USS Clairton Works
Total Annual Benzene (TAB) - 1997
MTCE - EXCHANGERS LISTING

Waste Stream ID#	Mtce - Exchangers Waste Stream Description	Controlled Y/N	Water Content >10% Y/N	Waste Stream Type Code	Annual Waste Quantity (Gal)	Range of Benzene Concentration (ppm)	Annual Flow Weighted Avg. Benz. Conc.(ppm)	Annual BQ (Mg)	TAB Component Y/N
	#1 CONTROL ROOM								
1CR1	E324 Stripper Cond.	N	Y	E	780	8.16 - 14	9.9	2.9E-05	Y
1CR2	E325 Stripper Cond.	N	Y	E	780	8.16 - 14	9.9	2.9E-05	Y
1CR3	E330 Lean Solution Cooler	N	Y	E	96	0.23 - 5.0	1.8	6.49E-07	Y
1CR4	E331 Lean Solution Cooler	N	Y	E	96	0.23 - 5.0	1.8	6.49E-07	Y
1CR5	E332 Fract. Overhead Cond. - S	N	Y	E	1300	0 - 0.53	0.2	9.8E-07	Y
1CR6	E333 Fract. Overhead Cond - N	N	Y	E	1300	0 - 0.53	0.2	9.8E-07	Y
1CR7	E334 NH3 Fract. Bottoms	N	Y	E	160	0 - 0.53	0.2	1.2E-07	Y
1CR8	E335 Fract. Bottoms	N	Y	A	200	93 - 221	144.1	1.1E-04	Y
1CR9	E335 Fract. Bottoms	N	Y	A	160	0 - 0.53	0.2	1.2E-07	Y
1CR10	E350 Fract. Feed Pre-Heater	N	Y	E	60	0.23 - 5.0	1.8	4.05E-07	Y
1CR11	E350 Fract. Feed Pre-Heater	N	Y	A	110	0 - 0.53	0.2	8.3E-08	Y
1CR12	E360 Solution Exchanger	N	Y	E	310	8.16 - 14	9.9	1.15E-05	Y
1CR13	E360 Solution Exchanger	N	Y	E	290	0.23 - 5.0	1.8	1.96E-06	Y
1CR14	HEPA01 NO-1 Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR15	HEPA02 NO-2 Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR16	HEPA03 NO-2 Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR17	HEPA04 NO-2 Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR18	HEPA05 NO-2 Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR19	HEPA06 NO-2 Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR20	HEPA07 NO-2 Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR21	HEPA08 NO-2 Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR22	HEPA09 NO-2 Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR23	HEPA10 NO-2 Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR24	HEPA11 NO-2 Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR25	HEPA12 NO-2 Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR26	E-2101 SS Reboiler	N	Y	A	0	0.03 - 0.081	0.06	0	Y
1CR27	HESS01 SS Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR28	HESS02 SS Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR29	HESS03 SS Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR30	HESS04 SS Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR31	HESS05 SS Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR32	HESS06 SS Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR33	HESS07 SS Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR34	HESS08 SS Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR35	HESS09 SS Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR36	HESS10 SS Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR37	HESS11 SS Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y

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USS Clairton Works
Total Annual Benzene (TAB) - 1997
MTCE - EXCHANGERS LISTING

Waste Stream ID#	Mtce - Exchangers Waste Stream Description	Controlled Y/N	Water Content >10% Y/N	Waste Stream Type Code	Annual Waste Quantity (Gal)	Range of Benzene Concentration (ppm)	Annual Flow Weighted Avg. Benz. Conc.(ppm)	Annual BQ (Mg)	TAB Component Y/N
1CR38	HESS12 SS Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR39	SHE206 FC Sprial	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR40	SHE207 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR41	SHE208 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR42	SHE209 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR43	SHE210 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR44	SHE211 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR45	SHE212 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR46	SHE213 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR47	SHE214 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR48	SHE215 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR49	SHE216 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR50	SHE217 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR51	SHE218 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR52	SHE219 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR53	SHE220 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR54	SHE221 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR55	SHE222 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR56	SHE223 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR57	SHE224 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR58	SHE225 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR59	SHE226 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR60	SHE227 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR61	SHE228 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR62	SHE229 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR63	SHE230 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR64	SHE231 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR65	SHE232 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR66	SHE233 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR67	SHE234 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR68	SHE235 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR69	SHE236 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR70	SHE237 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR71	SHE238 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR72	SHE239 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR73	SHE240 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR74	SHE241 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR75	SHE242 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y

ED_002508A_00001323-00002

USS Clairton Works
Total Annual Benzene (TAB) - 1997
MTCE - EXCHANGERS LISTING

Waste Stream ID#	Mtce - Exchangers Waste Stream Description	Controlled Y/N	Water Content >10% Y/N	Waste Stream Type Code	Annual Waste Quantity (Gal)	Range of Benzene Concentration (ppm)	Annual Flow Weighted Avg. Benz. Conc.(ppm)	Annual BQ (Mg)	TAB Component Y/N
1CR76	SHE243 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR77	SHE244 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR78	SHE245 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR79	SHE246 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR80	SHE247 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR81	SHE248 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
1CR82	SHE249 FC Spiral	N	Y	A	2500	93 - 221	144.1	0.001	Y
	#2 CONTROL ROOM								
2CR1	E424 Blowdown Vessel Heater	N	Y	A	228	39 - 59.8	43.3	3.71E-05	Y
2CR2	E627 Injection H2O Cooler	N	Y	A	612	235 - 343	284	6.5E-04	Y
2CR3	E628 Injection H2O Cooler	N	Y	A	612	235 - 343	284	6.5E-04	Y
	#5 CONTROL ROOM								
5CR12	E101CA Carb. Reb. Heat Exch.	N	Y	E	0	0.003 - 0.003	0.003	0	Y
5CR13	E101CB Carb. Reb. Heat Exch.	N	Y	E	0	0.003 - 0.003	0.003	0	Y
5CR14	E102C1 Proc. H2O Cool HT Exc	N	Y	A	0	7.4 - 9.8	8.3	0	Y
5CR15	E102C2 Proc H2O Cool HT Exc	N	Y	A	0	7.4 - 9.8	8.3	0	Y
5CR16	E103CA Carb. Sol. Heat Exch.	N	Y	E	0	9.32 - 11.13	10.2	0	Y
5CR17	E103CB Carb. Sol. Heat Exch.	N	Y	E	0	9.32 - 11.13	10.2	0	Y
5CR18	E652A Solution Reboiler	N	Y	E	0	0.003 - 0.003	0.003	0	Y
5CR19	E652B Solution Reboiler	N	Y	E	0	0.003 - 0.003	0.003	0	Y
5CR20	E653 Lean Solution Cooler	N	Y	E	0	0.003 - 0.003	0.003	0	Y
5CR21	E654A Carb. Sol. Heat Exch.	N	Y	E	0	9.32 - 11.13	10.2	0	Y
5CR22	E654B Carb. Sol. Heat Exch.	N	Y	E	0	9.32 - 11.13	10.2	0	Y
5CR23	E655A Process Water Cooler	N	Y	A	0	7.4 - 9.8	8.3	0	Y
5CR24	E655B Process Water Cooler	N	Y	A	910	7.4 - 9.8	8.3	2.8E-05	Y
5CR26	E302C1 Quench Col. Cooler	N	Y	E	0	0.04 - 0.13	0.1	0	Y
5CR27	E302C2 Quench Col. Cooler	N	Y	E	307	0.04 - 0.13	0.1	1.2E-07	Y
5CR28	E303C1 Lean MDEA SolCooler	N	Y	E	0	<0.005	<0.005	0	Y
5CR29	E303C2 Lean MDEA SolCooler	N	Y	E	0	<0.005	<0.005	0	Y
5CR30	E304C1 MDEA L/R Sol Exch.	N	Y	E	2394	<0.005	<0.005	0	Y
5CR31	E304C2 MDEA L/R Sol Exch.	N	Y	E	2394	<0.005	<0.005	0	Y
5CR32	E304C3 MDEA L/R Sol Exch.	N	Y	E	2394	<0.005	<0.005	0	Y
5CR33	E305C 303-E Strip.Reboiler	N	Y	E	0	<0.005	<0.005	0	Y
	CWTP #2 TANK FARM								
TKF-17	E-1 Still Feed Heater	N	Y	A	13866	8.6 - 61	34.8	0.002	Y
	#1 PRIMARY COOLERS								
1P/C4	801E1A NH3 Liq Plt.& Frame	N	Y	A	400	2.37 - 6.41	4.7	7.1E-06	Y
1/PC5	801E1B NH3 Liq Plt.& Frame	N	Y	A	400	2.37 - 6.41	4.7	7.1E-06	Y

ED_002508A_00001323-00003

USS Clairton Works
Total Annual Benzene (TAB) - 1997
MTCE - EXCHANGERS LISTING

Waste Stream ID#	Mtce - Exchangers Waste Stream Description	Controlled Y/N	Water Content >10% Y/N	Waste Stream Type Code	Annual Waste Quantity (Gal)	Range of Benzene Concentration (ppm)	Annual Flow Weighted Avg. Benz. Conc.(ppm)	Annual BQ (Mg)	TAB Component Y/N
1P/C6	801E1C NH3 Liq Plt.& Frame	N	Y	A	400	2.37 - 6.41	4.7	7.1E-06	Y
1P/C7	802E1A NH3 Liq Plt.& Frame	N	Y	A	400	2.37 - 6.41	4.7	7.1E-06	Y
1P/C8	802E1B NH3 Liq Plt.& Frame	N	Y	A	400	2.37 - 6.41	4.7	7.1E-06	Y
1P/C9	802E1C NH3 Liq Plt.& Frame	N	Y	A	400	2.37 - 6.41	4.7	7.1E-06	Y
1P/C10	803E1A NH3 Liq Plt.& Frame	N	Y	A	400	2.37 - 6.41	4.7	7.1E-06	Y
1P/C11	803E1B NH3 Liq Plt.& Frame	N	Y	A	400	2.37 - 6.41	4.7	7.1E-06	Y
1P/C12	803E1C NH3 Liq Plt.& Frame	N	Y	A	400	2.37 - 6.41	4.7	7.1E-06	Y
1P/C13	801E2A NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
1P/C14	801E2B NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
1P/C15	801E2C NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
1P/C16	801E2D NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
1P/C17	801E2E NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
1P/C18	801E2F NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
1/PC19	801E2G NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
1P/C20	801E2H NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
1/PC21	802E2A NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
1P/C22	802E2B NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
1P/C23	802E2C NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
1P/C24	802E2D NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
P/C25	802E2E NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
1P/C26	802E2F NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
1P/C27	802E2G NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
1P/C28	802E2H NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
1P/C29	803E2A NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
1P/C30	803E2B NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
1P/C31	803E2C NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
1P/C32	803E2D NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
1P/C33	803E2E NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
1P/C34	803E2F NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
1P/C35	803E2G NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
1P/C36	803E2H NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
	#2 PRIMARY COOLERS								
2P/C-3	804E1A NH3 Liq Plt.& Frame	N	Y	A	400	2.37 - 6.41	4.7	7.1E-06	Y
2P/C-4	804E1B NH3 Liq Plt.& Frame	N	Y	A	400	2.37 - 6.41	4.7	7.1E-06	Y
2P/C-5	804E1C NH3 Liq Plt.& Frame	N	Y	A	400	2.37 - 6.41	4.7	7.1E-06	Y
2P/C-6	804E2A NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
2P/C-7	804E2B NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
2P/C-8	804E2C NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y

ED_002508A_00001323-00004

USS Clairton Works
Total Annual Benzene (TAB) - 1997
MTCE - EXCHANGERS LISTING

Waste Stream ID#	Mtce - Exchangers Waste Stream Description	Controlled Y/N	Water Content >10% Y/N	Waste Stream Type Code	Annual Waste Quantity (Gal)	Range of Benzene Concentration (ppm)	Annual Flow Weighted Avg. Benz. Conc.(ppm)	Annual BQ (Mg)	TAB Component Y/N
2P/C-9	804E2D NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
2P/C-10	804E2E NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
2P/C-11	804E2F NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
2P/C-12	804E2G NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
2P/C-13	804E2H NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
2P/C-24	805E1A NH3 Liq Plt.& Frame	N	Y	A	400	2.37 - 6.41	4.7	7.1E-06	Y
2P/C-25	805E1B NH3 Liq Plt.& Frame	N	Y	A	400	2.37 - 6.41	4.7	7.1E-06	Y
2P/C-26	805E1C NH3 Liq Plt.& Frame	N	Y	A	400	2.37 - 6.41	4.7	7.1E-06	Y
2P/C-27	805E2A NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
2P/C-28	805E2B NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
2P/C-29	805E2C NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
2P/C-30	805E2D NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
2P/C-31	805E2E NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
2P/C-32	805E2F NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
2P/C-33	805E2G NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
2P/C-34	805E2H NH3 Liq Spiral Exc.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
2P/C-61	806E1A NH3 Liq. Plt. & Frame	N	Y	A	400	2.37 - 6.41	4.7	7.1E-06	Y
2P/C-62	806E1B NH3 Liq. Plt. & Frame	N	Y	A	400	2.37 - 6.41	4.7	7.1E-06	Y
2P/C-63	806E1C NH3 Liq. Plt. & Frame	N	Y	A	400	2.37 - 6.41	4.7	7.1E-06	Y
2P/C-64	806E2A NH3 Liq. Spiral Exch.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
2P/C-65	806E2B NH3 Liq. Spiral Exch.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
2P/C-66	806E2C NH3 Liq. Spiral Exch.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
2P/C-67	806E2D NH3 Liq. Spiral Exch.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
2P/C-68	806E2E NH3 Liq. Spiral Exch.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
2P/C-69	806E2F NH3 Liq. Spiral Exch.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
2P/C-70	806E2G NH3 Liq. Spiral Exch.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
2P/C-71	806E2H NH3 Liq. Spiral Exch.	N	Y	A	365	2.37 - 6.41	4.7	6.4E-06	Y
						Subtotal Mtce Exchangers:		**9.6E-02**	

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