

Criterion long term average (LTA) effluent concentrations are calculated for all applicable criteria where there is reasonable potential for any one or more of those criteria to be exceeded. The more stringent aquatic toxicity LTA is determined and carried forward (as LTA_{TOX}) to the development of permit limitations (see "MAL" and "LIMITS" worksheets). Agricultural mineral calculations are found in the Ag tab.

OWQScreen-S

Version
3.35

Criterion Long Term Averages (LTAs)

GLENPOOL PIPELINE BREAKOUTSTATION

Outfall		Comparison of Criterion Long Term Averages (LTAs)						
Parameters	Units	Eqn 19 Aesthetics	PPWS		F&WP		Fish Consump	MIN AQUATIC TOXICITY LTA
			Eqn 20 Raw Water	Eqn 21 Human Hlth FF & Water	Aquatic Toxicity		Eqn 24 Human Hlth Fish Flesh	
					Eqn 22 Acute	Eqn 23 Chronic		
PART A								
Ammonia	mg/l							
PART B								
Color								
Fluoride (at 90 deg F)	mg/l							
Nitrate-Nitrite (as N)	mg/l							
Phosphorus (as P) Rivers only)	(Scenic) mg/l							
Barium, total	mg/l							
Manganese, total								
METALS and CYANIDE								
Antimony, total								
Arsenic, total	ug/l							
Beryllium, total								
Cadmium, total	ug/l							
Chromium, total	ug/l							
Copper, total	ug/l							
Lead, total	ug/l		130.30	10.00	199,946.06	105.10	50.00	Chronic
Mercury, total	ug/l							
Nickel, total	ug/l							
Selenium, total	ug/l							
Silver, total	ug/l							
Thallium, total	ug/l							
Zinc, total	ug/l							
Cyanide, total	ug/l							
DIOXINS								
2,3,7,8-Tetrachlorodibenzo-P Dioxin	ug/l							
GC/MS FRACTION - VOLATILE COMPOUNDS								
Acrolein	ug/l							
Acrylonitrile	ug/l							
Benzene	ug/l							
Bromoform								
Carbon Tetrachloride	ug/l							
Chlorobenzene								
Chlorodibromomethane								
Chloroethane								
2-Chloroethylvinyl Ether								
Chloroform	ug/l							
Dichlorobromomethane	ug/l							
1,1-Dichloroethane								
1,2-Dichloroethane								
1,1-Dichloroethylene								
1,2-Dichloropropane								
1,3-Dichloropropylene								
Ethylbenzene	ug/l							
Methyl Bromide								
Methyl Chloride								
Methylene Chloride								
1,1,2,2-Tetrachloroethane								
Tetrachloroethylene	ug/l							
Toluene	ug/l							
1,2-Trans-dichloroethene								
1,1,1-Trichloroethane	ug/l							
1,1,2-Trichloroethane								
Trichloroethylene								
Vinyl Chloride								
GC/MS FRACTION - ACID COMPOUNDS								
2-Chlorophenol								
2,4-Dichlorophenol								
2,4-Dimethylphenol								
4,6-Dinitro-o-cresol								
2,4-Dinitrophenol								
2-Nitrophenol								

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4-Nitrophenol								
p-Chloro-m-cresol								
Pentachlorophenol	ug/l							
Phenol	ug/l							
2,4,6-Trichlorophenol								
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS								
Acenaphthene								
Acenaphthylene								
Anthracene								
Benzidine	ug/l							
Benzo (a) Anthracene								
Benzo (a) Pyrene								
3,4-Benzofluoranthene								
Benzo (ghi) Perylene								
Benzo (k) Fluoranthene								
Bis (2-Chloroethoxy) Methane								
Bis (2-Chloroethyl) Ether								
Bis (2-Chloroisopropyl) Ether								
Bis (2-Ethylhexyl) Phthalate	ug/l							
4-Bromophenyl Phenyl Ether								
Butylbenzyl Phthalate	ug/l							
2-Chloronaphthalene								
4-Chlorophenyl Phenyl Ether								
Chrysene								
Dibenzo (a,h) Anthracene								
1,2-Dichlorobenzene								
1,3-Dichlorobenzene								
1,4-Dichlorobenzene								
3,3'-Dichlorobenzidine								
Diethyl Phthalate	ug/l							
Dimethyl Phthalate	ug/l							
Di-n-butyl Phthalate	ug/l							
2,4-Dinitrotoluene								
2,6-Dinitrotoluene								
Di-n-octyl Phthalate								
1,2-Diphenylhydrazine (as Azobenzene)								
Fluoranthene								
Fluorene								
Hexachlorobenzene	ug/l							
Hexachlorobutadiene								
Hexachlorocyclopentadiene								
Hexachloroethane								
Indeno (1,2,3-cd) Pyrene								
Isophorone								
Naphthalene								
Nitrobenzene								
n-Nitrosodimethylamine								
n-Nitrosodi-n-propylamine								
n-Nitrosodiphenylamine								
Phenanthrene								
Pyrene								
1,2,4-Trichlorobenzene								
GC/MS FRACTION - PESTICIDES								
Aldrin	ug/l							
alpha-BHC								
beta-BHC								
gamma-BHC	ug/l							
delta-BHC								
Chlordane	ug/l							
4,4'-DDT	ug/l							
4,4'-DDE								
4,4'-DDD	ug/l							
Dieldrin	ug/l							
Endosulfan, total (α + β)	ug/l							
Endosulfan Sulfate								
Endrin	ug/l							
Endrin Aldehyde								
Heptachlor	ug/l							
Heptachlor Epoxide								

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					Eqn 22 Acute	Eqn 23 Chronic		
PCB-1242								
PCB-1254								
PCB-1221								
PCB-1232								
PCB-1248								
PCB-1260								
PCB-1016								
Toxaphene	ug/l							
ADDITIONAL PARAMETERS								
Chlorides					See AG Worksheet			
Sulfates					See AG Worksheet			
Total Dissolved Solids (TDS)					See AG Worksheet			
2,4,5-TP	ug/l							
2,4,6-Trinitotoluene	ug/l							
2,4-D	ug/l							
Bis-chloromethyl ether								
Chlorpyrifos (Dursban)	ug/l							
Demeton	ug/l							
Detergents, total	mg/l							
Diazinon	ug/l							
Dinitrophenols								
Guthion	ug/l							
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	ug/l							
Malathion	ug/l							
Methoxychlor	ug/l							
Methylene Blue Active Substances	ug/l							
Mirex	ug/l							
n-Nitrosodibutylamine								
n-Nitrosodiethylamine								
n-Nitrosopyrrolidine								
Nonylphenol (mixed isomers)	ug/l							
Parathion	ug/l							
PCB's, total	ug/l							
Pentachlorobenzene								
Perchlorate	ug/l							
Phthalate Esters (except Butylbenzyl)	ug/l							
1,2,4,5-Tetrachlorobenzene								
2,4,5-Trichlorophenol								

Equations Used to Calculate Criterion Long Term Averages (LTAs)		
Criterion	Eqn No.	Criterion LTA Equation
Aesthetics	Eqn 19	$LTA_{AES} = WLA_{AES}$
Raw Water	Eqn 20	$LTA_{RAW} = WLA_{RAW}$
HH / Fish Flesh and Water	Eqn 21	$LTA_{FFW} = WLA_{FFW}$
Acute Toxicity	Eqn 22	$LTA_A = WLA_A \times \text{EXP}(0.5 \text{LN}(1 + CV^2) - 2.326 \text{LN}(1 + CV^2)^{1/2})$
Chronic Toxicity	Eqn 23	$LTA_C = WLA_C \times \text{EXP}(0.5 \text{LN}(1 + CV^2 / 4) - 2.326 \text{LN}(1 + CV^2 / 4)^{1/2})$
HH / Fish Flesh	Eqn 24	$LTA_{FF} = WLA_{FF}$