

	A	B	C	D	E	F	G	H	I	J	K	L
1	TEXTOX MENU #8 - INTERMITTENT STREAM WITHIN 3 MILES OF A LAKE/RESERVOIR											
2												
3	The water quality-based effluent limitations developed below are calculated using:											
4												
5	Table 1, 2014 Texas Surface Water Quality Standards (30 TAC 307) for Freshwater Aquatic Life											
6	Table 2, 2014 Texas Surface Water Quality Standards for Human Health											
7	"Procedures to Implement the Texas Surface Water Quality Standards," TCEQ, June 2010											
8												
9	PERMIT INFORMATION											
10	Permittee Name:	Exxon - King Ranch Gas Plant										
11	TPDES Permit No:	TX0030279										
12	Outfall No:	001										
13	Prepared by:	Maria Okpala										
14	Date:	2/10/15										
15												
16	DISCHARGE INFORMATION											
17	<i>Intermittent Receiving Waterbody:</i>	Escondido Creek										
18	TSS (mg/L) (Intermittent):	3										
19	pH (Standard Units) (Intermittent):	7.4										
20	Hardness (mg/L as CaCO ₃) (Intermittent):	115.33										
21	Chloride (mg/L) (Intermittent):	222.26										
22	Effluent Flow for Aquatic Life (MGD)	0.19										
23	% Effluent for Acute Aquatic Life (Intermittent):	100										
24	<i>Lake/Reservoir within 3 miles:</i>	Borregos Lake										
25	Segment No.:	2492A										
26	TSS (mg/L) (Lake/Reservoir):	17										
27	pH (Standard Units) (Lake/Reservoir):	7.9										
28	Hardness (mg/L as CaCO ₃) (Lake/Reservoir):	5011										
29	Chloride (mg/L) (Lake/Reservoir):	21100										
30	% Effluent for Chronic Aquatic Life (Lake/Reservoir):	15										
31	% Effluent for Acute Aquatic Life (Lake/Reservoir):	60										
32	Effluent Flow for Human Health (MGD):	0.19										
33	% Effluent for Human Health (Lake/Reservoir):	8										
34	Public Water Supply Use?	no										
35												
36	CALCULATE DISSOLVED FRACTION (AND ENTER WATER EFFECT RATIO IF APPLICABLE):											
37	<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>Water Effect Ratio (WER)</i>					
38	Aluminum	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed				
39	Arsenic	5.68	-0.73	214635.47	0.61		1.00	Assumed				
40	Cadmium	6.60	-1.13	1150410.88	0.22		1.00	Assumed				
41	Chromium (Total)	6.52	-0.93	1192002.68	0.22		1.00	Assumed				
42	Chromium (+3)	6.52	-0.93	1192002.68	0.22		1.00	Assumed				
43	Chromium (+6)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed				
44	Copper	6.02	-0.74	464440.70	0.42		1.00	Assumed				
45	Lead	6.45	-0.80	1170315.61	0.22		1.00	Assumed				
46	Mercury	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed				
47	Nickel	5.69	-0.57	261842.95	0.56		1.00	Assumed				
48	Selenium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed				

	A	B	C	D	E	F	G	H	I	J	K	L
49	Silver	6.38	-1.03	773686.66	0.30		1.00	Assumed				
50	Zinc	6.10	-0.70	583465.42	0.36		1.00	Assumed				
51												
52	Lake/Reservoir Metal	Intercept (b)	Slope (m)	Partition Coefficient (Kp)	Dissolved Fraction (Cd/Ct)			Water Effect Ratio (WER)				
53	Aluminum	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed				
54	Arsenic	5.68	-0.73	60502.36	0.49		1.00	Assumed				
55	Cadmium	6.55	-0.92	261810.46	0.183		1.00	Assumed				
56	Chromium (Total)	6.34	-0.27	1018072.70	0.05		1.00	Assumed				
57	Chromium (+3)	6.34	-0.27	1018072.70	0.05		1.00	Assumed				
58	Chromium (+6)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed				
59	Copper	6.45	-0.90	220087.80	0.21		1.00	Assumed				
60	Lead	6.31	-0.53	454843.58	0.11		1.00	Assumed				
61	Mercury	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed				
62	Nickel	6.34	-0.76	254014.68	0.19		1.00	Assumed				
63	Selenium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed				
64	Silver	6.38	-1.03	129609.73	0.31		1.00	Assumed				
65	Zinc	6.52	-0.68	482274.98	0.11		1.00	Assumed				
66												
67	AQUATIC LIFE											
68	CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:											
69	Parameter	FW Acute Criterion (int. stream) (ug/L)	FW Acute Criterion (lake) (ug/L)	FW Chronic Criterion (lake) (ug/L)	WLAa (int. stream)	WLAa (lake)	WLAc (lake)	LTAa (int. stream)	LTAa (lake)	LTAc (lake)	Daily Avg. (ug/L)	Daily Max. (ug/L)
70	Aldrin	3.0	3.0	N/A	3.00	5.00	N/A	1.72	1.60	N/A	2.35	4.98
71	Aluminum	991	991	N/A	991.00	1651.67	N/A	567.84	528.53	N/A	776.94	1643.74
72	Arsenic	340	340	150	558.93	1149.51	2028.54	320.27	367.84	1237.41	470.79	996.03
73	Cadmium	9.858574282	379.310844	3.66549949	43.88	3445.90	133.20	25.14	1102.69	81.25	36.96	78.20
74	Carbaryl	2.0	2.0	N/A	2.00	3.33	N/A	1.15	1.07	N/A	1.57	3.32
75	Chlordane	2.4	2.4	0.004	2.40	4.00	0.03	1.38	1.28	0.02	0.02	0.05
76	Chlorpyrifos	0.083	0.083	0.041	0.08	0.14	0.27	0.05	0.04	0.17	0.07	0.14
77	Chromium (+3)	640.3616892	14058.2962	1828.69551	2930.30	428947.58	223189.07	1679.06	137263.22	136145.33	2468.22	5221.88
78	Chromium (+6)	15.7	15.7	10.6	15.70	26.17	70.67	9.00	8.37	43.11	12.31	26.04
79	Copper	16.24447562	567.560864	268.458791	38.88	4485.14	8485.97	22.28	1435.25	5176.44	32.75	69.28
80	Cyanide (free)	45.8	45.8	10.7	45.80	76.33	71.33	26.24	24.43	43.51	35.91	75.97
81	4,4'-DDT	1.1	1.1	0.001	1.10	1.83	0.01	0.63	0.59	0.00	0.01	0.01
82	Demeton	N/A	N/A	0.1	N/A	N/A	0.67	N/A	N/A	0.41	0.60	1.26
83	Diazinon	0.17	0.17	0.17	0.17	0.28	1.13	0.10	0.09	0.69	0.13	0.28
84	Dicofol	59.3	59.3	19.8	59.30	98.83	132.00	33.98	31.63	80.52	46.49	98.36
85	Dieldrin	0.24	0.24	0.002	0.24	0.40	0.01	0.14	0.13	0.01	0.01	0.03
86	Diuron	210	210	70	210.00	350.00	466.67	120.33	112.00	284.67	164.64	348.32
87	Endosulfan I (alpha)	0.22	0.22	0.056	0.22	0.37	0.37	0.13	0.12	0.23	0.17	0.36
88	Endosulfan II (beta)	0.22	0.22	0.056	0.22	0.37	0.37	0.13	0.12	0.23	0.17	0.36
89	Endosulfan sulfate	0.22	0.22	0.056	0.22	0.37	0.37	0.13	0.12	0.23	0.17	0.36
90	Endrin	0.086	0.086	0.002	0.09	0.14	0.01	0.05	0.05	0.01	0.01	0.03
91	Guthion	N/A	N/A	0.01	N/A	N/A	0.07	N/A	N/A	0.04	0.06	0.13
92	Heptachlor	0.52	0.52	0.004	0.52	0.87	0.03	0.30	0.28	0.02	0.02	0.05

	A	B	C	D	E	F	G	H	I	J	K	L
93	Hexachlorocyclohexane (Lindane)	1.126	1.126	0.08	1.13	1.88	0.53	0.65	0.60	0.33	0.48	1.01
94	Lead	75.40441516	2628.10514	102.413484	340.15	38249.18	5962.06	194.90	12239.74	3636.86	286.51	606.15
95	Malathion	N/A	N/A	0.01	N/A	N/A	0.07	N/A	N/A	0.04	0.06	0.13
96	Mercury	2.4	2.4	1.3	2.40	4.00	8.67	1.38	1.28	5.29	1.88	3.98
97	Methoxychlor	N/A	N/A	0.03	N/A	N/A	0.20	N/A	N/A	0.12	0.18	0.38
98	Mirex	N/A	N/A	0.001	N/A	N/A	0.01	N/A	N/A	0.00	0.01	0.01
99	Nickel	528.2843887	12841.0531	1426.24456	943.27	113819.88	50567.50	540.49	36422.36	30846.17	794.52	1680.93
100	Nonylphenol	28	28	6.6	28.00	46.67	44.00	16.04	14.93	26.84	21.95	46.44
101	Parathion (ethyl)	0.065	0.065	0.013	0.07	0.11	0.09	0.04	0.03	0.05	0.05	0.11
102	Pentachlorophenol	13.0397	21.5527	16.5353	13.04	35.92	110.24	7.47	11.49	67.24	10.98	23.24
103	Phenanthrene	30	30	30	30.00	50.00	200.00	17.19	16.00	122.00	23.52	49.76
104	Polychlorinated Biphenyls (PCBs)	2.0	2.0	0.014	2.00	3.33	0.09	1.15	1.07	0.06	0.08	0.18
105	Selenium	20	20	5	20.00	33.33	33.33	11.46	10.67	20.33	15.68	33.17
106	Silver	0.8	0.8	N/A	29.58	17.12	N/A	16.95	5.48	N/A	8.05	17.04
107	Toxaphene	0.78	0.78	0.0002	0.78	1.30	0.00	0.45	0.42	0.00	0.00	0.00
108	Tributyltin (TBT)	0.13	0.13	0.024	0.13	0.22	0.16	0.07	0.07	0.10	0.10	0.22
109	2,4,5 Trichlorophenol	136	136	64	136.00	226.67	426.67	77.93	72.53	260.27	106.62	225.58
110	Zinc	132.2327046	3229.98959	3256.41078	363.69	49519.37	199697.76	208.40	15846.20	121815.63	306.34	648.11
111												
112	HUMAN HEALTH											
113	CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS											
114	Parameter	Water and Fish Criterion (ug/L)	Fish Only Criterion (ug/L)	WLAh	LTAh	Daily Avg. (ug/L)	Daily Max. (ug/L)					
115	Acrylonitrile	0.80	3.8	47.50	44.18	64.94	137.38					
116	Aldrin	0.00094	0.0010	0.01	0.01	0.02	0.04					
117	Anthracene	5,569	N/A	N/A	N/A	N/A	N/A					
118	Antimony	6	1,071	13387.50	12450.38	18302.05	38720.67					
119	Arsenic	10	N/A	N/A	N/A	N/A	N/A					
120	Barium	2,000	N/A	N/A	N/A	N/A	N/A					
121	Benzene	5	513	6412.50	5963.63	8766.53	18546.87					
122	Benzidine	0.00086	0.0020	0.03	0.02	0.03	0.07					
123	Benzo(a)anthracene	0.68	3.28	41.00	38.13	56.05	118.58					
124	Benzo(a)pyrene	0.068	0.33	4.13	3.84	5.64	11.93					
125	Bis(chloromethyl)ether	0.0024	0.44	5.50	5.12	7.52	15.91					
126	Bis(2-chloroethyl)ether	0.57	10.06	125.75	116.95	171.91	363.71					
127	Bis(2-ethylhexyl)phthalate	6	41	512.50	476.63	700.64	1482.30					
128	Bromodichloromethane (Dichlorobromomethane)	10.2	322	4025.00	3743.25	5502.58	11641.51					
129	Bromoform	69.1	2,175	27187.50	25284.38	37168.03	78634.41					
130	Cadmium	5	N/A	N/A	N/A	N/A	N/A					
131	Carbon Tetrachloride	4.3	30.5	381.25	354.56	521.21	1102.69					
132	Chlordane	0.0080	0.0081	0.10	0.09	0.14	0.29					
133	Chlorobenzene	100	5,201	65012.50	60461.63	88878.59	188035.65					
134	Chlorodibromomethane (Dibromochloromethane)	7.6	239	2987.50	2778.38	4084.21	8640.75					
135	Chloroform	70	7,143	89287.50	83037.38	122064.94	258246.24					
136	Chromium (+6)	62	502	6275.00	5835.75	8578.55	18149.18					
137	Chrysene	68.13	327	4087.50	3801.38	5588.02	11822.28					
138	Cresols (Methylphenols)	1,041	9,301	116262.50	108124.13	158942.46	336266.03					

	A	B	C	D	E	F	G	H	I	J	K	L
139	Cyanide (free)	200	N/A	N/A	N/A	N/A	N/A					
140	4,4'-DDD	0.0059	0.0059	0.07	0.07	0.10	0.21					
141	4,4'-DDE	0.0040	0.0040	0.05	0.05	0.07	0.14					
142	4,4'-DDT	0.0040	0.0040	0.05	0.05	0.07	0.14					
143	2,4'-D	70	N/A	N/A	N/A	N/A	N/A					
144	Danitol	262	473	5912.50	5498.63	8082.98	17100.72					
145	1,2-Dibromoethane	0.17	4.24	53.00	49.29	72.46	153.29					
146	m-Dichlorobenzene (1,3-Dichlorobenzene)	473	1,445	18062.50	16798.13	24693.24	52242.17					
147	o-Dichlorobenzene (1,2-Dichlorobenzene)	600	4,336	54200.00	50406.00	74096.82	156762.66					
148	p-Dichlorobenzene (1,4-Dichlorobenzene)	75	N/A	N/A	N/A	N/A	N/A					
149	3,3'-Dichlorobenzidine	0.32	0.44	5.50	5.12	7.52	15.91					
150	1,2-Dichloroethane	5	553	6912.50	6428.63	9450.08	19993.02					
151	1,1-Dichloroethylene	7	23,916	298950.00	278023.50	408694.55	864653.09					
152	Dichloromethane (Methylene Chloride)	5	22,222	277775.00	258330.75	379746.20	803408.63					
153	1,2-Dichloropropane	5	226	2825.00	2627.25	3862.06	8170.75					
154	1,3-Dichloropropene (1,3-Dichloropropylene)	3.4	211	2637.50	2452.88	3605.73	7628.44					
155	Dicofol	0.30	0.30	3.75	3.49	5.13	10.85					
156	Dieldrin	0.001	0.001	0.01	0.01	0.02	0.04					
157	2,4-Dimethylphenol	257	571	7137.50	6637.88	9757.68	20643.79					
158	Di-n-Butyl Phthalate	1,318	3,010	37625.00	34991.25	51437.14	108822.79					
159	Dioxins/Furans (TCDD Equivalents)	7.80E-08	7.97E-08	9.96E-07	9.27E-07	1.36E-06	2.88E-06					
160	Endrin	0.20	0.20	2.50	2.33	3.42	7.23					
161	Ethylbenzene	700	7,143	89287.50	83037.38	122064.94	258246.24					
162	Fluoride	4,000	N/A	N/A	N/A	N/A	N/A					
163	Heptachlor	0.0015	0.0015	0.02	0.02	0.03	0.05					
164	Heptachlor Epoxide	0.00074	0.00075	0.01	0.01	0.01	0.03					
165	Hexachlorobenzene	0.0044	0.0045	0.06	0.05	0.08	0.16					
166	Hexachlorobutadiene	6.5	274	3425.00	3185.25	4682.32	9906.13					
167	Hexachlorocyclohexane (alpha)	0.050	0.093	1.16	1.08	1.59	3.36					
168	Hexachlorocyclohexane (beta)	0.17	0.33	4.13	3.84	5.64	11.93					
169	Hexachlorocyclohexane (gamma) (Lindane)	0.2	6.2	77.50	72.08	105.95	224.15					
170	Hexachlorocyclopentadiene	50	N/A	N/A	N/A	N/A	N/A					
171	Hexachloroethane	4.97	11.51	143.88	133.80	196.69	416.13					
172	Hexachlorophene	2.05	2.90	36.25	33.71	49.56	104.85					
173	Lead	1.15	3.83	418.06	388.80	571.53	1209.16					
174	Mercury	0.0122	0.0122	0.15	0.14	0.21	0.44					
175	Methoxychlor	1.59	1.61	20.13	18.72	27.51	58.21					
176	Methyl Ethyl Ketone	13,865	992,000	12400000	11532000	16952040	35864520					
177	Nickel	332	1,140	75785.06	70480.10	103605.75	219193.12					
178	Nitrate-Nitrogen (as Total Nitrogen)	10,000	N/A	N/A	N/A	N/A	N/A					
179	Nitrobenzene	45	1,853	23162.50	21541.13	31665.45	66992.90					
180	N-Nitrosodiethylamine	0.0037	2.1	26.25	24.41	35.89	75.92					
181	N-Nitroso-di-n-Butylamine	0.119	4.2	52.50	48.83	71.77	151.85					
182	Pentachlorobenzene	1.0	1.0	12.50	11.63	17.09	36.15					
183	Pentachlorophenol	0.80	9.1	113.75	105.79	155.51	329.00					
184	Polychlorinated Biphenyls (PCBs)	6.4E-04	6.4E-04	0.01	0.01	0.01	0.02					
185	Pyridine	23	947	11837.50	11008.88	16183.05	34237.60					
186	Selenium	50	N/A	N/A	N/A	N/A	N/A					

