

## City of Calistoga NPDES Permit Reissuance

## Mercury Mass Limit and Trigger Calculation

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
Date	Total Land Flow (003) (MG)	Total E-1 (001) (MG)	Total E-2 (002)(MG)	Total Effluent (MG)	Total River Discharge (MG)	Days in a month	Avg. Eff Fow (MGD)	Avg. River Discharge Flow (MGD)	Avg. River Discharge 001 (MGD)	Hg Conc. (E-1) (ug/L)	Avg. River Discharge 002 (MGD)	Hg Conc. (E-2) (ug/L)	Hg Weighted average Conc. (ug/L)	Mass loading for limit calculation (g/month)	MA for limit (g/mo)	Ln(MA limit)	Mass loading for trigger (g/mo)	MA for mass trigger	LN(MA trigger)
Jan-02		21.34	15.94	37.28	37.28	31	1.20	1.20	0.69	0.0049	0.51	0.033	0.016915	2.34			2.34		
Feb-02		23.18		23.18	23.18	28	0.83	0.83	0.83	0.0059	0.00		0.0059	0.56			0.56		
Mar-02	0.27	24.52	2.89	27.68	27.41	31	0.89	0.88	0.79	0.0052	0.09		0.004652	0.48			0.47		
Apr-02	7.39	17.32		24.71	17.32	30	0.82	0.58	0.58	0.0046	0.00		0.0046	0.44			0.31		
May-02	15.51	6.85		22.36	6.85	31	0.72	0.22	0.22	0.0056	0.00		0.0056	0.46			0.14		
Jun-02	18.05			18.05	0.00	30	0.60	0.00	0.00		0.00		0.0066	0.46			0.00		
Jul-02	17.80			17.80	0.00	31	0.57	0.00	0.00		0.00		0.0066	0.44			0.00		
Aug-02	19.38			19.38	0.00	31	0.63	0.00	0.00		0.00		0.0066	0.47			0.00		
Sep-02	18.63			18.63	0.00	30	0.62	0.00	0.00		0.00		0.0066	0.47			0.00		
Oct-02	17.98			17.98	0.00	31	0.58	0.00	0.00		0.00		0.0066	0.44			0.00		
Nov-02	8.30	1.10		9.40	1.10	30	0.31	0.04	0.04	0.0018	0.00		0.0018	0.06			0.01		
Dec-02	5.55	26.22	15.86	47.63	42.08	31	1.54	1.36	0.85	0.0052	0.51	0.0098	0.006934	1.23	0.65	-0.42	1.08	0.41	-0.89243
Jan-03		35.71	6.22	41.93	41.93	31	1.35	1.35	1.15	0.0037	0.20	0.0055	0.003967	0.62	0.51	-0.67	0.62	0.27	-1.32419
Feb-03		22.30		22.30	22.30	28	0.80	0.80	0.80	0.0008	0.00		0.0008	0.07	0.47	-0.75	0.07	0.23	-1.49041
Mar-03	1.24	24.03		25.27	24.03	31	0.82	0.78	0.78	0.0014	0.00		0.0014	0.13	0.44	-0.82	0.12	0.20	-1.62843
Apr-03	1.18	22.15		23.33	22.15	30	0.78	0.74	0.74	0.0011	0.00		0.0011	0.10	0.41	-0.88	0.09	0.18	-1.72286
May-03	9.74	11.45	6.87	28.06	18.32	31	0.91	0.59	0.37	0.0008	0.22	0.0021	0.001288	0.13	0.39	-0.95	0.09	0.17	-1.74879
Jun-03	17.86			17.86	0.00	30	0.60	0.00	0.00		0.00		0.0018	0.12	0.36	-1.03	0.00	0.17	-1.74879
Jul-03	17.25			17.25	0.00	31	0.56	0.00	0.00		0.00		0.0018	0.12	0.33	-1.11	0.00	0.17	-1.74879
Aug-03	20.97			20.97	0.00	31	0.68	0.00	0.00		0.00		0.0018	0.14	0.30	-1.19	0.00	0.17	-1.74879
Sep-03	15.50			15.50	0.00	30	0.52	0.00	0.00		0.00		0.0018	0.11	0.27	-1.30	0.00	0.17	-1.74879
Oct-03	20.26			20.26	0.00	31	0.65	0.00	0.00		0.00		0.0018	0.14	0.25	-1.40	0.00	0.17	-1.74879
Nov-03	15.17	1.17		16.34	1.17	30	0.54	0.04	0.04	0.0022	0.00		0.0022	0.14	0.25	-1.37	0.01	0.17	-1.7477
Dec-03		43.23	2.40	45.63	45.63	31	1.47	1.47	1.39	0.0016	0.08	0.0068	0.001874	0.32	0.18	-1.73	0.32	0.11	-2.20411
Jan-04		35.20	7.64	42.84	42.84	31	1.38	1.38	1.14	0.0023	0.25	0.0042	0.002639	0.42	0.16	-1.83	0.42	0.09	-2.36595
Feb-04		28.73	16.10	44.83	44.83	29	1.55	1.55	0.99	0.0031	0.56	0.0042	0.003495	0.62	0.21	-1.58	0.62	0.14	-1.96918
Mar-04	1.14	23.63	1.94	26.71	25.57	31	0.86	0.82	0.76	0.0021	0.06	0.0043	0.002267	0.22	0.21	-1.54	0.22	0.15	-1.91666
Apr-04	6.68	9.70		16.38	9.70	30	0.55	0.32	0.32	0.001	0.00		0.001	0.06	0.21	-1.55	0.04	0.14	-1.94906
May-04	13.04	2.32		15.36	2.32	31	0.50	0.07	0.07	0.0012	0.00		0.0012	0.07	0.21	-1.58	0.01	0.14	-1.99531
Jun-04	15.32			15.32	0.00	30	0.51	0.00	0.00		0.00		0.0021	0.12	0.21	-1.58	0.00	0.14	-1.99531
Jul-04	15.94			15.94	0.00	31	0.51	0.00	0.00		0.00		0.0021	0.12	0.21	-1.58	0.00	0.14	-1.99531
Aug-04	14.74			14.74	0.00	31	0.48	0.00	0.00		0.00		0.0021	0.11	0.20	-1.59	0.00	0.14	-1.99531
Sep-04	13.46			13.46	0.00	30	0.45	0.00	0.00		0.00		0.0021	0.11	0.20	-1.58	0.00	0.14	-1.99531
Oct-04	6.38			6.38	0.00	31	0.21	0.00	0.00		0.00		0.0021	0.05	0.20	-1.62	0.00	0.14	-1.99531
Nov-04	4.83	4.60		9.43	4.60	30	0.31	0.15	0.15	0.0012	0.00		0.0012	0.04	0.19	-1.66	0.02	0.14	-1.9884
Dec-04		38.83	5.19	44.02	44.02	31	1.42	1.42	1.25	0.0022	0.17	0.0052	0.002554	0.42	0.20	-1.62	0.42	0.15	-1.92933
Jan-05		35.82	8.31	44.13	44.13	31	1.42	1.42	1.16	0.0021	0.27	0.0074	0.003098	0.51	0.21	-1.58	0.51	0.15	-1.88015
Feb-05		23.10		23.10	23.10	28	0.83	0.83	0.83	0.0009	0.00		0.0009	0.09	0.16	-1.83	0.09	0.11	-2.22685
Mar-05	1.16	27.67	10.67	39.50	38.34	31	1.27	1.24	0.89	0.0014	0.34	0.0042	0.002179	0.32	0.17	-1.78	0.31	0.12	-2.15603
Apr-05	1.41	27.50		28.91	27.50	30	0.96	0.92	0.92	0.0008	0.00		0.0008	0.09	0.17	-1.77	0.08	0.12	-2.12263
May-05	2.07	9.35	1.58	13.00	10.93	31	0.42	0.35	0.30	0.0018	0.05	0.0044	0.002176	0.11	0.17	-1.75	0.09	0.13	-2.06978
Jun-05	12.29			12.29	0.00	30	0.41	0.00	0.00		0.00		0.0016	0.08	0.17	-1.77	0.00	0.13	-2.06978
Jul-05	17.93			17.93	0.00	31	0.58	0.00	0.00		0.00		0.0016	0.11	0.17	-1.78	0.00	0.13	-2.06978
Aug-05	17.10			17.10	0.00	31	0.55	0.00	0.00		0.00		0.0016	0.10	0.17	-1.79	0.00	0.13	-2.06978
Sep-05	11.78			11.78	0.00	30	0.39	0.00	0.00		0.00		0.0016	0.07	0.16	-1.81	0.00	0.13	-2.06978
Oct-05	10.10			10.10	0.00	31	0.33	0.00	0.00		0.00		0.0016	0.06	0.17	-1.80	0.00	0.13	-2.06978
Nov-05	1.79	3.51		5.30	3.51	30	0.18	0.12	0.12	0.0008	0.00		0.0008	0.02	0.16	-1.81	0.01	0.13	-2.07667
Dec-05		52.19	7.54	59.73	59.73	31	1.93	1.93	1.68	0.0008	0.24	0.0059	0.001444	0.32	0.15	-1.86	0.32	0.12	-2.14347

Note: For the months without mercury monitoring data, average mercury concentration was calculated using the Hg monitoring data from the months of the same year with data.

0.25	-1.46
0.12	0.38
<b>Limit</b>	<b>0.73</b>

0.16	-1.91
0.06	0.27
<b>Trigger</b>	<b>0.33</b>