D H E C
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Promoting and protecting the health of the public and the environment

NPDES Attachment
Practical Quantitation Limits (PQLs) and EPA-Approved Methods
(listing based on EPA Form 2C)

EPA-Approved Methods must be used for the analysis of these pollutants or pollutant parameters. "EPA-Approved Methods" refers to the methods that have been approved under 40 CFR part 136 or are required under 40 CFR Chapter I, subchapter N or O. This includes analytical methods for CWA pollutants developed by the EPA, voluntary consensus standards bodies (VCSBs), and other governmental agencies (such as the U.S. Geological Survey), as well as Alternative Test Procedures (ATPs) developed by commercial method developers for nation-wide use. When more than one test procedure is approved under 40 CFR part 136 for the analysis of a pollutant or pollutant parameter, the test procedure used must be sufficiently sensitive as defined at 40 CFR 122.21(e)(3) and 122.44(i)(1)(iv).

"PQL" is the lowest minimum level (reporting limit) derived from the concentration of the lowest calibration standard taking into consideration the weights and/or volumes of the samples and all preparation and analysis steps in the method. If the SCDHEC certified laboratory performing the analysis can achieve a lower PQL than listed below, then the lower PQL must be reported.

"Alternative or Department Approved Methods" may be used for pollutants where there are no methods specified in 40 CFR part 136. The alternative method listed below must be used or a method approved by the Department. Laboratories may combine CWA and SW-846 methodologies for analysis of organic contaminants (e.g. EPA 624 and EPA 8260B). When combining CWA and SW-846 methodology, the most stringent calibration and QC criteria between the two methods must be met and both methods must be reported. The approved method must be reported as listed in 40 CFR 136 along with the "Alternative or Department Approved Methods" listed below (e.g. EPA 624/8260B).

No.	Section V Part A	PQL (µg/l)	Sample Type	Alternative or Department Approved Methods
a.	Biochemical oxygen demand	2000	Composite	
b.	Chemical oxygen demand	20,000	Composite	
c.	Total organic carbon	1000	Grab	
d.	Total suspended solids	1000	Composite	
e.	Ammonia	100	Composite	
	Total Kjeldahl Nitrogen (TKN)	100	Composite	
g,h.	Temperature	-	Grab	
i.	pH	-	Grab	
No.	**Section V Part B**	**PQL (µg/l)**	**Sample Type**	**Alternative or Department Approved Methods**
a.	Bromide	2000	Composite	
b.	Chlorine, total residual	50	Grab	
c.	Color (Platinum Colbalt)	5 CU	Grab	
	Color (ADMI)	25 CU	Grab	
d.	Fecal Coliform (MPN)	2/100mL	Grab	
	Fecal Coliform (MF)	1/100mL	Grab	
	Fecal Coliform(Colilert 18® ATP MPN)	1/100mL	Grab	
	E. coli	1/100mL	Grab	
e.	Fluoride	100	Composite	
f.	Nitrate-Nitrite	20	Composite	
g.	Nitrogen, total organic	-	-	
h.	Oil & Grease	5 mg/l	Grab	
i.	Phosphorus, total	50	Composite	
j.	Radioactivity	-	-	
j(1)	Alpha, total	-	Composite	
j(2)	Beta, total	-	Composite	
j(3)	Radium, total	10	Composite	
j(4)	Radium 226, total	10	Composite	
k.	Sulfate	5000	Composite	
l.	Sulfide	1000	Grab	
	Sulfide (Un-Ionized)	100		
m.	Sulfite	2000	Composite	
n.	Surfactants	50	Grab	
o.	Aluminum, total	50	Composite	
p.	Barium	50	Composite	
q.	Boron	50	Composite	
r.	Cobalt	20	Composite	
s.	Iron	20	Composite	

t.	Magnesium	50	Composite	
u.	Molybdenum	20	Composite	
v.	Manganese	10	Composite	
w.	Tin	10	Composite	
x.	Titanium	50	Composite	
No.	**Section V Part C: Metals, Cyanide and Phenols**	**PQL (µg/l)**	**Sample Type**	**Alternative or Department Approved Methods**
1M	Antimony	5.0	Composite	
2M	Arsenic, total	5.0	Composite	
3M	Beryllium	1.0	Composite	
4M	Cadmium, total	0.1	Composite	
5M	Chromium, total	5.0	Composite	
6M	Copper, total	10	Composite	
7M	Lead	2.0	Composite	
8M	Mercury	0.0005	Grab	EPA 1669 (sampling); EPA 1631E (analysis)
9M	Nickel	10	Composite	
10M	Selenium	5.0	Composite	
11M	Silver, total	5.0	Composite	
12M	Thallium	0.5	Composite	
13M	Zinc, total	10	Composite	
14M	Cyanide, total	10	Grab	
15M	Phenols, Total	5.0	Grab	
No.	**Section V Part C: Dioxin**	**PQL (µg/l)**	**Sample Type**	**Alternative or Department Approved Methods**
	2,3,7,8-Tetrachlorodibenzo-p-dioxin	10 pg/l	Composite	
No.	**Section V Part C: GC/MS Volatile Compounds**	**PQL (µg/l)**	**Sample Type**	**Alternative or Department Approved Methods**
1V	Acrolein	5.0	Grab	
2V	Acrylonitrile	5.0	Grab	
3V	Benzene	2.0	Grab	
4V	Bis (Chloromethyl) Ether	-	Composite	
5V	Bromoform	2.0	Grab	
6V	Carbon Tetrachloride	2.0	Grab	
7V	Chlorobenzene	2.0	Grab	
8V	Chlorodibromomethane	2.0	Grab	
9V	Chloroethane	2.0	Grab	
10V	2-Chloroethyl vinyl ether	5.0	Grab	
11V	Chloroform	2.0	Grab	
12V	Dichlorobromomethane	2.0	Grab	
13V	Dichlorodifluoromethane	2.0	Grab	
14V	1,1-Dichloroethane	2.0	Grab	
15V	1,2-Dichloroethane	2.0	Grab	
16V	1,1-Dichloroethene	2.0	Grab	
17V	1,2-Dichloropropane	2.0	Grab	
18V	1,3-Dichloropropylene	2.0	Grab	
19V	Ethylbenzene	2.0	Grab	
20V	Methyl bromide	2.0	Grab	
21V	Methyl chloride	2.0	Grab	
22V	Methylene chloride	2.0	Grab	
23V	1,1,2,2-Tetrachloroethane	2.0	Grab	
24V	Tetrachloroethylene	2.0	Grab	
25V	Toluene	2.0	Grab	
26V	1,2-trans-dichloroethylene	2.0	Grab	
27V	1,1,1-Trichloroethane	2.0	Grab	
28V	1,1,2-Trichloroethane	2.0	Grab	
29V	Trichloroethylene	2.0	Grab	
30V	Trichlorofluoromethane	2.0	Grab	
31V	Vinyl chloride	2.0	Grab	
No.	**Section V Part C: GC/MS Fraction Acid Compounds**	**PQL (µg/l)**	**Sample Type**	**Alternative or Department Approved Methods**

1A	2-Chlorophenol	10	Composite	
2A	2,4-Dichlorophenol	10	Composite	
3A	2,4-Dimethylphenol	10	Composite	
4A	4,6-Dinitro-o-cresol	10	Composite	
5A	2,4-Dinitrophenol	50	Composite	
6A	2-Nitrophenol	10	Composite	
7A	4-Nitrophenol	10	Composite	
8A	4-Chloro-3-methylphenol (P-Chloro-m-cresol)	10	Composite	
9A	Pentachlorophenol	10	Composite	
10A	Phenol	10	Composite	
11A	2,4,6-Trichlorophenol	10	Composite	
No.	**Section V Part C: GC/MS Fraction Base-Neutral Compounds**	**PQL (µg/l)**	**Sample Type**	**Alternative or Department Approved Methods**
1B	Acenaphthene	10	Composite	
2B	Acenaphthylene	10	Composite	
3B	Anthracene	10	Composite	
4B	Benzidine	100	Composite	
5B	Benzo(a)anthracene	10	Composite	
6B	Benzo(a)pyrene	10	Composite	
7B	3,4-benzofluoranthene	10	Composite	
8B	Benzo(ghi)perylene	10	Composite	
9B	Benzo(k)fluoranthene	10	Composite	
10B	Bis(2-chloroethoxy) methane	10	Composite	
11B	Bis(2-chloroethyl)ether	10	Composite	
12B	Bis (2-Chloro-1-methylethyl)ether (2,2'-Oxybis(2-chloro-propane))[1]	10	Composite	
13B	Bis(2-ethylhexyl) phthalate	10	Composite	
14B	4-Bromophenyl phenyl ether	10	Composite	
15B	Butyl Benzyl Phthalate	10	Composite	
16B	2-Chloronaphthalene	10	Composite	
17B	4-Chlorophenyl phenyl ether	10	Composite	
No.	**Section V Part C: GC/MS Fraction Base-Neutral Compounds**	**PQL (µg/l)**	**Sample Type**	**Alternative or Department Approved Methods**
18B	Chrysene	10	Composite	
19B	Dibenzo(a,h)anthracene	10	Composite	
20B	1,2-Dichlorobenzene	2.0	Grab	See Footnote 3
21B	1,3-Dichlorobenzene	2.0	Grab	See Footnote 3
22B	1,4-Dichlorobenzene	2.0	Grab	See Footnote 3
23B	3,3'-Dichlorobenzidine	10	Composite	
24B	Diethyl phthalate	10	Composite	
25B	Dimethyl phthalate	10	Composite	
26B	Di-n-butyl phthalate	10	Composite	
27B	2,4-Dinitrotoluene	10	Composite	
28B	2,6-Dinitrotoluene	10	Composite	
29B	Di-n-octyl phthalate	10	Composite	
30B	1,2 Diphenylhydrazine	10	Composite	8270D
31B	Fluoranthene	10	Composite	
32B	Fluorene	10	Composite	
33B	Hexachlorobenzene	10	Composite	
34B	Hexachlorobutadiene	10	Composite	
35B	Hexachlorocyclopentadiene	10	Composite	
36B	Hexachloroethane	10	Composite	
37B	Indeno(1,2,3-c,d)pyrene	10	Composite	
38B	Isophorone	10	Composite	
39B	Naphthalene	10	Composite	
40B	Nitrobenzene	10	Composite	
41B	n-Nitrosodimethylamine	10	Composite	
42B	n-Nitrosodi-n-propylamine	10	Composite	

43B	n-Nitrosodiphenylamine	10	Composite	
44B	Phenanthrene	10	Composite	
45B	Pyrene	10	Composite	
46B	1,2,4-Trichlorobenzene	2.0	Grab	See Footnote 3
No.	**Section V Part C: Pesticides**	**PQL (µg/l)**	**Sample Type**	**Alternative or Department Approved Methods**
1P	Aldrin	0.050	Composite	
2P	alpha-BHC	0.050	Composite	
3P	beta-BHC	0.050	Composite	
4P	gamma-BHC	0.050	Composite	
5P	delta-BHC	0.050	Composite	
6P	Chlordane	0.50	Composite	
7P	4,4'-DDT	0.050	Composite	
8P	4,4'-DDE	0.050	Composite	
9P	4,4'-DDD	0.050	Composite	
10P	Dieldrin	0.050	Composite	
11P	Endosulfan I (a-Endosulfan)	0.050	Composite	
12P	Endosulfan II (b-Endosulfan)	0.050	Composite	
13P	Endosulfan sulfate	0.050	Composite	
14P	Endrin	0.050	Composite	
15P	Endrin aldehyde	0.050	Composite	
16P	Heptachlor	0.050	Composite	
17P	Heptachlor Epoxide	0.050	Composite	
18-24P	Polychlorinated Biphenyls (PCBs, Aroclors)	0.50	Composite	
25P	Toxaphene	0.50	Composite	
	Other Parameters	**PQL (µg/l)**	**Sample Type**	**Alternative or Department Approved Methods**
	Acetone	50	Grab	8260B
	Alachlor	0.05	Composite	8081B
	Atrazine	1.0	Composite	8141B
	AOX (Adsorbable Organic Halides)	20	-	
	n-Butylbenzene	5.0	Grab	8260B
	sec-Butylbenzene	5.0	Grab	8260B
	tert-Butylbenzene	5.0	Grab	8260B
	Carbofuran	10	Composite	8318A
	3-Chlorophenol	10	Composite	8270D
	4-Chlorophenol	10	Composite	8270D
	Chlorophenoxy Herbicide 2,4,5,-TP	5.0	Composite	
	Chlorophenoxy Herbicide 2,4-D	5.0	Composite	
	Chloropyrifos	1.0	Composite	8141B
	Chromium III	10	Composite	Chromium total result minus Chromium VI result
	Chromium VI	10	Grab	
	Other Parameters	**PQL (µg/l)**	**Sample Type**	**Alternative or Department Approved Methods**
	Dalapon	5.0	Composite	8151A
	Demeton, O & S	2.0	Composite	8141B
	Di(2-ethylhexyl) adipate	10	Composite	525.2
	1,2-Dibromo-3-chloropropane (DBCP)	0.02	Grab	8011
	1,1-Dichloroethylene	2.0	Grab	
	1,2–cis-Dichloroethylene	2.0	Grab	8260B
	1,2–trans-Dichloroethylene	2.0	Grab	
	2,3-Dichlorophenol	10	Composite	8270D
	2,5-Dichlorophenol	10	Composite	8270D
	2,6-Dichlorophenol	10	Composite	8270D
	3,4-Dichlorophenol	10	Composite	8270D
	Diisopropylether	-	Grab	8260B
	Dinoseb	2.0	Composite	8151A
	1,4 Dioxane	2.0	Grab	8260B SIM
	Diquat	1.0	-	549.2
	Dissolved Oxygen	-	Grab	

	Endothall	20	-	548.1
	Enterococcus	1/100mL	Grab	
	Ethylene dibromide (EDB)	0.02	Grab	8011
	Formaldehyde	50	Grab	8315
	Glyphosate	10	-	547
	Guthion (Azinphos-methyl)	1.0	Composite	8141B
	2-Hexanone	10	Grab	8260B
	Isopropylbenzene	5.0	Grab	8260B
	p-Isopropyltoluene	5.0	Grab	8260B
	Malathion	1.0	Composite	
	2-Methyl-4-Chlorophenol	20	Composite	8270D
	3-Methyl-6-Chlorophenol	20	Composite	8270D
	4-Methyl-2-Pentanone	10	Grab	8260B
	1-Methylnaphthalene	-	Composite	8270D
	2-Methylnaphthalene	10	Composite	8270D
	Methoxychlor	0.50	Composite	See Footnote 2
	Mirex	10	Composite	
	Nitrate	20	Composite	
	Nitrite	20	Composite	
	Nitrosodibutylamine	10	Composite	8270D
	Nitrosodiethylamine	10	Composite	8270D
	Nitrosopyrrolidine	10	Composite	8270D
	Oxamyl	20	Composite	531.1, 8321B
	Parathion, methyl & ethyl	0.20	Composite	
	Pentachlorobenzene	10	Composite	8270D
	Pentachlorethane	2.0	Grab	8260B(DAI)
	Picloram	1.0	Composite	8151A
	n-Propylbenzene	5.0	Grab	8260B
	Salinity	-	Grab	
	Simazine	0.10	Composite	8141B
	Styrene	2.0	Grab	8260B
	1,2,4,5-Tetrachlorobenzene	10	Composite	8270D
	2,3,4,6-Tetrachlorophenol	10	Composite	8270D
	Tetrahydrofuran	20	Grab	
	Tributyltin	-	-	
	Trichlorofluoromethane	2.0	Grab	
	2,4,5-Trichlorophenol	10	Composite	8270D
	1,2,4-Trimethylbenzene	5.0	Grab	8260B
	1,3,5-Trimethylbenzene	5.0	Grab	8260B
	Turbidity	1 NTU	Grab	
	Vinyl Acetate	5.0	Grab	8260B
	Xylenes, total	6.0	Grab	8260B

[1] Formerly Bis(2-chloroisopropyl) ether

[2] EPA 608 may be used for Methoxychlor, however the QC requirements from EPA 608.2 must be met.

[3] 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, and 1,2,4-Trichlorobenzene are regulated as volatile compounds. Refer to 40 CFR Part 136.