

TEXTOX MENU #7 - INTERMITTENT STREAM WITH PERENNIAL POOLS

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

Table 1, 2014 Texas Surface Water Quality Standards (30 TAC 307) for Freshwater Aquatic Life

Table 2, 2018 Texas Surface Water Quality Standards for Human Health, Incidental Fishery

"Procedures to Implement the Texas Surface Water Quality Standards," TCEQ, June 2010

PERMIT INFORMATION

Permittee Name:	CMR Energy, LP
TPDES Permit No.:	TX0134078
Outfall No.:	001
Prepared by:	Maria Okpala
Date:	04/30/19

DISCHARGE INFORMATION

Intermittent Receiving Waterbody:	Unnamed
Segment No.:	2105
TSS (mg/L):	5
pH (Standard Units):	7.6
Hardness (mg/L as CaCO ₃):	160
Chloride (mg/L):	49
Effluent Flow for Aquatic Life (MGD):	0.063
Critical Low Flow [7Q2] (cfs):	0
% Effluent for Chronic Aquatic Life:	100
% Effluent for Acute Aquatic Life:	100
Effluent Flow for Human Health (MGD):	0.063
Harmonic Mean Flow (cfs):	0.03
% Effluent for Human Health:	76.466

CALCULATE DISSOLVED FRACTION (AND ENTER WATER EFFECT RATIO IF APPLICABLE):

<i>Stream/River Metal</i>	<i>Intercept (b)</i>	<i>Slope (m)</i>	<i>Partition Coefficient (Kp)</i>	<i>Dissolved Fraction (Cd/Ct)</i>	<i>Source</i>	<i>Water Effect Ratio (WER)</i>	<i>Source</i>
Aluminum	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Arsenic	5.68	-0.73	147826.36	0.575		1.00	Assumed
Cadmium	6.60	-1.13	645897.93	0.236		1.00	Assumed
Chromium (total)	6.52	-0.93	741238.38	0.212		1.00	Assumed
Chromium (trivalent)	6.52	-0.93	741238.38	0.212		1.00	Assumed
Chromium (hexavalent)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Copper	6.02	-0.74	318245.45	0.386		1.00	Assumed
Lead	6.45	-0.80	777721.31	0.205		1.00	Assumed
Mercury	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Nickel	5.69	-0.57	195698.32	0.505		1.00	Assumed
Selenium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Silver	6.38	-1.03	457152.29	0.304		1.00	Assumed
Zinc	6.10	-0.70	408057.15	0.329		1.00	Assumed

AQUATIC LIFE
CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

<i>Parameter</i>	<i>FW Acute</i>	<i>FW Chronic</i>	<i>WLAa</i>	<i>WLAc</i>	<i>LTAa</i>	<i>LTAc</i>	<i>Daily Avg.</i>	<i>Daily Max.</i>
	<i>Criterion</i>	<i>Criterion</i>						
	<i>(µg/L)</i>	<i>(µg/L)</i>	<i>(µg/L)</i>	<i>(µg/L)</i>	<i>(µg/L)</i>	<i>(µg/L)</i>	<i>(µg/L)</i>	<i>(µg/L)</i>
Aldrin	3.0	N/A	3.0	N/A	1.72	N/A	2.53	5.35
Aluminum	991	N/A	991	N/A	568	N/A	835	1766
Arsenic	340	150	591	261	339	201	295	625
Cadmium	13.6	0.341	57.3	1.44	32.8	1.11	1.63	3.45
Carbaryl	2.0	N/A	2.0	N/A	1.15	N/A	1.68	3.56
Chlordane	2.4	0.004	2.4	0.004	1.38	0.0031	0.0045	0.0096
Chlorpyrifos	0.083	0.041	0.083	0.041	0.048	0.032	0.046	0.098
Chromium (+3)	837	109	3940	513	2258	395	580	1227
Chromium (+6)	15.7	10.6	15.7	10.6	9.00	8.16	12.0	25.4
Copper	22.1	14.1	57.3	36.7	32.8	28.2	41.5	87.8
Cyanide (free)	45.8	10.7	45.8	10.7	26.2	8.24	12.1	25.6
4,4'-DDT	1.1	0.001	1.1	0.001	0.630	0.00077	0.0011	0.0024
Demeton	N/A	0.1	N/A	0.1	N/A	0.077	0.113	0.239
Diazinon	0.17	0.17	0.17	0.17	0.097	0.131	0.143	0.303
Dicofol	59.3	19.8	59.3	19.8	34.0	15.2	22.4	47.4
Dieldrin	0.24	0.002	0.24	0.002	0.138	0.0015	0.0023	0.0048
Diuron	210	70	210	70	120	53.9	79.2	168
Endosulfan I (alpha)	0.22	0.056	0.22	0.056	0.126	0.043	0.063	0.134
Endosulfan II (beta)	0.22	0.056	0.22	0.056	0.126	0.043	0.063	0.134
Endosulfan sulfate	0.22	0.056	0.22	0.056	0.126	0.043	0.063	0.134
Endrin	0.086	0.002	0.086	0.002	0.049	0.0015	0.0023	0.0048
Guthion	N/A	0.01	N/A	0.01	N/A	0.0077	0.011	0.024
Heptachlor	0.52	0.004	0.52	0.004	0.298	0.0031	0.0045	0.0096
Hexachlorocyclohexane (Lindane)	1.126	0.08	1.126	0.08	0.645	0.062	0.091	0.192
Lead	107	4.18	525	20.4	301	15.7	23.1	49.0
Malathion	N/A	0.01	N/A	0.01	N/A	0.0077	0.011	0.024
Mercury	2.4	1.3	2.4	1.3	1.38	1.00	1.47	3.11
Methoxychlor	N/A	0.03	N/A	0.03	N/A	0.023	0.034	0.072
Mirex	N/A	0.001	N/A	0.001	N/A	0.00077	0.0011	0.0024
Nickel	697	77.4	1379	153	790	118	173	367
Nonylphenol	28	6.6	28	6.6	16.0	5.08	7.47	15.8
Parathion (ethyl)	0.065	0.013	0.065	0.013	0.037	0.010	0.015	0.031
Pentachlorophenol	15.9	12.2	15.9	12.2	9.1	9.4	13.4	28.4
Phenanthrene	30	30	30	30	17.2	23.1	25.3	53.5
Polychlorinated Biphenyls (PCBs)	2.0	0.014	2.0	0.014	1.15	0.011	0.016	0.034
Selenium	20	5	20	5	11.5	3.85	5.66	12.0
Silver	0.8	N/A	11.26	N/A	6.45	N/A	9.49	20.1
Toxaphene	0.78	0.0002	0.78	0.0002	0.447	0.00015	0.00023	0.00048
Tributyltin (TBT)	0.13	0.024	0.13	0.024	0.074	0.018	0.027	0.057
2,4,5 Trichlorophenol	136	64	136	64	77.9	49.3	72.4	153
Zinc	175	176	531	535	304	412	447	945

HUMAN HEALTH (APPLIES FOR INCIDENTAL FRESHWATER FISH TISSUE)

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

<i>Parameter</i>	<i>Incidental Fish Criterion (µg/L)</i>	<i>WLAh (µg/L)</i>	<i>LTAh (µg/L)</i>	<i>Daily Avg. (µg/L)</i>	<i>Daily Max. (µg/L)</i>
Acrylonitrile	1150	1504	1399	2056	4350
Aldrin	1.147E-04	1.50E-04	1.40E-04	2.05E-04	4.34E-04
Anthracene	13170	17223	16018	23546	49815
Antimony	10710	14006	13026	19148	40510
Arsenic	N/A	N/A	N/A	N/A	N/A
Barium	N/A	N/A	N/A	N/A	N/A
Benzene	5810	7598	7066	10387	21976
Benzidine	1.07	1.40	1.30	1.91	4.0
Benzo(a)anthracene	0.25	0.327	0.304	0.45	0.95
Benzo(a)pyrene	0.025	0.033	0.030	0.045	0.095
Bis(chloromethyl)ether	2.745	3.59	3.34	4.9	10.4
Bis(2-chloroethyl)ether	428.3	560	521	766	1620
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phthalate]	75.5	99	92	135	286
Bromodichloromethane [Dichlorobromomethane]	2750	3596	3345	4917	10402
Bromoform [Tribromomethane]	10600	13862	12892	18951	40094
Cadmium	N/A	N/A	N/A	N/A	N/A
Carbon Tetrachloride	460	602	559	822	1740
Chlordane	0.025	0.033	0.030	0.045	0.095
Chlorobenzene	27370	35794	33288	48934	103526
Chlorodibromomethane [Dibromochloromethane]	1830	2393	2226	3272	6922
Chloroform [Trichloromethane]	76970	100659	93613	137611	291137
Chromium (hexavalent)	5020	6565	6105	8975	18988
Chrysene	25.2	33.0	30.6	45	95
Cresols [Methylphenols]	93010	121636	113121	166288	351807
Cyanide (free)	N/A	N/A	N/A	N/A	N/A
4,4'-DDD	0.02	0.026	0.024	0.036	0.076
4,4'-DDE	0.0013	0.0017	0.0016	0.0023	0.0049
4,4'-DDT	0.004	0.005	0.005	0.007	0.015
2,4'-D	N/A	N/A	N/A	N/A	N/A
Danitol [Fenpropathrin]	4730	6186	5753	8457	17891
1,2-Dibromoethane [Ethylene Dibromide]	42.4	55	52	76	160
<i>m</i> -Dichlorobenzene [1,3-Dichlorobenzene]	5950	7781	7237	10638	22506
<i>o</i> -Dichlorobenzene [1,2-Dichlorobenzene]	32990	43143	40123	58981	124784
<i>p</i> -Dichlorobenzene [1,4-Dichlorobenzene]	N/A	N/A	N/A	N/A	N/A
3,3'-Dichlorobenzidine	22.4	29.3	27.2	40	85
1,2-Dichloroethane	3640	4760	4427	6508	13768
1,1-Dichloroethylene [1,1-Dichloroethene]	551140	720765	670312	985358	2084669
Dichloromethane [Methylene Chloride]	133330	174365	162160	238375	504316
1,2-Dichloropropane	2590	3387	3150	4631	9797
1,3-Dichloropropene [1,3-Dichloropropylene]	1190	1556	1447	2128	4501
Dicofol [Kelthane]	3	3.9	3.65	5.4	11.3
Dieldrin	2.0E-04	2.62E-04	2.43E-04	3.58E-04	7.56E-04

2,4-Dimethylphenol	84360	110324	102601	150823	319089
Di- <i>n</i> -Butyl Phthalate	924	1208	1124	1652	3495
Dioxins/Furans [TCDD Equivalents]	7.97E-07	1.04E-06	9.69E-07	1.42E-06	3.01E-06
Endrin	0.2	0.262	0.243	0.358	0.76
Epichlorohydrin	20130	26325	24483	35990	76141
Ethylbenzene	18670	24416	22707	33379	70619
Ethylene Glycol	1.68E+08	2.20E+08	2.04E+08	3.00E+08	6.35E+08
Fluoride	N/A	N/A	N/A	N/A	N/A
Heptachlor	0.001	0.0013	0.0012	0.0018	0.0038
Heptachlor Epoxide	0.0029	0.0038	0.0035	0.005	0.011
Hexachlorobenzene	0.0068	0.009	0.008	0.012	0.026
Hexachlorobutadiene	2.2	2.88	2.68	3.9	8.3
Hexachlorocyclohexane (<i>alpha</i>)	0.084	0.110	0.102	0.150	0.318
Hexachlorocyclohexane (<i>beta</i>)	2.6	3.40	3.16	4.6	9.8
Hexachlorocyclohexane (<i>gamma</i>) [Lindane]	3.41	4.5	4.1	6.1	12.9
Hexachlorocyclopentadiene	116	152	141	207	439
Hexachloroethane	23.3	30.5	28.3	42	88
Hexachlorophene	29	37.9	35.3	52	110
4,4'-Isopropylidenediphenol [Bisphenol A]	159820	209008	194377	285735	604514
Lead	38.3	245	228	335	708
Mercury	0.122	0.160	0.148	0.218	0.46
Methoxychlor	30	39	36	54	113
Methyl Ethyl Ketone	9.92E+06	1.30E+07	1.21E+07	1.77E+07	3.75E+07
Methyl <i>tert</i> -butyl ether [MTBE]	104820	137081	127485	187403	396478
Nickel	11400	29497	27432	40325	85313
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A	N/A	N/A	N/A
Nitrobenzene	18730	24495	22780	33487	70846
N-Nitrosodiethylamine	21	27.5	25.5	37.5	79
N-Nitroso-di- <i>n</i> -Butylamine	42	55	51	75	159
Pentachlorobenzene	3.55	4.6	4.3	6.3	13.4
Pentachlorophenol	2.9	3.79	3.53	5.2	11.0
Polychlorinated Biphenyls [PCBs]	6.40E-03	0.008	0.008	0.011	0.024
Pyridine	9470	12385	11518	16931	35820
Selenium	N/A	N/A	N/A	N/A	N/A
1,2,4,5-Tetrachlorobenzene	2.4	3.14	2.92	4.3	9.1
1,1,2,2-Tetrachloroethane	263.5	345	320	471	997
Tetrachloroethylene [Tetrachloroethylene]	2800	3662	3405	5006	10591
Thallium	2.3	3.01	2.80	4.1	8.7
Toluene	N/A	N/A	N/A	N/A	N/A
Toxaphene	0.11	0.144	0.134	0.197	0.42
2,4,5-TP [Silvex]	3690	4826	4488	6597	13957
1,1,1-Trichloroethane	7843540	10257558	9539528	14023107	29667934
1,1,2-Trichloroethane	1660	2171	2019	2968	6279
Trichloroethylene [Trichloroethene]	719	940	874	1285	2720
2,4,5-Trichlorophenol	18670	24416	22707	33379	70619
TTHM [Sum of Total Trihalomethanes]	N/A	N/A	N/A	N/A	N/A
Vinyl Chloride	165	216	201	295	624

CALCULATE 70% AND 85% OF DAILY AVERAGE EFFLUENT LIMITATIONS:

Aquatic Life	70% of	85% of
Parameter	Daily Avg.	Daily Avg.
	(µg/L)	(µg/L)
Aldrin	1.77	2.15
Aluminum	584	710
Arsenic	207	251
Cadmium	1.14	1.39
Carbaryl	1.18	1.43
Chlordane	0.0032	0.0038
Chlorpyrifos	0.032	0.039
Chromium (+3)	406	493
Chromium (+6)	8.40	10.2
Copper	29.0	35.3
Cyanide (free)	8.48	10.3
4,4'-DDT	0.00079	0.00096
Demeton	0.079	0.096
Diazinon	0.100	0.122
Dicofol	15.7	19.0
Dieldrin	0.0016	0.0019
Diuron	55.5	67.3
Endosulfan (alpha)	0.044	0.054
Endosulfan (beta)	0.044	0.054
Endosulfan sulfate	0.044	0.054
Endrin	0.0016	0.0019
Guthion	0.0079	0.0096
Heptachlor	0.0032	0.0038
Hexachlorocyclohexane (Lindane)	0.063	0.077
Lead	16.2	19.7
Malathion	0.0079	0.0096
Mercury	1.03	1.25
Methoxychlor	0.024	0.029
Mirex	0.00079	0.00096
Nickel	121	147
Nonylphenol	5.23	6.35
Parathion (ethyl)	0.010	0.013
Pentachlorophenol	9.4	11.4
Phenanthrene	17.7	21.5
Polychlorinated Biphenyls (PCBs)	0.011	0.013
Selenium	3.96	4.81
Silver	6.64	8.06
Toxaphene	0.00016	0.00019
Tributyltin (TBT)	0.019	0.023
2,4,5 Trichlorophenol	50.7	61.6
Zinc	313	380

27

8.5

Human Health	70% of Daily Avg. (µg/L)	85% of Daily Avg. (µg/L)
Parameter		
Acrylonitrile	1439	1748
Aldrin	1.44E-04	1.74E-04
Anthracene	16482	20014
Antimony	13404	16276
Arsenic	N/A	N/A
Barium	N/A	N/A
Benzene	7271	8829
Benzidine	1.34	1.63
Benzo(a)anthracene	0.313	0.380
Benzo(a)pyrene	0.031	0.038
Bis(chloromethyl)ether	3.44	4.2
Bis(2-chloroethyl)ether	536	651
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phthalate]	94	115
Bromodichloromethane [Dichlorobromomethane]	3442	4179
Bromoform [Tribromomethane]	13266	16109
Cadmium	N/A	N/A
Carbon Tetrachloride	576	699
Chlordane	0.031	0.038
Chlorobenzene	34254	41594
Chlorodibromomethane [Dibromochloromethane]	2290	2781
Chloroform [Trichloromethane]	96328	116969
Chromium (hexavalent)	6283	7629
Chrysene	31.5	38
Cresols [Methylphenols]	116402	141345
Cyanide (free)	N/A	N/A
4,4'-DDD	0.025	0.030
4,4'-DDE	0.0016	0.0020
4,4'-DDT	0.005	0.006
2,4'-D	N/A	N/A
Danitol [Fenprothrin]	5920	7188
1,2-Dibromoethane [Ethylene Dibromide]	53	64
<i>m</i> -Dichlorobenzene [1,3-Dichlorobenzene]	7446	9042
<i>o</i> -Dichlorobenzene [1,2-Dichlorobenzene]	41287	50134
<i>p</i> -Dichlorobenzene [1,4-Dichlorobenzene]	N/A	N/A
3,3'-Dichlorobenzidine	28.0	34.0
1,2-Dichloroethane	4555	5532
1,1-Dichloroethylene [1,1-Dichloroethene]	689751	837554
Dichloromethane [Methylene Chloride]	166862	202618
1,2-Dichloropropane	3241	3936
1,3-Dichloropropene [1,3-Dichloropropylene]	1489	1808
Dicofol [Kelthane]	3.75	4.6
Dieldrin	2.50E-04	3.04E-04
2,4-Dimethylphenol	105576	128200
Di- <i>n</i> -Butyl Phthalate	1156	1404
Dioxins/Furans [TCDD Equivalents]	9.97E-07	1.21E-06

Endrin	0.250	0.304
Epichlorohydrin	25193	30591
Ethylbenzene	23365	28372
Ethylene Glycol	2.10E+08	2.55E+08
Fluoride	N/A	N/A
Heptachlor	0.0013	0.0015
Heptachlor Epoxide	0.0036	0.0044
Hexachlorobenzene	0.009	0.010
Hexachlorobutadiene	2.75	3.34
Hexachlorocyclohexane (<i>alpha</i>)	0.105	0.128
Hexachlorocyclohexane (<i>beta</i>)	3.25	4.0
Hexachlorocyclohexane (<i>gamma</i>) [Lindane]	4.3	5.2
Hexachlorocyclopentadiene	145	176
Hexachloroethane	29.2	35.4
Hexachlorophene	36.3	44
4,4'-Isopropylidenediphenol [Bisphenol A]	200014	242875
Lead	234	285
Mercury	0.153	0.185
Methoxychlor	37.5	46
Methyl Ethyl Ketone	1.24E+07	1.51E+07
Methyl <i>tert</i> -butyl ether [MTBE]	131182	159292
Nickel	28227	34276
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A
Nitrobenzene	23441	28464
N-Nitrosodiethylamine	26.3	31.9
N-Nitroso-di- <i>n</i> -Butylamine	53	64
Pentachlorobenzene	4.4	5.4
Pentachlorophenol	3.63	4.4
Polychlorinated Biphenyls [PCBs]	0.008	0.010
Pyridine	11852	14391
Selenium	N/A	N/A
1,2,4,5-Tetrachlorobenzene	3.00	3.65
1,1,2,2-Tetrachloroethane	330	400
Tetrachloroethylene [Tetrachloroethylene]	3504	4255
Thallium	2.88	3.50
Toluene	N/A	N/A
Toxaphene	0.138	0.167
2,4,5-TP [Silvex]	4618	5608
1,1,1-Trichloroethane	9.82E+06	1.19E+07
1,1,2-Trichloroethane	2077	2523
Trichloroethylene [Trichloroethene]	900	1093
2,4,5-Trichlorophenol	23365	28372
TTHM [Sum of Total Trihalomethanes]	N/A	N/A
Vinyl Chloride	206	251

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Outfall No.:	002
Prepared by:	Maria Okpala
Date:	04/30/19

DISCHARGE INFORMATION

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Hardness (mg/L as CaCO ₃):	160
Chloride (mg/L):	49
Effluent Flow for Aquatic Life (MGD):	0.036
Critical Low Flow [7Q2] (cfs):	0
% Effluent for Chronic Aquatic Life:	100
% Effluent for Acute Aquatic Life:	100
Effluent Flow for Human Health (MGD):	0.036
Harmonic Mean Flow (cfs):	0.03
% Effluent for Human Health:	64.994

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<i>Stream/River Metal</i>	<i>Intercept (b)</i>	<i>Slope (m)</i>	<i>Partition Coefficient (Kp)</i>	<i>Dissolved Fraction (Cd/Ct)</i>	<i>Source</i>	<i>Water Effect Ratio (WER)</i>	<i>Source</i>
Aluminum	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Arsenic	5.68	-0.73	147826.36	0.575		1.00	Assumed
Cadmium	6.60	-1.13	645897.93	0.236		1.00	Assumed
Chromium (total)	6.52	-0.93	741238.38	0.212		1.00	Assumed
Chromium (trivalent)	6.52	-0.93	741238.38	0.212		1.00	Assumed
Chromium (hexavalent)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Copper	6.02	-0.74	318245.45	0.386		1.00	Assumed
Lead	6.45	-0.80	777721.31	0.205		1.00	Assumed
Mercury	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Nickel	5.69	-0.57	195698.32	0.505		1.00	Assumed
Selenium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Silver	6.38	-1.03	457152.29	0.304		1.00	Assumed
Zinc	6.10	-0.70	408057.15	0.329		1.00	Assumed

AQUATIC LIFE
CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

<i>Parameter</i>	<i>FW Acute</i>	<i>FW Chronic</i>	<i>WLAa</i>	<i>WLAc</i>	<i>LTAa</i>	<i>LTAc</i>	<i>Daily Avg.</i>	<i>Daily Max.</i>
	<i>Criterion</i>	<i>Criterion</i>						
	<i>(µg/L)</i>	<i>(µg/L)</i>	<i>(µg/L)</i>	<i>(µg/L)</i>	<i>(µg/L)</i>	<i>(µg/L)</i>	<i>(µg/L)</i>	<i>(µg/L)</i>
Aldrin	3.0	N/A	3.0	N/A	1.72	N/A	2.53	5.35
Aluminum	991	N/A	991	N/A	568	N/A	835	1766
Arsenic	340	150	591	261	339	201	295	625
Cadmium	13.6	0.341	57.3	1.44	32.8	1.11	1.63	3.45
Carbaryl	2.0	N/A	2.0	N/A	1.15	N/A	1.68	3.56
Chlordane	2.4	0.004	2.4	0.004	1.38	0.0031	0.0045	0.0096
Chlorpyrifos	0.083	0.041	0.083	0.041	0.048	0.032	0.046	0.098
Chromium (+3)	837	109	3940	513	2258	395	580	1227
Chromium (+6)	15.7	10.6	15.7	10.6	9.00	8.16	12.0	25.4
Copper	22.1	14.1	57.3	36.7	32.8	28.2	41.5	87.8
Cyanide (free)	45.8	10.7	45.8	10.7	26.2	8.24	12.1	25.6
4,4'-DDT	1.1	0.001	1.1	0.001	0.630	0.00077	0.0011	0.0024
Demeton	N/A	0.1	N/A	0.1	N/A	0.077	0.113	0.239
Diazinon	0.17	0.17	0.17	0.17	0.097	0.131	0.143	0.303
Dicofol	59.3	19.8	59.3	19.8	34.0	15.2	22.4	47.4
Dieldrin	0.24	0.002	0.24	0.002	0.138	0.0015	0.0023	0.0048
Diuron	210	70	210	70	120	53.9	79.2	168
Endosulfan I (alpha)	0.22	0.056	0.22	0.056	0.126	0.043	0.063	0.134
Endosulfan II (beta)	0.22	0.056	0.22	0.056	0.126	0.043	0.063	0.134
Endosulfan sulfate	0.22	0.056	0.22	0.056	0.126	0.043	0.063	0.134
Endrin	0.086	0.002	0.086	0.002	0.049	0.0015	0.0023	0.0048
Guthion	N/A	0.01	N/A	0.01	N/A	0.0077	0.011	0.024
Heptachlor	0.52	0.004	0.52	0.004	0.298	0.0031	0.0045	0.0096
Hexachlorocyclohexane (Lindane)	1.126	0.08	1.126	0.08	0.645	0.062	0.091	0.192
Lead	107	4.18	525	20.4	301	15.7	23.1	49.0
Malathion	N/A	0.01	N/A	0.01	N/A	0.0077	0.011	0.024
Mercury	2.4	1.3	2.4	1.3	1.38	1.00	1.47	3.11
Methoxychlor	N/A	0.03	N/A	0.03	N/A	0.023	0.034	0.072
Mirex	N/A	0.001	N/A	0.001	N/A	0.00077	0.0011	0.0024
Nickel	697	77.4	1379	153	790	118	173	367
Nonylphenol	28	6.6	28	6.6	16.0	5.08	7.47	15.8
Parathion (ethyl)	0.065	0.013	0.065	0.013	0.037	0.010	0.015	0.031
Pentachlorophenol	15.9	12.2	15.9	12.2	9.1	9.4	13.4	28.4
Phenanthrene	30	30	30	30	17.2	23.1	25.3	53.5
Polychlorinated Biphenyls (PCBs)	2.0	0.014	2.0	0.014	1.15	0.011	0.016	0.034
Selenium	20	5	20	5	11.5	3.85	5.66	12.0
Silver	0.8	N/A	11.26	N/A	6.45	N/A	9.49	20.1
Toxaphene	0.78	0.0002	0.78	0.0002	0.447	0.00015	0.00023	0.00048
Tributyltin (TBT)	0.13	0.024	0.13	0.024	0.074	0.018	0.027	0.057
2,4,5 Trichlorophenol	136	64	136	64	77.9	49.3	72.4	153
Zinc	175	176	531	535	304	412	447	945

HUMAN HEALTH (APPLIES FOR INCIDENTAL FRESHWATER FISH TISSUE)

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

<i>Parameter</i>	<i>Incidental Fish Criterion (µg/L)</i>	<i>WLAh (µg/L)</i>	<i>LTAh (µg/L)</i>	<i>Daily Avg. (µg/L)</i>	<i>Daily Max. (µg/L)</i>
Acrylonitrile	1150	1769	1646	2419	5118
Aldrin	1.147E-04	1.76E-04	1.64E-04	2.41E-04	5.10E-04
Anthracene	13170	20263	18845	27702	58608
Antimony	10710	16478	15325	22528	47660
Arsenic	N/A	N/A	N/A	N/A	N/A
Barium	N/A	N/A	N/A	N/A	N/A
Benzene	5810	8939	8314	12221	25855
Benzidine	1.07	1.65	1.53	2.25	4.8
Benzo(a)anthracene	0.25	0.385	0.358	0.53	1.11
Benzo(a)pyrene	0.025	0.038	0.036	0.053	0.111
Bis(chloromethyl)ether	2.745	4.22	3.93	5.8	12.2
Bis(2-chloroethyl)ether	428.3	659	613	901	1906
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phthalate]	75.5	116	108	159	336
Bromodichloromethane [Dichlorobromomethane]	2750	4231	3935	5784	12238
Bromoform [Tribromomethane]	10600	16309	15168	22296	47171
Cadmium	N/A	N/A	N/A	N/A	N/A
Carbon Tetrachloride	460	708	658	968	2047
Chlordane	0.025	0.038	0.036	0.053	0.111
Chlorobenzene	27370	42111	39164	57571	121799
Chlorodibromomethane [Dibromochloromethane]	1830	2816	2619	3849	8144
Chloroform [Trichloromethane]	76970	118426	110136	161900	342524
Chromium (hexavalent)	5020	7724	7183	10559	22339
Chrysene	25.2	38.8	36.1	53	112
Cresols [Methylphenols]	93010	143105	133088	195639	413903
Cyanide (free)	N/A	N/A	N/A	N/A	N/A
4,4'-DDD	0.02	0.031	0.029	0.042	0.089
4,4'-DDE	0.0013	0.0020	0.0019	0.0027	0.0058
4,4'-DDT	0.004	0.006	0.006	0.008	0.018
2,4'-D	N/A	N/A	N/A	N/A	N/A
Danitol [Fenprothrin]	4730	7278	6768	9949	21049
1,2-Dibromoethane [Ethylene Dibromide]	42.4	65	61	89	189
<i>m</i> -Dichlorobenzene [1,3-Dichlorobenzene]	5950	9155	8514	12515	26478
<i>o</i> -Dichlorobenzene [1,2-Dichlorobenzene]	32990	50758	47205	69392	146809
<i>p</i> -Dichlorobenzene [1,4-Dichlorobenzene]	N/A	N/A	N/A	N/A	N/A
3,3'-Dichlorobenzidine	22.4	34.5	32.1	47	100
1,2-Dichloroethane	3640	5601	5208	7656	16198
1,1-Dichloroethylene [1,1-Dichloroethene]	551140	847984	788625	1159279	2452624
Dichloromethane [Methylene Chloride]	133330	205142	190782	280449	593331
1,2-Dichloropropane	2590	3985	3706	5448	11526
1,3-Dichloropropene [1,3-Dichloropropylene]	1190	1831	1703	2503	5296
Dicofol [Kelthane]	3	4.6	4.29	6.3	13.4
Dieldrin	2.0E-04	3.08E-04	2.86E-04	4.21E-04	8.90E-04

2,4-Dimethylphenol	84360	129796	120711	177445	375410
Di- <i>n</i> -Butyl Phthalate	924	1422	1322	1944	4112
Dioxins/Furans [TCDD Equivalents]	7.97E-07	1.23E-06	1.14E-06	1.68E-06	3.55E-06
Endrin	0.2	0.308	0.286	0.421	0.89
Epichlorohydrin	20130	30972	28804	42342	89580
Ethylbenzene	18670	28726	26715	39271	83083
Ethylene Glycol	1.68E+08	2.58E+08	2.40E+08	3.53E+08	7.48E+08
Fluoride	N/A	N/A	N/A	N/A	N/A
Heptachlor	0.001	0.0015	0.0014	0.0021	0.0045
Heptachlor Epoxide	0.0029	0.0045	0.0041	0.006	0.013
Hexachlorobenzene	0.0068	0.010	0.010	0.014	0.030
Hexachlorobutadiene	2.2	3.38	3.15	4.6	9.8
Hexachlorocyclohexane (<i>alpha</i>)	0.084	0.129	0.120	0.177	0.374
Hexachlorocyclohexane (<i>beta</i>)	2.6	4.00	3.72	5.5	11.6
Hexachlorocyclohexane (<i>gamma</i>) [Lindane]	3.41	5.2	4.9	7.2	15.2
Hexachlorocyclopentadiene	116	178	166	244	516
Hexachloroethane	23.3	35.8	33.3	49	104
Hexachlorophene	29	44.6	41.5	61	129
4,4'-Isopropylidenediphenol [Bisphenol A]	159820	245899	228686	336169	711214
Lead	38.3	288	268	394	833
Mercury	0.122	0.188	0.175	0.257	0.54
Methoxychlor	30	46	43	63	134
Methyl Ethyl Ketone	9.92E+06	1.53E+07	1.42E+07	2.09E+07	4.41E+07
Methyl <i>tert</i> -butyl ether [MTBE]	104820	161276	149987	220480	466459
Nickel	11400	34703	32274	47442	100371
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A	N/A	N/A	N/A
Nitrobenzene	18730	28818	26801	39397	83350
N-Nitrosodiethylamine	21	32.3	30.0	44.2	93
N-Nitroso-di- <i>n</i> -Butylamine	42	65	60	88	187
Pentachlorobenzene	3.55	5.5	5.1	7.5	15.8
Pentachlorophenol	2.9	4.46	4.15	6.1	12.9
Polychlorinated Biphenyls [PCBs]	6.40E-03	0.010	0.009	0.013	0.028
Pyridine	9470	14571	13551	19919	42142
Selenium	N/A	N/A	N/A	N/A	N/A
1,2,4,5-Tetrachlorobenzene	2.4	3.69	3.43	5.0	10.7
1,1,2,2-Tetrachloroethane	263.5	405	377	554	1173
Tetrachloroethylene [Tetrachloroethylene]	2800	4308	4007	5890	12460
Thallium	2.3	3.54	3.29	4.8	10.2
Toluene	N/A	N/A	N/A	N/A	N/A
Toxaphene	0.11	0.169	0.157	0.231	0.49
2,4,5-TP [Silvex]	3690	5677	5280	7762	16421
1,1,1-Trichloroethane	7843540	12068071	11223306	16498259	34904481
1,1,2-Trichloroethane	1660	2554	2375	3492	7387
Trichloroethylene [Trichloroethene]	719	1106	1029	1512	3200
2,4,5-Trichlorophenol	18670	28726	26715	39271	83083
TTHM [Sum of Total Trihalomethanes]	N/A	N/A	N/A	N/A	N/A
Vinyl Chloride	165	254	236	347	734

CALCULATE 70% AND 85% OF DAILY AVERAGE EFFLUENT LIMITATIONS:

Aquatic Life	70% of	85% of
Parameter	Daily Avg.	Daily Avg.
	(µg/L)	(µg/L)
Aldrin	1.77	2.15
Aluminum	584	710
Arsenic	207	251
Cadmium	1.14	1.39
Carbaryl	1.18	1.43
Chlordane	0.0032	0.0038
Chlorpyrifos	0.032	0.039
Chromium (+3)	406	493
Chromium (+6)	8.40	10.2
Copper	29.0	35.3
Cyanide (free)	8.48	10.3
4,4'-DDT	0.00079	0.00096
Demeton	0.079	0.096
Diazinon	0.100	0.122
Dicofol	15.7	19.0
Dieldrin	0.0016	0.0019
Diuron	55.5	67.3
Endosulfan (alpha)	0.044	0.054
Endosulfan (beta)	0.044	0.054
Endosulfan sulfate	0.044	0.054
Endrin	0.0016	0.0019
Guthion	0.0079	0.0096
Heptachlor	0.0032	0.0038
Hexachlorocyclohexane (Lindane)	0.063	0.077
Lead	16.2	19.7
Malathion	0.0079	0.0096
Mercury	1.03	1.25
Methoxychlor	0.024	0.029
Mirex	0.00079	0.00096
Nickel	121	147
Nonylphenol	5.23	6.35
Parathion (ethyl)	0.010	0.013
Pentachlorophenol	9.4	11.4
Phenanthrene	17.7	21.5
Polychlorinated Biphenyls (PCBs)	0.011	0.013
Selenium	3.96	4.81
Silver	6.64	8.06
Toxaphene	0.00016	0.00019
Tributyltin (TBT)	0.019	0.023
2,4,5 Trichlorophenol	50.7	61.6
Zinc	313	380

26

5.21

Human Health	70% of Daily Avg. (µg/L)	85% of Daily Avg. (µg/L)
Parameter		
Acrylonitrile	1693	2056
Aldrin	1.69E-04	2.05E-04
Anthracene	19391	23547
Antimony	15769	19148
Arsenic	N/A	N/A
Barium	N/A	N/A
Benzene	8555	10388
Benzidine	1.58	1.91
Benzo(a)anthracene	0.368	0.447
Benzo(a)pyrene	0.037	0.045
Bis(chloromethyl)ether	4.04	4.9
Bis(2-chloroethyl)ether	631	766
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phthalate]	111	135
Bromodichloromethane [Dichlorobromomethane]	4049	4917
Bromoform [Tribromomethane]	15607	18952
Cadmium	N/A	N/A
Carbon Tetrachloride	677	822
Chlordane	0.037	0.045
Chlorobenzene	40299	48935
Chlorodibromomethane [Dibromochloromethane]	2694	3272
Chloroform [Trichloromethane]	113330	137615
Chromium (hexavalent)	7391	8975
Chrysene	37.1	45
Cresols [Methylphenols]	136947	166293
Cyanide (free)	N/A	N/A
4,4'-DDD	0.029	0.036
4,4'-DDE	0.0019	0.0023
4,4'-DDT	0.006	0.007
2,4'-D	N/A	N/A
Danitol [Fenprothrin]	6964	8457
1,2-Dibromoethane [Ethylene Dibromide]	62	76
<i>m</i> -Dichlorobenzene [1,3-Dichlorobenzene]	8761	10638
<i>o</i> -Dichlorobenzene [1,2-Dichlorobenzene]	48574	58983
<i>p</i> -Dichlorobenzene [1,4-Dichlorobenzene]	N/A	N/A
3,3'-Dichlorobenzidine	33.0	40.0
1,2-Dichloroethane	5360	6508
1,1-Dichloroethylene [1,1-Dichloroethene]	811495	985387
Dichloromethane [Methylene Chloride]	196314	238382
1,2-Dichloropropane	3814	4631
1,3-Dichloropropene [1,3-Dichloropropylene]	1752	2128
Dicofol [Kelthane]	4.42	5.4
Dieldrin	2.94E-04	3.58E-04
2,4-Dimethylphenol	124211	150828
Di- <i>n</i> -Butyl Phthalate	1360	1652
Dioxins/Furans [TCDD Equivalents]	1.17E-06	1.42E-06

11.6

Endrin	0.294	0.358
Epichlorohydrin	29639	35991
Ethylbenzene	27490	33380
Ethylene Glycol	2.47E+08	3.00E+08
Fluoride	N/A	N/A
Heptachlor	0.0015	0.0018
Heptachlor Epoxide	0.0043	0.0052
Hexachlorobenzene	0.010	0.012
Hexachlorobutadiene	3.24	3.93
Hexachlorocyclohexane (<i>alpha</i>)	0.124	0.150
Hexachlorocyclohexane (<i>beta</i>)	3.83	4.6
Hexachlorocyclohexane (<i>gamma</i>) [Lindane]	5.0	6.1
Hexachlorocyclopentadiene	171	207
Hexachloroethane	34.3	41.7
Hexachlorophene	42.7	52
4,4'-Isopropylidenediphenol [Bisphenol A]	235318	285743
Lead	276	335
Mercury	0.180	0.218
Methoxychlor	44.2	54
Methyl Ethyl Ketone	1.46E+07	1.77E+07
Methyl <i>tert</i> -butyl ether [MTBE]	154336	187408
Nickel	33210	40326
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A
Nitrobenzene	27578	33487
N-Nitrosodiethylamine	30.9	37.5
N-Nitroso-di- <i>n</i> -Butylamine	62	75
Pentachlorobenzene	5.2	6.3
Pentachlorophenol	4.27	5.2
Polychlorinated Biphenyls [PCBs]	0.009	0.011
Pyridine	13944	16931
Selenium	N/A	N/A
1,2,4,5-Tetrachlorobenzene	3.53	4.29
1,1,2,2-Tetrachloroethane	388	471
Tetrachloroethylene [Tetrachloroethylene]	4123	5006
Thallium	3.39	4.11
Toluene	N/A	N/A
Toxaphene	0.162	0.197
2,4,5-TP [Silvex]	5433	6597
1,1,1-Trichloroethane	1.15E+07	1.40E+07
1,1,2-Trichloroethane	2444	2968
Trichloroethylene [Trichloroethene]	1059	1286
2,4,5-Trichlorophenol	27490	33380
TTHM [Sum of Total Trihalomethanes]	N/A	N/A
Vinyl Chloride	243	295

TEXTTOX MENU #7 - INTERMITTENT STREAM WITH PERENNIAL POOLS

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

Table 1, 2014 Texas Surface Water Quality Standards (30 TAC 307) for Freshwater Aquatic Life

Table 2, 2018 Texas Surface Water Quality Standards for Human Health, Incidental Fishery

"Procedures to Implement the Texas Surface Water Quality Standards," TCEQ, June 2010

PERMIT INFORMATION

Permittee Name:	CMR Energy, LP
TPDES Permit No.:	TX0134078
Outfall No.:	003
Prepared by:	Maria Okpala
Date:	04/30/19

DISCHARGE INFORMATION

Intermittent Receiving Waterbody:	Unnamed
Segment No.:	2105
TSS (mg/L):	5
pH (Standard Units):	7.6
Hardness (mg/L as CaCO ₃):	160
Chloride (mg/L):	49
Effluent Flow for Aquatic Life (MGD):	0.027
Critical Low Flow [7Q2] (cfs):	0
% Effluent for Chronic Aquatic Life:	100
% Effluent for Acute Aquatic Life:	100
Effluent Flow for Human Health (MGD):	0.027
Harmonic Mean Flow (cfs):	0.03
% Effluent for Human Health:	58.203

CALCULATE DISSOLVED FRACTION (AND ENTER WATER EFFECT RATIO IF APPLICABLE):

<i>Stream/River Metal</i>	<i>Intercept (b)</i>	<i>Slope (m)</i>	<i>Partition Coefficient (Kp)</i>	<i>Dissolved Fraction (Cd/Ct)</i>	<i>Source</i>	<i>Water Effect Ratio (WER)</i>	<i>Source</i>
Aluminum	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Arsenic	5.68	-0.73	147826.36	0.575		1.00	Assumed
Cadmium	6.60	-1.13	645897.93	0.236		1.00	Assumed
Chromium (total)	6.52	-0.93	741238.38	0.212		1.00	Assumed
Chromium (trivalent)	6.52	-0.93	741238.38	0.212		1.00	Assumed
Chromium (hexavalent)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Copper	6.02	-0.74	318245.45	0.386		1.00	Assumed
Lead	6.45	-0.80	777721.31	0.205		1.00	Assumed
Mercury	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Nickel	5.69	-0.57	195698.32	0.505		1.00	Assumed
Selenium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Silver	6.38	-1.03	457152.29	0.304		1.00	Assumed
Zinc	6.10	-0.70	408057.15	0.329		1.00	Assumed

AQUATIC LIFE
CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

<i>Parameter</i>	<i>FW Acute</i>	<i>FW Chronic</i>	<i>WLAa</i>	<i>WLAc</i>	<i>LTAa</i>	<i>LTAc</i>	<i>Daily Avg.</i>	<i>Daily Max.</i>
	<i>Criterion</i>	<i>Criterion</i>						
	<i>(µg/L)</i>	<i>(µg/L)</i>	<i>(µg/L)</i>	<i>(µg/L)</i>	<i>(µg/L)</i>	<i>(µg/L)</i>	<i>(µg/L)</i>	<i>(µg/L)</i>
Aldrin	3.0	N/A	3.0	N/A	1.72	N/A	2.53	5.35
Aluminum	991	N/A	991	N/A	568	N/A	835	1766
Arsenic	340	150	591	261	339	201	295	625
Cadmium	13.6	0.341	57.3	1.44	32.8	1.11	1.63	3.45
Carbaryl	2.0	N/A	2.0	N/A	1.15	N/A	1.68	3.56
Chlordane	2.4	0.004	2.4	0.004	1.38	0.0031	0.0045	0.0096
Chlorpyrifos	0.083	0.041	0.083	0.041	0.048	0.032	0.046	0.098
Chromium (+3)	837	109	3940	513	2258	395	580	1227
Chromium (+6)	15.7	10.6	15.7	10.6	9.00	8.16	12.0	25.4
Copper	22.1	14.1	57.3	36.7	32.8	28.2	41.5	87.8
Cyanide (free)	45.8	10.7	45.8	10.7	26.2	8.24	12.1	25.6
4,4'-DDT	1.1	0.001	1.1	0.001	0.630	0.00077	0.0011	0.0024
Demeton	N/A	0.1	N/A	0.1	N/A	0.077	0.113	0.239
Diazinon	0.17	0.17	0.17	0.17	0.097	0.131	0.143	0.303
Dicofol	59.3	19.8	59.3	19.8	34.0	15.2	22.4	47.4
Dieldrin	0.24	0.002	0.24	0.002	0.138	0.0015	0.0023	0.0048
Diuron	210	70	210	70	120	53.9	79.2	168
Endosulfan I (alpha)	0.22	0.056	0.22	0.056	0.126	0.043	0.063	0.134
Endosulfan II (beta)	0.22	0.056	0.22	0.056	0.126	0.043	0.063	0.134
Endosulfan sulfate	0.22	0.056	0.22	0.056	0.126	0.043	0.063	0.134
Endrin	0.086	0.002	0.086	0.002	0.049	0.0015	0.0023	0.0048
Guthion	N/A	0.01	N/A	0.01	N/A	0.0077	0.011	0.024
Heptachlor	0.52	0.004	0.52	0.004	0.298	0.0031	0.0045	0.0096
Hexachlorocyclohexane (Lindane)	1.126	0.08	1.126	0.08	0.645	0.062	0.091	0.192
Lead	107	4.18	525	20.4	301	15.7	23.1	49.0
Malathion	N/A	0.01	N/A	0.01	N/A	0.0077	0.011	0.024
Mercury	2.4	1.3	2.4	1.3	1.38	1.00	1.47	3.11
Methoxychlor	N/A	0.03	N/A	0.03	N/A	0.023	0.034	0.072
Mirex	N/A	0.001	N/A	0.001	N/A	0.00077	0.0011	0.0024
Nickel	697	77.4	1379	153	790	118	173	367
Nonylphenol	28	6.6	28	6.6	16.0	5.08	7.47	15.8
Parathion (ethyl)	0.065	0.013	0.065	0.013	0.037	0.010	0.015	0.031
Pentachlorophenol	15.9	12.2	15.9	12.2	9.1	9.4	13.4	28.4
Phenanthrene	30	30	30	30	17.2	23.1	25.3	53.5
Polychlorinated Biphenyls (PCBs)	2.0	0.014	2.0	0.014	1.15	0.011	0.016	0.034
Selenium	20	5	20	5	11.5	3.85	5.66	12.0
Silver	0.8	N/A	11.26	N/A	6.45	N/A	9.49	20.1
Toxaphene	0.78	0.0002	0.78	0.0002	0.447	0.00015	0.00023	0.00048
Tributyltin (TBT)	0.13	0.024	0.13	0.024	0.074	0.018	0.027	0.057
2,4,5 Trichlorophenol	136	64	136	64	77.9	49.3	72.4	153
Zinc	175	176	531	535	304	412	447	945

HUMAN HEALTH (APPLIES FOR INCIDENTAL FRESHWATER FISH TISSUE)
CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

<i>Parameter</i>	<i>Incidental Fish Criterion (µg/L)</i>	<i>WLAh (µg/L)</i>	<i>LTAh (µg/L)</i>	<i>Daily Avg. (µg/L)</i>	<i>Daily Max. (µg/L)</i>
Acrylonitrile	1150	1976	1838	2701	5715
Aldrin	1.147E-04	1.97E-04	1.83E-04	2.69E-04	5.70E-04
Anthracene	13170	22628	21044	30934	65446
Antimony	10710	18401	17113	25156	53222
Arsenic	N/A	N/A	N/A	N/A	N/A
Barium	N/A	N/A	N/A	N/A	N/A
Benzene	5810	9982	9284	13647	28872
Benzidine	1.07	1.84	1.71	2.51	5.3
Benzo(a)anthracene	0.25	0.430	0.399	0.59	1.24
Benzo(a)pyrene	0.025	0.043	0.040	0.059	0.124
Bis(chloromethyl)ether	2.745	4.72	4.39	6.4	13.6
Bis(2-chloroethyl)ether	428.3	736	684	1006	2128
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phthalate]	75.5	130	121	177	375
Bromodichloromethane [Dichlorobromomethane]	2750	4725	4394	6459	13666
Bromoform [Tribromomethane]	10600	18212	16937	24898	52675
Cadmium	N/A	N/A	N/A	N/A	N/A
Carbon Tetrachloride	460	790	735	1080	2286
Chlordane	0.025	0.043	0.040	0.059	0.124
Chlorobenzene	27370	47025	43734	64288	136011
Chlorodibromomethane [Dibromochloromethane]	1830	3144	2924	4298	9094
Chloroform [Trichloromethane]	76970	132245	122988	180792	382491
Chromium (hexavalent)	5020	8625	8021	11791	24946
Chrysene	25.2	43.3	40.3	59	125
Cresols [Methylphenols]	93010	159804	148617	218467	462200
Cyanide (free)	N/A	N/A	N/A	N/A	N/A
4,4'-DDD	0.02	0.034	0.032	0.047	0.099
4,4'-DDE	0.0013	0.0022	0.0021	0.0031	0.0065
4,4'-DDT	0.004	0.007	0.006	0.009	0.020
2,4'-D	N/A	N/A	N/A	N/A	N/A
Danitol [Fenpropathrin]	4730	8127	7558	11110	23505
1,2-Dibromoethane [Ethylene Dibromide]	42.4	73	68	100	211
<i>m</i> -Dichlorobenzene [1,3-Dichlorobenzene]	5950	10223	9507	13976	29568
<i>o</i> -Dichlorobenzene [1,2-Dichlorobenzene]	32990	56681	52714	77489	163939
<i>p</i> -Dichlorobenzene [1,4-Dichlorobenzene]	N/A	N/A	N/A	N/A	N/A
3,3'-Dichlorobenzidine	22.4	38.5	35.8	53	111
1,2-Dichloroethane	3640	6254	5816	8550	18088
1,1-Dichloroethylene [1,1-Dichloroethene]	551140	946932	880647	1294551	2738811
Dichloromethane [Methylene Chloride]	133330	229079	213043	313174	662564
1,2-Dichloropropane	2590	4450	4138	6084	12871
1,3-Dichloropropene [1,3-Dichloropropylene]	1190	2045	1901	2795	5914
Dicofol [Kelthane]	3	5.2	4.79	7.0	14.9
Dieldrin	2.0E-04	3.44E-04	3.20E-04	4.70E-04	9.94E-04

2,4-Dimethylphenol	84360	144942	134796	198150	419215
Di- <i>n</i> -Butyl Phthalate	924	1588	1476	2170	4592
Dioxins/Furans [TCDD Equivalents]	7.97E-07	1.37E-06	1.27E-06	1.87E-06	3.96E-06
Endrin	0.2	0.344	0.320	0.470	0.99
Epichlorohydrin	20130	34586	32165	47283	100033
Ethylbenzene	18670	32078	29832	43853	92778
Ethylene Glycol	1.68E+08	2.89E+08	2.68E+08	3.95E+08	8.35E+08
Fluoride	N/A	N/A	N/A	N/A	N/A
Heptachlor	0.001	0.0017	0.0016	0.0023	0.0050
Heptachlor Epoxide	0.0029	0.0050	0.0046	0.007	0.014
Hexachlorobenzene	0.0068	0.012	0.011	0.016	0.034
Hexachlorobutadiene	2.2	3.78	3.52	5.2	10.9
Hexachlorocyclohexane (<i>alpha</i>)	0.084	0.144	0.134	0.197	0.417
Hexachlorocyclohexane (<i>beta</i>)	2.6	4.47	4.15	6.1	12.9
Hexachlorocyclohexane (<i>gamma</i>) [Lindane]	3.41	5.9	5.4	8.0	16.9
Hexachlorocyclopentadiene	116	199	185	272	576
Hexachloroethane	23.3	40.0	37.2	55	116
Hexachlorophene	29	49.8	46.3	68	144
4,4'-Isopropylidenediphenol [Bisphenol A]	159820	274592	255371	375395	794203
Lead	38.3	322	299	440	930
Mercury	0.122	0.210	0.195	0.287	0.61
Methoxychlor	30	52	48	70	149
Methyl Ethyl Ketone	9.92E+06	1.70E+07	1.59E+07	2.33E+07	4.93E+07
Methyl <i>tert</i> -butyl ether [MTBE]	104820	180095	167488	246208	520888
Nickel	11400	38752	36040	52978	112083
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A	N/A	N/A	N/A
Nitrobenzene	18730	32181	29928	43994	93076
N-Nitrosodiethylamine	21	36.1	33.6	49.3	104
N-Nitroso-di- <i>n</i> -Butylamine	42	72	67	99	209
Pentachlorobenzene	3.55	6.1	5.7	8.3	17.6
Pentachlorophenol	2.9	4.98	4.63	6.8	14.4
Polychlorinated Biphenyls [PCBs]	6.40E-03	0.011	0.010	0.015	0.032
Pyridine	9470	16271	15132	22244	47060
Selenium	N/A	N/A	N/A	N/A	N/A
1,2,4,5-Tetrachlorobenzene	2.4	4.12	3.83	5.6	11.9
1,1,2,2-Tetrachloroethane	263.5	453	421	619	1309
Tetrachloroethylene [Tetrachloroethylene]	2800	4811	4474	6577	13914
Thallium	2.3	3.95	3.68	5.4	11.4
Toluene	N/A	N/A	N/A	N/A	N/A
Toxaphene	0.11	0.189	0.176	0.258	0.55
2,4,5-TP [Silvex]	3690	6340	5896	8667	18337
1,1,1-Trichloroethane	7843540	13476248	12532910	18423378	38977351
1,1,2-Trichloroethane	1660	2852	2652	3899	8249
Trichloroethylene [Trichloroethene]	719	1235	1149	1689	3573
2,4,5-Trichlorophenol	18670	32078	29832	43853	92778
TTHM [Sum of Total Trihalomethanes]	N/A	N/A	N/A	N/A	N/A
Vinyl Chloride	165	283	264	388	820

CALCULATE 70% AND 85% OF DAILY AVERAGE EFFLUENT LIMITATIONS:

Aquatic Life	70% of	85% of
Parameter	Daily Avg.	Daily Avg.
	(µg/L)	(µg/L)
Aldrin	1.77	2.15
Aluminum	584	710
Arsenic	207	251
Cadmium	1.14	1.39
Carbaryl	1.18	1.43
Chlordane	0.0032	0.0038
Chlorpyrifos	0.032	0.039
Chromium (+3)	406	493
Chromium (+6)	8.40	10.2
Copper	29.0	35.3
Cyanide (free)	8.48	10.3
4,4'-DDT	0.00079	0.00096
Demeton	0.079	0.096
Diazinon	0.100	0.122
Dicofol	15.7	19.0
Dieldrin	0.0016	0.0019
Diuron	55.5	67.3
Endosulfan (alpha)	0.044	0.054
Endosulfan (beta)	0.044	0.054
Endosulfan sulfate	0.044	0.054
Endrin	0.0016	0.0019
Guthion	0.0079	0.0096
Heptachlor	0.0032	0.0038
Hexachlorocyclohexane (Lindane)	0.063	0.077
Lead	16.2	19.7
Malathion	0.0079	0.0096
Mercury	1.03	1.25
Methoxychlor	0.024	0.029
Mirex	0.00079	0.00096
Nickel	121	147
Nonylphenol	5.23	6.35
Parathion (ethyl)	0.010	0.013
Pentachlorophenol	9.4	11.4
Phenanthrene	17.7	21.5
Polychlorinated Biphenyls (PCBs)	0.011	0.013
Selenium	3.96	4.81
Silver	6.64	8.06
Toxaphene	0.00016	0.00019
Tributyltin (TBT)	0.019	0.023
2,4,5 Trichlorophenol	50.7	61.6
Zinc	313	380

39.8

7.68

Human Health	70% of Daily Avg. (µg/L)	85% of Daily Avg. (µg/L)
Parameter		
Acrylonitrile	1891	2296
Aldrin	1.89E-04	2.29E-04
Anthracene	21654	26294
Antimony	17609	21383
Arsenic	N/A	N/A
Barium	N/A	N/A
Benzene	9553	11600
Benzidine	1.76	2.14
Benzo(a)anthracene	0.411	0.499
Benzo(a)pyrene	0.041	0.050
Bis(chloromethyl)ether	4.51	5.5
Bis(2-chloroethyl)ether	704	855
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phthalate]	124	151
Bromodichloromethane [Dichlorobromomethane]	4522	5490
Bromoform [Tribromomethane]	17429	21163
Cadmium	N/A	N/A
Carbon Tetrachloride	756	918
Chlordane	0.041	0.050
Chlorobenzene	45002	54645
Chlorodibromomethane [Dibromochloromethane]	3009	3654
Chloroform [Trichloromethane]	126554	153673
Chromium (hexavalent)	8254	10023
Chrysene	41.4	50
Cresols [Methylphenols]	152927	185697
Cyanide (free)	N/A	N/A
4,4'-DDD	0.033	0.040
4,4'-DDE	0.0021	0.0026
4,4'-DDT	0.007	0.008
2,4'-D	N/A	N/A
Danitol [Fenprothrin]	7777	9444
1,2-Dibromoethane [Ethylene Dibromide]	70	85
<i>m</i> -Dichlorobenzene [1,3-Dichlorobenzene]	9783	11879
<i>o</i> -Dichlorobenzene [1,2-Dichlorobenzene]	54242	65866
<i>p</i> -Dichlorobenzene [1,4-Dichlorobenzene]	N/A	N/A
3,3'-Dichlorobenzidine	36.8	44.7
1,2-Dichloroethane	5985	7267
1,1-Dichloroethylene [1,1-Dichloroethene]	906186	1100368
Dichloromethane [Methylene Chloride]	219221	266197
1,2-Dichloropropane	4258	5171
1,3-Dichloropropene [1,3-Dichloropropylene]	1957	2376
Dicofol [Kelthane]	4.93	6.0
Dieldrin	3.29E-04	3.99E-04
2,4-Dimethylphenol	138705	168427
Di- <i>n</i> -Butyl Phthalate	1519	1845
Dioxins/Furans [TCDD Equivalents]	1.31E-06	1.59E-06

Endrin	0.329	0.399
Epichlorohydrin	33098	40190
Ethylbenzene	30697	37275
Ethylene Glycol	2.76E+08	3.35E+08
Fluoride	N/A	N/A
Heptachlor	0.0016	0.0020
Heptachlor Epoxide	0.0048	0.0058
Hexachlorobenzene	0.011	0.014
Hexachlorobutadiene	3.62	4.39
Hexachlorocyclohexane (<i>alpha</i>)	0.138	0.168
Hexachlorocyclohexane (<i>beta</i>)	4.27	5.2
Hexachlorocyclohexane (<i>gamma</i>) [Lindane]	5.6	6.8
Hexachlorocyclopentadiene	191	232
Hexachloroethane	38.3	46.5
Hexachlorophene	47.7	58
4,4'-Isopropylidenediphenol [Bisphenol A]	262776	319086
Lead	308	374
Mercury	0.201	0.244
Methoxychlor	49.3	60
Methyl Ethyl Ketone	1.63E+07	1.98E+07
Methyl <i>tert</i> -butyl ether [MTBE]	172345	209276
Nickel	37085	45031
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A
Nitrobenzene	30796	37395
N-Nitrosodiethylamine	34.5	41.9
N-Nitroso-di- <i>n</i> -Butylamine	69	84
Pentachlorobenzene	5.8	7.1
Pentachlorophenol	4.77	5.8
Polychlorinated Biphenyls [PCBs]	0.011	0.013
Pyridine	15571	18907
Selenium	N/A	N/A
1,2,4,5-Tetrachlorobenzene	3.95	4.79
1,1,2,2-Tetrachloroethane	433	526
Tetrachloroethylene [Tetrachloroethylene]	4604	5590
Thallium	3.78	4.59
Toluene	N/A	N/A
Toxaphene	0.181	0.220
2,4,5-TP [Silvex]	6067	7367
1,1,1-Trichloroethane	1.29E+07	1.57E+07
1,1,2-Trichloroethane	2729	3314
Trichloroethylene [Trichloroethene]	1182	1436
2,4,5-Trichlorophenol	30697	37275
TTHM [Sum of Total Trihalomethanes]	N/A	N/A
Vinyl Chloride	271	329

TEXTOX MENU #7 - INTERMITTENT STREAM WITH PERENNIAL POOLS

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

Table 1, 2014 Texas Surface Water Quality Standards (30 TAC 307) for Freshwater Aquatic Life

Table 2, 2018 Texas Surface Water Quality Standards for Human Health, Incidental Fishery

"Procedures to Implement the Texas Surface Water Quality Standards," TCEQ, June 2010

PERMIT INFORMATION

Permittee Name:	CMR Energy, LP
TPDES Permit No.:	TX0134078
Outfall No.:	004
Prepared by:	Maria Okpala
Date:	04/30/19

DISCHARGE INFORMATION

Intermittent Receiving Waterbody:	Unnamed
Segment No.:	2105
TSS (mg/L):	5
pH (Standard Units):	7.6
Hardness (mg/L as CaCO ₃):	160
Chloride (mg/L):	49
Effluent Flow for Aquatic Life (MGD):	0.015
Critical Low Flow [7Q2] (cfs):	0
% Effluent for Chronic Aquatic Life:	100
% Effluent for Acute Aquatic Life:	100
Effluent Flow for Human Health (MGD):	0.015
Harmonic Mean Flow (cfs):	0.03
% Effluent for Human Health:	43.618

CALCULATE DISSOLVED FRACTION (AND ENTER WATER EFFECT RATIO IF APPLICABLE):

<i>Stream/River Metal</i>	<i>Intercept (b)</i>	<i>Slope (m)</i>	<i>Partition Coefficient (Kp)</i>	<i>Dissolved Fraction (Cd/Ct)</i>	<i>Source</i>	<i>Water Effect Ratio (WER)</i>	<i>Source</i>
Aluminum	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Arsenic	5.68	-0.73	147826.36	0.575		1.00	Assumed
Cadmium	6.60	-1.13	645897.93	0.236		1.00	Assumed
Chromium (total)	6.52	-0.93	741238.38	0.212		1.00	Assumed
Chromium (trivalent)	6.52	-0.93	741238.38	0.212		1.00	Assumed
Chromium (hexavalent)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Copper	6.02	-0.74	318245.45	0.386		1.00	Assumed
Lead	6.45	-0.80	777721.31	0.205		1.00	Assumed
Mercury	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Nickel	5.69	-0.57	195698.32	0.505		1.00	Assumed
Selenium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Silver	6.38	-1.03	457152.29	0.304		1.00	Assumed
Zinc	6.10	-0.70	408057.15	0.329		1.00	Assumed

AQUATIC LIFE
CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

<i>Parameter</i>	<i>FW Acute</i>	<i>FW Chronic</i>	<i>WLAa</i>	<i>WLAc</i>	<i>LTAa</i>	<i>LTAc</i>	<i>Daily Avg.</i>	<i>Daily Max.</i>
	<i>Criterion</i>	<i>Criterion</i>						
	<i>(µg/L)</i>	<i>(µg/L)</i>	<i>(µg/L)</i>	<i>(µg/L)</i>	<i>(µg/L)</i>	<i>(µg/L)</i>	<i>(µg/L)</i>	<i>(µg/L)</i>
Aldrin	3.0	N/A	3.0	N/A	1.72	N/A	2.53	5.35
Aluminum	991	N/A	991	N/A	568	N/A	835	1766
Arsenic	340	150	591	261	339	201	295	625
Cadmium	13.6	0.341	57.3	1.44	32.8	1.11	1.63	3.45
Carbaryl	2.0	N/A	2.0	N/A	1.15	N/A	1.68	3.56
Chlordane	2.4	0.004	2.4	0.004	1.38	0.0031	0.0045	0.0096
Chlorpyrifos	0.083	0.041	0.083	0.041	0.048	0.032	0.046	0.098
Chromium (+3)	837	109	3940	513	2258	395	580	1227
Chromium (+6)	15.7	10.6	15.7	10.6	9.00	8.16	12.0	25.4
Copper	22.1	14.1	57.3	36.7	32.8	28.2	41.5	87.8
Cyanide (free)	45.8	10.7	45.8	10.7	26.2	8.24	12.1	25.6
4,4'-DDT	1.1	0.001	1.1	0.001	0.630	0.00077	0.0011	0.0024
Demeton	N/A	0.1	N/A	0.1	N/A	0.077	0.113	0.239
Diazinon	0.17	0.17	0.17	0.17	0.097	0.131	0.143	0.303
Dicofol	59.3	19.8	59.3	19.8	34.0	15.2	22.4	47.4
Dieldrin	0.24	0.002	0.24	0.002	0.138	0.0015	0.0023	0.0048
Diuron	210	70	210	70	120	53.9	79.2	168
Endosulfan I (alpha)	0.22	0.056	0.22	0.056	0.126	0.043	0.063	0.134
Endosulfan II (beta)	0.22	0.056	0.22	0.056	0.126	0.043	0.063	0.134
Endosulfan sulfate	0.22	0.056	0.22	0.056	0.126	0.043	0.063	0.134
Endrin	0.086	0.002	0.086	0.002	0.049	0.0015	0.0023	0.0048
Guthion	N/A	0.01	N/A	0.01	N/A	0.0077	0.011	0.024
Heptachlor	0.52	0.004	0.52	0.004	0.298	0.0031	0.0045	0.0096
Hexachlorocyclohexane (Lindane)	1.126	0.08	1.126	0.08	0.645	0.062	0.091	0.192
Lead	107	4.18	525	20.4	301	15.7	23.1	49.0
Malathion	N/A	0.01	N/A	0.01	N/A	0.0077	0.011	0.024
Mercury	2.4	1.3	2.4	1.3	1.38	1.00	1.47	3.11
Methoxychlor	N/A	0.03	N/A	0.03	N/A	0.023	0.034	0.072
Mirex	N/A	0.001	N/A	0.001	N/A	0.00077	0.0011	0.0024
Nickel	697	77.4	1379	153	790	118	173	367
Nonylphenol	28	6.6	28	6.6	16.0	5.08	7.47	15.8
Parathion (ethyl)	0.065	0.013	0.065	0.013	0.037	0.010	0.015	0.031
Pentachlorophenol	15.9	12.2	15.9	12.2	9.1	9.4	13.4	28.4
Phenanthrene	30	30	30	30	17.2	23.1	25.3	53.5
Polychlorinated Biphenyls (PCBs)	2.0	0.014	2.0	0.014	1.15	0.011	0.016	0.034
Selenium	20	5	20	5	11.5	3.85	5.66	12.0
Silver	0.8	N/A	11.26	N/A	6.45	N/A	9.49	20.1
Toxaphene	0.78	0.0002	0.78	0.0002	0.447	0.00015	0.00023	0.00048
Tributyltin (TBT)	0.13	0.024	0.13	0.024	0.074	0.018	0.027	0.057
2,4,5 Trichlorophenol	136	64	136	64	77.9	49.3	72.4	153
Zinc	175	176	531	535	304	412	447	945

HUMAN HEALTH (APPLIES FOR INCIDENTAL FRESHWATER FISH TISSUE)

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

<i>Parameter</i>	<i>Incidental Fish Criterion (µg/L)</i>	<i>WLAh (µg/L)</i>	<i>LTAh (µg/L)</i>	<i>Daily Avg. (µg/L)</i>	<i>Daily Max. (µg/L)</i>
Acrylonitrile	1150	2637	2452	3604	7626
Aldrin	1.147E-04	2.63E-04	2.45E-04	3.60E-04	7.61E-04
Anthracene	13170	30194	28080	41278	87330
Antimony	10710	24554	22835	33568	71018
Arsenic	N/A	N/A	N/A	N/A	N/A
Barium	N/A	N/A	N/A	N/A	N/A
Benzene	5810	13320	12388	18210	38526
Benzidine	1.07	2.45	2.28	3.35	7.1
Benzo(a)anthracene	0.25	0.573	0.533	0.78	1.66
Benzo(a)pyrene	0.025	0.057	0.053	0.078	0.166
Bis(chloromethyl)ether	2.745	6.29	5.85	8.6	18.2
Bis(2-chloroethyl)ether	428.3	982	913	1342	2840
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phthalate]	75.5	173	161	237	501
Bromodichloromethane [Dichlorobromomethane]	2750	6305	5863	8619	18235
Bromoform [Tribromomethane]	10600	24302	22601	33223	70289
Cadmium	N/A	N/A	N/A	N/A	N/A
Carbon Tetrachloride	460	1055	981	1442	3050
Chlordane	0.025	0.057	0.053	0.078	0.166
Chlorobenzene	27370	62750	58357	85785	181491
Chlorodibromomethane [Dibromochloromethane]	1830	4196	3902	5736	12135
Chloroform [Trichloromethane]	76970	176465	164112	241245	510388
Chromium (hexavalent)	5020	11509	10703	15734	33288
Chrysene	25.2	57.8	53.7	79	167
Cresols [Methylphenols]	93010	213238	198312	291518	616750
Cyanide (free)	N/A	N/A	N/A	N/A	N/A
4,4'-DDD	0.02	0.046	0.043	0.063	0.133
4,4'-DDE	0.0013	0.0030	0.0028	0.0041	0.0086
4,4'-DDT	0.004	0.009	0.009	0.013	0.027
2,4'-D	N/A	N/A	N/A	N/A	N/A
Danitol [Fenprothrin]	4730	10844	10085	14825	31365
1,2-Dibromoethane [Ethylene Dibromide]	42.4	97	90	133	281
<i>m</i> -Dichlorobenzene [1,3-Dichlorobenzene]	5950	13641	12686	18649	39454
<i>o</i> -Dichlorobenzene [1,2-Dichlorobenzene]	32990	75634	70340	103400	218757
<i>p</i> -Dichlorobenzene [1,4-Dichlorobenzene]	N/A	N/A	N/A	N/A	N/A
3,3'-Dichlorobenzidine	22.4	51.4	47.8	70	149
1,2-Dichloroethane	3640	8345	7761	11409	24137
1,1-Dichloroethylene [1,1-Dichloroethene]	551140	1263566	1175116	1727421	3654611
Dichloromethane [Methylene Chloride]	133330	305678	284280	417892	884112
1,2-Dichloropropane	2590	5938	5522	8118	17174
1,3-Dichloropropene [1,3-Dichloropropylene]	1190	2728	2537	3730	7891
Dicofol [Kelthane]	3	6.9	6.40	9.4	19.9
Dieldrin	2.0E-04	4.59E-04	4.26E-04	6.27E-04	1.33E-03

2,4-Dimethylphenol	84360	193407	179869	264407	559391
Di- <i>n</i> -Butyl Phthalate	924	2118	1970	2896	6127
Dioxins/Furans [TCDD Equivalents]	7.97E-07	1.83E-06	1.70E-06	2.50E-06	5.28E-06
Endrin	0.2	0.459	0.426	0.627	1.33
Epichlorohydrin	20130	46151	42920	63093	133482
Ethylbenzene	18670	42804	39807	58517	123801
Ethylene Glycol	1.68E+08	3.85E+08	3.58E+08	5.27E+08	1.11E+09
Fluoride	N/A	N/A	N/A	N/A	N/A
Heptachlor	0.001	0.0023	0.0021	0.0031	0.0066
Heptachlor Epoxide	0.0029	0.0066	0.0062	0.009	0.019
Hexachlorobenzene	0.0068	0.016	0.014	0.021	0.045
Hexachlorobutadiene	2.2	5.04	4.69	6.9	14.6
Hexachlorocyclohexane (<i>alpha</i>)	0.084	0.193	0.179	0.263	0.557
Hexachlorocyclohexane (<i>beta</i>)	2.6	5.96	5.54	8.1	17.2
Hexachlorocyclohexane (<i>gamma</i>) [Lindane]	3.41	7.8	7.3	10.7	22.6
Hexachlorocyclopentadiene	116	266	247	364	769
Hexachloroethane	23.3	53.4	49.7	73	155
Hexachlorophene	29	66.5	61.8	91	192
4,4'-Isopropylidenediphenol [Bisphenol A]	159820	366410	340761	500919	1059767
Lead	38.3	429	399	587	1242
Mercury	0.122	0.280	0.260	0.382	0.81
Methoxychlor	30	69	64	94	199
Methyl Ethyl Ketone	9.92E+06	2.27E+07	2.12E+07	3.11E+07	6.58E+07
Methyl <i>tert</i> -butyl ether [MTBE]	104820	240315	223493	328534	695062
Nickel	11400	51710	48090	70693	149561
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A	N/A	N/A	N/A
Nitrobenzene	18730	42941	39935	58705	124199
N-Nitrosodiethylamine	21	48.1	44.8	65.8	139
N-Nitroso-di- <i>n</i> -Butylamine	42	96	90	132	279
Pentachlorobenzene	3.55	8.1	7.6	11.1	23.5
Pentachlorophenol	2.9	6.65	6.18	9.1	19.2
Polychlorinated Biphenyls [PCBs]	6.40E-03	0.015	0.014	0.020	0.042
Pyridine	9470	21711	20192	29682	62796
Selenium	N/A	N/A	N/A	N/A	N/A
1,2,4,5-Tetrachlorobenzene	2.4	5.50	5.12	7.5	15.9
1,1,2,2-Tetrachloroethane	263.5	604	562	826	1747
Tetrachloroethylene [Tetrachloroethylene]	2800	6419	5970	8776	18567
Thallium	2.3	5.27	4.90	7.2	15.3
Toluene	N/A	N/A	N/A	N/A	N/A
Toxaphene	0.11	0.252	0.235	0.345	0.73
2,4,5-TP [Silvex]	3690	8460	7868	11565	24468
1,1,1-Trichloroethane	7843540	17982414	16723645	24583758	52010535
1,1,2-Trichloroethane	1660	3806	3539	5203	11007
Trichloroethylene [Trichloroethene]	719	1648	1533	2254	4768
2,4,5-Trichlorophenol	18670	42804	39807	58517	123801
TTHM [Sum of Total Trihalomethanes]	N/A	N/A	N/A	N/A	N/A
Vinyl Chloride	165	378	352	517	1094

CALCULATE 70% AND 85% OF DAILY AVERAGE EFFLUENT LIMITATIONS:

Aquatic Life	70% of	85% of
Parameter	Daily Avg.	Daily Avg.
	(µg/L)	(µg/L)
Aldrin	1.77	2.15
Aluminum	584	710
Arsenic	207	251
Cadmium	1.14	1.39
Carbaryl	1.18	1.43
Chlordane	0.0032	0.0038
Chlorpyrifos	0.032	0.039
Chromium (+3)	406	493
Chromium (+6)	8.40	10.2
Copper	29.0	35.3
Cyanide (free)	8.48	10.3
4,4'-DDT	0.00079	0.00096
Demeton	0.079	0.096
Diazinon	0.100	0.122
Dicofol	15.7	19.0
Dieldrin	0.0016	0.0019
Diuron	55.5	67.3
Endosulfan (alpha)	0.044	0.054
Endosulfan (beta)	0.044	0.054
Endosulfan sulfate	0.044	0.054
Endrin	0.0016	0.0019
Guthion	0.0079	0.0096
Heptachlor	0.0032	0.0038
Hexachlorocyclohexane (Lindane)	0.063	0.077
Lead	16.2	19.7
Malathion	0.0079	0.0096
Mercury	1.03	1.25
Methoxychlor	0.024	0.029
Mirex	0.00079	0.00096
Nickel	121	147
Nonylphenol	5.23	6.35
Parathion (ethyl)	0.010	0.013
Pentachlorophenol	9.4	11.4
Phenanthrene	17.7	21.5
Polychlorinated Biphenyls (PCBs)	0.011	0.013
Selenium	3.96	4.81
Silver	6.64	8.06
Toxaphene	0.00016	0.00019
Tributyltin (TBT)	0.019	0.023
2,4,5 Trichlorophenol	50.7	61.6
Zinc	313	380

23.8

Human Health	70% of Daily Avg. (µg/L)	85% of Daily Avg. (µg/L)
Parameter		
Acrylonitrile	2523	3064
Aldrin	2.52E-04	3.06E-04
Anthracene	28895	35087
Antimony	23498	28533
Arsenic	N/A	N/A
Barium	N/A	N/A
Benzene	12747	15479
Benzidine	2.35	2.85
Benzo(a)anthracene	0.548	0.666
Benzo(a)pyrene	0.055	0.067
Bis(chloromethyl)ether	6.02	7.3
Bis(2-chloroethyl)ether	940	1141
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phthalate]	166	201
Bromodichloromethane [Dichlorobromomethane]	6033	7326
Bromoform [Tribromomethane]	23256	28240
Cadmium	N/A	N/A
Carbon Tetrachloride	1009	1225
Chlordane	0.055	0.067
Chlorobenzene	60049	72917
Chlorodibromomethane [Dibromochloromethane]	4015	4875
Chloroform [Trichloromethane]	168871	205058
Chromium (hexavalent)	11014	13374
Chrysene	55.3	67
Cresols [Methylphenols]	204063	247791
Cyanide (free)	N/A	N/A
4,4'-DDD	0.044	0.053
4,4'-DDE	0.0029	0.0035
4,4'-DDT	0.009	0.011
2,4'-D	N/A	N/A
Danitol [Fenprothrin]	10378	12601
1,2-Dibromoethane [Ethylene Dibromide]	93	113
<i>m</i> -Dichlorobenzene [1,3-Dichlorobenzene]	13054	15852
<i>o</i> -Dichlorobenzene [1,2-Dichlorobenzene]	72380	87890
<i>p</i> -Dichlorobenzene [1,4-Dichlorobenzene]	N/A	N/A
3,3'-Dichlorobenzidine	49.1	59.7
1,2-Dichloroethane	7986	9697
1,1-Dichloroethylene [1,1-Dichloroethene]	1209194	1468307
Dichloromethane [Methylene Chloride]	292524	355208
1,2-Dichloropropane	5682	6900
1,3-Dichloropropene [1,3-Dichloropropylene]	2611	3170
Dicofol [Kelthane]	6.58	8.0
Dieldrin	4.39E-04	5.33E-04
2,4-Dimethylphenol	185085	224746
Di- <i>n</i> -Butyl Phthalate	2027	2462
Dioxins/Furans [TCDD Equivalents]	1.75E-06	2.12E-06

Endrin	0.439	0.533
Epichlorohydrin	44165	53629
Ethylbenzene	40962	49739
Ethylene Glycol	3.69E+08	4.48E+08
Fluoride	N/A	N/A
Heptachlor	0.0022	0.0027
Heptachlor Epoxide	0.0064	0.0077
Hexachlorobenzene	0.015	0.018
Hexachlorobutadiene	4.83	5.86
Hexachlorocyclohexane (<i>alpha</i>)	0.184	0.224
Hexachlorocyclohexane (<i>beta</i>)	5.70	6.9
Hexachlorocyclohexane (<i>gamma</i>) [Lindane]	7.5	9.1
Hexachlorocyclopentadiene	255	309
Hexachloroethane	51.1	62.1
Hexachlorophene	63.6	77
4,4'-Isopropylidenediphenol [Bisphenol A]	350643	425781
Lead	411	499
Mercury	0.268	0.325
Methoxychlor	65.8	80
Methyl Ethyl Ketone	2.18E+07	2.64E+07
Methyl <i>tert</i> -butyl ether [MTBE]	229974	279254
Nickel	49485	60089
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A
Nitrobenzene	41093	49899
N-Nitrosodiethylamine	46.1	55.9
N-Nitroso-di- <i>n</i> -Butylamine	92	112
Pentachlorobenzene	7.8	9.5
Pentachlorophenol	6.36	7.7
Polychlorinated Biphenyls [PCBs]	0.014	0.017
Pyridine	20777	25229
Selenium	N/A	N/A
1,2,4,5-Tetrachlorobenzene	5.27	6.39
1,1,2,2-Tetrachloroethane	578	702
Tetrachloroethylene [Tetrachloroethylene]	6143	7460
Thallium	5.05	6.13
Toluene	N/A	N/A
Toxaphene	0.241	0.293
2,4,5-TP [Silvex]	8096	9831
1,1,1-Trichloroethane	1.72E+07	2.09E+07
1,1,2-Trichloroethane	3642	4422
Trichloroethylene [Trichloroethene]	1577	1916
2,4,5-Trichlorophenol	40962	49739
TTHM [Sum of Total Trihalomethanes]	N/A	N/A
Vinyl Chloride	362	440

TEXTTOX MENU #7 - INTERMITTENT STREAM WITH PERENNIAL POOLS

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

Table 1, 2014 Texas Surface Water Quality Standards (30 TAC 307) for Freshwater Aquatic Life

Table 2, 2018 Texas Surface Water Quality Standards for Human Health, Incidental Fishery

"Procedures to Implement the Texas Surface Water Quality Standards," TCEQ, June 2010

PERMIT INFORMATION

Permittee Name:	CMR Energy, LP
TPDES Permit No.:	TX0134078
Outfall No.:	005
Prepared by:	Maria Okpala
Date:	4/30/19

DISCHARGE INFORMATION

Intermittent Receiving Waterbody:	Unnamed
Segment No.:	2105
TSS (mg/L):	5
pH (Standard Units):	7.6
Hardness (mg/L as CaCO ₃):	160
Chloride (mg/L):	49
Effluent Flow for Aquatic Life (MGD):	0.015
Critical Low Flow [7Q2] (cfs):	0
% Effluent for Chronic Aquatic Life:	100
% Effluent for Acute Aquatic Life:	100
Effluent Flow for Human Health (MGD):	0.015
Harmonic Mean Flow (cfs):	0.03
% Effluent for Human Health:	43.618

CALCULATE DISSOLVED FRACTION (AND ENTER WATER EFFECT RATIO IF APPLICABLE):

<i>Stream/River Metal</i>	<i>Intercept (b)</i>	<i>Slope (m)</i>	<i>Partition Coefficient (Kp)</i>	<i>Dissolved Fraction (Cd/Ct)</i>	<i>Source</i>	<i>Water Effect Ratio (WER)</i>	<i>Source</i>
Aluminum	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Arsenic	5.68	-0.73	147826.36	0.575		1.00	Assumed
Cadmium	6.60	-1.13	645897.93	0.236		1.00	Assumed
Chromium (total)	6.52	-0.93	741238.38	0.212		1.00	Assumed
Chromium (trivalent)	6.52	-0.93	741238.38	0.212		1.00	Assumed
Chromium (hexavalent)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Copper	6.02	-0.74	318245.45	0.386		1.00	Assumed
Lead	6.45	-0.80	777721.31	0.205		1.00	Assumed
Mercury	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Nickel	5.69	-0.57	195698.32	0.505		1.00	Assumed
Selenium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Silver	6.38	-1.03	457152.29	0.304		1.00	Assumed
Zinc	6.10	-0.70	408057.15	0.329		1.00	Assumed

AQUATIC LIFE
CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

<i>Parameter</i>	<i>FW Acute</i>	<i>FW Chronic</i>	<i>WLAa</i>	<i>WLAc</i>	<i>LTAa</i>	<i>LTAc</i>	<i>Daily Avg.</i>	<i>Daily Max.</i>
	<i>Criterion</i>	<i>Criterion</i>						
	<i>(µg/L)</i>	<i>(µg/L)</i>	<i>(µg/L)</i>	<i>(µg/L)</i>	<i>(µg/L)</i>	<i>(µg/L)</i>	<i>(µg/L)</i>	<i>(µg/L)</i>
Aldrin	3.0	N/A	3.0	N/A	1.72	N/A	2.53	5.35
Aluminum	991	N/A	991	N/A	568	N/A	835	1766
Arsenic	340	150	591	261	339	201	295	625
Cadmium	13.6	0.341	57.3	1.44	32.8	1.11	1.63	3.45
Carbaryl	2.0	N/A	2.0	N/A	1.15	N/A	1.68	3.56
Chlordane	2.4	0.004	2.4	0.004	1.38	0.0031	0.0045	0.0096
Chlorpyrifos	0.083	0.041	0.083	0.041	0.048	0.032	0.046	0.098
Chromium (+3)	837	109	3940	513	2258	395	580	1227
Chromium (+6)	15.7	10.6	15.7	10.6	9.00	8.16	12.0	25.4
Copper	22.1	14.1	57.3	36.7	32.8	28.2	41.5	87.8
Cyanide (free)	45.8	10.7	45.8	10.7	26.2	8.24	12.1	25.6
4,4'-DDT	1.1	0.001	1.1	0.001	0.630	0.00077	0.0011	0.0024
Demeton	N/A	0.1	N/A	0.1	N/A	0.077	0.113	0.239
Diazinon	0.17	0.17	0.17	0.17	0.097	0.131	0.143	0.303
Dicofol	59.3	19.8	59.3	19.8	34.0	15.2	22.4	47.4
Dieldrin	0.24	0.002	0.24	0.002	0.138	0.0015	0.0023	0.0048
Diuron	210	70	210	70	120	53.9	79.2	168
Endosulfan I (alpha)	0.22	0.056	0.22	0.056	0.126	0.043	0.063	0.134
Endosulfan II (beta)	0.22	0.056	0.22	0.056	0.126	0.043	0.063	0.134
Endosulfan sulfate	0.22	0.056	0.22	0.056	0.126	0.043	0.063	0.134
Endrin	0.086	0.002	0.086	0.002	0.049	0.0015	0.0023	0.0048
Guthion	N/A	0.01	N/A	0.01	N/A	0.0077	0.011	0.024
Heptachlor	0.52	0.004	0.52	0.004	0.298	0.0031	0.0045	0.0096
Hexachlorocyclohexane (Lindane)	1.126	0.08	1.126	0.08	0.645	0.062	0.091	0.192
Lead	107	4.18	525	20.4	301	15.7	23.1	49.0
Malathion	N/A	0.01	N/A	0.01	N/A	0.0077	0.011	0.024
Mercury	2.4	1.3	2.4	1.3	1.38	1.00	1.47	3.11
Methoxychlor	N/A	0.03	N/A	0.03	N/A	0.023	0.034	0.072
Mirex	N/A	0.001	N/A	0.001	N/A	0.00077	0.0011	0.0024
Nickel	697	77.4	1379	153	790	118	173	367
Nonylphenol	28	6.6	28	6.6	16.0	5.08	7.47	15.8
Parathion (ethyl)	0.065	0.013	0.065	0.013	0.037	0.010	0.015	0.031
Pentachlorophenol	15.9	12.2	15.9	12.2	9.1	9.4	13.4	28.4
Phenanthrene	30	30	30	30	17.2	23.1	25.3	53.5
Polychlorinated Biphenyls (PCBs)	2.0	0.014	2.0	0.014	1.15	0.011	0.016	0.034
Selenium	20	5	20	5	11.5	3.85	5.66	12.0
Silver	0.8	N/A	11.26	N/A	6.45	N/A	9.49	20.1
Toxaphene	0.78	0.0002	0.78	0.0002	0.447	0.00015	0.00023	0.00048
Tributyltin (TBT)	0.13	0.024	0.13	0.024	0.074	0.018	0.027	0.057
2,4,5 Trichlorophenol	136	64	136	64	77.9	49.3	72.4	153
Zinc	175	176	531	535	304	412	447	945

HUMAN HEALTH (APPLIES FOR INCIDENTAL FRESHWATER FISH TISSUE)

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

<i>Parameter</i>	<i>Incidental Fish Criterion (µg/L)</i>	<i>WLAh (µg/L)</i>	<i>LTAh (µg/L)</i>	<i>Daily Avg. (µg/L)</i>	<i>Daily Max. (µg/L)</i>
Acrylonitrile	1150	2637	2452	3604	7626
Aldrin	1.147E-04	2.63E-04	2.45E-04	3.60E-04	7.61E-04
Anthracene	13170	30194	28080	41278	87330
Antimony	10710	24554	22835	33568	71018
Arsenic	N/A	N/A	N/A	N/A	N/A
Barium	N/A	N/A	N/A	N/A	N/A
Benzene	5810	13320	12388	18210	38526
Benzidine	1.07	2.45	2.28	3.35	7.1
Benzo(a)anthracene	0.25	0.573	0.533	0.78	1.66
Benzo(a)pyrene	0.025	0.057	0.053	0.078	0.166
Bis(chloromethyl)ether	2.745	6.29	5.85	8.6	18.2
Bis(2-chloroethyl)ether	428.3	982	913	1342	2840
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phthalate]	75.5	173	161	237	501
Bromodichloromethane [Dichlorobromomethane]	2750	6305	5863	8619	18235
Bromoform [Tribromomethane]	10600	24302	22601	33223	70289
Cadmium	N/A	N/A	N/A	N/A	N/A
Carbon Tetrachloride	460	1055	981	1442	3050
Chlordane	0.025	0.057	0.053	0.078	0.166
Chlorobenzene	27370	62750	58357	85785	181491
Chlorodibromomethane [Dibromochloromethane]	1830	4196	3902	5736	12135
Chloroform [Trichloromethane]	76970	176465	164112	241245	510388
Chromium (hexavalent)	5020	11509	10703	15734	33288
Chrysene	25.2	57.8	53.7	79	167
Cresols [Methylphenols]	93010	213238	198312	291518	616750
Cyanide (free)	N/A	N/A	N/A	N/A	N/A
4,4'-DDD	0.02	0.046	0.043	0.063	0.133
4,4'-DDE	0.0013	0.0030	0.0028	0.0041	0.0086
4,4'-DDT	0.004	0.009	0.009	0.013	0.027
2,4'-D	N/A	N/A	N/A	N/A	N/A
Danitol [Fenprothrin]	4730	10844	10085	14825	31365
1,2-Dibromoethane [Ethylene Dibromide]	42.4	97	90	133	281
<i>m</i> -Dichlorobenzene [1,3-Dichlorobenzene]	5950	13641	12686	18649	39454
<i>o</i> -Dichlorobenzene [1,2-Dichlorobenzene]	32990	75634	70340	103400	218757
<i>p</i> -Dichlorobenzene [1,4-Dichlorobenzene]	N/A	N/A	N/A	N/A	N/A
3,3'-Dichlorobenzidine	22.4	51.4	47.8	70	149
1,2-Dichloroethane	3640	8345	7761	11409	24137
1,1-Dichloroethylene [1,1-Dichloroethene]	551140	1263566	1175116	1727421	3654611
Dichloromethane [Methylene Chloride]	133330	305678	284280	417892	884112
1,2-Dichloropropane	2590	5938	5522	8118	17174
1,3-Dichloropropene [1,3-Dichloropropylene]	1190	2728	2537	3730	7891
Dicofol [Kelthane]	3	6.9	6.40	9.4	19.9
Dieldrin	2.0E-04	4.59E-04	4.26E-04	6.27E-04	1.33E-03

2,4-Dimethylphenol	84360	193407	179869	264407	559391
Di- <i>n</i> -Butyl Phthalate	924	2118	1970	2896	6127
Dioxins/Furans [TCDD Equivalents]	7.97E-07	1.83E-06	1.70E-06	2.50E-06	5.28E-06
Endrin	0.2	0.459	0.426	0.627	1.33
Epichlorohydrin	20130	46151	42920	63093	133482
Ethylbenzene	18670	42804	39807	58517	123801
Ethylene Glycol	1.68E+08	3.85E+08	3.58E+08	5.27E+08	1.11E+09
Fluoride	N/A	N/A	N/A	N/A	N/A
Heptachlor	0.001	0.0023	0.0021	0.0031	0.0066
Heptachlor Epoxide	0.0029	0.0066	0.0062	0.009	0.019
Hexachlorobenzene	0.0068	0.016	0.014	0.021	0.045
Hexachlorobutadiene	2.2	5.04	4.69	6.9	14.6
Hexachlorocyclohexane (<i>alpha</i>)	0.084	0.193	0.179	0.263	0.557
Hexachlorocyclohexane (<i>beta</i>)	2.6	5.96	5.54	8.1	17.2
Hexachlorocyclohexane (<i>gamma</i>) [Lindane]	3.41	7.8	7.3	10.7	22.6
Hexachlorocyclopentadiene	116	266	247	364	769
Hexachloroethane	23.3	53.4	49.7	73	155
Hexachlorophene	29	66.5	61.8	91	192
4,4'-Isopropylidenediphenol [Bisphenol A]	159820	366410	340761	500919	1059767
Lead	38.3	429	399	587	1242
Mercury	0.122	0.280	0.260	0.382	0.81
Methoxychlor	30	69	64	94	199
Methyl Ethyl Ketone	9.92E+06	2.27E+07	2.12E+07	3.11E+07	6.58E+07
Methyl <i>tert</i> -butyl ether [MTBE]	104820	240315	223493	328534	695062
Nickel	11400	51710	48090	70693	149561
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A	N/A	N/A	N/A
Nitrobenzene	18730	42941	39935	58705	124199
N-Nitrosodiethylamine	21	48.1	44.8	65.8	139
N-Nitroso-di- <i>n</i> -Butylamine	42	96	90	132	279
Pentachlorobenzene	3.55	8.1	7.6	11.1	23.5
Pentachlorophenol	2.9	6.65	6.18	9.1	19.2
Polychlorinated Biphenyls [PCBs]	6.40E-03	0.015	0.014	0.020	0.042
Pyridine	9470	21711	20192	29682	62796
Selenium	N/A	N/A	N/A	N/A	N/A
1,2,4,5-Tetrachlorobenzene	2.4	5.50	5.12	7.5	15.9
1,1,2,2-Tetrachloroethane	263.5	604	562	826	1747
Tetrachloroethylene [Tetrachloroethylene]	2800	6419	5970	8776	18567
Thallium	2.3	5.27	4.90	7.2	15.3
Toluene	N/A	N/A	N/A	N/A	N/A
Toxaphene	0.11	0.252	0.235	0.345	0.73
2,4,5-TP [Silvex]	3690	8460	7868	11565	24468
1,1,1-Trichloroethane	7843540	17982414	16723645	24583758	52010535
1,1,2-Trichloroethane	1660	3806	3539	5203	11007
Trichloroethylene [Trichloroethene]	719	1648	1533	2254	4768
2,4,5-Trichlorophenol	18670	42804	39807	58517	123801
TTHM [Sum of Total Trihalomethanes]	N/A	N/A	N/A	N/A	N/A
Vinyl Chloride	165	378	352	517	1094

CALCULATE 70% AND 85% OF DAILY AVERAGE EFFLUENT LIMITATIONS:

Aquatic Life	70% of	85% of
Parameter	Daily Avg.	Daily Avg.
	(µg/L)	(µg/L)
Aldrin	1.77	2.15
Aluminum	584	710
Arsenic	207	251
Cadmium	1.14	1.39
Carbaryl	1.18	1.43
Chlordane	0.0032	0.0038
Chlorpyrifos	0.032	0.039
Chromium (+3)	406	493
Chromium (+6)	8.40	10.2
Copper	29.0	35.3
Cyanide (free)	8.48	10.3
4,4'-DDT	0.00079	0.00096
Demeton	0.079	0.096
Diazinon	0.100	0.122
Dicofol	15.7	19.0
Dieldrin	0.0016	0.0019
Diuron	55.5	67.3
Endosulfan (alpha)	0.044	0.054
Endosulfan (beta)	0.044	0.054
Endosulfan sulfate	0.044	0.054
Endrin	0.0016	0.0019
Guthion	0.0079	0.0096
Heptachlor	0.0032	0.0038
Hexachlorocyclohexane (Lindane)	0.063	0.077
Lead	16.2	19.7
Malathion	0.0079	0.0096
Mercury	1.03	1.25
Methoxychlor	0.024	0.029
Mirex	0.00079	0.00096
Nickel	121	147
Nonylphenol	5.23	6.35
Parathion (ethyl)	0.010	0.013
Pentachlorophenol	9.4	11.4
Phenanthrene	17.7	21.5
Polychlorinated Biphenyls (PCBs)	0.011	0.013
Selenium	3.96	4.81
Silver	6.64	8.06
Toxaphene	0.00016	0.00019
Tributyltin (TBT)	0.019	0.023
2,4,5 Trichlorophenol	50.7	61.6
Zinc	313	380

31.3

Human Health	70% of Daily Avg. (µg/L)	85% of Daily Avg. (µg/L)
Parameter		
Acrylonitrile	2523	3064
Aldrin	2.52E-04	3.06E-04
Anthracene	28895	35087
Antimony	23498	28533
Arsenic	N/A	N/A
Barium	N/A	N/A
Benzene	12747	15479
Benzidine	2.35	2.85
Benzo(a)anthracene	0.548	0.666
Benzo(a)pyrene	0.055	0.067
Bis(chloromethyl)ether	6.02	7.3
Bis(2-chloroethyl)ether	940	1141
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl) phthalate]	166	201
Bromodichloromethane [Dichlorobromomethane]	6033	7326
Bromoform [Tribromomethane]	23256	28240
Cadmium	N/A	N/A
Carbon Tetrachloride	1009	1225
Chlordane	0.055	0.067
Chlorobenzene	60049	72917
Chlorodibromomethane [Dibromochloromethane]	4015	4875
Chloroform [Trichloromethane]	168871	205058
Chromium (hexavalent)	11014	13374
Chrysene	55.3	67
Cresols [Methylphenols]	204063	247791
Cyanide (free)	N/A	N/A
4,4'-DDD	0.044	0.053
4,4'-DDE	0.0029	0.0035
4,4'-DDT	0.009	0.011
2,4'-D	N/A	N/A
Danitol [Fenprothrin]	10378	12601
1,2-Dibromoethane [Ethylene Dibromide]	93	113
<i>m</i> -Dichlorobenzene [1,3-Dichlorobenzene]	13054	15852
<i>o</i> -Dichlorobenzene [1,2-Dichlorobenzene]	72380	87890
<i>p</i> -Dichlorobenzene [1,4-Dichlorobenzene]	N/A	N/A
3,3'-Dichlorobenzidine	49.1	59.7
1,2-Dichloroethane	7986	9697
1,1-Dichloroethylene [1,1-Dichloroethene]	1209194	1468307
Dichloromethane [Methylene Chloride]	292524	355208
1,2-Dichloropropane	5682	6900
1,3-Dichloropropene [1,3-Dichloropropylene]	2611	3170
Dicofol [Kelthane]	6.58	8.0
Dieldrin	4.39E-04	5.33E-04
2,4-Dimethylphenol	185085	224746
Di- <i>n</i> -Butyl Phthalate	2027	2462
Dioxins/Furans [TCDD Equivalents]	1.75E-06	2.12E-06

Endrin	0.439	0.533
Epichlorohydrin	44165	53629
Ethylbenzene	40962	49739
Ethylene Glycol	3.69E+08	4.48E+08
Fluoride	N/A	N/A
Heptachlor	0.0022	0.0027
Heptachlor Epoxide	0.0064	0.0077
Hexachlorobenzene	0.015	0.018
Hexachlorobutadiene	4.83	5.86
Hexachlorocyclohexane (<i>alpha</i>)	0.184	0.224
Hexachlorocyclohexane (<i>beta</i>)	5.70	6.9
Hexachlorocyclohexane (<i>gamma</i>) [Lindane]	7.5	9.1
Hexachlorocyclopentadiene	255	309
Hexachloroethane	51.1	62.1
Hexachlorophene	63.6	77
4,4'-Isopropylidenediphenol [Bisphenol A]	350643	425781
Lead	411	499
Mercury	0.268	0.325
Methoxychlor	65.8	80
Methyl Ethyl Ketone	2.18E+07	2.64E+07
Methyl <i>tert</i> -butyl ether [MTBE]	229974	279254
Nickel	49485	60089
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A
Nitrobenzene	41093	49899
N-Nitrosodiethylamine	46.1	55.9
N-Nitroso-di- <i>n</i> -Butylamine	92	112
Pentachlorobenzene	7.8	9.5
Pentachlorophenol	6.36	7.7
Polychlorinated Biphenyls [PCBs]	0.014	0.017
Pyridine	20777	25229
Selenium	N/A	N/A
1,2,4,5-Tetrachlorobenzene	5.27	6.39
1,1,2,2-Tetrachloroethane	578	702
Tetrachloroethylene [Tetrachloroethylene]	6143	7460
Thallium	5.05	6.13
Toluene	N/A	N/A
Toxaphene	0.241	0.293
2,4,5-TP [Silvex]	8096	9831
1,1,1-Trichloroethane	1.72E+07	2.09E+07
1,1,2-Trichloroethane	3642	4422
Trichloroethylene [Trichloroethene]	1577	1916
2,4,5-Trichlorophenol	40962	49739
TTHM [Sum of Total Trihalomethanes]	N/A	N/A
Vinyl Chloride	362	440