

TEXTOX MENU #1 - INTERMITTENT STREAM

The water quality-based effluent limitations demonstrated below are calculated using:

Table 1, 2000 Texas Surface Water Quality Standards (30 TAC 307) for Freshwater Aquatic Life

Table 3, 2000 Texas Surface Water Quality Standards for Human Health

Procedures to Implement the Texas Surface Water Quality Standards, Texas Commission on Environmental Quality, January 2003

TPDES Permit No: TX0133992
 Permittee Name: Eagle Gas Plant, Edna Texas
 Outfall No: 001
 Prepared By: Maria Okpala
 Date: April 3, 2013

DISCHARGE INFORMATION:

Intermittent Receiving Waterbody: Unnamed drainage ditch, thence to Sutherlands Creek
 Segment No: 1604C
 TSS (mg/L): 7.4
 pH (Standard Units): 7.15
 Hardness (mg/L as CaCO₃): 54.4
 Chloride (mg/L): 19
 Effluent Flow for Aquatic Life (MGD): ?
 Critical Low Flow [7Q2] (cfs): 0.02
 Acute Effluent % for Aquatic Life: 100

CALCULATE TOTAL/DISSOLVED RATIO:

Stream/River Metal	Intercept		Partitioning Coefficient (K _{po})	Dissolved Fraction (Cd/Ct)	Assumed	Water Effects Ratio (WER)	
	(b)	Slope (m)					
Aluminum	N/A	N/A	N/A	N/A	1.00	1	Assumed
Arsenic	5.68	-0.73	111035.24	0.55		1	Assumed
Cadmium	6.6	-1.13	414732.58	0.25		1	Assumed
Chromium (Total)	6.52	-0.93	514771.51	0.21		1	Assumed
Chromium (+3)	6.52	-0.93	514771.51	0.21		1	Assumed
Chromium (+6)	N/A	N/A	N/A	1.00	Assumed	1	Assumed
Copper	6.02	-0.74	238105.01	0.36		1	Assumed
Lead	6.45	-0.8	568348.38	0.19		1	Assumed
Mercury	N/A	N/A	N/A	1.00	Assumed	1	Assumed
Nickel	5.69	-0.57	156508.50	0.46		1	Assumed
Selenium	N/A	N/A	N/A	1.00	Assumed	1	Assumed
Silver	6.38	-1.03	305275.06	0.31		1	Assumed
Zinc	6.1	-0.7	310125.73	0.30		1	Assumed

AQUATIC LIFE

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS

Parameter	Acute Standard		Daily Avg. Daily Max.		
	(ug/L)	WLAa	LTAa	(ug/L)	(ug/L)
Aldrin	3	3.00	1.72	2.53	5.35
Aluminum	991	991.00	567.84	834.73	1765.99
Arsenic	360	655.80	375.77	552.39	1168.65
Cadmium	16.496	67.12	38.46	56.54	119.62
Carbaryl	2	2.00	1.15	1.68	3.56
Chlordane	2.4	2.40	1.38	2.02	4.28
Chlorpyrifos	0.083	0.08	0.05	0.07	0.15
Chromium (+3)	333.29	1602.89	918.46	1350.13	2856.40
Chromium (+6)	15.7	15.70	9.00	13.22	27.98
Copper	10.383	28.68	16.43	24.16	51.10
Cyanide	45.78	45.78	26.23	38.56	81.58
4,4'-DDT	1.1	1.10	0.63	0.93	1.96
Dementon	N/A	N/A	N/A	N/A	N/A
Dicofol	59.3	59.30	33.98	49.95	105.67
Dieldrin	2.5	2.50	1.43	2.11	4.46
Diuron	210	210.00	120.33	176.89	374.23
Endosulfan I (alpha)	0.22	0.22	0.13	0.19	0.39
Endosulfan II (beta)	0.22	0.22	0.13	0.19	0.39
Endosulfan sulfate	0.22	0.22	0.13	0.19	0.39
Endrin	0.18	0.18	0.10	0.15	0.32
Guthion	N/A	N/A	N/A	N/A	N/A
Heptachlor	0.52	0.52	0.30	0.44	0.93
Hexachlorocyclohexane (Lindane)	2	2.00	1.15	1.68	3.56
Lead	33.439	174.07	99.74	146.62	310.21
Malathion	N/A	N/A	N/A	N/A	N/A
Mercury	2.4	2.40	1.38	2.02	4.28
Methoxychlor	N/A	N/A	N/A	N/A	N/A
Mirex	N/A	N/A	N/A	N/A	N/A
Nickel	845.664	1825.08	1045.77	1537.28	3252.35
Parathion (ethyl)	0.065	0.07	0.04	0.05	0.12
Pentachlorophenol	10.5460354	10.55	6.04	8.88	18.79
Phenanthrene	30	30.00	17.19	25.27	53.46
Polychlorinated Biphenyls (PCBs)	2	2.00	1.15	1.68	3.56
Selenium	20	20.00	11.46	16.85	35.64

Silver, (free ion)	0.8	5.46	3.13	4.60	9.73
Toxaphene	0.78	0.78	0.45	0.66	1.39
Tributyltin (TBT)	0.13	0.13	0.07	0.11	0.23
2,4,5 Trichlorophenol	136	136.00	77.93	114.55	242.36
Zinc	68.325	225.13	129.00	189.63	401.18

CALCULATE 70% AND 85% OF DAILY AVERAGE EFFLUENT LIMITATIONS

<i>Parameter</i>	<i>70%</i>	<i>85%</i>
Aldrin	1.769	2.148
Aluminum	584.310	709.520
Arsenic	386.670	469.527
Cadmium	39.577	48.058
Carbaryl	1.179	1.432
Chlordane	1.415	1.718
Chlorpyrifos	0.049	0.059
Chromium (+3)	945.09	1147.61
Chromium (+6)	9.257	11.241
Copper	16.909	20.532
Cyanide	26.993	32.777
4,4'-DDT	0.649	0.788
Dementon	N/A	N/A
Dicofol	34.964	42.457
Dieldrin	1.474	1.790
Diuron	123.820	150.352
Endosulfan I (alpha)	0.130	0.158
Endosulfan II (beta)	0.130	0.158
Endosulfan sulfate	0.130	0.158
Endrin	0.106	0.129
Guthion	N/A	N/A
Heptachlor	0.307	0.372
Hexachlorocyclohexane (Lindane)	1.179	1.432
Lead	102.637	124.631
Malathion	N/A	N/A
Mercury	1.415	1.718
Methoxychlor	N/A	N/A
Mirex	N/A	N/A
Nickel	1076.10	1306.69
Parathion (ethyl)	0.038	0.047
Pentachlorophenol	6.218	7.551
Phenanthrene	17.689	21.479
Polychlorinated Biphenyls (PCBs)	1.179	1.432
Selenium	11.792	14.319
Silver, (free ion)	3.219	3.909
Toxaphene	0.460	0.558
Tributyltin (TBT)	0.077	0.093
2,4,5 Trichlorophenol	80.188	97.371
Zinc	132.738	161.182