6	7.5	5.3	5.7	5.3	5.2	4.8	7.7	4.8	13.0
08	5.4	5.2	4.7	3.8	3.9	3.1	4.6	5.2	5.2	5.0	4.8	5.5	5.6	6.1	7.7	11.6	3.6	3.4	3.5	2.9	3.4	3.4	3.5	2.9	4.8	2.9	11.6
09	3.0	3.3	2.1	2.7	3.1	2.7	2.6	3.2	5.9	4.1	4.8	5.7	4.8	6.8	6.2	7.2	6.1	5.6	3.5	3.5	3.8	4.0	2.8	3.3	4.2	2.1	7.2
10	3.8	4.5	3.8	3.5	5.2	5.9	6.7	8.4	8.8	9.1	9.5	9.3	9.3	10.6	9.8	9.0	7.0	6.7	6.7	5.1	4.6	5.0	4.1	4.1	6.7	3.5	10.6
11	5.3	4.9	5.0	4.6	6.0	6.9	7.2	7.6	8.1	8.5	7.9	8.8	7.2	7.2	8.2	7.6	7.1	8.3	5.3	5.9	9.0	8.9	6.7	7.7	7.1	4.6	9.0
12	7.2	5.6	6.4	5.6	4.1	4.7	5.1	5.7	7.2	7.3	6.8	6.7	6.6	7.0	6.7	6.3	5.4	4.3	3.1	2.0	1.0	1.9	2.5	2.1	5.1	1.0	7.3
13	3.4	3.1	1.5	1.9	2.3	1.3	1.9	4.1	4.4	4.0	6.3	6.4	7.3	7.8	8.6	8.3	11.0	10.7	7.4	9.4	8.7	5.9	4.3	3.9	5.6	1.3	11.0
14	4.9	6.1	5.5	6.6	6.1	6.5	7.4	13.1	5.0	5.7	6.3	7.6	8.4	9.5	9.4	10.1	8.0	7.2	5.4	7.6	3.4	4.4	5.8	4.2	6.8	3.4	13.1
15	4.1	5.1	4.3	3.8	4.2	5.7	5.3	6.4	6.6	7.5	9.3	9.3	10.4	10.6	9.3	9.2	10.3	10.4	10.6	9.2	8.4	8.1	5.9	4.1	7.4	3.8	10.6
16	4.2	4.4	3.2	3.7	5.3	4.4	5.1	4.9	5.5	5.6	7.6	8.7	9.2	10.0	6.6	8.1	7.4	8.2	7.1	6.5	3.9	4.5	3.6	2.3	5.8	2.3	10.0
17	2.4	3.8	3.9	3.6	3.0	3.5	3.2	4.6	5.9	6.3	6.4	7.6	8.2	9.1	9.6	9.6	9.5	10.3	9.0	7.8	5.4	5.5	5.3	5.4	6.2	2.4	10.3
18	5.8	6.4	7.1	9.0	9.3	9.8	9.9	11.4	8.0	9.5	11.1	9.0	7.0	9.6	10.6	13.6	13.3	12.1	11.0	7.8	7.7	6.7	7.7	7.0	9.2	5.8	13.6
19	7.4	2.6	3.8	4.1	5.4	5.9	6.6	6.7	6.8	7.6	10.8	11.1	9.7	8.3	10.5	12.8	10.2	4.4	6.1	6.4	5.0	5.2	5.5	4.2	7.0	2.6	12.8
20	3.0	3.2	2.6	3.1	3.4	3.0	1.5	2.2	2.6	4.7	4.7	5.1	4.8	4.6	5.9	5.6	4.6	4.9	6.4	5.5	5.4	5.3	5.3	4.3	4.2	1.5	6.4
21	5.8	7.6	7.7	11.2	10.8	11.3	11.2	11.1	12.7	14.4	15.5	14.6	10.8	12.5	13.0	16.0	14.2	12.0	11.5	10.7	11.7	11.0	10.1	11.1	11.6	5.8	16.0
22	8.9	8.8	7.9	5.9	4.7	5.1	4.3	5.0	6.2	5.7	6.5	7.7	7.3	8.4	7.7	7.4	7.4	8.5	9.0	5.7	3.0	3.0	3.7	4.2	6.3	3.0	9.0
23	4.1	2.9	3.0	3.9	4.2	5.5	3.1	3.1	6.0	7.4	7.4	8.3	8.1	9.7	10.3	10.8	10.5	10.4	8.1	6.5	5.9	4.9	5.5	6.0	6.5	2.9	10.8
24	5.5	4.8	4.7	4.4	4.8	5.9	8.2	10.6	11.0	11.9	12.6	12.6	13.2	14.4	13.4	13.1	11.2	9.3	7.3	7.9	7.6	7.9	8.2	9.5	9.2	4.4	14.4
25	8.8	9.1	8.7	7.3	7.3	7.8	7.7	10.1	11.1	11.9	11.6	11.1	10.5	8.4	5.8	5.8	6.5	7.5	5.5	3.8	3.5	8.5	10.1	13.2	8.4	3.5	13.2
26	13.9	15.5	12.3	15.1	13.7	11.3	11.8	9.9	11.1	10.5	11.6	13.1	13.4	13.5	11.6	12.2	11.4	11.1	12.3	12.0	10.7	11.7	12.9	13.1	12.3	9.9	15.5
27	12.8	14.1	13.2	13.2	12.4	10.5	11.1	12.1	11.4	12.4	13.8	13.8	15.2	17.3	15.9	15.1	14.3	12.5	10.8	9.2	8.4	7.4	8.3	8.3	12.2	7.4	17.3
28	6.6	7.3	6.0	6.4	5.5	7.2	6.7	6.7	7.7	6.9	8.8	9.3	9.4	9.1	8.5	8.0	7.4	6.1	4.2	12.7	2.7	3.1	3.1	3.4	6.8	2.7	12.7
29	3.8	3.1	2.1	2.7	3.4	3.2	4.7	5.5	6.6	6.5	7.4	9.5	10.6	10.9	11.5	6.7	15.5	12.1	4.1	5.5	6.1	5.9	9.1	8.2	6.9	2.1	15.5
30	6.5	6.6	6.4	6.5	6.7	5.6	5.9	7.5	7.7	7.0	7.0	8.7	9.7	9.3	9.9	10.2	8.6	7.2	5.5	4.7	4.9	2.4	2.1	1.3	6.6	1.3	10.2

Total Hours	**720**
Number of Valid Hours	**720**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	7.2	**1.0**	**17.3**

Station : STN29147
Parameter : WD, degrees
Month, Year : June, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																							
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**
01	216	224	241	221	192	226	237	236	250	246	246	232	244	225	206	207	203	202	204	206	212	217	227	201
02	209	197	147	192	210	205	188	174	154	150	156	143	113	43	79	196	207	199	192	202	200	201	175	168
03	170	179	188	167	221	358	355	336	132	11	358	357	158	209	213	210	206	207	196	190	190	202	209	216
04	212	208	216	224	227	214	209	206	201	201	203	207	196	195	203	206	215	222	213	204	199	196	208	213
05	214	212	210	219	225	232	244	247	253	273	261	250	236	225	221	220	222	222	223	213	214	210	209	211
06	209	206	207	205	204	206	213	218	232	228	218	207	198	200	199	202	215	215	214	211	189	188	189	188
07	188	189	187	196	205	206	204	214	219	220	207	201	198	204	213	225	231	234	230	216	209	207	216	226
08	222	197	187	199	198	177	193	204	209	217	214	247	269	251	238	330	192	243	241	232	205	208	221	212
09	309	329	220	244	224	248	224	221	35	56	40	42	58	59	67	68	69	67	47	24	5	21	40	19
10	13	29	32	36	16	39	41	40	36	42	37	45	43	42	47	50	42	35	33	22	7	11	13	2
11	7	15	17	19	19	20	34	33	23	20	27	27	34	37	39	43	48	56	42	31	47	48	34	40
12	49	34	43	39	58	55	61	52	56	51	56	45	37	41	47	57	68	39	46	67	101	170	188	191
13	193	157	169	280	38	78	25	207	251	265	253	262	239	249	242	263	311	316	316	306	313	317	299	258
14	254	258	280	256	262	273	292	307	265	249	220	248	280	272	271	293	304	7	55	352	339	311	316	294
15	306	313	310	300	300	311	324	328	305	321	330	339	329	350	352.0	339.0	348.0	356.0	343.0	343.0	337.0	330.0	339.0	330
16	344	349	345	349	354	358	7	20	21	8	315	316	326	333	320	318	306	315	307	298	297	311	318	311
17	272	258	291	290	275	250	225	205	213	222	228	233	202	191	192	194	190	191	194	190	186	185	185	186
18	189	189	189	200	198	200	207	219	216	220	206	204	205	206	206	225	226	218	219	207	197	201	214	224
19	256	236	239	235	225	243	244	236	236	240	234	240	217	242	279	315	286	270	236	209	189	198	208	212
20	176	189	202	204	227	190	168	119	131	158	155	49	52	55	47	47	56	70	190	184	191	187	195	190
21	223	195	205	197	193	191	195	195	210	216	225	223	214	224	245	285	302	309	308	308	306	304	310	323
22	305	312	307	296	297	300	298	337	322	308	319	323	318	318	321	312	306	305	303	301	266	233	223	239
23	249	230	225	229	237	257	285	344	253	251	254	241	224	207	198	199	193	209	206	204	200	182	183	184
24	184	183	185	184	186	185	185	193	193	189	195	198	194	192	187	199	200	194	186	182	178	180	183	183
25	186	187	189	184	182	183	184	186	193	198	200	194	197	216	236	232	204	184	175	163	182	172	179	184
26	188	189	205	204	205	204	204	204	208	203	204	212	211	213	215	211	206	205	201	202	200	200	200	203
27	204	203	206	207	206	203	202	206	211	220	222	217	214	219	223	224	226	219	215	207	206	204	205	208
28	207	210	213	218	213	204	213	211	212	226	229	238	242	239	238	235	242	265	244	212	210	228	198	200
29	236	214	171	174	189	183	199	206	214	219	215	216	209	224	232	347	327	236	216	203	203	188	196	211
30	216	204	207	222	225	219	216	238	236	234	244	259	246	265	283	283	285	291	274	339	322	308	304	271

Total Hours	**720**
Number of Valid Hours	**720**
Percent Valid Data	**100.0 %**

Station : STN29147
Parameter : ATEM, °C
Month, Year : June, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	15.1	14.8	15.0	15.3	14.2	14.7	15.4	16.5	19.1	20.5	21.9	22.9	23.6	23.7	23.3	23.8	23.3	22.5	21.4	19.8	18.2	16.9	16.9	14.6	18.9	14.2	23.8
02	13.8	13.2	11.4	11.3	11.7	12.4	15.5	18.0	20.2	21.8	23.0	23.9	24.1	22.4	22.2	23.5	22.8	22.1	21.3	20.1	18.0	15.2	14.5	14.1	18.2	11.3	24.1
03	14.7	15.2	15.5	15.4	15.2	14.1	13.9	14.2	15.9	15.6	17.3	18.7	19.2	20.5	21.2	21.2	21.1	21.5	21.2	19.2	17.7	16.9	16.2	15.9	17.4	13.9	21.5
04	15.5	15.2	14.4	14.7	15.0	15.4	16.4	17.6	18.7	18.7	18.6	20.9	22.9	25.2	25.9	26.1	25.6	25.7	24.6	23.0	21.7	20.3	19.9	19.5	20.1	14.4	26.1
05	19.4	19.7	19.2	19.3	20.2	21.2	22.0	23.5	25.4	27.5	28.7	29.4	30.0	30.1	29.4	28.7	27.9	27.2	26.5	25.6	24.4	23.2	22.4	21.9	24.7	19.2	30.1
06	20.9	19.8	19.2	19.1	18.9	19.4	21.2	23.3	26.2	27.8	29.1	30.0	30.2	30.2	30.3	30.0	30.0	29.4	28.5	26.9	24.4	22.1	20.6	19.4	24.9	18.9	30.3
07	19.1	18.9	18.8	19.2	20.4	20.9	22.1	24.9	26.7	28.2	29.1	29.5	29.0	29.2	28.5	29.4	29.1	27.8	26.9	26.1	25.3	24.1	23.1	22.9	25.0	18.8	29.5
08	22.6	21.6	20.4	20.4	20.5	20.5	21.2	22.1	22.7	23.4	24.6	25.6	26.9	28.0	28.2	23.9	22.3	22.5	23.2	23.1	22.5	22.0	22.4	22.1	23.0	20.4	28.2
09	21.6	21.7	21.1	20.4	20.2	22.0	24.1	25.2	26.0	26.2	27.2	27.9	28.8	29.1	28.2	27.6	26.6	26.9	25.1	22.1	20.8	20.1	19.4	19.1	24.1	19.1	29.1
10	18.6	18.0	17.6	17.7	17.0	17.0	17.8	18.2	18.2	18.5	18.4	19.0	19.6	19.9	20.1	20.4	20.6	19.9	19.2	17.9	16.8	16.3	16.0	16.0	18.3	16.0	20.6
11	15.5	15.2	14.8	14.8	14.6	14.9	16.0	16.7	17.0	17.1	17.3	17.4	17.9	19.1	19.9	19.5	19.6	19.4	17.8	16.9	17.0	16.6	16.2	16.0	17.0	14.6	19.9
12	16.0	15.8	15.9	15.8	15.6	16.3	16.9	18.2	18.8	19.1	20.0	20.7	20.8	21.4	22.1	22.7	22.8	22.7	22.2	21.0	19.9	19.2	19.0	17.5	19.2	15.6	22.8
13	18.0	18.9	18.8	18.9	19.0	19.3	20.2	22.8	24.8	26.1	26.8	27.0	27.7	28.4	28.6	29.0	28.0	27.3	25.8	23.7	22.0	21.1	19.7	18.8	23.4	18.0	29.0
14	18.0	17.4	17.4	16.6	16.2	17.3	16.8	15.2	15.3	16.0	16.2	18.9	21.3	22.7	23.6	21.4	21.2	17.6	17.9	17.4	16.5	16.6	17.1	16.3	18.0	15.2	23.6
15	16.5	16.3	16.1	15.8	15.8	16.4	16.6	16.7	19.5	20.8	21.1	21.6	22.3	22.5	22.7	23.0	22.2	20.8	19.8	18.6	17.6	16.6	15.8	14.1	18.7	14.1	23.0
16	13.7	13.2	12.2	11.2	11.9	12.7	13.5	14.3	15.3	16.6	17.9	19.4	20.6	21.2	20.9	22.0	21.9	20.8	19.7	18.1	16.3	14.9	14.0	12.8	16.5	11.2	22.0
17	11.9	11.3	10.5	10.6	10.7	12.5	15.4	18.0	19.5	20.7	21.7	22.5	23.1	23.5	23.6	23.6	23.5	23.1	22.1	20.4	17.9	16.4	15.8	15.6	18.1	10.5	23.6
18	16.2	17.2	18.6	19.5	19.5	18.5	18.9	18.0	17.9	19.2	19.2	18.7	18.3	20.1	23.0	24.8	24.7	24.3	23.7	22.8	21.5	20.4	20.3	20.6	20.2	16.2	24.8
19	20.8	20.5	19.8	19.4	19.1	19.5	20.8	22.6	24.9	26.6	28.2	29.3	28.8	28.3	27.1	24.2	21.2	21.3	22.3	21.1	19.5	18.2	17.8	17.5	22.5	17.5	29.3
20	16.2	15.2	15.2	14.7	15.1	15.1	18.2	20.9	22.7	23.8	24.8	23.5	23.2	24.4	25.3	24.8	25.2	25.4	25.1	23.4	22.0	21.3	21.0	20.7	21.1	14.7	25.4
21	20.6	20.7	20.1	19.7	19.0	18.7	19.1	20.4	22.7	24.6	24.9	22.7	22.5	25.1	27.0	24.8	23.3	21.4	19.8	18.0	16.7	14.9	13.4	12.3	20.5	12.3	27.0
22	11.4	10.8	10.4	9.7	9.3	10.1	11.4	12.4	13.2	13.6	15.4	16.4	16.8	17.6	17.5	17.8	18.0	17.9	17.2	15.6	14.4	13.8	12.6	12.1	14.0	9.3	18.0
23	11.7	10.5	9.9	9.7	10.6	12.3	14.7	17.0	18.4	19.3	20.6	21.5	22.3	22.3	22.6	22.7	22.7	22.3	21.7	20.1	18.6	16.9	16.4	16.0	17.5	9.7	22.7
24	15.4	15.2	14.6	14.4	14.5	15.7	18.0	20.4	21.6	22.8	24.0	25.5	26.6	27.0	27.3	27.2	26.7	25.9	25.3	23.9	22.8	22.6	22.5	22.0	21.7	14.4	27.3
25	21.5	20.9	20.5	20.2	19.6	19.7	19.9	20.7	21.7	23.8	25.1	26.0	26.2	25.4	24.3	22.7	21.7	21.4	21.0	20.8	20.8	20.3	20.5	20.7	21.9	19.6	26.2
26	20.8	21.0	20.7	20.1	20.2	20.4	20.6	21.4	22.1	22.7	22.9	25.2	25.6	25.8	26.2	27.2	27.1	27.4	26.5	25.8	25.3	25.3	25.0	24.7	23.8	20.1	27.4
27	24.4	23.9	23.5	23.2	22.7	22.7	23.4	24.4	25.9	27.6	28.1	28.5	28.9	29.3	29.3	29.5	30.0	29.5	27.8	25.9	24.5	23.7	23.5	23.4	26.0	22.7	30.0
28	24.0	24.3	24.1	23.5	23.1	23.1	23.8	25.1	26.8	27.7	28.9	29.5	30.0	30.6	30.9	31.0	30.6	30.3	28.9	24.5	24.5	23.7	23.2	22.9	26.5	22.9	31.0
29	22.8	22.8	21.9	21.6	21.5	22.3	23.9	25.4	27.3	29.1	30.4	30.9	31.7	32.4	32.6	29.1	26.4	22.3	23.1	22.8	22.9	22.7	22.6	22.4	25.5	21.5	32.6
30	22.3	22.1	22.2	22.4	22.3	22.4	22.6	23.5	24.3	24.7	23.9	24.7	25.5	26.0	26.5	26.4	25.9	25.6	24.8	23.9	22.4	20.9	20.5	19.9	23.6	19.9	26.5

Total Hours	**720**
Number of Valid Hours	**720**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	21.0	**9.3**	**32.6**

Station : STN29147
Parameter : RH, %
Month, Year : June, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																										
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	49	52	51	53	62	59	56	55	46	42	37	33	31	31	35	32	32	33	37	42	47	52	50	61	45	31	62
02	65	71	80	80	76	77	69	56	44	38	35	32	34	43	42	36	40	45	49	55	70	87	93	95	59	32	95
03	96	96	96	97	97	98	98	98	98	97	93	84	85	76	75	75	76	75	78	82	86	88	91	92	89	75	98
04	93	95	97	98	98	98	96	91	86	86	88	81	74	63	55	57	54	49	51	59	69	75	75	76	78	49	98
05	75	71	72	68	62	57	56	52	48	40	37	33	33	35	36	38	40	42	43	45	50	55	57	59	50	33	75
06	63	68	71	72	74	73	67	62	52	48	45	45	45	43	41	39	36	35	36	42	53	62	67	71	55	35	74
07	71	71	71	73	75	77	76	69	64	59	56	53	54	55	53	48	48	50	54	58	63	69	75	76	63	48	77
08	78	84	93	94	94	95	95	92	89	87	81	75	67	60	61	81	89	85	78	79	83	90	91	93	84	60	95
09	92	88	89	92	93	88	80	77	72	70	64	60	55	53	60	61	60	50	59	73	78	81	84	86	74	50	93
10	87	89	89	87	92	81	74	72	71	67	65	63	59	56	53	49	49	51	51	59	68	73	75	76	69	49	92
11	80	79	81	82	86	85	76	72	70	72	74	75	72	67	60	62	60	60	70	77	76	79	83	84	74	60	86
12	81	81	77	75	75	74	73	69	62	61	58	54	54	51	48	44	43	46	48	53	53	52	54	64	60	43	81
13	61	60	61	63	63	62	61	51	45	48	50	52	51	49	49	47	48	47	41	39	43	50	57	62	53	39	63
14	66	68	65	69	71	67	71	85	87	84	84	73	60	52	47	56	57	74	78	78	81	81	79	82	71	47	87
15	80	79	81	83	82	77	69	64	51	40	34	28	23	19	19	19	20	23	26	28	30	32	36	45	45	19	83
16	46	50	54	59	55	54	53	52	46	40	36	31	28	27	29	26	28	31	32	35	38	40	42	48	41	26	59
17	52	55	59	59	58	52	45	38	30	27	26	24	23	24	25	28	33	34	36	42	52	60	66	68	42	23	68
18	66	64	63	60	61	74	74	81	87	82	86	90	91	82	68	62	61	65	69	75	80	84	87	89	75	60	91
19	89	89	93	93	93	91	84	74	61	51	42	34	44	41	42	46	66	67	61	67	75	83	84	83	69	34	93
20	87	92	93	95	95	94	84	72	61	58	57	61	63	61	59	60	61	62	70	77	83	86	88	89	75	57	95
21	92	94	93	90	91	94	93	89	82	69	64	77	85	72	53	58	59	58	60	64	67	69	71	74	76	53	94
22	75	76	76	78	79	77	74	70	66	62	49	43	40	37	36	34	35	33	34	40	45	50	56	64	55	33	79
23	71	79	83	85	80	72	64	54	49	44	39	33	31	41	37	36	36	38	42	49	57	66	70	72	55	31	85
24	74	73	77	80	81	76	67	53	46	42	39	34	32	32	33	34	38	42	45	49	51	47	46	48	52	32	81
25	51	54	57	59	63	64	66	64	61	55	53	51	52	57	66	78	88	88	89	90	88	90	91	89	69	51	91
26	87	84	86	92	93	94	94	91	83	77	74	70	69	69	71	66	66	66	66	68	69	68	68	68	77	66	94
27	68	68	69	70	72	73	72	69	66	60	59	58	58	57	57	57	55	57	63	71	77	80	79	83	67	55	83
28	82	81	82	84	85	85	83	81	75	70	64	60	58	57	57	56	57	58	65	82	86	88	89	91	74	56	91
29	91	91	94	95	94	91	85	80	75	69	64	61	59	51	45	56	65	87	85	86	84	84	83	84	77	45	95
30	85	88	90	89	89	89	89	87	83	81	84	81	74	68	60	60	61	60	63	67	70	78	80	84	78	60	90

Total Hours	**720**
Number of Valid Hours	**720**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	65	**19**	**98**

Station : STN29147
Parameter : Precipitation, mm
Month, Year : June, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																								
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Total**	**Max**
01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	1.1	2.0	2.2	5.5	2.2
03	0.9	0.7	1.5	2.9	4.2	2.4	1.2	0.7	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14.6	4.2
04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
08	-	0.1	0.4	0.2	1.6	-	-	0.1	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	2.6	1.6
09	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	0.1
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
14	-	-	-	-	-	-	0.4	3.1	-	0.1	0.2	-	-	-	-	0.2	-	2.8	-	-	-	-	-	-	6.8	3.1
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
17	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	0.2
18	-	-	-	-	-	0.6	-	1.7	0.4	-	0.4	1.7	0.1	-	-	-	-	-	-	-	-	-	-	-	4.9	1.7
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	-	-	-	-	-	-	0.5	0.5
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
21	2.1	5.3	1.2	0.2	-	0.1	1.2	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	10.2	5.3
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	0.5	0.2	0.1	-	1.2	2.4	2.1	0.7	8.5	2.4
26	-	1.1	2.6	6.6	3.2	6.7	2.0	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22.2	6.7
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.9	-	-	-	-	3.9	3.9
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.7	9.0	-	-	-	-	-	-	14.8	9.0
30	-	-	-	-	-	-	-	-	-	-	6.3	-	-	-	-	-	-	-	-	-	-	-	-	-	6.3	6.3

Total Hours	**720**
Number of Valid Hours	**720**
Percent Valid Data	**100.0 %**

Monthly :	**Total**	**Max**
	101.2	**9.0**

Station : STN29147

Parameter : PM10, µg/m^3

Month, Year : July, 2021

terrapure
Monthly Data Matrix

1 Hr MECP Reportable Threshold - 100 µg/m^3

24 Hr MECP Reportable Threshold - 50 µg/m^3

	Hour (Eastern Standard Time)																										
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	14	26	45	9	9	9	11	13	15	15	8	19	17	25	22	7	21	13	13	13	10	19	7	16	16	7	45
02	23	11	10	8	10	12	9	8	16	21	26	10	11	12	13	12	---	1	1	12	13	10	8	11	12	1	26
03	10	8	8	7	7	18	5	17	23	17	6	10	12	12	9	4	5	3	4	8	16	26	8	11	11	3	26
04	17	15	12	18	17	15	29	20	21	17	8	9	12	10	9	12	10	8	8	10	11	11	10	21	14	8	29
05	16	27	15	21	22	24	28	24	48	63	73	80	85	108	73	159	49	33	30	23	21	26	19	29	46	15	159
06	28	31	30	28	27	32	43	85	41	64	35	36	46	70	34	46	35	35	29	49	60	31	44	40	42	27	85
07	39	33	36	24	20	25	24	22	26	19	10	11	16	17	4	5	5	3	3	5	4	6	9	7	16	3	39
08	4	6	2	1	6	9	10	10	7	5	7	5	2	5	4	2	1	2	20	17	23	21	25	20	9	1	25
09	14	20	12	28	16	7	9	12	12	18	11	9	9	18	20	12	18	4	1	1	4	6	10	13	12	1	28
10	9	7	16	11	11	10	17	14	12	8	16	8	6	8	8	0	0	5	5	19	22	11	18	40	12	0	40
11	23	20	8	10	10	7	9	10	7	6	6	8	7	7	10	8	5	4	3	1	4	8	9	10	8	1	23
12	5	4	6	8	10	9	9	6	9	16	6	10	10	7	10	11	9	5	5	6	6	6	7	17	8	4	17
13	10	9	6	6	7	6	7	27	22	19	21	20	20	32	33	57	17	16	9	7	5	5	7	7	16	5	57
14	1	17	0	3	8	10	17	22	13	13	20	19	20	21	32	16	18	14	19	17	14	17	14	21	15	0	32
15	15	18	13	14	19	25	17	21	33	41	71	79	96	132	108	117	54	42	36	22	24	19	11	13	43	11	132
16	10	6	6	9	16	10	9	8	11	11	11	17	14	19	25	26	22	14	14	9	17	10	20	24	14	6	26
17	13	13	10	16	18	15	10	5	5	9	14	15	1	9	7	9	9	10	12	5	6	5	3	11	10	1	18
18	11	28	25	10	11	12	11	24	34	30	27	29	21	21	19	22	21	24	25	26	27	21	15	11	21	10	34
19	20	18	29	28	24	18	28	56	43	44	43	45	57	44	45	44	53	57	52	48	48	48	68	51	42	18	68
20	57	59	43	58	55	48	80	66	81	86	103	107	112	80	89	72	51	35	36	15	20	17	7	9	58	7	112
21	9	16	0	1	7	9	12	11	12	16	16	26	21	16	9	10	9	6	6	8	5	3	18	13	11	0	26
22	12	10	11	12	11	21	40	128	42	23	32	20	16	15	21	23	31	38	16	10	34	25	25	16	26	10	128
23	15	14	13	16	20	24	24	11	19	29	14	17	22	26	28	26	29	36	21	31	24	26	19	22	22	11	36
24	16	42	23	19	19	39	17	24	39	20	36	20	26	25	18	12	20	22	21	20	23	23	22	21	24	12	42
25	15	19	9	11	9	6	5	4	10	11	10	34	47	37	25	20	36	45	37	26	47	45	42	32	24	4	47
26	34	28	33	35	34	137	56	78	52	34	30	39	33	32	27	29	29	33	18	42	49	20	20	20	39	18	137
27	16	19	23	15	21	30	51	68	43	23	28	26	28	15	19	21	18	23	28	23	22	34	25	10	26	10	68
28	18	25	19	21	24	22	24	37	24	22	23	11	27	17	21	18	12	13	9	22	13	10	19	19	20	9	37
29	12	13	20	17	23	23	22	18	12	12	9	10	12	15	25	16	27	24	22	20	17	14	12	10	17	9	27
30	12	22	8	12	16	15	13	24	44	29	43	46	27	25	9	16	11	10	11	9	7	11	9	9	18	7	46
31	11	28	10	11	14	13	12	12	9	5	8	16	8	8	8	9	12	---	---	---	---	---	---	---	---	5	28

Maximum 1 Hr Average	**159**
Maximum 24 Hr Average	**58**
Number of Days > 50 µg/m^3	**1**
Number of Hours > 100 µg/m^3	**10**

Total Hours	**744**
Number of Valid Hours	**736**
Percent Valid Data	**98.9 %**

Monthly :	**Ave**	**Min**	**Max**
	21	**0**	**159**

Station : STN29147
Parameter : WS, m/s
Month, Year : July, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	0.7	0.5	0.5	0.9	1.3	1.0	2.6	2.6	1.9	2.3	2.1	2.3	2.7	1.9	3.0	1.7	4.2	2.0	1.6	2.0	1.9	3.9	3.1	2.0	1.3	0.5	4.2
02	2.3	2.6	2.5	2.6	3.7	3.8	3.9	3.7	3.8	4.4	4.4	4.7	4.5	3.9	3.4	3.2	---	1.5	1.4	1.0	1.3	1.2	1.8	2.4	6.0	1.0	4.7
03	1.1	0.9	1.0	0.8	0.9	0.8	1.6	0.9	0.9	1.3	1.1	1.9	1.8	2.0	2.9	3.4	3.2	4.0	3.5	2.8	3.0	2.9	2.6	2.5	3.1	0.8	4.0
04	2.4	1.9	0.8	1.3	1.1	0.9	1.3	1.9	3.0	3.2	3.3	3.7	3.9	3.8	3.8	3.2	2.3	2.3	1.7	1.1	0.9	1.2	0.6	0.8	2.0	0.6	3.9
05	0.2	0.9	0.9	0.7	1.3	1.5	3.0	4.7	5.1	4.8	3.9	4.6	5.0	6.1	6.3	6.6	6.4	5.6	4.6	4.0	4.1	4.0	4.3	3.4	2.0	0.2	6.6
06	3.5	3.6	3.6	3.8	3.2	3.7	3.6	4.8	3.8	4.8	4.2	3.6	5.0	3.6	3.4	3.0	2.8	2.1	1.8	1.0	1.2	0.5	0.7	1.1	1.4	0.5	5.0
07	1.3	2.4	2.5	3.3	1.6	0.3	1.6	2.9	3.0	3.8	4.2	4.2	5.1	5.8	4.8	5.5	5.1	5.7	4.8	4.3	3.3	3.5	4.2	3.6	2.5	0.3	5.8
08	3.4	3.6	3.5	3.5	3.2	2.9	2.6	2.1	2.1	1.4	1.5	2.4	2.8	2.8	2.1	1.5	1.0	1.4	1.8	1.0	1.1	1.1	0.5	0.5	4.3	0.5	3.6
09	1.5	1.3	0.8	1.7	1.7	1.6	1.6	1.4	1.1	0.7	3.0	2.6	1.5	2.9	2.6	2.0	1.9	2.9	2.7	3.6	3.1	2.4	1.6	1.2	0.7	0.7	3.6
10	1.2	2.0	2.1	1.5	2.0	2.2	1.5	0.8	1.9	2.2	1.8	1.7	2.2	2.7	2.5	2.3	1.9	1.7	1.3	1.0	0.9	0.9	0.6	0.8	0.4	0.6	2.7
11	1.2	1.9	2.3	2.8	2.5	3.0	2.7	2.6	2.2	2.1	2.4	2.3	2.8	3.2	3.8	3.1	4.0	4.0	4.1	3.4	3.5	3.3	3.5	3.8	5.1	1.2	4.1
12	3.7	3.4	3.8	3.4	3.4	3.8	4.3	3.9	4.5	4.7	3.8	3.8	4.1	4.0	4.1	3.5	3.5	2.8	2.7	2.2	1.7	1.8	1.3	1.4	2.2	1.3	4.7
13	2.2	2.0	1.4	0.5	0.5	0.4	0.5	0.6	1.5	3.7	4.5	5.3	5.7	6.5	7.3	5.5	4.9	5.1	5.5	4.4	4.0	3.6	3.9	4.9	0.7	0.4	7.3
14	3.6	3.6	3.0	2.1	2.6	2.5	3.1	3.5	3.7	2.6	3.3	3.4	3.2	4.2	2.7	1.1	3.2	3.9	3.4	2.4	1.9	2.6	2.6	2.9	1.9	1.1	4.2
15	2.8	3.4	3.6	2.9	3.1	3.2	3.9	4.7	4.7	5.8	6.4	6.8	7.9	8.4	8.0	7.5	7.0	6.0	5.6	5.0	4.6	3.0	2.8	1.5	0.2	1.5	8.4
16	1.3	1.4	1.2	1.0	0.8	0.6	1.5	2.4	2.7	2.7	2.2	1.8	1.3	1.8	3.0	2.7	2.2	1.9	1.9	1.8	2.8	2.5	2.7	3.3	0.5	0.6	3.3
17	3.1	2.8	2.4	1.9	2.5	3.0	2.7	2.7	3.8	4.2	4.1	5.6	6.4	6.4	6.5	5.9	4.8	3.2	2.4	1.9	1.2	1.4	1.1	0.6	3.1	0.6	6.5
18	0.8	0.7	1.0	2.2	1.1	0.7	0.5	0.6	1.3	1.0	1.8	2.1	0.8	0.6	2.2	2.7	1.6	1.1	0.7	0.9	0.9	1.2	1.2	1.0	4.6	0.5	2.7
19	1.7	2.1	2.0	1.7	2.7	2.4	1.4	1.1	0.8	1.1	0.9	1.0	1.0	0.9	1.4	1.0	1.5	1.8	1.0	1.3	0.9	1.4	1.1	0.9	4.3	0.8	2.7
20	1.6	1.7	2.2	2.7	3.2	3.1	2.1	2.1	2.8	3.6	3.9	4.2	5.5	6.3	6.2	4.1	2.5	4.6	2.0	2.8	1.6	2.5	2.2	3.1	2.4	1.6	6.3
21	3.4	3.5	3.8	3.7	3.5	4.3	3.7	4.3	4.2	4.6	4.0	3.1	2.8	3.3	3.0	2.9	2.3	1.9	2.5	3.7	3.7	3.4	2.9	1.7	0.6	1.7	4.6
22	1.1	1.0	1.0	0.9	0.9	0.9	0.4	1.4	0.8	1.2	1.6	1.8	1.5	1.1	2.3	4.2	4.8	3.8	3.0	2.2	0.9	1.9	2.3	1.5	0.9	0.4	4.8
23	1.5	2.0	1.0	0.9	0.7	0.6	1.4	1.0	1.0	1.4	2.3	2.7	2.0	2.2	2.4	2.6	2.4	3.4	3.4	2.5	2.0	2.3	2.0	1.6	1.8	0.6	3.4
24	1.2	1.4	1.4	1.5	1.7	2.3	2.8	3.6	4.2	4.6	5.0	4.7	5.2	5.8	5.8	6.8	7.9	7.3	6.5	6.7	6.7	7.1	6.4	4.9	1.0	1.2	7.9
25	3.3	2.4	1.7	1.3	1.1	1.6	1.9	2.7	3.1	3.4	3.9	4.2	4.9	4.8	4.5	4.6	5.3	4.5	3.7	2.3	1.1	1.4	0.8	1.4	0.4	0.8	5.3
26	1.4	1.6	1.6	3.2	2.1	1.8	2.2	2.1	2.4	1.8	1.6	2.7	2.6	3.5	2.1	3.1	2.8	2.9	2.4	1.7	1.8	2.6	3.0	2.9	2.0	1.4	3.5
27	3.3	3.8	3.3	1.9	2.0	2.8	3.7	3.8	2.4	1.8	2.6	3.2	2.4	3.8	3.0	2.9	3.0	3.3	1.9	1.8	1.1	0.8	2.1	2.4	3.9	0.8	3.8
28	1.9	1.7	2.2	1.5	1.0	1.1	0.8	1.6	3.0	3.8	3.8	3.6	3.2	3.2	3.2	3.3	2.5	2.5	1.5	1.2	1.3	1.4	2.0	2.4	1.3	0.8	3.8
29	2.8	2.8	2.7	2.8	3.2	3.5	3.2	2.1	4.6	5.9	4.2	3.6	2.9	2.7	2.7	2.5	2.4	1.9	1.8	1.1	1.9	1.7	2.1	1.6	1.6	1.1	5.9
30	2.1	2.8	4.9	4.1	4.7	5.2	4.8	4.8	4.8	5.2	3.8	3.0	2.9	2.4	2.7	3.0	2.1	2.5	1.5	1.6	1.2	1.8	1.4	0.9	0.9	0.9	5.2
31	0.8	1.1	1.5	1.5	1.8	2.1	0.9	1.5	1.9	1.8	1.9	2.3	2.9	3.0	3.4	4.5	4.6	3.6	3.2	4.0	3.4	3.0	3.1	3.2	2.3	0.8	4.6

Total Hours	**744**
Number of Valid Hours	**743**
Percent Valid Data	**99.9 %**

Monthly :	**Ave**	**Min**	**Max**
	2.7	**0.2**	**8.4**

Station : STN29147
Parameter : WGust, m/s
Month, Year : July, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	1.5	1.6	1.9	2.6	2.8	3.5	6.4	5.6	4.1	5.0	4.5	5.5	5.0	3.7	10.1	4.1	8.2	6.0	4.9	3.5	5.6	7.7	8.0	5.2	4.9	1.5	10.1
02	5.1	4.6	5.5	4.8	7.7	7.1	8.6	6.6	7.7	8.1	7.6	7.5	7.8	8.1	8.2	8.7	---	2.3	2.9	3.4	3.5	3.4	3.3	3.5	5.9	2.3	8.7
03	3.7	2.8	2.6	2.4	3.0	2.5	2.8	2.8	2.8	3.2	3.8	4.8	5.4	5.5	6.7	8.1	6.7	7.1	7.0	6.2	6.1	5.3	4.3	4.7	4.6	2.4	8.1
04	4.7	4.2	1.8	2.7	2.1	2.1	2.7	4.0	5.0	5.2	5.9	6.6	6.2	6.4	6.5	5.3	4.7	3.8	3.5	2.2	1.9	2.0	2.2	1.4	3.9	1.4	6.6
05	0.9	1.5	1.6	1.5	3.0	2.6	6.2	7.9	8.6	8.5	7.1	9.5	9.3	10.8	12.0	12.3	12.5	12.5	9.2	7.7	8.7	9.0	8.9	8.2	7.5	0.9	12.5
06	6.8	7.9	7.0	7.8	6.1	6.6	7.1	8.0	9.4	9.0	9.1	7.3	9.5	9.1	8.7	9.3	8.4	7.0	6.0	3.7	2.2	1.6	2.1	2.2	6.7	1.6	9.5
07	4.3	4.5	4.6	7.0	4.9	1.2	3.1	5.5	5.1	6.7	7.4	8.4	8.7	10.3	9.0	10.7	9.9	10.6	10.4	7.8	7.3	7.5	7.5	6.5	7.0	1.2	10.7
08	6.7	6.9	6.9	6.1	6.1	5.4	5.1	3.8	3.5	2.7	4.2	4.2	4.9	5.5	3.7	2.9	2.6	3.8	3.6	2.1	2.1	2.6	1.5	2.0	4.1	1.5	6.9
09	3.2	3.0	2.6	4.4	5.3	4.8	5.2	4.3	3.5	2.6	6.4	6.8	4.5	5.8	5.1	4.6	4.8	4.9	4.9	6.2	6.1	4.5	3.7	3.0	4.6	2.6	6.8
10	3.9	5.0	4.3	2.6	4.3	4.6	2.8	2.2	3.6	4.2	4.5	4.2	5.1	5.4	5.6	4.7	4.4	3.6	2.9	2.5	1.8	1.7	1.3	1.9	3.6	1.3	5.6
11	2.1	2.9	3.7	4.1	5.1	5.2	5.1	4.5	3.9	3.3	4.4	4.3	4.4	5.8	7.7	6.0	7.5	7.0	8.0	6.5	6.3	6.3	7.1	6.7	5.3	2.1	8.0
12	7.1	6.4	7.3	6.2	6.5	7.6	8.4	7.7	9.3	9.9	7.6	6.6	7.1	7.8	7.3	6.3	5.7	5.3	4.6	4.5	3.3	3.1	2.7	2.6	6.3	2.6	9.9
13	3.9	3.4	2.8	1.3	1.5	1.4	1.3	1.6	4.4	6.6	8.4	9.9	10.6	12.0	12.8	12.7	10.9	9.8	10.8	8.2	7.3	7.3	8.2	10.1	7.0	1.3	12.8
14	7.2	6.7	6.0	4.3	4.7	4.8	5.6	6.2	6.6	5.4	7.7	6.8	6.5	8.8	8.5	3.5	6.9	8.2	6.2	5.2	4.3	6.2	5.6	5.1	6.1	3.5	8.8
15	4.9	5.5	6.2	4.3	5.0	4.9	6.4	8.3	8.3	10.6	12.0	12.4	13.4	15.5	15.0	15.1	14.6	12.2	11.1	11.6	8.8	7.3	5.2	5.6	9.3	4.3	15.5
16	4.6	4.1	3.6	2.5	2.2	1.5	4.6	4.8	5.1	4.5	4.3	3.6	3.8	4.2	5.5	5.0	4.6	4.1	3.3	3.7	5.9	5.4	6.1	6.0	4.3	1.5	6.1
17	6.1	5.7	5.8	4.9	7.5	6.7	5.8	6.3	8.3	7.5	8.0	11.5	12.4	12.5	12.8	12.0	8.8	6.8	4.5	3.4	2.6	3.5	2.3	2.2	7.0	2.2	12.8
18	2.4	2.5	2.6	3.4	2.9	2.3	1.5	2.3	3.5	2.7	4.5	4.1	2.0	3.4	5.5	4.8	4.8	2.8	1.8	2.6	2.7	3.3	3.2	2.9	3.1	1.5	5.5
19	3.0	3.3	3.1	3.1	4.7	3.9	3.3	2.4	2.5	3.1	3.4	3.4	4.0	2.3	5.1	4.1	3.9	3.9	2.4	2.5	1.8	2.9	3.0	2.0	3.2	1.8	5.1
20	2.8	2.6	2.9	3.6	4.2	4.2	4.0	4.3	5.2	6.9	7.4	7.6	10.0	10.7	10.4	10.2	8.3	9.7	4.3	5.8	3.5	4.7	5.8	5.6	6.0	2.6	10.7
21	6.3	6.2	7.1	6.8	6.1	8.3	6.8	7.1	8.3	7.5	7.8	5.9	6.9	7.6	5.9	6.5	5.4	6.7	4.8	7.0	6.8	5.9	5.6	3.9	6.6	3.9	8.3
22	2.8	2.0	2.6	1.8	1.8	1.6	1.7	2.5	2.4	4.8	4.5	6.6	4.3	3.8	3.9	7.6	7.9	6.7	5.8	4.6	4.8	5.2	4.6	2.7	4.0	1.6	7.9
23	2.8	3.4	2.2	1.8	1.6	1.4	2.6	2.5	2.6	3.8	4.8	5.4	4.1	5.3	5.3	5.3	5.3	5.7	6.1	4.4	3.0	3.8	3.3	2.8	3.7	1.4	6.1
24	2.5	2.0	2.0	2.0	2.3	3.0	5.0	6.4	7.0	7.4	8.5	8.0	9.3	11.7	9.5	11.9	13.8	13.7	11.6	11.0	11.3	12.4	12.5	15.1	8.3	2.0	15.1
25	6.6	5.0	4.1	3.2	3.0	2.4	4.8	5.0	5.7	6.6	7.8	8.5	8.8	9.1	8.9	7.9	9.3	8.5	7.3	6.5	4.1	2.7	2.5	2.5	5.9	2.4	9.3
26	2.9	3.3	3.0	4.2	3.7	3.5	3.8	4.1	3.9	3.7	3.9	6.4	7.7	8.2	12.0	8.1	8.7	8.7	7.6	6.2	3.8	3.5	4.4	4.5	5.4	2.9	12.0
27	5.2	5.6	5.3	3.4	3.8	5.1	6.6	8.3	10.5	7.4	5.6	6.1	5.4	7.6	7.1	6.7	7.6	8.5	3.9	2.7	1.8	2.4	3.6	3.9	5.6	1.8	10.5
28	4.2	3.1	3.7	2.6	2.3	2.8	1.9	4.3	5.2	6.8	6.4	6.0	6.4	6.4	5.5	5.6	4.8	4.4	3.2	2.1	2.0	1.9	3.0	3.1	4.1	1.9	6.8
29	3.7	3.8	3.9	4.3	5.2	5.2	5.2	5.5	9.0	10.2	8.5	8.3	6.7	8.3	8.8	8.6	4.8	3.6	3.5	4.8	5.5	5.4	7.1	4.8	6.0	3.5	10.2
30	6.5	9.2	9.8	8.0	8.7	8.7	8.6	9.7	9.9	9.9	8.9	8.9	6.9	5.6	6.5	7.0	5.2	6.8	5.1	4.7	4.3	3.7	3.0	2.4	7.0	2.4	9.9
31	1.7	2.5	2.5	2.5	2.9	3.5	2.2	3.5	4.4	3.9	5.1	5.7	6.6	6.7	7.4	8.0	8.4	6.8	6.7	8.0	5.0	4.4	4.8	5.3	4.9	1.7	8.4

Total Hours	**744**
Number of Valid Hours	**743**
Percent Valid Data	**99.9 %**

Monthly :	**Ave**	**Min**	**Max**
	5.6	**0.9**	**15.5**

Station : STN29147
Parameter : WD, degrees
Month, Year : July, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																							
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**
01	234	279	293	292	267	342	355	18	29	41	22	31	50	115	73	35	183	231	342	7	348	1	353	348
02	357	355	355	355	357	3	3	6	10	11	17	30	36	44	34	355	---	255	276	309	303	301	263	264
03	307	306	302	299	271	289	259	319	323	230	271	232	267	271	253	250	253	248	249	224	221	206	208	214
04	213	211	154	189	175	206	352	29	25	8	16	32	35	41	40	55	57	66	52	34	25	345	319	212
05	256	181	177	175	199	178	182	193	204	208	210	207	209	202	219	225	219	221	219	214	215	221	242	228
06	217	224	229	235	219	228	228	257	278	261	270	262	251	274	284	291	291	313	314	300	289	295	165	195
07	187	199	228	6	87	31	24	28	23	33	48	47	53	54	48	45	38	47	49	60	70	37	37	44
08	39	36	27	19	29	51	52	44	40	19	355	6	359	33	35	117	266	9	33	58	134	132	4	235
09	351	10	314	321	313	318	318	323	347	298	263	251	26	24	26	351	1	22	27	2	3	0	359	358
10	343	346	2	353	356	12	58	34	12	36	72	89	50	40	59	66	81	82	107	80	82	74	84	64
11	343	9	13	11	24	33	29	22	25	22	11	33	40	43	44	54	44	49	64	41	48	38	38	46
12	60	50	56	44	36	43	44	55	55	60	59	39	48	56	61	62	56	57	54	44	24	6	41	354
13	356	7	4	356	352	9	46	36	176	191	195	197	203	202	207	217	220	215	202	206	201	196	207	215
14	215	210	211	234	247	239	244	258	258	253	253	249	253	235	240	342	255	233	232	230	206	203	207	193
15	195	185	193	189	185	183	184	195	202	205	207	207	206	206	205	214	214	215	209	212	211	274	257	302
16	300	307	298	312	299	328	356	23	27	53	75	78	74	65	68	85	84	76	82	56	21	59	48	47
17	52	60	73	70	86	49	60	75	61	45	54	46	39	48	44	41	44	41	29	359	344	356	354	304
18	279	297	280	263	282	287	279	306	321	348	358	15	58	310	13	23	39	64	122	12	324	305	304	305
19	291	280	280	266	255	258	260	228	255	340	342	296	59	74	323	314	35	138	143	183	199	260	308	305
20	263	284	260	256	250	243	227	217	226	225	220	218	239	251	258	281	297	9	80	54	56	6	353	357
21	4	9	18	21	9	359	3	3	5	11	28	36	25	14	29	29	4	344	11	5	2	6	1	356
22	323	322	309	309	310	294	275	254	275	338	331	341	345	17	159	180	191	201	206	212	268	349	2	1
23	1	3	26	29	18	5	13	17	58	56	51	39	54	114	67	50	82	173	186	185	194	215	219	199
24	194	177	176	155	177	165	167	174	177	189	194	196	195	204	191	191	193	193	191	189	198	195	210	231
25	228	252	288	299	300	255	225	210	214	234	239	238	243	243	242	249	258	267	267	294	304	287	197	208
26	224	231	222	245	226	215	211	196	188	210	235	228	263	249	289	281	297	298	311	293	290	269	244	239
27	245	248	246	235	223	190	206	262	328	1	174	175	221	252	282	282	285	5	45	14	17	22	355	4
28	356	353	358	346	344	349	324	38	55	56	57	55	52	58	67	68	83	74	70	90	116	131	151	160
29	171	179	189	182	183	185	184	185	184	190	216	271	269	313	311	6	48	25	6	329	322	335	336	327
30	324	339	2	359	356	0	2	359	358	7	352	350	3	353	33	45	358	344	334	344	352	352	351	345
31	265	260	282	257	261	264	247	251	256	203	195	222	231	237	238	191	196	194	212	190	182	181	185	189

Total Hours	**744**
Number of Valid Hours	**743**
Percent Valid Data	**99.9 %**

Station : STN29147
Parameter : ATEM, °C
Month, Year : July, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																										
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	19.4	18.9	19.2	19.3	19.3	19.2	19.5	20.0	20.3	21.2	22.1	23.6	23.9	23.0	23.2	20.8	18.3	18.1	18.7	18.2	17.4	17.5	16.8	16.4	19.8	16.4	23.9
02	16.4	16.1	16.0	15.4	15.7	15.8	16.3	17.2	17.9	19.2	20.2	20.9	21.6	22.4	22.4	19.8	---	16.4	17.7	16.9	15.9	15.7	15.7	15.4	17.7	15.4	22.4
03	15.2	14.8	14.1	13.7	13.3	13.9	15.7	17.8	19.2	20.3	21.8	22.2	23.2	24.3	24.6	24.9	24.4	24.2	23.4	21.8	20.1	18.9	18.0	17.6	19.5	13.3	24.9
04	17.1	16.8	15.4	14.7	14.5	15.8	18.4	18.7	19.4	18.7	18.9	19.9	20.5	21.0	21.3	21.9	22.3	22.4	21.4	19.5	18.6	18.2	17.6	17.4	18.8	14.5	22.4
05	17.2	17.2	17.9	18.3	18.4	18.6	19.6	22.5	24.4	25.7	27.1	28.7	29.8	30.1	30.3	30.1	29.6	28.5	27.8	27.3	26.7	26.4	26.1	25.0	24.7	17.2	30.3
06	24.3	24.6	24.8	24.6	24.1	24.3	24.9	26.0	26.9	27.6	28.8	29.5	30.1	30.7	31.2	31.6	31.1	30.3	29.7	28.1	26.6	25.2	23.1	22.4	27.1	22.4	31.6
07	22.1	22.3	22.8	22.1	19.9	20.0	20.9	21.0	20.6	20.2	19.6	19.3	19.7	18.4	17.9	17.7	17.2	17.0	16.4	15.9	15.9	15.8	15.7	16.0	18.9	15.7	22.8
08	16.2	16.3	15.6	15.4	15.6	15.8	15.8	16.1	16.4	16.5	16.6	16.8	17.3	16.6	16.4	17.0	18.3	18.4	17.1	17.2	17.4	17.6	17.8	18.2	16.8	15.4	18.4
09	17.8	17.4	17.6	17.7	16.8	16.5	17.0	18.0	19.1	20.4	20.2	20.8	20.1	19.8	19.1	19.0	18.5	18.2	18.0	17.7	17.5	17.5	17.4	17.3	18.3	16.5	20.8
10	17.1	16.8	16.7	16.5	16.5	16.3	16.6	17.5	18.3	19.6	20.8	21.7	21.7	22.2	22.8	23.3	23.5	23.4	23.0	21.3	19.3	18.3	18.0	17.9	19.5	16.3	23.5
11	17.5	17.6	17.3	17.3	17.9	18.1	18.1	18.2	18.3	18.2	18.4	18.5	18.5	18.6	18.6	18.4	18.4	18.3	18.6	18.4	18.2	18.3	18.5	18.3	18.2	17.3	18.6
12	18.1	17.8	17.7	17.6	17.8	18.1	18.4	18.4	18.6	19.6	19.3	19.3	20.1	20.6	20.3	20.4	20.4	20.0	19.4	19.2	18.9	18.9	18.8	18.7	19.0	17.6	20.6
13	18.7	18.9	19.0	19.0	18.9	18.9	19.5	20.2	22.8	24.4	25.6	27.0	27.0	27.4	27.5	27.7	26.2	23.8	22.5	22.0	21.5	21.3	21.8	20.9	22.6	18.7	27.7
14	20.8	20.8	20.8	20.8	20.7	20.5	21.1	22.2	22.6	24.2	25.2	26.3	27.1	27.7	28.1	27.7	28.4	27.5	26.4	25.4	23.8	22.3	21.6	20.5	23.9	20.5	28.4
15	20.2	19.4	19.8	19.7	19.4	19.7	21.3	23.5	25.0	26.4	26.8	26.9	28.0	28.1	27.9	28.6	28.6	27.8	27.0	26.1	24.5	23.2	21.7	20.8	24.2	19.4	28.6
16	20.2	19.8	19.4	19.1	18.8	18.6	19.9	20.2	20.7	21.1	21.1	21.3	22.1	22.4	22.8	22.3	21.6	21.1	20.5	20.0	19.8	19.9	19.7	19.3	20.5	18.6	22.8
17	18.8	18.2	17.7	17.0	16.1	15.4	15.8	16.2	16.2	16.8	17.3	17.6	18.3	18.5	18.5	18.5	18.5	18.1	18.0	17.9	18.1	18.8	19.1	19.0	17.7	15.4	19.1
18	18.7	18.4	18.3	18.0	17.2	17.1	19.1	20.5	21.6	22.6	23.7	24.4	25.6	28.1	28.7	28.7	28.1	27.8	26.7	24.9	23.8	22.9	21.9	20.9	22.8	17.1	28.7
19	20.0	19.3	18.4	18.8	18.7	18.3	19.7	22.3	24.4	25.8	27.1	28.0	28.4	29.0	29.6	29.7	29.2	27.6	26.6	24.8	23.4	24.1	23.9	22.9	24.2	18.3	29.7
20	22.3	21.5	20.7	20.1	19.9	20.0	21.1	23.0	24.4	25.8	27.2	28.2	28.9	29.3	29.3	29.0	28.5	23.6	22.1	20.1	19.5	19.6	19.1	18.7	23.4	18.7	29.3
21	18.6	18.6	18.3	17.6	17.2	16.5	16.5	17.2	18.5	19.9	21.2	22.2	22.9	23.2	23.5	23.9	24.1	24.1	23.0	22.0	20.7	19.6	19.0	18.3	20.3	16.5	24.1
22	16.8	15.3	14.7	14.1	13.8	14.5	16.2	17.5	20.6	22.4	23.2	24.0	24.2	24.5	24.2	23.8	23.5	22.4	22.0	21.3	21.1	21.5	21.0	20.5	20.1	13.8	24.5
23	20.1	19.7	18.5	17.3	16.3	16.7	18.7	19.9	21.7	22.7	23.3	23.6	24.4	25.5	25.5	25.4	25.8	24.6	24.0	21.8	20.2	20.2	19.6	18.2	21.4	16.3	25.8
24	16.4	15.2	15.1	14.6	14.9	15.0	17.6	20.8	22.1	23.5	23.8	23.6	23.2	22.7	21.0	22.1	22.9	22.5	22.2	22.3	22.8	22.9	21.7	21.6	20.4	14.6	23.8
25	21.2	21.0	20.3	19.7	19.3	19.3	20.6	21.5	22.8	24.3	25.5	26.8	27.9	28.7	29.4	29.7	29.5	28.9	27.9	26.2	24.2	22.8	20.5	18.8	24.0	18.8	29.7
26	19.7	20.0	19.2	20.3	19.8	19.4	22.0	24.0	25.9	27.3	28.1	29.3	29.8	30.4	30.5	30.7	30.2	29.8	28.7	26.7	24.6	23.6	22.5	21.9	25.2	19.2	30.7
27	21.7	21.4	21.6	21.1	20.4	18.7	20.4	22.8	22.0	23.3	20.9	21.9	22.7	23.7	24.9	25.8	26.4	24.3	22.4	22.0	21.6	20.9	21.1	20.6	22.2	18.7	26.4
28	19.8	18.9	18.3	17.7	18.1	18.6	19.6	20.3	21.5	22.2	22.3	22.4	22.6	23.1	23.7	24.2	24.9	23.9	23.1	21.5	20.2	19.5	18.8	18.0	21.0	17.7	24.9
29	17.6	17.9	17.8	17.8	18.2	19.0	19.1	19.1	19.5	20.7	23.2	25.4	26.2	27.2	28.1	26.7	24.4	23.1	23.3	22.5	22.1	21.3	20.7	19.8	21.7	17.6	28.1
30	19.3	18.8	18.4	17.5	17.0	16.7	16.9	17.4	18.0	18.0	19.0	19.5	19.6	20.7	20.6	20.8	20.6	20.8	19.8	18.4	17.1	16.5	15.6	14.5	18.4	14.5	20.8
31	13.2	12.2	11.8	11.6	11.5	11.4	13.5	15.8	17.2	18.2	19.1	19.9	20.8	21.7	21.5	20.9	21.3	21.1	20.5	19.4	18.0	17.5	17.4	17.9	17.2	11.4	21.7

Total Hours	**744**
Number of Valid Hours	**743**
Percent Valid Data	**99.9 %**

Monthly :	**Ave**	**Min**	**Max**
	21.0	**11.4**	**31.6**

Station : STN29147
Parameter : RH, %
Month, Year : July, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																										
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	86	89	88	87	87	87	83	78	77	73	67	62	62	73	65	72	89	91	90	88	90	80	80	84	80	62	91
02	83	83	82	86	87	87	85	82	77	72	68	62	61	55	56	66	---	90	85	88	90	90	91	91	79	55	91
03	87	85	87	88	89	88	83	75	72	67	64	63	54	47	44	41	44	43	45	62	69	74	78	79	68	41	89
04	82	84	90	93	93	91	80	80	81	86	86	84	82	79	76	70	68	66	70	81	85	87	89	90	82	66	93
05	91	91	88	86	84	86	85	72	64	66	64	61	59	58	55	52	54	57	63	66	67	68	71	77	70	52	91
06	80	77	77	78	81	80	79	75	71	68	63	60	55	51	48	42	42	45	44	49	55	61	72	78	64	42	81
07	82	86	85	80	88	88	82	84	87	85	85	87	83	85	86	87	89	89	92	95	96	96	95	94	88	80	96
08	94	95	94	94	94	96	97	97	98	98	98	98	97	98	98	98	98	97	97	97	97	97	97	97	97	94	98
09	97	98	98	98	95	94	91	87	82	78	78	74	81	82	85	85	88	85	85	81	81	81	81	81	86	74	98
10	82	84	82	82	81	80	80	74	71	66	62	58	58	55	51	49	46	48	51	59	66	73	75	80	67	46	84
11	85	89	92	91	94	96	95	95	96	94	94	95	95	95	94	91	92	90	86	89	92	93	94	92	92	85	96
12	88	89	89	91	92	95	95	95	94	89	90	91	87	85	85	85	83	86	90	92	94	95	96	97	91	83	97
13	98	98	98	98	98	98	98	98	92	83	79	73	73	70	67	65	70	82	86	88	90	92	91	88	86	65	98
14	91	93	94	94	92	92	90	84	81	74	70	65	62	59	59	58	52	62	69	71	77	84	83	88	77	52	94
15	90	93	94	93	92	92	88	81	75	67	66	67	63	62	62	59	58	63	67	63	69	80	92	87	76	58	94
16	87	88	88	89	90	91	83	79	77	74	72	71	68	67	62	61	64	64	69	75	79	78	80	86	77	61	91
17	90	86	87	87	91	91	92	93	93	93	91	94	89	79	75	79	83	88	90	90	89	81	78	79	87	75	94
18	81	84	86	85	86	85	80	77	71	69	65	59	56	50	43	41	46	48	58	63	61	66	69	71	67	41	86
19	75	75	78	75	76	81	80	72	67	62	56	53	52	50	48	47	50	66	71	77	83	78	74	78	68	47	83
20	81	82	85	86	85	82	77	68	59	63	62	59	55	52	52	51	47	60	71	85	90	86	83	85	71	47	90
21	86	85	82	82	81	83	81	74	68	59	53	50	44	39	38	36	35	34	38	45	51	55	54	55	59	34	86
22	61	69	72	74	74	72	68	62	51	44	38	36	36	37	40	48	52	57	59	62	62	55	52	52	56	36	74
23	54	55	63	70	75	75	63	60	53	48	47	45	43	42	42	43	43	51	53	62	69	63	66	71	57	42	75
24	81	86	87	89	88	90	86	76	73	66	60	63	70	79	91	88	81	80	82	78	76	77	87	90	80	60	91
25	91	93	93	92	91	91	88	87	82	75	69	63	55	49	43	36	36	35	39	46	52	57	70	78	67	35	93
26	73	72	75	68	71	74	65	62	56	53	48	44	36	32	33	32	33	31	34	40	46	49	53	58	52	31	75
27	60	62	61	64	66	78	81	69	72	65	84	82	77	72	66	63	60	72	80	78	79	83	75	74	72	60	84
28	76	79	83	88	90	91	90	87	76	67	68	69	69	68	64	54	46	50	46	54	61	65	68	72	70	46	91
29	77	80	82	85	87	86	90	95	95	91	82	72	68	59	55	63	78	81	76	77	74	78	81	85	79	55	95
30	85	85	78	81	80	77	73	71	65	62	53	50	50	46	48	49	47	46	48	53	58	59	63	67	62	46	85
31	78	84	85	85	85	85	78	64	55	52	50	49	49	46	48	57	59	63	63	73	81	84	85	84	68	46	85

Total Hours	**744**
Number of Valid Hours	**743**
Percent Valid Data	**99.9 %**

Monthly :	**Ave**	**Min**	**Max**
	74	**31**	**98**

Station : STN29147
Parameter : Precipitation, mm
Month, Year : July, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																								
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Total**	**Max**
01	-	-	-	0.1	-	-	-	-	-	-	-	-	-	2.7	-	1.8	0.4	5.9	-	-	-	-	-	-	10.9	5.9
02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	0.4	0.4
06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	4.3	1.3	0.1	-	-	7.0	4.3
08	-	-	-	-	-	0.1	0.2	0.1	-	1.7	7.7	1.0	0.7	1.6	1.2	0.9	-	-	-	-	-	-	-	-	15.3	7.7
09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	0.1	0.1
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
11	-	-	-	-	-	-	-	0.2	0.5	1.0	0.9	1.0	0.5	0.1	0.1	-	-	-	-	0.1	-	-	-	-	4.4	1.0
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	-	-	-	0.7	-	1.1	0.7
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	1.8	-	3.1	1.8
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	0.2	0.2
17	0.9	-	0.2	0.6	1.6	1.0	1.3	0.1	0.5	0.1	0.7	0.7	-	-	-	-	-	-	-	-	-	-	-	-	7.8	1.6
18	-	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	0.5
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	-	-	-	-	0.9	0.9
21	-	-	0.1	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	0.1
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
24	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	1.6	-	-	0.1	-	-	-	0.1	3.9	-	6.8	3.9
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
27	-	-	-	-	-	-	-	-	0.4	3.3	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	3.8	3.3
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
29	-	-	-	-	-	-	3.1	12.3	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16.4	12.3
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0

Total Hours	**744**
Number of Valid Hours	**744**
Percent Valid Data	**100.0 %**

Monthly :	**Total**	**Max**
	78.7	**12.3**

Station : STN29147

Parameter : PM10, µg/m^3

Month, Year : August, 2021

terrapure
Monthly Data Matrix

1 Hr MECP Reportable Threshold - 100 µg/m^3

24 Hr MECP Reportable Threshold - 50 µg/m^3

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	---	---	---	---	---	---	---	---	12	13	12	11	12	13	14	20	21	19	18	1	6	14	13	13	---	1	21
02	12	5	16	13	13	14	10	10	16	22	27	10	8	6	7	8	8	4	0	16	11	13	16	10	11	0	27
03	22	17	9	20	12	20	16	34	18	32	12	21	28	30	25	27	12	16	19	14	14	14	12	20	19	9	34
04	16	14	24	16	33	47	53	45	40	23	22	22	34	30	21	36	19	29	18	16	26	10	27	25	27	10	53
05	28	32	25	24	36	27	45	51	51	39	33	36	30	18	31	23	27	21	25	22	20	25	15	24	30	15	51
06	23	21	17	12	25	31	48	37	39	42	45	82	63	74	39	64	22	23	22	32	38	26	31	25	37	12	82
07	28	25	20	24	28	23	25	20	26	25	32	25	18	32	33	10	18	21	19	32	15	28	21	14	23	10	33
08	20	18	20	16	10	15	11	20	18	17	19	21	22	28	20	21	16	32	30	30	25	30	30	23	21	10	32
09	21	24	19	21	28	19	27	28	33	36	28	37	47	37	37	28	34	23	33	23	36	27	28	30	29	19	47
10	23	22	20	16	25	20	26	27	25	25	27	35	56	85	51	108	39	25	23	23	22	24	21	26	33	16	108
11	17	19	24	18	19	19	15	12	9	17	20	42	47	39	26	55	22	28	28	18	15	9	7	9	22	7	55
12	13	13	14	16	21	16	9	10	7	8	12	23	40	30	20	37	17	24	20	24	15	19	25	23	19	7	40
13	17	18	12	16	9	17	19	27	34	53	49	38	43	60	46	68	26	31	17	17	12	29	7	19	29	7	68
14	11	11	11	13	12	22	16	25	24	25	20	12	9	7	7	9	9	7	9	4	3	5	21	13	13	3	25
15	14	24	14	12	22	13	16	11	12	12	10	10	11	17	19	9	12	9	16	6	17	8	23	8	14	6	24
16	8	21	19	19	23	19	23	27	---	16	---	33	28	19	23	15	19	19	19	23	11	15	20	16	20	8	33
17	18	12	19	12	11	9	27	26	12	28	30	14	17	5	18	11	11	11	16	14	21	11	9	10	16	5	30
18	20	17	14	12	13	18	36	21	19	28	29	29	21	16	15	16	21	11	11	9	5	4	6	5	17	4	36
19	4	3	4	10	16	19	34	33	37	45	42	46	28	26	23	19	17	26	24	32	31	26	26	22	25	3	46
20	5	20	27	18	18	22	32	108	54	49	39	28	23	19	28	20	24	13	28	29	34	41	34	24	31	5	108
21	24	25	26	24	27	27	30	29	26	33	31	27	37	31	36	33	23	25	22	24	35	36	28	35	29	22	37
22	29	21	26	24	26	26	21	41	21	23	31	31	29	28	22	22	24	19	27	26	29	28	22	24	26	19	41
23	27	24	19	15	17	17	67	76	47	49	32	33	32	30	42	29	28	23	26	22	20	19	37	18	31	15	76
24	10	12	21	14	17	19	36	54	41	39	30	31	47	43	45	33	23	18	23	23	24	27	22	30	28	10	54
25	19	16	18	17	29	37	29	41	38	44	36	24	26	18	22	25	16	15	18	24	5	8	11	11	23	5	44
26	12	14	11	17	17	14	15	18	19	25	28	17	26	28	29	29	44	31	32	15	19	9	18	28	21	9	44
27	24	17	21	25	26	29	22	23	13	23	16	16	14	16	14	16	15	12	9	22	21	19	19	18	19	9	29
28	14	15	17	19	15	16	14	15	14	23	13	16	18	14	11	10	25	19	25	17	14	19	14	19	17	10	25
29	20	25	18	16	19	19	17	11	13	30	22	26	30	19	19	33	36	34	34	27	20	9	12	14	22	9	36
30	14	15	7	6	18	12	25	24	29	25	17	17	17	16	14	22	10	11	12	13	18	7	10	16	16	6	29
31	21	24	17	11	12	20	26	29	33	33	10	20	24	33	19	15	18	16	17	5	5	6	20	5	18	5	33

Maximum 1 Hr Average	**108**
Maximum 24 Hr Average	**37**
Number of Days > 50 µg/m^3	**0**
Number of Hours > 100 µg/m^3	**2**

Total Hours	**744**
Number of Valid Hours	**734**
Percent Valid Data	**98.7 %**

Monthly :	**Ave**	**Min**	**Max**
	23	**0**	**108**

Station : STN29147
Parameter : WS, m/s
Month, Year : August, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	2.7	2.3	2.3	1.9	1.4	1.2	2.6	1.5	1.1	1.4	1.4	1.7	1.9	1.8	1.6	1.6	1.8	1.2	2.2	4.0	3.9	2.0	1.2	1.5	1.3	1.1	4.0
02	1.4	2.1	2.2	1.3	1.3	1.1	1.1	1.5	2.4	2.2	3.0	2.8	2.4	1.8	1.5	1.3	1.3	1.6	1.2	2.3	2.6	2.2	1.7	1.8	6.0	1.1	3.0
03	2.7	2.5	2.4	3.0	3.1	2.4	2.3	3.3	2.9	3.0	3.1	3.3	3.3	3.1	4.1	5.2	4.1	4.0	3.5	2.5	1.9	2.2	2.0	1.3	3.1	1.3	5.2
04	1.6	2.2	1.1	1.2	1.3	0.9	0.7	0.7	1.4	1.1	1.2	1.7	2.7	3.7	3.1	3.1	2.8	2.6	2.0	1.7	1.8	2.0	2.0	0.6	2.0	0.6	3.7
05	1.0	1.2	1.3	1.6	1.8	1.7	1.5	1.7	2.0	2.2	2.1	2.1	1.9	2.3	2.5	2.2	2.3	3.1	2.9	2.8	2.6	2.7	2.6	2.8	2.0	1.0	3.1
06	2.6	2.4	2.1	2.6	2.3	2.5	2.5	3.4	4.4	4.2	4.2	4.9	5.0	5.2	4.9	4.9	4.4	4.2	2.9	2.2	2.7	3.2	2.8	2.7	1.4	2.1	5.2
07	2.4	2.7	2.6	2.7	1.9	2.0	2.4	3.1	2.1	1.7	3.5	3.5	3.8	4.3	2.0	1.5	1.8	1.7	1.6	1.3	0.8	1.8	2.0	1.3	2.5	0.8	4.3
08	1.5	0.6	1.1	0.9	1.4	1.5	1.6	1.6	1.9	2.3	2.8	3.0	3.7	4.4	3.6	3.1	3.7	3.5	2.8	2.3	2.6	2.2	1.9	2.5	4.3	0.6	4.4
09	2.5	2.3	2.9	2.7	2.8	3.0	3.2	3.2	4.0	4.2	4.0	5.3	5.3	5.3	4.7	4.7	3.5	3.0	1.7	1.4	1.8	1.9	1.8	2.8	0.7	1.4	5.3
10	1.6	1.4	2.4	2.3	2.6	3.7	5.1	5.2	5.9	6.2	5.5	5.9	5.9	5.4	5.7	7.2	6.7	5.4	3.7	2.1	2.2	2.2	2.5	2.3	0.4	1.4	7.2
11	2.5	3.4	3.7	3.7	2.6	6.1	4.8	3.4	4.9	4.5	4.7	4.8	4.8	4.4	4.6	4.7	5.0	5.2	4.5	4.1	2.5	3.3	3.8	4.1	5.1	2.5	6.1
12	4.6	4.5	4.4	4.1	3.8	3.4	3.6	4.1	3.7	4.1	4.1	4.4	4.6	3.6	3.2	3.9	3.6	2.9	1.7	1.2	1.9	2.0	2.7	3.2	2.2	1.2	4.6
13	3.8	4.0	3.1	2.4	2.3	2.6	2.4	2.3	3.0	3.0	2.6	3.3	3.5	3.0	3.5	3.3	2.8	1.8	1.6	1.4	2.0	2.5	3.7	3.0	0.7	1.4	4.0
14	1.5	2.1	1.2	0.5	0.2	0.2	0.6	0.9	1.2	1.1	1.3	1.4	1.3	1.4	1.5	1.1	1.1	1.1	1.2	1.6	1.0	1.0	1.0	0.7	1.9	0.2	2.1
15	0.2	0.3	0.3	0.5	0.8	1.1	1.7	2.4	2.9	3.0	3.4	3.5	3.4	3.8	3.2	3.3	3.1	2.8	1.9	1.0	1.1	1.3	1.8	1.8	0.2	0.2	3.8
16	1.6	1.0	0.8	1.3	1.2	1.9	2.0	2.6	3.1	3.3	3.7	3.5	3.5	3.3	3.4	2.5	2.7	2.5	2.6	1.8	0.9	0.5	0.4	0.3	0.5	0.3	3.7
17	0.7	0.5	0.2	0.3	0.4	0.4	0.3	0.5	0.5	1.8	2.0	1.3	0.9	0.8	2.0	2.1	2.1	2.2	2.0	2.7	2.4	2.3	2.1	1.5	3.1	0.2	2.7
18	1.2	1.3	1.2	0.7	0.2	0.6	0.5	0.7	1.6	1.7	1.9	2.1	2.5	2.9	3.1	2.8	2.7	3.0	2.7	2.1	2.6	2.4	2.7	3.1	4.6	0.2	3.1
19	2.4	1.7	0.8	0.3	0.8	0.3	0.5	1.1	2.0	1.5	1.4	1.3	1.3	1.3	1.0	1.2	1.2	3.1	2.6	1.3	1.4	1.5	2.9	2.6	4.3	0.3	3.1
20	1.6	1.0	0.1	0.1	0.2	0.4	0.3	1.4	2.0	0.9	1.7	1.6	1.6	1.9	1.7	1.8	1.4	1.2	0.7	0.3	0.4	1.2	1.5	0.8	2.4	0.1	2.0
21	0.8	0.7	1.4	0.8	0.0	1.6	0.8	0.5	0.7	0.8	1.3	2.4	2.8	2.9	3.3	2.5	1.7	0.9	1.4	0.7	0.3	0.3	0.2	0.2	0.6	0.0	3.3
22	0.8	1.4	0.4	0.6	0.3	0.7	0.2	0.5	0.7	1.4	1.7	1.7	2.2	1.9	1.5	0.9	1.4	0.6	1.0	0.7	0.4	1.0	2.2	1.7	0.9	0.2	2.2
23	1.6	0.3	0.3	0.3	0.1	0.1	0.1	0.6	0.6	1.1	1.2	1.1	1.0	1.6	2.1	1.9	1.1	1.5	2.1	1.4	0.8	0.6	0.3	0.4	1.8	0.1	2.1
24	0.5	0.7	0.8	1.4	1.4	1.6	1.5	1.5	1.8	2.0	2.3	2.9	3.4	3.0	3.0	2.8	3.0	2.5	2.3	2.3	2.1	1.7	1.7	1.4	1.0	0.5	3.4
25	1.4	1.9	1.8	1.7	1.0	1.6	1.6	1.6	2.2	3.7	3.3	1.4	2.5	2.9	2.4	2.1	1.7	2.1	1.7	1.8	1.9	2.2	2.6	2.5	0.4	1.0	3.7
26	2.4	2.5	2.4	2.5	2.3	1.8	2.5	2.2	2.3	2.2	1.6	1.9	2.2	2.4	2.6	2.9	2.9	4.8	2.6	1.8	1.5	1.1	1.8	1.7	2.0	1.1	4.8
27	0.9	1.4	1.8	1.4	1.5	1.1	2.7	3.4	4.2	4.7	5.1	4.9	5.1	5.1	4.7	4.2	3.4	3.2	3.2	2.6	2.4	2.4	1.9	1.9	3.9	0.9	5.1
28	1.5	1.7	1.5	1.0	1.4	0.7	1.3	1.4	1.8	1.9	1.7	1.7	2.4	3.0	2.2	1.4	1.8	2.0	2.8	2.7	2.0	2.2	1.8	1.0	1.3	0.7	3.0
29	1.2	2.9	2.3	2.0	0.7	1.1	1.9	2.5	2.8	3.5	2.8	2.6	3.8	3.2	3.8	4.6	4.4	4.3	4.1	4.1	2.9	2.5	2.4	3.6	1.6	0.7	4.6
30	3.7	3.4	2.2	1.9	2.0	2.2	1.9	2.0	1.0	0.9	1.1	1.9	3.2	3.3	2.1	2.8	1.7	1.3	0.7	0.7	0.7	1.0	1.1	1.3	0.9	0.7	3.7
31	1.4	0.8	0.6	0.2	0.5	0.5	1.3	1.4	1.1	1.5	1.3	1.5	1.4	1.7	2.1	1.2	0.9	1.9	3.0	3.1	3.4	3.8	2.9	2.7	2.3	0.2	3.8

Total Hours	**744**
Number of Valid Hours	**744**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	2.2	**0.0**	**7.2**

Station : STN29147
Parameter : WGust, m/s
Month, Year : August, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	4.3	4.3	4.4	4.7	3.9	4.1	5.8	4.1	3.2	4.5	3.1	5.2	5.6	4.2	4.0	4.3	10.3	4.1	7.8	8.1	6.8	4.7	4.0	4.3	5.0	3.1	10.3
02	4.1	3.7	3.5	2.5	2.8	2.5	2.9	3.9	4.5	4.5	5.8	6.4	6.4	6.6	6.0	4.7	4.9	5.1	2.7	4.8	5.3	4.5	3.0	3.0	4.3	2.5	6.6
03	3.9	3.7	4.0	4.2	4.3	4.0	4.7	5.7	5.2	5.7	6.5	6.8	6.9	7.4	8.9	9.7	7.6	6.7	6.9	5.3	3.7	3.4	3.1	2.7	5.5	2.7	9.7
04	2.4	4.3	2.8	2.1	1.9	2.2	1.8	2.1	3.0	2.7	3.4	4.2	5.5	6.3	5.7	5.4	4.8	4.6	3.4	2.7	2.4	2.6	2.7	2.1	3.4	1.8	6.3
05	1.9	1.9	2.1	2.8	3.1	2.3	2.4	3.1	3.7	3.8	3.8	4.2	4.3	4.9	4.7	5.6	4.9	5.3	5.2	5.2	4.2	4.7	4.9	5.2	3.9	1.9	5.6
06	4.6	4.4	3.6	4.5	4.3	3.9	3.8	6.3	7.2	7.2	7.9	8.7	8.9	9.6	9.6	9.3	8.6	9.3	8.3	4.7	4.3	5.1	4.4	4.3	6.4	3.6	9.6
07	4.2	4.8	4.8	4.8	3.7	4.1	5.1	6.3	3.8	4.0	6.9	6.7	7.3	9.5	7.5	2.8	3.2	3.9	3.3	2.8	3.3	3.4	3.8	3.3	4.7	2.8	9.5
08	2.5	1.9	3.0	1.8	2.6	2.8	3.3	3.3	4.1	5.9	5.7	6.1	6.4	7.4	7.4	6.5	5.9	6.3	4.8	3.5	4.2	3.4	3.0	3.2	4.4	1.8	7.4
09	3.2	3.7	4.1	4.1	4.0	4.5	5.0	5.6	6.2	6.7	7.3	8.7	9.6	9.8	9.9	8.3	6.0	6.2	2.9	2.1	3.4	3.0	2.8	7.0	5.6	2.1	9.9
10	3.9	3.1	3.6	3.5	4.1	6.4	9.2	10.3	10.2	11.3	9.7	11.7	11.0	10.5	11.5	13.2	12.5	10.5	7.8	4.7	4.8	4.3	4.6	4.1	7.8	3.1	13.2
11	4.5	5.6	6.8	6.1	15.7	16.0	7.7	9.2	11.0	9.1	9.9	10.8	8.9	9.3	9.1	10.5	10.0	10.1	9.9	9.5	5.2	8.3	9.7	9.4	9.3	4.5	16.0
12	8.7	7.6	8.8	10.4	8.8	7.8	6.8	10.2	7.7	8.6	8.8	8.8	8.9	7.9	6.1	7.7	8.0	5.6	4.6	2.8	3.5	4.0	5.1	6.1	7.2	2.8	10.4
13	7.3	7.1	7.6	5.2	4.5	5.5	5.6	4.4	6.3	6.0	5.2	6.5	7.9	7.0	8.5	7.2	6.9	4.6	3.6	2.8	5.3	5.1	6.0	5.6	5.9	2.8	8.5
14	3.2	3.3	2.5	2.1	0.8	1.1	2.1	2.8	3.9	4.1	4.7	5.1	4.5	6.2	5.3	6.8	4.5	3.6	5.0	4.8	3.7	2.8	2.2	1.9	3.6	0.8	6.8
15	1.1	1.1	1.4	1.6	1.7	2.8	3.2	4.2	5.6	6.2	6.8	6.6	6.9	8.2	6.9	6.5	6.0	5.4	4.0	2.0	2.1	2.1	2.7	2.9	4.1	1.1	8.2
16	2.5	1.6	1.8	2.6	2.2	2.9	3.3	4.0	5.5	6.2	7.0	6.4	6.6	7.2	6.4	5.4	5.7	4.9	5.8	4.7	1.8	1.7	1.5	0.9	4.1	0.9	7.2
17	1.6	1.2	0.8	1.4	1.4	1.6	1.3	1.5	2.1	3.1	4.0	2.6	2.4	2.2	4.1	4.7	4.1	4.2	3.6	5.1	3.9	3.9	4.5	3.1	2.9	0.8	5.1
18	3.0	2.8	2.9	1.4	1.1	1.9	2.0	2.1	3.3	3.1	3.2	4.0	4.8	5.4	5.2	4.9	5.0	5.6	5.9	5.0	5.1	4.8	5.2	5.6	3.9	1.1	5.9
19	5.0	3.0	2.3	1.3	2.3	2.0	2.2	3.0	4.0	4.3	3.8	4.3	3.4	5.3	4.2	3.4	4.3	7.0	4.8	2.8	3.2	5.9	5.6	4.5	3.8	1.3	7.0
20	3.6	2.7	0.8	1.2	1.1	1.5	1.3	3.8	4.2	3.0	4.1	3.3	3.8	4.5	4.5	3.6	2.9	2.1	1.7	1.4	1.0	2.6	2.8	2.1	2.7	0.8	4.5
21	2.0	2.4	3.2	2.2	0.8	2.9	2.2	1.6	2.5	2.2	3.5	4.6	5.0	5.3	6.2	6.9	3.8	3.5	3.7	2.4	1.1	1.4	1.8	0.7	3.0	0.7	6.9
22	2.3	2.7	2.2	2.2	1.2	2.4	1.4	2.9	3.1	3.6	4.3	4.1	4.9	4.5	4.7	3.7	2.9	1.5	3.0	2.6	2.6	3.6	3.9	3.6	3.1	1.2	4.9
23	3.1	1.9	1.9	1.8	1.3	1.3	1.1	2.6	2.6	4.1	3.8	4.3	4.0	6.2	6.7	6.9	5.3	6.2	6.3	3.7	3.8	2.7	1.5	2.1	3.6	1.1	6.9
24	1.5	2.0	1.8	3.1	3.3	3.1	3.2	3.0	3.9	4.2	5.1	6.0	7.1	6.8	7.4	5.9	6.2	5.6	4.7	4.4	4.3	3.0	3.7	3.1	4.3	1.5	7.4
25	4.4	3.3	3.4	3.4	1.8	2.8	2.8	4.7	5.1	11.6	9.6	3.2	5.8	7.5	5.3	4.4	3.7	4.0	4.5	3.7	3.8	4.8	5.9	5.5	4.8	1.8	11.6
26	4.6	5.6	5.1	4.9	5.1	3.7	5.3	5.2	4.6	4.5	3.7	5.7	5.0	5.3	5.9	6.0	5.8	16.2	14.3	5.7	5.2	2.5	3.5	4.1	5.7	2.5	16.2
27	2.1	3.8	3.4	2.9	3.7	3.4	5.8	6.8	8.7	9.2	10.0	10.4	9.2	9.7	9.0	8.4	7.0	5.8	6.9	5.6	5.7	5.0	4.1	4.5	6.3	2.1	10.4
28	3.0	3.6	3.5	2.5	2.6	1.9	2.3	2.7	3.8	3.8	4.0	4.1	4.9	5.3	4.7	3.6	4.1	4.1	6.5	5.6	3.3	3.9	4.2	4.4	3.9	1.9	6.5
29	3.2	4.6	3.8	5.5	2.4	2.8	3.6	4.8	7.0	6.8	7.2	5.8	10.2	6.1	6.7	10.5	9.0	8.4	8.8	8.1	7.0	6.9	4.9	7.1	6.3	2.4	10.5
30	7.4	6.6	4.6	4.2	4.0	3.5	3.9	3.9	3.2	3.8	4.4	6.7	7.0	6.3	5.9	7.9	6.0	6.1	3.2	2.9	2.6	1.9	2.6	2.6	4.6	1.9	7.9
31	3.0	3.2	2.9	1.5	1.9	2.3	3.8	3.9	3.8	4.8	4.9	5.3	5.6	7.2	5.9	4.6	3.7	6.1	6.0	6.5	6.3	6.8	6.1	4.4	4.6	1.5	7.2

Total Hours	**744**
Number of Valid Hours	**744**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	4.8	**0.7**	**16.2**

Station : STN29147

Parameter : WD, degrees

Month, Year : August, 2021

terrapure

Monthly Data Matrix

	Hour (Eastern Standard Time)																							
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**
01	187	207	233	273	298	339	4	353	329	331	275	334	340	62	65	116	259	356	3	357	356	350	338	317
02	315	271	278	294	291	294	309	348	1	20	20	36	6	36	300	292	349	301	285	194	196	214	234	234
03	241	248	249	258	246	237	233	240	235	255	246	239	248	228	211	220	215	207	204	211	231	244	248	213
04	192	232	242	206	208	211	214	159	149	177	158	82	72	59	68	70	74	80	97	141	144	156	161	123
05	67	359	338	5	359	356	3	21	21	33	46	66	56	51	60	54	70	166	187	209	209	211	210	236
06	240	214	214	209	200	191	187	186	189	195	200	207	200	203	218	229	217	222	215	192	184	187	187	189
07	187	197	195	205	218	208	210	252	222	212	185	214	217	215	313	132	170	71	145	333	113	197	197	216
08	246	261	231	167	213	217	212	231	230	198	209	206	190	192	219	207	182	187	185	186	185	181	181	163
09	169	169	177	184	183	184	181	185	182	187	185	181	197	200	198	187	194	183	157	144	133	133	140	208
10	208	185	183	183	181	183	200	201	196	198	203	202	207	208	209	207	210	213	208	223	229	219	203	205
11	196	193	202	208	209	192	185	267	207	213	223	228	226	220	205	208	204	205	207	232	202	218	211	204
12	198	198	206	217	225	216	202	200	201	196	207	224	231	220	219	230	235	226	227	189	185	182	198	202
13	197	198	203	202	194	206	216	209	222	228	214	209	206	208	212	212	231	213	208	223	311	25	14	13
14	17	16	18	345	339	7	40	36	32	28	16	33	357	303	270	19	8	31	24	27	28	24	21	18
15	358	12	28	19	15	7	17	18	22	40	33	37	46	40	41	36	40	49	63	77	93	142	160	160
16	145	154	28	357	7	10	13	15	37	37	45	50	48	58	55	71	67	62	60	48	28	349	36	356
17	6	360	341	265	204	193	202	57	112	30	24	43	46	69	208	218	210	202	189	187	186	183	196	213
18	205	214	205	179	162	155	14	32	18	18	17	29	38	31	27	33	42	58	48	51	29	22	12	14
19	15	12	28	21	19	273	35	29	21	20	30	24	24	78	196	226	225	185	181	208	239	19	12	11
20	14	19	25	28	73	204	249	21	19	29	31	25	40	25	41	43	70	141	164	163	168	217	241	240
21	230	12	10	15	4	11	31	89	50	51	69	34	38	53	59	70	72	64	237	212	143	198	282	155
22	224	236	218	218	184	217	190	348	10	22	32	45	45	61	79	97	65	69	212	204	33	13	18	12
23	19	1	227	258	334	88	221	11	1	17	15	234	290	241	241	227	219	228	238	237	256	283	208	212
24	235	238	198	217	223	214	220	228	201	197	208	220	227	219	219	212	220	222	204	203	219	218	219	207
25	187	190	190	190	186	180	170	203	229	219	224	209	204	214	209	209	205	233	225	212	207	206	219	220
26	203	215	213	220	214	213	225	226	228	225	221	202	210	209	215	206	205	46	145	271	328	181	9	13
27	13	14	10	14	12	28	13	44	50	50	41	45	52	52	54	50	63	57	62	73	75	65	61	67
28	47	47	63	43	15	26	22	50	32	28	47	37	31	22	55	122	59	56	49	40	175	190	184	8
29	155	164	180	189	221	216	195	200	216	229	231	226	194	186	187	185	201	204	201	198	229	227	197	197
30	197	196	204	212	234	240	231	238	246	263	271	233	234	234	235	235	226	214	194	222	233	238	220	222
31	227	238	7	16	20	4	6	8	10	8	358	317	0	7	13	10	12	11	15	15	14	13	12	10

Total Hours	**744**
Number of Valid Hours	**744**
Percent Valid Data	**100.0 %**

Station : STN29147
Parameter : ATEM, °C
Month, Year : August, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	17.9	17.5	17.8	17.6	17.1	17.0	16.7	17.0	17.0	16.7	16.8	18.3	19.9	20.2	20.7	18.9	17.1	18.5	18.5	17.4	16.6	16.1	15.5	15.0	17.6	15.0	20.7
02	14.7	14.4	14.0	13.4	13.0	13.9	16.2	17.7	18.6	20.5	21.5	22.1	22.7	23.2	24.0	24.0	23.9	24.4	23.2	20.0	18.5	18.3	17.9	17.1	19.1	13.0	24.4
03	16.4	16.0	15.4	15.8	16.3	16.5	18.1	20.1	21.5	23.2	24.1	24.5	25.3	25.8	25.9	24.9	24.9	24.6	23.6	22.0	20.9	20.1	19.4	17.4	20.9	15.4	25.9
04	15.5	17.1	16.0	14.4	14.3	14.7	16.8	20.3	22.3	24.3	25.5	26.1	26.4	26.4	26.8	26.9	26.5	25.6	24.2	21.9	20.5	20.0	19.8	18.2	21.3	14.3	26.9
05	18.7	18.5	17.7	18.0	18.1	18.0	19.4	20.7	22.3	23.7	25.0	26.4	27.2	27.9	27.8	27.7	27.6	27.5	25.9	24.5	23.2	22.2	21.0	21.0	22.9	17.7	27.9
06	20.8	19.0	18.2	18.2	18.0	17.3	18.7	21.4	23.7	26.0	27.5	28.2	28.8	28.9	29.0	29.1	29.0	28.1	27.0	25.0	22.6	21.9	21.3	20.9	23.7	17.3	29.1
07	20.8	21.1	21.0	21.4	21.1	20.9	22.0	23.4	24.1	25.8	27.4	28.6	29.2	27.2	21.4	22.5	25.9	24.0	24.2	23.1	21.5	21.7	21.2	21.1	23.4	20.8	29.2
08	20.5	19.8	19.1	17.9	18.2	19.4	21.1	23.1	24.3	25.8	26.7	27.6	26.9	26.2	26.1	26.5	26.5	26.0	25.4	24.3	23.3	22.3	21.8	21.0	23.3	17.9	27.6
09	21.2	21.2	21.6	21.5	21.3	21.6	22.5	23.8	26.1	28.1	29.7	30.5	31.0	31.2	31.6	31.5	31.4	30.7	28.7	27.2	26.2	25.0	24.7	25.7	26.4	21.2	31.6
10	25.2	24.1	23.4	23.3	23.0	23.3	23.8	24.5	24.3	25.1	24.7	25.9	26.8	26.7	27.0	27.2	27.4	26.8	26.6	26.1	25.9	25.2	24.4	24.1	25.2	23.0	27.4
11	23.7	24.2	24.9	25.0	22.9	22.4	21.3	22.2	24.8	27.3	28.4	29.3	29.9	30.0	29.4	29.1	28.2	25.7	25.2	24.9	23.6	22.9	22.0	21.7	25.4	21.3	30.0
12	22.4	22.8	23.5	23.7	24.0	22.1	21.4	21.6	22.5	23.9	26.5	26.3	26.7	27.4	28.0	28.9	29.0	28.6	27.4	25.5	23.8	22.7	22.7	22.9	24.8	21.4	29.0
13	22.9	23.0	22.7	22.5	22.4	22.8	23.5	24.1	24.9	25.6	25.2	25.7	26.7	27.2	27.8	28.6	27.1	23.5	23.0	23.1	23.0	21.4	20.9	20.4	24.1	20.4	28.6
14	20.0	20.1	19.1	18.4	17.5	17.1	18.9	20.4	21.7	22.5	23.1	23.6	24.2	24.5	24.7	24.7	24.5	23.7	22.3	20.8	19.4	18.1	17.0	16.1	20.9	16.1	24.7
15	14.7	14.2	14.2	14.1	13.6	14.1	15.3	16.7	18.2	19.6	20.5	20.8	21.1	21.9	22.2	21.9	21.8	21.4	20.4	19.1	18.3	16.8	15.9	15.3	18.0	13.6	22.2
16	15.1	15.4	15.7	16.4	16.2	16.0	16.9	18.8	21.0	21.9	22.1	22.2	22.8	23.0	22.5	22.2	22.1	21.6	21.6	21.2	21.0	21.1	21.3	21.4	20.0	15.1	23.0
17	21.1	20.9	21.0	21.0	21.1	20.9	21.4	22.1	23.1	23.4	22.6	22.7	23.0	23.6	26.2	26.4	26.4	26.0	25.0	23.0	21.7	21.0	21.2	21.0	22.7	20.9	26.4
18	20.7	20.5	20.8	20.2	19.9	19.8	20.6	21.0	21.1	21.2	22.3	22.9	23.3	23.9	24.3	24.4	24.4	24.2	23.4	22.6	22.3	22.2	22.2	22.0	22.1	19.8	24.4
19	21.8	21.8	21.4	20.7	20.6	20.4	21.8	22.9	24.4	25.8	26.7	27.2	28.3	28.7	29.5	29.5	29.1	27.5	26.1	25.2	24.5	24.5	24.0	23.0	24.8	20.4	29.5
20	22.0	21.4	20.1	19.4	18.7	18.4	20.9	22.7	23.3	25.4	26.4	27.4	28.3	28.6	29.0	29.1	29.3	28.8	27.6	25.3	24.1	23.9	24.2	23.5	24.5	18.4	29.3
21	23.2	23.3	23.6	23.0	22.5	22.9	23.1	23.8	25.0	26.3	27.5	27.8	28.0	27.4	28.1	28.0	26.8	26.3	24.8	24.4	23.5	23.0	22.4	21.6	24.8	21.6	28.1
22	21.5	21.2	21.0	20.6	19.9	20.4	22.2	24.8	26.1	27.0	28.2	29.0	29.9	30.1	30.4	30.7	29.7	29.4	28.2	26.7	25.3	24.9	25.2	24.6	25.7	19.9	30.7
23	24.0	23.0	22.3	21.8	21.3	21.3	23.5	25.4	26.8	28.4	29.3	30.0	31.0	31.2	31.5	31.2	30.6	29.9	28.0	26.6	25.7	24.8	23.7	22.9	26.4	21.3	31.5
24	22.0	21.2	19.9	20.0	20.2	19.6	20.6	23.0	24.8	26.6	28.4	29.4	30.0	30.7	30.8	31.0	30.7	29.9	28.1	26.6	25.7	25.2	24.8	24.3	25.6	19.6	31.0
25	23.0	22.2	22.5	22.7	22.2	22.0	22.3	24.7	26.3	25.8	23.7	24.5	26.3	26.8	26.7	27.2	27.2	27.1	26.5	25.7	25.1	24.2	23.7	23.6	24.7	22.0	27.2
26	22.9	22.8	22.7	22.7	22.7	22.3	22.4	23.2	24.6	26.3	27.9	29.4	30.6	31.2	31.6	31.5	30.6	25.3	20.6	22.5	22.5	20.9	22.1	22.5	25.1	20.6	31.6
27	21.9	21.4	21.3	20.9	20.7	20.4	21.6	23.1	23.2	23.8	23.4	23.7	23.8	23.9	23.9	23.8	23.2	23.0	22.7	22.4	22.4	22.4	21.6	21.1	22.5	20.4	23.9
28	20.6	20.1	19.6	19.2	18.8	18.8	19.7	20.9	22.1	22.9	24.3	25.3	26.0	25.2	25.9	27.7	27.2	24.8	23.5	23.1	22.5	22.6	22.7	22.9	22.8	18.8	27.7
29	22.4	21.9	22.1	21.8	22.3	22.1	22.3	24.2	27.0	28.5	29.7	30.1	28.6	27.9	30.5	30.3	30.2	29.0	27.2	25.9	24.5	22.1	21.2	21.1	25.5	21.1	30.5
30	20.9	21.1	21.4	21.7	21.8	21.5	21.6	22.6	24.0	25.1	26.1	26.3	27.1	27.4	27.5	28.0	27.6	26.4	24.6	23.3	22.5	21.5	20.0	19.7	23.7	19.7	28.0
31	19.4	18.5	18.9	18.6	19.1	18.5	19.2	20.1	21.2	22.1	23.5	24.5	24.4	24.5	24.8	24.8	24.7	23.5	22.3	21.4	20.7	19.9	18.9	18.5	21.3	18.5	24.8

Total Hours	**744**
Number of Valid Hours	**744**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	23.2	**13.0**	**31.6**

Station : STN29147

Parameter : RH, %

Month, Year : August, 2021

terrapure

Monthly Data Matrix

	Hour (Eastern Standard Time)																										
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	84	87	87	88	90	85	83	81	83	87	87	81	73	70	67	80	83	83	79	79	81	83	85	86	82	67	90
02	84	82	83	86	88	86	79	71	62	54	43	40	34	32	32	33	32	31	36	55	63	62	64	69	58	31	88
03	73	73	75	70	68	68	67	65	60	51	46	45	40	41	47	50	48	48	53	59	64	67	68	77	59	40	77
04	87	79	81	88	89	88	82	71	63	49	42	46	44	43	41	41	40	40	41	48	54	58	61	69	60	40	89
05	66	69	74	74	79	81	76	75	69	62	56	45	36	36	38	39	42	44	48	51	56	58	67	62	58	36	81
06	57	72	80	86	89	91	89	81	70	55	47	41	40	45	47	44	43	45	50	58	73	83	86	88	65	40	91
07	90	88	88	86	87	88	85	79	73	64	57	51	48	59	85	83	68	78	79	81	89	86	88	89	78	48	90
08	92	93	94	95	96	96	92	86	77	68	63	60	64	69	69	68	67	68	71	76	82	88	90	93	80	60	96
09	92	93	93	93	94	93	91	87	78	68	61	56	51	49	46	48	49	51	61	68	73	76	76	73	72	46	94
10	75	82	85	84	86	85	83	80	81	78	78	72	71	73	73	72	73	76	78	80	83	87	90	92	80	71	92
11	93	94	92	91	90	89	86	85	82	75	68	62	58	59	63	61	63	68	69	66	73	75	85	87	76	58	94
12	84	83	83	85	78	84	89	87	85	81	69	69	68	68	67	59	57	60	64	73	82	89	92	91	77	57	92
13	91	90	90	91	92	90	87	84	80	76	78	76	72	70	68	65	68	88	88	89	84	72	63	62	80	62	92
14	63	60	66	65	69	66	61	60	48	42	41	41	38	36	35	36	34	39	43	49	50	55	63	69	51	34	69
15	76	78	79	78	79	78	77	75	71	64	63	64	62	55	51	51	53	57	63	70	73	77	77	76	69	51	79
16	77	76	76	74	80	86	87	81	71	66	66	66	66	65	71	77	78	79	79	82	83	83	81	82	76	65	87
17	86	86	87	89	89	91	91	88	86	81	87	93	91	90	74	71	68	69	73	82	88	92	93	93	85	68	93
18	94	94	93	94	95	95	95	94	95	95	92	89	89	87	83	82	82	83	85	88	91	93	94	96	91	82	96
19	95	94	95	94	91	90	83	75	69	66	63	60	55	53	50	48	48	67	76	75	67	61	61	65	71	48	95
20	70	73	81	84	87	88	81	73	71	62	58	49	45	47	46	43	41	42	48	59	65	67	67	72	63	41	88
21	74	72	71	75	78	76	77	76	72	69	65	66	65	64	65	61	64	67	74	75	80	83	86	89	73	61	89
22	91	92	90	90	91	91	87	77	69	60	54	51	48	48	48	47	50	52	66	77	78	76	67	68	70	47	92
23	73	78	81	83	85	86	79	72	68	61	56	52	47	44	41	39	41	45	53	58	60	63	68	72	63	39	86
24	77	80	84	86	86	88	84	76	70	62	52	47	46	47	49	49	46	47	61	67	65	66	69	72	66	46	88
25	76	81	85	88	90	91	92	86	81	80	79	83	78	78	81	78	77	76	78	80	78	82	85	84	82	76	92
26	89	91	90	92	94	95	95	93	87	81	75	69	62	59	58	61	64	74	83	80	79	85	81	78	80	58	95
27	80	76	76	80	83	86	87	78	73	72	73	71	71	69	67	66	67	70	73	73	61	58	70	75	73	58	87
28	78	80	80	82	84	84	82	77	74	73	70	68	68	71	70	68	70	78	85	87	88	90	88	89	79	68	90
29	91	93	94	95	95	96	97	92	81	71	66	63	68	71	62	65	60	62	72	78	82	87	92	93	80	60	97
30	92	93	94	94	93	93	93	89	78	69	60	55	49	47	46	41	42	43	48	53	58	63	72	73	68	41	94
31	74	80	78	81	79	82	79	72	61	56	51	47	47	47	43	42	43	49	55	56	54	54	62	64	61	42	82

Total Hours	**744**
Number of Valid Hours	**744**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	72	**31**	**97**

Station : STN29147
Parameter : Precipitation, mm
Month, Year : August, 2021

terrapure
Monthly Data Matrix

	Hour (Eastern Standard Time)																								
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Total**	**Max**
01	-	-	-	-	-	-	-	-	-	0.4	0.5	-	-	-	0.9	0.1	0.7	-	0.1	-	-	-	-	-	2.7	0.9
02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
07	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	2.0	0.4	-	-	-	-	-	-	-	-	2.4	2.0
08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	0.1	0.1
11	-	-	-	-	1.0	1.5	-	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.7	1.5
12	-	-	-	-	-	1.8	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0	1.8
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.1	1.1	0.5	-	-	-	-	-	9.6	8.1
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
17	-	-	-	-	-	-	-	-	-	-	13.2	-	2.1	-	-	-	-	0.1	-	-	-	-	-	-	15.4	13.2
18	-	-	-	-	-	-	-	4.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.5	4.5
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
25	-	-	-	-	-	-	-	-	-	-	1.7	0.1	-	-	-	-	-	-	-	-	-	-	-	-	1.8	1.7
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30.1	46.6	0.1	-	-	-	-	76.9	46.6
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	6.7	0.9	-	7.7	6.7
30	0.1	2.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.3	2.2
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0

Total Hours	**744**
Number of Valid Hours	**744**
Percent Valid Data	**100.0 %**

Monthly :	**Total**	**Max**
	128.1	**46.6**

Station : STN29147

Parameter : PM10, µg/m^3

Month, Year : September, 2021

GFL

Monthly Data Matrix

1 Hr MECP Reportable Threshold - 100 µg/m^3

24 Hr MECP Reportable Threshold - 50 µg/m^3

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	16	8	12	14	12	13	17	13	27	25	16	20	16	16	17	14	11	11	8	35	22	9	19	26	17	8	35
02	8	16	10	21	21	30	38	52	24	16	27	43	19	33	27	21	15	13	9	20	18	16	11	13	22	8	52
03	19	14	14	9	23	22	70	22	33	20	12	23	22	28	17	15	18	25	16	22	16	16	14	20	21	9	70
04	20	13	18	15	14	18	11	10	11	24	18	18	14	14	11	9	10	20	15	12	17	16	22	25	16	9	25
05	19	12	12	11	9	17	20	18	12	7	4	6	8	9	9	8	10	11	10	10	4	21	5	10	11	4	21
06	12	16	13	14	18	12	11	13	12	8	25	10	9	6	7	10	8	6	0	1	13	12	13	21	11	0	25
07	10	7	7	9	16	17	47	17	16	22	21	22	22	21	38	27	25	17	51	26	17	17	15	16	21	7	51
08	24	22	13	12	9	9	11	10	11	21	21	19	26	19	66	66	11	11	12	14	12	12	11	17	19	9	66
09	18	11	10	6	8	10	8	9	12	11	21	34	13	6	5	17	8	8	10	16	17	14	27	11	13	5	34
10	17	13	11	11	12	13	18	19	19	15	13	19	13	26	21	10	11	9	6	6	21	7	10	21	14	6	26
11	18	14	14	11	7	8	11	17	18	25	20	19	20	21	18	19	14	13	12	8	21	16	16	27	16	7	27
12	26	23	21	21	21	17	23	16	26	30	27	32	28	28	28	23	17	11	30	34	29	28	21	8	24	8	34
13	20	9	17	13	11	17	16	12	35	16	14	19	20	24	27	8	18	13	13	14	12	8	16	15	16	8	35
14	9	5	7	10	22	19	15	16	20	37	39	42	31	31	30	28	30	30	16	17	21	22	20	16	22	5	42
15	4	7	9	10	11	8	5	6	10	11	17	22	14	12	12	12	11	9	24	28	23	22	21	14	13	4	28
16	22	27	32	18	19	29	32	26	29	26	19	21	13	22	19	6	9	13	13	12	13	14	14	16	19	6	32
17	17	22	15	16	25	26	25	23	33	23	26	30	21	29	32	24	21	21	29	24	22	19	10	23	23	10	33
18	14	12	12	21	20	21	21	15	16	11	12	22	33	18	18	13	17	22	8	17	9	8	11	19	16	8	33
19	20	17	8	10	11	20	15	11	10	12	9	19	8	6	16	6	9	11	11	12	20	10	9	11	12	6	20
20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Maximum 1 Hr Average	**70**
Maximum 24 Hr Average	**24**
Number of Days > 50 µg/m^3	**0**
Number of Hours > 100 µg/m^3	**0**

Total Hours	**456**
Number of Valid Hours	**456**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	17	**0**	**70**

Station : STN29147
Parameter : WS, m/s
Month, Year : September, 2021

GFL
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	2.5	2.2	2.1	2.2	1.4	2.7	3.7	4.5	4.9	4.8	5.3	5.8	5.3	4.8	3.8	3.4	2.9	2.1	0.8	0.7	3.8	4.0	4.5	3.7	3.4	0.7	5.8
02	2.6	1.5	1.2	1.3	1.3	0.7	1.1	1.4	3.6	2.8	1.7	2.1	2.8	2.4	2.3	1.9	2.6	3.8	4.4	4.8	4.8	3.8	3.4	2.5	2.5	0.7	4.8
03	2.7	1.3	0.5	0.2	0.1	0.1	0.5	1.3	0.9	2.1	2.1	2.3	2.0	1.0	1.2	1.4	1.5	2.2	0.7	1.5	1.5	1.6	1.6	0.4	1.3	0.1	2.7
04	0.4	0.4	0.4	0.3	0.1	0.3	0.1	0.7	1.2	1.5	1.9	1.7	2.2	3.3	3.4	3.0	2.5	2.0	1.9	2.1	2.1	2.3	2.5	2.5	1.6	0.1	3.4
05	2.1	1.6	1.5	2.0	2.0	2.5	2.7	3.0	1.0	1.4	2.2	1.5	1.6	2.4	3.2	3.8	3.6	2.9	1.7	1.8	2.4	2.3	0.5	0.6	2.1	0.5	3.8
06	1.3	1.6	1.5	2.7	2.4	2.7	1.7	2.5	1.3	1.6	1.5	2.3	2.1	1.6	2.1	1.7	1.5	1.7	1.3	1.3	1.0	0.9	1.3	1.5	1.7	0.9	2.7
07	1.2	1.2	1.9	1.7	1.6	1.5	1.6	2.1	3.1	3.8	4.2	3.7	4.0	4.0	4.0	4.6	4.3	3.0	2.7	1.0	2.2	2.0	4.5	4.6	2.9	1.0	4.6
08	5.2	4.8	1.8	2.0	1.7	1.5	1.5	2.1	2.5	3.3	3.0	4.1	4.6	4.6	4.5	3.3	2.9	2.8	1.4	1.6	1.6	0.8	1.6	1.4	2.7	0.8	5.2
09	1.5	1.3	1.6	2.6	2.7	2.2	2.3	3.0	2.9	2.8	2.8	3.2	2.5	0.6	0.8	0.5	1.6	1.4	1.0	0.9	0.7	0.3	0.2	0.4	1.7	0.2	3.2
10	0.4	0.4	0.7	1.0	1.5	0.8	0.7	1.4	0.9	0.8	0.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.4	1.5
11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Total Hours	**227**
Number of Valid Hours	**227**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	2.1	**0.1**	**5.8**

Station : STN29147
Parameter : WGust, m/s
Month, Year : September, 2021

GFL
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	4.0	3.9	3.8	4.0	3.9	6.7	7.6	9.1	10.3	9.7	10.3	11.3	10.3	9.4	7.1	7.0	6.0	4.5	2.3	3.7	8.6	8.2	9.2	7.7	7.0	2.3	11.3
02	5.7	4.6	3.0	2.8	3.4	2.3	3.2	3.8	7.9	7.4	6.4	10.1	7.6	6.8	6.7	6.7	7.6	8.6	8.0	8.7	8.3	7.7	7.6	5.6	6.3	2.3	10.1
03	6.0	4.6	2.6	1.4	0.9	0.8	3.0	3.6	3.7	4.8	5.3	5.9	5.5	3.9	4.7	4.9	3.8	4.1	2.1	3.8	3.3	3.4	3.7	1.3	3.6	0.8	6.0
04	1.5	1.2	1.2	1.2	0.9	1.0	0.7	2.3	2.9	4.2	3.8	4.4	5.9	6.2	6.4	5.5	4.3	3.9	3.5	3.4	3.4	3.6	4.0	7.1	3.4	0.7	7.1
05	4.5	3.9	4.7	4.2	4.3	5.3	5.3	6.2	4.5	5.3	7.3	7.6	7.2	8.3	7.2	8.4	9.1	6.2	3.8	4.0	5.0	6.1	2.9	1.5	5.5	1.5	9.1
06	2.5	3.4	3.7	4.8	5.4	6.1	5.2	5.2	6.5	6.6	7.2	7.9	9.2	6.6	8.0	6.7	6.7	6.9	4.7	3.9	2.6	2.0	2.2	3.1	5.3	2.0	9.2
07	2.9	3.4	3.8	3.5	3.2	2.7	2.8	3.6	5.8	7.4	8.2	9.0	9.7	9.5	8.6	9.1	8.6	7.3	8.0	2.5	5.5	9.2	8.8	8.3	6.3	2.5	9.7
08	8.7	9.9	6.3	4.3	3.6	3.2	3.4	4.6	6.0	6.2	6.7	9.3	9.1	8.6	10.9	9.2	7.7	6.3	3.9	3.6	3.8	3.0	3.2	2.8	6.0	2.8	10.9
09	2.8	2.8	3.4	4.7	5.3	4.3	4.9	5.8	5.3	6.9	6.2	8.0	7.5	3.8	2.9	1.9	8.5	2.8	5.3	3.7	2.8	2.3	1.5	2.5	4.4	1.5	8.5
10	3.2	2.5	2.2	2.4	2.8	2.1	3.2	4.4	3.3	3.7	4.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2.1	4.7
11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Total Hours	**227**
Number of Valid Hours	**227**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	5.2	**0.7**	**11.3**

Station : STN29147

Parameter : WD, degrees

Month, Year : September, 2021

	Hour (Eastern Standard Time)																							
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**
01	10	14	14	12	11	27	40	43	51	52	43	44	39	55	60	61	62	53	58	352	14	16	15	16
02	15	15	15	18	18	18	16	14	15	15	360	6	11	9	11	6	14	16	12	14	13	12	12	17
03	15	17	204	11	19	37	2	14	1	31	41	29	25	222	251	213	229	181	215	212	220	359	12	27
04	12	24	30	15	357	109	160	127	133	193	179	183	158	181	182	182	179	181	179	174	174	181	177	201
05	203	197	182	211	227	236	235	236	229	228	229	225	230	231	235	235	237	238	234	206	202	211	234	221
06	227	213	210	233	225	232	235	235	251	220	253	230	233	231	227	227	221	225	230	237	237	238	235	228
07	217	196	212	212	207	195	186	182	184	192	194	200	201	199	203	191	199	194	26	78	140	170	179	171
08	162	179	208	227	203	184	223	228	211	217	213	226	234	232	236	233	238	237	216	201	213	228	233	235
09	228	218	204	236	237	224	228	239	237	235	234	233	285	6	19	103	116	199	80	15	16	22	242	277
10	12	316	234	231	236	237	224	231	212	335	241	---	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Total Hours	**227**
Number of Valid Hours	**227**
Percent Valid Data	**100.0 %**

Station : STN29147
Parameter : ATEM, °C
Month, Year : September, 2021

GFL
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	18.3	18.0	17.4	17.3	17.0	18.3	19.4	19.8	20.2	20.6	20.6	20.7	20.7	21.2	21.8	21.8	21.6	21.1	19.8	18.7	19.1	18.3	18.3	17.7	19.5	17.0	21.8
02	17.2	16.7	15.5	14.8	14.2	13.4	14.6	16.3	17.3	18.0	19.4	20.2	20.9	21.7	22.3	22.5	22.0	20.8	18.3	16.7	15.7	15.8	16.0	16.1	17.8	13.4	22.5
03	16.0	15.5	14.0	12.9	12.3	12.3	13.9	15.6	17.3	18.3	19.3	19.8	20.4	22.0	22.3	22.9	22.1	20.9	20.6	18.9	18.3	18.6	18.4	17.2	17.9	12.3	22.9
04	16.1	16.2	16.3	16.0	15.6	15.7	15.6	17.6	20.4	21.5	22.5	23.3	24.0	24.2	24.2	24.0	22.9	22.2	21.2	20.1	19.6	19.6	19.6	19.4	19.9	15.6	24.2
05	18.6	18.4	18.5	19.0	18.9	18.9	19.0	19.3	20.0	21.5	22.7	23.4	24.1	24.7	25.1	25.0	24.5	23.8	22.1	20.5	19.6	19.2	18.9	18.2	21.0	18.2	25.1
06	17.2	16.3	15.7	15.4	15.6	15.4	15.5	16.6	19.0	20.2	20.9	21.8	22.4	22.5	22.8	22.2	21.5	20.9	19.2	17.9	16.9	16.2	15.8	15.2	18.5	15.2	22.8
07	14.7	12.7	13.4	13.9	14.3	14.1	14.9	17.7	20.3	22.3	23.6	24.7	25.2	25.9	26.0	25.9	26.1	25.2	20.1	17.3	16.9	16.7	16.8	17.1	19.4	12.7	26.1
08	17.0	18.2	18.8	17.7	17.9	17.8	17.8	18.4	19.5	21.0	22.9	23.9	24.4	25.0	24.7	24.6	24.0	23.1	21.3	19.8	18.8	18.0	17.4	16.5	20.4	16.5	25.0
09	15.5	14.8	14.1	14.4	14.3	13.8	14.3	15.6	17.2	18.7	19.6	20.3	18.6	16.3	18.4	18.8	16.8	16.3	16.2	15.7	15.0	14.3	13.8	13.6	16.1	13.6	20.3
10	13.5	13.2	12.6	12.2	11.4	11.4	12.7	14.9	17.4	19.2	19.9	18.2	21.6	22.3	21.7	22.3	22.1	21.3	19.4	18.2	16.7	15.6	15.3	14.7	17.0	11.4	22.3
11	14.5	14.5	14.9	16.0	16.9	17.0	17.3	18.5	20.8	22.8	23.5	24.1	23.9	24.1	24.1	24.0	23.6	23.0	22.2	21.9	21.8	22.0	21.7	21.2	20.6	14.5	24.1
12	21.0	21.3	21.6	21.4	21.6	21.7	21.6	21.9	22.8	23.0	22.9	23.7	23.6	22.4	22.0	21.3	17.8	16.9	17.4	18.0	18.7	19.1	18.2	16.3	20.7	16.3	23.7
13	16.2	16.2	15.3	14.5	14.3	13.7	14.5	17.1	18.6	18.8	18.9	20.2	21.4	22.0	22.1	21.0	18.6	18.5	17.7	17.2	16.0	15.7	16.1	15.9	17.5	13.7	22.1
14	15.7	15.9	16.1	16.0	15.5	14.9	15.2	16.6	17.9	18.6	20.7	25.7	25.5	26.4	27.0	27.0	26.9	25.6	24.9	24.9	24.9	25.2	24.9	20.4	21.4	14.9	27.0
15	20.2	20.4	20.1	19.3	18.3	17.6	17.2	17.4	18.3	18.6	20.0	20.8	21.1	21.5	22.0	22.2	21.7	21.4	19.6	18.1	17.1	16.1	15.6	15.5	19.2	15.5	22.2
16	14.9	15.2	14.9	14.7	14.6	14.4	15.0	15.9	17.3	18.5	19.6	20.4	20.8	21.0	21.3	21.2	21.1	20.3	18.9	18.3	18.1	17.8	17.0	16.2	17.8	14.4	21.3
17	15.5	15.7	15.7	15.2	15.0	14.7	15.8	18.8	21.8	23.0	23.9	24.7	25.3	26.0	24.5	25.4	26.6	25.5	23.1	21.5	21.0	20.6	20.3	20.1	20.8	14.7	26.6
18	19.8	19.5	19.4	19.9	19.9	19.9	18.9	19.0	19.0	19.8	20.2	21.3	22.5	23.2	23.5	23.4	23.3	22.0	19.7	18.4	16.7	15.5	14.4	13.8	19.7	13.8	23.5
19	13.6	13.1	12.7	12.1	12.1	12.4	12.9	13.9	15.7	16.8	19.3	19.8	20.3	20.4	20.3	19.8	19.4	18.2	16.6	16.2	16.1	15.4	14.7	14.5	16.1	12.1	20.4
20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Total Hours	**456**
Number of Valid Hours	**456**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	19.0	**11.4**	**27.0**

Station : STN29147

Parameter : RH, %

Month, Year : September, 2021

GFL

Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	67	71	76	78	82	78	72	72	70	66	64	65	64	57	52	51	50	51	55	62	57	61	62	62	64	50	82
02	61	59	64	67	69	72	66	59	44	44	43	40	37	36	33	33	33	38	56	61	65	66	67	68	53	33	72
03	68	71	79	82	85	87	81	75	67	61	60	58	56	51	49	47	51	63	60	71	73	71	68	70	67	47	87
04	75	74	75	78	80	81	82	79	71	65	58	54	51	51	47	43	43	48	54	62	67	73	77	84	66	43	84
05	90	94	95	93	93	93	93	92	86	73	64	55	49	44	43	42	39	44	51	61	75	81	78	76	71	39	95
06	80	84	88	86	82	82	82	79	63	57	50	46	44	43	42	43	46	46	53	59	63	67	71	76	64	42	88
07	77	85	83	81	78	78	77	74	68	61	51	46	44	43	44	49	51	59	70	91	93	94	94	93	70	43	94
08	92	90	89	94	95	95	95	93	88	78	65	56	48	41	40	40	40	43	52	61	66	67	67	73	70	40	95
09	80	84	88	89	90	91	90	85	78	70	65	62	75	88	79	76	84	88	84	75	72	76	79	81	80	62	91
10	84	87	89	90	93	93	89	83	74	64	59	51	46	44	46	45	44	48	57	59	64	68	69	70	67	44	93
11	69	68	66	72	77	80	82	77	74	65	58	54	54	52	51	50	50	56	62	64	66	66	69	73	65	50	82
12	76	76	77	80	81	81	82	81	78	76	77	75	75	76	82	93	95	96	96	97	96	94	95	96	85	75	97
13	94	88	92	93	93	94	88	76	67	65	64	59	58	58	60	64	82	83	88	91	93	95	95	94	81	58	95
14	94	93	94	95	97	96	95	94	90	89	84	74	73	70	67	67	65	70	70	71	72	71	73	92	82	65	97
15	91	90	92	90	91	92	90	85	78	75	68	61	59	57	54	53	57	56	66	77	83	88	90	88	76	53	92
16	89	88	89	90	89	90	87	86	82	77	76	75	70	71	70	70	72	69	71	73	70	70	74	79	78	69	90
17	84	87	89	91	93	94	94	92	84	79	74	70	68	65	73	70	61	66	76	83	87	91	93	94	82	61	94
18	94	94	93	88	84	81	85	73	72	69	68	63	52	41	38	38	37	41	50	45	48	54	60	67	64	37	94
19	71	74	77	82	81	80	78	76	76	74	67	67	63	61	61	64	64	68	73	73	72	65	71	75	71	61	82
20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Total Hours	**456**
Number of Valid Hours	**456**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	71	**33**	**97**

Station : STN29147
Parameter : Precipitation, mm
Month, Year : September, 2021

GFL
Monthly Data Matrix

	Hour (Eastern Standard Time)																								
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Total**	**Max**
01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.3	1.3	1.3
05	1.2	3.8	-	0.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.9	3.8
06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5	3.9	3.9	23.8	11.5	0.5	45.0	23.8
08	-	-	16.2	4.3	0.7	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21.4	16.2
09	-	-	-	-	-	-	-	-	-	-	-	-	0.2	4.2	-	-	3.1	4.6	-	-	-	-	-	-	12.1	4.6
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	2.2	2.8	1.7	1.7	0.1	-	0.4	8.8	-	18.3	8.8
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	0.5	-	-	1.5	17.3	1.0	3.1	0.5	24.3	17.3
14	-	-	-	-	-	-	-	-	0.2	-	-	-	-	---	---	---	---	---	---	---	---	---	---	---	0.2	0.2
15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Total Hours	**325**
Number of Valid Hours	**325**
Percent Valid Data	**100.0 %**

Monthly :	**Total**	**Max**
	128.5	**23.8**

Station : STN29247

Parameter : PM10, µg/m^3

Month, Year : September, 2021

GFL

Monthly Data Matrix

1 Hr MECP Reportable Threshold - 100 µg/m^3

24 Hr MECP Reportable Threshold - 50 µg/m^3

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
02	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
03	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
04	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
05	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
06	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
07	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
08	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
09	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
20	14	18	9	21	8	24	20	37	22	31	29	23	29	26	18	19	11	9	10	10	13	10	23	19	19	8	37
21	19	19	13	13	17	14	10	11	---	---	116	155	216	117	128	58	13	9	8	12	9	6	7	5	44	5	216
22	12	10	10	8	5	6	8	6	1	1	5	6	9	5	2	5	5	6	6	7	8	7	7	4	6	1	12
23	1	1	0	2	1	2	3	1	4	5	12	8	6	6	4	6	4	4	4	3	4	3	3	5	4	0	12
24	2	0	1	1	3	2	0	5	4	3	8	10	8	8	14	9	5	6	8	11	10	12	7	4	6	0	14
25	8	9	6	6	8	6	8	7	4	4	11	15	18	16	4	3	3	2	0	4	4	4	6	7	7	0	18
26	7	9	13	10	10	9	8	7	10	7	10	11	8	8	7	8	12	14	10	13	10	10	8	7	9	7	14
27	7	8	9	8	8	7	10	16	10	11	19	13	35	29	19	18	20	14	17	24	21	20	12	10	15	7	35
28	9	8	6	5	10	13	11	15	12	9	9	7	7	6	8	11	10	15	8	7	6	16	14	21	10	5	21
29	13	9	9	12	7	18	24	35	12	8	9	10	7	6	4	3	7	9	19	13	14	17	9	6	12	3	35
30	5	3	2	10	7	8	23	29	17	6	9	14	9	10	23	20	14	19	16	18	14	13	12	7	13	2	29

Maximum 1 Hr Average	**216**
Maximum 24 Hr Average	**44**
Number of Days > 50 µg/m^3	**0**
Number of Hours > 100 µg/m^3	**5**

Total Hours	**264**
Number of Valid Hours	**262**
Percent Valid Data	**99.2 %**

Monthly :	**Ave**	**Min**	**Max**
	13	**0**	**216**

Station : STN29247
Parameter : WS, m/s
Month, Year : September, 2021

GFL
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
02	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
03	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
04	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
05	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
06	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
07	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
08	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
09	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	6.1	7.3	7.8	7.7	8.9	10.2	10.3	9.2	8.7	8.5	8.9	8.4	8.3	7.8	6.9	---	6.1	10.3
12	6.3	6.1	6.8	6.4	5.7	4.8	4.1	3.5	4.3	4.1	3.2	3.3	3.1	1.3	1.3	1.5	1.5	1.3	1.0	2.1	1.5	1.2	2.4	2.6	3.3	1.0	6.8
13	1.2	1.3	0.4	0.3	1.1	0.8	1.1	0.8	1.2	1.0	1.5	0.9	2.5	2.8	3.3	3.3	2.1	1.3	2.7	2.6	3.4	1.5	1.2	2.2	1.7	0.3	3.4
14	1.3	1.0	0.7	1.3	1.8	1.7	0.7	0.3	0.9	0.8	1.3	3.3	5.8	7.0	8.6	7.9	7.9	7.3	6.9	7.3	6.7	8.3	8.8	3.8	4.2	0.3	8.8
15	1.6	3.4	2.6	2.6	2.1	1.5	1.5	1.7	1.9	---	2.5	2.7	3.5	2.1	2.3	1.4	1.4	1.5	0.9	0.9	1.1	0.9	1.2	1.1	1.8	0.9	3.5
16	1.0	0.5	0.8	1.2	1.3	0.8	1.4	1.7	1.9	2.2	2.8	3.7	4.1	4.4	4.2	4.4	4.0	3.6	2.9	2.4	2.4	1.5	0.8	1.0	2.3	0.5	4.4
17	0.3	1.0	0.9	0.5	0.8	0.9	0.7	2.6	3.8	4.0	2.8	2.3	2.1	2.4	2.6	2.6	1.9	3.5	3.0	3.6	3.9	4.5	4.6	4.3	2.5	0.3	4.6
18	4.4	3.8	2.7	2.5	1.9	2.8	2.4	3.6	3.4	3.5	3.0	2.9	2.3	2.5	2.7	2.9	2.6	1.8	2.2	3.2	2.5	2.3	2.1	2.1	2.8	1.8	4.4
19	1.5	1.8	1.3	1.6	1.9	2.1	2.2	2.4	2.4	2.4	3.3	3.7	3.9	3.4	3.5	3.7	3.5	3.0	2.8	2.9	2.7	1.7	1.0	0.8	2.5	0.8	3.9
20	1.0	0.7	1.1	0.6	0.8	0.6	0.9	1.5	1.2	1.4	2.2	2.7	2.6	3.6	3.9	4.1	3.2	2.6	2.2	1.7	0.7	3.6	6.4	6.2	2.3	0.6	6.4
21	6.0	6.1	6.5	6.5	6.4	6.1	6.1	5.6	6.5	7.6	9.2	9.4	9.1	8.3	6.9	5.8	5.1	4.9	5.6	4.9	5.1	4.7	5.4	5.4	6.4	4.7	9.4
22	5.0	4.4	4.0	4.4	4.2	5.2	4.8	3.0	3.3	3.4	3.4	3.9	4.1	4.8	5.5	6.4	6.2	5.8	5.2	5.6	6.8	6.2	5.6	3.8	4.8	3.0	6.8
23	3.6	2.6	2.4	1.7	1.5	0.9	0.8	3.3	4.7	6.3	7.4	6.9	6.4	6.0	4.4	6.0	4.9	3.4	4.2	4.6	4.2	3.7	5.0	4.7	4.2	0.8	7.4
24	4.5	4.2	4.3	4.1	4.7	4.0	5.3	5.3	6.5	6.8	7.1	8.0	7.0	7.0	6.9	6.3	4.9	3.2	2.6	3.4	3.3	3.7	2.9	4.2	5.0	2.6	8.0
25	3.9	4.1	4.5	4.7	3.8	4.3	5.2	5.4	4.9	6.2	7.3	7.3	8.4	8.6	5.4	4.0	3.0	3.0	2.1	2.1	2.1	2.7	3.6	3.8	4.6	2.1	8.6
26	3.8	3.9	4.3	4.1	4.1	4.3	4.7	4.7	4.5	5.2	5.9	6.3	5.6	5.1	4.1	4.1	4.4	3.3	3.2	4.2	4.6	5.0	5.1	2.0	4.4	2.0	6.3
27	3.3	3.8	5.4	6.0	7.6	8.1	7.5	7.3	7.8	8.6	7.9	6.9	5.8	5.6	5.1	4.6	4.7	3.4	2.1	2.0	1.6	2.9	3.3	3.4	5.2	1.6	8.6
28	4.0	3.3	2.6	2.4	3.6	3.9	3.5	3.3	4.0	3.4	3.3	2.8	2.7	2.8	3.2	2.8	2.7	2.2	2.7	1.9	1.7	1.0	1.4	1.4	2.8	1.0	4.0
29	1.0	1.1	1.4	1.6	1.2	1.7	1.5	1.3	1.7	1.4	1.3	1.8	2.0	2.6	2.9	2.6	2.3	2.2	3.0	2.9	3.7	3.6	3.2	1.7	2.1	1.0	3.7
30	1.6	2.2	2.5	2.5	1.5	1.1	1.1	1.6	2.8	2.9	2.5	2.6	1.7	1.5	1.3	1.5	2.1	2.0	1.4	1.2	1.5	1.0	1.0	0.8	1.7	0.8	2.9

Total Hours	**471**
Number of Valid Hours	**470**
Percent Valid Data	**99.8 %**

Monthly :	**Ave**	**Min**	**Max**
	3.6	**0.3**	**10.3**

Station : STN29247
Parameter : WGust, m/s
Month, Year : September, 2021

GFL
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
02	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
03	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
04	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
05	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
06	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
07	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
08	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
09	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	11.7	12.8	14.1	14.5	15.6	15.9	16.3	15.1	13.3	12.8	13.6	14.8	14.3	12.8	11.0	---	11.0	16.3
12	10.3	9.4	11.4	10.2	9.4	8.9	7.3	6.5	8.2	7.6	6.3	5.9	5.5	3.3	4.1	3.8	3.4	3.0	2.8	4.2	3.5	3.1	7.5	6.0	6.3	2.8	11.4
13	2.7	2.5	1.3	0.9	1.7	1.3	2.0	1.6	2.4	2.7	4.1	3.1	5.1	6.1	6.4	8.2	8.7	3.1	4.7	4.5	5.5	4.0	3.5	6.1	3.8	0.9	8.7
14	3.7	2.6	2.2	2.3	3.0	2.8	1.7	1.1	2.0	1.9	2.2	8.2	9.8	12.5	13.7	13.5	12.1	11.0	10.9	11.0	11.3	13.4	15.0	9.9	7.4	1.1	15.0
15	4.4	6.3	4.7	5.4	4.3	2.5	3.0	3.3	4.4	---	5.6	6.2	6.5	5.5	5.0	3.7	3.1	3.6	2.3	1.8	2.3	1.8	3.4	1.8	4.0	1.8	6.5
16	1.8	1.4	2.0	2.0	2.3	1.3	2.2	2.9	3.0	3.5	5.4	6.1	6.4	7.0	7.4	6.9	6.7	6.5	5.7	4.1	3.9	2.9	2.1	2.3	4.0	1.3	7.4
17	1.6	1.7	1.6	1.1	1.5	1.5	2.1	5.3	7.3	6.6	5.1	4.8	4.7	5.7	4.3	4.1	4.4	6.1	4.5	5.1	6.3	6.7	7.4	6.2	4.4	1.1	7.4
18	6.1	5.6	6.3	5.5	4.5	4.9	4.3	6.2	6.7	5.8	5.1	5.3	5.1	5.2	4.8	4.7	5.0	3.1	4.1	5.6	4.5	3.7	3.4	3.4	5.0	3.1	6.7
19	3.4	3.6	3.0	2.5	3.1	3.0	3.4	3.9	3.7	4.5	6.1	6.8	6.5	5.7	5.6	6.1	6.1	5.4	4.4	5.7	4.5	3.1	2.1	1.5	4.3	1.5	6.8
20	1.8	1.4	1.7	1.7	1.5	1.4	1.5	2.4	2.3	2.6	3.6	4.6	4.2	6.5	6.1	6.3	5.4	4.7	3.5	2.8	2.2	8.3	11.4	10.1	4.1	1.4	11.4
21	9.2	10.8	10.4	10.7	11.4	10.0	10.5	9.8	12.1	12.8	15.2	15.2	14.6	15.3	11.4	11.1	9.5	8.2	9.6	8.1	8.4	7.0	10.3	8.6	10.8	7.0	15.3
22	8.5	6.8	7.1	7.9	7.2	10.2	7.8	6.4	5.7	6.4	6.4	6.8	8.0	8.2	10.7	10.8	10.5	10.0	8.9	10.2	12.4	9.6	9.4	8.7	8.5	5.7	12.4
23	6.9	4.7	4.4	3.5	3.3	3.0	1.8	6.7	8.6	11.7	11.8	11.8	10.4	10.7	8.0	11.9	10.9	7.4	10.0	9.1	7.6	6.3	9.8	7.7	7.8	1.8	11.9
24	7.5	6.9	8.0	7.3	8.0	8.4	9.9	9.8	12.2	11.7	13.2	14.8	12.8	13.3	12.6	11.8	9.1	6.5	3.6	4.9	4.9	5.3	6.8	6.4	9.0	3.6	14.8
25	5.4	5.6	6.2	6.5	6.1	6.7	7.7	8.5	8.5	11.3	11.6	12.4	13.0	13.2	12.0	7.6	7.0	5.8	4.9	4.0	3.5	4.1	5.0	5.7	7.6	3.5	13.2
26	5.7	6.1	7.6	6.4	7.6	6.0	8.3	8.1	8.2	9.7	10.9	12.9	10.9	9.4	7.5	7.4	7.9	5.5	5.0	6.8	6.9	7.2	9.3	5.7	7.8	5.0	12.9
27	5.3	6.2	9.4	9.2	12.3	13.3	12.1	12.0	12.5	13.3	13.4	11.8	10.0	9.7	8.7	8.2	7.9	5.4	4.3	3.7	3.5	5.5	5.5	6.3	8.7	3.5	13.4
28	6.9	6.3	4.5	4.4	6.2	7.9	6.2	6.1	6.4	6.3	6.1	5.3	5.6	5.6	5.6	5.0	5.6	4.9	5.3	4.1	2.9	2.5	2.3	2.2	5.2	2.2	7.9
29	1.8	1.6	2.0	2.3	2.0	2.3	2.1	2.3	2.9	3.1	4.0	5.3	4.6	5.9	6.2	6.0	5.7	4.9	6.5	6.4	8.1	6.9	7.2	3.7	4.3	1.6	8.1
30	3.9	4.4	4.8	4.3	3.5	2.3	2.6	3.5	6.1	6.1	4.8	5.4	4.5	3.7	4.1	3.8	3.5	3.7	2.6	2.2	2.1	1.8	1.9	1.4	3.6	1.4	6.1

Total Hours	**471**
Number of Valid Hours	**470**
Percent Valid Data	**99.8 %**

Monthly :	**Ave**	**Min**	**Max**
	6.4	**0.9**	**16.3**

Station : STN29247

Parameter : WD, degrees

Month, Year : September, 2021

Monthly Data Matrix

	Hour (Eastern Standard Time)																							
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**
01	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
02	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
03	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
04	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
05	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
06	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
07	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
08	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
09	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	220	223	211	210	206	201	202	203	200	199	201	205	209	210	208
12	208	213	217	217	221	224	222	225	231	239	260	245	237	38	111	258	328	317	281	178	260	285	6	357
13	15	29	104	147	248	288	251	266	292	279	55	298	246	242	262	269	151	192	218	222	210	234	180	171
14	103	137	96	32	13	3	356	359	357	326	356	199	203	198	205	204	199	198	199	194	187	192	201	272
15	254	216	224	267	290	286	290	301	313	---	300	330	11	344	314	326	322	348	51	91	162	156	73	2
16	5	352	9	11	11	348	27	7	358	4	29	27	37	45	46	57	57	72	71	68	65	55	87	104
17	109	324	3	43	33	121	86	168	179	200	226	221	232	160	25	28	284	188	177	176	186	194	201	204
18	202	204	241	286	323	6	24	7	2	1	18	22	15	21	34	36	49	55	29	356	346	351	349	357
19	5	14	5	343	348	357	360	359	19	10	37	52	36	39	33	42	54	61	65	71	75	70	41	358
20	354	8	13	25	24	21	40	25	29	30	17	30	37	44	42	43	36	23	0	358	259	177	173	172
21	176	180	179	176	182	178	176	179	177	181	189	189	192	195	197	193	187	186	182	175	178	177	177	177
22	183	176	170	174	172	169	172	34	7	12	9	8	7	1	360	3	6	6	4	8	4	360	2	356
23	357	5	24	39	63	45	129	178	181	186	198	194	206	203	192	199	195	193	209	201	187	161	183	199
24	215	195	210	222	221	225	225	228	235	234	241	237	239	244	245	250	249	235	188	189	180	189	186	173
25	172	168	175	175	179	175	175	178	181	181	189	192	194	195	236	250	259	271	262	246	232	200	191	192
26	203	217	215	223	214	206	223	237	243	243	241	253	251	253	251	249	241	228	210	205	200	202	234	243
27	200	198	212	193	197	202	205	214	218	224	231	233	236	226	224	227	227	224	284	281	294	12	9	355
28	354	355	352	352	10	8	3	13	25	20	37	32	36	47	46	47	46	40	17	8	21	355	352	354
29	305	266	251	261	269	259	247	271	303	320	293	305	308	303	294	326	324	329	352	358	351	353	1	345
30	340	349	350	357	345	316	310	307	346	340	350	7	19	31	23	42	56	73	66	80	128	150	235	257

Total Hours	**471**
Number of Valid Hours	**470**
Percent Valid Data	**99.8 %**

Station : STN29247
Parameter : ATEM, °C
Month, Year : September, 2021

GFL
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
02	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
03	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
04	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
05	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
06	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
07	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
08	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
09	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
20	12.8	12.5	12.2	12.4	11.9	12.1	12.5	14.9	17.1	18.5	18.2	19.2	20.8	20.6	20.5	20.7	20.0	19.6	18.6	18.3	18.3	19.6	21.7	21.5	17.3	11.9	21.7
21	21.3	21.3	20.9	20.4	20.4	19.7	19.2	19.4	20.2	21.4	22.4	23.5	23.8	23.7	22.8	22.6	22.4	21.8	20.5	19.4	19.5	19.7	19.6	19.4	21.1	19.2	23.8
22	19.3	19.6	19.9	19.6	19.3	19.0	18.7	17.5	15.8	15.8	15.8	15.5	15.4	15.1	14.5	13.8	13.6	13.6	13.6	13.6	13.2	12.7	12.5	12.3	15.8	12.3	19.9
23	12.1	12.0	12.0	12.4	12.8	13.3	13.3	14.5	15.9	16.6	16.8	16.2	15.6	15.7	15.6	15.5	14.3	13.1	12.9	12.4	12.2	12.3	12.5	12.2	13.8	12.0	16.8
24	12.1	11.8	11.7	11.2	10.6	10.6	10.6	11.2	12.1	13.2	15.0	16.8	17.5	18.3	18.9	19.2	19.1	18.0	15.7	15.0	13.9	13.8	13.9	13.1	14.3	10.6	19.2
25	13.2	13.1	13.7	13.7	14.5	14.4	14.5	16.0	17.1	18.3	19.1	19.3	19.3	18.2	15.0	15.0	15.4	15.3	14.1	12.4	11.5	11.2	11.1	11.3	14.9	11.1	19.3
26	11.0	10.7	10.6	9.9	9.9	9.9	10.1	11.4	13.2	15.2	17.2	18.3	18.9	18.4	18.5	18.6	18.5	17.3	15.9	15.6	15.6	16.1	16.5	16.3	14.7	9.9	18.9
27	16.0	16.6	16.7	16.4	17.0	17.6	17.5	18.2	19.0	20.8	21.6	22.6	23.3	23.8	23.2	23.3	22.8	22.1	20.7	20.0	19.8	19.1	17.3	16.4	19.7	16.0	23.8
28	15.9	15.4	14.9	14.5	14.3	13.3	12.5	12.1	13.1	13.7	14.5	15.8	16.4	16.8	17.1	17.2	17.0	16.0	15.2	14.3	13.7	12.3	12.4	12.4	14.6	12.1	17.2
29	11.3	10.7	10.5	10.0	10.1	9.5	9.3	12.1	14.9	16.5	18.1	19.4	19.8	20.6	21.0	20.9	20.4	19.3	17.5	16.1	14.7	13.5	12.9	11.9	15.0	9.3	21.0
30	11.7	11.3	10.8	10.6	10.4	9.4	9.3	10.0	12.7	13.2	13.1	13.6	14.7	15.7	15.8	16.1	15.6	14.3	12.1	11.4	10.6	10.8	10.8	10.3	12.3	9.3	16.1

Total Hours	**264**
Number of Valid Hours	**264**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	15.8	**9.3**	**23.8**

Station : STN29247
Parameter : RH, %
Month, Year : September, 2021

GFL
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
02	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
03	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
04	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
05	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
06	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
07	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
08	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
09	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
20	87	91	93	98	96	99	97	92	83	79	80	74	69	70	70	71	76	82	92	98	98	91	81	79	85	69	99
21	78	77	77	79	81	87	91	88	83	76	68	62	62	63	69	73	74	79	88	96	95	95	93	93	80	62	96
22	94	93	92	95	99	98	99	99	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99	92	100
23	100	100	100	100	100	100	100	91	81	73	68	67	68	64	65	65	73	83	82	86	87	86	90	98	84	64	100
24	96	94	93	93	92	91	90	87	81	74	64	52	51	49	45	44	44	48	68	76	84	83	81	86	74	44	96
25	89	92	91	89	87	88	88	82	76	68	63	63	65	71	93	89	79	72	74	81	82	80	79	76	80	63	93
26	76	77	76	79	77	75	73	70	70	64	52	45	43	43	44	44	43	48	56	71	78	75	76	78	64	43	79
27	79	76	81	84	81	75	72	69	69	63	60	59	58	59	61	61	63	66	70	70	70	75	80	82	70	58	84
28	84	85	81	81	80	83	85	84	77	72	61	55	56	57	55	52	48	48	49	53	56	68	65	65	67	48	85
29	72	78	74	77	78	83	86	78	69	64	57	49	47	43	41	39	40	42	46	51	58	63	69	74	62	39	86
30	77	79	79	79	79	84	85	83	67	62	63	61	57	54	54	53	56	62	73	77	83	82	82	84	71	53	85

Total Hours	**264**
Number of Valid Hours	**264**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	76	**39**	**100**

Station : STN29247
Parameter : Precipitation, mm
Month, Year : September, 2021

GFL
Monthly Data Matrix

	Hour (Eastern Standard Time)																								
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Total**	**Max**
01	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
02	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
03	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
04	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
05	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
06	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
07	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
08	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
09	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.7	8.6	9.3	8.6
15	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	0.1
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
21	-	-	-	-	-	-	0.2	0.1	-	0.1	2.0	-	-	0.2	-	-	-	-	0.3	0.6	0.5	0.1	-	0.3	4.4	2.0
22	-	-	-	1.1	3.4	0.6	0.2	1.5	5.8	5.3	3.0	0.6	1.8	1.5	1.0	0.3	0.6	0.5	5.0	13.8	6.7	3.5	3.0	1.2	60.4	13.8
23	0.4	1.2	0.2	-	0.1	-	-	-	-	-	0.2	-	-	-	-	-	-	0.1	0.1	-	0.1	-	1.0	2.7	6.1	2.7
24	0.3	-	-	-	-	-	-	-	-	0.1	-	0.2	-	-	0.4	-	-	-	-	-	-	-	-	-	1.0	0.4
25	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	3.2	-	-	-	-	-	-	-	-	-	3.5	3.2
26	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	0.1
27	-	-	1.2	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.3	1.2
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0

Total Hours	**395**
Number of Valid Hours	**395**
Percent Valid Data	**100.0 %**

Monthly :	**Total**	**Max**
	86.2	**13.8**

Station : STN29247

Parameter : PM10, µg/m^3

Month, Year : October, 2021

GFL

Monthly Data Matrix

1 Hr MECP Reportable Threshold - 100 µg/m^3

24 Hr MECP Reportable Threshold - 50 µg/m^3

	Hour (Eastern Standard Time)																										
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	6	11	7	11	18	27	40	41	18	18	13	19	17	17	12	24	16	24	10	22	23	13	9	11	18	6	41
02	7	7	13	17	3	8	10	8	16	35	17	14	9	17	14	22	20	18	18	17	15	15	13	11	14	3	35
03	13	14	10	7	4	5	9	5	9	8	6	8	5	3	3	4	12	13	7	2	0	0	2	0	6	0	14
04	0	0	0	0	0	0	1	1	0	0	2	2	0	1	3	0	0	0	8	4	0	0	0	0	1	0	8
05	0	0	0	0	0	0	8	15	8	10	7	5	15	16	14	19	13	13	7	11	7	6	7	8	8	0	19
06	6	3	3	5	6	9	6	6	9	13	9	9	6	8	11	7	7	11	8	3	3	6	5	2	7	2	13
07	4	3	4	1	6	9	13	12	15	20	18	15	12	21	23	21	15	14	7	1	1	0	0	0	10	0	23
08	4	3	0	3	2	0	0	2	4	9	11	21	1	13	10	9	9	10	9	8	6	9	12	7	7	0	21
09	8	8	5	4	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0	8
10	---	---	---	---	---	---	---	---	---	---	10	7	8	11	7	5	9	13	9	7	5	6	4	6	---	4	13
11	6	6	4	2	2	6	4	5	4	5	7	6	6	4	5	8	18	7	18	22	14	12	9	7	8	2	22
12	5	4	7	7	5	11	12	9	9	11	27	46	113	64	89	37	10	15	17	11	9	14	12	13	23	4	113
13	10	14	12	9	9	8	12	9	8	13	15	13	25	19	22	15	6	11	11	8	6	12	14	13	12	6	25
14	8	13	7	7	13	9	8	12	10	29	29	38	35	53	35	17	19	18	21	23	13	16	18	10	19	7	53
15	14	10	10	11	13	16	8	12	8	4	4	8	13	12	18	29	29	21	15	9	6	7	5	4	12	4	29
16	14	14	11	5	0	2	1	4	3	5	3	2	3	1	0	10	7	5	4	3	2	3	2	3	4	0	14
17	3	1	2	4	3	3	3	2	1	0	0	0	0	0	0	3	5	3	0	0	4	6	4	2	2	0	6
18	4	6	6	5	3	5	5	7	4	1	1	1	1	3	4	8	6	7	9	6	5	4	6	6	5	1	9
19	3	5	18	9	7	9	24	20	13	13	8	15	7	21	24	21	15	21	20	16	11	19	20	22	15	3	24
20	21	21	25	25	16	17	21	25	29	30	33	29	42	35	40	39	17	13	18	19	15	14	15	11	24	11	42
21	13	12	13	10	15	7	12	13	12	11	10	13	11	10	8	12	14	19	13	9	10	11	8	4	11	4	19
22	0	0	1	4	4	4	8	9	7	7	7	6	4	4	5	7	11	8	9	11	14	20	15	9	7	0	20
23	10	10	9	14	9	10	8	20	17	13	7	3	1	3	3	3	4	6	5	9	10	9	10	12	9	1	20
24	10	9	11	11	9	11	13	14	11	8	4	0	2	4	6	8	13	17	11	8	8	10	10	7	9	0	17
25	5	4	4	2	3	1	0	1	0	0	0	0	0	0	0	0	1	0	2	3	2	2	1	1	1	0	5
26	1	0	0	2	2	2	1	5	7	7	8	6	7	5	10	8	5	1	2	7	5	0	0	0	4	0	10
27	0	0	1	5	6	3	1	4	7	11	7	7	6	13	13	18	43	42	50	33	26	17	17	10	14	0	50
28	7	5	7	4	6	7	9	10	10	10	27	---	19	7	14	8	8	6	3	6	7	4	4	5	8	3	27
29	6	5	4	5	15	4	20	19	15	6	4	6	6	7	6	6	6	4	4	3	3	3	4	4	7	3	20
30	4	4	2	0	0	0	0	0	0	1	4	9	5	1	3	2	0	0	0	0	0	1	1	3	2	0	9
31	3	6	4	4	3	1	1	0	0	1	1	3	5	7	8	8	6	2	5	8	5	2	3	3	4	0	8

Maximum 1 Hr Average	**113**
Maximum 24 Hr Average	**24**
Number of Days > 50 µg/m^3	**0**
Number of Hours > 100 µg/m^3	**1**

Total Hours	**744**
Number of Valid Hours	**714**
Percent Valid Data	**96.0 %**

Monthly :	**Ave**	**Min**	**Max**
	9	**0**	**113**

Station : STN29247
Parameter : WS, m/s
Month, Year : October, 2021

GFL
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	0.6	0.5	0.2	0.1	0.3	0.3	0.4	1.2	1.4	0.8	1.2	2.6	3.0	2.8	2.7	2.6	3.0	3.8	3.4	4.1	4.2	4.0	4.0	4.3	2.1	0.1	4.3
02	5.3	5.4	4.9	4.9	5.4	5.7	5.5	5.7	6.0	7.1	6.4	5.7	5.1	4.9	6.1	5.6	5.4	4.5	4.9	4.5	4.8	5.3	5.3	5.8	5.4	4.5	7.1
03	4.2	4.2	4.0	4.0	4.0	4.1	3.9	4.2	3.9	3.0	2.9	2.4	2.2	2.3	1.9	1.7	2.1	2.3	2.5	2.7	2.6	3.3	4.4	4.9	3.2	1.7	4.9
04	4.9	4.9	5.0	4.7	4.6	4.5	4.7	4.4	3.9	3.8	4.1	4.2	4.0	4.3	4.4	4.3	4.7	4.4	4.1	4.3	3.5	3.3	3.3	2.9	4.2	2.9	5.0
05	3.3	3.7	3.6	3.7	3.5	3.1	2.6	2.6	2.8	3.4	2.9	2.8	2.9	3.2	3.4	2.9	3.2	3.2	2.3	1.9	2.0	2.3	2.1	2.0	2.9	1.9	3.7
06	2.0	1.9	1.8	2.3	2.3	1.9	1.8	2.3	3.1	4.1	4.0	3.8	3.5	4.2	4.4	4.3	4.4	4.3	3.8	3.6	3.3	3.1	2.8	3.1	3.2	1.8	4.4
07	3.3	2.8	2.4	2.2	2.5	2.3	2.4	2.5	2.2	2.6	2.6	2.0	2.7	3.6	3.1	3.0	3.2	3.1	3.2	2.7	2.5	2.4	2.4	2.5	2.7	2.0	3.6
08	2.4	2.8	2.6	2.7	3.2	3.4	2.5	3.9	3.5	2.5	3.5	2.6	3.1	3.3	3.9	4.0	4.2	3.9	3.7	3.4	3.0	2.8	2.5	2.0	3.1	2.0	4.2
09	1.4	0.8	0.8	0.6	2.0	2.1	2.3	1.9	4.1	4.8	4.3	4.8	4.6	4.5	4.8	4.7	5.2	4.4	4.6	5.0	5.8	5.4	5.0	4.6	3.7	0.6	5.8
10	4.6	3.5	3.9	4.8	5.1	5.2	4.9	5.0	6.3	6.1	5.6	4.8	4.0	2.9	3.6	3.7	2.4	2.0	1.2	2.0	4.3	4.0	4.3	4.5	4.1	1.2	6.3
11	5.0	5.4	5.6	5.5	5.6	5.3	5.0	5.9	6.4	6.4	6.1	5.5	5.2	5.6	5.4	4.2	2.6	1.5	0.8	0.8	1.9	3.0	3.4	3.7	4.4	0.8	6.4
12	4.3	3.1	3.2	2.4	2.6	1.8	2.0	3.5	4.8	6.7	6.3	6.5	6.3	6.0	6.0	5.4	4.6	3.2	3.5	3.5	3.3	3.5	3.3	3.2	4.1	1.8	6.7
13	3.4	3.6	3.9	3.6	2.6	3.3	4.0	3.6	3.7	3.4	3.7	4.4	4.4	4.3	3.8	3.4	3.0	3.2	2.9	3.2	3.6	3.5	2.9	2.8	3.5	2.6	4.4
14	3.7	2.9	2.6	2.3	2.4	2.7	3.2	3.0	3.3	3.7	2.7	2.9	2.4	3.5	3.5	3.0	2.7	3.0	1.7	2.2	3.9	4.6	4.2	3.9	3.1	1.7	4.6
15	3.6	3.0	3.1	2.1	2.6	2.4	3.1	2.5	2.8	2.7	2.1	1.7	1.0	0.5	1.2	1.8	1.9	2.2	3.0	2.7	2.5	1.7	1.3	0.9	2.2	0.5	3.6
16	2.3	1.7	3.1	3.1	2.2	2.1	2.1	2.1	3.4	4.1	4.6	6.0	5.8	5.8	4.6	5.7	5.5	5.3	4.3	3.5	2.3	3.7	4.1	3.7	3.8	1.7	6.0
17	3.4	3.9	3.9	4.1	3.8	4.3	3.7	4.7	5.0	4.9	5.4	5.2	4.8	4.9	3.6	2.5	3.8	3.8	4.3	3.3	3.0	2.6	1.6	3.2	3.9	1.6	5.4
18	3.5	3.6	2.6	1.7	2.4	2.2	2.7	2.5	3.5	4.3	4.4	4.0	3.8	4.4	4.0	4.4	4.2	2.6	2.5	2.4	2.2	2.3	2.4	3.0	3.2	1.7	4.4
19	3.5	3.2	2.9	4.1	4.1	4.2	3.1	3.6	3.3	3.1	3.7	5.2	5.0	5.0	5.5	4.6	4.1	3.0	3.2	4.6	5.0	5.0	5.5	5.4	4.2	2.9	5.5
20	4.3	4.2	3.0	2.4	2.7	3.1	4.0	4.2	4.6	4.8	4.8	4.5	4.2	3.2	4.4	4.6	4.3	3.4	3.5	3.7	4.2	3.6	3.8	4.2	3.9	2.4	4.8
21	3.6	3.9	3.8	4.0	4.8	4.2	3.5	3.5	3.7	4.6	5.7	5.4	7.1	7.4	8.1	6.4	5.5	5.2	5.3	3.7	4.4	4.9	4.1	4.1	4.9	3.5	8.1
22	4.2	4.2	3.8	3.2	3.8	4.4	2.3	1.1	2.3	1.4	1.2	0.9	2.1	1.6	1.9	1.2	1.0	2.2	1.9	1.4	0.6	1.0	0.9	1.4	2.1	0.6	4.4
23	1.7	1.5	1.7	1.7	2.0	1.2	0.6	1.1	1.5	1.9	2.5	2.4	2.2	1.5	1.2	1.5	1.6	1.9	1.9	1.7	2.5	1.8	1.4	1.6	1.7	0.6	2.5
24	2.3	1.3	1.8	2.2	2.1	1.7	1.5	1.6	1.5	1.3	1.7	2.7	2.9	2.9	1.7	0.8	1.3	1.9	1.7	1.5	2.1	2.6	2.5	1.9	1.9	0.8	2.9
25	2.2	4.0	4.0	4.7	5.2	5.3	5.0	4.9	7.3	8.0	9.8	8.7	8.7	8.0	8.0	6.7	7.9	8.7	7.2	7.5	8.0	7.1	6.5	6.8	6.7	2.2	9.8
26	6.6	6.5	6.7	6.3	4.3	4.5	5.1	4.4	3.9	4.2	4.6	4.1	4.3	4.1	4.6	4.2	4.4	3.1	2.9	3.9	4.1	4.0	4.6	4.7	4.6	2.9	6.7
27	3.7	3.5	2.9	3.2	2.3	2.5	2.3	2.1	3.6	4.4	4.4	3.9	3.2	2.5	1.6	1.3	0.6	1.0	1.5	1.1	0.9	0.2	1.5	1.4	2.3	0.2	4.4
28	1.8	2.0	2.0	2.1	2.5	2.5	2.5	2.2	3.7	4.6	5.0	6.3	7.7	7.7	7.5	7.3	7.5	7.6	7.6	6.6	6.2	4.9	3.6	3.3	4.8	1.8	7.7
29	3.2	3.6	3.1	2.2	2.1	1.3	1.8	2.1	2.8	4.4	5.3	5.8	6.0	5.9	5.7	6.2	7.1	6.8	6.2	5.9	5.7	5.1	4.5	4.3	4.5	1.3	7.1
30	4.1	3.4	2.0	1.9	2.4	2.7	0.7	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.8	0.1	4.1
31	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	2.7	6.2	7.2	6.0	4.9	4.7	4.4	4.6	5.3	5.5	4.8	2.4	0.1	7.2

Total Hours	**744**
Number of Valid Hours	**744**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	3.5	**0.1**	**9.8**

Station : STN29247
Parameter : WGust, m/s
Month, Year : October, 2021

GFL
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	1.4	0.8	0.8	0.5	0.8	0.8	1.3	2.3	2.5	2.3	2.9	5.2	6.0	6.4	6.0	5.0	5.4	7.3	5.4	6.0	6.1	6.3	6.1	6.4	3.9	0.5	7.3
02	8.6	8.6	7.6	7.3	8.1	8.0	7.5	9.0	10.5	12.2	13.1	9.9	8.5	8.9	9.7	9.3	9.0	6.8	7.4	7.4	7.1	8.2	8.5	8.6	8.7	6.8	13.1
03	7.3	6.5	6.7	6.3	6.3	6.1	6.3	6.7	6.3	5.6	4.9	4.4	4.3	3.8	3.4	3.4	3.7	3.6	4.6	5.1	4.5	5.9	7.8	9.5	5.5	3.4	9.5
04	10.3	8.6	9.0	8.8	7.5	7.9	7.8	9.0	6.2	6.9	8.0	7.2	6.6	8.3	7.7	7.4	7.7	8.2	7.3	7.7	6.2	7.1	5.8	5.8	7.6	5.8	10.3
05	6.4	6.8	6.6	6.5	6.2	5.6	4.4	4.8	4.8	5.6	4.8	5.9	5.1	5.6	5.8	4.7	5.4	5.2	4.2	3.4	4.0	4.3	4.3	4.0	5.2	3.4	6.8
06	3.6	3.5	3.9	4.3	4.2	3.5	2.9	4.6	5.5	6.4	6.9	6.7	7.0	6.3	7.7	8.2	8.0	7.5	6.9	6.6	7.3	5.2	4.9	5.1	5.7	2.9	8.2
07	5.8	4.8	4.6	4.1	4.2	4.2	4.5	4.6	4.0	4.4	4.5	3.8	5.0	6.0	5.3	4.9	5.8	5.6	5.4	4.7	4.2	4.4	4.3	4.5	4.7	3.8	6.0
08	4.0	5.1	4.4	4.8	6.0	6.0	5.5	6.6	6.7	5.2	5.7	4.4	5.7	6.1	6.4	7.1	7.1	6.7	6.3	5.7	5.1	4.6	4.8	3.6	5.6	3.6	7.1
09	2.6	1.7	1.7	2.3	4.8	3.4	3.9	4.7	6.8	8.5	7.8	7.6	8.0	8.0	7.9	8.0	8.9	8.3	7.2	7.6	8.9	9.2	7.9	6.7	6.4	1.7	9.2
10	6.9	5.9	7.0	6.7	7.6	7.6	8.1	7.7	10.6	9.6	9.6	8.0	7.5	5.6	5.9	6.4	4.6	4.2	3.3	4.7	7.0	6.1	6.9	7.0	6.9	3.3	10.6
11	6.7	7.6	8.2	8.4	7.9	7.9	7.2	8.8	9.5	10.5	9.9	8.9	8.9	9.0	9.4	7.6	5.3	2.8	2.3	1.7	3.6	4.9	5.4	5.6	7.0	1.7	10.5
12	6.9	5.5	5.7	4.2	4.5	3.9	3.0	5.9	9.0	11.1	10.5	10.5	10.8	10.0	10.6	10.2	8.2	5.0	9.9	6.6	5.6	5.5	5.3	5.5	7.2	3.0	11.1
13	5.5	5.4	5.9	5.7	4.6	5.0	6.8	6.1	6.4	6.4	7.0	6.8	7.6	7.6	6.3	6.3	6.5	6.4	6.1	5.7	5.5	4.9	4.5	4.6	6.0	4.5	7.6
14	4.9	4.0	3.8	3.8	4.2	3.9	4.8	4.5	5.8	6.1	4.8	5.3	5.0	5.4	5.8	4.9	4.7	5.2	3.1	3.9	5.7	6.4	6.9	7.1	5.0	3.1	7.1
15	6.1	5.2	5.1	4.2	5.1	5.2	5.8	5.4	4.6	4.8	4.8	3.4	2.8	1.8	2.6	3.3	3.6	4.5	7.7	5.8	4.9	3.3	2.8	2.1	4.4	1.8	7.7
16	6.4	4.1	5.9	5.9	4.9	4.9	4.5	4.4	6.2	9.7	8.4	12.0	12.2	11.1	12.1	13.6	10.5	11.6	9.8	6.5	5.5	7.7	8.1	8.3	8.1	4.1	13.6
17	5.8	6.3	6.6	6.9	6.5	7.6	7.7	8.5	9.3	9.8	10.0	9.7	9.7	9.8	10.5	8.7	13.6	7.6	7.6	5.6	8.1	5.1	3.4	6.4	8.0	3.4	13.6
18	7.1	7.2	7.5	3.8	4.1	4.9	5.4	5.4	7.0	8.8	9.5	9.5	9.5	8.5	7.9	8.7	8.4	6.7	4.5	6.3	4.6	4.5	4.4	5.4	6.7	3.8	9.5
19	5.4	4.7	4.8	6.6	6.3	6.6	5.0	5.9	5.9	5.9	7.3	9.8	9.2	9.8	9.5	9.8	9.0	5.9	6.8	8.3	8.6	8.2	8.7	8.0	7.3	4.7	9.8
20	7.3	8.6	6.8	4.2	5.0	6.0	6.7	7.4	8.4	7.9	8.4	7.6	7.9	7.3	7.3	8.8	8.5	5.6	5.5	5.4	6.3	6.1	6.1	6.2	6.9	4.2	8.8
21	5.4	5.8	5.9	7.4	9.2	7.0	6.1	5.4	5.7	9.1	10.8	9.9	12.6	11.9	13.5	10.9	10.2	9.4	11.8	8.8	7.8	8.0	7.8	9.3	8.7	5.4	13.5
22	8.7	8.8	9.3	6.9	7.9	8.3	8.7	3.9	4.4	4.3	3.3	2.9	6.2	4.8	4.2	3.7	3.6	4.2	3.7	3.2	2.0	2.3	1.9	3.0	5.0	1.9	9.3
23	3.7	2.9	3.6	3.6	3.8	2.9	2.2	2.7	3.1	4.1	5.0	4.2	4.2	3.5	3.0	2.9	2.7	2.9	2.9	2.4	4.3	3.4	3.1	3.5	3.4	2.2	5.0
24	3.4	3.0	2.5	3.7	3.4	2.7	2.9	2.7	3.0	3.0	4.0	6.0	5.9	6.0	3.3	2.5	3.2	3.4	2.7	2.8	4.6	4.5	4.5	4.2	3.7	2.5	6.0
25	5.1	7.6	7.2	8.9	9.5	10.2	10.0	14.5	13.1	14.5	16.6	16.5	14.5	14.9	13.9	12.7	14.2	14.9	12.5	14.2	14.2	12.4	11.5	13.0	12.4	5.1	16.6
26	11.4	13.5	11.3	11.2	8.5	9.2	10.3	10.7	8.6	8.8	9.7	10.0	9.4	8.6	9.6	10.6	9.1	7.9	7.0	7.7	8.3	9.3	8.6	8.3	9.5	7.0	13.5
27	6.9	6.6	6.6	6.5	4.7	4.4	4.9	5.0	6.4	7.9	6.9	6.8	5.1	4.7	3.8	2.7	1.7	1.5	2.8	2.2	1.7	1.9	2.8	2.0	4.4	1.5	7.9
28	3.1	3.2	3.6	3.8	4.0	4.4	4.7	4.7	8.6	9.1	10.2	11.2	14.0	12.7	13.2	12.5	13.8	12.5	12.8	12.0	11.9	9.2	7.3	6.1	8.7	3.1	14.0
29	6.4	6.5	7.1	4.0	3.2	2.4	3.1	3.2	6.5	9.1	9.9	10.8	10.8	10.9	11.0	12.5	15.2	11.7	13.2	11.0	10.4	11.3	9.3	8.8	8.7	2.4	15.2
30	7.5	6.5	5.3	3.5	5.4	6.3	5.0	5.8	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	2.0	0.1	7.5
31	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	4.4	9.6	11.5	12.8	12.2	10.2	8.3	7.5	10.3	9.2	11.3	9.2	4.9	0.1	12.8

Total Hours	**744**
Number of Valid Hours	**744**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	6.4	**0.1**	**16.6**

Station : STN29247
Parameter : WD, degrees
Month, Year : October, 2021

GFL
Monthly Data Matrix

	Hour (Eastern Standard Time)																							
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**
01	241	218	221	210	197	221	295	32	7	93	195	227	239	249	258	270	239	190	181	196	207	208	195	211
02	219	215	210	210	205	200	197	203	211	226	227	228	227	214	201	205	204	199	200	207	202	194	190	194
03	181	180	180	181	175	182	203	198	194	198	210	208	181	187	198	357	32	17	38	49	46	51	37	50
04	52	25	24	30	26	29	28	30	20	27	22	19	18	22	20	20	26	37	51	38	44	48	41	48
05	42	33	33	28	28	36	23	26	22	24	30	37	26	23	32	36	39	40	40	49	52	48	52	57
06	61	60	58	65	64	65	50	55	53	53	53	53	58	44	43	36	39	40	36	45	52	48	47	46
07	45	40	51	48	36	30	8	21	17	18	11	22	16	19	13	7	9	21	19	26	23	21	28	35
08	34	25	20	25	33	45	45	38	45	52	44	19	16	18	26	31	34	24	24	24	16	11	11	14
09	347	330	318	318	210	157	147	157	163	164	162	168	163	166	174	175	166	166	167	168	175	175	172	174
10	171	174	175	173	171	176	176	172	175	174	177	177	186	166	151	160	146	116	133	134	163	165	166	165
11	170	171	171	170	168	163	168	172	173	179	189	182	181	181	179	178	170	147	134	128	165	167	172	175
12	170	177	174	181	161	143	152	156	162	174	180	190	191	188	195	200	203	193	183	176	181	193	203	209
13	215	201	207	216	189	198	217	224	229	232	232	223	226	229	242	239	233	230	214	229	210	195	179	178
14	168	178	184	192	163	161	164	165	175	182	193	196	184	195	191	182	179	196	207	172	167	174	187	203
15	238	251	239	251	235	233	225	202	202	229	220	249	251	51	57	41	18	53	26	7	38	36	33	38
16	304	312	355	355	314	321	285	262	265	265	267	282	280	286	283	266	259	271	275	267	258	253	250	250
17	234	239	237	232	232	240	268	259	261	267	277	282	276	268	266	301	269	263	263	239	247	242	267	257
18	265	288	299	255	239	262	288	295	303	309	307	310	301	302	302	297	295	290	282	272	259	219	249	251
19	242	236	210	206	194	204	219	241	248	243	253	245	255	255	254	262	253	238	220	228	234	238	245	239
20	239	244	246	233	227	220	221	224	231	225	228	232	213	217	214	222	224	211	206	197	215	212	190	182
21	180	173	189	189	192	211	184	178	182	184	186	196	196	206	199	199	202	201	223	265	236	231	259	300
22	299	310	307	299	303	308	291	296	301	311	349	315	258	295	337	330	282	287	292	296	356	326	314	298
23	328	319	329	328	347	37	9	316	330	338	339	21	31	34	56	82	102	142	162	160	165	152	145	170
24	159	221	234	212	229	216	218	236	240	243	243	228	217	219	224	263	32	78	74	66	96	96	104	61
25	63	46	52	57	55	42	56	48	45	44	44	40	38	36	42	42	35	25	25	24	22	20	12	14
26	0	3	1	2	348	342	342	341	336	328	336	341	344	346	344	332	341	338	330	342	350	348	355	358
27	359	356	346	351	346	357	358	352	9	21	29	37	45	50	37	34	11	82	36	55	66	81	104	129
28	102	85	89	87	75	73	76	86	79	74	64	53	51	51	52	53	53	50	51	56	58	57	57	50
29	52	57	57	46	17	351	1	37	54	59	55	56	48	54	55	57	59	64	68	63	63	61	66	58
30	55	59	64	57	58	66	71	72	76	77	86	78	57	68	64	43	60	25	358	10	10	2	339	331
31	315	341	299	307	298	290	285	283	283	276	264	268	270	260	256	262	260	254	240	227	242	270	275	280

Total Hours	**744**
Number of Valid Hours	**744**
Percent Valid Data	**100.0 %**

Station : STN29247
Parameter : ATEM, °C
Month, Year : October, 2021

GFL
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	9.2	9.0	8.3	8.0	8.0	8.7	9.2	10.8	12.6	14.8	16.0	17.6	19.1	20.1	21.0	21.2	20.7	18.5	16.8	16.2	15.5	14.8	14.4	14.4	14.4	8.0	21.2
02	14.5	14.4	14.1	14.2	14.5	14.4	14.3	15.2	17.6	20.0	21.9	23.6	23.8	24.4	24.3	23.0	21.8	21.0	19.8	18.9	18.1	18.3	18.3	18.4	18.7	14.1	24.4
03	18.1	17.5	17.6	17.7	17.6	17.5	18.3	18.5	18.3	19.5	19.7	19.4	19.3	19.7	20.2	19.7	19.0	18.3	17.9	17.8	17.8	17.6	17.3	16.7	18.4	16.7	20.2
04	16.6	16.3	15.7	15.6	15.4	15.3	15.1	15.1	15.2	15.2	15.2	15.2	14.9	14.8	14.6	14.4	14.4	14.3	14.4	14.5	14.7	14.8	14.9	14.9	15.1	14.3	16.6
05	14.9	14.7	14.5	14.5	14.4	14.4	14.5	14.6	14.6	14.8	14.7	14.9	15.0	15.3	15.8	16.0	15.9	15.8	15.6	15.6	15.8	15.8	15.4	15.1	15.1	14.4	16.0
06	14.8	14.4	14.3	14.1	14.0	13.6	13.7	15.4	16.8	17.5	17.8	18.0	17.9	17.1	16.8	16.6	16.4	16.3	16.1	16.1	16.2	16.3	16.3	16.1	15.9	13.6	18.0
07	16.0	16.3	16.1	16.0	16.0	16.1	15.9	16.2	16.3	16.5	16.8	17.5	17.3	17.4	17.1	17.2	16.8	16.6	16.5	16.5	16.3	16.3	16.3	16.3	16.5	15.9	17.5
08	16.3	16.4	16.3	16.3	16.3	16.3	16.2	16.5	16.7	17.0	17.6	17.5	17.6	17.5	17.6	17.6	17.5	17.1	17.0	16.9	16.8	16.7	16.8	16.8	16.9	16.2	17.6
09	16.7	16.6	16.6	16.6	16.7	17.0	17.3	17.7	18.0	18.0	17.9	18.3	19.0	20.0	20.4	20.5	19.9	19.4	19.1	18.5	18.1	17.9	17.4	16.9	18.1	16.6	20.5
10	16.7	16.9	17.2	17.0	16.5	16.5	16.3	17.2	18.8	19.9	20.1	20.2	20.4	20.6	21.0	21.6	20.8	19.8	19.2	18.5	18.7	18.2	17.8	17.7	18.7	16.3	21.6
11	17.2	17.0	17.1	17.2	17.0	16.9	16.3	17.5	19.1	20.6	21.5	22.4	23.4	24.0	24.4	23.7	23.0	21.6	20.3	19.4	19.2	19.0	18.5	17.7	19.8	16.3	24.4
12	17.4	17.3	16.7	16.3	16.3	16.0	15.8	17.5	18.9	20.6	21.4	22.0	22.3	22.3	22.8	22.9	23.0	22.0	20.3	19.5	19.3	19.0	18.3	17.8	19.4	15.8	23.0
13	17.4	16.8	16.3	15.9	16.0	16.6	16.7	16.9	17.5	18.5	19.6	20.2	21.4	21.6	21.6	21.9	20.8	20.0	18.4	17.3	16.7	15.8	14.8	14.4	18.0	14.4	21.9
14	13.9	14.0	13.9	14.7	14.3	14.3	14.4	15.5	17.2	19.3	21.4	22.4	22.5	22.5	23.0	23.0	22.3	21.5	20.3	19.5	19.1	19.2	19.4	19.3	18.6	13.9	23.0
15	19.4	19.2	18.7	18.2	17.8	17.0	15.6	15.6	16.5	17.4	17.8	18.0	18.3	18.8	18.7	17.4	16.1	15.8	15.4	14.6	14.7	14.9	15.0	15.3	16.9	14.6	19.4
16	15.2	15.0	14.4	13.4	13.3	13.0	12.4	12.3	12.3	12.5	13.0	13.3	13.3	14.4	14.7	14.3	13.8	12.9	11.8	11.6	11.0	11.1	10.5	10.0	12.9	10.0	15.2
17	9.3	9.6	9.3	9.0	8.8	9.0	9.4	9.7	10.0	11.8	12.4	12.2	12.8	13.6	11.6	11.5	10.7	10.3	10.4	9.4	9.4	9.1	9.2	9.5	10.3	8.8	13.6
18	9.2	9.1	8.5	7.3	6.8	7.3	7.6	8.1	9.6	10.7	11.6	12.5	13.1	13.5	13.6	13.8	13.1	11.3	10.1	9.3	8.4	7.2	7.0	6.9	9.8	6.8	13.8
19	7.1	6.7	6.4	6.2	6.1	6.1	6.0	7.4	10.5	13.7	16.2	17.7	19.0	20.0	20.7	20.9	20.3	18.0	16.1	15.2	14.6	14.6	14.7	14.4	13.3	6.0	20.9
20	14.1	13.5	12.9	12.0	11.9	11.6	11.2	12.3	14.5	15.8	16.8	16.8	17.3	17.7	18.5	17.9	17.6	16.3	15.5	14.6	14.9	14.7	14.3	14.2	14.9	11.2	18.5
21	14.2	13.8	14.6	15.2	15.2	14.9	14.6	14.5	14.8	15.3	15.1	14.3	14.8	15.8	16.2	15.8	15.9	16.0	15.4	13.2	12.7	12.5	12.6	11.7	14.5	11.7	16.2
22	10.4	9.3	8.3	7.9	7.3	6.1	5.0	5.0	6.0	7.1	7.3	7.8	9.5	9.8	10.0	9.7	8.7	7.6	6.6	6.1	5.8	5.5	5.1	5.2	7.4	5.0	10.4
23	5.6	5.7	5.9	5.7	5.8	5.9	6.2	5.7	6.3	7.9	8.0	8.0	8.8	9.2	9.1	8.9	8.6	8.1	7.8	7.4	6.5	5.7	5.2	6.0	7.0	5.2	9.2
24	5.2	4.0	4.0	4.6	3.7	2.9	2.6	3.9	7.2	9.7	11.4	12.4	11.9	12.0	12.1	12.7	11.8	10.8	10.6	10.2	10.1	9.8	9.0	8.8	8.4	2.6	12.7
25	8.8	8.7	8.9	9.3	9.3	9.3	9.7	10.1	10.3	10.0	9.5	9.0	8.5	8.5	8.7	9.1	9.0	7.8	7.3	6.9	6.4	6.2	5.7	5.2	8.4	5.2	10.3
26	5.0	4.7	4.7	4.8	4.8	4.6	4.6	4.6	4.8	5.2	5.7	6.1	6.5	6.8	6.9	7.2	6.9	6.2	6.3	6.7	6.5	6.8	6.9	7.1	5.9	4.6	7.2
27	7.5	7.8	8.0	8.0	8.3	8.5	8.7	8.9	10.1	11.1	11.9	12.5	13.2	13.8	14.5	14.9	14.9	12.3	10.3	9.7	8.3	8.3	8.8	7.5	10.3	7.5	14.9
28	8.0	8.0	8.1	8.1	7.7	7.6	7.9	9.0	9.7	9.5	10.0	10.0	10.2	9.8	9.6	9.0	8.7	8.6	8.8	9.1	8.9	8.7	8.4	8.3	8.8	7.6	10.2
29	8.1	8.1	8.1	8.1	7.7	7.6	8.4	9.5	11.3	12.3	11.6	12.3	11.7	10.7	9.5	8.9	8.5	8.0	7.6	7.7	7.9	8.1	7.8	7.5	9.0	7.5	12.3
30	7.6	7.4	7.4	7.4	7.5	7.3	7.2	6.9	6.9	7.4	8.3	9.4	9.1	8.9	8.9	8.8	8.7	8.6	8.7	8.9	9.1	9.2	9.0	8.8	8.2	6.9	9.4
31	8.7	8.6	8.5	8.5	8.6	8.5	8.6	8.7	9.2	9.9	10.3	11.6	12.8	13.9	14.1	13.4	12.3	11.7	10.7	10.2	10.7	10.3	9.3	7.9	10.3	7.9	14.1

Total Hours	**744**
Number of Valid Hours	**744**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	13.5	**2.6**	**24.4**

Station : STN29247
Parameter : RH, %
Month, Year : October, 2021

GFL
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	91	90	96	96	97	95	92	83	77	70	70	64	56	53	50	47	48	61	71	77	82	87	89	88	76	47	97
02	87	90	92	92	91	91	92	88	81	68	58	53	54	54	58	63	67	69	70	69	69	66	69	72	73	53	92
03	78	87	87	87	90	94	94	96	97	92	94	97	98	96	94	97	99	100	100	100	100	100	100	100	95	78	100
04	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
05	100	100	100	100	100	100	100	100	100	100	100	100	100	99	97	95	95	95	97	98	98	97	98	100	99	95	100
06	100	100	100	100	100	100	100	96	89	86	83	82	82	90	93	95	97	98	99	99	100	100	100	100	95	82	100
07	100	100	100	100	100	100	100	100	100	100	99	96	97	94	96	97	99	100	100	100	100	100	100	100	99	94	100
08	100	100	100	100	100	100	100	100	100	100	98	98	98	98	98	96	96	96	96	96	98	100	100	100	99	96	100
09	100	100	100	100	100	100	100	100	97	96	97	95	91	86	84	82	82	84	86	87	86	89	90	90	93	82	100
10	90	90	88	87	89	89	90	86	78	75	75	74	73	73	72	69	72	76	80	83	82	86	89	89	81	69	90
11	91	91	90	89	89	88	92	87	81	75	72	68	66	63	62	65	70	78	84	88	87	87	85	85	81	62	92
12	84	83	88	90	90	93	94	88	83	73	70	69	68	69	68	66	66	71	83	87	88	87	89	89	81	66	94
13	87	90	91	93	93	92	92	92	91	87	82	79	71	68	65	64	66	66	71	77	79	84	90	93	82	64	93
14	97	96	98	97	99	100	100	96	91	81	72	68	67	69	70	74	78	83	88	92	94	94	94	98	87	67	100
15	98	96	95	96	97	93	97	97	90	85	77	78	75	71	78	85	88	93	94	100	100	100	100	100	91	71	100
16	100	100	99	97	96	97	97	96	94	90	86	78	73	63	61	60	62	67	69	71	77	76	76	78	82	60	100
17	84	84	85	85	87	87	84	76	73	63	58	58	57	55	74	74	77	72	69	74	74	79	82	81	75	55	87
18	80	77	79	85	89	88	84	79	69	60	49	46	45	42	42	40	39	46	53	59	65	74	76	79	64	39	89
19	79	82	83	84	84	84	85	82	74	64	54	49	42	41	38	40	42	50	58	74	82	79	75	75	67	38	85
20	75	77	79	83	85	86	88	82	72	66	63	62	60	60	60	62	65	69	70	74	76	77	80	83	73	60	88
21	86	92	91	88	88	90	91	91	93	89	87	92	93	91	89	93	94	93	92	93	95	95	94	87	91	86	95
22	85	81	82	81	69	67	70	76	71	64	62	60	53	52	50	51	57	62	66	69	74	75	78	80	68	50	85
23	82	82	81	81	83	83	83	82	79	73	76	77	71	67	68	70	73	78	80	82	86	89	92	87	79	67	92
24	90	94	93	85	88	94	96	93	81	70	62	56	58	58	58	57	64	77	80	85	86	85	92	95	79	56	96
25	98	97	97	96	96	100	100	100	99	100	100	100	100	100	99	100	100	100	100	97	97	99	100	99	99	96	100
26	99	98	98	98	99	98	97	96	94	90	86	82	80	80	81	81	87	99	99	94	98	97	98	99	93	80	99
27	98	97	96	96	95	94	93	92	86	78	69	64	61	60	58	56	57	68	76	82	90	90	84	88	80	56	98
28	81	83	80	82	83	88	87	82	81	84	82	82	79	81	84	87	87	89	91	91	91	92	93	92	86	79	93
29	93	94	94	94	94	96	94	90	83	80	86	80	83	89	95	98	99	99	99	98	96	96	98	99	93	80	99
30	99	99	100	100	100	100	100	100	99	97	92	88	89	91	93	95	98	99	100	100	100	100	100	100	97	88	100
31	100	100	100	100	100	100	98	96	94	90	88	81	70	63	58	57	65	70	75	78	78	79	81	77	83	57	100

Total Hours	**744**
Number of Valid Hours	**744**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	85	**38**	**100**

Station : STN29247
Parameter : Precipitation, mm
Month, Year : October, 2021

GFL
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Total**	**Max**
01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
03	-	0.1	-	-	-	-	-	-	-	-	0.6	2.3	3.1	0.2	-	-	-	-	1.3	8.0	5.7	5.4	3.7	2.7	33.1	8.0
04	0.9	0.8	0.6	0.6	0.1	0.2	0.3	0.1	1.4	0.4	-	-	0.3	-	-	0.2	-	-	-	-	-	0.3	0.1	0.2	6.5	1.4
05	0.3	0.1	-	0.2	0.1	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	0.3
06	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	0.1
07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
08	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	0.1	0.1
09	-	2.5	1.7	3.9	21.0	2.7	1.3	-	0.2	0.4	0.5	0.1	-	-	-	-	-	-	-	-	-	-	-	-	34.3	21.0
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	-	0.3	0.3
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	1.8	3.0	1.8
15	-	-	-	-	-	0.5	6.6	0.4	-	0.2	-	-	-	-	-	0.1	1.1	1.0	6.5	8.8	2.0	-	-	-	27.2	8.8
16	0.1	-	0.2	-	-	0.4	1.2	-	-	0.2	-	1.0	-	-	-	0.2	-	-	-	-	-	-	-	-	3.3	1.2
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	0.1	0.9	-	-	-	-	-	-	-	2.0	1.0
18	-	-	-	-	-	0.3	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	0.3
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
20	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	0.1	0.1
21	-	-	-	0.3	-	0.3	-	-	-	-	0.1	4.8	-	0.2	0.1	0.7	-	-	3.0	0.3	-	-	-	-	9.8	4.8
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	0.1	0.2	0.3	1.3	2.0	1.3
25	5.4	3.6	0.3	0.2	1.5	4.0	3.2	0.7	0.9	1.4	0.6	1.0	1.5	1.7	2.5	2.3	2.7	3.1	0.4	0.1	0.1	0.2	0.2	4.5	42.1	5.4
26	1.0	0.3	0.2	1.8	4.3	2.4	1.5	0.6	0.5	-	-	-	-	-	-	-	0.3	1.0	0.3	0.3	0.8	0.6	0.3	0.1	16.3	4.3
27	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	0.2
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
29	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	2.4	7.7	7.8	5.8	1.1	0.9	-	0.5	2.5	2.7	31.5	7.8
30	1.2	0.9	0.6	0.9	0.3	-	-	-	-	-	-	-	-	0.2	-	0.1	0.3	-	0.5	0.4	0.3	-	-	-	5.7	1.2
31	0.2	-	-	-	0.1	-	-	-	-	0.2	-	-	-	-	0.5	0.8	-	-	-	-	-	-	-	-	1.8	0.8

Total Hours	**744**
Number of Valid Hours	**744**
Percent Valid Data	**100.0 %**

Monthly :	**Total**	**Max**
	220.7	**21.0**

Station : STN29247

Parameter : PM10, µg/m^3

Month, Year : November, 2021

GFL

Monthly Data Matrix

1 Hr MECP Reportable Threshold - 100 µg/m^3

24 Hr MECP Reportable Threshold - 50 µg/m^3

	Hour (Eastern Standard Time)																										
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	0	0	0	2	5	2	0	7	31	36	13	15	10	5	5	6	9	8	6	9	9	9	5	3	8	0	36
02	4	5	8	5	3	9	17	11	12	15	17	13	14	15	7	3	7	9	8	8	8	9	6	4	9	3	17
03	8	7	2	2	3	3	0	8	5	3	7	5	1	1	6	4	5	4	5	5	4	4	3	2	4	0	8
04	1	2	2	3	3	11	9	34	30	26	21	42	36	64	24	23	8	7	12	14	18	12	8	9	17	1	64
05	7	11	6	2	5	11	13	45	33	50	12	37	18	41	61	54	9	9	18	9	14	10	7	6	20	2	61
06	3	8	10	14	13	12	17	16	18	17	8	7	6	25	7	6	12	26	15	18	19	17	17	19	14	3	26
07	27	20	21	20	10	15	20	22	15	19	20	20	13	13	13	13	16	19	28	30	29	23	25	25	20	10	30
08	27	30	23	27	15	7	11	8	6	22	43	80	195	56	107	52	23	21	17	21	21	21	27	30	37	6	195
09	28	31	38	33	30	25	32	37	82	117	17	19	16	28	36	30	56	19	20	15	8	5	12	17	31	5	117
10	3	7	12	15	9	8	6	6	16	12	11	8	2	4	12	21	8	10	8	10	9	13	17	14	10	2	21
11	13	7	1	0	1	3	9	6	13	14	11	12	14	12	8	10	22	31	28	36	15	21	13	13	13	0	36
12	13	9	4	4	4	3	4	4	4	6	8	11	29	37	29	21	7	10	11	5	3	4	4	3	10	3	37
13	4	3	3	0	0	0	0	0	0	0	3	2	2	4	8	6	6	8	4	2	1	1	0	0	2	0	8
14	3	1	1	0	0	1	0	0	0	1	2	0	3	3	2	1	0	0	0	0	0	1	1	0	1	0	3
15	0	0	0	0	1	1	3	3	1	0	3	4	4	0	---	5	3	2	2	0	0	0	1	4	2	0	5
16	1	2	2	0	0	0	1	17	11	7	5	3	6	9	7	12	8	9	10	21	18	12	9	7	7	0	21
17	5	2	2	1	1	2	0	5	17	24	25	13	16	16	13	15	14	15	15	17	15	16	12	12	11	0	25
18	8	3	0	1	10	18	12	9	13	11	10	14	12	12	11	13	14	8	13	7	3	1	1	3	9	0	18
19	3	2	0	2	5	5	3	13	19	12	6	6	9	7	8	4	15	0	4	3	3	2	4	7	6	0	19
20	6	5	4	0	0	0	0	2	5	4	1	0	0	0	6	4	6	5	7	17	8	7	9	5	4	0	17
21	2	6	8	7	9	14	12	15	10	14	10	7	9	21	15	6	4	3	4	3	1	0	4	8	8	0	21
22	5	1	0	0	0	0	0	4	29	22	8	16	13	11	8	7	6	4	7	4	2	4	2	0	6	0	29
23	1	5	3	0	5	3	3	5	12	17	11	8	8	5	4	15	6	4	8	7	10	9	10	15	7	0	17
24	2	10	6	3	10	15	11	30	33	60	26	17	35	34	17	10	9	9	7	5	7	5	11	6	16	2	60
25	3	6	5	1	0	0	5	4	5	4	6	5	6	4	1	2	5	5	6	4	7	13	7	3	4	0	13
26	2	0	0	0	0	0	0	0	3	5	5	6	8	13	9	13	8	6	5	6	4	4	2	2	4	0	13
27	0	1	1	0	0	1	1	0	0	4	2	1	2	3	3	2	3	2	0	3	5	4	2	5	2	0	5
28	4	2	6	2	6	4	6	6	18	14	17	12	12	13	8	12	13	17	10	19	15	7	8	6	10	2	19
29	7	4	4	4	3	0	1	2	3	7	6	4	7	4	2	3	3	3	3	3	3	3	4	7	4	0	7
30	5	6	5	1	5	4	3	6	4	9	8	8	6	3	7	12	13	13	15	9	6	4	4	5	7	1	15

Maximum 1 Hr Average	**195**
Maximum 24 Hr Average	**37**
Number of Days > 50 µg/m^3	**0**
Number of Hours > 100 µg/m^3	**3**

Total Hours	**720**
Number of Valid Hours	**719**
Percent Valid Data	**99.9 %**

Monthly :	**Ave**	**Min**	**Max**
	10	**0**	**195**

Station : STN29247
Parameter : WS, m/s
Month, Year : November, 2021

GFL
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	4.5	4.5	4.1	4.1	4.4	4.6	4.6	4.8	5.7	6.4	6.7	7.2	6.7	6.7	6.8	5.6	4.2	2.4	2.3	2.7	3.2	3.2	3.6	4.0	4.7	2.3	7.2
02	3.9	4.0	4.8	4.7	4.6	4.3	4.2	4.4	5.7	5.8	6.4	5.9	6.2	4.9	3.4	3.4	3.3	2.7	2.7	3.4	3.5	3.5	3.2	3.3	4.3	2.7	6.4
03	3.3	3.4	3.8	3.0	2.4	2.6	2.6	3.1	3.6	2.6	2.5	3.0	2.8	3.5	3.5	3.9	2.7	3.5	2.0	1.9	1.9	1.5	1.3	1.2	2.7	1.2	3.9
04	1.0	0.5	1.1	1.5	1.0	1.1	1.6	1.9	1.3	1.9	1.6	1.8	1.8	2.2	2.4	3.6	3.4	2.5	1.6	1.8	2.0	1.7	1.7	1.6	1.8	0.5	3.6
05	1.9	1.7	1.5	1.6	1.4	1.4	1.1	1.0	1.1	1.5	2.3	3.3	2.8	2.8	2.9	2.6	3.4	2.9	3.0	3.1	2.8	2.9	3.0	3.0	2.3	1.0	3.4
06	2.3	1.9	2.6	3.0	2.9	3.4	3.6	3.6	3.0	3.5	4.2	4.3	4.6	4.5	4.8	4.8	4.1	3.7	3.6	3.4	3.9	4.0	3.7	3.8	3.6	1.9	4.8
07	3.8	3.8	4.1	4.1	4.3	4.6	4.8	4.7	4.6	4.5	6.2	6.9	6.4	5.8	5.2	4.4	3.2	2.9	3.2	3.4	3.9	4.0	3.3	3.4	4.4	2.9	6.9
08	3.7	3.9	4.5	3.9	4.5	4.1	4.0	4.5	5.1	5.8	6.1	6.6	7.2	6.9	7.3	7.4	6.0	5.5	5.8	4.8	4.4	4.0	3.9	4.4	5.2	3.7	7.4
09	3.6	2.9	2.9	2.1	1.7	1.3	0.8	1.4	0.5	2.4	2.6	1.6	1.1	1.2	1.6	1.4	1.3	2.4	1.8	2.2	1.2	1.5	1.5	1.7	1.8	0.5	3.6
10	1.6	2.2	2.3	1.8	2.0	1.5	1.6	1.9	1.5	2.2	1.8	2.3	3.0	3.4	3.0	2.8	2.7	3.6	2.6	1.7	1.3	1.1	0.5	1.4	2.1	0.5	3.6
11	1.7	2.0	2.3	2.2	2.7	4.0	2.8	1.6	1.7	2.7	3.3	2.9	3.0	4.0	4.3	4.4	2.0	0.8	0.2	0.6	4.3	2.8	3.3	3.5	2.6	0.2	4.4
12	3.4	4.6	7.0	6.6	5.5	5.1	4.6	4.2	4.1	4.2	5.6	7.3	7.9	7.5	8.0	6.3	5.0	2.8	6.4	4.7	7.0	6.4	6.4	3.8	5.6	2.8	8.0
13	3.4	3.7	5.4	4.1	4.8	4.2	4.2	4.1	4.6	4.4	5.4	6.4	5.9	5.6	4.9	6.4	7.4	6.6	6.0	5.5	5.8	5.6	5.7	5.4	5.2	3.4	7.4
14	5.1	4.8	4.8	5.1	4.2	3.9	4.1	3.4	3.5	3.7	3.9	3.2	3.9	4.8	4.7	3.9	3.7	3.1	2.4	1.6	1.9	1.6	1.5	2.3	3.5	1.5	5.1
15	2.4	2.4	3.0	2.9	2.9	3.3	3.1	3.1	3.3	3.9	4.2	4.6	5.2	4.5	5.8	5.8	3.2	4.4	3.7	3.2	3.2	2.8	3.5	3.2	3.7	2.4	5.8
16	4.1	5.3	5.2	5.4	4.4	3.7	4.2	4.2	5.3	4.6	4.9	4.4	3.8	3.3	3.4	2.6	2.4	0.7	0.4	0.5	1.8	1.6	1.9	1.8	3.3	0.4	5.4
17	2.0	2.4	2.1	2.5	1.9	2.5	3.2	1.7	2.4	1.8	2.5	4.7	6.8	7.5	8.1	7.7	7.5	7.8	7.7	7.5	7.5	8.2	8.7	8.2	5.1	1.7	8.7
18	7.6	8.2	5.7	4.1	4.7	4.6	4.6	4.1	4.6	5.3	5.3	5.7	6.9	5.8	5.6	4.1	4.6	4.6	5.5	6.9	6.4	6.2	6.1	6.3	5.6	4.1	8.2
19	6.2	6.2	5.7	5.8	5.5	5.0	4.4	5.4	5.7	6.3	5.6	5.6	4.4	4.5	4.5	4.8	2.4	3.0	2.5	2.3	2.2	2.6	2.4	1.8	4.4	1.8	6.3
20	1.4	2.0	2.2	2.2	3.2	2.5	2.5	1.9	2.4	4.6	5.5	5.4	4.8	4.9	5.6	5.1	3.9	4.1	4.4	3.4	3.1	3.8	4.2	3.5	3.6	1.4	5.6
21	1.9	1.4	1.1	1.4	0.5	0.5	0.5	1.0	2.0	2.1	2.5	3.9	4.3	6.8	8.1	6.9	6.5	4.8	6.6	6.3	5.3	5.9	7.5	6.7	3.9	0.5	8.1
22	6.2	6.0	5.8	5.7	4.1	5.2	5.0	4.5	4.3	6.4	6.8	6.9	6.7	6.2	6.7	5.9	5.2	4.8	3.9	3.0	2.9	3.2	2.7	2.9	5.0	2.7	6.9
23	3.1	2.7	2.6	2.3	2.3	2.2	2.7	2.2	1.0	1.3	2.7	3.2	3.0	3.4	3.3	2.9	2.3	1.6	1.2	1.7	2.1	1.9	1.9	2.3	2.3	1.0	3.4
24	2.0	2.6	2.1	2.7	3.1	4.2	4.7	5.2	6.0	7.1	7.6	7.6	8.2	7.3	6.1	5.7	4.6	4.9	5.2	5.5	5.9	6.2	6.5	7.0	5.3	2.0	8.2
25	7.3	6.8	5.8	5.6	5.3	5.3	4.3	4.4	4.2	4.8	4.9	4.1	4.1	3.2	3.0	3.4	3.3	3.1	2.9	3.0	2.7	2.9	2.4	2.8	4.2	2.4	7.3
26	3.8	4.2	4.7	4.4	4.8	5.5	5.1	5.5	5.0	5.2	5.8	5.7	5.9	6.4	6.3	6.4	6.0	5.5	5.5	4.5	4.0	3.3	2.6	2.6	4.9	2.6	6.4
27	3.3	4.2	3.5	3.3	2.8	2.5	2.5	2.3	3.6	4.3	4.0	3.4	2.6	3.8	3.3	3.7	3.0	2.9	2.1	1.2	0.7	0.6	1.1	0.9	2.7	0.6	4.3
28	0.8	1.0	1.5	1.5	0.9	0.1	0.5	0.2	0.3	0.7	1.2	1.3	1.7	2.6	2.2	1.9	1.4	1.6	1.1	1.5	1.5	1.7	2.1	2.2	1.3	0.1	2.6
29	1.2	1.0	0.5	0.5	0.7	1.7	2.1	2.1	1.5	1.3	2.1	2.9	3.3	3.1	3.0	2.9	2.9	3.3	4.0	3.6	3.1	3.0	1.9	2.0	2.2	0.5	4.0
30	1.3	2.2	3.3	3.0	2.3	1.5	1.2	0.6	1.1	1.2	0.3	1.7	2.7	2.9	3.5	2.8	3.0	4.8	5.6	5.7	5.6	5.7	5.2	5.7	3.0	0.3	5.7

Total Hours	**720**
Number of Valid Hours	**720**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	3.7	**0.1**	**8.7**

Station : STN29247
Parameter : WGust, m/s
Month, Year : November, 2021

GFL
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	9.9	8.3	7.5	7.3	8.7	8.0	8.1	8.8	10.4	11.3	12.8	13.0	12.0	14.4	12.5	10.5	8.7	5.7	3.6	4.7	6.9	6.1	7.0	7.3	8.9	3.6	14.4
02	6.4	7.0	8.5	7.7	8.7	6.6	6.6	8.1	9.4	9.6	10.8	11.6	10.6	9.5	8.0	6.2	7.6	5.7	4.2	7.0	7.0	7.1	7.1	6.0	7.8	4.2	11.6
03	5.8	6.2	6.4	6.1	6.3	6.0	5.9	6.1	6.7	4.9	5.3	6.7	5.8	9.4	6.7	7.3	8.2	6.3	4.1	3.3	3.0	2.8	2.2	2.0	5.6	2.0	9.4
04	2.4	2.4	3.2	3.7	2.8	2.4	3.0	3.4	3.1	3.3	3.2	3.4	3.1	4.0	3.8	6.1	5.5	4.2	4.2	3.3	3.3	3.3	3.0	2.9	3.5	2.4	6.1
05	3.3	2.8	2.6	3.1	2.6	2.2	2.1	2.1	2.1	3.2	5.1	5.9	5.4	6.0	6.8	5.8	6.9	4.5	4.9	4.9	4.3	4.1	4.4	4.4	4.1	2.1	6.9
06	3.8	3.0	3.8	5.1	4.6	4.6	4.6	4.4	4.7	6.8	7.9	7.4	7.8	8.5	7.6	8.0	7.1	6.1	6.0	5.4	6.3	5.6	5.3	5.7	5.8	3.0	8.5
07	5.4	5.9	6.1	6.7	6.5	7.3	7.9	7.1	7.3	7.9	10.7	11.2	11.5	10.0	9.0	7.7	6.4	4.5	4.8	6.0	6.0	6.1	5.2	5.6	7.2	4.5	11.5
08	5.7	6.1	6.1	6.1	7.3	6.8	6.1	7.3	7.6	9.8	9.3	10.1	10.8	11.8	11.8	12.6	10.6	8.9	9.3	8.4	7.1	6.7	6.4	6.5	8.3	5.7	12.6
09	5.7	4.8	5.3	4.0	2.8	2.1	2.0	3.7	2.6	6.0	4.8	4.1	2.4	2.8	3.1	2.5	3.0	4.2	3.7	4.3	2.4	4.0	3.4	5.2	3.7	2.0	6.0
10	3.9	4.1	5.5	4.1	4.6	2.7	2.6	2.7	3.2	3.7	3.3	4.5	5.8	6.4	6.4	5.3	5.1	5.6	4.2	2.8	2.8	1.8	1.1	2.3	3.9	1.1	6.4
11	2.9	3.1	3.5	4.1	6.1	8.4	8.8	3.7	3.8	5.9	5.9	4.9	4.9	6.4	6.9	7.4	5.8	2.0	1.4	3.7	8.0	5.4	6.9	5.7	5.2	1.4	8.8
12	5.5	8.3	13.5	12.4	9.2	8.6	8.1	6.4	7.6	7.1	9.8	13.4	12.4	13.0	14.8	11.9	10.4	4.9	16.9	13.8	14.4	13.6	12.0	7.1	10.6	4.9	16.9
13	5.4	9.3	10.7	8.7	10.1	7.0	7.5	6.9	7.8	8.3	10.4	10.3	10.4	10.8	8.7	13.6	11.9	11.9	10.0	10.6	9.3	9.2	9.9	9.6	9.5	5.4	13.6
14	9.3	8.0	8.1	8.5	7.1	8.1	7.7	6.0	5.7	6.8	6.6	5.7	8.8	8.1	8.3	6.1	6.3	6.2	4.5	2.8	3.7	3.1	2.7	4.9	6.4	2.7	9.3
15	4.1	4.8	5.4	5.5	6.4	6.1	6.6	6.2	7.6	7.6	8.5	8.7	9.9	9.7	10.1	10.4	7.8	7.8	6.5	6.6	6.6	5.4	7.1	5.2	7.1	4.1	10.4
16	7.6	8.3	9.7	9.0	8.4	7.7	7.7	7.3	9.1	8.0	8.2	7.9	7.6	7.7	7.9	5.3	5.1	2.2	1.3	1.8	2.5	2.2	2.8	2.9	6.2	1.3	9.7
17	4.2	4.2	3.7	4.4	3.4	4.4	5.3	3.7	4.7	4.1	5.0	8.9	11.6	12.3	13.1	13.5	12.7	12.8	12.6	13.2	13.4	13.0	16.0	14.1	8.9	3.4	16.0
18	14.5	15.5	10.8	7.5	9.4	8.4	7.3	7.5	10.0	9.1	9.5	11.1	12.0	10.3	10.8	7.2	7.9	8.5	11.5	12.8	11.9	11.6	13.4	10.6	10.4	7.2	15.5
19	10.8	10.0	10.5	10.6	10.0	9.4	8.7	8.9	11.7	11.1	10.2	9.2	9.3	9.3	9.2	8.5	6.5	7.0	5.4	3.9	3.5	3.9	3.4	3.1	8.1	3.1	11.7
20	2.5	3.6	3.6	3.2	4.7	4.8	4.0	2.8	4.5	8.1	9.3	9.1	8.4	8.2	9.5	8.9	7.2	7.0	7.4	5.7	4.9	6.3	6.4	6.1	6.1	2.5	9.5
21	3.5	2.7	2.2	2.7	1.4	1.7	1.6	2.5	3.5	3.5	5.3	6.3	9.5	14.1	14.5	12.1	10.8	9.0	11.0	11.2	9.9	10.3	14.7	12.1	7.3	1.4	14.7
22	13.6	13.4	12.7	14.2	7.7	11.0	10.0	9.2	9.8	12.1	12.1	12.7	11.9	10.5	12.6	11.8	10.0	8.6	7.7	5.4	5.1	5.7	4.7	4.8	9.9	4.7	14.2
23	5.1	4.4	4.4	3.4	4.2	3.8	5.8	5.7	2.7	3.8	6.0	6.3	6.4	7.5	6.5	6.0	4.2	3.3	2.4	2.9	3.3	2.9	3.1	3.4	4.5	2.4	7.5
24	3.0	3.9	3.3	4.7	4.7	6.2	6.6	8.6	10.2	11.2	12.0	13.0	12.4	12.3	11.1	9.5	8.5	7.6	7.8	9.6	10.1	10.3	9.7	11.0	8.6	3.0	13.0
25	11.9	12.2	9.5	9.5	8.6	8.3	7.0	6.9	7.2	7.6	7.5	6.5	6.9	5.3	5.7	6.4	6.3	5.7	4.6	5.6	5.6	6.4	5.1	6.8	7.2	4.6	12.2
26	8.2	8.9	9.8	9.1	9.2	11.0	10.8	10.0	9.0	13.0	11.9	11.4	12.5	13.7	14.2	13.2	13.1	11.8	10.8	10.0	8.1	6.9	5.6	7.2	10.4	5.6	14.2
27	7.5	9.5	7.2	7.6	6.5	5.4	4.4	5.0	6.5	7.0	6.4	5.8	6.5	7.0	7.1	6.1	5.4	4.8	4.0	3.9	1.6	1.3	1.9	2.0	5.4	1.3	9.5
28	2.2	1.8	2.9	2.8	3.2	1.4	1.1	1.3	1.2	2.1	2.6	3.0	4.1	4.7	4.9	3.6	2.7	3.2	2.3	3.4	3.3	3.4	4.5	4.2	2.9	1.1	4.9
29	3.4	2.8	1.3	1.5	2.3	3.0	3.6	3.9	2.7	2.4	3.7	4.6	5.4	5.5	4.8	5.3	4.9	5.8	6.1	6.3	5.3	4.9	3.5	3.8	4.0	1.3	6.3
30	2.8	3.8	4.8	4.3	3.1	3.4	2.6	2.0	2.6	3.3	1.3	3.3	4.6	5.5	5.7	5.6	6.6	8.9	8.9	9.5	9.4	9.3	8.9	9.5	5.4	1.3	9.5

Total Hours	**720**
Number of Valid Hours	**720**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	6.8	**1.1**	**16.9**

Station : STN29247

Parameter : WD, degrees

Month, Year : November, 2021

GFL

Monthly Data Matrix

	Hour (Eastern Standard Time)																							
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**
01	281	261	249	244	230	228	226	229	236	244	257	257	265	265	260	268	257	254	225	213	245	240	238	252
02	239	224	228	223	227	238	245	228	233	241	247	254	252	266	282	282	268	266	227	231	222	244	256	247
03	233	228	253	277	273	278	271	276	257	276	295	265	272	272	262	256	261	259	261	250	245	252	254	268
04	307	270	231	171	167	225	191	182	170	183	206	201	210	215	219	187	189	212	243	233	242	255	256	258
05	249	246	257	256	243	233	215	180	162	204	233	229	241	243	235	211	199	185	186	185	186	192	189	186
06	191	200	188	183	185	174	165	164	172	193	203	204	189	203	202	190	199	201	198	187	188	203	210	199
07	196	184	180	181	187	207	193	185	194	209	225	228	230	232	243	235	228	214	203	187	193	194	204	207
08	195	197	196	214	220	223	201	190	191	190	190	195	196	192	193	201	206	215	220	226	226	226	219	212
09	226	234	245	253	250	237	267	322	277	6	8	39	40	37	38	104	68	26	23	13	10	168	268	284
10	267	258	285	292	289	258	252	242	217	234	237	238	223	231	238	224	199	203	207	231	220	228	213	99
11	101	73	70	62	56	63	72	82	56	58	62	47	48	43	43	45	9	330	335	5	153	169	189	156
12	193	223	223	248	232	222	215	208	215	218	219	203	209	212	205	210	209	188	223	239	231	228	231	221
13	204	204	232	226	242	229	235	240	243	255	250	244	245	242	258	236	242	245	245	253	241	243	244	249
14	250	247	239	232	228	234	234	223	195	208	189	197	221	202	201	178	179	181	178	157	151	189	211	237
15	263	255	277	274	278	276	276	273	273	272	279	279	271	276	259	242	238	249	264	259	255	242	249	227
16	220	237	244	237	245	247	245	238	234	239	244	253	257	278	264	257	271	267	229	200	156	197	192	133
17	110	108	123	131	131	117	124	135	149	159	172	196	197	200	201	205	206	202	205	207	207	206	216	211
18	212	219	255	259	259	258	239	226	228	247	252	262	254	252	244	263	266	249	248	267	265	268	257	250
19	245	240	238	242	244	241	247	242	251	265	270	260	269	268	272	275	298	264	248	223	226	206	188	189
20	183	176	169	161	150	160	166	166	164	176	173	177	178	195	213	212	211	216	191	179	208	208	210	213
21	254	242	201	215	230	185	189	172	156	148	153	180	188	194	198	195	193	186	199	215	224	226	235	230
22	266	276	288	289	270	273	271	264	244	255	259	261	259	268	269	274	267	254	243	223	232	243	235	231
23	229	236	231	242	268	260	266	275	338	279	301	291	297	285	285	291	279	276	254	217	187	184	185	192
24	204	208	191	181	186	166	168	188	185	195	195	195	199	204	195	193	187	176	176	179	185	189	196	197
25	197	203	204	204	201	199	208	205	206	197	200	211	219	212	216	235	246	247	236	256	290	287	282	287
26	292	282	276	274	274	273	269	274	281	294	295	291	295	300	299	295	298	297	298	303	298	305	315	295
27	290	282	283	289	296	282	269	265	232	242	238	240	267	247	244	244	244	246	265	278	228	198	164	162
28	121	79	80	78	114	85	333	316	280	323	332	312	270	254	257	271	272	271	281	343	337	336	345	346
29	312	318	314	231	256	261	254	255	250	246	238	238	231	225	222	221	213	214	228	223	231	247	245	236
30	183	162	164	156	148	130	116	91	103	92	292	253	229	216	200	218	222	227	237	233	229	229	226	227

Total Hours	**720**
Number of Valid Hours	**720**
Percent Valid Data	**100.0 %**

Station : STN29247
Parameter : ATEM, °C
Month, Year : November, 2021

GFL
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	7.1	6.5	5.7	5.3	4.8	4.4	4.0	4.3	5.7	7.2	8.3	8.8	9.0	9.0	8.8	7.9	7.2	6.7	6.0	5.7	5.3	4.8	4.4	4.7	6.3	4.0	9.0
02	3.7	2.8	2.4	2.9	3.1	3.2	2.6	2.6	3.9	5.3	6.6	6.5	6.5	5.7	4.5	5.7	5.5	4.8	4.3	3.5	3.2	3.2	3.1	2.7	4.1	2.4	6.6
03	1.7	1.2	1.3	1.2	1.0	0.9	0.4	0.6	1.9	3.9	5.6	6.2	6.2	5.7	5.4	5.2	5.0	3.9	2.9	2.3	2.0	2.0	1.9	1.0	2.9	0.4	6.2
04	1.6	1.8	1.6	1.1	1.1	0.9	1.1	1.9	2.3	3.4	4.5	5.0	5.6	5.7	5.5	4.6	3.8	2.9	1.9	1.4	1.1	0.6	0.5	0.3	2.5	0.3	5.7
05	-0.3	-0.5	-0.8	-0.5	-0.7	-0.8	-0.4	0.3	2.5	5.7	7.7	8.0	8.4	8.2	9.0	8.4	7.6	5.7	4.5	3.8	3.1	2.9	3.3	3.1	3.7	-0.8	9.0
06	2.3	1.8	1.6	1.3	1.7	0.9	1.3	2.2	4.4	7.7	9.0	10.2	10.6	10.8	10.5	10.0	8.9	7.4	6.4	5.9	5.0	5.2	5.3	5.7	5.7	0.9	10.8
07	5.6	5.0	4.5	4.4	4.9	5.7	5.2	5.2	7.1	10.0	12.5	13.7	15.1	15.8	16.0	15.7	14.5	12.3	10.5	9.6	8.7	8.1	7.6	7.3	9.4	4.4	16.0
08	7.3	7.1	7.0	7.3	7.9	7.8	6.5	6.0	7.7	10.6	12.7	15.3	16.4	17.0	17.0	16.3	15.7	15.1	14.7	13.7	12.8	12.1	11.4	11.3	11.5	6.0	17.0
09	10.9	10.4	10.3	10.1	9.5	9.7	9.6	10.3	10.6	11.9	13.0	13.8	13.6	13.7	13.4	12.5	12.0	11.3	10.7	10.0	9.1	8.7	8.7	8.4	10.9	8.4	13.8
10	8.0	7.3	6.8	5.8	4.8	3.7	3.4	3.6	5.2	7.4	9.6	11.3	12.0	12.6	13.0	12.6	10.5	8.6	7.4	6.4	6.2	5.9	4.5	3.8	7.5	3.4	13.0
11	3.6	5.1	5.5	5.6	6.0	6.3	6.2	6.1	6.8	7.6	10.2	9.7	9.9	10.9	11.5	11.1	10.4	9.9	9.4	9.4	13.7	13.7	13.6	13.2	9.0	3.6	13.7
12	13.3	12.3	11.5	9.3	8.3	7.5	6.7	6.1	7.1	9.6	10.9	11.1	11.3	12.1	11.7	11.3	10.7	9.1	9.0	6.6	5.8	5.9	6.2	5.4	9.1	5.4	13.3
13	5.1	4.8	4.6	3.8	3.4	2.7	2.7	2.2	2.4	2.6	4.5	5.4	5.7	6.0	6.0	6.3	5.8	5.0	4.6	4.4	3.4	3.3	3.2	3.3	4.2	2.2	6.3
14	3.2	3.4	3.4	3.3	3.3	3.3	3.4	3.3	3.5	3.7	2.9	2.4	2.6	3.0	2.2	1.6	1.4	1.3	1.4	1.6	1.7	1.3	1.0	1.1	2.5	1.0	3.7
15	0.5	0.7	1.0	1.0	1.0	1.1	1.5	1.9	2.0	2.6	3.8	4.0	4.2	4.4	3.6	2.2	1.0	1.7	1.8	1.6	1.4	1.3	1.3	1.4	2.0	0.5	4.4
16	1.0	1.0	0.9	0.8	0.7	0.7	0.6	0.3	1.2	2.6	4.0	4.9	5.7	5.6	5.4	4.8	4.2	2.8	1.4	0.4	0.2	0.2	0.3	0.6	2.1	0.2	5.7
17	1.5	2.4	2.2	2.2	2.2	2.9	3.5	4.1	5.7	7.8	9.7	12.2	13.4	13.9	14.6	14.8	14.9	15.0	15.6	16.1	16.0	15.8	16.3	16.1	10.0	1.5	16.3
18	14.3	14.2	12.6	10.3	9.1	8.6	7.8	7.2	7.3	7.0	6.8	7.1	6.1	5.9	6.3	5.7	5.2	4.6	4.4	3.4	2.8	2.1	1.3	1.0	6.7	1.0	14.3
19	0.7	0.5	0.1	0.2	0.4	0.5	0.7	0.5	1.3	2.7	3.2	3.5	3.9	4.9	5.1	4.2	3.6	3.3	2.6	1.2	0.8	1.0	0.9	0.3	1.9	0.1	5.1
20	0.1	0.0	0.4	0.7	1.0	1.3	1.3	1.0	1.9	3.5	4.3	4.8	5.5	5.9	5.7	5.1	4.9	4.7	4.9	4.8	5.2	5.6	5.9	5.8	3.5	0.0	5.9
21	5.1	4.5	3.8	3.4	2.4	1.3	0.9	0.5	1.2	3.4	5.8	7.3	7.9	8.1	6.6	6.0	5.0	5.1	5.9	6.1	6.2	6.5	6.5	6.1	4.8	0.5	8.1
22	4.4	3.8	2.4	0.5	-0.2	-0.4	-1.1	-1.2	-1.0	-0.1	0.3	0.6	1.0	1.2	0.8	0.6	0.3	-0.2	-1.1	-1.7	-2.2	-2.5	-2.7	-2.7	0.0	-2.7	4.4
23	-3.0	-3.2	-3.3	-3.5	-3.1	-2.8	-2.8	-2.2	-0.8	1.0	2.0	2.9	3.5	3.2	2.6	2.3	1.3	0.4	-0.7	-1.3	-1.6	-1.9	-2.2	-2.4	-0.7	-3.5	3.5
24	-2.6	-2.2	-2.2	-2.7	-1.7	-2.4	-2.2	0.0	2.0	3.6	5.3	6.1	6.8	6.8	6.7	6.7	6.4	6.0	5.9	6.6	7.1	7.1	7.1	7.3	3.4	-2.7	7.3
25	7.2	6.8	5.6	5.1	5.0	5.2	5.7	6.0	6.2	6.5	7.2	7.2	7.0	7.0	7.0	7.0	6.5	6.2	6.0	6.0	5.4	4.9	4.4	4.3	6.1	4.3	7.2
26	3.8	2.8	1.8	1.1	0.8	0.2	-0.4	-0.9	-1.3	-1.0	-1.0	-1.4	-1.4	-0.9	-0.4	-0.2	-0.7	-1.1	-1.2	-1.4	-1.5	-1.7	-2.3	-2.4	-0.4	-2.4	3.8
27	-2.5	-2.5	-2.5	-2.3	-2.3	-2.3	-2.4	-2.3	-2.1	-1.9	-1.6	-0.8	-0.1	0.1	0.6	0.0	-0.6	-0.9	-1.0	-1.4	-2.0	-2.5	-2.5	-2.5	-1.6	-2.5	0.6
28	-2.6	-2.3	-2.1	-1.8	-1.5	-1.6	-1.2	-1.0	-0.9	-0.5	-0.3	-0.5	-0.5	-0.3	-0.3	-0.2	-0.5	-0.7	-1.0	-0.8	-0.9	-1.0	-1.3	-1.8	-1.1	-2.6	-0.2
29	-2.2	-2.4	-3.0	-3.2	-2.9	-3.4	-4.1	-4.8	-3.8	-1.6	-0.5	-0.6	-0.7	-0.5	0.0	-0.1	-0.1	-0.1	-0.5	-1.3	-1.8	-2.0	-2.3	-2.6	-1.9	-4.8	0.0
30	-2.0	-2.4	-2.2	-1.8	-1.4	-1.5	-1.9	-1.7	-1.4	-0.7	0.3	1.0	1.4	1.6	1.8	1.7	1.7	1.7	1.5	1.3	1.5	1.7	1.5	1.6	0.1	-2.4	1.8

Total Hours	**720**
Number of Valid Hours	**720**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	4.1	**-4.8**	**17.0**

Station : STN29247
Parameter : RH, %
Month, Year : November, 2021

GFL
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	80	76	78	78	81	84	85	82	74	66	54	46	44	42	42	44	48	52	59	62	61	62	64	62	64	42	85
02	67	72	70	66	66	65	68	72	69	65	58	56	57	63	76	65	65	67	71	68	68	67	69	71	67	56	76
03	79	83	88	89	88	88	90	89	84	72	59	54	55	61	60	59	63	66	73	79	83	83	83	88	76	54	90
04	85	85	87	93	92	92	89	84	84	74	64	62	58	54	56	71	80	86	88	85	86	86	87	89	80	54	93
05	93	93	93	91	90	88	85	80	74	61	50	51	47	44	41	41	44	53	62	67	69	69	66	69	68	41	93
06	75	78	80	82	81	86	86	83	76	63	57	52	49	47	46	45	50	57	64	68	72	71	73	72	67	45	86
07	73	76	79	80	78	70	74	79	71	63	59	56	54	53	53	54	58	67	76	81	86	90	93	95	72	53	95
08	95	95	94	93	99	100	100	100	100	93	89	71	62	55	50	45	45	45	46	52	57	60	63	64	74	45	100
09	66	68	70	72	77	80	81	74	71	63	58	57	58	59	62	68	70	73	86	92	96	97	98	97	75	57	98
10	94	95	95	95	85	89	89	90	88	79	73	59	49	38	38	39	49	65	70	76	79	79	85	88	74	38	95
11	90	85	75	66	67	63	66	66	65	61	54	62	65	66	69	78	86	91	96	94	64	66	74	81	73	54	96
12	81	89	89	84	88	89	89	89	80	67	58	56	50	48	47	46	42	51	56	81	85	78	68	75	70	42	89
13	76	80	75	75	74	77	74	74	74	72	62	59	59	59	58	58	62	71	76	77	82	82	82	82	72	58	82
14	82	80	79	78	74	73	73	77	76	74	83	94	96	90	93	96	96	97	97	98	98	97	98	98	87	73	98
15	98	98	96	95	92	92	90	89	88	81	74	70	68	64	71	88	97	94	92	92	94	95	93	91	88	64	98
16	86	79	78	79	81	81	82	81	75	70	65	57	54	55	58	59	60	69	80	84	85	85	84	81	74	54	86
17	71	68	76	83	87	86	85	85	83	80	82	82	81	81	81	80	81	81	79	77	76	74	74	76	80	68	87
18	91	93	93	91	84	85	84	85	86	75	70	67	60	59	57	60	63	64	62	65	59	59	65	70	73	57	93
19	72	74	77	79	80	81	79	81	77	71	72	76	71	61	57	60	69	67	72	81	78	73	73	76	73	57	81
20	77	78	76	74	74	72	75	81	77	65	61	58	57	53	55	58	63	64	63	66	64	62	61	63	67	53	81
21	66	73	78	80	84	88	90	91	89	81	72	72	65	62	84	90	92	94	94	96	97	95	86	82	83	62	97
22	81	76	71	57	59	67	76	70	72	61	58	57	54	52	51	52	55	60	67	71	75	77	78	78	66	51	81
23	82	83	84	86	83	84	85	84	77	69	59	48	43	44	44	47	57	68	76	83	85	87	84	80	72	43	87
24	78	70	70	74	67	73	75	84	82	76	66	63	58	56	57	58	58	61	63	59	56	59	58	56	66	56	84
25	59	67	83	90	94	95	95	96	96	91	91	93	95	97	97	97	97	98	98	97	92	93	91	90	91	59	98
26	85	81	80	81	79	73	77	77	80	71	62	64	68	68	66	64	64	65	64	62	63	68	78	80	72	62	85
27	77	73	73	71	69	70	72	72	75	71	69	64	56	56	54	56	60	60	60	67	80	91	93	93	70	54	93
28	96	96	96	96	97	97	97	98	99	99	98	97	97	93	94	95	96	97	98	98	98	97	94	93	97	93	99
29	94	93	95	95	94	91	93	90	82	75	75	76	75	74	77	83	91	90	88	89	86	79	76	77	85	74	95
30	75	83	81	77	77	82	95	97	96	94	88	85	85	85	85	87	86	87	91	91	90	88	90	87	87	75	97

Total Hours	**720**
Number of Valid Hours	**720**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	75	**38**	**100**

Station : STN29247
Parameter : Precipitation, mm
Month, Year : November, 2021

GFL
Monthly Data Matrix

	Hour (Eastern Standard Time)																								
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Total**	**Max**
01	-	0.1	-	-	-	-	-	-	-	-	-	0.3	-	0.2	-	-	-	-	-	-	-	-	-	-	0.6	0.3
02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
05	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	0.1
06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
08	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	0.1
09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	1.4	1.3	1.4	0.3	-	4.5	1.4
10	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	0.1
11	-	-	-	-	-	-	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	0.1	0.5	0.2
12	-	-	3.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	3.9	0.7	-	-	8.5	3.9
13	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	-	-	-	-	-	-	-	0.5	0.4
14	-	-	-	-	-	-	-	-	-	-	-	0.1	0.4	0.4	1.3	0.9	1.4	0.4	0.6	0.3	1.1	0.6	0.3	0.1	7.9	1.4
15	0.6	0.2	-	-	-	-	-	-	-	-	0.1	-	-	-	0.1	-	0.8	-	-	-	-	-	-	-	1.8	0.8
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	-	-	0.1	0.1	0.4	0.2
18	0.9	0.5	0.4	0.1	-	-	0.2	-	-	0.1	-	-	-	-	-	-	-	-	-	4.5	1.3	-	-	-	8.0	4.5
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	0.6	1.0	0.9	0.2	1.0	0.5	-	0.2	-	4.8	1.0
22	3.2	0.3	-	-	-	-	-	-	-	-	-	0.2	-	-	-	2.5	-	-	-	-	-	-	-	-	6.2	3.2
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
25	-	-	0.3	1.2	2.2	0.3	-	0.1	-	0.1	-	0.3	-	0.9	0.2	0.1	0.1	0.3	-	-	0.4	0.1	-	-	6.6	2.2
26	-	-	-	0.1	-	0.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	0.9
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
28	-	-	-	-	-	-	-	-	-	-	-	-	0.1	0.1	-	0.2	-	-	-	-	-	-	-	-	0.4	0.2
29	-	-	-	-	-	-	-	-	-	-	0.1	-	0.2	0.2	-	-	-	-	-	-	-	-	-	-	0.5	0.2
30	-	-	-	-	-	-	-	-	-	-	0.1	-	1.0	0.7	0.8	0.6	0.3	0.3	0.5	0.3	0.2	0.1	0.1	-	5.0	1.0

Total Hours	**720**
Number of Valid Hours	**720**
Percent Valid Data	**100.0 %**

Monthly :	**Total**	**Max**
	57.5	**4.5**

Station : STN29247

Parameter : PM10, µg/m^3

Month, Year : December, 2021

GFL

Monthly Data Matrix

1 Hr MECP Reportable Threshold - 100 µg/m^3

24 Hr MECP Reportable Threshold - 50 µg/m^3

	Hour (Eastern Standard Time)																										
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	7	7	4	4	0	2	3	3	4	2	1	3	1	4	6	6	11	7	7	5	9	8	5	5	5	0	11
02	8	6	4	10	20	6	7	13	8	11	14	13	37	9	7	6	5	3	5	3	1	1	1	5	8	1	37
03	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
04	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
05	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
06	---	---	---	---	---	---	---	---	---	4	6	13	7	6	6	14	12	7	3	1	1	2	6	4	---	1	14
07	1	0	2	0	0	2	2	4	3	0	3	4	1	1	8	12	10	25	17	11	13	13	28	23	8	0	28
08	11	19	20	20	24	13	15	14	17	14	15	8	14	9	10	10	18	12	12	12	15	19	19	20	15	8	24
09	11	15	20	16	16	21	19	15	14	12	15	8	12	6	39	24	15	19	11	9	20	21	13	17	16	6	39
10	18	16	17	9	8	9	11	15	8	17	13	17	23	26	25	55	42	28	22	24	26	27	21	21	21	8	55
11	14	16	15	11	10	9	6	4	3	2	1	1	8	22	31	17	17	6	4	3	6	3	0	0	9	0	31
12	0	2	2	2	4	1	0	1	0	0	5	5	2	0	2	4	2	3	3	3	2	0	0	0	2	0	5
13	0	0	1	4	4	0	0	7	9	6	6	7	13	32	34	17	5	6	6	11	7	4	4	8	8	0	34
14	15	12	15	12	10	17	14	15	19	19	10	7	6	10	10	6	4	3	0	0	3	3	6	5	9	0	19
15	3	3	2	5	7	4	6	12	9	11	8	5	4	7	6	6	4	7	4	4	9	6	5	5	6	2	12
16	5	6	10	8	6	8	7	41	69	54	70	51	22	8	7	11	16	23	31	44	42	15	12	6	24	5	70
17	3	4	3	8	4	3	4	---	52	50	---	32	21	12	18	9	11	15	15	20	15	8	6	10	15	3	52
18	8	4	2	0	0	0	0	1	2	0	1	6	3	0	0	0	0	7	6	3	0	3	12	9	3	0	12
19	4	1	2	2	3	3	1	1	4	3	3	3	2	3	2	4	5	4	11	15	7	5	5	4	4	1	15
20	4	2	0	2	2	0	0	5	6	6	4	0	2	6	4	5	5	4	5	6	5	6	5	8	4	0	8
21	11	13	8	11	14	15	17	16	13	10	18	6	12	19	17	23	20	21	23	21	14	8	6	6	14	6	23
22	7	11	17	11	13	11	12	11	36	51	56	36	19	26	17	11	6	4	3	4	8	6	9	5	16	3	56
23	5	5	4	2	3	6	5	16	69	33	40	92	26	30	26	13	8	10	8	5	4	9	10	6	18	2	92
24	4	12	13	11	8	10	9	11	9	12	13	12	12	14	12	15	7	10	12	9	12	13	17	15	11	4	17
25	17	13	10	5	1	5	5	1	0	3	4	6	6	4	3	3	2	4	4	2	3	2	2	3	5	0	17
26	5	4	2	4	3	1	0	0	6	5	3	4	5	4	3	4	3	3	3	4	4	3	2	2	3	0	6
27	3	0	0	0	1	0	0	0	0	2	2	1	0	0	1	4	1	6	6	5	4	6	5	7	2	0	7
28	11	6	2	0	1	3	8	4	2	4	4	1	0	2	3	6	4	3	2	1	4	6	9	5	4	0	11
29	4	4	0	0	4	6	6	2	0	2	5	4	5	4	2	5	8	11	10	10	7	5	6	10	5	0	11
30	13	9	11	13	12	8	10	9	11	12	6	6	5	6	6	3	0	4	4	4	3	6	9	7	7	0	13
31	6	9	8	8	15	12	14	15	16	27	15	11	6	8	12	12	11	13	17	12	12	15	11	11	12	6	27

Maximum 1 Hr Average	**92**
Maximum 24 Hr Average	**24**
Number of Days > 50 µg/m^3	**0**
Number of Hours > 100 µg/m^3	**0**

Total Hours	**744**
Number of Valid Hours	**661**
Percent Valid Data	**88.8 %**

Monthly :	**Ave**	**Min**	**Max**
	9	**0**	**92**

Station : STN29247
Parameter : WS, m/s
Month, Year : December, 2021

GFL
Monthly Data Matrix

	Hour (Eastern Standard Time)																										
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	6.2	5.0	4.0	3.5	3.8	3.7	3.6	3.6	3.5	3.5	3.1	3.5	4.6	4.8	5.2	3.5	3.2	2.3	3.6	4.8	3.5	3.6	4.3	5.0	4.0	2.3	6.2
02	5.4	6.8	7.5	8.8	9.1	10.2	9.0	9.5	8.7	9.4	9.2	8.5	8.0	7.3	7.2	7.3	7.4	5.6	4.8	6.4	5.2	5.4	4.5	3.9	7.3	3.9	10.2
03	3.1	2.2	2.4	2.3	2.3	1.8	1.8	1.7	1.9	2.0	2.7	2.3	1.4	1.8	2.0	0.9	2.0	1.5	1.3	0.5	0.5	0.2	0.6	0.1	1.6	0.1	3.1
04	0.2	0.4	1.6	2.8	2.8	3.7	4.5	5.6	6.9	6.6	7.2	7.3	7.2	7.8	5.9	5.9	5.2	3.8	3.7	3.2	3.2	2.9	2.0	2.2	4.3	0.2	7.8
05	2.4	2.3	2.0	1.8	1.4	1.5	1.1	0.8	1.2	1.0	1.0	1.9	2.6	3.4	4.0	5.2	6.1	5.9	5.0	5.2	4.0	2.7	1.8	0.7	2.7	0.7	6.1
06	1.3	7.2	8.4	8.9	6.8	8.1	8.5	8.7	8.0	7.6	6.7	7.2	8.0	8.7	8.8	9.4	9.2	10.2	10.1	10.3	9.7	7.3	6.9	5.7	8.0	1.3	10.3
07	5.0	5.0	4.1	4.1	5.6	5.1	3.5	4.3	3.9	3.6	4.1	4.1	4.6	3.8	3.7	3.2	3.4	1.9	1.3	1.3	1.3	0.9	0.6	0.4	3.3	0.4	5.6
08	0.2	0.1	0.4	0.6	1.7	1.5	1.2	1.1	0.8	0.3	0.6	0.7	1.8	2.7	3.8	2.8	2.8	2.0	2.1	3.2	3.4	3.2	3.5	3.0	1.8	0.1	3.8
09	2.7	2.8	3.3	1.8	1.6	1.5	1.5	0.3	0.3	0.2	0.7	3.0	3.1	1.8	2.5	2.5	2.9	2.5	2.7	3.0	1.8	1.7	0.8	0.6	1.9	0.2	3.3
10	0.4	0.8	2.4	4.6	4.8	4.3	3.7	3.2	3.7	3.9	4.2	3.3	2.5	2.4	1.8	1.1	1.5	1.8	2.1	2.8	2.9	2.6	3.1	3.7	2.8	0.4	4.8
11	3.0	2.1	1.7	1.1	2.5	4.9	7.1	8.6	8.5	9.6	9.0	11.1	11.3	11.5	13.9	15.3	15.3	12.5	11.0	10.2	10.3	9.4	8.1	5.1	8.5	1.1	15.3
12	6.0	5.4	5.6	5.3	4.8	4.9	4.7	5.1	5.8	7.1	6.8	7.8	7.9	7.7	8.1	8.2	7.9	8.9	9.4	8.8	8.7	8.7	8.9	8.3	7.1	4.7	9.4
13	8.3	7.7	7.3	7.3	6.8	6.1	6.1	6.3	6.5	7.0	7.9	7.5	7.8	8.2	8.2	6.5	5.6	6.9	8.1	6.9	5.4	5.3	4.3	2.0	6.7	2.0	8.3
14	1.8	1.6	1.2	0.9	1.0	1.7	0.9	1.0	1.1	1.7	3.4	3.8	3.7	4.1	3.7	3.6	3.0	3.3	3.6	3.9	3.1	2.6	2.4	2.1	2.5	0.9	4.1
15	2.8	2.3	2.1	2.0	1.3	1.2	0.9	0.7	0.9	1.9	3.7	5.6	7.8	8.8	8.1	7.2	7.3	6.9	7.5	7.2	7.5	8.1	7.1	6.3	4.8	0.7	8.8
16	7.0	8.6	8.6	9.0	10.1	10.6	10.0	9.8	11.6	12.6	13.7	12.6	12.4	12.2	11.4	10.9	11.5	13.0	12.2	11.6	9.6	9.5	7.6	9.2	10.6	7.0	13.7
17	10.0	10.4	9.6	9.2	8.7	8.7	6.9	6.2	5.5	6.5	6.5	6.1	5.5	5.1	4.8	3.3	2.5	2.6	2.3	1.6	1.4	2.7	2.9	3.5	5.5	1.4	10.4
18	3.4	3.0	3.3	3.7	3.0	2.9	3.8	4.2	4.4	3.9	4.3	4.4	4.6	5.3	7.3	7.2	5.7	5.0	4.5	3.4	3.9	3.3	1.8	1.4	4.1	1.4	7.3
19	1.7	1.5	3.2	2.9	2.7	2.3	2.7	2.5	3.0	3.5	2.7	3.0	2.8	2.8	2.1	1.8	1.8	1.7	1.5	1.5	1.0	0.9	1.3	0.5	2.1	0.5	3.5
20	1.6	2.5	2.1	3.0	3.5	3.1	2.8	3.6	6.1	6.9	6.5	6.7	7.0	7.1	7.9	7.8	6.5	6.9	8.7	7.3	5.1	5.7	7.3	6.7	5.5	1.6	8.7
21	5.3	3.9	3.0	2.6	2.9	2.1	1.7	1.6	1.0	0.4	1.9	2.6	2.9	2.3	1.9	1.6	1.6	1.2	1.8	1.8	3.5	6.2	8.0	7.3	2.9	0.4	8.0
22	6.4	6.7	7.0	5.9	7.0	5.7	5.7	6.4	6.3	7.3	8.6	8.4	8.0	7.8	7.2	6.8	6.2	5.9	5.3	5.2	5.0	5.4	4.6	4.5	6.4	4.5	8.6
23	4.4	3.6	3.8	3.5	3.6	3.7	3.9	2.9	2.7	2.8	2.4	3.0	3.4	3.2	3.0	3.0	2.4	2.0	1.6	1.4	1.4	1.3	1.4	2.0	2.8	1.3	4.4
24	1.5	1.3	1.4	1.4	0.4	0.9	1.5	1.4	1.1	1.7	1.3	1.4	2.1	3.1	2.9	1.5	2.2	2.4	3.6	3.6	3.3	2.6	1.2	0.7	1.9	0.4	3.6
25	1.8	2.6	1.4	1.4	0.9	0.7	1.2	1.4	1.6	0.5	0.8	1.7	2.0	2.3	2.1	2.2	2.2	3.1	3.0	3.1	3.0	3.2	3.7	2.5	2.0	0.5	3.7
26	1.9	1.5	2.2	2.2	2.5	3.6	3.6	3.1	2.6	2.3	3.1	3.4	3.8	3.7	3.5	3.7	3.0	2.6	2.1	2.5	4.2	3.6	2.3	3.8	3.0	1.5	4.2
27	4.2	4.3	4.0	4.4	4.1	3.4	5.0	4.4	3.5	4.7	4.6	5.0	5.0	4.4	2.8	1.7	1.1	0.8	0.9	0.7	0.5	0.2	0.4	0.9	3.0	0.2	5.0
28	3.5	5.4	5.9	5.8	6.8	6.4	5.0	4.6	4.0	3.6	3.6	2.2	1.1	2.0	2.2	3.0	1.0	1.7	2.1	2.4	1.0	2.4	3.5	3.9	3.5	1.0	6.8
29	4.9	4.7	4.6	3.4	2.7	2.8	2.7	2.5	2.9	2.1	2.1	2.2	2.6	2.3	2.0	1.2	0.8	1.4	2.2	2.6	2.7	3.0	2.7	2.7	2.7	0.8	4.9
30	2.2	1.4	1.3	1.7	1.3	0.5	1.0	0.8	0.8	1.5	2.5	3.1	2.8	2.5	2.6	2.5	2.2	1.9	1.6	1.1	0.6	0.7	0.6	1.2	1.6	0.5	3.1
31	1.2	0.7	0.9	1.0	0.7	0.4	0.2	0.5	0.5	1.3	3.0	3.6	3.6	4.1	3.6	2.8	3.4	1.6	0.6	2.1	2.1	2.2	2.2	1.8	1.8	0.2	4.1

Total Hours	**744**
Number of Valid Hours	**744**
Percent Valid Data	**100.0 %**

Monthly :	**Ave**	**Min**	**Max**
	4.1	**0.1**	**15.3**

Station : STN29247
Parameter : WGust, m/s
Month, Year : December, 2021

GFL
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	10.9	7.9	7.4	5.7	6.9	5.6	5.6	5.5	6.2	5.5	5.0	6.7	8.2	8.0	8.6	7.0	5.2	4.8	6.2	7.4	5.6	5.5	7.6	8.7	6.7	4.8	10.9
02	8.3	10.6	12.3	14.8	15.0	17.8	14.9	16.8	15.6	14.4	14.9	14.6	15.0	16.2	14.8	13.7	14.4	12.6	13.0	16.9	12.5	11.6	11.5	9.4	13.8	8.3	17.8
03	7.4	5.3	5.4	4.4	5.1	3.4	3.3	3.2	4.6	5.0	6.7	6.7	3.8	4.6	4.9	2.2	3.8	3.3	3.0	1.5	1.6	1.5	2.0	0.1	3.9	0.1	7.4
04	1.3	1.7	3.1	4.1	4.4	5.7	7.4	8.8	12.1	11.7	15.4	14.2	13.6	14.7	11.9	13.3	11.7	7.3	6.3	5.7	5.2	5.2	3.3	3.6	8.0	1.3	15.4
05	4.6	4.2	3.6	3.3	2.7	2.9	2.6	2.2	2.3	2.5	2.3	4.0	5.4	7.3	7.8	9.4	11.0	10.4	9.7	8.8	9.1	6.6	5.0	2.8	5.4	2.2	11.0
06	5.1	14.1	14.9	14.0	10.8	13.6	13.3	13.5	14.9	13.9	11.6	14.3	15.0	17.3	15.5	16.8	17.8	18.8	18.4	18.3	19.4	16.4	16.1	11.3	14.8	5.1	19.4
07	9.6	10.7	9.1	9.0	10.7	8.4	6.5	9.4	7.0	8.0	7.9	7.4	7.0	6.9	6.4	6.2	6.4	3.7	3.2	2.5	2.4	2.4	2.4	1.6	6.5	1.6	10.7
08	1.5	1.4	1.6	1.6	2.7	2.3	2.5	2.6	2.4	1.6	1.8	1.8	4.3	5.0	6.7	5.3	5.2	4.5	4.2	5.5	5.7	5.8	6.2	5.9	3.7	1.4	6.7
09	5.2	5.8	5.4	3.3	2.9	2.3	2.2	2.0	1.4	1.1	2.3	4.9	5.1	4.6	---	---	5.5	4.9	5.9	5.5	3.9	3.1	1.9	1.8	3.7	1.1	5.9
10	2.3	1.8	5.5	7.3	7.4	6.7	6.2	4.8	5.3	5.4	5.7	5.5	4.9	4.3	3.6	2.5	2.9	3.1	3.8	5.2	5.3	4.3	5.4	5.9	4.8	1.8	7.4
11	4.8	4.4	2.9	2.5	8.4	11.1	12.7	12.9	13.8	15.2	15.1	18.0	17.8	17.7	25.3	25.5	27.0	19.8	19.6	21.5	18.9	20.8	16.3	10.5	15.1	2.5	27.0
12	10.9	10.0	9.0	7.9	7.7	8.1	7.4	8.6	9.6	11.0	11.2	13.3	13.5	12.5	13.7	14.0	13.5	13.9	15.6	14.4	14.8	15.3	14.8	12.9	11.8	7.4	15.6
13	12.9	12.5	11.4	12.1	11.0	9.4	10.6	9.2	9.4	12.5	12.7	13.0	13.3	14.5	14.9	11.0	9.3	12.2	13.2	12.0	9.3	9.8	8.9	4.2	11.2	4.2	14.9
14	3.9	3.8	2.3	1.7	1.9	3.3	2.8	1.5	1.7	4.4	5.4	6.2	5.9	6.7	5.7	5.9	4.6	6.1	6.2	7.2	5.8	4.7	4.5	3.5	4.4	1.5	7.2
15	4.9	4.5	3.6	3.3	2.8	2.4	1.9	1.4	2.0	3.4	6.7	11.0	12.6	14.2	12.7	11.3	12.5	10.9	11.7	11.3	11.1	12.9	12.1	10.1	8.0	1.4	14.2
16	11.4	13.1	13.4	13.7	15.1	16.4	15.8	14.7	17.4	20.7	20.9	20.7	20.1	21.3	19.2	16.7	22.8	22.5	20.6	18.6	15.6	17.3	14.4	14.6	17.4	11.4	22.8
17	16.0	17.8	15.6	15.3	15.8	13.8	11.2	11.3	10.5	11.1	10.9	9.9	10.4	9.7	8.4	6.1	6.0	5.0	4.9	4.8	4.0	4.7	5.1	6.2	9.8	4.0	17.8
18	6.1	4.8	5.4	6.9	6.6	6.2	7.1	7.1	7.6	6.9	7.6	7.6	8.0	10.0	13.6	13.6	11.0	8.3	7.8	6.9	6.6	7.9	3.0	2.8	7.5	2.8	13.6
19	3.3	2.6	7.3	6.9	6.7	5.0	5.2	4.5	6.1	7.0	6.4	6.0	5.3	5.6	4.9	3.6	3.3	2.8	2.3	2.3	1.8	2.0	2.2	1.5	4.4	1.5	7.3
20	3.3	3.4	4.7	4.3	4.7	5.3	4.6	6.5	10.8	11.6	11.0	11.7	10.9	11.9	13.3	13.4	10.9	12.7	13.7	12.2	9.3	11.9	13.4	11.2	9.4	3.3	13.7
21	8.8	6.2	5.6	4.2	4.4	3.7	3.3	2.1	2.2	1.3	3.7	4.7	4.7	5.0	4.1	3.2	2.9	2.5	3.8	2.9	8.0	9.9	12.9	12.2	5.1	1.3	12.9
22	10.3	11.3	11.9	11.1	14.0	11.2	13.0	13.6	11.5	12.6	14.5	14.4	14.6	13.5	13.5	11.8	10.7	10.2	10.2	9.4	10.6	9.9	8.9	9.3	11.8	8.9	14.6
23	8.4	6.4	6.0	5.7	5.5	6.2	6.1	4.9	4.4	4.2	4.0	5.0	5.4	5.1	5.0	5.1	4.5	3.2	3.2	2.9	2.9	2.1	2.7	3.9	4.7	2.1	8.4
24	3.6	2.4	2.5	2.7	1.8	2.1	2.8	3.2	2.7	4.1	3.2	3.1	3.7	4.7	5.1	3.1	3.5	4.0	5.8	5.7	5.3	5.0	2.5	2.2	3.5	1.8	5.8
25	4.5	5.4	2.8	2.8	2.0	1.8	2.0	2.5	2.7	1.5	1.8	4.8	4.9	5.3	3.9	4.3	4.1	6.1	5.7	6.0	6.9	7.6	7.0	5.8	4.3	1.5	7.6
26	4.7	2.9	4.8	4.7	4.6	6.8	6.5	5.1	4.7	4.6	6.4	6.9	7.8	7.5	7.8	6.8	5.8	6.7	4.3	6.7	7.5	7.1	4.9	7.3	6.0	2.9	7.8
27	7.4	6.7	7.2	7.7	7.7	6.7	9.4	9.3	6.8	8.0	7.8	8.3	8.6	7.8	6.6	3.1	2.3	1.5	2.0	1.2	1.0	0.8	1.1	1.7	5.4	0.8	9.4
28	9.7	10.0	9.5	9.8	11.4	10.3	9.8	9.1	6.4	7.4	7.1	5.2	2.7	4.1	4.7	5.3	2.6	3.0	3.9	4.4	2.7	4.2	6.5	6.3	6.5	2.6	11.4
29	8.9	8.3	8.1	6.3	4.9	5.1	5.3	4.8	4.9	5.2	3.7	3.4	4.1	4.2	3.8	2.6	1.8	2.8	4.0	4.7	4.4	4.8	4.1	4.4	4.8	1.8	8.9
30	3.7	2.6	2.3	3.6	3.3	1.4	1.8	2.0	1.6	3.1	4.6	5.7	4.8	4.2	3.9	3.8	3.6	3.1	2.8	2.3	1.3	1.2	1.5	2.0	2.9	1.2	5.7
31	2.4	2.0	2.5	2.5	1.6	1.3	1.0	1.7	1.2	3.6	5.2	6.6	7.2	7.1	5.9	6.3	8.0	3.5	1.8	3.1	3.6	3.6	3.4	3.6	3.7	1.0	8.0

Total Hours	**744**
Number of Valid Hours	**742**
Percent Valid Data	**99.7 %**

Monthly :	**Ave**	**Min**	**Max**
	7.4	**0.1**	**27.0**

Station : STN29247

Parameter : WD, degrees

Month, Year : December, 2021

GFL

Monthly Data Matrix

	Hour (Eastern Standard Time)																							
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**
01	238	235	238	228	227	227	227	222	224	220	214	210	207	203	202	202	192	161	149	152	158	168	175	183
02	190	198	203	204	212	218	211	202	203	201	231	245	253	273	272	273	280	283	293	294	291	298	304	303
03	311	314	291	253	246	258	256	267	312	325	324	321	322	254	235	220	240	249	285	259	303	249	249	312
04	341	357	168	178	183	200	207	216	227	235	257	269	267	268	285	280	268	252	240	228	243	230	236	235
05	245	253	237	248	251	234	232	208	192	190	144	98	92	83	83	65	68	65	54	64	71	87	22	50
06	119	184	191	198	203	193	194	192	193	213	245	258	260	250	260	242	246	245	248	249	256	263	270	268
07	259	256	259	258	254	268	261	266	271	266	254	245	245	244	253	257	271	278	265	243	275	274	295	312
08	192	195	216	165	148	153	145	126	104	27	42	133	213	227	248	268	262	257	226	214	223	222	222	224
09	223	235	234	245	255	244	252	259	339	238	127	115	118	105	122	75	83	84	99	100	49	67	67	18
10	348	252	199	187	190	202	211	209	196	195	198	216	244	246	258	310	61	72	61	58	66	41	24	31
11	35	10	35	356	281	201	189	192	192	196	194	197	199	197	220	227	236	231	245	254	259	262	260	252
12	252	244	235	233	230	237	223	222	221	222	218	222	227	222	219	219	215	217	217	207	207	213	216	218
13	218	218	221	219	216	206	208	202	203	215	220	220	218	207	215	235	214	213	222	232	227	229	230	220
14	216	208	195	237	348	1	34	27	345	8	30	43	49	50	53	50	47	51	59	57	60	51	46	28
15	32	47	33	41	30	7	6	34	42	148	175	178	177	177	175	178	189	183	179	186	190	191	181	182
16	187	193	194	193	197	200	199	198	201	200	199	203	204	203	207	204	214	221	222	227	237	251	244	232
17	232	237	242	241	241	232	226	224	227	235	246	242	250	253	262	279	292	290	312	311	340	358	12	17
18	26	37	44	57	72	80	62	65	63	60	57	56	54	46	37	32	24	5	355	349	350	339	340	312
19	287	281	310	323	338	315	290	286	301	307	314	300	306	309	302	277	269	262	247	258	279	227	227	195
20	187	194	178	175	165	185	220	222	200	210	206	202	205	204	207	212	212	208	205	221	223	230	236	237
21	233	233	222	230	231	238	254	248	280	271	59	114	139	138	137	139	139	105	115	147	194	203	209	211
22	219	232	242	273	273	279	279	280	261	240	242	248	254	254	253	252	258	260	262	258	251	252	256	264
23	258	250	234	229	229	227	231	226	228	233	221	197	175	170	158	132	120	113	116	116	87	32	73	100
24	67	47	70	55	60	45	58	52	96	122	104	58	18	52	54	11	17	19	28	27	32	19	327	16
25	181	170	3	25	49	62	333	349	12	355	229	280	301	295	292	308	296	302	307	303	299	288	303	320
26	305	274	277	259	245	239	262	266	265	285	287	295	299	290	274	272	278	288	287	341	23	19	32	38
27	40	48	46	57	71	68	63	89	60	62	62	52	53	61	70	75	72	56	40	27	356	304	273	246
28	228	224	230	218	226	238	242	242	234	244	269	291	298	236	222	210	230	175	162	156	109	3	19	36
29	41	49	62	70	62	45	51	55	57	49	83	164	215	253	261	230	156	173	183	220	228	226	235	247
30	243	256	265	279	288	233	315	6	312	14	17	25	27	26	45	34	33	45	41	71	55	114	71	141
31	122	45	60	91	16	354	14	289	270	214	214	216	219	219	231	229	230	215	224	136	124	132	125	102

Total Hours	**744**
Number of Valid Hours	**744**
Percent Valid Data	**100.0 %**

Station : STN29247
Parameter : ATEM, °C
Month, Year : December, 2021

GFL
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	1.7	1.3	1.2	1.3	1.2	0.4	0.0	0.0	0.7	1.5	2.6	4.3	4.8	4.7	4.3	4.0	3.8	3.4	3.2	3.4	3.4	3.7	4.1	5.1	2.7	0.0	5.1
02	5.1	5.8	6.2	6.5	6.6	7.2	7.2	7.0	7.4	8.2	9.5	9.8	9.8	9.0	8.2	7.7	6.6	5.4	4.8	3.9	3.0	2.9	2.7	2.0	6.4	2.0	9.8
03	1.7	1.5	1.3	0.9	0.2	0.1	0.4	0.6	0.9	1.2	1.4	1.6	2.0	2.0	2.0	1.8	1.8	1.8	1.7	1.4	1.4	1.3	1.0	0.0	1.3	0.0	2.0
04	0.1	0.4	0.2	0.1	0.3	0.5	0.8	1.0	1.8	2.7	3.7	3.7	4.1	4.3	3.3	2.8	2.4	1.5	0.7	0.0	-0.2	-0.3	-1.0	-1.1	1.3	-1.1	4.3
05	-0.7	-0.5	-0.6	-1.0	-1.0	-1.1	-1.1	-0.9	-0.5	0.3	1.1	1.4	1.4	1.2	1.2	0.9	0.8	0.7	0.4	0.4	0.4	-0.1	0.0	0.5	0.1	-1.1	1.4
06	1.4	7.6	9.8	10.7	10.2	10.1	10.0	10.6	10.7	10.5	8.9	7.1	5.8	5.1	3.0	3.0	1.6	1.4	0.9	0.6	0.6	0.4	-0.8	-1.7	5.3	-1.7	10.7
07	-1.9	-1.6	-2.0	-2.4	-2.9	-3.2	-3.6	-3.4	-3.9	-3.4	-3.1	-3.0	-3.4	-3.5	-3.2	-3.4	-3.8	-4.6	-5.2	-6.0	-6.5	-6.8	-6.8	-6.7	-3.9	-6.8	-1.6
08	-6.3	-6.1	-6.4	-6.9	-6.8	-6.7	-6.5	-6.1	-5.4	-4.6	-3.8	-3.0	-2.7	-2.5	-2.4	-2.6	-3.1	-4.2	-5.7	-5.6	-5.8	-5.6	-4.8	-4.8	-4.9	-6.9	-2.4
09	-5.1	-5.3	-4.8	-5.6	-6.1	-6.7	-6.3	-6.5	-4.8	-3.3	-2.3	-1.9	-2.1	---	---	-1.6	-1.9	-2.0	-1.8	-1.9	-1.9	-1.9	-1.4	-1.1	-3.5	-6.7	-1.1
10	-0.9	-0.8	0.4	2.9	3.2	3.4	3.4	3.4	3.6	3.9	4.3	4.9	6.3	6.5	6.3	7.2	5.5	3.6	4.1	4.1	4.0	4.0	3.8	3.7	3.8	-0.9	7.2
11	3.7	3.6	3.7	3.8	5.6	9.0	12.4	13.3	13.3	13.8	14.4	16.2	16.4	16.0	14.4	9.2	5.4	4.8	4.3	3.8	3.4	3.2	2.4	2.1	8.3	2.1	16.4
12	1.7	1.1	0.8	0.4	0.1	0.0	-0.2	-0.3	0.2	1.3	2.8	4.4	5.7	6.5	6.5	6.5	5.2	4.5	4.6	4.7	4.9	4.9	5.0	5.0	3.2	-0.3	6.5
13	5.1	4.9	4.9	4.8	4.7	4.2	4.3	3.8	3.8	5.3	6.8	7.8	8.4	8.4	8.1	7.9	6.6	5.4	5.0	4.9	4.8	4.3	3.4	2.0	5.4	2.0	8.4
14	1.5	1.3	0.7	0.0	-0.1	1.0	1.0	0.4	1.6	3.8	4.1	4.5	4.7	4.6	4.6	3.8	2.6	2.4	2.4	2.7	2.4	1.7	1.6	1.4	2.3	-0.1	4.7
15	1.4	1.1	0.9	1.0	1.4	1.5	1.7	2.2	2.7	3.7	5.5	6.0	6.2	6.5	6.6	7.4	8.5	8.3	8.7	9.4	9.8	10.5	11.1	11.5	5.6	0.9	11.5
16	12.4	12.6	13.3	13.5	13.1	12.9	12.5	12.3	12.6	13.3	13.8	13.8	13.8	13.5	13.8	13.5	14.4	14.2	12.7	11.6	10.5	8.9	6.8	5.6	12.3	5.6	14.4
17	4.7	4.0	3.5	2.9	2.3	1.7	1.3	0.9	1.1	2.1	2.8	3.8	4.5	5.0	4.8	3.8	2.6	1.5	0.9	0.4	0.1	-0.2	-0.2	-0.1	2.3	-0.2	5.0
18	0.0	0.0	0.2	0.4	0.5	0.4	0.4	0.5	0.5	-0.2	-0.3	-0.1	0.0	0.1	-0.4	-0.9	-1.2	-1.8	-2.5	-2.8	-3.0	-3.1	-3.0	-2.8	-0.8	-3.1	0.5
19	-2.9	-2.8	-2.7	-2.9	-3.0	-3.0	-3.4	-4.9	-5.0	-4.2	-3.1	-2.5	-2.0	-1.8	-1.5	-1.8	-3.1	-4.2	-5.3	-5.9	-6.1	-7.0	-7.2	-7.9	-3.9	-7.9	-1.5
20	-8.2	-7.1	-6.0	-5.8	-5.7	-4.5	-3.4	-2.5	-1.2	0.4	0.8	1.3	2.4	2.7	2.6	2.5	2.0	1.6	2.0	2.3	2.1	2.2	2.6	2.3	-0.6	-8.2	2.7
21	1.9	1.6	1.1	0.9	0.5	-0.6	-0.4	-1.0	-0.7	1.8	2.6	2.7	2.3	2.3	2.2	2.1	1.6	0.3	-0.1	-1.0	0.4	2.4	3.4	3.4	1.2	-1.0	3.4
22	3.4	3.5	3.3	2.1	0.7	-0.5	-1.6	-2.7	-3.3	-3.2	-2.8	-2.6	-2.4	-2.2	-2.5	-2.8	-2.9	-3.2	-3.4	-3.3	-3.5	-4.0	-4.3	-4.2	-1.8	-4.3	3.5
23	-4.1	-4.2	-4.8	-5.8	-6.3	-6.1	-6.0	-6.1	-5.5	-4.4	-3.4	-2.9	-2.5	-1.8	-1.6	-1.5	-2.5	-2.6	-2.3	-2.1	-1.8	-1.9	-1.8	-1.8	-3.5	-6.3	-1.5
24	-1.7	-1.8	-1.7	-1.3	-0.9	-0.8	-0.6	-0.3	0.1	0.3	0.9	1.7	1.7	1.8	2.0	1.9	1.6	1.9	2.4	2.6	2.5	2.3	2.2	2.2	0.8	-1.8	2.6
25	2.2	2.7	2.4	2.3	2.4	2.8	2.7	2.9	3.0	3.4	3.8	4.7	5.5	5.8	5.9	5.8	5.6	5.3	4.8	4.5	4.0	3.4	3.0	2.8	3.8	2.2	5.9
26	2.8	2.5	2.5	2.3	1.7	1.3	1.1	1.3	1.1	1.5	2.1	2.3	2.4	2.2	1.8	1.8	1.6	1.5	1.2	1.0	-0.3	-1.2	-1.6	-1.8	1.3	-1.8	2.8
27	-2.7	-3.0	-3.1	-2.8	-2.6	-2.5	-2.0	-2.2	-2.5	-2.2	-2.2	-2.0	-1.7	-1.4	-1.2	-1.3	-1.3	-1.3	-1.2	-0.9	-0.6	-0.3	-0.2	0.0	-1.7	-3.1	0.0
28	0.1	0.8	1.6	1.5	1.3	0.9	0.5	0.1	0.0	0.8	1.6	2.0	1.9	1.5	1.1	0.7	0.4	0.3	0.0	-0.6	-0.7	-0.8	-0.6	-0.4	0.6	-0.8	2.0
29	-0.1	0.2	0.4	0.4	0.2	0.6	1.0	1.2	1.3	1.7	2.3	2.2	2.3	2.4	2.4	2.2	2.1	1.8	1.8	1.8	1.6	1.2	1.0	0.9	1.4	-0.1	2.4
30	0.9	0.6	0.7	0.8	0.7	0.3	0.3	0.6	0.6	1.3	1.5	1.6	1.5	1.5	1.6	1.5	1.4	1.4	1.4	1.5	1.7	1.5	1.5	1.3	1.2	0.3	1.7
31	1.3	1.5	1.6	1.6	2.0	2.0	2.1	2.1	2.3	3.0	4.0	5.0	5.7	7.3	7.4	7.3	6.7	6.3	5.6	5.0	4.7	4.4	4.2	4.4	4.1	1.3	7.4

Total Hours	**744**
Number of Valid Hours	**742**
Percent Valid Data	**99.7 %**

Monthly :	**Ave**	**Min**	**Max**
	1.6	**-8.2**	**16.4**

Station : STN29247
Parameter : RH, %
Month, Year : December, 2021

GFL
Monthly Data Matrix

	Hour (Eastern Standard Time)																									
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Ave**	**Min**	**Max**
01	85	88	88	84	81	85	88	88	86	81	73	61	59	64	65	69	72	74	75	70	71	75	82	87	77	59	88
02	94	93	92	94	95	88	87	92	90	85	78	72	66	60	57	60	66	69	63	65	71	70	67	64	77	57	95
03	64	65	66	70	76	78	79	79	69	61	59	58	58	60	63	66	67	69	70	71	71	73	76	83	69	58	83
04	85	79	83	85	85	82	78	80	83	79	67	57	52	48	51	51	53	57	63	67	67	68	73	75	70	48	85
05	75	74	76	77	76	77	76	76	74	70	58	56	57	58	61	68	74	76	86	92	94	97	99	100	76	56	100
06	100	93	87	84	88	89	94	95	94	95	93	89	80	69	63	57	68	60	62	67	64	63	79	91	80	57	100
07	86	72	70	71	75	70	69	70	73	61	58	60	68	69	65	63	63	68	69	75	76	74	70	68	69	58	86
08	69	68	75	89	91	92	92	92	91	88	89	88	87	88	83	77	75	77	83	81	78	79	80	82	83	68	92
09	86	87	85	88	89	92	89	89	84	76	75	76	78	---	---	77	78	80	80	90	97	96	91	88	85	75	97
10	86	87	82	75	76	79	81	83	83	84	84	83	75	72	72	68	76	86	83	84	89	93	98	99	82	68	99
11	99	99	100	100	100	99	95	93	92	89	85	80	80	79	64	62	62	63	67	65	61	60	64	67	80	60	100
12	66	70	70	71	74	76	78	79	77	71	62	56	54	53	52	51	59	61	61	61	61	63	62	62	65	51	79
13	62	62	61	60	58	64	65	68	70	64	59	56	55	56	57	57	63	68	69	68	69	71	75	81	64	55	81
14	83	84	86	89	91	89	89	93	91	81	74	72	72	73	74	80	90	94	96	94	89	90	91	90	86	72	96
15	88	87	87	85	86	86	86	89	90	88	83	82	84	82	81	76	72	76	73	69	64	59	55	53	78	53	90
16	47	43	38	37	39	42	46	49	54	59	64	69	75	81	79	81	77	74	76	73	68	45	50	55	59	37	81
17	60	60	62	63	66	68	67	68	67	62	59	55	53	51	52	55	59	64	65	66	67	67	68	69	62	51	69
18	70	71	73	76	78	77	79	80	83	96	98	99	99	99	100	100	100	99	98	98	96	97	98	97	90	70	100
19	96	95	87	83	83	82	80	85	80	74	69	63	60	58	56	57	62	68	75	78	77	83	81	85	76	56	96
20	86	79	78	75	79	80	81	80	80	76	76	76	71	71	71	71	74	75	72	71	74	74	70	72	76	70	86
21	76	78	80	82	82	85	83	84	81	66	59	59	61	62	66	68	74	78	80	83	79	70	68	70	74	59	85
22	72	74	71	68	67	67	65	63	62	68	72	73	72	72	77	79	75	77	75	70	71	75	74	68	71	62	79
23	66	67	69	71	73	73	73	74	72	68	64	59	56	54	63	70	91	96	97	98	98	98	98	98	77	54	98
24	98	98	98	98	97	97	97	98	98	96	92	88	89	89	89	91	94	95	95	95	94	94	94	96	95	88	98
25	98	98	99	100	100	100	100	100	100	100	100	100	100	100	99	98	97	94	93	92	88	82	77	76	95	76	100
26	75	78	77	78	83	84	83	82	82	76	69	64	63	63	66	66	65	63	63	68	76	73	74	74	73	63	84
27	74	77	80	81	80	81	82	85	86	89	94	92	96	98	98	98	97	98	98	99	99	100	100	100	91	74	100
28	100	100	89	87	88	86	84	83	82	76	67	65	65	68	70	76	78	79	83	91	96	98	99	100	84	65	100
29	100	100	99	99	99	99	98	97	96	91	88	90	91	90	90	93	95	98	99	99	99	99	98	97	96	88	100
30	97	97	97	93	91	92	92	89	90	84	83	83	85	85	85	86	88	89	89	91	92	94	94	96	90	83	97
31	96	96	95	96	95	95	96	97	96	98	99	95	95	82	76	77	77	79	83	87	88	91	92	92	91	76	99

Total Hours	**744**
Number of Valid Hours	**742**
Percent Valid Data	**99.7 %**

Monthly :	**Ave**	**Min**	**Max**
	79	**37**	**100**

Station : STN29247
Parameter : Precipitation, mm
Month, Year : December, 2021

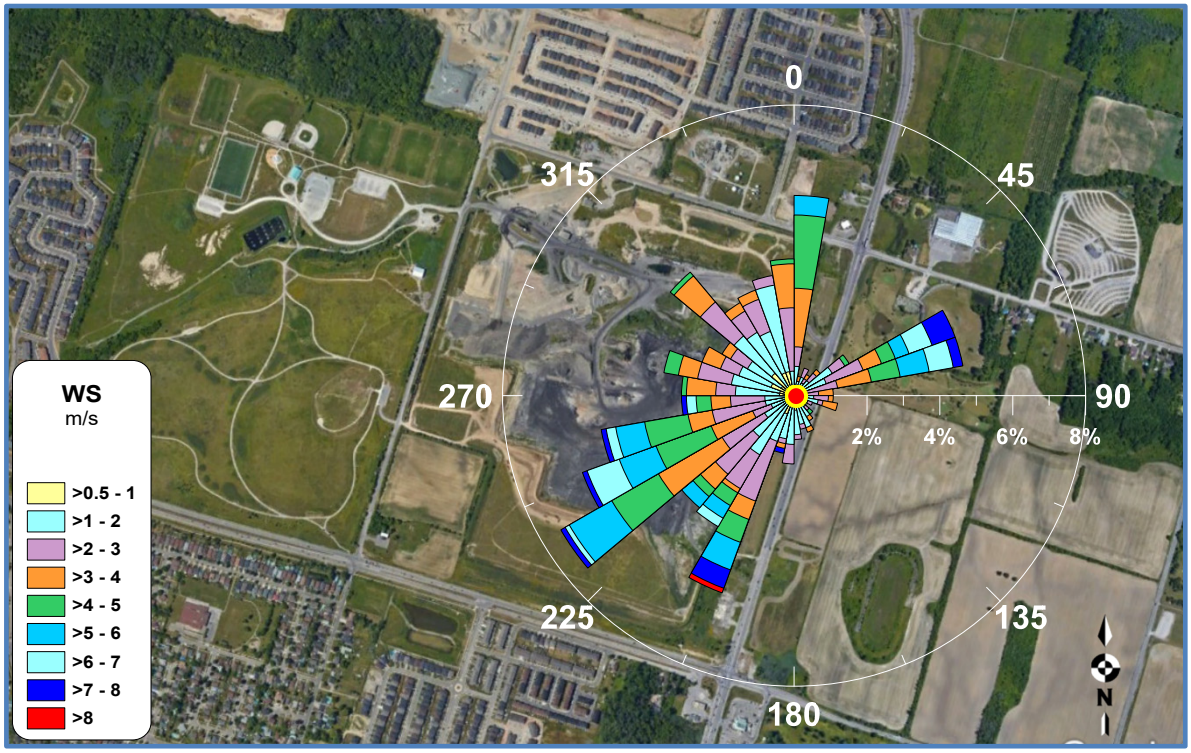
GFL
Monthly Data Matrix

	Hour (Eastern Standard Time)																								
Day	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Total**	**Max**
01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
02	0.2	-	0.1	-	-	-	0.7	-	0.2	0.1	0.9	1.7	-	0.2	-	1.3	-	-	-	-	-	-	-	-	5.4	1.7
03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	0.9	3.5	6.3	5.4	2.0	19.0	6.3
06	0.6	0.5	-	-	0.6	0.1	0.1	-	1.3	0.6	-	0.1	-	-	0.2	-	0.1	-	0.4	-	0.3	-	0.1	0.2	5.2	1.3
07	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	0.1
08	-	-	-	0.1	0.1	-	0.1	-	-	0.1	0.3	0.2	-	0.1	-	-	-	-	-	-	-	-	-	-	1.0	0.3
09	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	0.1	-	-	-	-	0.2	-	-	-	-	0.6	0.3
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
11	0.2	0.9	-	2.0	7.6	4.1	-	0.1	-	-	-	-	0.1	0.1	-	-	-	-	-	-	-	-	-	-	15.1	7.6
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
15	-	-	-	-	-	-	-	-	-	0.2	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	0.3	0.2
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
18	-	-	-	-	-	-	-	-	-	0.5	1.2	0.8	0.6	0.7	0.5	0.4	0.4	-	-	-	-	0.2	-	-	5.3	1.2
19	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	0.1
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	0.7	0.8	0.1	-	0.8	0.1	3.2	0.8
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
25	-	-	0.2	0.7	0.6	0.6	1.2	0.6	0.2	-	-	-	0.3	1.8	0.3	0.9	-	-	-	-	-	-	-	-	7.4	1.8
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
27	-	-	-	-	-	-	-	-	-	-	0.1	-	-	0.1	-	-	0.2	-	-	-	-	-	-	-	0.4	0.2
28	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	0.3	0.3	0.5	0.3	1.6	0.5
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	0.0

Total Hours	**744**
Number of Valid Hours	**744**
Percent Valid Data	**100.0 %**

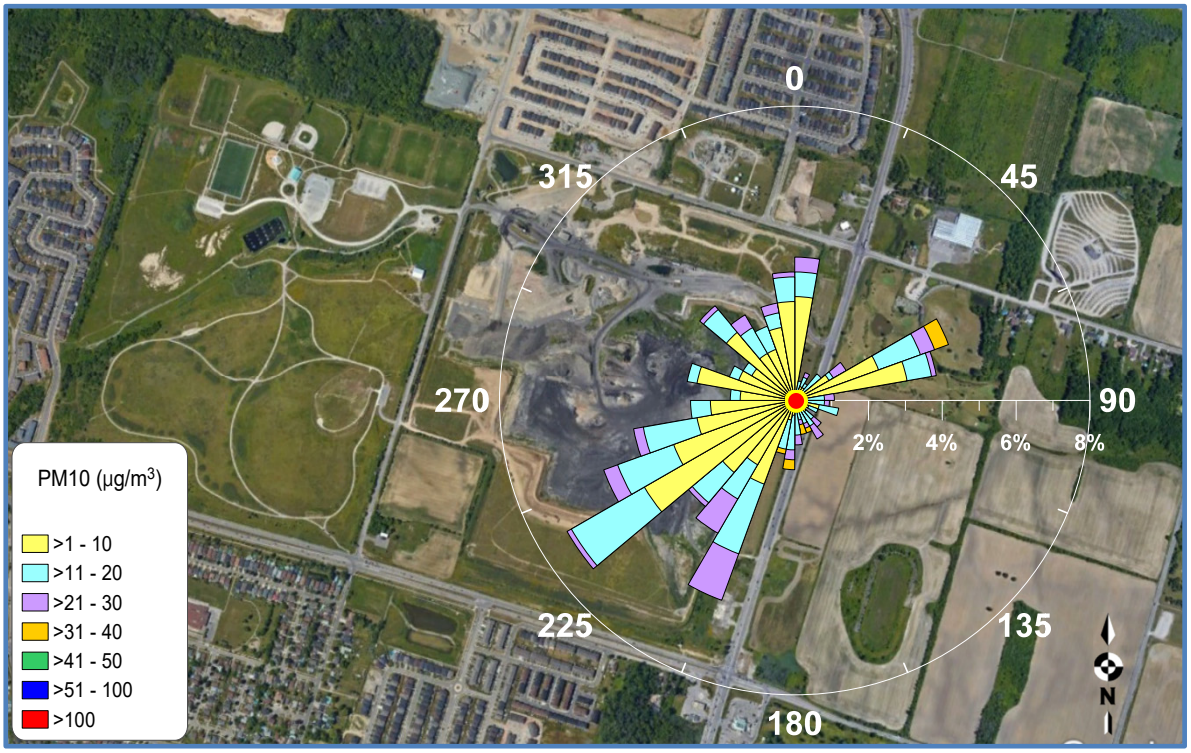
Monthly :	**Total**	**Max**
	64.7	**7.6**

January Wind Rose - Figure 1



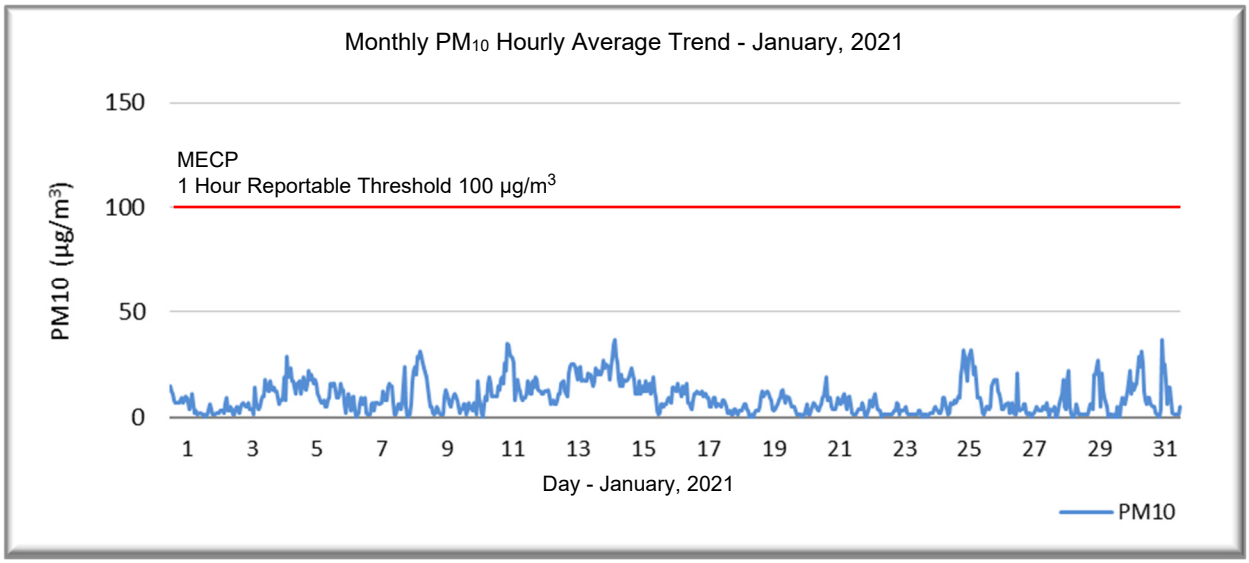
Wind Rose January, 2021		By : BB	**Figure 1**	ROTEK
	True North	Approx. Scale :	1:22000	
Terrapure PM_{10} Monitoring Program		Date Revised :	05 Feb, 2021	

January PM_{10} Pollution Rose - Figure 2

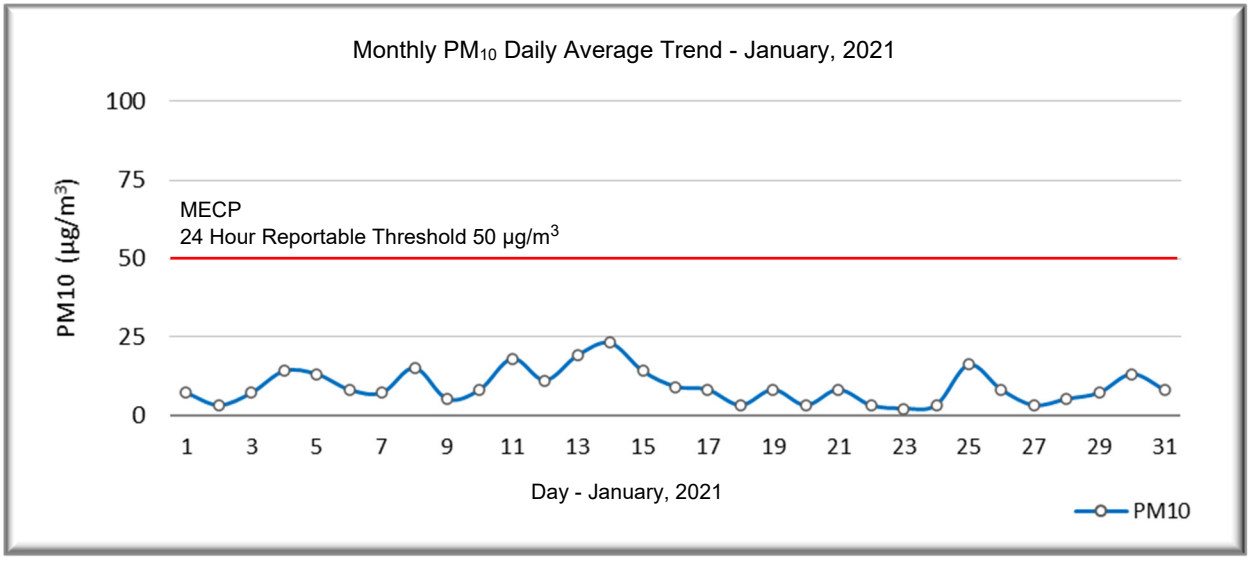


PM_{10} Pollution Rose January, 2021		By : BB	**Figure 2**	ROTEK
	True North	Approx. Scale :	1:22000	
Terrapure PM_{10} Monitoring Program		Date Revised :	05 Feb, 2021	

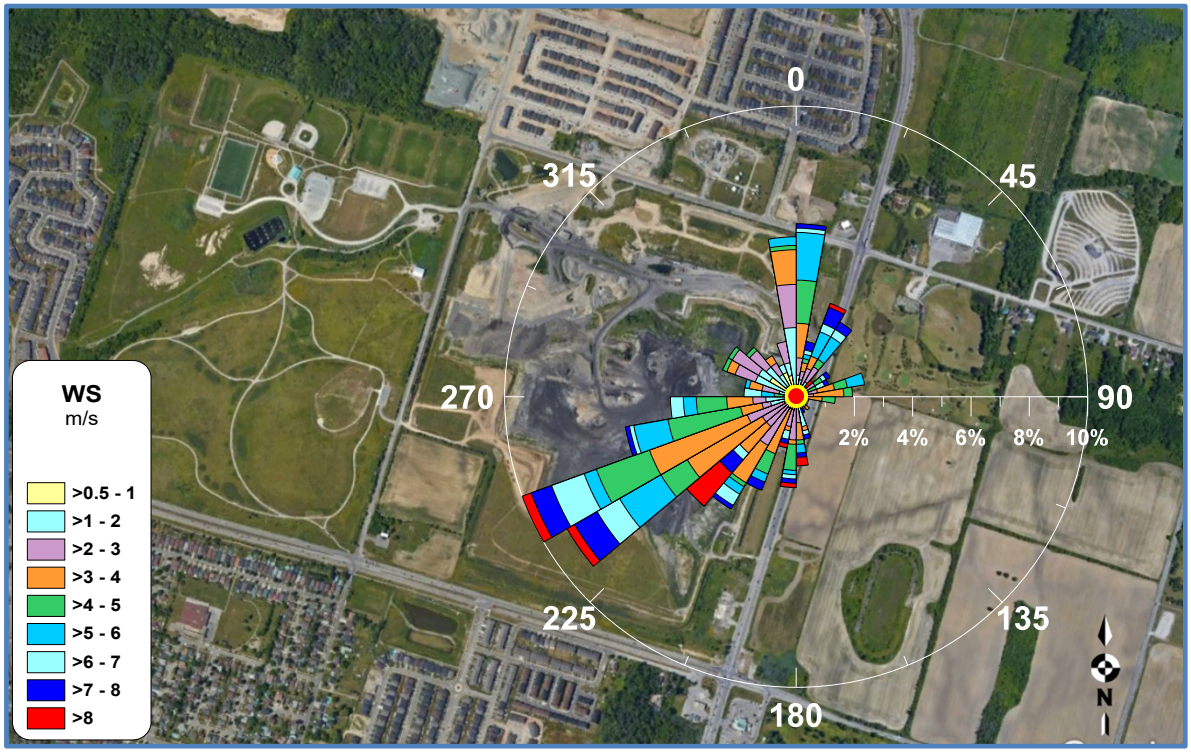
January PM_{10} Hourly Average Trend Graph - Figure 3



January PM_{10} Daily Average Trend Graph - Figure 4

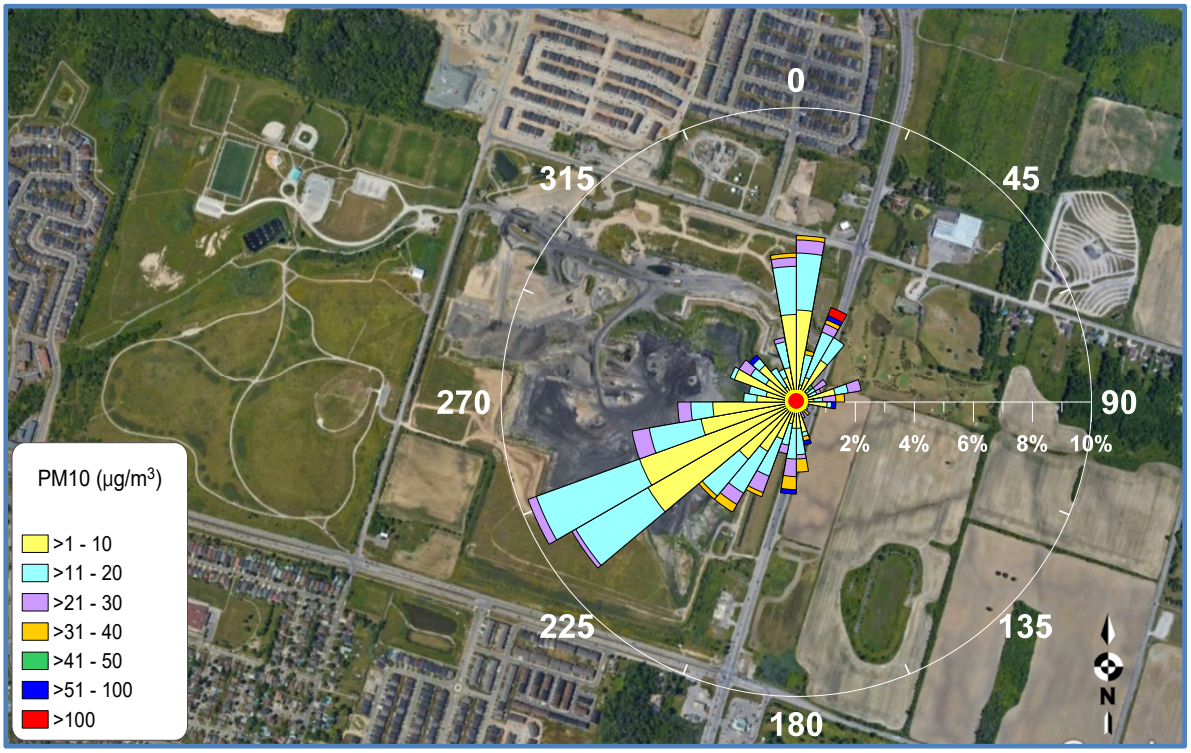


February Wind Rose - Figure 5



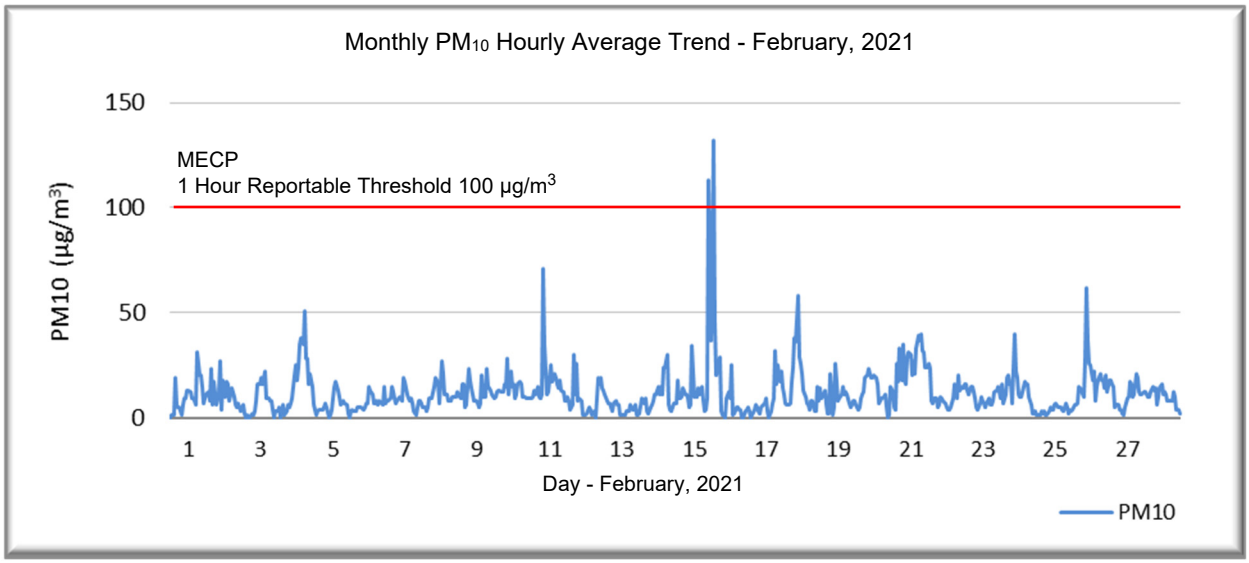
Wind Rose February, 2021	↑	By : BB	**Figure 5**	ROTEK
	True North	Approx. Scale :	1:22000	
Terrapure PM_{10} Monitoring Program		Date Revised :	08 Mar, 2021	

February PM_{10} Pollution Rose - Figure 6

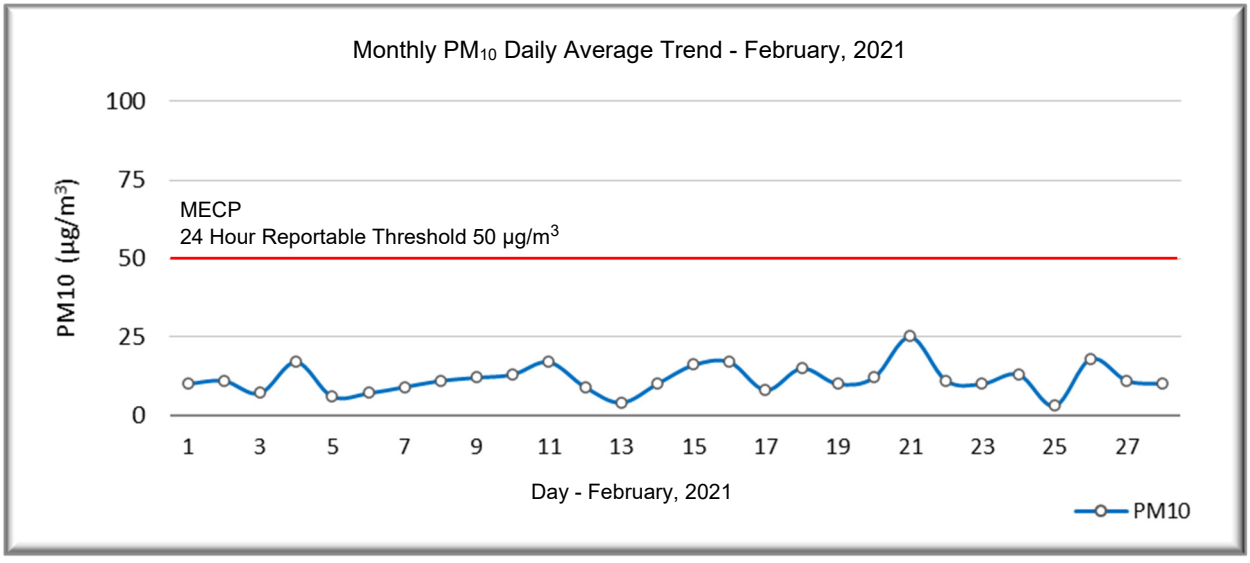


PM_{10} Pollution Rose February, 2021	↑	By : BB	**Figure 6**	ROTEK
	True North	Approx. Scale :	1:22000	
Terrapure PM_{10} Monitoring Program		Date Revised :	08 Mar, 2021	

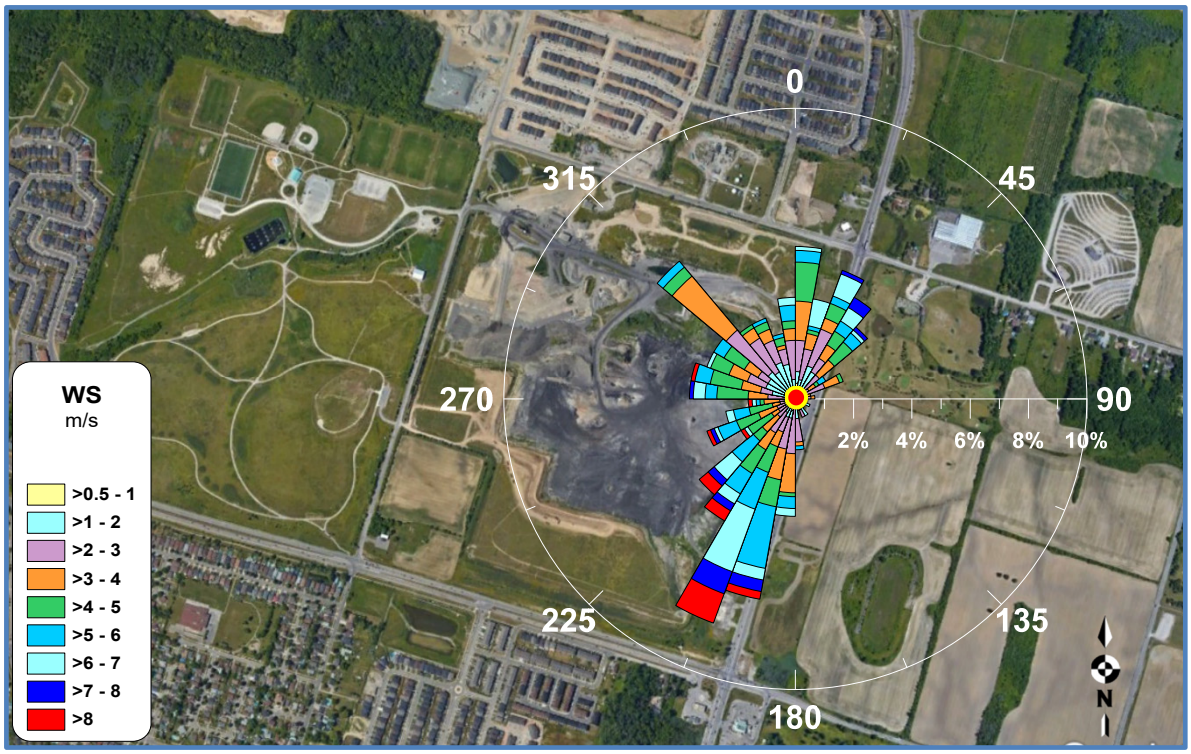
February PM_{10} Hourly Average Trend Graph - Figure 7



February PM_{10} Daily Average Trend Graph - Figure 8

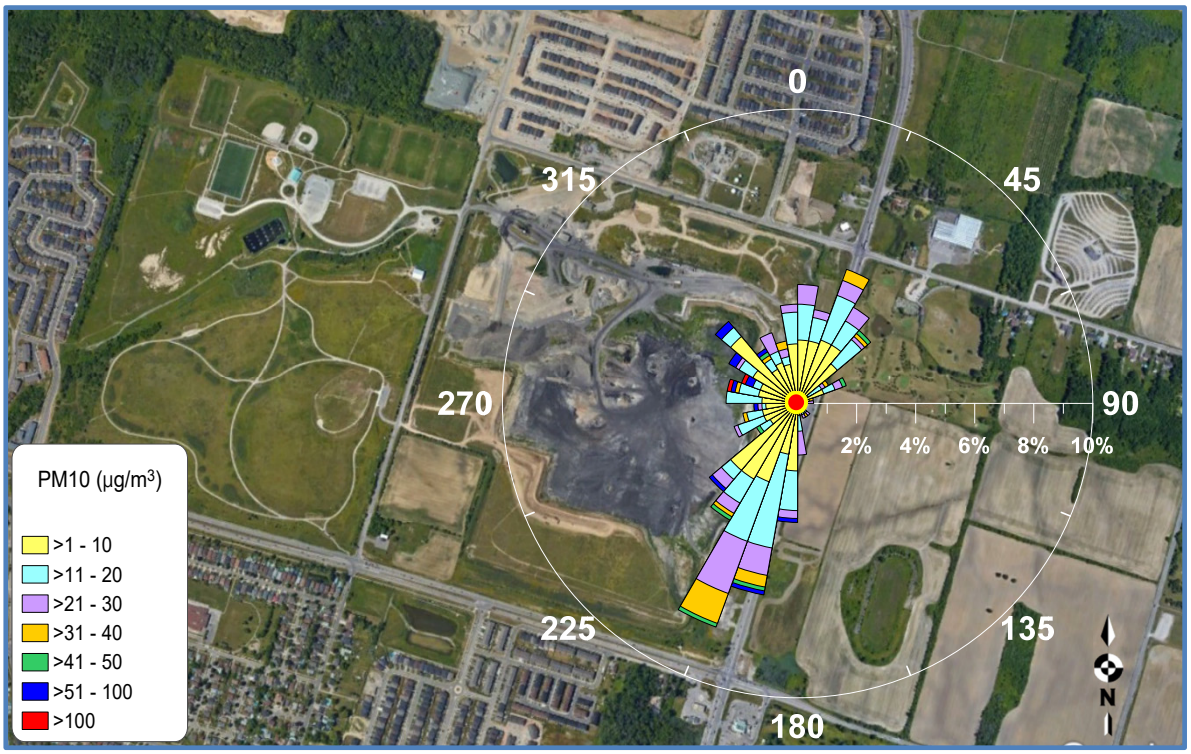


March Wind Rose - Figure 9



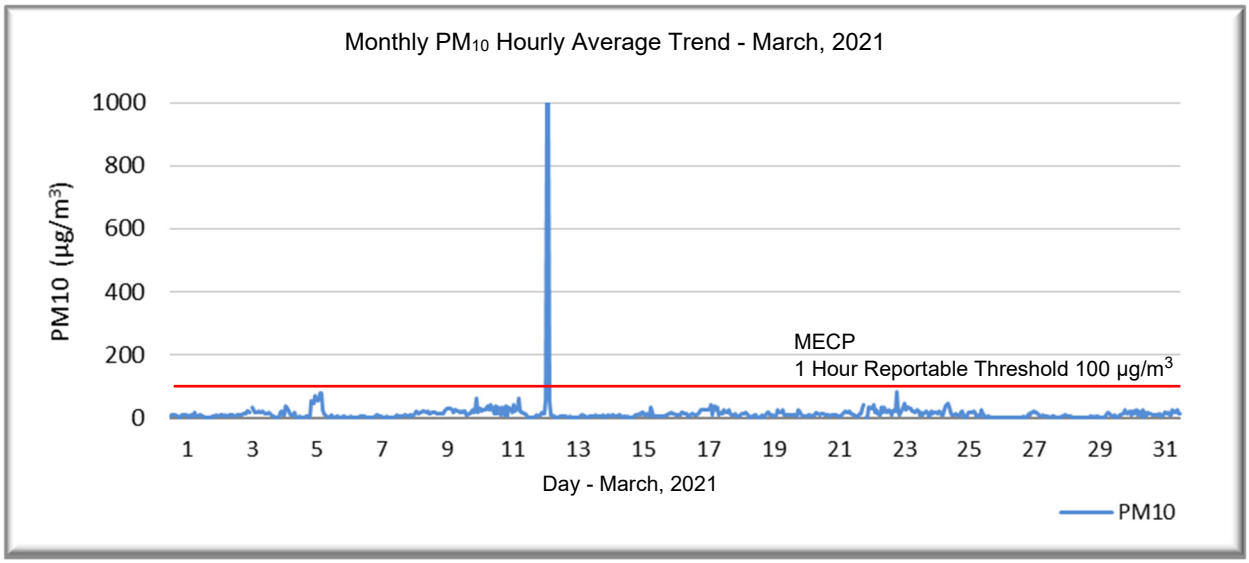
Wind Rose March, 2021	↑	By : BB	**Figure 9**	ROTEK
	True North	Approx. Scale :	1:22000	
Terrapure PM_{10} Monitoring Program		Date Revised :	05 Apr, 2021	

March PM_{10} Pollution Rose - Figure 10

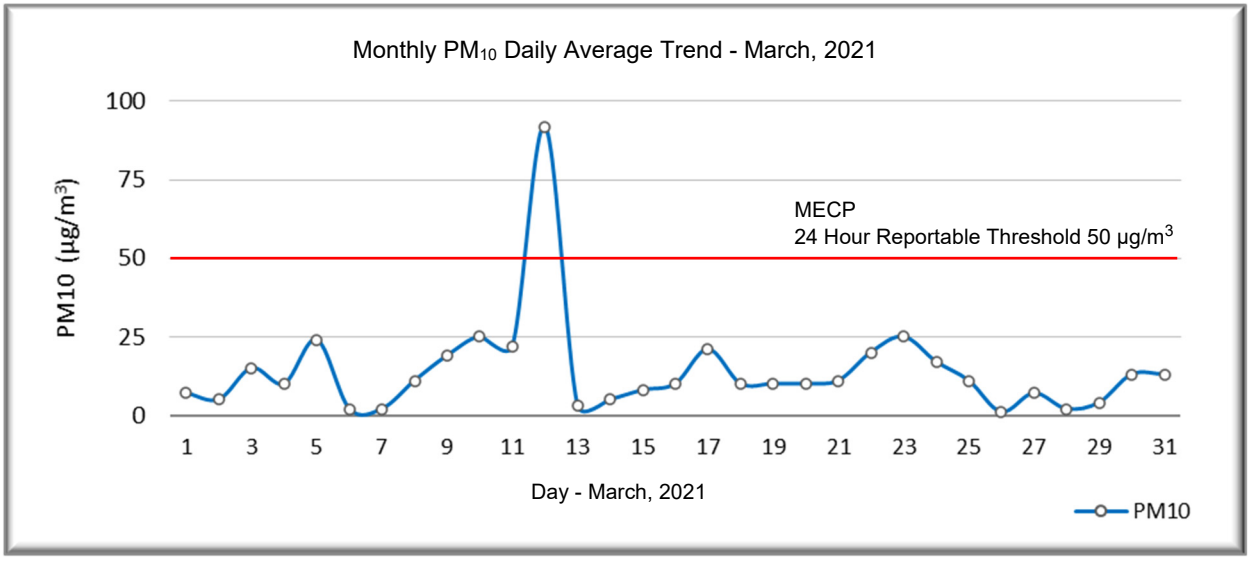


PM_{10} Pollution Rose March, 2021	↑	By : BB	**Figure 10**	ROTEK
	True North	Approx. Scale :	1:22000	
Terrapure PM_{10} Monitoring Program		Date Revised :	05 Apr, 2021	

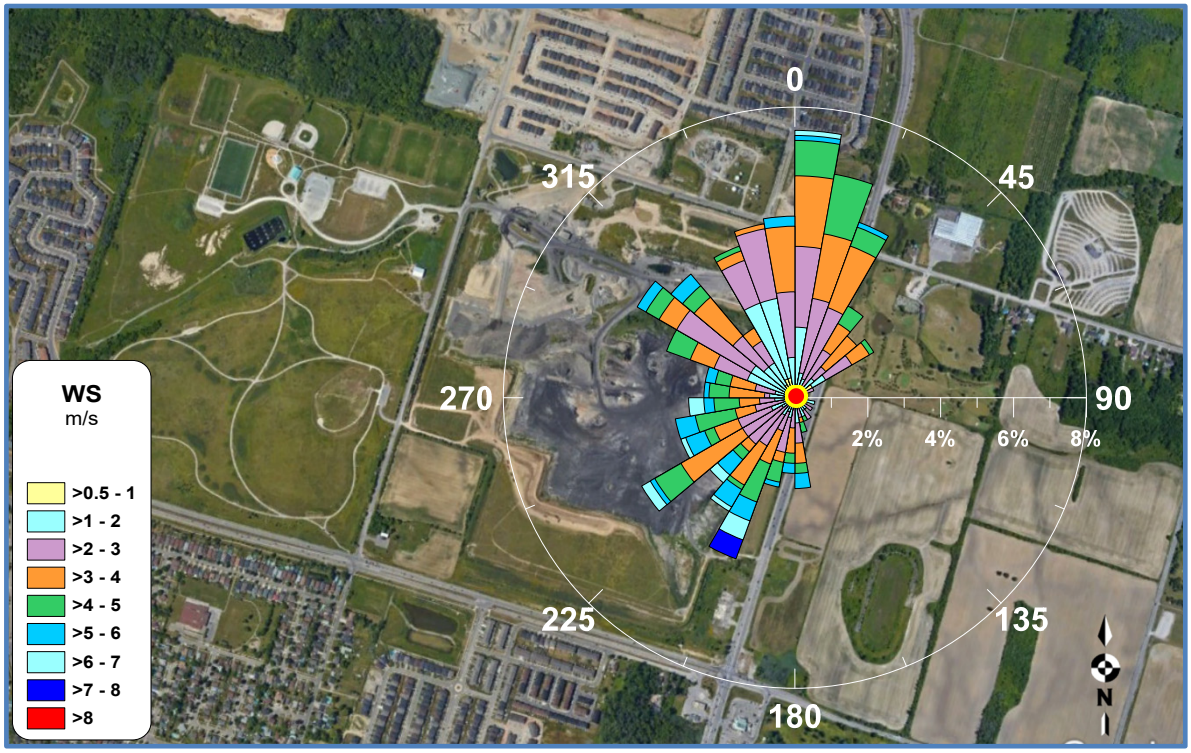
March PM_{10} Hourly Average Trend Graph - Figure 11



March PM_{10} Daily Average Trend Graph - Figure 12

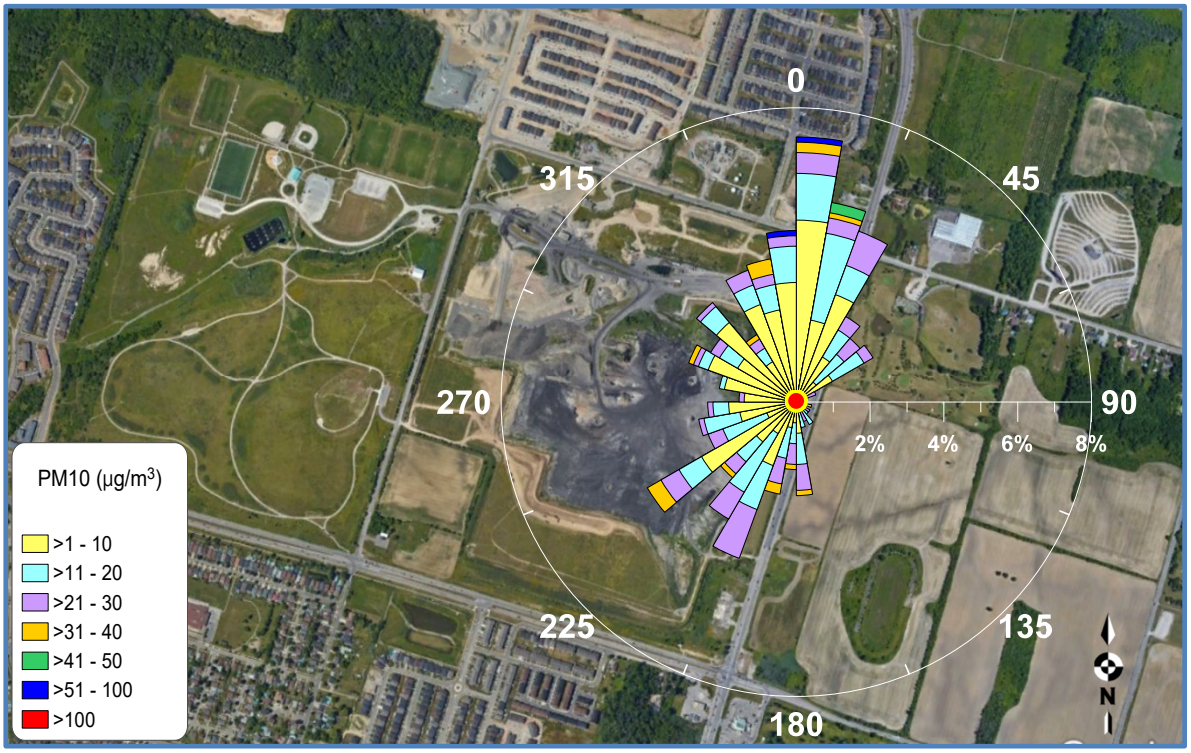


April Wind Rose - Figure 13



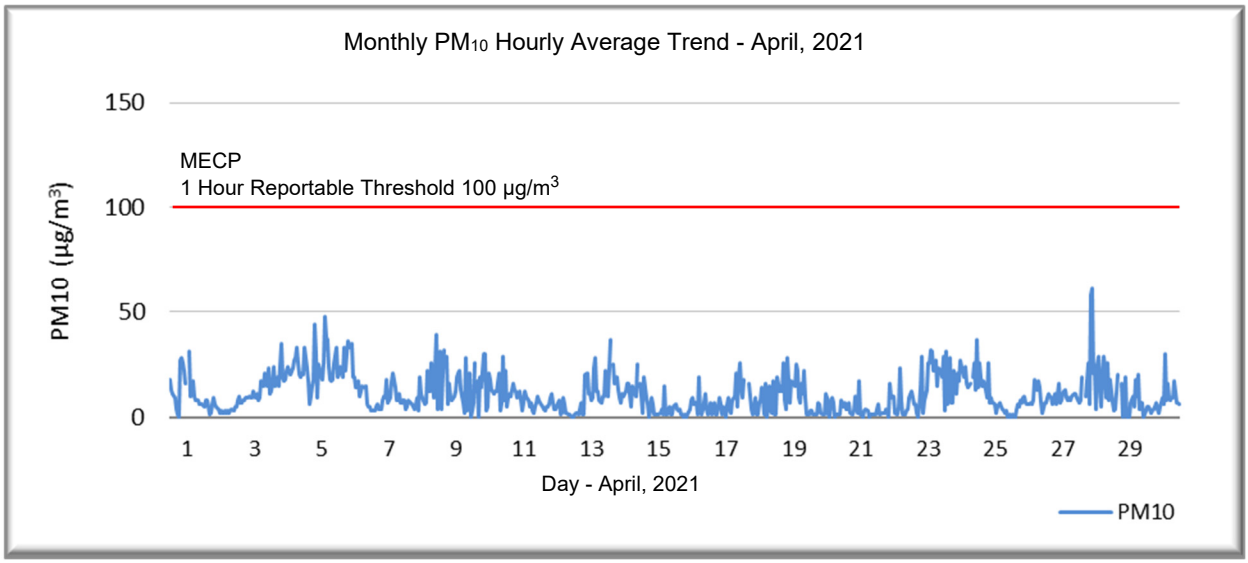
Wind Rose April, 2021		By : BB	**Figure 13**	ROTEK
	True North	Approx. Scale :	1:22000	
Terrapure PM_{10} Monitoring Program		Date Revised :	02 May, 2021	

April PM_{10} Pollution Rose - Figure 14

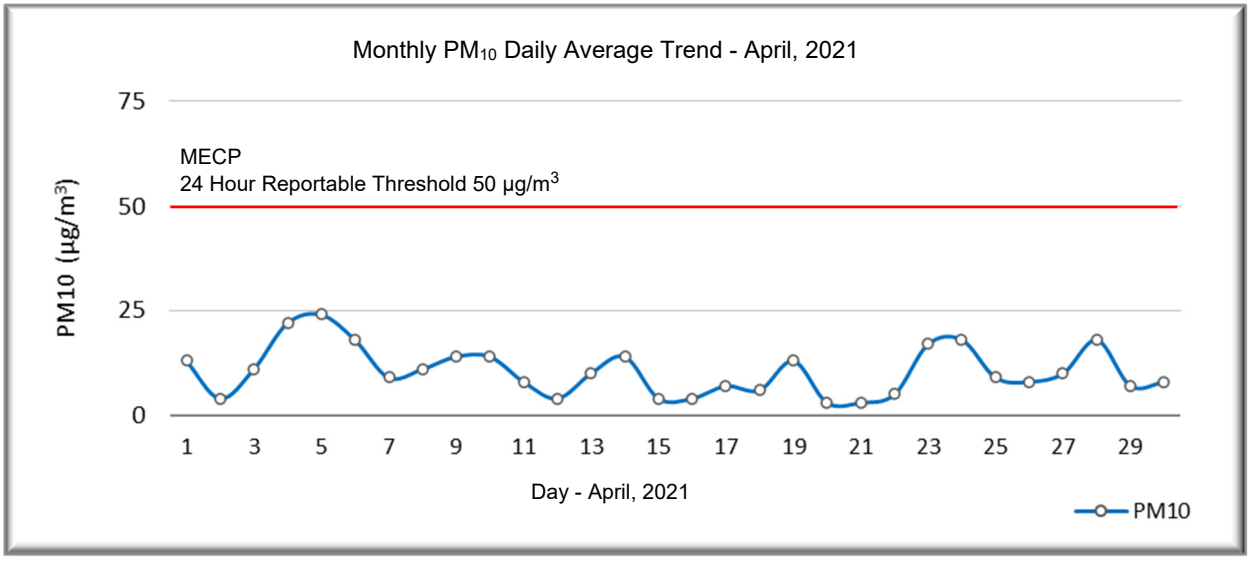


PM_{10} Pollution Rose April, 2021		By : BB	**Figure 14**	ROTEK
	True North	Approx. Scale :	1:22000	
Terrapure PM_{10} Monitoring Program		Date Revised :	02 May, 2021	

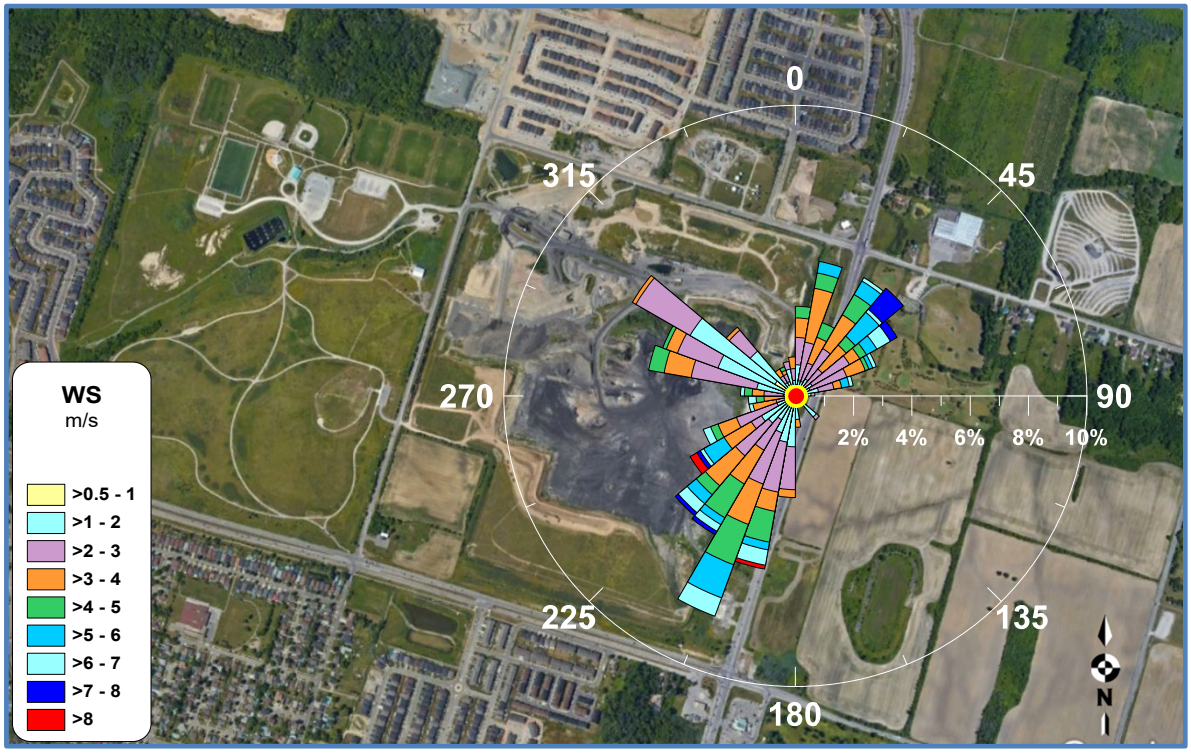
April PM_{10} Hourly Average Trend Graph - Figure 15



April PM_{10} Daily Average Trend Graph - Figure 16

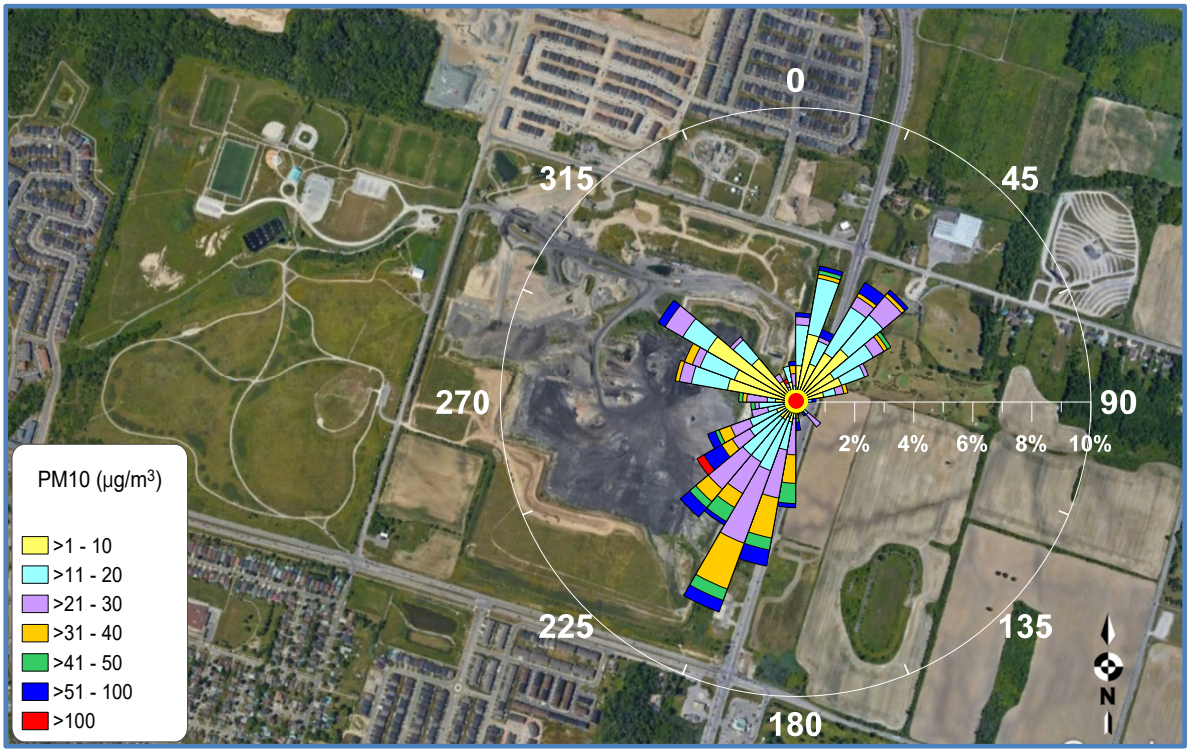


May Wind Rose - Figure 17



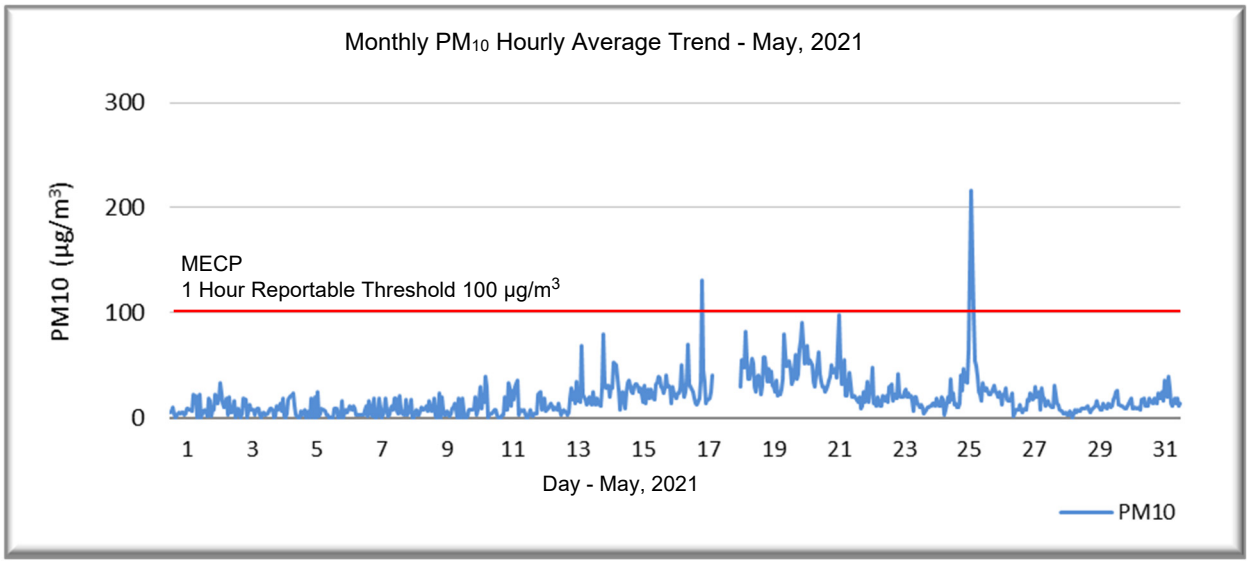
Wind Rose May, 2021	↑	By : BB	**Figure 17**	ROTEK
	True North	Approx. Scale :	1:22000	
Terrapure PM_{10} Monitoring Program		Date Revised :	01 June, 2021	

May PM_{10} Pollution Rose - Figure 18

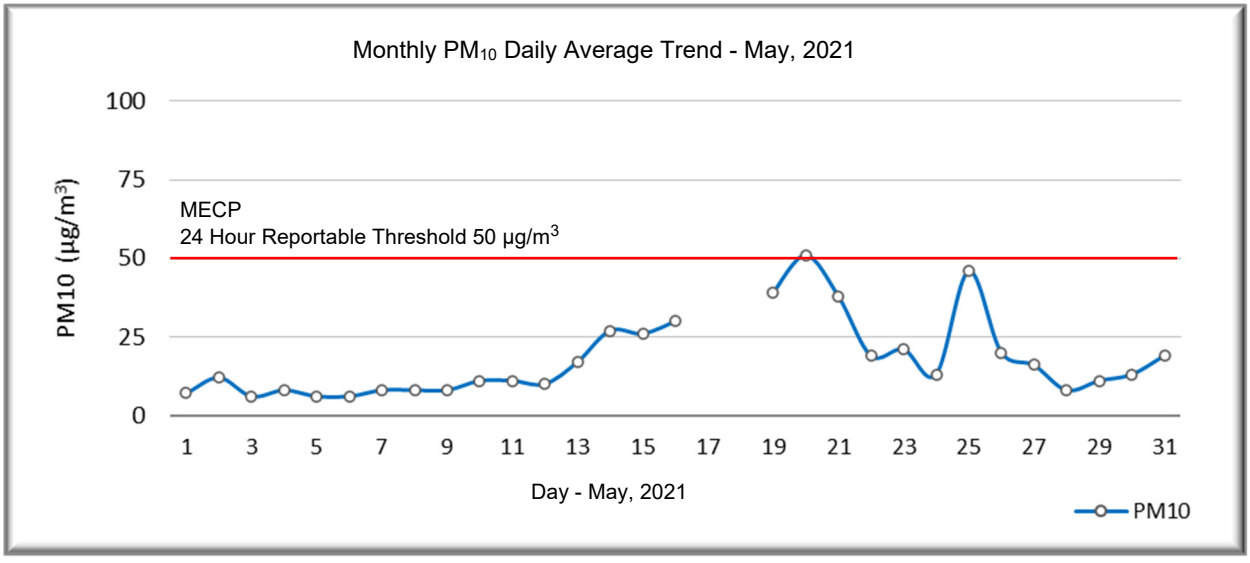


PM_{10} Pollution Rose May, 2021	↑	By : BB	**Figure 18**	ROTEK
	True North	Approx. Scale :	1:22000	
Terrapure PM_{10} Monitoring Program		Date Revised :	01 June, 2021	

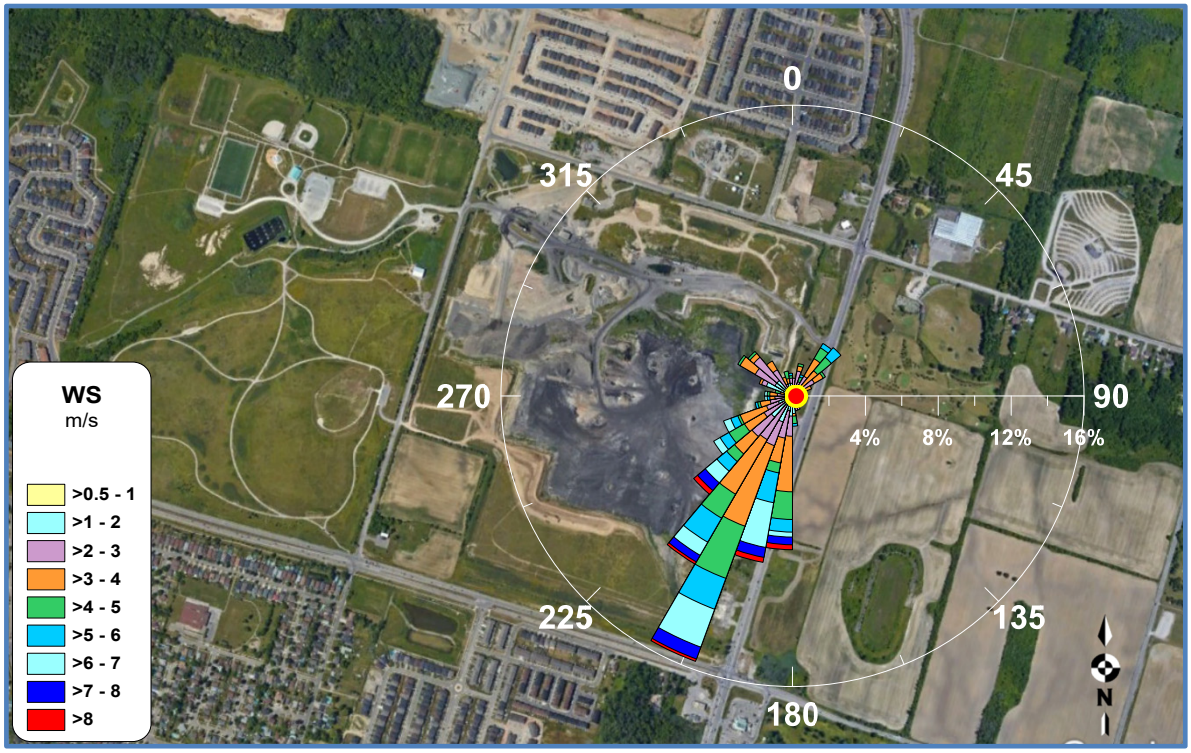
May PM_{10} Hourly Average Trend Graph - Figure 19



May PM_{10} Daily Average Trend Graph - Figure 20

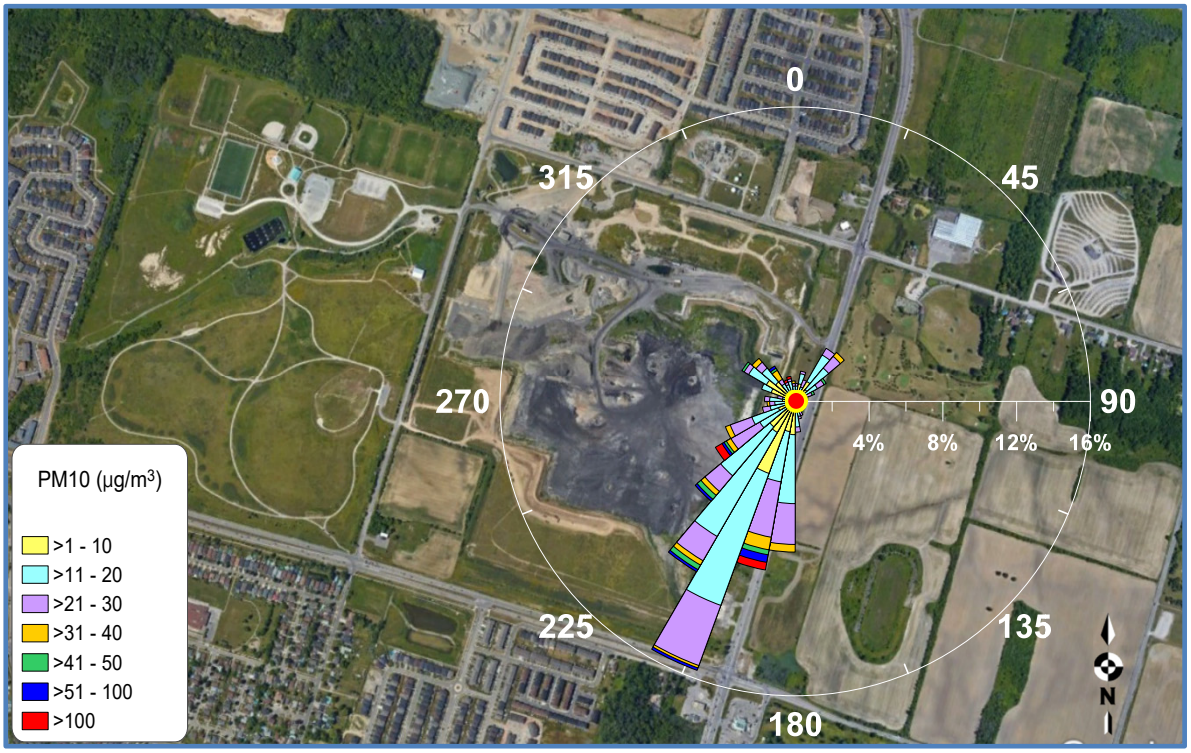


June Wind Rose - Figure 21



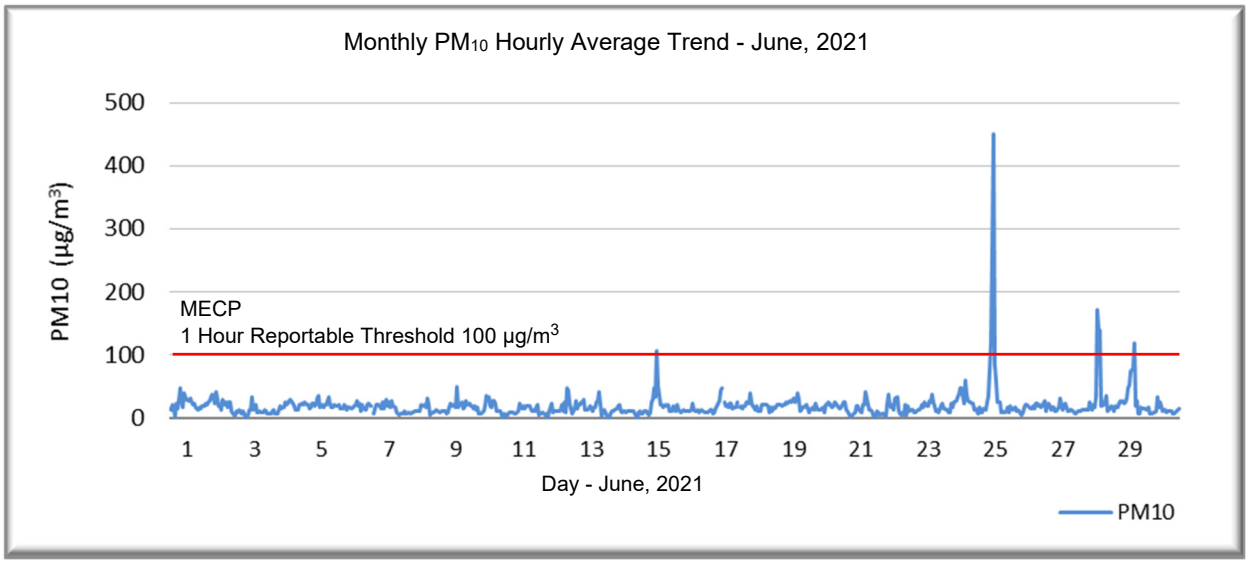
Wind Rose June, 2021	↑ True North	By : BB	**Figure 21**	ROTEK
Terrapure PM_{10} Monitoring Program		Approx. Scale :	1:22000	
		Date Revised :	06 July, 2021	

June PM_{10} Pollution Rose - Figure 22

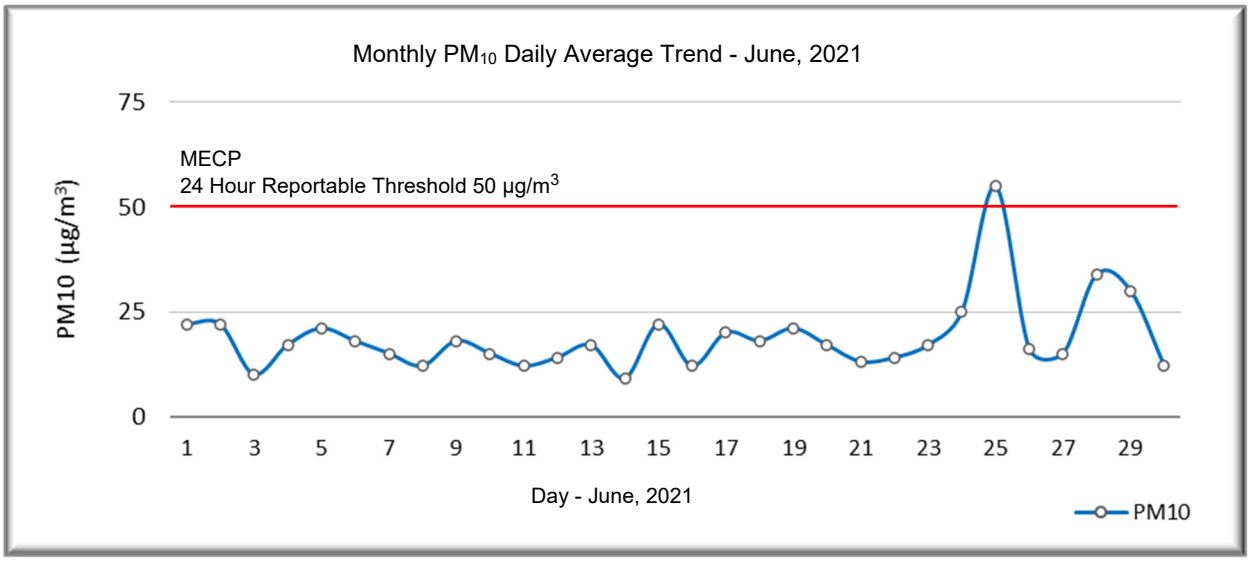


PM_{10} Pollution Rose June, 2021	↑ True North	By : BB	**Figure 22**	ROTEK
Terrapure PM_{10} Monitoring Program		Approx. Scale :	1:22000	
		Date Revised :	06 July, 2021	

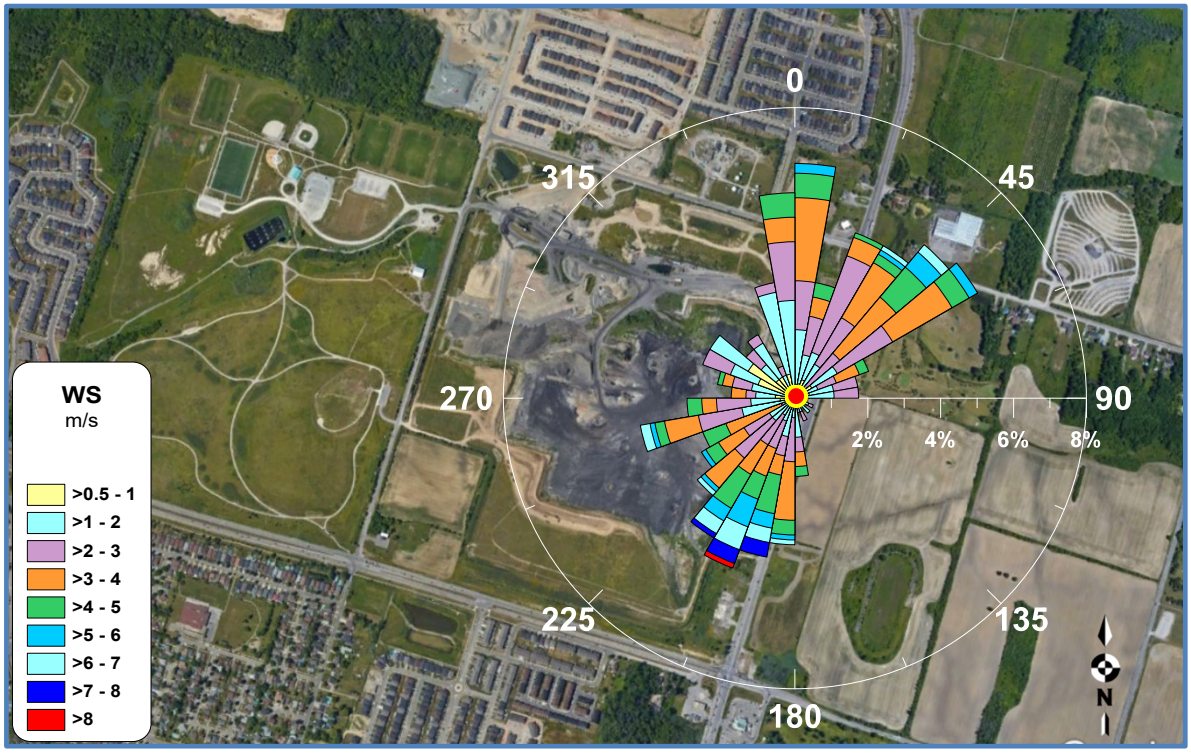
June PM_{10} Hourly Average Trend Graph - Figure 23



June PM_{10} Daily Average Trend Graph - Figure 24

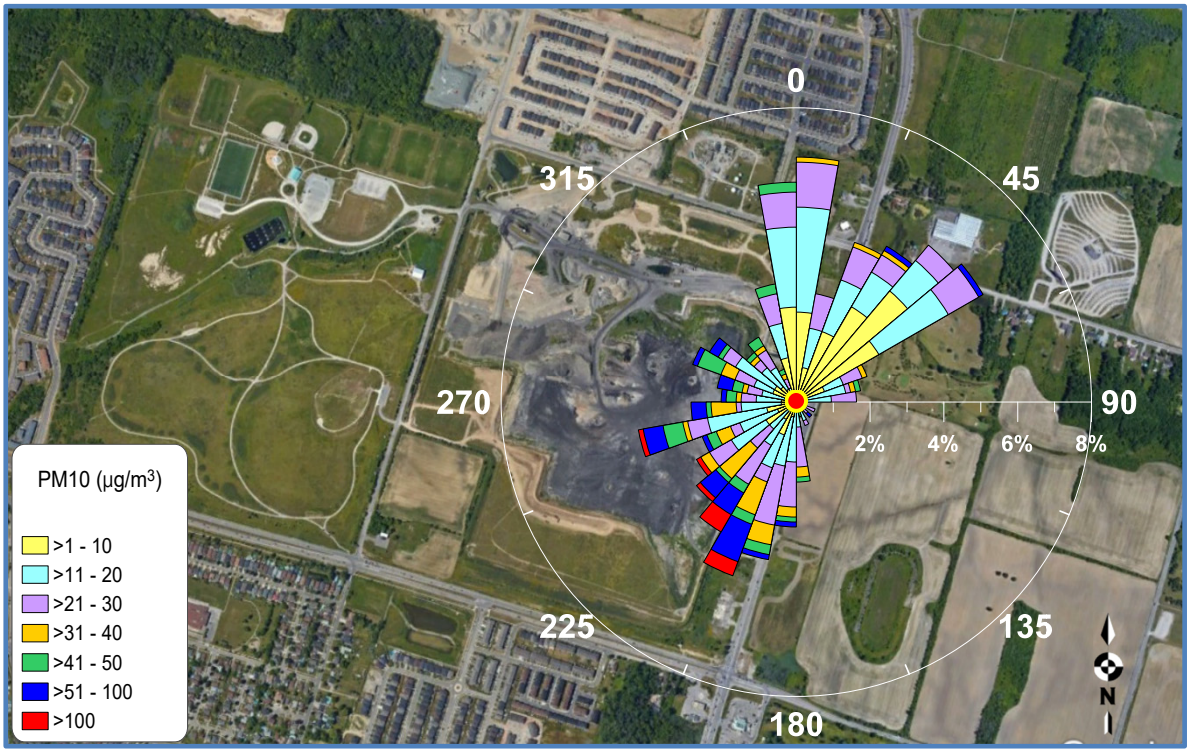


July Wind Rose - Figure 25



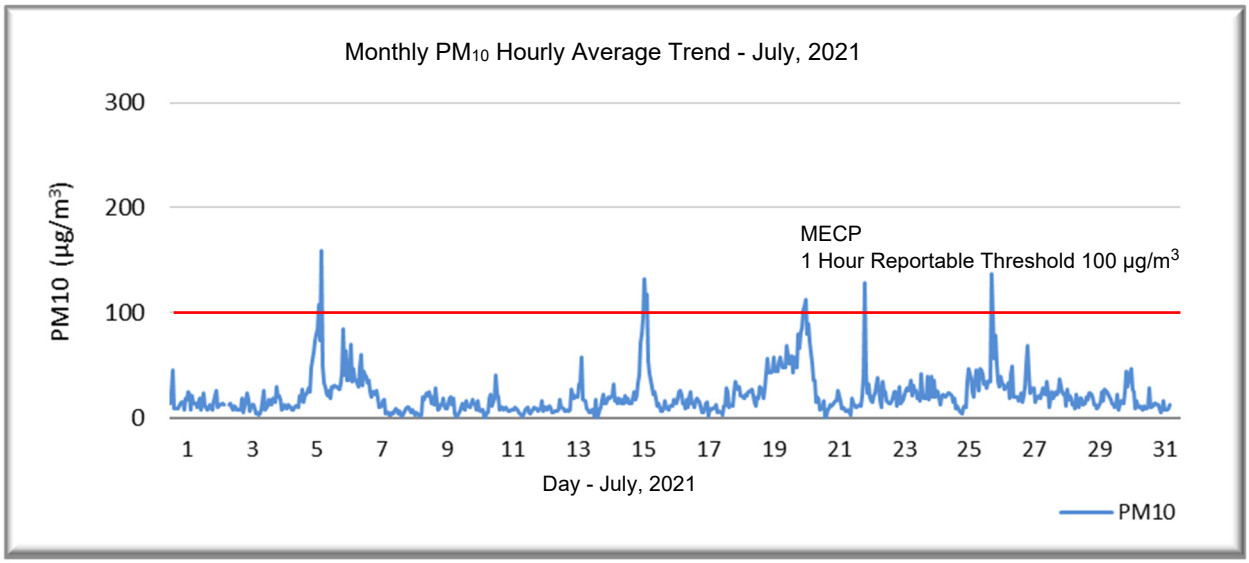
Wind Rose July, 2021	↑	By : BB	**Figure 25**	ROTEK
	True North	Approx. Scale :	1:22000	
Terrapure PM_{10} Monitoring Program		Date Revised :	09 Aug, 2021	

July PM_{10} Pollution Rose - Figure 26

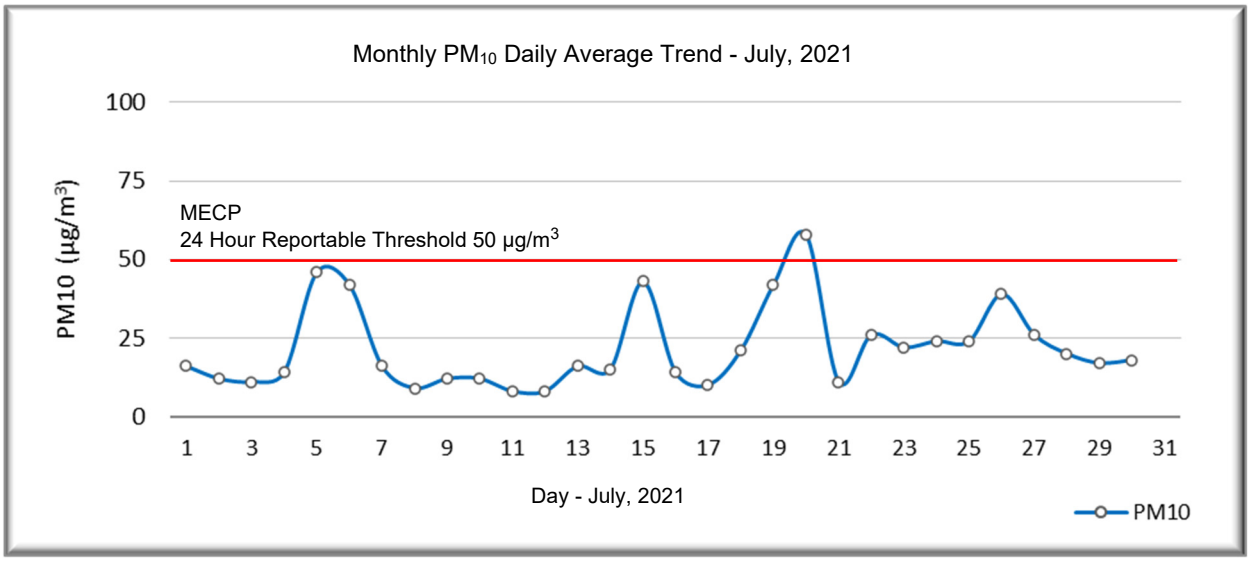


PM_{10} Pollution Rose July, 2021	↑	By : BB	**Figure 26**	ROTEK
	True North	Approx. Scale :	1:22000	
Terrapure PM_{10} Monitoring Program		Date Revised :	09 Aug, 2021	

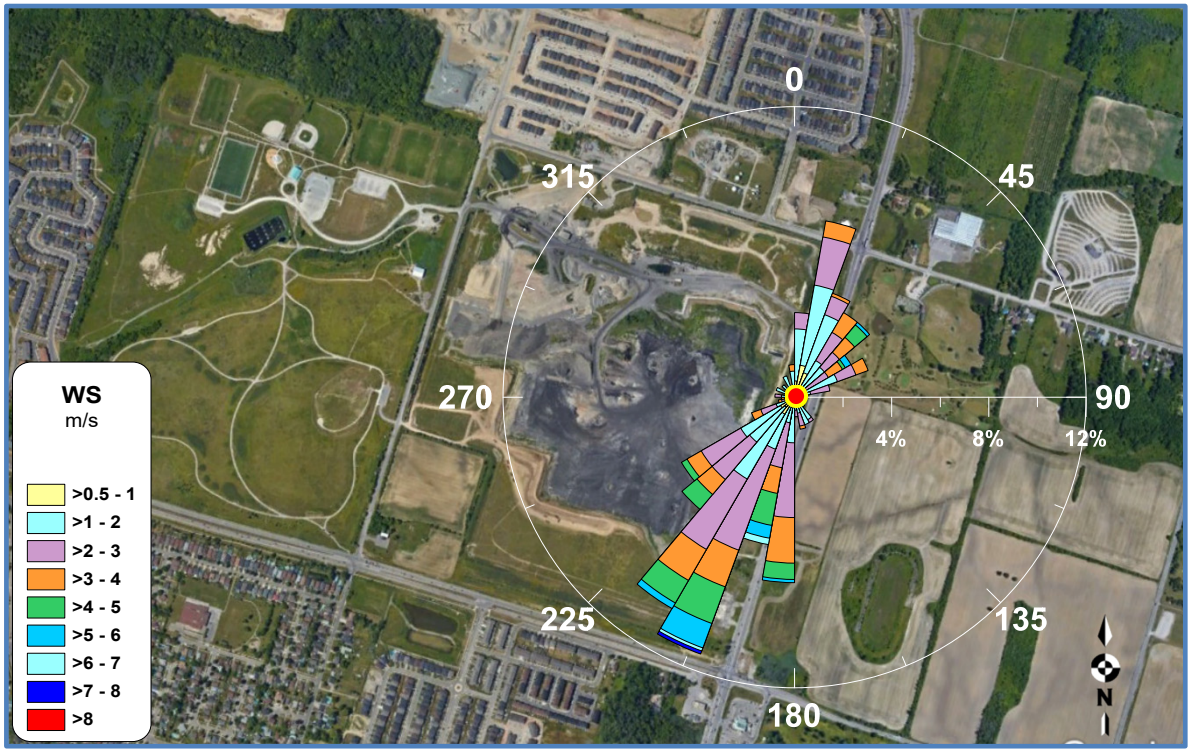
July PM_{10} Hourly Average Trend Graph - Figure 27



July PM_{10} Daily Average Trend Graph - Figure 28

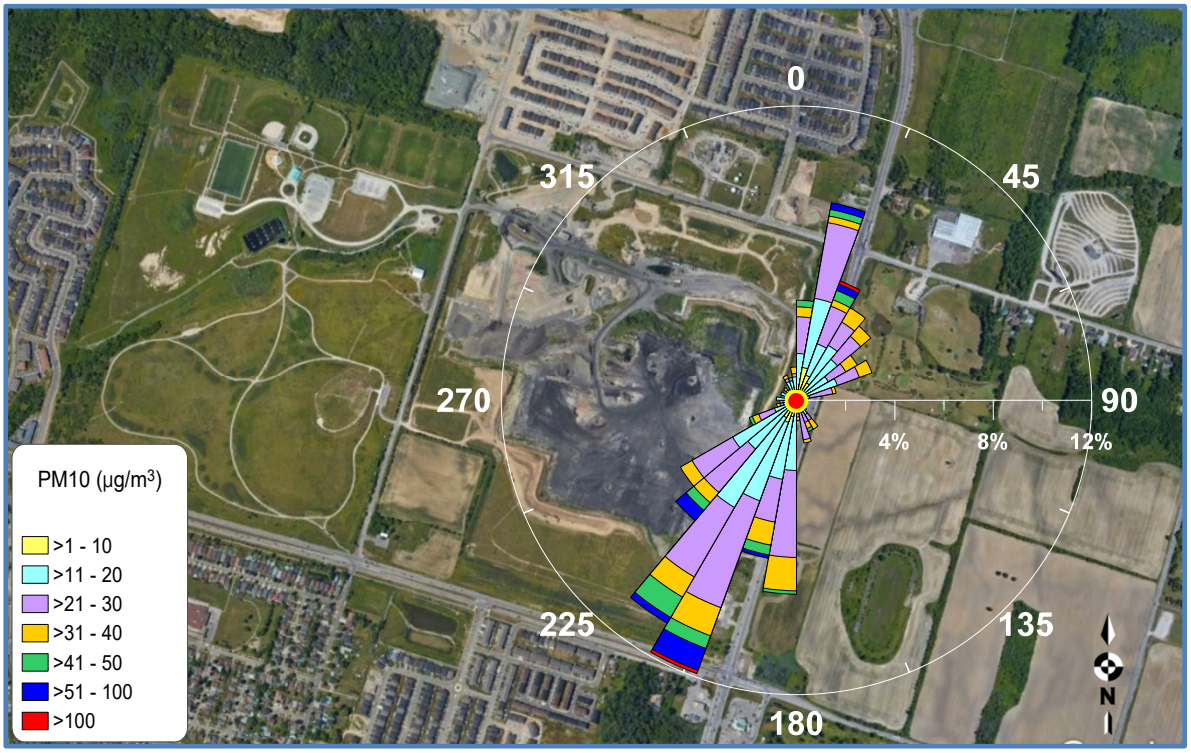


August Wind Rose - Figure 29



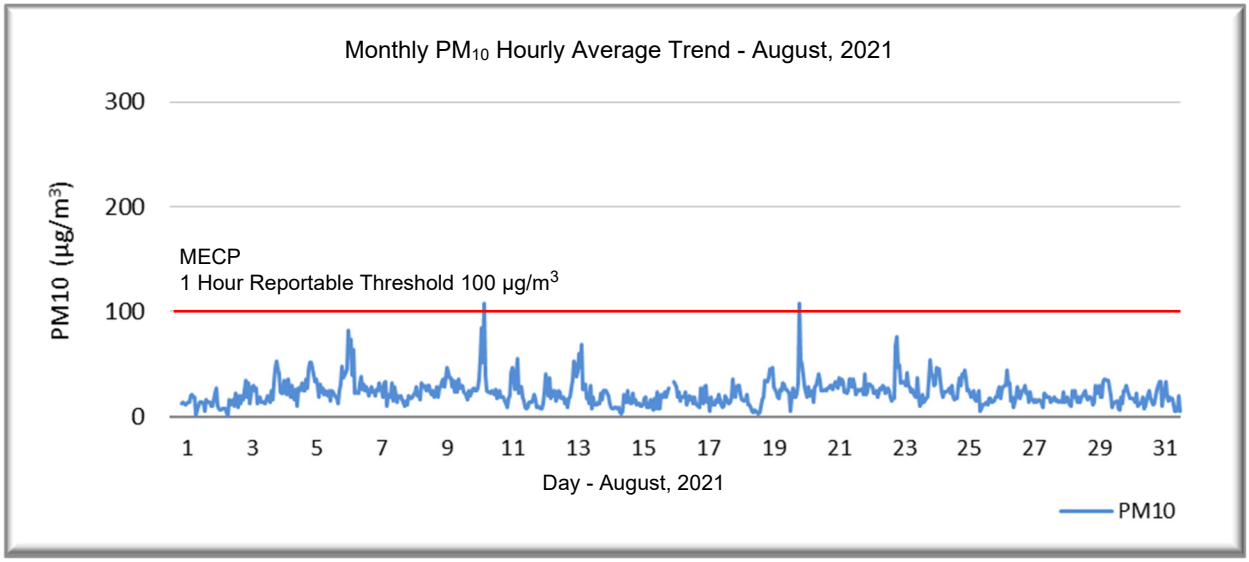
Wind Rose August, 2021	↑	By : BB	**Figure 29**	ROTEK
	True North	Approx. Scale :	1:22000	
GFL PM_{10} Monitoring Program		Date Revised :	15 Sep, 2021	

August PM_{10} Pollution Rose - Figure 30

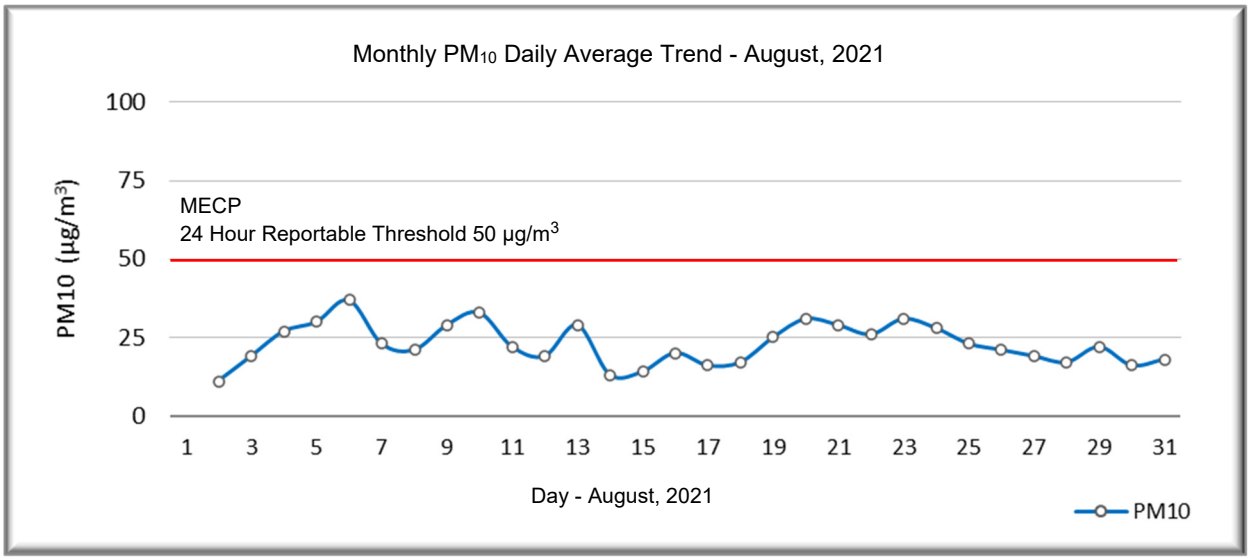


PM_{10} Pollution Rose August, 2021	↑	By : BB	**Figure 30**	ROTEK
	True North	Approx. Scale :	1:22000	
GFL PM_{10} Monitoring Program		Date Revised :	15 Sep, 2021	

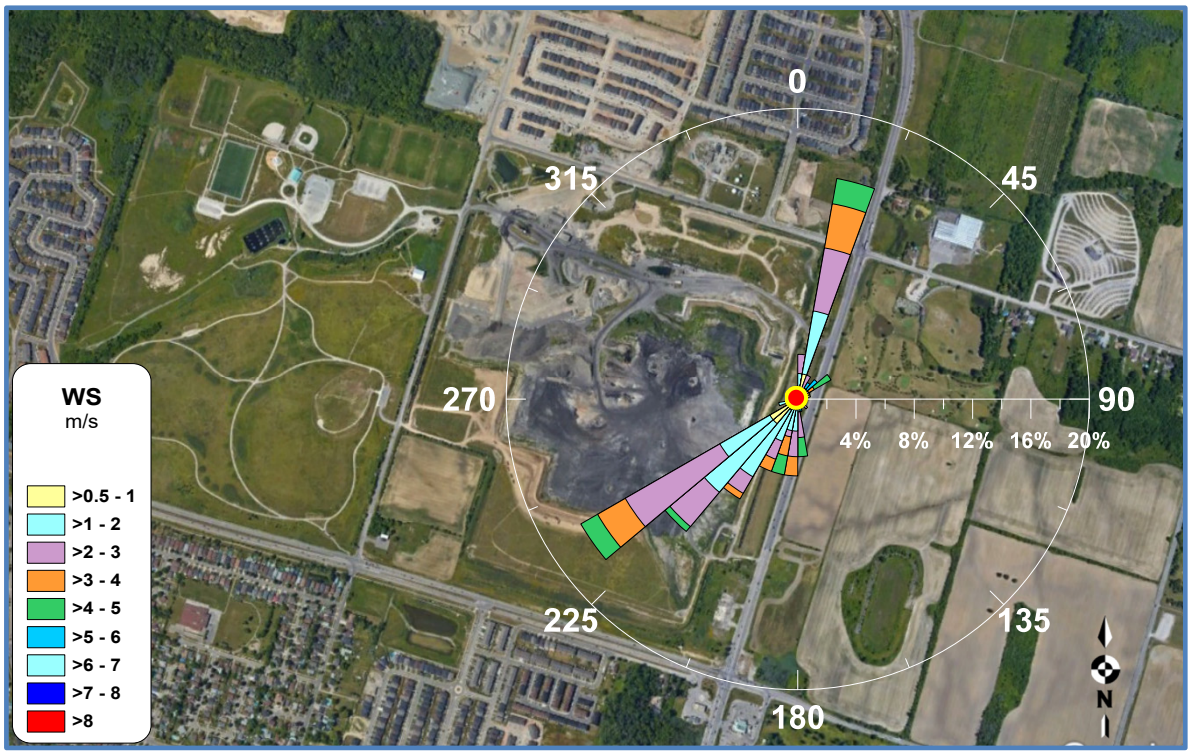
August PM_{10} Hourly Average Trend Graph - Figure 31



August PM_{10} Daily Average Trend Graph - Figure 32



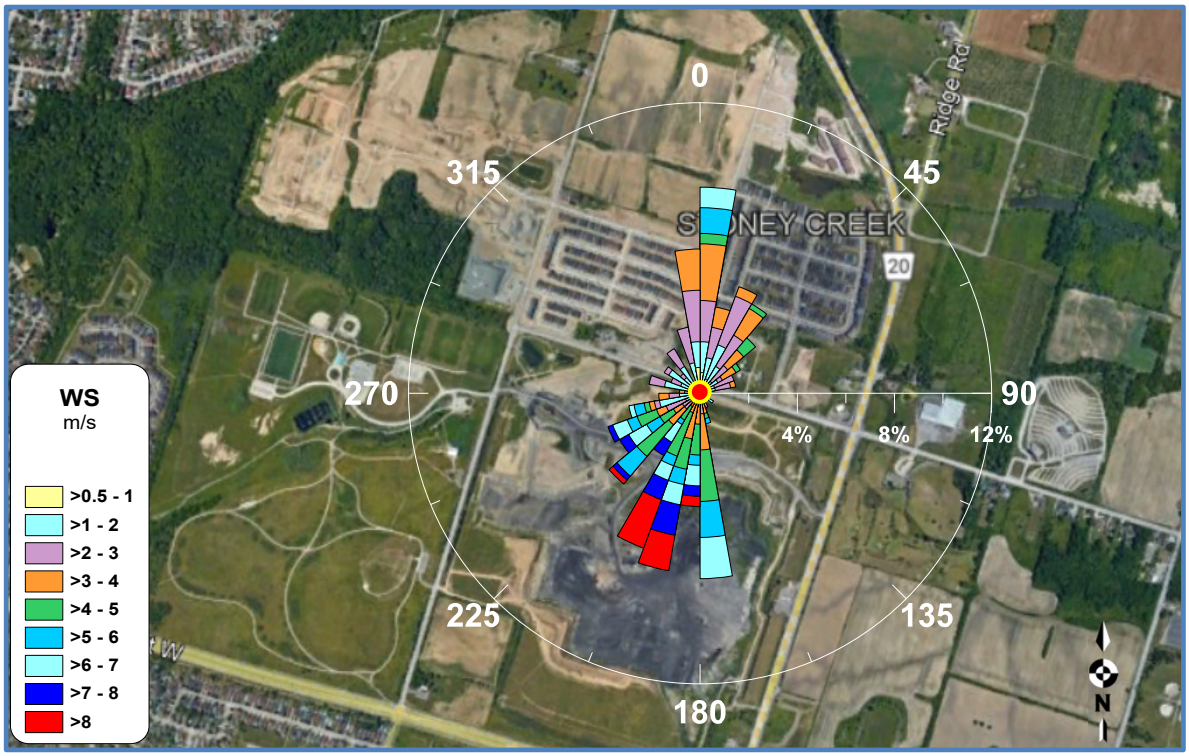
September Wind Rose - 29147 - Figure 33



Wind Rose - 29147 **1st - 10th September, 2021**		By : BB	**Figure 33**
	True North	Approx. Scale :	1:22000
GFL PM_{10} Monitoring Program		Date Revised :	15 Oct, 2021

ROTEK

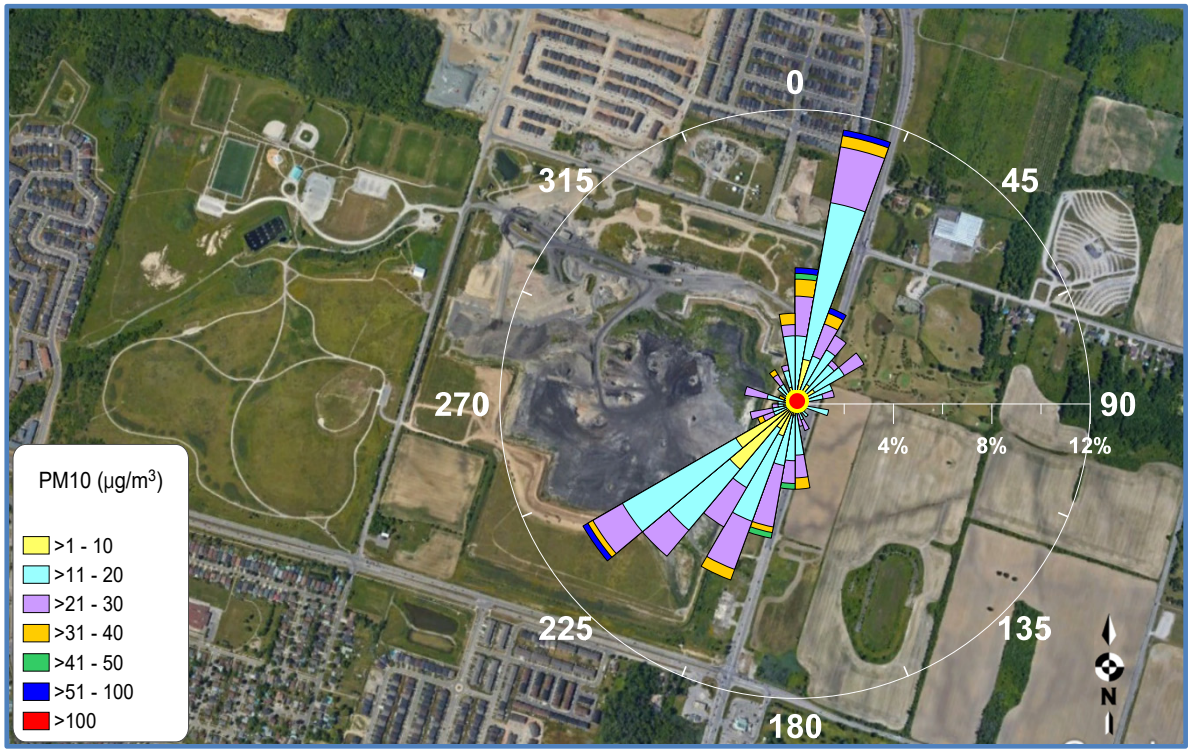
September Wind Rose - 29247- Figure 34



Wind Rose - 29247 **11th - 30th September, 2021**		By : BB	**Figure 34**
	True North	Approx. Scale :	1:22000
GFL PM_{10} Monitoring Program		Date Revised :	15 Oct, 2021

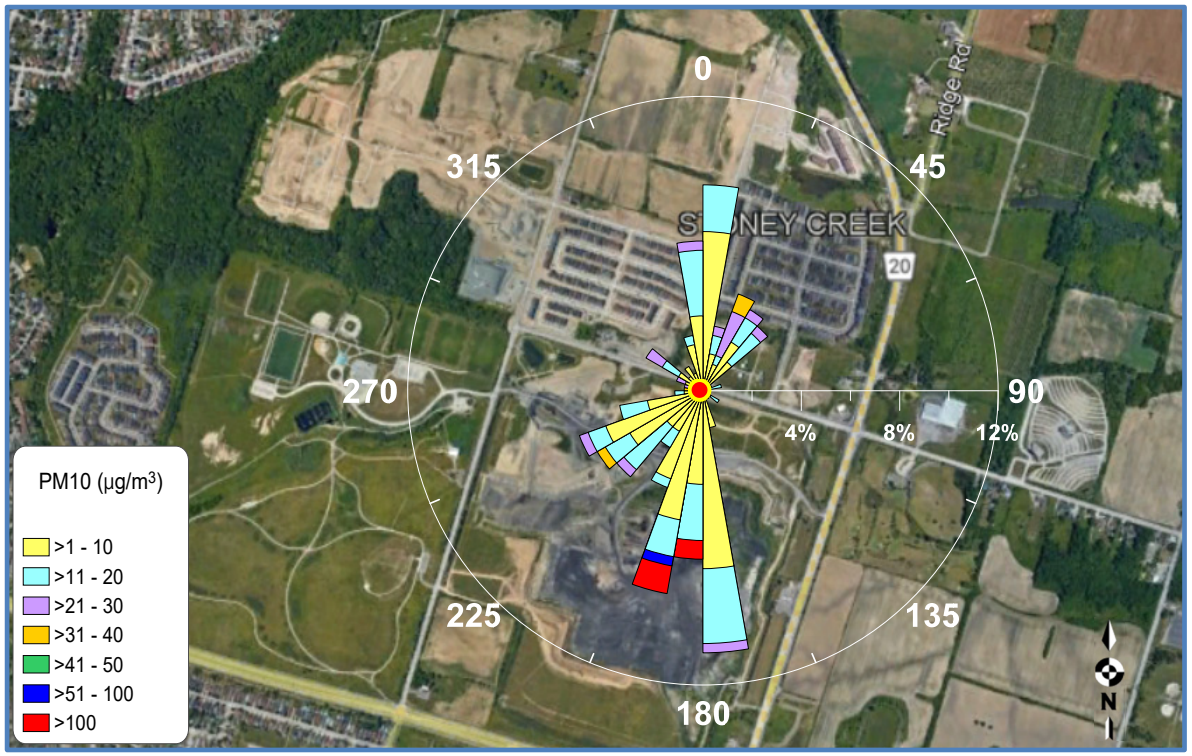
ROTEK

September PM_{10} Pollution Rose - 29147 - Figure 35



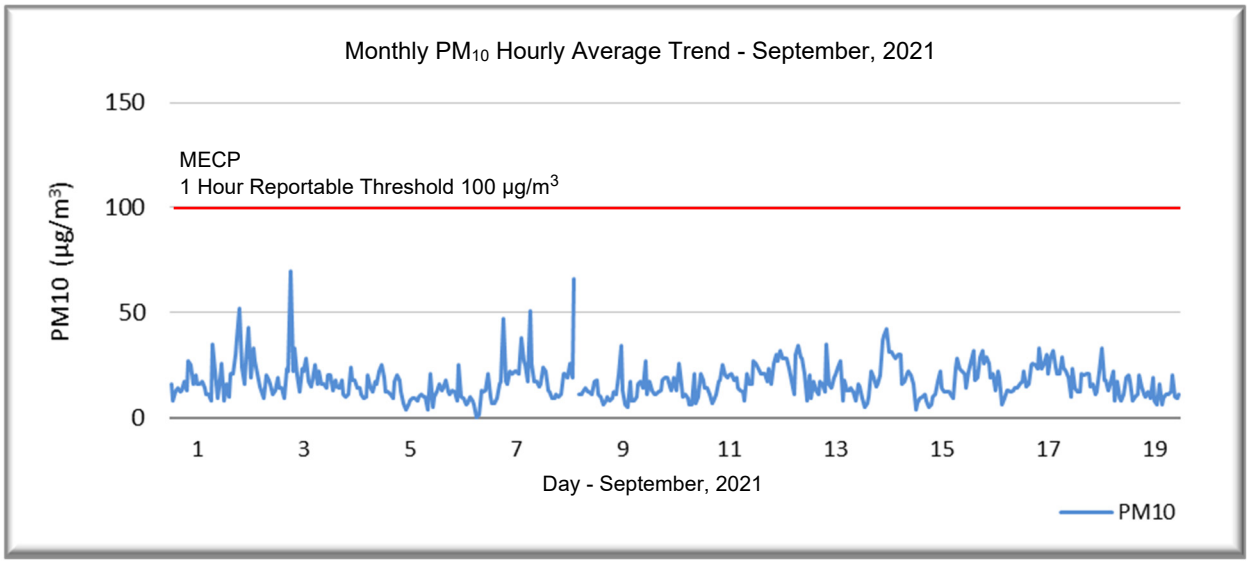
PM_{10} Pollution Rose - 29147 1st - 19th September, 2021	True North	By : BB	**Figure 35**	ROTEK
GFL PM_{10} Monitoring Program		Approx. Scale :	1:22000	
		Date Revised :	15 Oct, 2021	

September PM_{10} Pollution Rose - 29247 - Figure 36

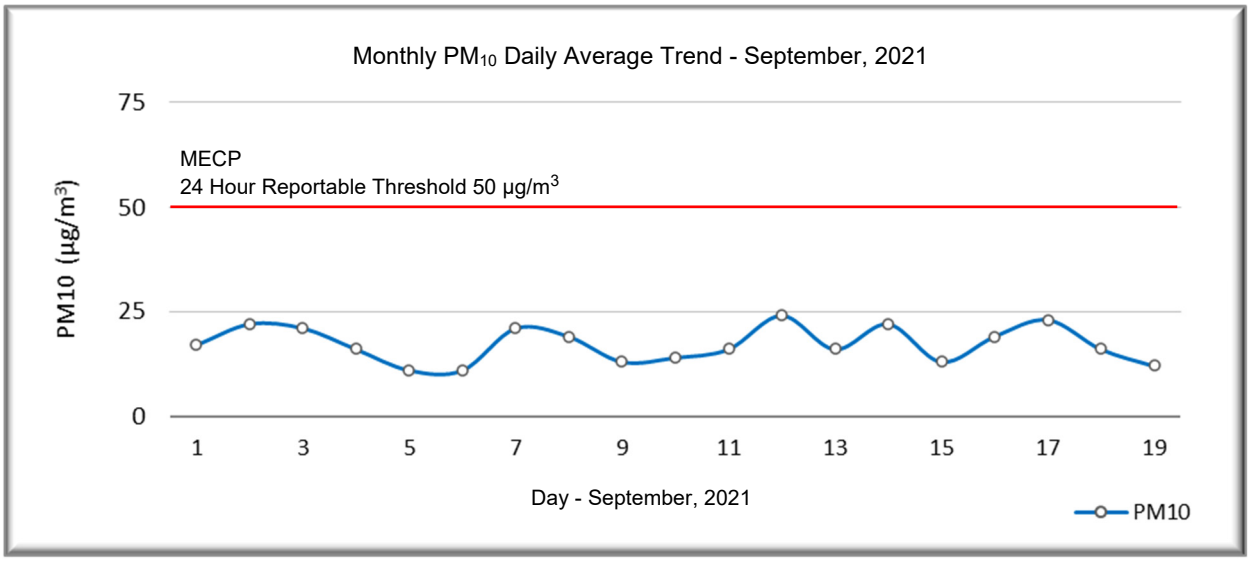


PM_{10} Pollution Rose - 29247 20th - 30th September, 2021	True North	By : BB	**Figure 36**	ROTEK
GFL PM_{10} Monitoring Program		Approx. Scale :	1:22000	
		Date Revised :	15 Oct, 2021	

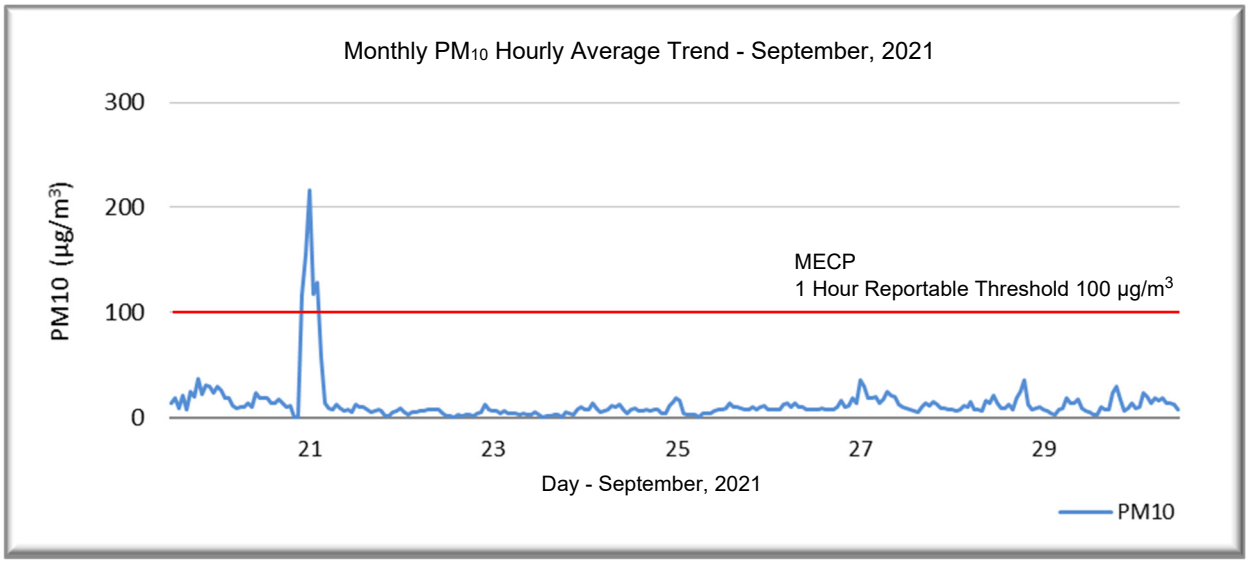
September PM_{10} Hourly Average Trend Graph - 29147 - Figure 37



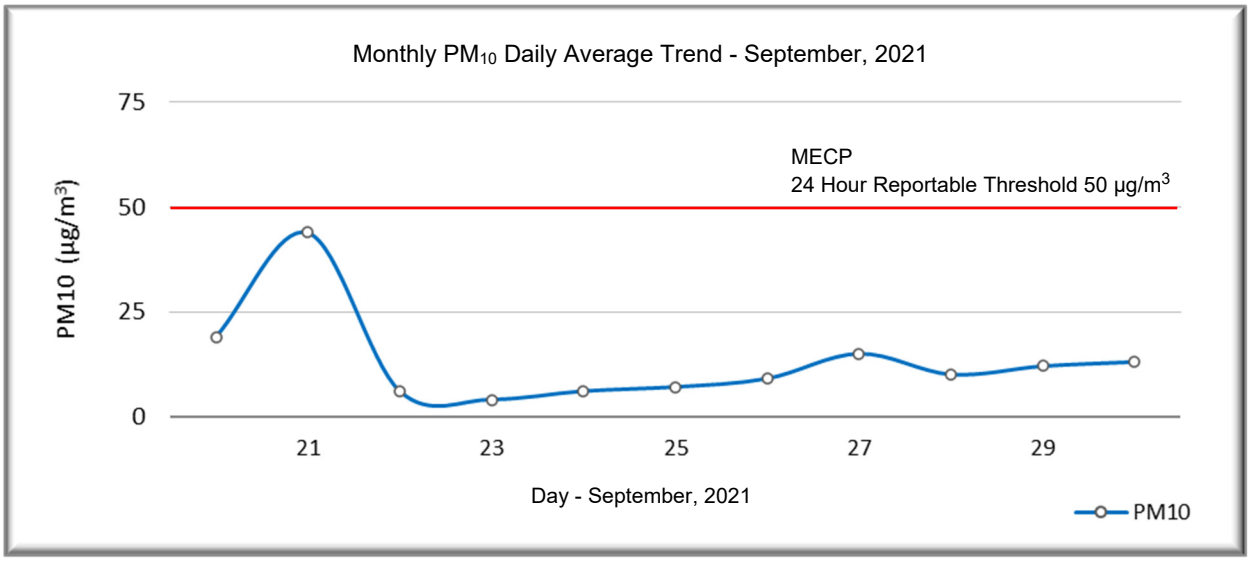
September PM_{10} Daily Average Trend Graph - 29147 - Figure 38



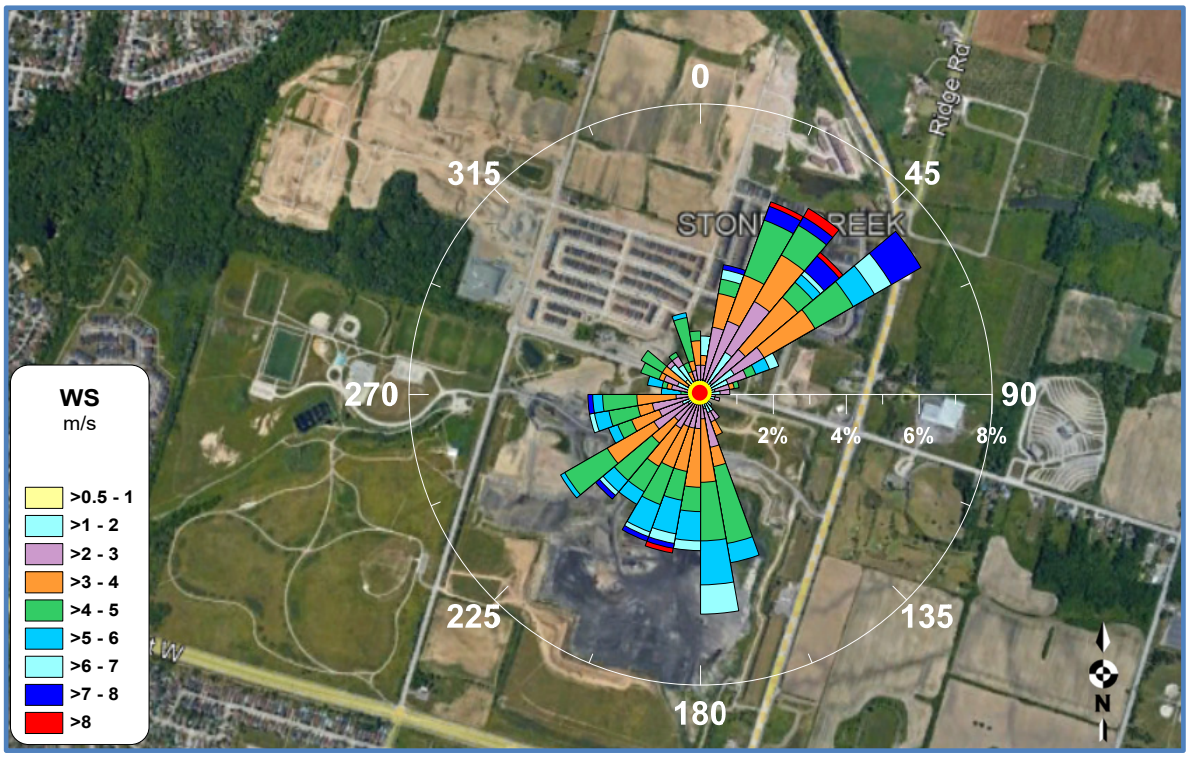
September PM_{10} Hourly Average Trend Graph - 29247 - Figure 39



September PM_{10} Daily Average Trend Graph - 29247 - Figure 40

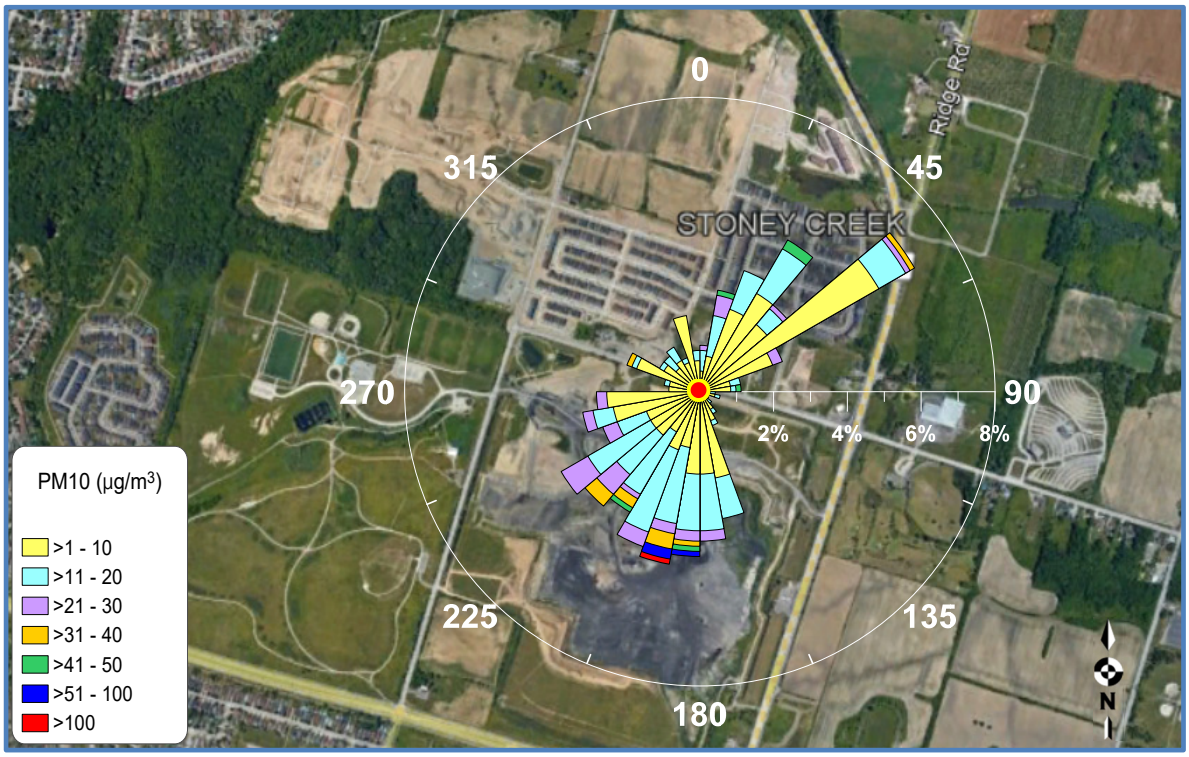


October Wind Rose - 29247- Figure 41



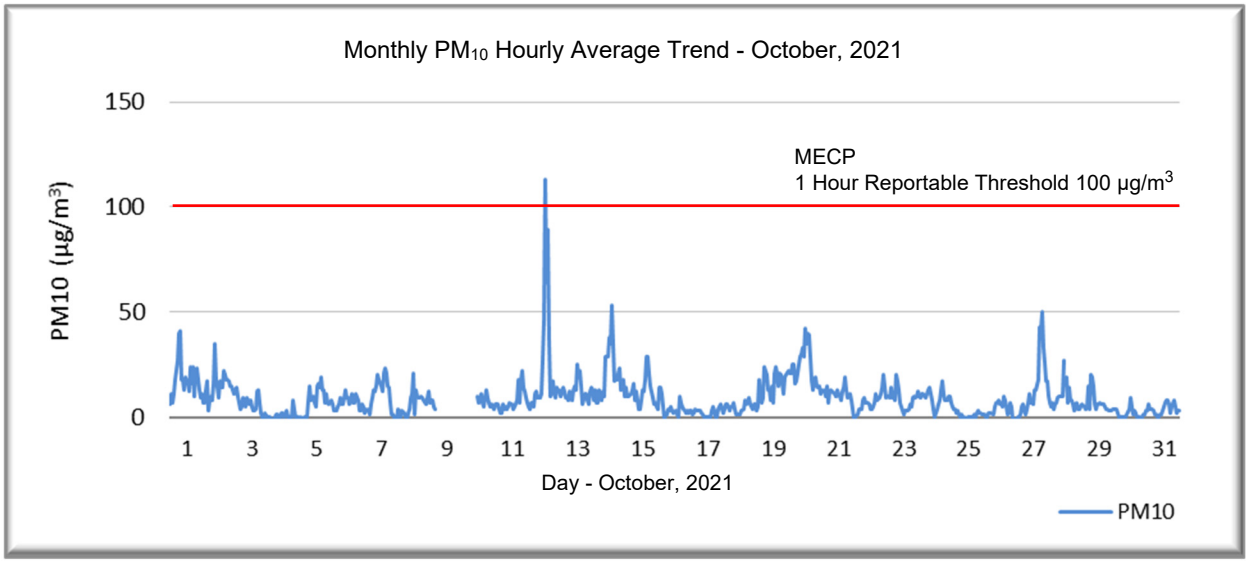
Wind Rose - 29247 October, 2021	↑	By : BB	**Figure 41**	ROTEK
	True North	Approx. Scale :	1:22000	
GFL PM_{10} Monitoring Program		Date Revised :	17 Nov, 2021	

October PM_{10} Pollution Rose - 29247 - Figure 42

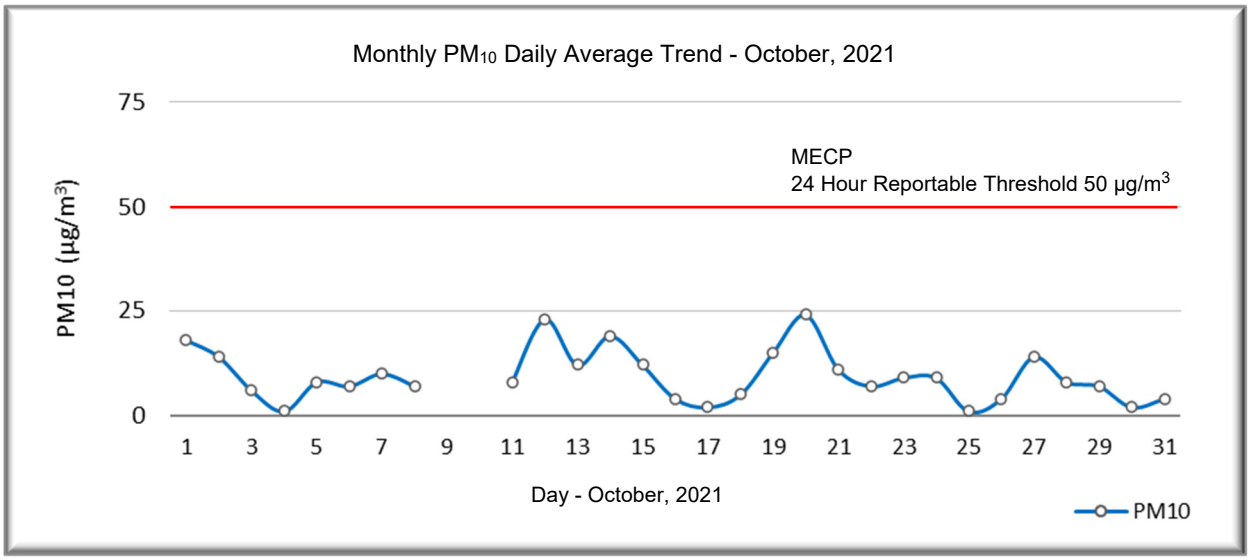


PM_{10} Pollution Rose - 29247 October, 2021	↑	By : BB	**Figure 42**	ROTEK
	True North	Approx. Scale :	1:22000	
GFL PM_{10} Monitoring Program		Date Revised :	17 Nov, 2021	

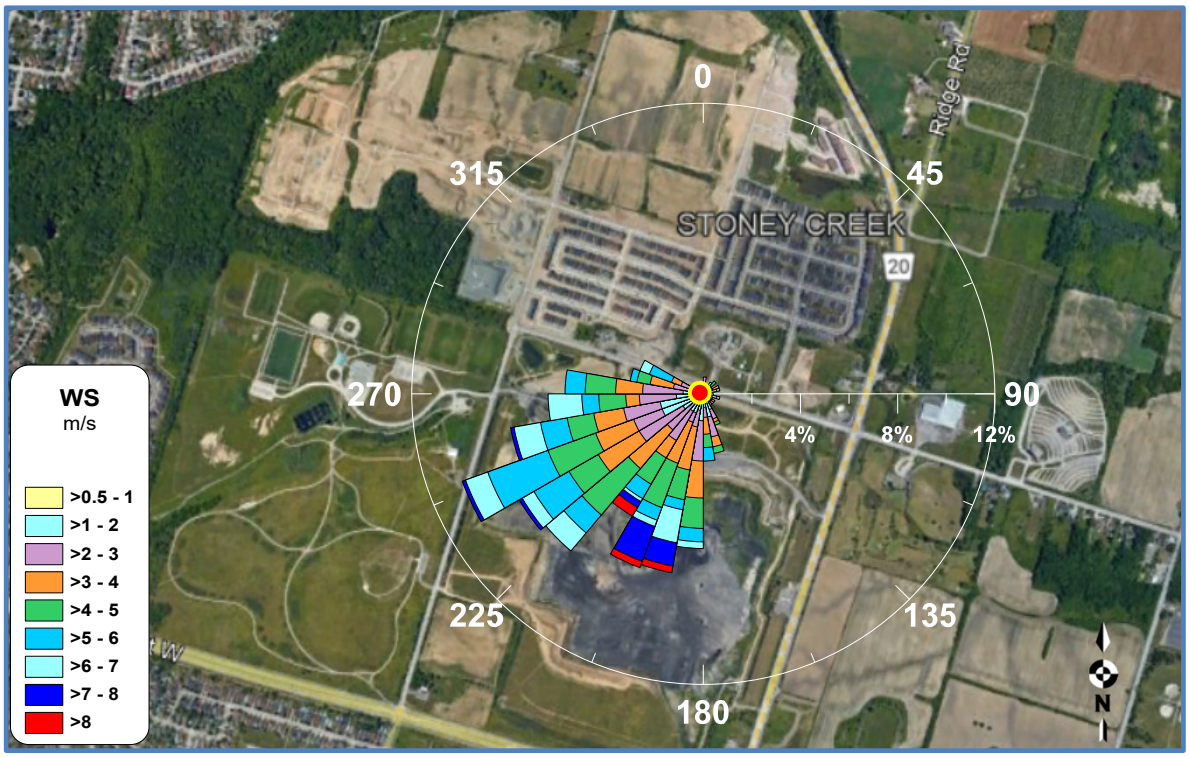
October PM_{10} Hourly Average Trend Graph - 29247 - Figure 43



October PM_{10} Daily Average Trend Graph - 29247 - Figure 44

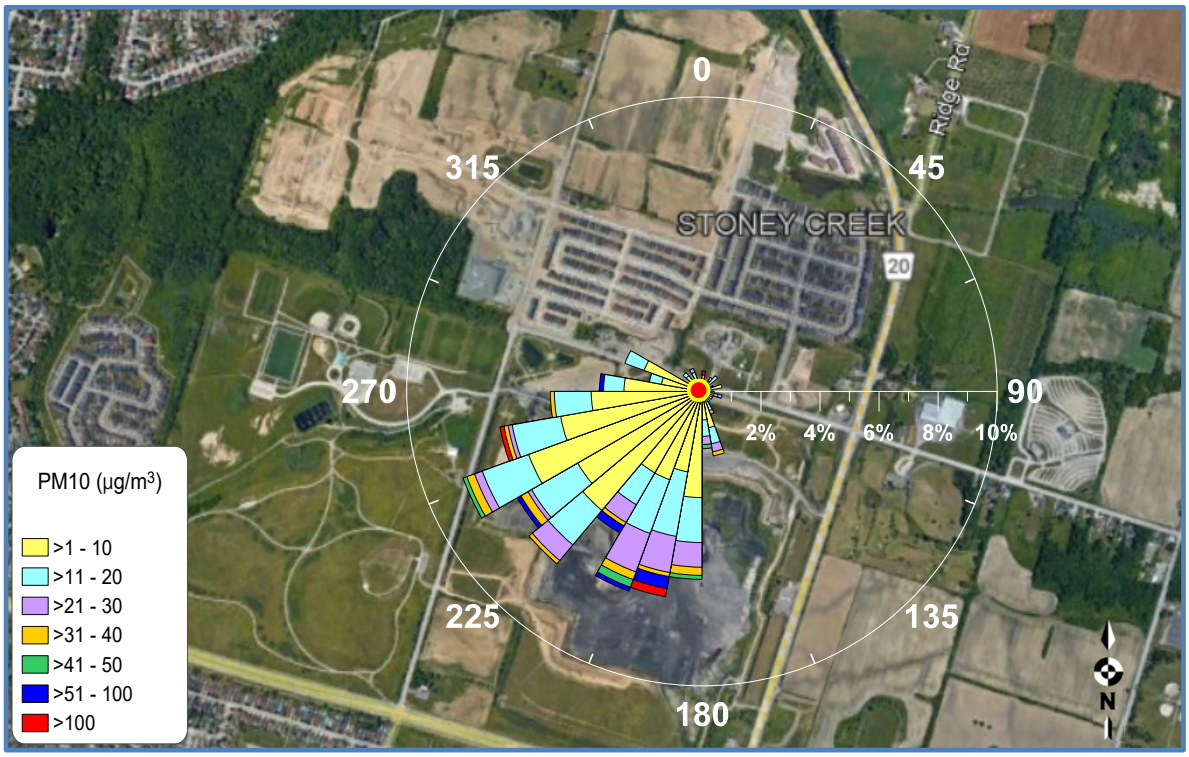


November Wind Rose - 29247- Figure 45



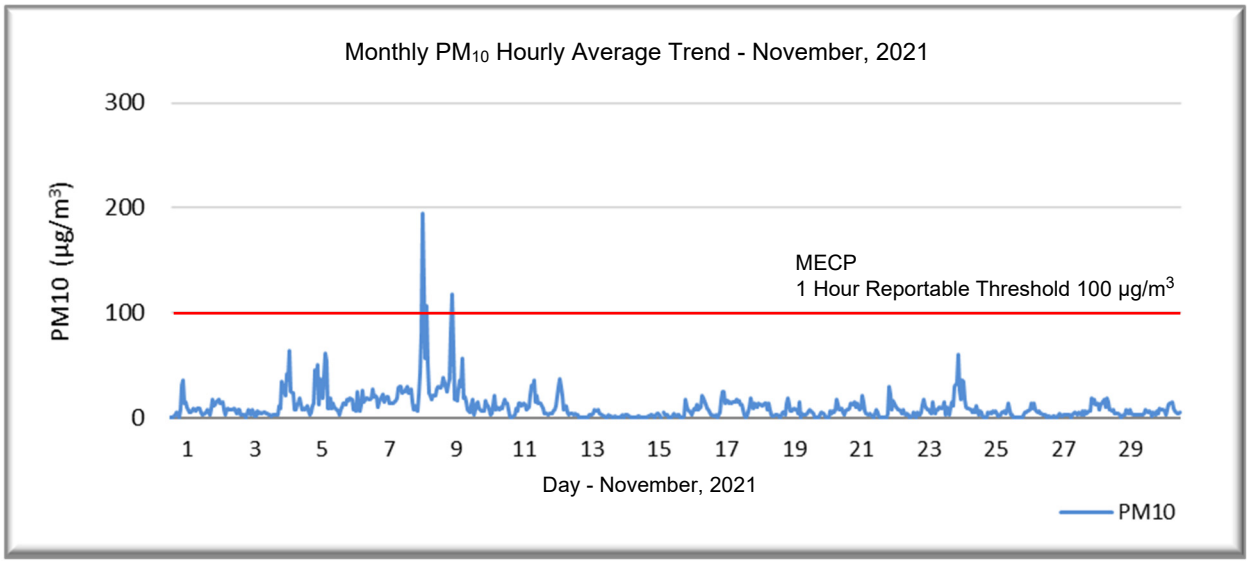
Wind Rose - 29247 November, 2021	↑	By : BB	**Figure 45**	ROTEK
	True North	Approx. Scale :	1:22000	
GFL PM_{10} Monitoring Program		Date Revised :	20 Dec, 2021	

November PM_{10} Pollution Rose - 29247 - Figure 46

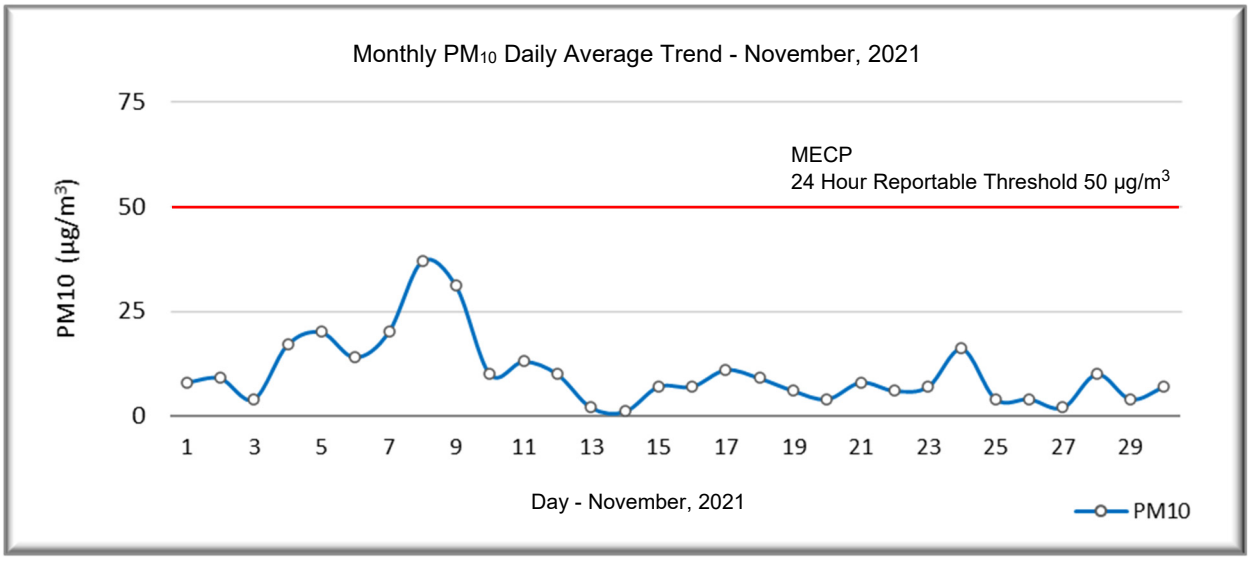


PM_{10} Pollution Rose - 29247 November, 2021	↑	By : BB	**Figure 46**	ROTEK
	True North	Approx. Scale :	1:22000	
GFL PM_{10} Monitoring Program		Date Revised :	20 Dec, 2021	

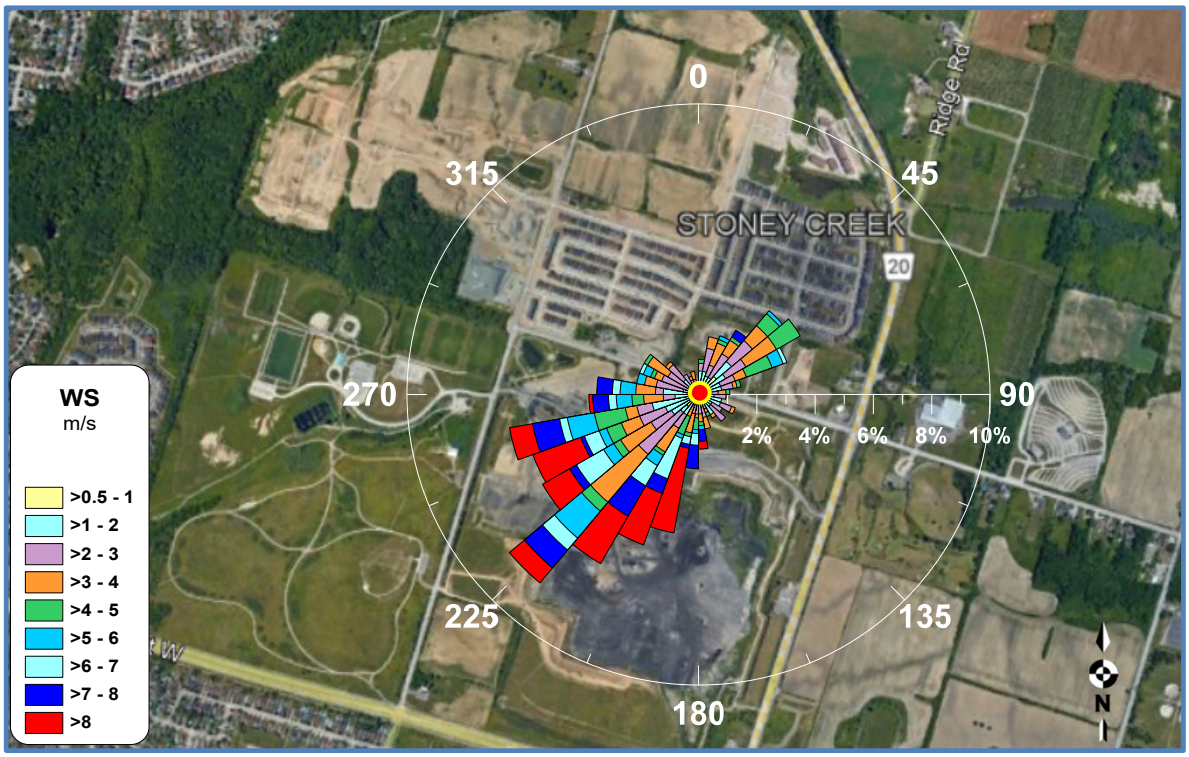
November PM_{10} Hourly Average Trend Graph - 29247 - Figure 47



November PM_{10} Daily Average Trend Graph - 29247 - Figure 48

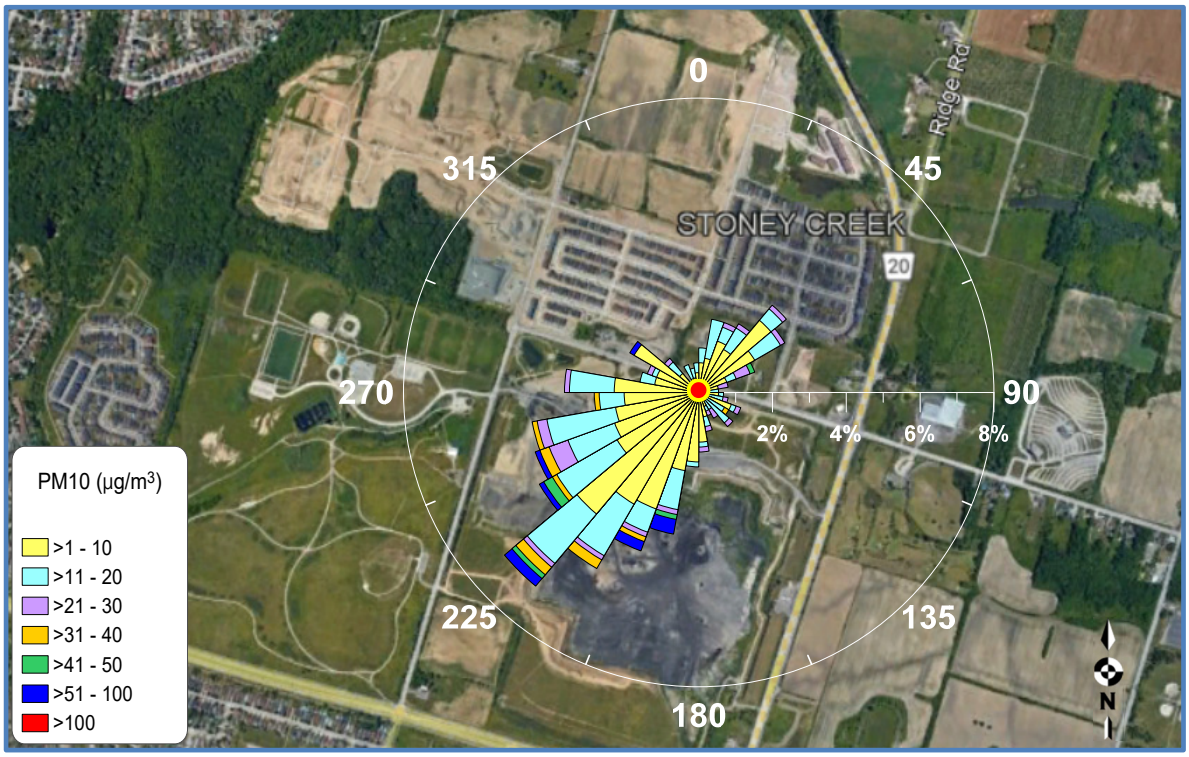


December Wind Rose - 29247- Figure 49



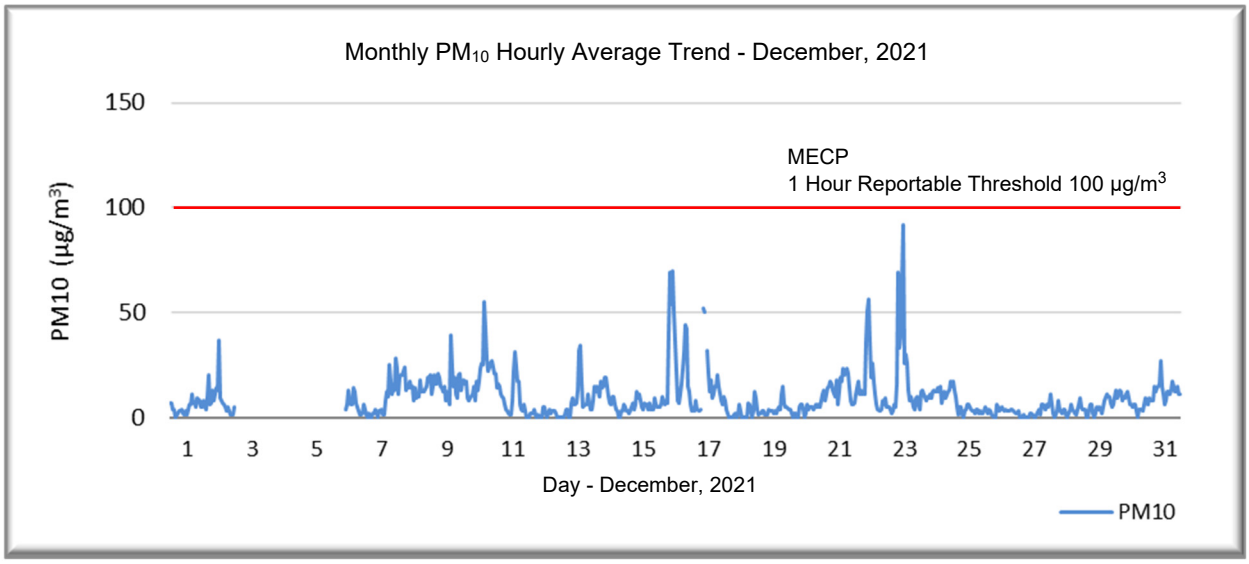
Wind Rose - 29247 December, 2021	↑	By : BB	**Figure 49**	ROTEK
	True North	Approx. Scale :	1:22000	
GFL PM_{10} Monitoring Program		Date Revised :	05 Jan, 2022	

December PM_{10} Pollution Rose - 29247 - Figure 50

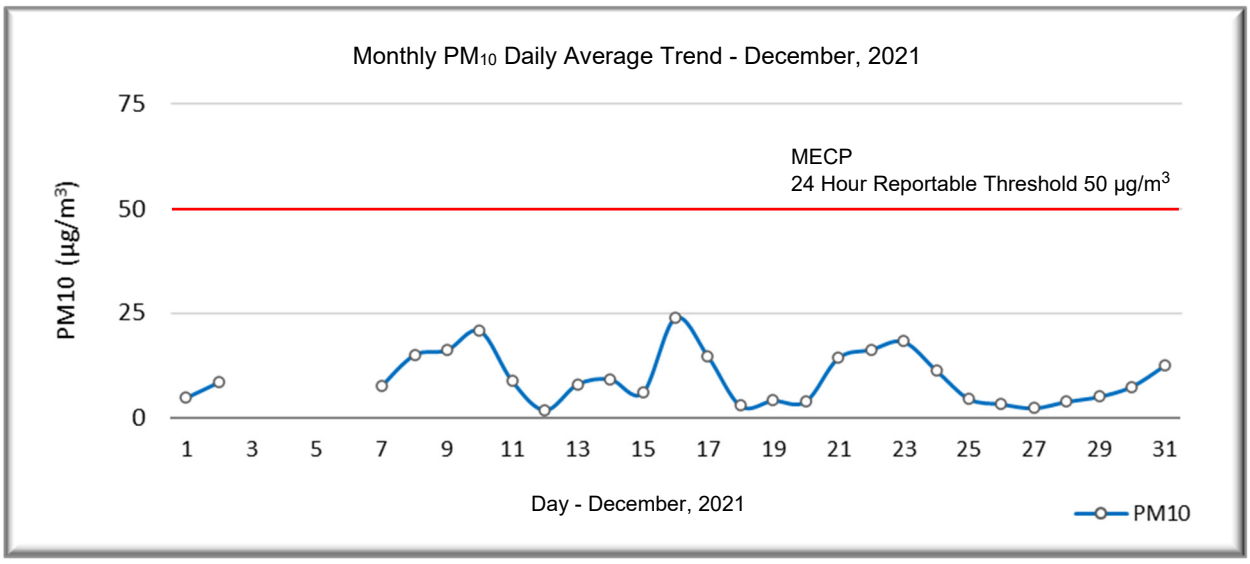


PM_{10} Pollution Rose - 29247 December, 2021	↑	By : BB	**Figure 50**	ROTEK
	True North	Approx. Scale :	1:22000	
GFL PM_{10} Monitoring Program		Date Revised :	05 Jan, 2022	

December PM_{10} Hourly Average Trend Graph - 29247 - Figure 51



December PM_{10} Daily Average Trend Graph - 29247 - Figure 52



GFL
Stoney Creek Regional Facility

Appendix C

2021

Instrument - Station
Monthly Service Logs

ROTEK

Instrument / Station Service Log

Pollutant	Page No.
PM10	1

Station No.	Location	Month	Year
STN29147	Terrapure - Stoney Creek Regional Facility	January	2021

Instrument Make	Instrument Serial No.	Range
Met One Instruments, Inc.	D7269	0 - 1000 µg/m^3

Date	19-Jan
Time (EST)	10:20
Initials	BB

Last Concentration (mg/m^3)	0.009
Last Reference (mg/cm^2)	0.887
Flow - Standard (slpm)	16.70
Flow / Measured (slpm)	17.14
BAM Clock (EST)	10:26
BAM Clock Synced	No
Ambient Temperature (°C)	-1.4
Barometric Pressure (mmHg)	753
Tape Pressure (mmHg)	549
Relative Humidity (%)	18
Delta Temperature (°C)	14.3
BAM Offset (µg/m3)	0
Main Screen Status	Sampling
RH Control	Yes
RH Setpoint (%)	35
Delta-T Control	No
Delta-T Control (°C)	NA
System Error Log Check	Yes
Error Found / Type	NA
Error Date / Time	NA
Inlet Nozzle / Vane Cleaned	No
Cleaned PM10 Inlet	Yes
PM10 Inlet Serial No.	6700
Tape Changed	No
Self Test Function	No

Rain Gauge Serviced	Yes
Rain Gauge 1 Cal @ 0.20 mm	Ok
Rain Gauge 2 Cal @ 0.20 mm	NA
Vaisala RH Sensor (%)	Ok / 81
RM Young Wind Sensor	OK
Enclosure - Heater	ON

Repairs / Audits / Comments

19-Jan	- Flow check at 17.14 lpm, routine checks Ok.
19-Jan	➥ **MECP Performance Criteria :**

☑	1) Flow…….	+/- 10%	☑	3) Amb Temp……	+/- 5 °C
NA	2) Leak Check…….	≤ 1.5 lpm	☑	4) BP…….	+/- 10 mmHg

ROTEK

Instrument / Station Service Log

Pollutant	Page No.
PM10	1

Station No.	Location	Month	Year
STN29147	Terrapure - Stoney Creek Regional Facility	February	2021

Instrument Make	Instrument Serial No.	Range
Met One Instruments, Inc.	D7269	0 - 1000 µg/m^3

Date	19-Feb
Time (EST)	11:35
Initials	BB

Last Concentration (mg/m^3)	0.026
Last Reference (mg/cm^2)	0.869
Flow - Standard (slpm)	16.70
Flow / Measured (slpm)	16.98
BAM Clock (EST)	11:41
BAM Clock Synced	No
Ambient Temperature (°C)	-4.6
Barometric Pressure (mmHg)	751
Tape Pressure (mmHg)	561
Relative Humidity (%)	22
Delta Temperature (°C)	15.3
BAM Offset (µg/m3)	0
Main Screen Status	Sampling
RH Control	Yes
RH Setpoint (%)	35
Delta-T Control	No
Delta-T Control (°C)	NA
System Error Log Check	Yes
Error Found / Type	NA
Error Date / Time	NA
Inlet Nozzle / Vane Cleaned	No
Cleaned PM10 Inlet	Yes
PM10 Inlet Serial No.	6700
Tape Changed	No
Self Test Function	No

Rain Gauge Serviced	Yes
Rain Gauge 1 Cal @ 0.20 mm	Ok
Rain Gauge 2 Cal @ 0.20 mm	NA
Vaisala RH Sensor (%)	Ok / 90
RM Young Wind Sensor	OK
Enclosure - Heater	ON

Repairs / Audits / Comments

19-Feb	- Flow check at 16.98 lpm, routine checks Ok.
19-Feb	➥ **MECP Performance Criteria :**

☑	1) Flow…….	+/- 10%	☑	3) Amb Temp……	+/- 5 °C
NA	2) Leak Check…….	≤ 1.5 lpm	☑	4) BP…….	+/- 10 mmHg

ROTEK

Instrument / Station Service Log

Pollutant	Page No.
PM10	1

Station No.	Location	Month	Year
STN29147	Terrapure - Stoney Creek Regional Facility	March	2021

Instrument Make	Instrument Serial No.	Range
Met One Instruments, Inc.	D7269	0 - 1000 µg/m^3

Date	22-Mar
Time (EST)	7:20
Initials	BB

Last Concentration (mg/m^3)	0.042
Last Reference (mg/cm^2)	0.879
Flow - Standard (slpm)	16.70
Flow / Measured (slpm)	17.23
BAM Clock (EST)	7:26
BAM Clock Synced	No
Ambient Temperature (°C)	2.3
Barometric Pressure (mmHg)	751
Tape Pressure (mmHg)	574
Relative Humidity (%)	19
Delta Temperature (°C)	12.6
BAM Offset (µg/m3)	0
Main Screen Status	Sampling
RH Control	Yes
RH Setpoint (%)	35
Delta-T Control	No
Delta-T Control (°C)	NA
System Error Log Check	Yes
Error Found / Type	NA
Error Date / Time	NA
Inlet Nozzle / Vane Cleaned	Yes
Cleaned PM10 Inlet	Yes
PM10 Inlet Serial No.	6700
Tape Changed	Yes
Self Test Function	Yes

Rain Gauge Serviced	No
Rain Gauge 1 Cal @ 0.20 mm	Ok
Rain Gauge 2 Cal @ 0.20 mm	NA
Vaisala RH Sensor (%)	Ok / 46
RM Young Wind Sensor	OK
Enclosure - Heater	ON

Repairs / Audits / Comments

22-Mar - Flow check at 17.23 lpm, leak check at 0.2 lpm, routine checks Ok.

31-Mar - MECP Audit - PASS (Auditor / Justin Buonocore).

22-Mar ➥ **MECP Performance Criteria :**

- ☑ 1) Flow…… +/- 10%
- ☑ 2) Leak Check…… ≤ 1.5 lpm
- ☑ 3) Amb Temp…… +/- 5 °C
- ☑ 4) BP…… +/- 10 mmHg

ROTEK

Instrument / Station Service Log

Pollutant	Page No.
PM10	1

Station No.	Location	Month	Year
STN29147	Terrapure - Stoney Creek Regional Facility	April	2021

Instrument Make	Instrument Serial No.	Range
Met One Instruments, Inc.	D7269	0 - 1000 µg/m^3

Date	01-Apr
Time (EST)	12:20
Initials	BB

Last Concentration (mg/m^3)	0.016
Last Reference (mg/cm^2)	0.869
Flow - Standard (slpm)	16.70
Flow / Measured (slpm)	17.16
BAM Clock (EST)	12:26
BAM Clock Synced	No
Ambient Temperature (°C)	0.2
Barometric Pressure (mmHg)	752
Tape Pressure (mmHg)	566
Relative Humidity (%)	21
Delta Temperature (°C)	14.9
BAM Offset (µg/m3)	0
Main Screen Status	Sampling
RH Control	Yes
RH Setpoint (%)	35
Delta-T Control	No
Delta-T Control (°C)	NA
System Error Log Check	Yes
Error Found / Type	NA
Error Date / Time	NA
Inlet Nozzle / Vane Cleaned	Yes
Cleaned PM10 Inlet	Yes
PM10 Inlet Serial No.	6700
Tape Changed	No
Self Test Function	Yes

Rain Gauge Serviced	No
Rain Gauge 1 Cal @ 0.20 mm	Ok
Rain Gauge 2 Cal @ 0.20 mm	NA
Vaisala RH Sensor (%)	Ok / 59
RM Young Wind Sensor	OK
Enclosure - Heater	ON

Repairs / Audits / Comments

01-Apr - Flow check at 17.16 lpm, leak check at 0.3 lpm, routine checks Ok.

01-Apr ➥ **MECP Performance Criteria :**

- ☑ 1) Flow…… +/- 10%
- ☑ 2) Leak Check…… ≤ 1.5 lpm
- ☑ 3) Amb Temp…… +/- 5 °C
- ☑ 4) BP…… +/- 10 mmHg

ROTEK

Instrument / Station Service Log

Pollutant	Page No.
PM10	1

Station No.	Location	Month	Year
STN29147	Terrapure - Stoney Creek Regional Facility	May	2021

Instrument Make	Instrument Serial No.	Range
Met One Instruments, Inc.	D7269	0 - 1000 µg/m^3

Date	18-May
Time (EST)	11:10
Initials	BB

Last Concentration (mg/m^3)	0.041
Last Reference (mg/cm^2)	0.871
Flow - Standard (slpm)	16.70
Flow / Measured (slpm)	17.03
BAM Clock (EST)	11:06
BAM Clock Synced	No
Ambient Temperature (°C)	25.3
Barometric Pressure (mmHg)	761
Tape Pressure (mmHg)	578
Relative Humidity (%)	18
Delta Temperature (°C)	2.6
BAM Offset (µg/m3)	0
Main Screen Status	Sampling
RH Control	Yes
RH Setpoint (%)	35
Delta-T Control	No
Delta-T Control (°C)	NA
System Error Log Check	Yes
Error Found / Type	Yes / Tape
Error Date / Time	16th / 17:00
Inlet Nozzle / Vane Cleaned	Yes
Cleaned PM10 Inlet	Yes
PM10 Inlet Serial No.	6700
Tape Changed	Yes
Self Test Function	Yes

Rain Gauge Serviced	No
Rain Gauge 1 Cal @ 0.20 mm	Ok
Rain Gauge 2 Cal @ 0.20 mm	NA
Vaisala RH Sensor (%)	Ok / 28
RM Young Wind Sensor	OK
Enclosure - Heater	ON

Repairs / Audits / Comments

18-May

- Flow check at 17.03 lpm, leak check at 0.2 lpm, routine checks Ok.
- Tape mechanism failure, reset.

18-May

➥ **MECP Performance Criteria :**

☑	1) Flow…….. +/- 10%	☑	3) Amb Temp…… +/- 5 °C
☑	2) Leak Check……. ≤ 1.5 lpm	☑	4) BP…….. +/- 10 mmHg

ROTEK

Instrument / Station Service Log

Pollutant	Page No.
PM10	1

Station No.	Location	Month	Year
STN29147	Terrapure - Stoney Creek Regional Facility	June	2021

Instrument Make	Instrument Serial No.	Range
Met One Instruments, Inc.	D7269	0 - 1000 µg/m^3

Date	17-Jun
Time (EST)	10:15
Initials	BB / JB

Last Concentration (mg/m^3)	0.047
Last Reference (mg/cm^2)	0.896
Flow - Standard (slpm)	16.70
Flow / Measured (slpm)	16.77
BAM Clock (EST)	10:21
BAM Clock Synced	No
Ambient Temperature (°C)	22.1
Barometric Pressure (mmHg)	759
Tape Pressure (mmHg)	564
Relative Humidity (%)	21
Delta Temperature (°C)	1.6
BAM Offset (µg/m3)	0
Main Screen Status	Sampling
RH Control	Yes
RH Setpoint (%)	35
Delta-T Control	No
Delta-T Control (°C)	NA
System Error Log Check	Yes
Error Found / Type	NA
Error Date / Time	NA
Inlet Nozzle / Vane Cleaned	Yes
Cleaned PM10 Inlet	Yes
PM10 Inlet Serial No.	6700
Tape Changed	No
Self Test Function	Yes

Rain Gauge Serviced	No
Rain Gauge 1 Cal @ 0.20 mm	Ok
Rain Gauge 2 Cal @ 0.20 mm	NA
Vaisala RH Sensor (%)	Ok / 26
RM Young Wind Sensor	OK
Enclosure - Heater	ON

Repairs / Audits / Comments

17-Jun

- Flow check at 16.77 lpm, leak check at 0.3 lpm, routine checks Ok.
- MECP Audit - PASS (Auditor / Justin Buonocore)

17-Jun

➥ **MECP Performance Criteria :**

☑	1) Flow…….. +/- 10%	☑	3) Amb Temp…… +/- 5 °C
☑	2) Leak Check……. ≤ 1.5 lpm	☑	4) BP…….. +/- 10 mmHg

ROTEK

Instrument / Station Service Log

Pollutant	Page No.
PM10	1

Station No.	Location	Month	Year
STN29147	Terrapure - Stoney Creek Regional Facility	July	2021

Instrument Make	Instrument Serial No.	Range
Met One Instruments, Inc.	D7269	0 - 1000 µg/m^3

Date	15-Jul
Time (EST)	9:45
Initials	BB

Last Concentration (mg/m^3)	0.033
Last Reference (mg/cm^2)	0.863
Flow - Standard (slpm)	16.70
Flow / Measured (slpm)	16.83
BAM Clock (EST)	9:50
BAM Clock Synced	No
Ambient Temperature (°C)	26.3
Barometric Pressure (mmHg)	756
Tape Pressure (mmHg)	561
Relative Humidity (%)	21
Delta Temperature (°C)	1.3
BAM Offset (µg/m3)	0
Main Screen Status	Sampling
RH Control	Yes
RH Setpoint (%)	35
Delta-T Control	No
Delta-T Control (°C)	NA
System Error Log Check	Yes
Error Found / Type	NA
Error Date / Time	NA
Inlet Nozzle / Vane Cleaned	No
Cleaned PM10 Inlet	Yes
PM10 Inlet Serial No.	6700
Tape Changed	No
Self Test Function	No

Rain Gauge Serviced	No
Rain Gauge 1 Cal @ 0.20 mm	Ok
Rain Gauge 2 Cal @ 0.20 mm	NA
Vaisala RH Sensor (%)	Ok / 67
RM Young Wind Sensor	OK
Enclosure - Heater	ON

Repairs / Audits / Comments

15-Jul - Flow check at 16.83 lpm, routine checks Ok.

15-Jul ➥ **MECP Performance Criteria :**

☑	1) Flow……	+/- 10%	☑	3) Amb Temp……	+/- 5 °C
NA	2) Leak Check…….	≤ 1.5 lpm	☑	4) BP……	+/- 10 mmHg

ROTEK

Instrument / Station Service Log

Pollutant	Page No.
PM10	1

Station No.	Location	Month	Year
STN29147	Terrapure - Stoney Creek Regional Facility	August	2021

Instrument Make	Instrument Serial No.	Range
Met One Instruments, Inc.	D7269	0 - 1000 µg/m^3

Date	16-Aug
Time (EST)	8:40
Initials	BB

Last Concentration (mg/m^3)	0.027
Last Reference (mg/cm^2)	0.881
Flow - Standard (slpm)	16.70
Flow / Measured (slpm)	16.64
BAM Clock (EST)	8:45
BAM Clock Synced	No
Ambient Temperature (°C)	21.0
Barometric Pressure (mmHg)	757
Tape Pressure (mmHg)	572
Relative Humidity (%)	19
Delta Temperature (°C)	2.2
BAM Offset (µg/m3)	0
Main Screen Status	Sampling
RH Control	Yes
RH Setpoint (%)	35
Delta-T Control	No
Delta-T Control (°C)	NA
System Error Log Check	Yes
Error Found / Type	NA
Error Date / Time	NA
Inlet Nozzle / Vane Cleaned	No
Cleaned PM10 Inlet	Yes
PM10 Inlet Serial No.	6700
Tape Changed	Yes
Self Test Function	Yes

Rain Gauge Serviced	No
Rain Gauge 1 Cal @ 0.20 mm	Ok
Rain Gauge 2 Cal @ 0.20 mm	NA
Vaisala RH Sensor (%)	Ok / 71
RM Young Wind Sensor	OK
Enclosure - Heater	ON

Repairs / Audits / Comments

16-Aug

- Flow check at 16.64 lpm, leak check at 0.2 lpm, routine checks Ok.
- MECP Audit - PASS (Auditor / Justin Buonocore)

16-Aug

➥ **MECP Performance Criteria :**

☑	1) Flow…….. +/- 10%	☑	3) Amb Temp…… +/- 5 °C
☑	2) Leak Check……. ≤ 1.5 lpm	☑	4) BP…….. +/- 10 mmHg

ROTEK

Instrument / Station Service Log

Pollutant	Page No.
PM10	1

Station No.	Location	Month	Year
STN29147	GFL - Stoney Creek Regional Facility	September	2021

Instrument Make	Instrument Serial No.	Range
Met One Instruments, Inc.	D7269	0 - 1000 µg/m^3

Date	19-Sep
Time (EST)	10:10
Initials	BB

Last Concentration (mg/m^3)	0.012
Last Reference (mg/cm^2)	0.869
Flow - Standard (slpm)	16.70
Flow / Measured (slpm)	16.78
BAM Clock (EST)	10:15
BAM Clock Synced	No
Ambient Temperature (°C)	19.3
Barometric Pressure (mmHg)	752
Tape Pressure (mmHg)	601
Relative Humidity (%)	16
Delta Temperature (°C)	1.9
BAM Offset (µg/m3)	0
Main Screen Status	Sampling
RH Control	Yes
RH Setpoint (%)	35
Delta-T Control	No
Delta-T Control (°C)	NA
System Error Log Check	Yes
Error Found / Type	NA
Error Date / Time	NA
Inlet Nozzle / Vane Cleaned	No
Cleaned PM10 Inlet	Yes
PM10 Inlet Serial No.	6700
Tape Changed	No
Self Test Function	No

Rain Gauge Serviced	Moved
Rain Gauge 1 Cal @ 0.20 mm	Moved
Rain Gauge 2 Cal @ 0.20 mm	Moved
Vaisala RH Sensor (%)	Ok / 67
RM Young Wind Sensor	Moved
Enclosure - Heater	ON

Repairs / Audits / Comments

19-Sep

- Flow check at 16.78 lpm, routine checks Ok.
- Last day, new BAM site online.

19-Sep

➥ **MECP Performance Criteria :**

☑	1) Flow……	+/- 10%	☑	3) Amb Temp…… +/- 5 °C
NA	2) Leak Check…….	≤ 1.5 lpm	☑	4) BP…… +/- 10 mmHg

ROTEK

Instrument / Station Service Log

Pollutant	Page No.
PM10	1

Station No.	Location	Month	Year
STN29247	GFL - Stoney Creek Regional Facility	September	2021

Instrument Make	Instrument Serial No.	Range
Met One Instruments, Inc.	BN 12231	0 - 1000 µg/m^3

Date	21-Sep
Time (EST)	8:25
Initials	BB

Last Concentration (mg/m^3)	0.011
Last Reference (mg/cm^2)	0.853
Flow - Standard (slpm)	16.70
Flow / Measured (slpm)	16.66
BAM Clock (EST)	8:30
BAM Clock Synced	No
Ambient Temperature (°C)	20.2
Barometric Pressure (mmHg)	756
Tape Pressure (mmHg)	628
Relative Humidity (%)	17
Delta Temperature (°C)	NA
BAM Offset (µg/m3)	0
Main Screen Status	Sampling
RH Control	Yes
RH Setpoint (%)	35
Delta-T Control	No
Delta-T Control (°C)	NA
System Error Log Check	Yes
Error Found / Type	NA
Error Date / Time	NA
Inlet Nozzle / Vane Cleaned	New
Cleaned PM10 Inlet	New
PM10 Inlet Serial No.	---
Tape Changed	Yes
Self Test Function	Yes

Rain Gauge Serviced	Yes
Rain Gauge 1 Cal @ 0.20 mm	0.20
Rain Gauge 2 Cal @ 0.20 mm	NA
Vaisala RH Sensor (%)	Ok / 81
RM Young Wind Sensor	Ok
Enclosure - Heater	ON

Repairs / Audits / Comments

21-Sep

- Flow check at 16.66 lpm, leak check at 0.1 lpm, routine checks Ok.
- First reporting day for BAM PM_{10}.

21-Sep

➥ **MECP Performance Criteria :**

☑	1) Flow……. +/- 10%	☑	3) Amb Temp…… +/- 5 °C
☑	2) Leak Check……. ≤ 1.5 lpm	☑	4) BP……. +/- 10 mmHg

ROTEK

Instrument / Station Service Log

Pollutant	Page No.
PM10	1

Station No.	Location	Month	Year
STN29247	GFL - Stoney Creek Regional Facility	October	2021

Instrument Make	Instrument Serial No.	Range
Met One Instruments, Inc.	BN 12231	0 - 1000 µg/m^3

Date	28-Oct
Time (EST)	11:20
Initials	BB

Last Concentration (mg/m^3)	0.027
Last Reference (mg/cm^2)	0.861
Flow - Standard (slpm)	16.70
Flow / Measured (slpm)	16.67
BAM Clock (EST)	11:25
BAM Clock Synced	No
Ambient Temperature (°C)	10.3
Barometric Pressure (mmHg)	750
Tape Pressure (mmHg)	618
Relative Humidity (%)	19
Delta Temperature (°C)	NA
BAM Offset (µg/m3)	0
Main Screen Status	Sampling
RH Control	Yes
RH Setpoint (%)	35
Delta-T Control	No
Delta-T Control (°C)	NA
System Error Log Check	Yes
Error Found / Type	NA
Error Date / Time	NA
Inlet Nozzle / Vane Cleaned	No
Cleaned PM10 Inlet	Yes
PM10 Inlet Serial No.	---
Tape Changed	No
Self Test Function	No

Rain Gauge Serviced	Yes
Rain Gauge 1 Cal @ 0.20 mm	0.20
Rain Gauge 2 Cal @ 0.20 mm	NA
Vaisala RH Sensor (%)	Ok / 82
RM Young Wind Sensor	Ok
Enclosure - Heater	ON

Repairs / Audits / Comments

10-Oct	- BAM - automatic shut down, AT sensor failure, replaced.
28-Oct	- Flow check at 16.67 lpm, routine checks Ok.
28-Oct	➥ **MECP Performance Criteria :**

☑	1) Flow……	+/- 10%	☑	3) Amb Temp……	+/- 5 °C
NA	2) Leak Check…….	≤ 1.5 lpm	☑	4) BP……	+/- 10 mmHg

ROTEK

Instrument / Station Service Log

Pollutant	Page No.
PM10	1

Station No.	Location	Month	Year
STN29247	GFL - Stoney Creek Regional Facility	November	2021

Instrument Make	Instrument Serial No.	Range
Met One Instruments, Inc.	BN 12231	0 - 1000 µg/m^3

Date	15-Nov
Time (EST)	14:35
Initials	BB

Last Concentration (mg/m^3)	0.000
Last Reference (mg/cm^2)	0.873
Flow - Standard (slpm)	16.70
Flow / Measured (slpm)	16.67
BAM Clock (EST)	14:41
BAM Clock Synced	No
Ambient Temperature (°C)	3.6
Barometric Pressure (mmHg)	756
Tape Pressure (mmHg)	602
Relative Humidity (%)	15
Delta Temperature (°C)	NA
BAM Offset (µg/m3)	0
Main Screen Status	Sampling
RH Control	Yes
RH Setpoint (%)	35
Delta-T Control	No
Delta-T Control (°C)	NA
System Error Log Check	Yes
Error Found / Type	NA
Error Date / Time	NA
Inlet Nozzle / Vane Cleaned	Yes
Cleaned PM10 Inlet	Yes
PM10 Inlet Serial No.	---
Tape Changed	Yes
Self Test Function	Yes

Rain Gauge Serviced	Yes
Rain Gauge 1 Cal @ 0.20 mm	0.20
Rain Gauge 2 Cal @ 0.20 mm	NA
Vaisala RH Sensor (%)	Ok / 71
RM Young Wind Sensor	Ok
Enclosure - Heater	ON

Repairs / Audits / Comments

15-Nov - Flow check at 16.67 lpm, leak check at 0.2 lpm, routine checks Ok.

15-Nov ➥ **MECP Performance Criteria :**

- ☑ 1) Flow…… +/- 10%
- ☑ 2) Leak Check…… ≤ 1.5 lpm
- ☑ 3) Amb Temp…… +/- 5 °C
- ☑ 4) BP…… +/- 10 mmHg

ROTEK

Instrument / Station Service Log

Pollutant	Page No.
PM10	1

Station No.	Location	Month	Year
STN29247	GFL - Stoney Creek Regional Facility	December	2021

Instrument Make	Instrument Serial No.	Range
Met One Instruments, Inc.	BN 12231	0 - 1000 µg/m^3

Date	17-Dec
Time (EST)	7:45
Initials	BB

Last Concentration (mg/m^3)	0.004
Last Reference (mg/cm^2)	0.881
Flow - Standard (slpm)	16.70
Flow / Measured (slpm)	16.59
BAM Clock (EST)	7:50
BAM Clock Synced	No
Ambient Temperature (°C)	1.2
Barometric Pressure (mmHg)	759
Tape Pressure (mmHg)	599
Relative Humidity (%)	21
Delta Temperature (°C)	NA
BAM Offset (µg/m3)	0
Main Screen Status	Sampling
RH Control	Yes
RH Setpoint (%)	35
Delta-T Control	No
Delta-T Control (°C)	NA
System Error Log Check	Yes
Error Found / Type	NA
Error Date / Time	NA
Inlet Nozzle / Vane Cleaned	No
Cleaned PM10 Inlet	No
PM10 Inlet Serial No.	---
Tape Changed	No
Self Test Function	Yes

Rain Gauge Serviced	Yes
Rain Gauge 1 Cal @ 0.20 mm	0.20
Rain Gauge 2 Cal @ 0.20 mm	NA
Vaisala RH Sensor (%)	Ok / 68
RM Young Wind Sensor	Ok
Enclosure - Heater	ON

Repairs / Audits / Comments

06-Dec - Tape break on the 3rd, reset Ok.

17-Dec - Flow check at 16.59 lpm, leak check at 0.2 lpm, routine checks Ok.
- MECP Audit - PASS (Auditor / Justin Buonocore).

17-Dec ➥ **MECP Performance Criteria :**

- ☑ 1) Flow…… +/- 10%
- ☑ 2) Leak Check…… ≤ 1.5 lpm
- ☑ 3) Amb Temp…… +/- 5 °C
- ☑ 4) BP…… +/- 10 mmHg

GFL
Stoney Creek Regional Facility

Appendix D

2021

Ministry of the Environment, Conservation and Parks

Audit Records

Ontario

MINISTRY OF THE ENVIRONMENT

Atmospheric Analyser Audit / Calibration
Beta Attenuation Monitor

Site Information

Date YYYY-MM-DD	Company		
2021-03-31	Rotek Environmental		
Station / Site No.	Location Address		
29147	Terrapure - Upper Centenial Parkway, Hamilton		
Flow Reference Make /		Instrument Make / Model	Pollutant
DeltaCal		Met One BAM 1020	PM10
Flow Reference Serial No.		Instrument Serial No.	Range
148590		D7269	0-1000 µg/m^3
Temperature Reference Make		Accuracy (GPS)	Zone
DeltaCal		2-5m	17 T
Temperature Reference Serial No.		Easting	Northing
148590		600162	4783326
+ / - 10% Objective / Criteria Met	☑ Yes ☐ No		
Audit Performed By			
Justin Buonocore			

BAM Current Operating Status Check

Main Screen:	Time	Mode (Operate or Normal)	
	13:00	Normal	
Status	Tape Condition	BAM Flow Display (L/min)	
Sampling	Good	17.9	
Ambient Temperature (°C)	Barometric Pressure (mmHg)	Relative Humidity (%)	
0.3	746	11	

Leak Check

Flow Displayed (L/min)	Performance (≤ 1.5 L/min)
0.4	Pass

Air Flow, Temperature and Barometric Pressure Calibration Check

Ambient Air Temp. Displayed (°C)	Ambient Air Temp. Reference (°C)	Performance (± 5 °C)	
0.3	0.8	Pass	
Barometric Pres. Displayed (mmHg)	Barometric Pres. Reference (mmHg)	Performance (± 20 mmHg)	
747	744.5	Pass	
BAM Flow Display (L/min)	Reference Flow Measured (L/min)	Tolerance (%)	Performance (± 10 %)
17.90	16.8	0.8	Pass

Remarks

Seft Test - Passed

Errors - None

Company Representative	Title
Bill Branch	Project Coordinator
Has the Instrument been returned to service? ☑ Yes ☐ No	

Ontario

MINISTRY OF THE ENVIRONMENT

Atmospheric Analyser Audit / Calibration
Beta Attenuation Monitor

Site Information

Date YYYY-MM-DD	Company		
2021-06-17	Rotek Environmental		
Station / Site No.	Location Address		
29147	Terrapure - Upper Centenial Parkway, Hamilton		
Flow Reference Make /		Instrument Make / Model	Pollutant
Alicat FP-25BT		Met One BAM 1020	PM10
Flow Reference Serial No.		Instrument Serial No.	Range
224270		D7269	0-1000 µg/m^3
Temperature Reference Make		Accuracy (GPS)	Zone
Alicat FP-25BT		2-5m	17 T
Temperature Reference Serial No.		Easting	Northing
224270		600162	4783326
+ / - 10% Objective / Criteria Met	☑ Yes ☐ No		
Audit Performed By			
Justin Buonocore			

BAM Current Operating Status Check

Main Screen:	Time	Mode (Operate or Normal)	
	11:00	Normal	
Status	Tape Condition	BAM Flow Display (L/min)	
Sampling	Good	16.6	
Ambient Temperature (°C)	Barometric Pressure (mmHg)	Relative Humidity (%)	
23	752	15	

Leak Check

Flow Displayed (L/min)	Performance (≤ 1.5 L/min)
0.3	Pass

Air Flow, Temperature and Barometric Pressure Calibration Check

Ambient Air Temp. Displayed (°C)	Ambient Air Temp. Reference (°C)	Performance (± 5 °C)	
23	22.5	Pass	
Barometric Pres. Displayed (mmHg)	Barometric Pres. Reference (mmHg)	Performance (± 20 mmHg)	
752	750	Pass	
BAM Flow Display (L/min)	Reference Flow Measured (L/min)	Tolerance (%)	Performance (± 10 %)
16.60	16.5	-1.2	Pass

Remarks

Seft Test - Passed

Errors - None

Company Representative	Title
Bill Branch	Project Coordinator
Has the Instrument been returned to service?	☑ Yes ☐ No

Ontario

MINISTRY OF THE ENVIRONMENT

Atmospheric Analyser Audit / Calibration
Beta Attenuation Monitor

Site Information

Date (YYYY-MM-DD)	Company
2021-08-16	Rotek Environmental

Station / Site No.	Location Address
29147	Terrapure - Upper Centenial Parkway, Hamilton

Flow Reference Make /	Instrument Make / Model	Pollutant
Alicat FP-25BT	Met One BAM 1020	PM10
Flow Reference Serial No.	**Instrument Serial No.**	**Range**
224270	D7269	0-1000 µg/m^3
Temperature Reference Make	**Accuracy (GPS)**	**Zone**
Alicat FP-25BT	2-5m	17 T
Temperature Reference Serial No.	**Easting**	**Northing**
224270	600162	4783326

+ / - 10% Objective / Criteria Met ☑ Yes ☐ No

Audit Performed By: Justin Buonocore

BAM Current Operating Status Check

Main Screen:	Time	Mode (Operate or Normal)
	11:00	Normal
Status	**Tape Condition**	**BAM Flow Display (L/min)**
OK	New	16.6

Ambient Temperature (°C)	Barometric Pressure (mmHg)	Relative Humidity (%)
21.9	747	32

Leak Check

Flow Displayed (L/min)	Performance (≤ 1.5 L/min)
0.2	Pass

Air Flow, Temperature and Barometric Pressure Calibration Check

Ambient Air Temp. Displayed (°C)	Ambient Air Temp. Reference (°C)	Performance (± 5 °C)
21.9	21.8	Pass
Barometric Pres. Displayed (mmHg)	**Barometric Pres. Reference (mmHg)**	**Performance (± 20 mmHg)**
747	748	Pass

BAM Flow Display (L/min)	Reference Flow Measured (L/min)	Tolerance (%)	Performance (± 10 %)
16.60	16.7	0.0	Pass

Remarks

Seft Test - Passed

Errors - None

Company Representative	Title
Bill Branch	Project Coordinator

Has the Instrument been returned to service? ☑ Yes ☐ No

Ontario

MINISTRY OF THE ENVIRONMENT

Atmospheric Analyser Audit / Calibration
Beta Attenuation Monitor

Site Information

Date YYYY-MM-DD	Company	
2021-12-17	Rotek Environmental	
Station / Site No.	Location Address	
29147	GFL Green for Life - Upper Centenial Parkway, Hamilton	
Flow Reference Make /	Instrument Make / Model	Pollutant
Alicat FP-25BT	Met One BAM 1020	PM10
Flow Reference Serial No.	Instrument Serial No.	Range
224270	BN 12231	0-1000 µg/m^3
Temperature Reference Make	Accuracy (GPS)	Zone
Alicat FP-25BT	2-5m	17 T
Temperature Reference Serial No.	Easting	Northing
224270	599906	4783763
+ / - 10% Objective / Criteria Met	☑ Yes ☐ No	
Audit Performed By		
Justin Buonocore		

BAM Current Operating Status Check

Main Screen:	Time	Mode (Operate or Normal)
	10:30	Normal
Status	Tape Condition	BAM Flow Display (L/min)
OK	OK	16.7

Ambient Temperature (°C)	Barometric Pressure (mmHg)	Relative Humidity (%)
2.9	749	9

Leak Check

Flow Displayed (L/min)	Performance (≤ 1.5 L/min)
0.5	Pass

Air Flow, Temperature and Barometric Pressure Calibration Check

Ambient Air Temp. Displayed (°C)	Ambient Air Temp. Reference (°C)	Performance (± 5 °C)
2.9	3.4	Pass
Barometric Pres. Displayed (mmHg)	Barometric Pres. Reference (mmHg)	Performance (± 20 mmHg)
749.7	748	Pass

BAM Flow Display (L/min)	Reference Flow Measured (L/min)	Tolerance (%)	Performance (± 10 %)
16.70	16.8	0.5	Pass

Remarks

Seft Test - Passed

Errors - None

Moved to a new location on the property.

Company Representative	Title
Bill Branch	Project Coordinator
Has the Instrument been returned to service?	☑ Yes ☐ No

GFL
Stoney Creek Regional Facility

Appendix E

2021

PM10 Station STN29247
Sensor Commissioning Timeline Summary

PM_{10} Station STN29247 - Sensor Commissioning Timeline Summary

Sensor Description	Commission Date
Met One BAM 1020 PM_{10} Monitor	20 September, 2021
Wind Sensor - WS / WD	11 September, 2021
Ambient Temperature / Relative Humidity	20 September, 2021
Precipitation	14 September, 2021

Appendix Q

Noise Monitoring Survey 2021 - Rotek Environmental Inc.

July | 2021

Semi Annual Noise Monitoring Survey - 1

Terrapure Environmental
65 Green Mountain Road West
Stoney Creek, Ontario
L8J 1X5

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Tables

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July 30, 2021

Terrapure
Semi-Annual Noise Monitoring Survey, July, 2021
Stoney Creek Facility - Stoney Creek, Ontario
Rotek Reference No. RO 166 - 280721

1. Introduction

Rotek Environmental Inc. was retained by Terrapure to conduct the required semi-annual 2021 noise monitoring surveys at their Stoney Creek Regional Facility (East Quarry) located at 65 Green Mountain Road West, Stoney Creek, Ontario. These surveys are required under Environmental Compliance Approval Number A181008 issued by the Ministry of the Environment, Conservation and Parks (MECP). The scope of work was originally defined in the report "Taro Landfill Audit Programme," prepared by J.E. Coulter Associates Limited (dated May 8, 1997).

2. Scope of Work Summary

- On-site monitoring of noise generated by the Stoney Creek Regional Facility operations and heavy equipment.

- Concurrent monitoring of noise in the form of four 20-minute energy equivalent sound levels (Leq) conducted at each of four off-site residential receptors.

3. Sampling Methodology

The on-site noise measurements were propagated to the off-site residential receptors of interest and compared with facility noise guidelines and traffic noise modelling results.

4. Noise Monitoring Equipment

The noise measurements were conducted using 2 Larson Davis Model 831 Precision Integrating Sound Level Meters. Each meter's calibration was confirmed with a Larson Davis Type CAL200 Precision Sound Level Calibrator before and after each measurement. The microphone on each of the sound level meters was equipped with a wind screen. All measurements were conducted in compliance with procedural requirements outlined in the Ministry of the Environment, Conservation and Parks (MECP) Publication NPC-103.

- On-site Noise Meter - Larson Davis Model 831 - Serial No. 3311
- Off-site Noise Meter - Larson Davis Model 831 - Serial No. 3382

5. On-Site Sound Level Measurements

On-site measurements of facility noise sources were conducted on July 28th and 30th, 2021. On July 30th the sound level meter was located approximately 40 metres from the heavy equipment operations at working face (M1). On July 28th this distance was approximately 60 metres (M2). The measurement locations are shown in Figure 2 (Page 10). Siting of noise receptor position is dependent on facility configuration and operator safety protocols. These locations were selected as being representative of worst-case noise levels, due to minimum shielding from topography and berming. Detailed M1 and M2 noise measurement records are provided in Appendix B.

6. Off-Site Sound Level Measurements

Off-site measurements were conducted at four residential receptors, which are described in Table 1 and are shown in Figure 2. These receptors represent locations of potential worst-case noise impacts and were chosen based on their proximity to the facility. Detailed NR1, NR2, NR3 and NR4 noise measurement records are provided in Appendix B.

Table 1 - Summary of Noise Sensitive Receptors

Receptor No.	Receptor Location	Dominant Background Noise Source	Stoney Creek Facility Noise Observed During Traffic Lulls
NR1	136 Penny Lane	Mud Street Traffic	Single tailgate slam and momentary vehicle backup alarm during Trial 3 measurement on July 30th.
NR2	Terrapure facility east property line	Upper Centennial Parkway Traffic	None detected from Terrapure facility.
NR3	18 Branthaven Drive (Rear, Street Level)	Mud Street Traffic	None detected from Terrapure facility.
NR4	40 Hedges Crescent	Green Mountain Road Traffic	None detected from Terrapure facility.

7. Receptor GIS UTM Datum

- **NR1** - Zone 17 T 0599524 Easting 4782821 Northing Elevation 207 m
- **NR2** - Zone 17 T 0600183 Easting 4783392 Northing Elevation 209 m
- **NR3** - Zone 17 T 0599098 Easting 4782932 Northing Elevation 204 m
- **NR4** - Zone 17 T 0599650 Easting 4783868 Northing Elevation 192 m
- **M1** - Zone 17 T 0599657 Easting 4783111 Northing Elevation 203 m
- **M2** - Zone 17 T 0599621 Easting 4783230 Northing Elevation 205 m

8. Survey Weather

- On July 30th, 2021, four short term (20 minute) Leq measurements were taken at 136 Penny Lane, NR1, and at 18 Branthaven Drive, NR3.

    - Survey weather conditions on July 30th, 2021:

    - Mainly clear morning, overcast afternoon
    - North winds, 12 km/hr (ground level)
    - Temperature / 19.6 ºC
    - Relative humidity / 52%

- On July 28th, 2021, four short term (20 minute) Leq measurements were taken at the facility east property line, NR2, and at 40 Hedges Crescent, NR4.

    - Survey weather conditions on July 28th, 2021:

    - Mainly clear
    - North-east winds, 12 km/hr (ground level)
    - Temperature / 22.7 ºC
    - Relative humidity / 67%

9. Results

The dominant noise source at all of the off-site receptors was road traffic (Table 1). A number of measurements were taken at different times throughout the day during the hours of facility operation (0800 to 1600 Hrs).

The following tables summarize the on-site and off-site sound levels at receptors NR1, NR2, NR3 and NR4. Detailed noise measurement records are provided in Appendix B. Table 2a summarizes the short-term measurements at 136 Penny Lane (NR1) and concurrent traffic counts. The average measured Leq at NR1 was 67 dBA. Table 2b summarizes, for comparison, the predicted sound levels at receptor NR1 that were derived from concurrent near-field measurements of on-site facility activities at location M1.

Table 2a: NR1 - Monitoring Summary - July 30, 2021 (dBA)

Trial No.	Start Time	Measured Sound Level			Traffic Counts		
		L_{eq}	L_{min}	L_{max}	Cars	Medium Trucks	Heavy Trucks
1	09:00	67	51	84	426	13	33
2	11:00	68	48	81	388	17	41
3	13:30	67	47	78	427	19	44
4	15:00	67	47	78	603	21	34

Table 2b: On-Site Sound Levels at M1 - Predicted Impacts at NR1 (dBA)

Trial No.	Start Time	Measured Near - Field Sound Level at M1			Measured Sound Level at NR1	Facility Attributable (Predicted) Noise Level at NR1
		L_{eq}	L_{min}	L_{max}	L_{eq}	L_{eq}
1	09:00	69	50	84	67	50
2	11:00	62	51	80	68	43
3	13:30	66	44	82	67	47
4	15:00	64	38	80	67	45

Table 3a summarizes the short-term measurements at the facility east property line (NR2) and concurrent traffic counts. The average measured Leq at NR2 was 69 dBA. For comparison, predicted sound levels at NR2 based on concurrent near-field sound level measurements of facility noise sources at location M2 are summarized in Table 3b.

Table 3a: NR2 - Monitoring Summary - July 28, 2021 (dBA)

Trial No.	Start Time	Measured Sound Level			Traffic Counts		
		L_{eq}	L_{min}	L_{max}	Cars	Medium Trucks	Heavy Trucks
1	08:30	70	43	86	404	16	29
2	10:30	69	47	80	379	10	26
3	13:00	69	43	81	356	11	22
4	14:30	69	48	77	553	13	31

Table 3b: On-Site Sound Levels at M2 - Predicted Impacts at NR2 (dBA)

Trial No.	Start Time	Measured Near - Field Sound Level at M2			Measured Sound Level at NR2	Facility Attributable (Predicted) Noise Level at NR2
		L_{eq}	L_{min}	L_{max}	L_{eq}	L_{eq}
1	08:30	63	42	82	70	44
2	10:30	60	42	78	69	41
3	13:00	56	38	75	69	37
4	14:30	62	39	76	69	43

Table 4a summarizes the short-term measurements at 18 Branthaven Drive (NR3) with concurrent traffic counts. The average measured Leq at NR3 was 70 dBA. Predicted sound levels at NR3 based on concurrent near-field measurements of on-site facility operations at location M1 are summarized in Table 4b for comparison.

Table 4a: NR3 - Monitoring Summary - July 30, 2021 (dBA)

Trial No.	Start Time	Measured Sound Level			Traffic Counts		
		L_{eq}	L_{min}	L_{max}	Cars	Medium Trucks	Heavy Trucks
1	08:30	70	50	79	560	21	42
2	10:30	70	52	82	399	19	48
3	13:00	69	51	80	504	26	47
4	14:30	69	42	79	618	19	32

Table 4b: On-Site Sound Levels at M1 - Predicted Impacts at NR3 (dBA)

Trial No.	Start Time	Measured Near - Field Sound Level at M1			Measured Sound Level at NR3	Facility Attributable (Predicted) Noise Level at NR3
		L_{eq}	L_{min}	L_{max}	L_{eq}	L_{eq}
1	08:30	69	54	87	70	45
2	10:30	64	49	80	70	40
3	13:00	69	45	89	69	45
4	14:30	57	38	78	69	33

Table 5a summarizes the short-term measurements at 40 Hedges Crescent (NR4) with concurrent traffic counts. The average measured Leq at NR4 was 55 dBA. Predicted sound levels at NR4 based on concurrent near-field measurements of on-site facility operations at location M2 are summarized in Table 5b for comparison.

Table 5a: NR4 - Monitoring Summary - July 28, 2021 (dBA)

Trial No.	Start Time	Measured Sound Level			Traffic Counts		
		L_{eq}	L_{min}	L_{max}	Cars	Medium Trucks	Heavy Trucks
1	09:00	54	37	68	33	2	2
2	11:00	57	40	81	22	2	4
3	13:30	54	36	72	19	1	1
4	15:00	55	39	74	21	1	2

Table 5b: On-Site Sound Levels at M2 - Predicted Impacts at NR4 (dBA)

Trial No.	Start Time	Measured Near - Field Sound Level at M2			Measured Sound Level at NR4	Facility Attributable (Predicted) Noise Level at NR4
		L_{eq}	L_{min}	L_{max}	L_{eq}	L_{eq}
1	09:00	64	46	81	54	44
2	11:00	60	41	83	57	40
3	13:30	67	43	84	54	47
4	15:00	60	42	77	55	40

Predicted Road Traffic Noise

The sound levels measured off-site at the four residential receptors were compared with predicted road traffic noise levels. Levels were predicted using the STAMSON v5 traffic model which utilizes the Ontario Road Noise Analysis Method for Environment and Transportation (ORNAMENT) algorithm advocated by the MECP. The model uses traffic volumes, source-receptor geometry and environmental factors to predict sound levels due to road traffic.

Measured sound levels of 20 minutes in duration are considered to be representative of a 1-hour Leq (Leq (1)). STAMSON results were predicted in the form of Leq (1), which can be compared directly to the measured values. The following Tables 6a, 6b, 6c and 6d present the measured background sound levels at each receptor with the corresponding sound levels predicted by STAMSON using the concurrent traffic counts. STAMSON calculations are shown in Appendix C. A negative differential between measured and predicted noise levels is reported as 0 dB.

Table 6a: Summary of Sound Levels Measured at NR1 and Predicted Sound Levels from the STAMSON **Traffic Noise Model** (dBA)

Location **-** 136 Penny Lane

Trial No.	Sample Time	Measured Noise Levels	Predicted Sound Level Due to Road Traffic	Difference
		L_{eq}	L_{eq}	dB
1	09:00	67	66	1
2	11:00	68	67	1
3	13:30	67	67	0
4	15:00	67	67	0

Table 6b: Summary of Sound Levels Measured at NR2 and Predicted Sound Levels from the STAMSON Traffic Noise Model (dBA)

Location - Terrapure facility east property line

Trial No.	Sample Time	Measured Noise Levels	Predicted Sound Level Due to Road Traffic	Difference
		L_{eq}	L_{eq}	dB
1	08:30	70	68	2
2	10:30	69	68	1
3	13:00	69	67	2
4	14:30	69	69	0

Table 6c: Summary of Sound Levels Measured at NR3 and Predicted Sound Levels from the STAMSON Traffic Noise Model (dBA)

Location - 18 Branthaven Drive

Trial No.	Sample Time	Measured Noise Levels	Predicted Sound Level Due to Road Traffic	Difference
		L_{eq}	L_{eq}	dB
1	08:30	70	70	0
2	10:30	70	70	0
3	13:00	69	70	0
4	14:30	69	69	0

Table 6d: Summary of Sound Levels Measured at NR4 and Predicted Sound Levels from the STAMSON Traffic Noise Model (dBA)

Location - 40 Hedges Crescent

Trial No.	Sample Time	Measured Noise Levels	Predicted Sound Level Due to Road Traffic	Difference
		L_{eq}	L_{eq}	dB
1	09:00	54	56	0
2	11:00	57	59	0
3	13:30	54	53	1
4	15:00	55	56	0

When the pairs of measured noise levels and predicted sound levels in Tables 6a through 6d are compared the measured and predicted values are generally in good agreement.

10. Noise Guidelines

Current MECP guidelines for noise provide limits of 45 dBA during the night and 55 dBA during the day or the existing background sound level in the absence of the facility noise impact, whichever is higher.

The hours of operation of the Stoney Creek Facility site are from 0800 to 1600 Hrs Monday to Friday. As the facility does not operate during the night, the MECP daytime guideline limit of 55 dBA applies.

11. Discussion

On-Site Sound Level Measurements

The highest measured on-site sound levels (Leq (30 min)) in the direction of 136 Penny Lane (NR1), Terrapure facility east property line (NR2), Branthaven Drive (NR3) and 40 Hedges Crescent (NR4) were 69 dBA, 63 dBA, 69 dBA and 67 dBA, respectively during the off-site measurements. The highest predicted sound levels due to facility activities at NR1, NR2, NR3 and NR4 were 50 dBA, 44 dBA, 45 dBA and 47 dBA respectively, based on distance attenuation of these maximum on-site noise measurements. Appendix A contains details of the propagation calculations.

Off-Site Sound Level Measurements

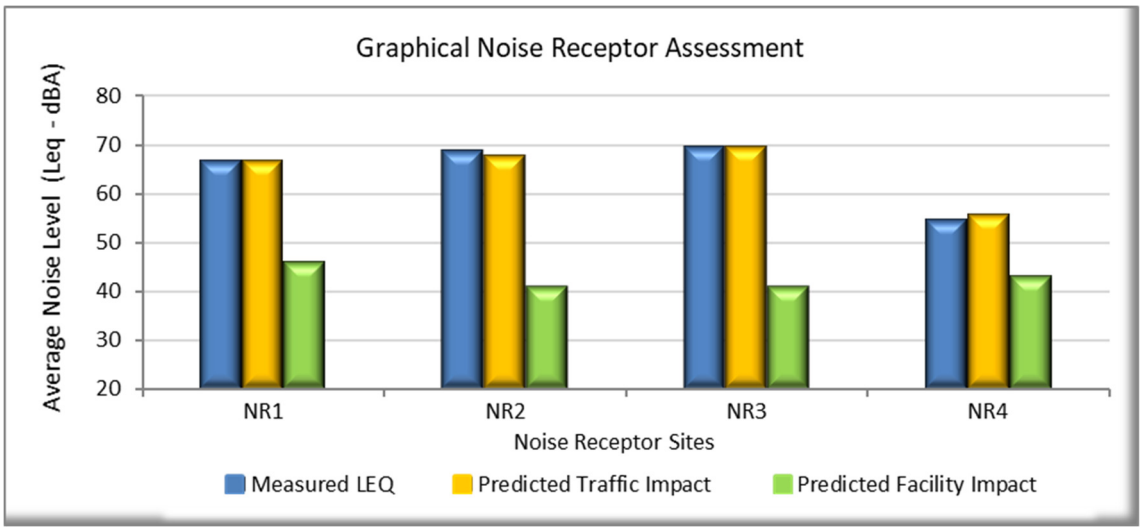
The sound level measured at 136 Penny Lane (NR1) averaged 67 dBA and was dominated by Mud Street traffic. The facility contribution is expected to be 43 to 50 dBA, as calculated from the on-site measurements. This predicted noise level is well below the measured noise. The noise level at the receptor is therefore dominated by non-facility or background noise and is considered to be in compliance with MECP guidelines. The off-site measurements were also in agreement with STAMSON modelling.

The measured sound levels at the facility east property line (NR2) averaged 69 dBA and were dominated by Upper Centennial Parkway traffic. The facility contribution is expected to be 37 to 44 dBA, as calculated from the on-site measurements. This predicted noise level is well below the measured noise. The noise level at the receptor is therefore dominated by non-facility or background noise and is considered to be in compliance with MECP guidelines. The off-site measurements were also in agreement with STAMSON modelling.

The measured sound levels at 18 Branthaven Drive (NR3) averaged 70 dBA and were dominated by Mud Street traffic. The facility contribution is expected to be 33 to 45 dBA, as calculated from the on-site measurements. This predicted noise level is well below the measured noise. The noise level at the receptor is therefore dominated by non-facility or background noise and is considered to be in compliance with MECP guidelines. The off-site measurements were also in agreement with STAMSON modelling.

The measured sound levels at 40 Hedges Crescent (NR4) averaged 55 dBA and were dominated by Green Mountain Road traffic and subdivision construction activity background noise. The facility contribution is expected to be 40 to 47 dBA, as calculated from the on-site measurements. This predicted noise level is well below the measured noise. The noise level at the receptor is therefore dominated by non-facility or background noise and is considered to be in compliance with MECP guidelines. The off-site measurements were also in agreement with STAMSON modelling.

Noise Receptor Assessment - Graphical Summary - Figure 1



12. Noise Receptor Aerial Overview - Figure 2

Noise Measurement Receptors

Aerial Overview

July 28th and 30th, 2021

- Terrapure Property Line
- On-Site Noise Measurements
- Off-Site Noise Measurements
- Facility Working Face

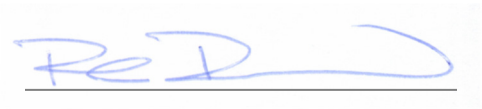
Location of Noise Receptors and On-Site Noise Measurements July 28th and 30th, 2021	↑ True North	By : BB	**Figure 2**	ROTEK
Terrapure - Stoney Creek Regional Facility		Approx. Scale :	1:11500	
		Date Revised :	16 Aug, 2021	

13. Conclusions

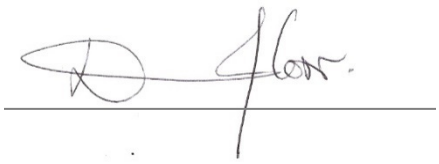
In conclusion, based on our noise measurements, calculations, and comparison to predicted sound levels from local road traffic, the Stoney Creek Regional Facility is in compliance with MECP noise guidelines.

We would be pleased to respond to any questions. Please do not hesitate to contact the undersigned at 905-573-9533.

Regards,



Paul Daszko / Project Manager



Denis Corr, PhD / Project Scientist

Bill Branch / Project Co-ordinator

Rotek Environmental Inc.
15 Keefer Court
Hamilton, Ontario
L8E 4V4
Phone : 905 573 9533
Fax : 905 578 5167

Appendix A

Landfill Attributable Noise Levels
Distance Attenuation Summary

Distance Attenuation Summary - July, 2021

▪ Offsite Noise Receptor NR1

NR1 - 136 Penny Lane		
Measurement 1		
Reference Distance	40	metres
Source to Receiver Distance	340	metres
Distance Attenuation	-19	dBA
Sound Level Measured	69	dBA
Attenuated Sound Level	50	dBA

NR1 - 136 Penny Lane		
Measurement 2		
Reference Distance	40	metres
Source to Receiver Distance	340	metres
Distance Attenuation	-19	dBA
Sound Level Measured	62	dBA
Attenuated Sound Level	43	dBA

NR1 - 136 Penny Lane		
Measurement 3		
Reference Distance	40	metres
Source to Receiver Distance	340	metres
Distance Attenuation	-19	dBA
Sound Level Measured	66	dBA
Attenuated Sound Level	47	dBA

NR1 - 136 Penny Lane		
Measurement 4		
Reference Distance	40	metres
Source to Receiver Distance	340	metres
Distance Attenuation	-19	dBA
Sound Level Measured	64	dBA
Attenuated Sound Level	45	dBA

▪ Offsite Noise Receptor NR2

NR2 - Facility East Property Line		
Measurement 1		
Reference Distance	60	metres
Source to Receiver Distance	560	metres
Distance Attenuation	-19	dBA
Sound Level Measured	63	dBA
Attenuated Sound Level	44	dBA

NR2 - Facility East Property Line		
Measurement 2		
Reference Distance	60	metres
Source to Receiver Distance	560	metres
Distance Attenuation	-19	dBA
Sound Level Measured	60	dBA
Attenuated Sound Level	41	dBA

NR2 - Facility East Property Line		
Measurement 3		
Reference Distance	60	metres
Source to Receiver Distance	560	metres
Distance Attenuation	-19	dBA
Sound Level Measured	56	dBA
Attenuated Sound Level	37	dBA

NR2 - Facility East Property Line		
Measurement 4		
Reference Distance	60	metres
Source to Receiver Distance	560	metres
Distance Attenuation	-19	dBA
Sound Level Measured	62	dBA
Attenuated Sound Level	43	dBA

Distance Attenuation Summary - July, 2021

▪ Offsite Noise Receptor NR3

NR3 - 18 Branthaven Drive		
Measurement 1		
Reference Distance	40	metres
Source to Receiver Distance	640	metres
Distance Attenuation	-24	dBA
Sound Level Measured	69	dBA
Attenuated Sound Level	45	dBA

NR3 - 18 Branthaven Drive		
Measurement 2		
Reference Distance	40	metres
Source to Receiver Distance	640	metres
Distance Attenuation	-24	dBA
Sound Level Measured	64	dBA
Attenuated Sound Level	40	dBA

NR3 - 18 Branthaven Drive		
Measurement 3		
Reference Distance	40	metres
Source to Receiver Distance	640	metres
Distance Attenuation	-24	dBA
Sound Level Measured	69	dBA
Attenuated Sound Level	45	dBA

NR3 - 18 Branthaven Drive		
Measurement 4		
Reference Distance	40	metres
Source to Receiver Distance	640	metres
Distance Attenuation	-24	dBA
Sound Level Measured	57	dBA
Attenuated Sound Level	33	dBA

▪ Offsite Noise Receptor NR4

NR4 - 40 Hedges Crescent		
Measurement 1		
Reference Distance	60	metres
Source to Receiver Distance	620	metres
Distance Attenuation	-20	dBA
Sound Level Measured	64	dBA
Attenuated Sound Level	44	dBA

NR4 - 40 Hedges Crescent		
Measurement 2		
Reference Distance	60	metres
Source to Receiver Distance	620	metres
Distance Attenuation	-20	dBA
Sound Level Measured	60	dBA
Attenuated Sound Level	40	dBA

NR4 - 40 Hedges Crescent		
Measurement 3		
Reference Distance	60	metres
Source to Receiver Distance	620	metres
Distance Attenuation	-20	dBA
Sound Level Measured	67	dBA
Attenuated Sound Level	47	dBA

NR4 - 40 Hedges Crescent		
Measurement 4		
Reference Distance	60	metres
Source to Receiver Distance	620	metres
Distance Attenuation	-20	dBA
Sound Level Measured	60	dBA
Attenuated Sound Level	40	dBA

Appendix B

Noise Receptors

Noise Meter - Raw Data Files

General Information	
Serial Number	03382
Model	Model 831
Firmware Version	2.403
Filename	831_Data.012
Measurement Records:	1

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/07/30	09:00:00	00:20:00.0	67.0	97.8	83.8	50.5	108.2

General Information	
Serial Number	03382
Model	Model 831
Firmware Version	2.403
Filename	831_Data.014
Measurement Records:	1

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/07/30	11:00:00	00:20:00.0	68.4	99.2	81.2	48.1	107.5

General Information	
Serial Number	03382
Model	Model 831
Firmware Version	2.403
Filename	831_Data.016
Measurement Records:	1

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/07/30	13:30:00	00:20:00.0	66.5	97.2	78.4	47.4	103.8

General Information	
Serial Number	03382
Model	Model 831
Firmware Version	2.403
Filename	831_Data.018
Measurement Records:	1

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/07/30	15:00:00	00:20:00.0	66.7	97.5	78.0	46.9	103.8

General Information	
Serial Number	03382
Model	Model 831
Firmware Version	2.403
Filename	831_Data.002
Measurement Records:	1

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/07/28	08:30:00	00:20:00.0	69.9	100.7	85.6	42.6	101.8

General Information	
Serial Number	03382
Model	Model 831
Firmware Version	2.403
Filename	831_Data.004
Measurement Records:	1

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/07/28	10:30:00	00:20:00.0	69.3	100.1	79.7	46.9	100.5

General Information	
Serial Number	03382
Model	Model 831
Firmware Version	2.403
Filename	831_Data.006
Measurement Records:	1

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/07/28	13:00:00	00:20:00.0	69.0	99.8	80.6	42.9	99.9

General Information	
Serial Number	03382
Model	Model 831
Firmware Version	2.403
Filename	831_Data.008
Measurement Records:	1

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/07/28	14:30:00	00:20:00.0	68.6	99.4	76.7	47.7	98.6

General Information

Serial Number	03382
Model	Model 831
Firmware Version	2.403
Filename	831_Data.011
Measurement Records:	1

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/07/30	08:30:00	00:20:00.0	69.6	100.3	78.5	50.3	105.9

General Information	
Serial Number	03382
Model	Model 831
Firmware Version	2.403
Filename	831_Data.013
Measurement Records:	1

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/07/30	10:30:01	00:20:00.0	69.5	100.3	81.6	51.9	105.1

General Information	
Serial Number	03382
Model	Model 831
Firmware Version	2.403
Filename	831_Data.015
Measurement Records:	1

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/07/30	13:00:01	00:20:00.0	69.3	100.1	79.7	51.1	102.7

General Information	
Serial Number	03382
Model	Model 831
Firmware Version	2.403
Filename	831_Data.017
Measurement Records:	1

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/07/30	14:30:00	00:20:00.0	68.9	99.7	78.7	41.5	109.4

General Information

Serial Number	03382
Model	Model 831
Firmware Version	2.403
Filename	831_Data.003
Measurement Records:	1

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/07/28	09:00:00	00:20:00.0	54.4	85.1	67.6	36.5	94.2

General Information	
Serial Number	03382
Model	Model 831
Firmware Version	2.403
Filename	831_Data.005
Measurement Records:	1

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/07/28	11:00:00	00:20:00.0	56.9	87.7	80.5	39.5	100.0

General Information	
Serial Number	03382
Model	Model 831
Firmware Version	2.403
Filename	831_Data.007
Measurement Records:	1

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/07/28	13:30:00	00:20:00.0	54.2	85.0	71.9	35.5	99.7

General Information	
Serial Number	03382
Model	Model 831
Firmware Version	2.403
Filename	831_Data.009
Measurement Records:	1

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/07/28	15:00:00	00:20:00.0	55.3	86.1	74.4	38.7	103.6

General Information

Serial Number	03311
Model	Model 831
Firmware Version	2.403
Filename	831_Data.008
Measurement Records:	4

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/07/30	08:06:50	00:23:09.3	70.9	102.3	82.3	54.3	111.2
2	21/07/30	08:30:00	00:30:00.0	68.7	101.2	86.6	54.1	117.4
3	21/07/30	09:00:00	00:30:00.0	68.8	101.3	83.5	50.1	113.7
4	21/07/30	09:30:00	00:18:19.0	59.9	90.3	80.4	47.0	110.9

General Information	
Serial Number	03311
Model	Model 831
Firmware Version	2.403
Filename	831_Data.009
Measurement Records:	4

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/07/30	10:11:30	00:18:29.4	70.6	101.0	88.7	49.4	116.1
2	21/07/30	10:30:00	00:30:00.0	63.9	96.5	79.7	49.3	110.5
3	21/07/30	11:00:00	00:30:00.0	62.2	94.7	80.4	51.3	112.4
4	21/07/30	11:30:00	00:02:46.1	57.8	80.0	61.9	53.0	106.8

General Information

Serial Number	03311
Model	Model 831
Firmware Version	2.403
Filename	831_Data.010
Measurement Records:	4

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/07/30	12:38:34	00:21:25.6	62.7	93.8	82.9	48.8	109.6
2	21/07/30	13:00:00	00:30:00.0	69.1	101.7	89.0	44.7	106.2
3	21/07/30	13:30:00	00:30:00.0	65.6	98.1	82.3	43.6	113.6
4	21/07/30	14:00:00	00:00:55.5	46.8	64.2	51.5	41.0	90.8

General Information	
Serial Number	03311
Model	Model 831
Firmware Version	2.403
Filename	831_Data.011
Measurement Records:	4

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/07/30	14:05:18	00:24:41.3	60.3	92.0	83.4	39.7	104.6
2	21/07/30	14:30:00	00:30:00.0	56.7	89.2	77.7	37.7	104.7
3	21/07/30	15:00:00	00:30:00.0	63.7	96.2	80.3	37.6	102.4
4	21/07/30	15:30:00	00:01:09.2	61.6	80.0	68.3	47.1	103.6

General Information	
Serial Number	03311
Model	Model 831
Firmware Version	2.403
Filename	831_Data.002
Measurement Records:	4

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/07/28	08:11:33	00:18:26.6	65.0	95.5	74.0	50.3	106.4
2	21/07/28	08:30:00	00:30:00.0	62.5	95.0	82.0	42.3	109.6
3	21/07/28	09:00:00	00:30:00.0	63.9	96.4	80.5	45.5	108.7
4	21/07/28	09:30:00	00:00:10.4	60.7	70.9	63.4	59.1	94.0

General Information

Serial Number	03311
Model	Model 831
Firmware Version	2.403
Filename	831_Data.003
Measurement Records:	4

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/07/28	10:15:40	00:14:19.6	58.3	87.6	77.9	40.7	118.7
2	21/07/28	10:30:00	00:30:00.0	60.1	92.6	77.8	41.9	109.3
3	21/07/28	11:00:00	00:30:00.0	59.6	92.2	82.8	40.9	110.5
4	21/07/28	11:30:00	00:00:49.0	56.9	73.8	64.5	47.9	99.5

General Information	
Serial Number	03311
Model	Model 831
Firmware Version	2.403
Filename	831_Data.004
Measurement Records:	4

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/07/28	12:38:05	00:21:54.6	52.5	83.7	70.4	37.5	112.0
2	21/07/28	13:00:00	00:30:00.0	56.4	88.9	74.7	38.0	103.4
3	21/07/28	13:30:00	00:30:00.0	66.9	99.4	83.6	43.0	111.5
4	21/07/28	14:00:00	00:00:55.2	59.2	76.6	62.8	54.1	103.0

General Information	
Serial Number	03311
Model	Model 831
Firmware Version	2.403
Filename	831_Data.005
Measurement Records:	4

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/07/28	14:17:23	00:12:36.6	58.1	86.9	70.9	39.7	101.2
2	21/07/28	14:30:00	00:30:00.0	62.3	94.8	76.0	38.9	99.8
3	21/07/28	15:00:00	00:30:00.0	60.1	92.7	76.6	41.6	102.1
4	21/07/28	15:30:00	00:00:09.6	64.9	74.8	67.5	62.0	94.1

Appendix C

STAMSON Traffic Model

Work Sheets

```
                                        NR1_A
STAMSON 5.0         NORMAL REPORT        Date: 21-03-2022 10:06:01
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: nr1a21.te             Time Period: 1 hours
Description: NR1 0900 30 July, 2021


Road data, segment # 1:
-----------------------
Car traffic volume  :  1278 veh/TimePeriod
Medium truck volume :    39 veh/TimePeriod
Heavy truck volume  :    99 veh/TimePeriod
Posted speed limit  :    70 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

Data for Segment # 1:
---------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  36.00 m
Receiver height           :   1.50 m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

♀
Results segment # 1:
--------------------

Source height = 1.63 m

ROAD (0.00 + 66.03 + 0.00) = 66.03 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.66  73.77   0.00  -6.30  -1.45   0.00   0.00   0.00  66.03
-------------------------------------------------------------------------------

Segment Leq : 66.03 dBA

Total Leq All Segments: 66.03 dBA

♀


TOTAL Leq FROM ALL SOURCES:       66.03
♀
♀
```

NR1_B

STAMSON 5.0 NORMAL REPORT Date: 21-03-2022 10:06:58
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: nr1b21.te Time Period: 1 hours
Description: NR1 1100 30 July, 2021

Road data, segment # 1:

Car traffic volume : 1164 veh/TimePeriod
Medium truck volume : 51 veh/TimePeriod
Heavy truck volume : 123 veh/TimePeriod
Posted speed limit : 70 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1:

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 36.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

♀
Results segment # 1:

Source height = 1.74 m

ROAD (0.00 + 66.74 + 0.00) = 66.74 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.65	74.47	0.00	-6.28	-1.44	0.00	0.00	0.00	66.74

Segment Leq : 66.74 dBA

Total Leq All Segments: 66.74 dBA

♀

TOTAL Leq FROM ALL SOURCES: 66.74
♀
♀

NR1_C
STAMSON 5.0 NORMAL REPORT Date: 21-03-2022 10:07:50
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: nr1c21.te Time Period: 1 hours
Description: NR1 1330 30 July, 2021

Road data, segment # 1:

Car traffic volume : 1281 veh/TimePeriod
Medium truck volume : 57 veh/TimePeriod
Heavy truck volume : 132 veh/TimePeriod
Posted speed limit : 70 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1:

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 36.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1:

Source height = 1.73 m

ROAD (0.00 + 67.08 + 0.00) = 67.08 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.65	74.81	0.00	-6.29	-1.44	0.00	0.00	0.00	67.08

Segment Leq : 67.08 dBA

Total Leq All Segments: 67.08 dBA

TOTAL Leq FROM ALL SOURCES: 67.08

NR1_D

STAMSON 5.0 NORMAL REPORT Date: 21-03-2022 10:08:47
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: nr1d21.te Time Period: 1 hours
Description: NR1 1500 30 July, 2021

Road data, segment # 1:

Car traffic volume : 1809 veh/TimePeriod
Medium truck volume : 63 veh/TimePeriod
Heavy truck volume : 102 veh/TimePeriod
Posted speed limit : 70 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1:

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 36.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

♀
Results segment # 1:

Source height = 1.51 m

ROAD (0.00 + 66.68 + 0.00) = 66.68 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.66	74.45	0.00	-6.31	-1.46	0.00	0.00	0.00	66.68

Segment Leq : 66.68 dBA

Total Leq All Segments: 66.68 dBA

♀

TOTAL Leq FROM ALL SOURCES: 66.68
♀
♀

```
                                        NR2_A
STAMSON 5.0         NORMAL REPORT        Date: 21-03-2022 10:10:33
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: nr2a21.te             Time Period: 1 hours
Description: NR2 0830 28 July, 2021


Road data, segment # 1:
-----------------------
Car traffic volume  :  1212 veh/TimePeriod
Medium truck volume :    48 veh/TimePeriod
Heavy truck volume  :    87 veh/TimePeriod
Posted speed limit  :    70 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

Data for Segment # 1:
---------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  25.00 m
Receiver height           :   1.50 m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

♀
Results segment # 1:
--------------------

Source height = 1.59 m

ROAD (0.00 + 68.31 + 0.00) = 68.31 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.66  73.43   0.00  -3.68  -1.45   0.00   0.00   0.00  68.31
-------------------------------------------------------------------------------

Segment Leq : 68.31 dBA

Total Leq All Segments: 68.31 dBA

♀


TOTAL Leq FROM ALL SOURCES:       68.31
♀
♀
```

NR2_B

STAMSON 5.0 NORMAL REPORT Date: 21-03-2022 10:11:26
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: nr2b21.te Time Period: 1 hours
Description: NR2 1030 28 July, 2021

Road data, segment # 1:

Car traffic volume : 1137 veh/TimePeriod
Medium truck volume : 30 veh/TimePeriod
Heavy truck volume : 78 veh/TimePeriod
Posted speed limit : 70 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1:

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 25.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

♀
Results segment # 1:

Source height = 1.58 m

ROAD (0.00 + 67.72 + 0.00) = 67.72 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.66	72.85	0.00	-3.68	-1.45	0.00	0.00	0.00	67.72

Segment Leq : 67.72 dBA

Total Leq All Segments: 67.72 dBA

♀

TOTAL Leq FROM ALL SOURCES: 67.72
♀
♀

NR2_C
STAMSON 5.0 NORMAL REPORT Date: 21-03-2022 10:12:11
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: nr2c21.te Time Period: 1 hours
Description: NR2 1300 28 July, 2021

Road data, segment # 1:

Car traffic volume : 1068 veh/TimePeriod
Medium truck volume : 33 veh/TimePeriod
Heavy truck volume : 66 veh/TimePeriod
Posted speed limit : 70 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1:

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 25.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

♀
Results segment # 1:

Source height = 1.54 m

ROAD (0.00 + 67.21 + 0.00) = 67.21 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.66	72.35	0.00	-3.68	-1.45	0.00	0.00	0.00	67.21

Segment Leq : 67.21 dBA

Total Leq All Segments: 67.21 dBA

♀

TOTAL Leq FROM ALL SOURCES: 67.21
♀
♀

NR2_D

STAMSON 5.0 NORMAL REPORT Date: 21-03-2022 10:13:10
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: nr2d21.te Time Period: 1 hours
Description: NR2 1430 28 July, 2021

Road data, segment # 1:

Car traffic volume : 1659 veh/TimePeriod
Medium truck volume : 39 veh/TimePeriod
Heavy truck volume : 93 veh/TimePeriod
Posted speed limit : 70 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1:

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 25.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

♀
Results segment # 1:

Source height = 1.51 m

ROAD (0.00 + 68.74 + 0.00) = 68.74 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.66	73.88	0.00	-3.68	-1.46	0.00	0.00	0.00	68.74

Segment Leq : 68.74 dBA

Total Leq All Segments: 68.74 dBA

♀

TOTAL Leq FROM ALL SOURCES: 68.74
♀
♀

```
                                        NR3_A
STAMSON 5.0         NORMAL REPORT        Date: 21-03-2022 10:15:08
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: nr3a21.te             Time Period: 1 hours
Description: NR3 0830 30 July, 2021


Road data, segment # 1:
-----------------------
Car traffic volume  :  1680 veh/TimePeriod
Medium truck volume :    63 veh/TimePeriod
Heavy truck volume  :   126 veh/TimePeriod
Posted speed limit  :    70 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

Data for Segment # 1:
---------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  26.00 m
Receiver height           :   1.50 m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

♀
Results segment # 1:
--------------------

Source height = 1.61 m

ROAD (0.00 + 69.54 + 0.00) = 69.54 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.66  74.95   0.00  -3.96  -1.45   0.00   0.00   0.00  69.54
-------------------------------------------------------------------------------

Segment Leq : 69.54 dBA

Total Leq All Segments: 69.54 dBA

♀


TOTAL Leq FROM ALL SOURCES:       69.54
♀
♀
```

NR3_B
STAMSON 5.0 NORMAL REPORT Date: 21-03-2022 10:25:59
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: nr3b21.te Time Period: 1 hours
Description: NR3 1030 30 July, 2021

Road data, segment # 1:

Car traffic volume : 1197 veh/TimePeriod
Medium truck volume : 57 veh/TimePeriod
Heavy truck volume : 144 veh/TimePeriod
Posted speed limit : 70 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1:

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 26.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1:

Source height = 1.79 m

ROAD (0.00 + 69.65 + 0.00) = 69.65 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.65	75.04	0.00	-3.94	-1.44	0.00	0.00	0.00	69.65

Segment Leq : 69.65 dBA

Total Leq All Segments: 69.65 dBA

TOTAL Leq FROM ALL SOURCES: 69.65

NR3_C
STAMSON 5.0 NORMAL REPORT Date: 21-03-2022 15:23:20
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: nr3c21.te Time Period: 1 hours
Description: NR3 1300 30 July, 2021

Road data, segment # 1:

Car traffic volume : 1512 veh/TimePeriod
Medium truck volume : 78 veh/TimePeriod
Heavy truck volume : 141 veh/TimePeriod
Posted speed limit : 70 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1:

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 26.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

♀
Results segment # 1:

Source height = 1.69 m

ROAD (0.00 + 69.90 + 0.00) = 69.90 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.65	75.30	0.00	-3.95	-1.45	0.00	0.00	0.00	69.90

Segment Leq : 69.90 dBA

Total Leq All Segments: 69.90 dBA

♀

TOTAL Leq FROM ALL SOURCES: 69.90
♀
♀

NR3_D

STAMSON 5.0 NORMAL REPORT Date: 21-03-2022 10:17:49
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: nr3d21.te Time Period: 1 hours
Description: NR3 1430 30 July, 2021

Road data, segment # 1:

Car traffic volume : 1854 veh/TimePeriod
Medium truck volume : 57 veh/TimePeriod
Heavy truck volume : 96 veh/TimePeriod
Posted speed limit : 70 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1:

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 26.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1:

Source height = 1.48 m

ROAD (0.00 + 68.84 + 0.00) = 68.84 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.66	74.27	0.00	-3.97	-1.46	0.00	0.00	0.00	68.84

Segment Leq : 68.84 dBA

Total Leq All Segments: 68.84 dBA

TOTAL Leq FROM ALL SOURCES: 68.84

```
                                        NR4_A
STAMSON 5.0         NORMAL REPORT        Date: 21-03-2022 10:18:50
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: nr4_a21.te           Time Period: 1 hours
Description: NR4 0900 28 July, 2021


Road data, segment # 1:
-----------------------
Car traffic volume  :    99 veh/TimePeriod
Medium truck volume :     6 veh/TimePeriod
Heavy truck volume  :     6 veh/TimePeriod
Posted speed limit  :    40 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

Data for Segment # 1:
---------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  15.00 m
Receiver height           :   1.50 m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

♀
Results segment # 1:
--------------------

Source height = 1.52 m

ROAD (0.00 + 56.39 + 0.00) = 56.39 dBA
Angle1 Angle2  Alpha RefLeq  P.Adj  D.Adj  F.Adj  W.Adj  H.Adj  B.Adj SubLeq
-------------------------------------------------------------------------------
   -90     90   0.66  57.85   0.00   0.00  -1.46   0.00   0.00   0.00  56.39
-------------------------------------------------------------------------------

Segment Leq : 56.39 dBA

Total Leq All Segments: 56.39 dBA

♀


TOTAL Leq FROM ALL SOURCES:       56.39
♀
♀
```

NR4_B
STAMSON 5.0 NORMAL REPORT Date: 21-03-2022 10:19:53
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: nr4_b21.te Time Period: 1 hours
Description: NR4 1100 28 July, 2021

Road data, segment # 1:

Car traffic volume : 66 veh/TimePeriod
Medium truck volume : 6 veh/TimePeriod
Heavy truck volume : 12 veh/TimePeriod
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1:

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 15.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

♀
Results segment # 1:

Source height = 1.94 m

ROAD (0.00 + 58.65 + 0.00) = 58.65 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.65	60.09	0.00	0.00	-1.43	0.00	0.00	0.00	58.65

Segment Leq : 58.65 dBA

Total Leq All Segments: 58.65 dBA

♀

TOTAL Leq FROM ALL SOURCES: 58.65
♀
♀

NR4_C
STAMSON 5.0 NORMAL REPORT Date: 21-03-2022 10:20:40
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: nr4_c21.te Time Period: 1 hours
Description: NR4 1330 28 July, 2021

Road data, segment # 1:

Car traffic volume : 57 veh/TimePeriod
Medium truck volume : 3 veh/TimePeriod
Heavy truck volume : 3 veh/TimePeriod
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1:

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 15.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

♀
Results segment # 1:

Source height = 1.48 m

ROAD (0.00 + 53.47 + 0.00) = 53.47 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.66	54.93	0.00	0.00	-1.46	0.00	0.00	0.00	53.47

Segment Leq : 53.47 dBA

Total Leq All Segments: 53.47 dBA

♀

TOTAL Leq FROM ALL SOURCES: 53.47
♀
♀

NR4_D

STAMSON 5.0 NORMAL REPORT Date: 21-03-2022 10:21:47
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: nr4_d21.te Time Period: 1 hours
Description: NR4 1500 28 July, 2021

Road data, segment # 1:

Car traffic volume : 63 veh/TimePeriod
Medium truck volume : 3 veh/TimePeriod
Heavy truck volume : 6 veh/TimePeriod
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1:

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 15.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

♀
Results segment # 1:

Source height = 1.70 m

ROAD (0.00 + 55.85 + 0.00) = 55.85 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.65	57.29	0.00	0.00	-1.45	0.00	0.00	0.00	55.85

Segment Leq : 55.85 dBA

Total Leq All Segments: 55.85 dBA

♀

TOTAL Leq FROM ALL SOURCES: 55.85
♀
♀

December 2021

GFL GREEN FOR LIFE

environmental

Semi Annual Noise Monitoring Survey - 2

GFL Environmental
Stoney Creek Regional Facility
65 Green Mountain Road West
Stoney Creek, Ontario
L8J 1X5

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December 03, 2021

GFL
Semi-Annual Noise Monitoring Survey, December, 2021
Stoney Creek Facility - Stoney Creek, Ontario
Rotek Reference No. RO 166 - 031221

1. Introduction

Rotek Environmental Inc. was retained by GFL to conduct the required semi-annual 2021 noise monitoring surveys at their Stoney Creek Regional Facility (East Quarry) located at 65 Green Mountain Road West, Stoney Creek, Ontario. These surveys are required under Environmental Compliance Approval Number A181008 issued by the Ministry of the Environment, Conservation and Parks (MECP). The scope of work was originally defined in the report "Taro Landfill Audit Programme," prepared by J.E. Coulter Associates Limited (dated May 8, 1997).

2. Scope of Work Summary

- On-site monitoring of noise generated by the Stoney Creek Regional Facility operations and heavy equipment.

- Concurrent monitoring of noise in the form of four 20-minute energy equivalent sound levels (Leq) conducted at each of four off-site residential receptors.

3. Sampling Methodology

The on-site noise measurements were propagated to the off-site residential receptors of interest and compared with facility noise guidelines and traffic noise modelling results.

4. Noise Monitoring Equipment

The noise measurements were conducted using 2 Larson Davis Model 831 Precision Integrating Sound Level Meters. Each meter's calibration was confirmed with a Larson Davis Type CAL200 Precision Sound Level Calibrator before and after each measurement. The microphone on each of the sound level meters was equipped with a wind screen. All measurements were conducted in compliance with procedural requirements outlined in the Ministry of the Environment, Conservation and Parks (MECP) Publication NPC-103.

- On-site Noise Meter - Larson Davis Model 831 - Serial No. 3172
- Off-site Noise Meter - Larson Davis Model 831 - Serial No. 3546

5. On-Site Sound Level Measurements

On-site measurements of facility noise sources were conducted on December 1st and 3rd, 2021. On December 1st the sound level meter was located approximately 50 metres from the heavy equipment operations at working face (M1). On December 3rd this distance was approximately 35 metres (M2). The measurement locations are shown in Figure 2 (Page 10). Siting of noise receptor position is dependent on facility configuration and operator safety protocols. These locations were selected as being representative of worst-case noise levels, due to minimum shielding from topography and berming. Detailed M1 and M2 noise measurement records are provided in Appendix B.

6. Off-Site Sound Level Measurements

Off-site measurements were conducted at four residential receptors, which are described in Table 1 and are shown in Figure 2. These receptors represent locations of potential worst-case noise impacts and were chosen based on their proximity to the facility. Detailed NR1, NR2, NR3 and NR4 noise measurement records are provided in Appendix B.

Table 1 - Summary of Noise Sensitive Receptors

Receptor No.	Receptor Location	Dominant Background Noise Source	Stoney Creek Facility Noise Observed During Traffic Lulls
NR1	136 Penny Lane	Mud Street Traffic	None detected from GFL facility.
NR2	GFL facility east property line	Upper Centennial Parkway Traffic	None detected from GFL facility.
NR3	18 Branthaven Drive (Rear, Street Level)	Mud Street Traffic	None detected from GFL facility.
NR4	40 Hedges Crescent	Green Mountain Road Traffic	None detected from GFL facility.

7. Receptor GIS UTM Datum

- **NR1** - Zone 17 T 0599524 Easting 4782821 Northing Elevation 207 m
- **NR2** - Zone 17 T 0600183 Easting 4783392 Northing Elevation 209 m
- **NR3** - Zone 17 T 0599098 Easting 4782932 Northing Elevation 204 m
- **NR4** - Zone 17 T 0599650 Easting 4783868 Northing Elevation 192 m
- **M1** - Zone 17 T 0599591 Easting 4783074 Northing Elevation 212 m
- **M2** - Zone 17 T 0599791 Easting 4783066 Northing Elevation 216 m

8. Survey Weather

- On December 1st, 2021, four short term (20 minute) Leq measurements were taken at 136 Penny Lane, NR1, and at 18 Branthaven Drive, NR3.

    - Survey weather conditions on December 1st, 2021:

    - Mainly clear morning, overcast afternoon
    - South-West winds, 14 km/hr (ground level)
    - Temperature / 3.7 ºC
    - Relative humidity / 67%

- On December 3rd, 2021, four short term (20 minute) Leq measurements were taken at the facility east property line, NR2, and at 40 Hedges Crescent, NR4.

    - Survey weather conditions on December 3rd, 2021:

    - Overcast
    - West North-West winds, 7 km/hr (ground level)
    - Temperature / 1.7 ºC
    - Relative humidity / 61%

9. Results

The dominant noise source at all of the off-site receptors was road traffic (Table 1). A number of measurements were taken at different times throughout the day during the hours of facility operation (0800 to 1600 Hrs).

The following tables summarize the on-site and off-site sound levels at receptors NR1, NR2, NR3 and NR4. Detailed noise measurement records are provided in Appendix B. Table 2a summarizes the short-term measurements at 136 Penny Lane (NR1) and concurrent traffic counts. The average measured Leq at NR1 was 67 dBA. Table 2b summarizes, for comparison, the predicted sound levels at receptor NR1 that were derived from concurrent near-field measurements of on-site facility activities at location M1.

Table 2a: NR1 - Monitoring Summary - December 01, 2021 (dBA)

Trial No.	Start Time	Measured Sound Level			Traffic Counts		
		L_{eq}	L_{min}	L_{max}	Cars	Medium Trucks	Heavy Trucks
1	09:00	67	49	78	401	11	29
2	11:30	66	47	81	399	16	31
3	13:30	66	47	80	366	12	39
4	15:00	67	46	87	577	13	33

Table 2b: On-Site Sound Levels at M1 - Predicted Impacts at NR1 (dBA)

Trial No.	Start Time	Measured Near - Field Sound Level at M1			Measured Sound Level at NR1	Facility Attributable (Predicted) Noise Level at NR1
		L_{eq}	L_{min}	L_{max}	L_{eq}	L_{eq}
1	09:00	58	51	74	67	43
2	11:30	57	50	68	66	42
3	13:30	56	48	69	66	41
4	15:00	57	48	73	67	42

Table 3a summarizes the short-term measurements at the facility east property line (NR2) and concurrent traffic counts. The average measured Leq at NR2 was 70 dBA. For comparison, predicted sound levels at NR2 based on concurrent near-field sound level measurements of facility noise sources at location M2 are summarized in Table 3b.

Table 3a: NR2 - Monitoring Summary - December 03, 2021 (dBA)

Trial No.	Start Time	Measured Sound Level			Traffic Counts		
		L_{eq}	L_{min}	L_{max}	Cars	Medium Trucks	Heavy Trucks
1	08:30	69	46	77	380	9	28
2	11:00	69	43	80	366	11	37
3	13:00	70	47	83	403	14	30
4	14:30	70	46	82	626	16	32

Table 3b: On-Site Sound Levels at M2 - Predicted Impacts at NR2 (dBA)

Trial No.	Start Time	Measured Near - Field Sound Level at M2			Measured Sound Level at NR2	Facility Attributable (Predicted) Noise Level at NR2
		L_{eq}	L_{min}	L_{max}	L_{eq}	L_{eq}
1	08:30	69	50	84	69	46
2	11:00	69	48	90	69	46
3	13:00	69	52	94	70	46
4	14:30	66	57	88	70	43

Table 4a summarizes the short-term measurements at 18 Branthaven Drive (NR3) with concurrent traffic counts. The average measured Leq at NR3 was 67 dBA. Predicted sound levels at NR3 based on concurrent near-field measurements of on-site facility operations at location M1 are summarized in Table 4b for comparison.

Table 4a: NR3 - Monitoring Summary - December 01, 2021 (dBA)

Trial No.	Start Time	Measured Sound Level			Traffic Counts		
		L_{eq}	L_{min}	L_{max}	Cars	Medium Trucks	Heavy Trucks
1	08:30	68	50	80	522	11	21
2	11:00	67	43	79	343	13	29
3	13:00	67	45	77	423	9	19
4	14:30	67	46	80	543	8	28

Table 4b: On-Site Sound Levels at M1 - Predicted Impacts at NR3 (dBA)

Trial No.	Start Time	Measured Near - Field Sound Level at M1			Measured Sound Level at NR3	Facility Attributable (Predicted) Noise Level at NR3
		L_{eq}	L_{min}	L_{max}	L_{eq}	L_{eq}
1	08:30	58	52	77	68	36
2	11:00	59	50	73	67	37
3	13:00	58	49	67	67	36
4	14:30	58	49	68	67	36

Table 5a summarizes the short-term measurements at 40 Hedges Crescent (NR4) with concurrent traffic counts. The average measured Leq at NR4 was 61 dBA. Predicted sound levels at NR4 based on concurrent near-field measurements of on-site facility operations at location M2 are summarized in Table 5b for comparison.

Table 5a: NR4 - Monitoring Summary - December 03, 2021 (dBA)

Trial No.	Start Time	Measured Sound Level			Traffic Counts		
		L_{eq}	L_{min}	L_{max}	Cars	Medium Trucks	Heavy Trucks
1	09:00	60	40	73	21	1	4
2	11:30	60	40	75	18	2	3
3	13:30	60	37	73	23	3	4
4	15:00	64	42	83	31	3	8

Table 5b: On-Site Sound Levels at M2 - Predicted Impacts at NR4 (dBA)

Trial No.	Start Time	Measured Near - Field Sound Level at M2			Measured Sound Level at NR4	Facility Attributable (Predicted) Noise Level at NR4
		L_{eq}	L_{min}	L_{max}	L_{eq}	L_{eq}
1	09:00	70	50	91	60	43
2	11:30	69	48	87	60	42
3	13:30	69	48	81	60	42
4	15:00	70	55	85	64	43

Predicted Road Traffic Noise

The sound levels measured off-site at the four residential receptors were compared with predicted road traffic noise levels. Levels were predicted using the STAMSON v5 traffic model which utilizes the Ontario Road Noise Analysis Method for Environment and Transportation (ORNAMENT) algorithm advocated by the MECP. The model uses traffic volumes, source-receptor geometry and environmental factors to predict sound levels due to road traffic.

Measured sound levels of 20 minutes in duration are considered to be representative of a 1-hour Leq (Leq (1)). STAMSON results were predicted in the form of Leq (1), which can be compared directly to the measured values. The following Tables 6a, 6b, 6c and 6d present the measured background sound levels at each receptor with the corresponding sound levels predicted by STAMSON using the concurrent traffic counts. STAMSON calculations are shown in Appendix C. A negative differential between measured and predicted noise levels is reported as 0 dB.

Table 6a: Summary of Sound Levels Measured at NR1 and Predicted Sound Levels from the STAMSON **Traffic Noise Model** (dBA)

Location - 136 Penny Lane

Trial No.	Sample Time	Measured Noise Levels	Predicted Sound Level Due to Road Traffic	Difference
		L_{eq}	L_{eq}	dB
1	09:00	67	66	1
2	11:30	66	66	0
3	13:30	66	66	0
4	15:00	67	66	1

Table 6b: Summary of Sound Levels Measured at NR2 and Predicted Sound Levels from the STAMSON Traffic Noise Model (dBA)

Location - GFL facility east property line

Trial No.	Sample Time	Measured Noise Levels	Predicted Sound Level Due to Road Traffic	Difference
		L_{eq}	L_{eq}	dB
1	08:30	69	68	1
2	11:00	69	69	0
3	13:00	70	68	2
4	14:30	70	69	1

Table 6c: Summary of Sound Levels Measured at NR3 and Predicted Sound Levels from the STAMSON Traffic Noise Model (dBA)

Location - 18 Branthaven Drive

Trial No.	Sample Time	Measured Noise Levels	Predicted Sound Level Due to Road Traffic	Difference
		L_{eq}	L_{eq}	dB
1	08:30	68	67	1
2	11:00	67	68	0
3	13:00	67	67	0
4	14:30	67	68	0

Table 6d: Summary of Sound Levels Measured at NR4 and Predicted Sound Levels from the STAMSON Traffic Noise Model (dBA)

Location - 40 Hedges Crescent

Trial No.	Sample Time	Measured Noise Levels	Predicted Sound Level Due to Road Traffic	Difference
		L_{eq}	L_{eq}	dB
1	09:00	60	58	2
2	11:30	60	58	2
3	13:30	60	59	1
4	15:00	64	62	2

When the pairs of measured noise levels and predicted sound levels in Tables 6a through 6d are compared the measured and predicted values are generally in good agreement.

10. Noise Guidelines

Current MECP guidelines for noise provide limits of 45 dBA during the night and 55 dBA during the day or the existing background sound level in the absence of the facility noise impact, whichever is higher.

The hours of operation of the Stoney Creek Facility site are from 0800 to 1600 Hrs Monday to Friday. As the facility does not operate during the night, the MECP daytime guideline limit of 55 dBA applies.

11. Discussion

On-Site Sound Level Measurements

The highest measured on-site sound levels (Leq (30 min)) in the direction of 136 Penny Lane (NR1), GFL facility east property line (NR2), Branthaven Drive (NR3) and 40 Hedges Crescent (NR4) were 58 dBA, 69 dBA, 59 dBA and 70 dBA, respectively during the off-site measurements. The highest predicted sound levels due to facility activities at NR1, NR2, NR3 and NR4 were 43 dBA, 46 dBA, 37 dBA and 43 dBA respectively, based on distance attenuation of these maximum on-site noise measurements. Appendix A contains details of the propagation calculations.

Off-Site Sound Level Measurements

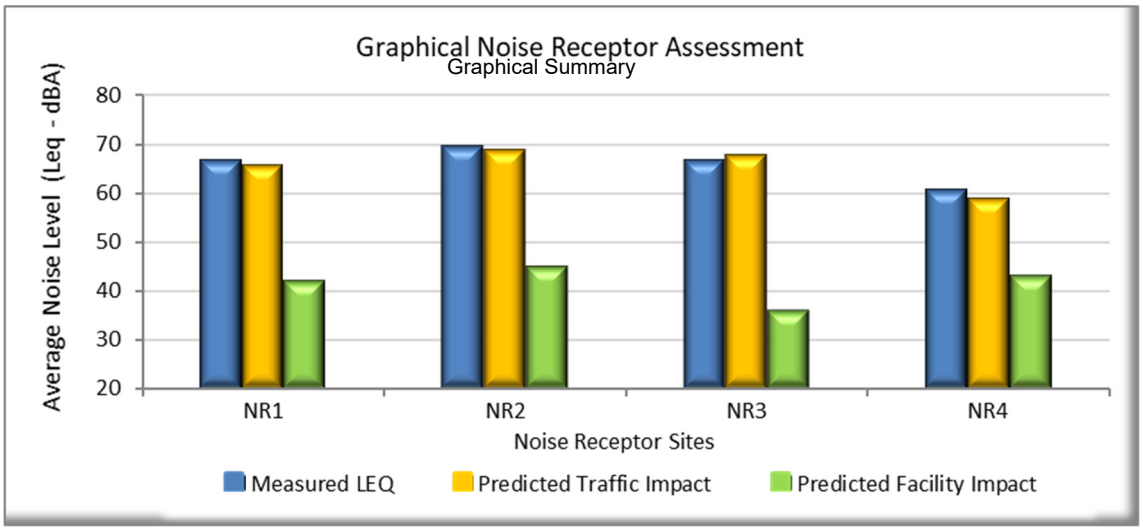
The sound level measured at 136 Penny Lane (NR1) averaged 67 dBA and was dominated by Mud Street traffic. The facility contribution is expected to be 41 to 43 dBA, as calculated from the on-site measurements. This predicted noise level is well below the measured noise. The noise level at the receptor is therefore dominated by non-facility or background noise and is considered to be in compliance with MECP guidelines. The off-site measurements were also in agreement with STAMSON modelling.

The measured sound levels at the facility east property line (NR2) averaged 70 dBA and were dominated by Upper Centennial Parkway traffic. The facility contribution is expected to be 43 to 46 dBA, as calculated from the on-site measurements. This predicted noise level is well below the measured noise. The noise level at the receptor is therefore dominated by non-facility or background noise and is considered to be in compliance with MECP guidelines. The off-site measurements were also in agreement with STAMSON modelling.

The measured sound levels at 18 Branthaven Drive (NR3) averaged 67 dBA and were dominated by Mud Street traffic. The facility contribution is expected to be 36 to 37 dBA, as calculated from the on-site measurements. This predicted noise level is well below the measured noise. The noise level at the receptor is therefore dominated by non-facility or background noise and is considered to be in compliance with MECP guidelines. The off-site measurements were also in agreement with STAMSON modelling.

The measured sound levels at 40 Hedges Crescent (NR4) averaged 61 dBA and were dominated by Green Mountain Road traffic and subdivision construction activity background noise. The facility contribution is expected to be 42 to 43 dBA, as calculated from the on-site measurements. This predicted noise level is well below the measured noise. The noise level at the receptor is therefore dominated by non-facility or background noise and is considered to be in compliance with MECP guidelines. The off-site measurements were also in agreement with STAMSON modelling.

Noise Receptor Assessment - Graphical Summary - Figure 1



12. Noise Receptor Aerial Overview - Figure 2

Noise Measurement Receptors

Aerial Overview

December 1st and 3rd, 2021

- GFL Property Line
- On-Site Noise Measurements
- Off-Site Noise Measurements
- Facility Working Face

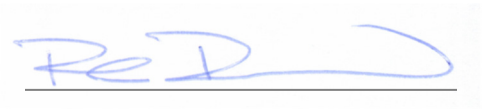
Location of Noise Receptors and On-Site Noise Measurements Dec 1st and 3rd, 2021	↑ True North	By : BB	**Figure 2**	ROTEK
		Approx. Scale :	1:11500	
GFL - Stoney Creek Regional Facility		Date Revised :	07 Jan, 2022	

13. Conclusions

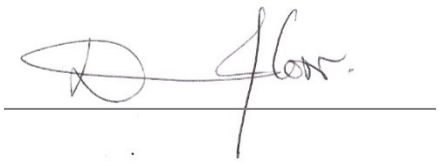
In conclusion, based on our noise measurements, calculations, and comparison to predicted sound levels from local road traffic, the Stoney Creek Regional Facility is in compliance with MECP noise guidelines.

We would be pleased to respond to any questions. Please do not hesitate to contact the undersigned at 905-573-9533.

Regards,



Paul Daszko / Project Manager



Denis Corr, PhD / Project Scientist

Bill Branch / Project Co-ordinator

Rotek Environmental Inc.
15 Keefer Court
Hamilton, Ontario
L8E 4V4
Phone : 905 573 9533
Fax : 905 578 5167

Appendix A

Landfill Attributable Noise Levels
Distance Attenuation Summary

Distance Attenuation Summary - December, 2021

▪ Offsite Noise Receptor NR1

NR1 - 136 Penny Lane		
Measurement 1		
Reference Distance	50	metres
Source to Receiver Distance	280	metres
Distance Attenuation	-15	dBA
Sound Level Measured	58	dBA
Attenuated Sound Level	43	dBA

NR1 - 136 Penny Lane		
Measurement 2		
Reference Distance	50	metres
Source to Receiver Distance	280	metres
Distance Attenuation	-15	dBA
Sound Level Measured	57	dBA
Attenuated Sound Level	42	dBA

NR1 - 136 Penny Lane		
Measurement 3		
Reference Distance	50	metres
Source to Receiver Distance	280	metres
Distance Attenuation	-15	dBA
Sound Level Measured	56	dBA
Attenuated Sound Level	41	dBA

NR1 - 136 Penny Lane		
Measurement 4		
Reference Distance	50	metres
Source to Receiver Distance	280	metres
Distance Attenuation	-15	dBA
Sound Level Measured	57	dBA
Attenuated Sound Level	42	dBA

▪ Offsite Noise Receptor NR2

NR2 - Facility East Property Line		
Measurement 1		
Reference Distance	35	metres
Source to Receiver Distance	470	metres
Distance Attenuation	-23	dBA
Sound Level Measured	69	dBA
Attenuated Sound Level	46	dBA

NR2 - Facility East Property Line		
Measurement 2		
Reference Distance	35	metres
Source to Receiver Distance	470	metres
Distance Attenuation	-23	dBA
Sound Level Measured	69	dBA
Attenuated Sound Level	46	dBA

NR2 - Facility East Property Line		
Measurement 3		
Reference Distance	35	metres
Source to Receiver Distance	470	metres
Distance Attenuation	-23	dBA
Sound Level Measured	69	dBA
Attenuated Sound Level	46	dBA

NR2 - Facility East Property Line		
Measurement 4		
Reference Distance	35	metres
Source to Receiver Distance	470	metres
Distance Attenuation	-23	dBA
Sound Level Measured	66	dBA
Attenuated Sound Level	43	dBA

Distance Attenuation Summary - December, 2021

▪ Offsite Noise Receptor NR3

NR3 - 18 Branthaven Drive		
Measurement 1		
Reference Distance	50	metres
Source to Receiver Distance	610	metres
Distance Attenuation	-22	dBA
Sound Level Measured	58	dBA
Attenuated Sound Level	36	dBA

NR3 - 18 Branthaven Drive		
Measurement 2		
Reference Distance	50	metres
Source to Receiver Distance	610	metres
Distance Attenuation	-22	dBA
Sound Level Measured	59	dBA
Attenuated Sound Level	37	dBA

NR3 - 18 Branthaven Drive		
Measurement 3		
Reference Distance	50	metres
Source to Receiver Distance	610	metres
Distance Attenuation	-22	dBA
Sound Level Measured	58	dBA
Attenuated Sound Level	36	dBA

NR3 - 18 Branthaven Drive		
Measurement 4		
Reference Distance	50	metres
Source to Receiver Distance	610	metres
Distance Attenuation	-22	dBA
Sound Level Measured	58	dBA
Attenuated Sound Level	36	dBA

▪ Offsite Noise Receptor NR4

NR4 - 40 Hedges Crescent		
Measurement 1		
Reference Distance	35	metres
Source to Receiver Distance	785	metres
Distance Attenuation	-27	dBA
Sound Level Measured	70	dBA
Attenuated Sound Level	43	dBA

NR4 - 40 Hedges Crescent		
Measurement 2		
Reference Distance	35	metres
Source to Receiver Distance	785	metres
Distance Attenuation	-27	dBA
Sound Level Measured	69	dBA
Attenuated Sound Level	42	dBA

NR4 - 40 Hedges Crescent		
Measurement 3		
Reference Distance	35	metres
Source to Receiver Distance	785	metres
Distance Attenuation	-27	dBA
Sound Level Measured	69	dBA
Attenuated Sound Level	42	dBA

NR4 - 40 Hedges Crescent		
Measurement 4		
Reference Distance	35	metres
Source to Receiver Distance	785	metres
Distance Attenuation	-27	dBA
Sound Level Measured	70	dBA
Attenuated Sound Level	43	dBA

Appendix B

Noise Receptors

Noise Meter - Raw Data Files

General Information	
Serial Number	03546
Model	Model 831
Firmware Version	2.403
Filename	831_Data.003
Measurement Records:	1

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/12/01	09:00:01	00:20:00.0	67.1	97.9	78.3	49.0	105.3

General Information	
Serial Number	03546
Model	Model 831
Firmware Version	2.403
Filename	831_Data.005
Measurement Records:	1

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/12/01	11:30:00	00:20:00.0	66.3	97.1	81.2	46.5	108.6

General Information	
Serial Number	03546
Model	Model 831
Firmware Version	2.403
Filename	831_Data.007
Measurement Records:	1

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/12/01	13:30:01	00:20:00.0	66.4	97.2	79.8	47.3	104.5

General Information	
Serial Number	03546
Model	Model 831
Firmware Version	2.403
Filename	831_Data.009
Measurement Records:	1

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/12/01	15:00:01	00:20:00.0	67.3	98.1	86.8	46.1	103.5

General Information	
Serial Number	03546
Model	Model 831
Firmware Version	2.403
Filename	831_Data.010
Measurement Records:	1

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/12/03	08:29:57	00:20:00.0	68.6	99.4	77.3	45.6	101.0

General Information	
Serial Number	03546
Model	Model 831
Firmware Version	2.403
Filename	831_Data.012
Measurement Records:	1

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/12/03	11:00:00	00:20:00.0	69.1	99.9	80.1	43.2	105.6

General Information	
Serial Number	03546
Model	Model 831
Firmware Version	2.403
Filename	831_Data.014
Measurement Records:	1

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/12/03	13:00:01	00:20:00.0	69.7	100.5	82.8	46.7	99.8

General Information	
Serial Number	03546
Model	Model 831
Firmware Version	2.403
Filename	831_Data.016
Measurement Records:	1

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/12/03	14:30:01	00:20:00.0	69.8	100.6	82.4	45.5	107.0

General Information

Serial Number	03546
Model	Model 831
Firmware Version	2.403
Filename	831_Data.002
Measurement Records:	1

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/12/01	08:30:01	00:20:00.0	67.8	98.6	79.6	50.0	108.2

General Information	
Serial Number	03546
Model	Model 831
Firmware Version	2.403
Filename	831_Data.004
Measurement Records:	1

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/12/01	11:00:00	00:20:00.0	66.6	97.3	79.1	42.9	98.5

General Information	
Serial Number	03546
Model	Model 831
Firmware Version	2.403
Filename	831_Data.006
Measurement Records:	1

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/12/01	13:00:00	00:20:00.0	66.9	97.7	76.7	44.8	101.7

General Information	
Serial Number	03546
Model	Model 831
Firmware Version	2.403
Filename	831_Data.008
Measurement Records:	1

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/12/01	14:30:00	00:20:00.0	66.5	97.3	79.7	46.2	103.0

General Information

Serial Number	03546
Model	Model 831
Firmware Version	2.403
Filename	831_Data.011
Measurement Records:	1

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/12/03	09:00:01	00:20:00.0	60.1	90.9	72.7	40.3	93.7

General Information	
Serial Number	03546
Model	Model 831
Firmware Version	2.403
Filename	831_Data.013
Measurement Records:	1

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/12/03	11:30:14	00:20:00.0	60.3	91.1	74.9	40.2	95.5

General Information	
Serial Number	03546
Model	Model 831
Firmware Version	2.403
Filename	831_Data.015
Measurement Records:	1

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/12/03	13:30:01	00:20:00.0	60.2	91.0	72.7	37.1	90.5

General Information	
Serial Number	03546
Model	Model 831
Firmware Version	2.403
Filename	831_Data.017
Measurement Records:	1

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/12/03	15:00:01	00:20:00.0	64.0	94.7	83.4	41.5	105.6

General Information

Serial Number	03172
Model	Model 831
Firmware Version	2.403
Filename	831_Data.003
Measurement Records:	5

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/12/01	07:51:42	00:08:17.7	61.8	88.8	76.6	53.2	99.2
2	21/12/01	08:00:00	00:30:00.0	58.6	91.2	70.1	53.2	98.3
3	21/12/01	08:30:00	00:30:00.0	57.6	90.1	76.9	51.7	102.4
4	21/12/01	09:00:00	00:30:00.0	58.2	90.8	73.6	51.2	99.8
5	21/12/01	09:30:00	00:00:49.7	58.5	75.4	63.0	53.6	90.2

General Information	
Serial Number	03172
Model	Model 831
Firmware Version	2.403
Filename	831_Data.004
Measurement Records:	4

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/12/01	10:38:49	00:21:10.7	57.5	88.5	65.5	49.5	99.0
2	21/12/01	11:00:00	00:30:00.0	58.6	91.1	73.4	50.0	97.5
3	21/12/01	11:30:00	00:30:00.0	57.2	89.7	68.4	49.6	99.3
4	21/12/01	12:00:00	00:01:19.0	58.4	77.4	64.4	52.8	92.4

General Information	
Serial Number	03172
Model	Model 831
Firmware Version	2.403
Filename	831_Data.005
Measurement Records:	4

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/12/01	12:32:00	00:27:59.6	58.9	91.2	78.1	49.8	102.4
2	21/12/01	13:00:00	00:30:00.0	57.8	90.4	67.2	49.4	104.0
3	21/12/01	13:30:00	00:30:00.0	56.3	88.9	69.0	48.3	103.5
4	21/12/01	14:00:00	00:00:05.6	54.4	61.9	55.2	53.9	98.6

General Information

Serial Number	03172
Model	Model 831
Firmware Version	2.403
Filename	831_Data.006
Measurement Records:	4

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/12/01	14:03:23	00:26:36.6	57.4	89.4	69.5	49.8	112.3
2	21/12/01	14:30:00	00:30:00.0	58.1	90.7	67.7	49.1	105.6
3	21/12/01	15:00:00	00:30:00.0	57.0	89.5	73.4	47.8	102.0
4	21/12/01	15:30:00	00:00:10.9	62.4	72.7	64.7	60.9	96.6

General Information

Serial Number	03172
Model	Model 831
Firmware Version	2.403
Filename	831_Data.008
Measurement Records:	4

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/12/03	08:11:54	00:18:05.7	72.7	103.1	88.3	51.0	113.5
2	21/12/03	08:30:00	00:30:00.0	69.0	101.5	84.3	49.5	113.2
3	21/12/03	09:00:00	00:30:00.0	70.0	102.6	91.3	50.2	117.7
4	21/12/03	09:30:00	00:04:34.3	67.1	91.5	81.1	56.4	112.7

General Information	
Serial Number	03172
Model	Model 831
Firmware Version	2.403
Filename	831_Data.009
Measurement Records:	4

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/12/03	10:37:13	00:22:46.7	65.5	96.9	82.1	49.3	114.0
2	21/12/03	11:00:00	00:30:00.0	69.4	102.0	89.6	48.0	118.5
3	21/12/03	11:30:00	00:30:00.0	68.9	101.5	87.3	47.7	116.9
4	21/12/03	12:00:00	00:00:37.3	67.1	82.8	73.4	60.4	93.9

General Information	
Serial Number	03172
Model	Model 831
Firmware Version	2.403
Filename	831_Data.010
Measurement Records:	4

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/12/03	12:36:49	00:23:10.9	70.7	102.1	84.6	52.8	113.0
2	21/12/03	13:00:00	00:30:00.0	69.3	101.8	93.7	51.6	120.5
3	21/12/03	13:30:00	00:30:00.0	68.5	101.1	80.9	47.8	115.2
4	21/12/03	14:00:00	00:01:29.9	57.5	77.0	63.9	53.1	93.7

General Information	
Serial Number	03172
Model	Model 831
Firmware Version	2.403
Filename	831_Data.011
Measurement Records:	4

NOTE: Only five metrics can be displayed on screen.
To view spectra and other metrics use the export feature.

Record #	Date	Time	Duration	LAeq	LAE	LASmax	LASmin	LZpeak (max)
1	21/12/03	14:09:21	00:20:38.6	72.8	103.8	88.9	56.8	118.1
2	21/12/03	14:30:00	00:30:00.0	66.1	98.6	87.8	56.6	117.8
3	21/12/03	15:00:00	00:30:00.0	70.4	103.0	84.6	54.5	113.5
4	21/12/03	15:30:00	00:00:12.9	56.5	67.6	60.5	55.3	84.9

Appendix C

STAMSON Traffic Model

Work Sheets

NR1 A

STAMSON 5.0 NORMAL REPORT Date: 05-04-2022 14:09:30
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: nr12a21.te Time Period: 1 hours
Description: NR1 0900 01Dec21

Road data, segment # 1:

Car traffic volume : 1203 veh/TimePeriod
Medium truck volume : 33 veh/TimePeriod
Heavy truck volume : 87 veh/TimePeriod
Posted speed limit : 70 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1:

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 36.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

♀
Results segment # 1:

Source height = 1.60 m

ROAD (0.00 + 65.52 + 0.00) = 65.52 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.66	73.27	0.00	-6.30	-1.45	0.00	0.00	0.00	65.52

Segment Leq : 65.52 dBA

Total Leq All Segments: 65.52 dBA

♀

TOTAL Leq FROM ALL SOURCES: 65.52
♀
♀

NR1 B

STAMSON 5.0 NORMAL REPORT Date: 05-04-2022 14:10:46
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: nr12b21.te Time Period: 1 hours
Description: NR1 1130 01Dec21

Road data, segment # 1:

Car traffic volume : 1197 veh/TimePeriod
Medium truck volume : 48 veh/TimePeriod
Heavy truck volume : 93 veh/TimePeriod
Posted speed limit : 70 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1:

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 36.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

♀
Results segment # 1:

Source height = 1.62 m

ROAD (0.00 + 65.87 + 0.00) = 65.87 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.66	73.61	0.00	-6.30	-1.45	0.00	0.00	0.00	65.87

Segment Leq : 65.87 dBA

Total Leq All Segments: 65.87 dBA

♀

TOTAL Leq FROM ALL SOURCES: 65.87
♀
♀

NR1 C
STAMSON 5.0 NORMAL REPORT Date: 05-04-2022 14:11:42
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: nr12c21.te Time Period: 1 hours
Description: NR1 1330 01Dec21

Road data, segment # 1:

Car traffic volume : 1098 veh/TimePeriod
Medium truck volume : 36 veh/TimePeriod
Heavy truck volume : 117 veh/TimePeriod
Posted speed limit : 70 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1:

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 36.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

♀
Results segment # 1:

Source height = 1.75 m

ROAD (0.00 + 66.41 + 0.00) = 66.41 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.65	74.14	0.00	-6.28	-1.44	0.00	0.00	0.00	66.41

Segment Leq : 66.41 dBA

Total Leq All Segments: 66.41 dBA

♀

TOTAL Leq FROM ALL SOURCES: 66.41
♀
♀

NR1 D

STAMSON 5.0 NORMAL REPORT Date: 05-04-2022 14:12:16
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: nr12d21.te Time Period: 1 hours
Description: NR1 1500 01Dec21

Road data, segment # 1:

Car traffic volume : 1731 veh/TimePeriod
Medium truck volume : 39 veh/TimePeriod
Heavy truck volume : 99 veh/TimePeriod
Posted speed limit : 70 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1:

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 36.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

♀
Results segment # 1:

Source height = 1.52 m

ROAD (0.00 + 66.34 + 0.00) = 66.34 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.66	74.10	0.00	-6.31	-1.46	0.00	0.00	0.00	66.34

Segment Leq : 66.34 dBA

Total Leq All Segments: 66.34 dBA

♀

TOTAL Leq FROM ALL SOURCES: 66.34
♀
♀

NR2 A

STAMSON 5.0 NORMAL REPORT Date: 05-04-2022 14:25:29
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: nr22a21.te Time Period: 1 hours
Description: NR2 0830 03Dec21

Road data, segment # 1:

Car traffic volume : 1140 veh/TimePeriod
Medium truck volume : 27 veh/TimePeriod
Heavy truck volume : 84 veh/TimePeriod
Posted speed limit : 70 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1:

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 26.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

♀
Results segment # 1:

Source height = 1.61 m

ROAD (0.00 + 67.63 + 0.00) = 67.63 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.66	73.04	0.00	-3.96	-1.45	0.00	0.00	0.00	67.63

Segment Leq : 67.63 dBA

Total Leq All Segments: 67.63 dBA

♀

TOTAL Leq FROM ALL SOURCES: 67.63
♀
♀

NR2 B

STAMSON 5.0 NORMAL REPORT Date: 05-04-2022 14:26:40
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: nr22b21.te Time Period: 1 hours
Description: NR2 1100 03Dec21

Road data, segment # 1:

Car traffic volume : 1098 veh/TimePeriod
Medium truck volume : 33 veh/TimePeriod
Heavy truck volume : 111 veh/TimePeriod
Posted speed limit : 70 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1:

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 26.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

♀
Results segment # 1:

Source height = 1.73 m

ROAD (0.00 + 68.54 + 0.00) = 68.54 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.65	73.94	0.00	-3.95	-1.45	0.00	0.00	0.00	68.54

Segment Leq : 68.54 dBA

Total Leq All Segments: 68.54 dBA

♀

TOTAL Leq FROM ALL SOURCES: 68.54
♀
♀

NR2 C
STAMSON 5.0 NORMAL REPORT Date: 05-04-2022 14:27:23
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: nr22c21.te Time Period: 1 hours
Description: NR2 1300 03Dec21

Road data, segment # 1:

Car traffic volume : 1209 veh/TimePeriod
Medium truck volume : 42 veh/TimePeriod
Heavy truck volume : 90 veh/TimePeriod
Posted speed limit : 70 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1:

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 26.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

♀
Results segment # 1:

Source height = 1.61 m

ROAD (0.00 + 68.06 + 0.00) = 68.06 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.66	73.47	0.00	-3.96	-1.45	0.00	0.00	0.00	68.06

Segment Leq : 68.06 dBA

Total Leq All Segments: 68.06 dBA

♀

TOTAL Leq FROM ALL SOURCES: 68.06
♀
♀

NR2 D

STAMSON 5.0 NORMAL REPORT Date: 05-04-2022 14:28:19
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: nr22d21.te Time Period: 1 hours
Description: NR2 1430 03Dec21

Road data, segment # 1:

Car traffic volume : 1878 veh/TimePeriod
Medium truck volume : 48 veh/TimePeriod
Heavy truck volume : 96 veh/TimePeriod
Posted speed limit : 70 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1:

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 26.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1:

Source height = 1.48 m

ROAD (0.00 + 68.78 + 0.00) = 68.78 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.66	74.20	0.00	-3.97	-1.46	0.00	0.00	0.00	68.78

Segment Leq : 68.78 dBA

Total Leq All Segments: 68.78 dBA

TOTAL Leq FROM ALL SOURCES: 68.78

NR3 A

STAMSON 5.0 NORMAL REPORT Date: 05-04-2022 14:18:05
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: nr32a21.te Time Period: 1 hours
Description: NR3 0830 01Dec21

Road data, segment # 1:

Car traffic volume : 1566 veh/TimePeriod
Medium truck volume : 33 veh/TimePeriod
Heavy truck volume : 63 veh/TimePeriod
Posted speed limit : 70 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1:

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 26.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

♀
Results segment # 1:

Source height = 1.40 m

ROAD (0.00 + 67.31 + 0.00) = 67.31 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.66	72.73	0.00	-3.97	-1.46	0.00	0.00	0.00	67.31

Segment Leq : 67.31 dBA

Total Leq All Segments: 67.31 dBA

♀

TOTAL Leq FROM ALL SOURCES: 67.31
♀
♀

NR3 B

STAMSON 5.0 NORMAL REPORT Date: 05-04-2022 14:20:06
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: nr32b21.te Time Period: 1 hours
Description: NR3 1100 01Dec21

Road data, segment # 1:

Car traffic volume : 1029 veh/TimePeriod
Medium truck volume : 39 veh/TimePeriod
Heavy truck volume : 87 veh/TimePeriod
Posted speed limit : 70 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1:

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 26.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

♀
Results segment # 1:

Source height = 1.66 m

ROAD (0.00 + 67.78 + 0.00) = 67.78 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.66	73.18	0.00	-3.95	-1.45	0.00	0.00	0.00	67.78

Segment Leq : 67.78 dBA

Total Leq All Segments: 67.78 dBA

♀

TOTAL Leq FROM ALL SOURCES: 67.78
♀
♀

NR3 C
STAMSON 5.0 NORMAL REPORT Date: 05-04-2022 14:21:15
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: nr32c21.te Time Period: 1 hours
Description: NR3 1300 01Dec21

Road data, segment # 1:

Car traffic volume : 1269 veh/TimePeriod
Medium truck volume : 27 veh/TimePeriod
Heavy truck volume : 57 veh/TimePeriod
Posted speed limit : 70 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1:

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 26.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

♀
Results segment # 1:

Source height = 1.43 m

ROAD (0.00 + 66.67 + 0.00) = 66.67 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.66	72.09	0.00	-3.97	-1.46	0.00	0.00	0.00	66.67

Segment Leq : 66.67 dBA

Total Leq All Segments: 66.67 dBA

♀

TOTAL Leq FROM ALL SOURCES: 66.67
♀
♀

NR3 D

STAMSON 5.0 NORMAL REPORT Date: 05-04-2022 14:22:34
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: nr32d21.te Time Period: 1 hours
Description: NR3 1430 01Dec21

Road data, segment # 1:

Car traffic volume : 1629 veh/TimePeriod
Medium truck volume : 24 veh/TimePeriod
Heavy truck volume : 84 veh/TimePeriod
Posted speed limit : 70 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1:

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 26.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1:

Source height = 1.48 m

ROAD (0.00 + 68.01 + 0.00) = 68.01 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.66	73.43	0.00	-3.97	-1.46	0.00	0.00	0.00	68.01

Segment Leq : 68.01 dBA

Total Leq All Segments: 68.01 dBA

TOTAL Leq FROM ALL SOURCES: 68.01

NR4 A
STAMSON 5.0 NORMAL REPORT Date: 05-04-2022 14:29:39
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: nr42a21.te Time Period: 1 hours
Description: NR4 0900 03Dec21

Road data, segment # 1:

Car traffic volume : 63 veh/TimePeriod
Medium truck volume : 3 veh/TimePeriod
Heavy truck volume : 12 veh/TimePeriod
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1:

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 15.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

♀
Results segment # 1:

Source height = 1.98 m

ROAD (0.00 + 58.46 + 0.00) = 58.46 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.65	59.89	0.00	0.00	-1.43	0.00	0.00	0.00	58.46

Segment Leq : 58.46 dBA

Total Leq All Segments: 58.46 dBA

♀

TOTAL Leq FROM ALL SOURCES: 58.46
♀
♀

NR4 B

STAMSON 5.0 NORMAL REPORT Date: 05-04-2022 14:30:42
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: nr42b21.te Time Period: 1 hours
Description: NR4 1130 03Dec21

Road data, segment # 1:

Car traffic volume : 54 veh/TimePeriod
Medium truck volume : 6 veh/TimePeriod
Heavy truck volume : 9 veh/TimePeriod
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1:

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 15.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

♀
Results segment # 1:

Source height = 1.90 m

ROAD (0.00 + 57.54 + 0.00) = 57.54 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.65	58.98	0.00	0.00	-1.44	0.00	0.00	0.00	57.54

Segment Leq : 57.54 dBA

Total Leq All Segments: 57.54 dBA

♀

TOTAL Leq FROM ALL SOURCES: 57.54
♀
♀

NR4 C
STAMSON 5.0 NORMAL REPORT Date: 05-04-2022 14:31:35
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: nr42c21.te Time Period: 1 hours
Description: NR4 1330 03Dec21

Road data, segment # 1:

Car traffic volume : 69 veh/TimePeriod
Medium truck volume : 9 veh/TimePeriod
Heavy truck volume : 12 veh/TimePeriod
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1:

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 15.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

♀
Results segment # 1:

Source height = 1.91 m

ROAD (0.00 + 58.84 + 0.00) = 58.84 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.65	60.27	0.00	0.00	-1.44	0.00	0.00	0.00	58.84

Segment Leq : 58.84 dBA

Total Leq All Segments: 58.84 dBA

♀

TOTAL Leq FROM ALL SOURCES: 58.84
♀
♀

NR4 D

STAMSON 5.0 NORMAL REPORT Date: 05-04-2022 14:33:32
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: nr42d21.te Time Period: 1 hours
Description: NR4 1500 03Dec21

Road data, segment # 1:

Car traffic volume : 93 veh/TimePeriod
Medium truck volume : 9 veh/TimePeriod
Heavy truck volume : 24 veh/TimePeriod
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1:

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 15.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

♀
Results segment # 1:

Source height = 2.09 m

ROAD (0.00 + 61.51 + 0.00) = 61.51 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.64	62.93	0.00	0.00	-1.43	0.00	0.00	0.00	61.51

Segment Leq : 61.51 dBA

Total Leq All Segments: 61.51 dBA

♀

TOTAL Leq FROM ALL SOURCES: 61.51
♀
♀

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