APPENDIX 14-I
MINE SITE WATER TREATMENT PLANT STAGED DISCHARGE SCHEDULE

Appendix 14-I. Mine Site Water Treatment Plant Staged Discharge Schedule

	Average Year Water Treatment Volumes				Flow Rate (m^3/s)												Monthly Volume (m^3)												
Year	Annual Avg. Pumping Volume (m^3) from WSF by Klohn	Annual Avg. Treatment Rate (m^3/s)	Annual Avg. Predicted Selenium Concentration (µg/L) in WSF	SUMPRODUCT Based on Monthly Treatment Flows	Jan 31	Feb 28	Mar 31	Apr 30	May 31	Jun 30	Jul 31	Aug 31	Sep 30	Oct 31	Nov 30	Dec 31	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum
0 to 1	62,806,776	1.99	5.8	**62,800,272**	0.50	0.50	0.50	1.20	3.31	3.40	3.40	3.40	3.38	2.70	1.00	0.50	1,339,200	1,209,600	1,339,200	3,110,400	8,852,112	8,812,800	9,106,560	9,106,560	8,760,960	7,231,680	2,592,000	1,339,200	**62,800,272**
1 to 2	64,124,794	2.03	10.4	**64,117,440**	0.50	0.50	0.50	1.20	3.50	3.50	3.50	3.50	3.38	2.70	1.00	0.50	1,339,200	1,209,600	1,339,200	3,110,400	9,374,400	9,072,000	9,374,400	9,374,400	8,760,960	7,231,680	2,592,000	1,339,200	**64,117,440**
2 to 3	64,010,997	2.03	12.4	**64,009,440**	0.50	0.50	0.50	1.00	3.00	4.30	4.30	4.30	3.35	1.50	0.75	0.25	1,339,200	1,209,600	1,339,200	2,592,000	8,035,200	11,145,600	11,517,120	11,517,120	8,683,200	4,017,600	1,944,000	669,600	**64,009,440**
3 to 4	63,860,122	2.02	14.7	**63,836,640**	0.50	0.50	0.50	0.50	3.00	4.50	4.50	4.50	3.36	1.50	0.56	0.25	1,339,200	1,209,600	1,339,200	1,296,000	8,035,200	11,664,000	12,052,800	12,052,800	8,709,120	4,017,600	1,451,520	669,600	**63,836,640**
4 to 5	63,515,060	2.01	17.3	**63,499,680**	0.50	0.50	0.50	0.50	3.00	4.50	4.50	4.50	3.29	1.50	0.50	0.25	1,339,200	1,209,600	1,339,200	1,296,000	8,035,200	11,664,000	12,052,800	12,052,800	8,527,680	4,017,600	1,296,000	669,600	**63,499,680**
5 to 6	63,639,073	2.02	19.0	**63,555,840**	0.30	0.30	0.30	0.30	3.00	5.50	5.50	5.00	3.00	0.50	0.25	0.10	803,520	725,760	803,520	777,600	8,035,200	14,256,000	14,731,200	13,392,000	7,776,000	1,339,200	648,000	267,840	**63,555,840**
6 to 7	63,102,303	2.00	20.5	**63,136,800**	0.30	0.30	0.30	0.30	2.00	5.50	5.50	5.50	3.00	0.50	0.45	0.25	803,520	725,760	803,520	777,600	5,356,800	14,256,000	14,731,200	14,731,200	7,776,000	1,339,200	1,166,400	669,600	**63,136,800**
7 to 8	63,062,469	2.00	21.3	**63,002,880**	0.30	0.30	0.25	0.25	2.00	5.50	5.50	5.50	3.00	0.50	0.50	0.25	803,520	725,760	669,600	648,000	5,356,800	14,256,000	14,731,200	14,731,200	7,776,000	1,339,200	1,296,000	669,600	**63,002,880**
8 to 9	62,850,292	1.99	22.1	**62,868,960**	0.25	0.30	0.25	0.25	2.00	5.50	5.50	5.50	3.00	0.50	0.50	0.25	669,600	725,760	669,600	648,000	5,356,800	14,256,000	14,731,200	14,731,200	7,776,000	1,339,200	1,296,000	669,600	**62,868,960**
9 to 10	63,051,467	2.00	23.0	**63,002,880**	0.30	0.30	0.25	0.25	2.00	5.50	5.50	5.50	3.00	0.50	0.50	0.25	803,520	725,760	669,600	648,000	5,356,800	14,256,000	14,731,200	14,731,200	7,776,000	1,339,200	1,296,000	669,600	**63,002,880**
10 to 11	65,881,209	2.09	23.4	**65,815,200**	0.25	0.25	0.25	0.25	2.00	6.00	6.00	6.00	2.65	0.50	0.50	0.25	669,600	604,800	669,600	648,000	5,356,800	15,552,000	16,070,400	16,070,400	6,868,800	1,339,200	1,296,000	669,600	**65,815,200**
11 to 12	66,709,159	2.12	23.7	**66,765,600**	0.25	0.25	0.25	0.25	1.75	6.00	6.00	6.00	2.75	1.25	0.25	0.25	669,600	604,800	669,600	648,000	4,687,200	15,552,000	16,070,400	16,070,400	7,128,000	3,348,000	648,000	669,600	**66,765,600**
12 to 13	67,316,414	2.13	24.5	**67,392,000**	0.25	0.25	0.25	0.25	1.50	6.00	6.00	6.00	3.00	1.25	0.50	0.25	669,600	604,800	669,600	648,000	4,017,600	15,552,000	16,070,400	16,070,400	7,776,000	3,348,000	1,296,000	669,600	**67,392,000**
13 to 14	68,313,594	2.17	25.6	**68,329,440**	0.25	0.25	0.25	0.25	1.60	6.00	6.00	6.00	3.00	1.50	0.50	0.25	669,600	604,800	669,600	648,000	4,285,440	15,552,000	16,070,400	16,070,400	7,776,000	4,017,600	1,296,000	669,600	**68,329,440**
14 to 15	68,486,821	2.17	26.7	**68,476,320**	0.15	0.25	0.15	0.25	1.50	6.00	6.00	6.00	3.00	2.00	0.35	0.25	401,760	604,800	401,760	648,000	4,017,600	15,552,000	16,070,400	16,070,400	7,776,000	5,356,800	907,200	669,600	**68,476,320**
15 to 16	69,127,503	2.19	27.8	**69,158,880**	0.15	0.15	0.15	0.25	1.70	6.00	6.00	6.00	3.00	2.00	0.50	0.25	401,760	362,880	401,760	648,000	4,553,280	15,552,000	16,070,400	16,070,400	7,776,000	5,356,800	1,296,000	669,600	**69,158,880**
16 to 17	68,706,975	2.18	29.0	**68,757,120**	0.15	0.15	0.15	0.25	1.55	6.00	6.00	6.00	3.00	2.00	0.50	0.25	401,760	362,880	401,760	648,000	4,151,520	15,552,000	16,070,400	16,070,400	7,776,000	5,356,800	1,296,000	669,600	**68,757,120**
17 to 18	69,196,191	2.19	30.2	**69,158,880**	0.15	0.15	0.15	0.25	1.70	6.00	6.00	6.00	3.00	2.00	0.50	0.25	401,760	362,880	401,760	648,000	4,553,280	15,552,000	16,070,400	16,070,400	7,776,000	5,356,800	1,296,000	669,600	**69,158,880**
18 to 19	68,616,524	2.18	31.4	**68,623,200**	0.15	0.15	0.15	0.25	1.50	6.00	6.00	6.00	3.00	2.00	0.50	0.25	401,760	362,880	401,760	648,000	4,017,600	15,552,000	16,070,400	16,070,400	7,776,000	5,356,800	1,296,000	669,600	**68,623,200**
19 to 20	68,504,116	2.17	32.6	**68,489,280**	0.15	0.15	0.15	0.25	1.50	6.00	6.00	6.00	3.00	1.95	0.50	0.25	401,760	362,880	401,760	648,000	4,017,600	15,552,000	16,070,400	16,070,400	7,776,000	5,222,880	1,296,000	669,600	**68,489,280**
20 to 21	67,860,864	2.15	33.6	**67,841,280**	0.15	0.15	0.15	0.25	1.50	6.00	6.00	6.00	3.00	1.95	0.25	0.25	401,760	362,880	401,760	648,000	4,017,600	15,552,000	16,070,400	16,070,400	7,776,000	5,222,880	648,000	669,600	**67,841,280**
21 to 22	68,564,604	2.17	33.9	**68,623,200**	0.15	0.15	0.15	0.25	1.50	6.00	6.00	6.00	3.00	2.00	0.50	0.25	401,760	362,880	401,760	648,000	4,017,600	15,552,000	16,070,400	16,070,400	7,776,000	5,356,800	1,296,000	669,600	**68,623,200**
22 to 23	68,219,853	2.16	34.1	**68,234,400**	0.15	0.15	0.15	0.25	1.50	6.00	6.00	6.00	3.00	2.00	0.35	0.25	401,760	362,880	401,760	648,000	4,017,600	15,552,000	16,070,400	16,070,400	7,776,000	5,356,800	907,200	669,600	**68,234,400**
23 to 24	68,444,233	2.17	34.2	**68,493,600**	0.15	0.15	0.15	0.25	1.50	6.00	6.00	6.00	3.00	2.00	0.45	0.25	401,760	362,880	401,760	648,000	4,017,600	15,552,000	16,070,400	16,070,400	7,776,000	5,356,800	1,166,400	669,600	**68,493,600**
24 to 25	68,771,403	2.18	34.1	**68,757,120**	0.15	0.15	0.15	0.25	1.55	6.00	6.00	6.00	3.00	2.00	0.50	0.25	401,760	362,880	401,760	648,000	4,151,520	15,552,000	16,070,400	16,070,400	7,776,000	5,356,800	1,296,000	669,600	**68,757,120**
25 to 26	72,274,494	2.29	34.1	**72,334,080**	0.10	0.15	0.15	0.25	1.50	6.50	6.50	6.50	3.00	2.00	0.45	0.25	267,840	362,880	401,760	648,000	4,017,600	16,848,000	17,409,600	17,409,600	7,776,000	5,356,800	1,166,400	669,600	**72,334,080**
26 to 27	75,944,455	2.41	33.0	**75,906,720**	0.10	0.15	0.15	0.25	1.50	7.00	7.00	6.85	3.00	2.00	0.45	0.25	267,840	362,880	401,760	648,000	4,017,600	18,144,000	18,748,800	18,347,040	7,776,000	5,356,800	1,166,400	669,600	**75,906,720**
27 to 28	77,937,754	2.47	33.3	**77,898,240**	0.10	0.15	0.15	0.25	1.50	7.20	7.20	7.20	3.00	2.00	0.45	0.25	267,840	362,880	401,760	648,000	4,017,600	18,662,400	19,284,480	19,284,480	7,776,000	5,356,800	1,166,400	669,600	**77,898,240**
28 to 29	77,404,855	2.45	36.1	**77,362,560**	0.10	0.15	0.15	0.25	1.50	7.20	7.20	7.00	3.00	2.00	0.45	0.25	267,840	362,880	401,760	648,000	4,017,600	18,662,400	19,284,480	18,748,800	7,776,000	5,356,800	1,166,400	669,600	**77,362,560**
29 to 30	77,953,292	2.47	38.3	**77,893,920**	0.10	0.15	0.15	0.25	1.50	7.20	7.20	7.20	3.00	1.95	0.50	0.25	267,840	362,880	401,760	648,000	4,017,600	18,662,400	19,284,480	19,284,480	7,776,000	5,222,880	1,296,000	669,600	**77,893,920**
30 to 31	77,350,207	2.45	40.0	**77,358,240**	0.10	0.15	0.15	0.25	1.50	7.20	7.15	7.00	3.00	2.00	0.50	0.25	267,840	362,880	401,760	648,000	4,017,600	18,662,400	19,150,560	18,748,800	7,776,000	5,356,800	1,296,000	669,600	**77,358,240**
31 to 32	78,166,309	2.48	40.1	**78,157,440**	0.10	0.15	0.15	0.25	1.50	7.25	7.20	7.20	3.00	2.00	0.50	0.25	267,840	362,880	401,760	648,000	4,017,600	18,792,000	19,284,480	19,284,480	7,776,000	5,356,800	1,296,000	669,600	**78,157,440**
32 to 33	77,631,810	2.46	39.9	**77,617,440**	0.10	0.15	0.15	0.25	1.50	7.30	7.25	7.25	3.00	1.65	0.50	0.25	267,840	362,880	401,760	648,000	4,017,600	18,921,600	19,418,400	19,418,400	7,776,000	4,419,360	1,296,000	669,600	**77,617,440**
33 to 34	78,530,654	2.49	38.0	**78,554,880**	0.10	0.15	0.15	0.25	1.50	7.30	7.25	7.25	3.00	2.00	0.50	0.25	267,840	362,880	401,760	648,000	4,017,600	18,921,600	19,418,400	19,418,400	7,776,000	5,356,800	1,296,000	669,600	**78,554,880**
34 to 35	78,672,096	2.49	38.4	**78,688,800**	0.10	0.15	0.15	0.25	1.50	7.30	7.30	7.25	3.00	2.00	0.50	0.25	267,840	362,880	401,760	648,000	4,017,600	18,921,600	19,552,320	19,418,400	7,776,000	5,356,800	1,296,000	669,600	**78,688,800**
35 to 36	78,526,854	2.49	39.1	**78,554,880**	0.10	0.15	0.15	0.25	1.50	7.30	7.25	7.25	3.00	2.00	0.50	0.25	267,840	362,880	401,760	648,000	4,017,600	18,921,600	19,418,400	19,418,400	7,776,000	5,356,800	1,296,000	669,600	**78,554,880**

Appendix 14-I. Mine Site Water Treatment Plant Staged Discharge Schedule

	Average Year Water Treatment Volumes				Flow Rate (m^3/s)												Monthly Volume (m^3)												
Year	Annual Avg. Pumping Volume (m^3) from WSF by Klohn	Annual Avg. Treatment Rate (m^3/s)	Annual Avg. Predicted Selenium Concentration (µg/L) in WSF	SUMPRODUCT Based on Monthly Treatment Flows	Jan 31	Feb 28	Mar 31	Apr 30	May 31	Jun 30	Jul 31	Aug 31	Sep 30	Oct 31	Nov 30	Dec 31	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum
36 to 37	78,416,473	2.49	40.1	**78,420,960**	0.10	0.15	0.15	0.25	1.50	7.30	7.30	7.15	3.00	2.00	0.50	0.25	267,840	362,880	401,760	648,000	4,017,600	18,921,600	19,552,320	19,150,560	7,776,000	5,356,800	1,296,000	669,600	**78,420,960**
37 to 38	79,316,501	2.52	41.2	**79,345,440**	0.10	0.15	0.15	0.25	1.50	7.45	7.35	7.30	3.00	2.00	0.50	0.25	267,840	362,880	401,760	648,000	4,017,600	19,310,400	19,686,240	19,552,320	7,776,000	5,356,800	1,296,000	669,600	**79,345,440**
38 to 39	79,059,216	2.51	42.4	**79,090,560**	0.10	0.15	0.15	0.25	1.50	7.40	7.40	7.30	3.00	2.00	0.40	0.25	267,840	362,880	401,760	648,000	4,017,600	19,180,800	19,820,160	19,552,320	7,776,000	5,356,800	1,036,800	669,600	**79,090,560**
39 to 40	78,514,618	2.49	43.4	**78,546,240**	0.10	0.15	0.15	0.25	1.50	7.40	7.40	7.00	3.00	2.00	0.50	0.25	267,840	362,880	401,760	648,000	4,017,600	19,180,800	19,820,160	18,748,800	7,776,000	5,356,800	1,296,000	669,600	**78,546,240**
40 to 41	78,009,662	2.47	43.8	**78,019,200**	0.10	0.15	0.15	0.25	1.50	7.30	7.30	7.00	3.00	2.00	0.50	0.25	267,840	362,880	401,760	648,000	4,017,600	18,921,600	19,552,320	18,748,800	7,776,000	5,356,800	1,296,000	669,600	**78,019,200**
41 to 42	78,518,395	2.49	44.0	**78,546,240**	0.10	0.15	0.15	0.25	1.50	7.40	7.40	7.00	3.00	2.00	0.50	0.25	267,840	362,880	401,760	648,000	4,017,600	19,180,800	19,820,160	18,748,800	7,776,000	5,356,800	1,296,000	669,600	**78,546,240**
42 to 43	78,270,079	2.48	44.2	**78,287,040**	0.10	0.15	0.15	0.25	1.50	7.30	7.30	7.10	3.00	2.00	0.50	0.25	267,840	362,880	401,760	648,000	4,017,600	18,921,600	19,552,320	19,016,640	7,776,000	5,356,800	1,296,000	669,600	**78,287,040**
43 to 44	77,914,623	2.47	44.5	**77,885,280**	0.10	0.15	0.15	0.25	1.50	7.30	7.15	7.10	3.00	2.00	0.50	0.25	267,840	362,880	401,760	648,000	4,017,600	18,921,600	19,150,560	19,016,640	7,776,000	5,356,800	1,296,000	669,600	**77,885,280**
44 to 45	77,595,012	2.46	44.6	**77,617,440**	0.10	0.15	0.15	0.25	1.50	7.30	7.15	7.00	3.00	2.00	0.50	0.25	267,840	362,880	401,760	648,000	4,017,600	18,921,600	19,150,560	18,748,800	7,776,000	5,356,800	1,296,000	669,600	**77,617,440**
45 to 46	78,284,364	2.48	44.6	**78,287,040**	0.10	0.15	0.15	0.25	1.50	7.30	7.20	7.20	3.00	2.00	0.50	0.25	267,840	362,880	401,760	648,000	4,017,600	18,921,600	19,284,480	19,284,480	7,776,000	5,356,800	1,296,000	669,600	**78,287,040**
46 to 47	78,216,820	2.48	44.8	**78,153,120**	0.10	0.15	0.15	0.25	1.50	7.30	7.20	7.15	3.00	2.00	0.50	0.25	267,840	362,880	401,760	648,000	4,017,600	18,921,600	19,284,480	19,150,560	7,776,000	5,356,800	1,296,000	669,600	**78,153,120**
47 to 48	77,862,114	2.47	44.9	**77,893,920**	0.10	0.15	0.15	0.25	1.50	7.30	7.20	7.15	3.00	2.00	0.40	0.25	267,840	362,880	401,760	648,000	4,017,600	18,921,600	19,284,480	19,150,560	7,776,000	5,356,800	1,036,800	669,600	**77,893,920**
48 to 49	77,543,115	2.46	45.0	**77,483,520**	0.10	0.15	0.15	0.25	1.50	7.30	7.10	7.00	3.00	2.00	0.50	0.25	267,840	362,880	401,760	648,000	4,017,600	18,921,600	19,016,640	18,748,800	7,776,000	5,356,800	1,296,000	669,600	**77,483,520**
49 to 50	78,001,283	2.47	44.1	**78,019,200**	0.10	0.15	0.15	0.25	1.50	7.30	7.20	7.10	3.00	2.00	0.50	0.25	267,840	362,880	401,760	648,000	4,017,600	18,921,600	19,284,480	19,016,640	7,776,000	5,356,800	1,296,000	669,600	**78,019,200**
50 to 51	74,524,995	2.36	44.2	**74,576,160**	0.10	0.15	0.15	0.25	1.50	7.10	7.10	7.10	3.00	1.25	0.25	0.25	267,840	362,880	401,760	648,000	4,017,600	18,403,200	19,016,640	19,016,640	7,776,000	3,348,000	648,000	669,600	**74,576,160**
51 to 52	50,820,459	1.61	51.3	**50,790,240**	0.10	0.15	0.15	0.25	1.50	5.50	5.00	5.00	1.00	0.30	0.15	0.10	267,840	362,880	401,760	648,000	4,017,600	14,256,000	13,392,000	13,392,000	2,592,000	803,520	388,800	267,840	**50,790,240**
52 to 53	43,865,890	1.39	58.3	**43,912,800**	0.10	0.15	0.15	0.25	1.50	4.50	4.30	4.25	1.00	0.15	0.15	0.10	267,840	362,880	401,760	648,000	4,017,600	11,664,000	11,517,120	11,383,200	2,592,000	401,760	388,800	267,840	**43,912,800**
53 to 54	43,561,411	1.38	59.3	**43,511,040**	0.10	0.15	0.15	0.25	1.50	4.50	4.25	4.15	1.00	0.15	0.15	0.10	267,840	362,880	401,760	648,000	4,017,600	11,664,000	11,383,200	11,115,360	2,592,000	401,760	388,800	267,840	**43,511,040**
54 to 55	43,210,520	1.37	59.8	**43,243,200**	0.10	0.15	0.15	0.25	1.50	4.50	4.20	4.10	1.00	0.15	0.15	0.10	267,840	362,880	401,760	648,000	4,017,600	11,664,000	11,249,280	10,981,440	2,592,000	401,760	388,800	267,840	**43,243,200**
55 to 56	51,763,004	1.64	49.7	**51,727,680**	0.10	0.15	0.15	0.25	1.50	5.50	5.50	5.00	1.00	0.15	0.15	0.10	267,840	362,880	401,760	648,000	4,017,600	14,256,000	14,731,200	13,392,000	2,592,000	401,760	388,800	267,840	**51,727,680**
56 to 57	63,216,864	2.00	37.0	**63,266,400**	0.10	0.15	0.15	0.25	1.50	6.80	6.80	6.75	1.00	0.15	0.15	0.10	267,840	362,880	401,760	648,000	4,017,600	17,625,600	18,213,120	18,079,200	2,592,000	401,760	388,800	267,840	**63,266,400**
57 to 58	63,801,761	2.02	35.2	**63,784,800**	0.10	0.15	0.15	0.25	1.50	7.00	6.80	6.75	1.00	0.15	0.15	0.10	267,840	362,880	401,760	648,000	4,017,600	18,144,000	18,213,120	18,079,200	2,592,000	401,760	388,800	267,840	**63,784,800**
58 to 59	63,937,116	2.03	35.1	**63,918,720**	0.10	0.15	0.15	0.25	1.50	7.00	6.85	6.75	1.00	0.15	0.15	0.10	267,840	362,880	401,760	648,000	4,017,600	18,144,000	18,347,040	18,079,200	2,592,000	401,760	388,800	267,840	**63,918,720**
59 to 60	63,642,593	2.02	34.9	**63,650,880**	0.10	0.15	0.15	0.25	1.50	7.00	6.80	6.70	1.00	0.15	0.15	0.10	267,840	362,880	401,760	648,000	4,017,600	18,144,000	18,213,120	17,945,280	2,592,000	401,760	388,800	267,840	**63,650,880**
60 to 61	63,687,120	2.02	34.8	**63,650,880**	0.10	0.15	0.15	0.25	1.50	7.00	6.80	6.70	1.00	0.15	0.15	0.10	267,840	362,880	401,760	648,000	4,017,600	18,144,000	18,213,120	17,945,280	2,592,000	401,760	388,800	267,840	**63,650,880**
61 to 62	63,588,390	2.02	34.7	**63,650,880**	0.10	0.15	0.15	0.25	1.50	7.00	6.80	6.70	1.00	0.15	0.15	0.10	267,840	362,880	401,760	648,000	4,017,600	18,144,000	18,213,120	17,945,280	2,592,000	401,760	388,800	267,840	**63,650,880**
62 to 63	63,863,215	2.03	34.6	**63,784,800**	0.10	0.15	0.15	0.25	1.50	7.00	6.85	6.70	1.00	0.15	0.15	0.10	267,840	362,880	401,760	648,000	4,017,600	18,144,000	18,347,040	17,945,280	2,592,000	401,760	388,800	267,840	**63,784,800**
63 to 64	63,568,207	2.02	34.6	**63,516,960**	0.10	0.15	0.15	0.25	1.50	7.00	6.80	6.65	1.00	0.15	0.15	0.10	267,840	362,880	401,760	648,000	4,017,600	18,144,000	18,213,120	17,811,360	2,592,000	401,760	388,800	267,840	**63,516,960**
64 to 65	63,612,742	2.02	34.5	**63,650,880**	0.10	0.15	0.15	0.25	1.50	7.00	6.80	6.70	1.00	0.15	0.15	0.10	267,840	362,880	401,760	648,000	4,017,600	18,144,000	18,213,120	17,945,280	2,592,000	401,760	388,800	267,840	**63,650,880**