Appendix 5.3.2A
Potential Project Effects "Unmitigated" Dry and Wet Monthly and Annual Surface Water Flow Summary Tables

Table 1: Estimated 1:5–year Dry Monthly and Annual Surface Water Flow Changes in Turtle Creek, Davidson Creek, Creek 661, Creek 705, and Chedakuz Creek from the Project for Construction (Year -2), Operations (Year 17), Closure (Year 20), and Post-closure

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
Turtle Creek													
H3 (WQ11 in upper watershed on tributary Creek 700)													
Baseline	3.0	2.2	1.9	5.5	173	101	28	11	7.0	5.9	5.0	3.8	29
Construction (Year -2)	3.0	2.2	1.9	5.5	173	101	28	11	7.0	5.9	5.0	3.8	29
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operations (Year 17)	3.0	2.2	1.9	5.5	173	101	28	11	7.0	5.9	5.0	3.8	29
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Closure (Year 20)	3.0	2.2	1.9	5.5	173	101	28	11	7.0	5.9	5.0	3.8	29
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Post-Closure	3.0	2.2	1.9	5.5	173	101	28	11	7.0	5.9	5.0	3.8	29
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
H6 (midpoint of watershed)													
Baseline	80	71	66	145	510	312	175	132	114	101	94	86	157
Construction (Year -2)	80	71	66	145	510	312	175	132	114	101	94	86	157
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operations (Year 17)	80	71	66	145	510	312	175	132	114	101	94	86	157
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Closure (Year 20)	80	71	66	145	510	312	175	132	114	101	94	86	157
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Post-Closure	80	71	66	145	510	312	175	132	114	101	94	86	157
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
1-TC (WQ 13 upstream of confluence with Chedakuz Creek)													
Baseline	105	94	90	179	557	352	211	164	144	130	121	112	188
Construction (Year -2)	105	94	90	179	557	352	211	164	144	130	121	112	188
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operations (Year 17)	105	94	90	179	557	352	211	164	144	130	121	112	188
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Closure (Year 20)	105	94	90	179	557	352	211	164	144	130	121	112	188
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Post-Closure	105	94	90	179	557	352	211	164	144	130	121	112	188
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Davidson Creek													
11-DC (upper extents of watershed upstream of proposed TSF)													
Baseline	0.0	0.0	0.0	0.0	34	24	5.7	1.2	0.3	0.0	0.0	0.0	5.5
Construction (Year -2)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
Operations (Year 17)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
Closure (Year 20)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
Post-Closure	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
H2 (WQ10 midpoint of watershed immediately downstream of proposed TSF)													
Baseline	108	100	93	83	573	529	250	165	136	125	117	111	199
Construction (Year -2)	82	76	70	62	446	445	200	128	105	97	90	84	157
% Change from Baseline	-24%	-24%	-24%	-25%	-22%	-16%	-20%	-22%	-23%	-23%	-23%	-24%	-21%
Operations (Year 17)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
Closure (Year 20)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
Post-Closure	94	89	85	81	719	384	141	109	97	112	101	94	176
% Change from Baseline	-13%	-11%	-9%	-2%	25%	-27%	-44%	-34%	-28%	-10%	-14%	-15%	-12%
H4B (WQ26)													
Baseline	129	117	113	144	692	612	308	210	174	158	145	134	245
Construction (Year -2)	104	94	90	122	565	527	258	173	143	130	119	109	203
% Change from Baseline	-19%	-20%	-20%	-15%	-18%	-14%	-16%	-17%	-17%	-18%	-18%	-19%	-17%
Operations (Year 17)	2.8	1.7	1.6	31	88	51	33	23	17	14	11	6.8	23
% Change from Baseline	-98%	-99%	-99%	-78%	-87%	-92%	-89%	-89%	-90%	-91%	-93%	-95%	-90%
Closure (Year 20)	3.6	2.3	2.2	33	136	77	41	26	19	12	9.5	8.1	31
% Change from Baseline	-97%	-98%	-98%	-77%	-80%	-87%	-87%	-88%	-89%	-93%	-93%	-94%	-87%
Post-Closure	108	100	99	129	814	443	179	123	124	135	120	110	207
% Change from Baseline	-16%	-14%	-13%	-10%	18%	-28%	-42%	-41%	-29%	-15%	-17%	-18%	-15%
4-DC													
Baseline	131	118	116	186	756	633	316	214	176	160	148	137	258
Construction (Year -2)	105	95	92	163	629	547	266	178	147	135	135	125	218
% Change from Baseline	-20%	-20%	-20%	-12%	-17%	-14%	-16%	-17%	-17%	-16%	-9%	-8%	-15%
Operations (Year 17)	8.0	2.3	2.6	62	145	67	40	27	19	21	16	8.0	34.8
% Change from Baseline	-94%	-98%	-98%	-67%	-81%	-89%	-87%	-88%	-89%	-87%	-89%	-94%	-86%
Closure (Year 20)	4.4	2.9	3.1	42	193	94	48	30	21	17	14	9.4	39.9
% Change from Baseline	-97%	-98%	-97%	-77%	-74%	-85%	-85%	-86%	-88%	-89%	-91%	-93%	-85%
Post-Closure	111	103	115	168	880	464	187	127	127	150	137	129	225
% Change from Baseline	-15%	-13%	-1%	-10%	16%	-27%	-41%	-41%	-28%	-6%	-7%	-5%	-13%
1-DC (WQ7 upstream of confluence with Chedakuz Creek)													
Baseline	157	144	141	220	801	671	349	244	205	187	175	163	288
Construction (Year -2)	132	120	117	197	674	583	299	208	175	160	149	138	246

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
% Change from Baseline	-16%	-16%	-17%	-10%	-16%	-13%	-14%	-15%	-15%	-15%	-15%	-16%	-15%
Operations (Year 17)	35	31	30	99	189	102	72	57	49	44	41	37	66
% Change from Baseline	-78%	-78%	-78%	-55%	-76%	-85%	-79%	-77%	-76%	-76%	-77%	-78%	-77%
Closure (Year 20)	36	32	31	102	237	130	81	60	51	45	42	38	74
% Change from Baseline	-77%	-78%	-78%	-54%	-70%	-81%	-77%	-75%	-75%	-76%	-76%	-77%	-74%
Post-Closure	136	127	125	202	925	502	220	158	157	161	147	138	250
% Change from Baseline	-13%	-12%	-11%	-8%	15%	-25%	-37%	-35%	-24%	-14%	-16%	-15%	-13%
Creek 661													
H1 (WQ5)													
Baseline	2.7	2.2	1.7	1.5	70	64	24	11	6.1	4.6	3.8	3.2	16
Construction (Year -2)	2.8	2.2	1.7	1.4	69	63	24	11	6.1	4.6	3.8	3.2	16
% Change from Baseline	0%	0%	0%	-4%	-2%	-1%	-2%	-1%	-1%	0%	0%	0%	-1%
Operations (Year 17)	0.0	0.0	0.0	0.0	68	63	23	8.1	3.7	2.1	1.1	0.2	14
% Change from Baseline	-99%	-100%	-100%	-100%	-2%	-1%	-4%	-24%	-39%	-53%	-71%	-93%	-13%
Closure (Year 20)	0.0	0.0	0.0	0.0	68	63	23	8.1	3.7	2.1	1.1	0.2	14
% Change from Baseline	-99%	-100%	-100%	-100%	-2%	-1%	-4%	-24%	-39%	-53%	-71%	-93%	-13%
Post-Closure	2.7	2.2	1.7	1.5	70	64	24	11	6.1	4.6	3.8	3.2	16
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
1-505659 (upper extents of watershed on tributary potentially impacted by mine footprint)													
Baseline	5.5	3.3	1.9	4.8	214	170	56	24	15	11	9.2	7.0	44
Construction (Year -2)	5.6	3.5	2.1	5.0	224	172	56	24	15	11	9.2	7.1	44
% Change from Baseline	2%	6%	12%	4%	4%	1%	-1%	-2%	-1%	-1%	0%	1%	2%
Operations (Year 17)	7.4	6.0	5.3	8.6	151	98	38	19	14	12	10	8.5	31
% Change from Baseline	34%	81%	175%	78%	-29%	-42%	-32%	-20%	-10%	2%	10%	21%	-28%
Closure (Year 20)	3.5	2.6	2.4	7.8	121	67	26	13	8.8	6.8	5.6	4.3	22
% Change from Baseline	-36%	-20%	25%	62%	-44%	-60%	-53%	-45%	-41%	-40%	-39%	-38%	-48%
Post-Closure	3.8	2.8	2.6	7.7	121	68	27	14	9.2	7.2	6.0	4.6	23
% Change from Baseline	-30%	-15%	34%	59%	-43%	-60%	-53%	-44%	-38%	-36%	-35%	-33%	-48%
1-661 (upstream of confluence with Chedakuz Creek upstream of Tatelkuz Lake)													
Baseline	71	63	60	99	665	481	212	129	98	86	79	74	176
Construction (Year -2)	71	63	60	99	673	482	211	128	98	85	79	74	177
% Change from Baseline	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%
Operations (Year 17)	70	63	60	99	597	406	192	122	95	84	78	73	162
% Change from Baseline	-1%	0%	1%	0%	-10%	-16%	-9%	-5%	-3%	-1%	-2%	-1%	-8%
Closure (Year 20)	67	61	59	100	569	376	181	117	91	80	74	70	154
% Change from Baseline	-5%	-4%	-2%	1%	-14%	-22%	-14%	-9%	-8%	-6%	-6%	-6%	-13%
Post-Closure	69	62	60	101	571	377	182	118	92	82	76	72	155
% Change from Baseline	-3%	-1%	0%	2%	-14%	-22%	-14%	-8%	-7%	-4%	-4%	-3%	-12%
Creek 705													

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
6-705 (WQ16 in upper extents of watershed downstream of fish compensation)													
Baseline	0.1	0.0	0.0	0.0	91	62	19	6.7	3.4	2.2	1.2	0.2	16
Construction (Year -2)	3.4	2.7	2.1	2.4	130	93	29	12	7.5	5.6	4.7	3.8	25
% Change from Baseline	Increase	Increase	Increase	Increase	42%	50%	57%	75%	Increase	Increase	Increase	Increase	59%
Operations (Year 17)	3.4	2.7	2.1	2.4	130	93	29	12	7.5	5.6	4.7	3.8	25
% Change from Baseline	Increase	Increase	Increase	Increase	42%	50%	57%	75%	Increase	Increase	Increase	Increase	59%
Closure (Year 20)	3.4	2.7	2.1	2.4	130	93	29	12	7.5	5.6	4.7	3.8	25
% Change from Baseline	Increase	Increase	Increase	Increase	42%	50%	57%	75%	Increase	Increase	Increase	Increase	59%
Post-Closure	3.4	2.7	2.1	2.4	130	93	29	12	7.5	5.6	4.7	3.8	25
% Change from Baseline	Increase	Increase	Increase	Increase	42%	50%	57%	75%	Increase	Increase	Increase	Increase	59%
4-705 (midpoint of watershed)													
Baseline	0.1	0.0	0.0	0.0	296	179	53	16	5.5	3.3	1.5	0.3	46
Construction (Year -2)	5.0	3.7	3.1	9.0	335	209	63	21	9.9	12	9.8	7.2	57
% Change from Baseline	Increase	Increase	Increase	Increase	13%	17%	20%	31%	82%	Increase	Increase	Increase	24%
Operations (Year 17)	5.0	3.7	3.1	9.0	335	209	63	21	9.9	12	9.8	7.2	57
% Change from Baseline	Increase	Increase	Increase	Increase	13%	17%	20%	31%	82%	Increase	Increase	Increase	24%
Closure (Year 20)	5.0	3.7	3.1	9.0	335	209	63	21	9.9	12	9.8	7.2	57
% Change from Baseline	Increase	Increase	Increase	Increase	13%	17%	20%	31%	82%	Increase	Increase	Increase	24%
Post-Closure	5.0	3.7	3.1	9.0	335	209	63	21	9.9	12	9.8	7.2	57
% Change from Baseline	Increase	Increase	Increase	Increase	13%	17%	20%	31%	82%	Increase	Increase	Increase	24%
H7 (lower extents of watershed)													
Baseline	6.9	1.7	1.5	22	811	459	139	55	33	26	20	13	132
Construction (Year -2)	9.3	6.3	5.7	27	849	489	149	60	37	29	24	16	142
% Change from Baseline	35%	Increase	Increase	23%	5%	6%	8%	9%	11%	14%	17%	24%	7%
Operations (Year 17)	9.3	6.3	5.7	27	849	489	149	60	37	29	24	16	142
% Change from Baseline	35%	Increase	Increase	23%	5%	6%	8%	9%	11%	14%	17%	24%	7%
Closure (Year 20)	9.3	6.3	5.7	27	849	489	149	60	37	29	24	16	142
% Change from Baseline	35%	Increase	Increase	23%	5%	6%	8%	9%	11%	14%	17%	24%	7%
Post-Closure	9.3	6.3	5.7	27	849	489	149	60	37	29	24	16	142
% Change from Baseline	35%	Increase	Increase	23%	5%	6%	8%	9%	11%	14%	17%	24%	7%
1-705 (upstream of confluence of Fawnie Creek)													
Baseline	22	17	16	42	843	481	154	69	46	38	33	26	149
Construction (Year -2)	25	19	18	49	882	511	165	74	50	41	36	29	158
% Change from Baseline	14%	15%	15%	16%	5%	6%	7%	7%	8%	9%	10%	13%	6%
Operations (Year 17)	25	19	18	49	882	511	165	74	50	41	36	29	158
% Change from Baseline	14%	15%	15%	16%	5%	6%	7%	7%	8%	9%	10%	13%	6%
Closure (Year 20)	25	19	18	49	882	511	165	74	50	41	36	29	158
% Change from Baseline	14%	15%	15%	16%	5%	6%	7%	7%	8%	9%	10%	13%	6%
Post-Closure	25	19	18	49	882	511	165	74	50	41	36	29	158

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	**Annual**
% Change from Baseline	14%	15%	15%	16%	5%	6%	7%	7%	8%	9%	10%	13%	6%
Chedakuz Creek													
15-CC (outlet of Tatelkuz Lake)													
Baseline	782	789	892	1,062	2,056	1,990	1,120	713	622	706	949	825	1,042
Construction (Year -2)	782	789	892	1,064	2,066	1,993	1,119	712	622	707	949	825	1,043
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operations (Year 17)	780	788	889	1,050	1,985	1,901	1,097	705	617	700	943	822	1,023
% Change from Baseline	0%	0%	0%	-1%	-3%	-4%	-2%	-1%	-1%	-1%	-1%	0%	-2%
Closure (Year 20)	777	786	889	1,043	1,948	1,861	1,083	700	612	693	936	818	1,012
% Change from Baseline	-1%	0%	0%	-2%	-5%	-6%	-3%	-2%	-2%	-2%	-1%	-1%	-3%
Post-Closure	789	796	900	1,074	2,133	1,953	1,107	710	625	713	952	831	1,049
% Change from Baseline	1%	1%	1%	1%	4%	-2%	-1%	0%	1%	1%	0%	1%	1%
H5 (midway between Davidson Creek and Turtle Creek confluences)													
Baseline	1,175	1,186	1,341	1,596	3,090	2,990	1,683	1,072	934	1,062	1,426	1,240	1,566
Construction (Year -2)	1,148	1,161	1,315	1,547	2,926	2,872	1,628	1,033	902	1,028	1,392	1,212	1,514
% Change from Baseline	-2%	-2%	-2%	-3%	-5%	-4%	-3%	-4%	-3%	-3%	-2%	-2%	-3%
Operations (Year 17)	1,042	1,061	1,213	1,379	2,256	2,216	1,368	869	764	885	1,256	1,097	1,284
% Change from Baseline	-11%	-11%	-10%	-14%	-27%	-26%	-19%	-19%	-18%	-17%	-12%	-11%	-18%
Closure (Year 20)	1,040	1,060	1,214	1,387	2,290	2,212	1,365	867	762	882	1,253	1,095	1,286
% Change from Baseline	-11%	-11%	-9%	-13%	-26%	-26%	-19%	-19%	-18%	-17%	-12%	-12%	-18%
Post-Closure	1,160	1,173	1,328	1,610	3,288	2,757	1,547	983	887	1,043	1,396	1,218	1,533
% Change from Baseline	-1%	-1%	-1%	1%	6%	-8%	-8%	-8%	-5%	-2%	-2%	-2%	-2%

Source: Flows are from **Appendix 5.1.2.1B** (Knight Piésold, 2013d). % change has been determined by AMEC. Where a baseline values of zero results in a division by zero or error for % change or a % change is greater than 100% then this has been noted as an "Increase" and no numeric value is presented.
- There are no flows for Node 11-DC as this drainage area is directed towards the 705 Watershed. There are no flows for Node H2 during operations and closure as the fresh water supply system does not exist for this scenario. During post-closure Node H2 does not exist, therefore surface water flows for the TSF spillway plunge pool are used.

Note: L/s = litre per second; % = percent.

Table 2: Estimated 1:5–year Wet Monthly and Annual Surface Water Flow Changes in Turtle Creek, Davidson Creek, Creek 661, Creek 705, and Chedakuz Creek from the Project for Construction (Year -2), Operations (Year 17), Closure (Year 20), and Post-closure

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
Turtle Creek													
H3 (WQ11 in upper watershed on tributary Creek 700)													
Baseline	8.8	6.2	6.3	70	275	263	68	28	24	42	39	15	70
Construction (Year -2)	8.8	6.2	6.3	70	275	263	68	28	24	42	39	15	70
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operations (Year 17)	8.8	6.2	6.3	70	275	263	68	28	24	42	39	15	70
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Closure (Year 20)	8.8	6.2	6.3	70	275	263	68	28	24	42	39	15	70
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Post-Closure	8.8	6.2	6.3	70	275	263	68	28	24	42	39	15	70
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
H6 (midpoint of watershed)													
Baseline	142	126	133	481	897	749	272	184	170	221	222	162	313
Construction (Year -2)	142	126	133	481	897	749	272	184	170	221	222	162	313
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operations (Year 17)	142	126	133	481	897	749	272	184	170	221	222	162	313
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Closure (Year 20)	142	126	133	481	897	749	272	184	170	221	222	162	313
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Post-Closure	142	126	133	481	897	749	272	184	170	221	222	162	313
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
1-TC (WQ 13 upstream of confluence with Chedakuz Creek)													
Baseline	177	159	166	534	958	801	313	222	206	260	262	200	355
Construction (Year -2)	177	159	166	534	958	801	313	222	206	260	262	200	355
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operations (Year 17)	177	159	166	534	958	801	313	222	206	260	262	200	355
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Closure (Year 20)	177	159	166	534	958	801	313	222	206	260	262	200	355
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Post-Closure	177	159	166	534	958	801	313	222	206	260	262	200	355
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Davidson Creek													
11-DC (upper extents of watershed upstream of proposed TSF)													
Baseline	0.0	0.0	0.0	20	63	66	16	3.7	1.5	0.7	0.2	0.0	14
Construction (Year -2)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
Operations (Year 17)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
Closure (Year 20)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
Post-Closure	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
H2 (WQ10 midpoint of watershed immediately downstream of proposed TSF)													
Baseline	156	145	136	280	1,036	1,116	382	215	190	203	198	169	352
Construction (Year -2)	119	110	103	198	782	848	299	168	146	154	149	129	267
% Change from Baseline	-24%	-24%	-24%	-29%	-24%	-24%	-22%	-22%	-23%	-24%	-24%	-24%	-24%
Operations (Year 17)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
Closure (Year 20)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
Post-Closure	132	121	117	256	1,211	895	275	149	157	195	165	144	318
% Change from Baseline	-16%	-16%	-14%	-9%	17%	-20%	-28%	-31%	-17%	-4%	-16%	-15%	-10%
H4B (WQ26)													
Baseline	205	184	176	411	1,214	1,257	470	281	244	266	267	228	433
Construction (Year -2)	169	151	145	329	960	990	386	234	202	218	219	189	349
% Change from Baseline	-17%	-18%	-18%	-20%	-21%	-21%	-18%	-17%	-17%	-18%	-18%	-17%	-19%
Operations (Year 17)	35	27	33	125	165	122	63	44	36	42	49	43	65
% Change from Baseline	-83%	-85%	-81%	-70%	-86%	-90%	-87%	-84%	-85%	-84%	-82%	-81%	-85%
Closure (Year 20)	36	19	33	147	240	182	79	49	40	50	55	44	81
% Change from Baseline	-82%	-90%	-81%	-64%	-80%	-86%	-83%	-82%	-84%	-81%	-79%	-81%	-81%
Post-Closure	169	152	150	416	1,345	991	336	196	195	237	216	189	383
% Change from Baseline	-17%	-18%	-14%	1%	11%	-21%	-28%	-30%	-20%	-11%	-19%	-17%	-12%
4-DC													
Baseline	214	191	192	504	1,328	1,316	491	292	254	290	295	243	467
Construction (Year -2)	176	156	160	423	1,073	1,051	408	244	210	233	247	203	382
% Change from Baseline	-18%	-18%	-17%	-16%	-19%	-20%	-17%	-16%	-17%	-20%	-16%	-16%	-18%
Operations (Year 17)	42	53	50	225	286	183	85	55	46	65	91	58	103
% Change from Baseline	-80%	-72%	-74%	-55%	-78%	-86%	-83%	-81%	-82%	-78%	-69%	-76%	-78%
Closure (Year 20)	45	27	48	226	360	243	101	60	50	72	81	60	114
% Change from Baseline	-79%	-86%	-75%	-55%	-73%	-82%	-79%	-79%	-80%	-75%	-72%	-75%	-76%
Post-Closure	175	156	168	514	1,456	1,051	358	206	204	271	252	204	418
% Change from Baseline	-18%	-19%	-13%	2%	10%	-20%	-27%	-29%	-19%	-6%	-14%	-16%	-11%
1-DC (WQ7 upstream of confluence with Chedakuz Creek)													
Baseline	246	223	225	557	1,384	1,361	527	326	287	324	330	277	506
Construction (Year -2)	211	189	194	475	1,130	1,097	444	278	245	276	283	238	422

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
% Change from Baseline	-14%	-15%	-14%	-15%	-18%	-19%	-16%	-15%	-15%	-15%	-14%	-14%	-17%
Operations (Year 17)	75	65	79	268	342	231	122	88	78	100	112	90	137
% Change from Baseline	-69%	-71%	-65%	-52%	-75%	-83%	-77%	-73%	-73%	-69%	-66%	-67%	-73%
Closure (Year 20)	77	66	80	291	416	290	138	94	82	108	119	93	154
% Change from Baseline	-69%	-71%	-64%	-48%	-70%	-79%	-74%	-71%	-71%	-67%	-64%	-67%	-69%
Post-Closure	211	190	200	568	1,512	1,096	394	240	237	306	288	238	457
% Change from Baseline	-14%	-15%	-11%	2%	9%	-19%	-25%	-26%	-17%	-6%	-13%	-14%	-10%
Creek 661													
H1 (WQ5)													
Baseline	7.6	5.7	4.6	19	162	175	51	22	15	16	15	11	42
Construction (Year -2)	7.6	5.6	4.6	21	158	171	50	21	14	15	15	11	41
% Change from Baseline	-1%	0%	0%	11%	-2%	-2%	-2%	-2%	-2%	-2%	-2%	-1%	-2%
Operations (Year 17)	7.1	3.9	2.5	38	160	174	50	22	14	14	13	12	42
% Change from Baseline	-8%	-32%	-46%	105%	-1%	0%	-1%	1%	-3%	-13%	-16%	9%	2%
Closure (Year 20)	7.1	3.9	2.5	38	160	174	50	22	14	14	13	12	42
% Change from Baseline	-8%	-32%	-46%	105%	-1%	0%	-1%	1%	-3%	-13%	-16%	9%	2%
Post-Closure	7.6	5.7	4.6	19	162	175	51	22	15	16	15	11	42
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
1-505659 (upper extents of watershed on tributary potentially impacted by mine footprint)													
Baseline	18	14	12	81	356	372	117	47	35	51	47	25	98
Construction (Year -2)	18	14	12	84	372	386	117	46	35	52	48	25	101
% Change from Baseline	-1%	-1%	-1%	4%	5%	4%	0%	-1%	0%	2%	1%	-1%	3%
Operations (Year 17)	15	11	9	71	267	236	79	36	29	43	40	22	71
% Change from Baseline	-20%	-24%	-27%	-12%	-25%	-37%	-32%	-24%	-18%	-17%	-16%	-15%	-27%
Closure (Year 20)	12	9	9	60	209	151	53	24	19	29	27	16	52
% Change from Baseline	-34%	-33%	-23%	-26%	-41%	-60%	-55%	-48%	-45%	-44%	-42%	-37%	-47%
Post-Closure	13	10	10	64	210	151	53	25	20	29	28	16	52
% Change from Baseline	-31%	-29%	-19%	-21%	-41%	-59%	-55%	-47%	-43%	-43%	-41%	-35%	-47%
1-661 (upstream of confluence with Chedakuz Creek upstream of Tatelkuz Lake)													
Baseline	121	105	103	424	1,184	1,186	393	192	163	230	226	148	373
Construction (Year -2)	120	105	103	427	1,197	1,196	392	192	163	231	226	147	375
% Change from Baseline	0%	0%	0%	1%	1%	1%	0%	0%	0%	0%	0%	0%	1%
Operations (Year 17)	115	100	98	407	1,097	1,050	354	181	156	218	215	142	344
% Change from Baseline	-4%	-5%	-5%	-4%	-7%	-11%	-10%	-6%	-5%	-5%	-5%	-4%	-8%
Closure (Year 20)	114	99	99	396	1,039	966	329	170	147	205	203	137	325
% Change from Baseline	-6%	-6%	-4%	-7%	-12%	-19%	-16%	-12%	-10%	-11%	-10%	-7%	-13%
Post-Closure	115	101	101	398	1,041	966	329	170	148	206	205	138	327
% Change from Baseline	-5%	-4%	-2%	-6%	-12%	-19%	-16%	-12%	-9%	-10%	-9%	-6%	-12%
Creek 705													

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
6-705 (WQ16 in upper extents of watershed downstream of fish compensation)													
Baseline	4.0	2.2	1.7	37	165	87	38	16	12	17	12	7.1	33
Construction (Year -2)	7.8	6.0	5.2	35	230	154	57	24	18	25	22	11	50
% Change from Baseline	96%	Increase	Increase	-5%	39%	77%	49%	47%	45%	48%	82%	57%	49%
Operations (Year 17)	7.8	6.0	5.2	35	230	154	57	24	18	25	22	11	50
% Change from Baseline	96%	Increase	Increase	-5%	39%	77%	49%	47%	45%	48%	82%	57%	49%
Closure (Year 20)	7.8	6.0	5.2	35	230	154	57	24	18	25	22	11	50
% Change from Baseline	96%	Increase	Increase	-5%	39%	77%	49%	47%	45%	48%	82%	57%	49%
Post-Closure	7.8	6.0	5.2	35	230	154	57	24	18	25	22	11	50
% Change from Baseline	96%	Increase	Increase	-5%	39%	77%	49%	47%	45%	48%	82%	57%	49%
4-705 (midpoint of watershed)													
Baseline	9.1	3.1	2.3	161	564	294	112	46	30	50	25	24	110
Construction (Year -2)	12	6.7	5.8	87	628	361	131	54	40	59	53	22	122
% Change from Baseline	31%	Increase	Increase	-46%	11%	23%	17%	17%	31%	18%	Increase	-10%	11%
Operations (Year 17)	12	6.7	5.8	87	628	361	131	54	40	59	53	22	122
% Change from Baseline	31%	Increase	Increase	-46%	11%	23%	17%	17%	31%	18%	Increase	-10%	11%
Closure (Year 20)	12	6.7	5.8	87	628	361	131	54	40	59	53	22	122
% Change from Baseline	31%	Increase	Increase	-46%	11%	23%	17%	17%	31%	18%	Increase	-10%	11%
Post-Closure	12	6.7	5.8	87	628	361	131	54	40	59	53	22	122
% Change from Baseline	31%	Increase	Increase	-46%	11%	23%	17%	17%	31%	18%	Increase	-10%	11%
H7 (lower extents of watershed)													
Baseline	41	28	28	249	1,512	868	294	134	110	180	166	68	306
Construction (Year -2)	45	33	30	345	1,576	936	313	142	116	189	174	75	331
% Change from Baseline	11%	18%	9%	38%	4%	8%	6%	6%	6%	5%	5%	12%	8%
Operations (Year 17)	45	33	30	345	1,576	936	313	142	116	189	174	75	331
% Change from Baseline	11%	18%	9%	38%	4%	8%	6%	6%	6%	5%	5%	12%	8%
Closure (Year 20)	45	33	30	345	1,576	936	313	142	116	189	174	75	331
% Change from Baseline	11%	18%	9%	38%	4%	8%	6%	6%	6%	5%	5%	12%	8%
Post-Closure	45	33	30	345	1,576	936	313	142	116	189	174	75	331
% Change from Baseline	11%	18%	9%	38%	4%	8%	6%	6%	6%	5%	5%	12%	8%
1-705 (upstream of confluence of Fawnie Creek)													
Baseline	58	42	43	334	1,555	895	313	151	128	204	190	88	333
Construction (Year -2)	62	46	46	407	1,620	963	332	159	134	212	197	93	356
% Change from Baseline	7%	10%	8%	22%	4%	8%	6%	5%	5%	4%	4%	6%	7%
Operations (Year 17)	62	46	46	407	1,620	963	332	159	134	212	197	93	356
% Change from Baseline	7%	10%	8%	22%	4%	8%	6%	5%	5%	4%	4%	6%	7%
Closure (Year 20)	62	46	46	407	1,620	963	332	159	134	212	197	93	356
% Change from Baseline	7%	10%	8%	22%	4%	8%	6%	5%	5%	4%	4%	6%	7%
Post-Closure	62	46	46	407	1,620	963	332	159	134	212	197	93	356

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	**Annual**
% Change from Baseline	7%	10%	8%	22%	4%	8%	6%	5%	5%	4%	4%	6%	7%
Chedakuz Creek													
15-CC (outlet of Tatelkuz Lake)													
Baseline	1,117	1,087	1,236	2,654	5,908	5,355	2,335	1,369	1,472	1,433	1,674	1,288	2,244
Construction (Year -2)	1,117	1,087	1,236	2,657	5,920	5,364	2,334	1,368	1,472	1,434	1,674	1,288	2,246
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operations (Year 17)	1,112	1,083	1,234	2,640	5,816	5,225	2,298	1,358	1,466	1,422	1,665	1,284	2,217
% Change from Baseline	0%	0%	0%	-1%	-2%	-2%	-2%	-1%	0%	-1%	-1%	0%	-1%
Closure (Year 20)	1,111	1,082	1,234	2,630	5,765	5,146	2,274	1,347	1,457	1,410	1,655	1,279	2,199
% Change from Baseline	-1%	0%	0%	-1%	-2%	-4%	-3%	-2%	-1%	-2%	-1%	-1%	-2%
Post-Closure	1,126	1,096	1,246	2,678	6,006	5,314	2,314	1,365	1,477	1,439	1,676	1,297	2,253
% Change from Baseline	1%	1%	1%	1%	2%	-1%	-1%	0%	0%	0%	0%	1%	0%
H5 (midway between Davidson Creek and Turtle Creek confluences)													
Baseline	1,678	1,634	1,858	3,988	8,878	8,047	3,509	2,057	2,213	2,153	2,516	1,936	3,372
Construction (Year -2)	1,644	1,603	1,830	3,918	8,669	7,811	3,427	2,009	2,168	2,109	2,473	1,899	3,297
% Change from Baseline	-2%	-2%	-2%	-2%	-2%	-3%	-2%	-2%	-2%	-2%	-2%	-2%	-2%
Operations (Year 17)	1,511	1,482	1,726	3,709	7,835	6,830	3,059	1,806	1,981	1,929	2,310	1,757	2,995
% Change from Baseline	0	0	0	0	0	0	0	0	0	0	0	0	0
Closure (Year 20)	1,511	1,483	1,727	3,718	7,872	6,825	3,055	1,802	1,977	1,926	2,307	1,755	2,997
% Change from Baseline	-10%	-9%	-7%	-7%	-11%	-15%	-13%	-12%	-11%	-11%	-8%	-9%	-11%
Post-Closure	1,654	1,614	1,848	4,027	9,124	7,751	3,337	1,962	2,160	2,140	2,480	1,908	3,334
% Change from Baseline	-1%	-1%	-1%	1%	3%	-4%	-5%	-5%	-2%	-1%	-1%	-1%	-1%

Source: Flows are from **Appendix 5.1.2.1B** (Knight Piésold, 2013d). % change has been determined by AMEC. Where a % change is greater than 100% then this has been noted as an "Increase" and no numeric value is presented.
- There are no flows for Node 11-DC as this drainage area is directed towards the 705 Watershed. There are no flows for Node H2 during operations and closure as the fresh water supply system does not exist for this scenario. During post-closure Node H2 does not exist; therefore surface water flows for the TSF spillway plunge pool are used.

Note: L/s = litre per second; % = percent.

Table 3: Estimated 1:10–year Dry Monthly and Annual Surface Water Flow Changes in Turtle Creek, Davidson Creek, Creek 661, Creek 705, and Chedakuz Creek from the Project for Construction (Year -2), Operations (Year 17), Closure (Year 20), and Post-closure

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
Turtle Creek													
H3 (WQ11 in upper watershed on tributary Creek 700)													
Baseline	2.3	1.7	1.4	2.8	153	79	22	8.4	5.0	3.5	3.0	2.6	24
Construction (Year -2)	2.3	1.7	1.4	2.8	153	79	22	8.4	5.0	3.5	3.0	2.6	24
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operations (Year 17)	2.3	1.7	1.4	2.8	153	79	22	8.4	5.0	3.5	3.0	2.6	24
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Closure (Year 20)	2.3	1.7	1.4	2.8	153	79	22	8.4	5.0	3.5	3.0	2.6	24
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Post-Closure	2.3	1.7	1.4	2.8	153	79	22	8.4	5.0	3.5	3.0	2.6	24
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
H6 (midpoint of watershed)													
Baseline	69	61	55	106	439	248	156	121	102	82	75	73	132
Construction (Year -2)	69	61	55	106	439	248	156	121	102	82	75	73	132
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operations (Year 17)	69	61	55	106	439	248	156	121	102	82	75	73	132
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Closure (Year 20)	69	61	55	106	439	248	156	121	102	82	75	73	132
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Post-Closure	69	61	55	106	439	248	156	121	102	82	75	73	132
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
1-TC (WQ 13 upstream of confluence with Chedakuz Creek)													
Baseline	92	82	77	134	483	284	190	152	131	108	99	96	161
Construction (Year -2)	92	82	77	134	483	284	190	152	131	108	99	96	161
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operations (Year 17)	92	82	77	134	483	284	190	152	131	108	99	96	161
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Closure (Year 20)	92	82	77	134	483	284	190	152	131	108	99	96	161
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Post-Closure	92	82	77	134	483	284	190	152	131	108	99	96	161
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Davidson Creek													
11-DC (upper extents of watershed upstream of proposed TSF)													
Baseline	0.0	0.0	0.0	0.0	29	19	4.3	0.9	0.2	0.0	0.0	0.0	4.4
Construction (Year -2)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
Operations (Year 17)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
Closure (Year 20)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
Post-Closure	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
H2 (WQ10 midpoint of watershed immediately downstream of proposed TSF)													
Baseline	98	91	84	60	491	434	224	153	124	110	102	99	98
Construction (Year -2)	74	69	64	46	385	376	180	119	96	85	79	76	74
% Change from Baseline	-24%	-24%	-25%	-23%	-22%	-14%	-20%	-22%	-23%	-23%	-23%	-24%	-24%
Operations (Year 17)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
Closure (Year 20)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
Post-Closure	86	82	78	74	626	307	118	98	88	97	90	84	86
% Change from Baseline	-12%	-9%	-7%	24%	28%	-29%	-47%	-36%	-29%	-12%	-12%	-15%	-12%
H4B (WQ26)													
Baseline	114	104	101	109	597	507	275	194	159	119	108	117	209
Construction (Year -2)	91	82	80	94	491	446	232	160	131	113	101	94	176
% Change from Baseline	-20%	-20%	-21%	-13%	-18%	-12%	-16%	-17%	-17%	-5%	-6%	-19%	-15%
Operations (Year 17)	0.7	0.4	0.4	22	75	41	27	19	14	10	7.1	4.2	18
% Change from Baseline	-99%	-100%	-100%	-80%	-87%	-92%	-90%	-90%	-91%	-91%	-93%	-96%	-91%
Closure (Year 20)	1.5	1.1	0.9	22	117	61	34	22	15	8.1	5.9	5.2	25
% Change from Baseline	-99%	-99%	-99%	-79%	-80%	-88%	-88%	-89%	-90%	-93%	-94%	-96%	-88%
Post-Closure	96	90	88	108	713	359	152	108	110	116	103	95	178
% Change from Baseline	-16%	-13%	-12%	-1%	19%	-29%	-45%	-44%	-31%	-3%	-4%	-19%	-15%
4-DC													
Baseline	115	104	101	143	652	522	281	197	160	136	123	118	221
Construction (Year -2)	94	85	81	127	546	460	238	164	134	117	114	108	189
% Change from Baseline	-18%	-19%	-20%	-11%	-16%	-12%	-15%	-17%	-16%	-14%	-8%	-8%	-15%
Operations (Year 17)	4.2	0.5	0.8	44	121	52	33	22	15	15	11	4.7	27
% Change from Baseline	-96%	-99%	-99%	-69%	-81%	-90%	-88%	-89%	-90%	-89%	-91%	-96%	-88%
Closure (Year 20)	1.7	1.2	1.4	32	164	73	39	24	17	12	8.6	5.8	32
% Change from Baseline	-99%	-99%	-99%	-78%	-75%	-86%	-86%	-88%	-89%	-91%	-93%	-95%	-86%
Post-Closure	99	93	102	135	771	374	158	112	113	128	116	112	193
% Change from Baseline	-14%	-11%	1%	-5%	18%	-28%	-44%	-43%	-30%	-6%	-6%	-4%	-13%
1-DC (WQ7 upstream of confluence with Chedakuz Creek)													
Baseline	140	128	124	172	694	557	313	226	188	162	148	142	250
Construction (Year -2)	117	107	103	156	588	494	269	193	160	138	125	119	214

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
% Change from Baseline	-16%	-17%	-17%	-9%	-15%	-11%	-14%	-15%	-15%	-15%	-15%	-16%	-14%
Operations (Year 17)	29	26	23	76	162	82	63	51	43	36	31	29	54
% Change from Baseline	-80%	-80%	-81%	-56%	-77%	-85%	-80%	-77%	-77%	-78%	-79%	-80%	-78%
Closure (Year 20)	29	26	24	77	205	105	70	54	45	36	32	30	61
% Change from Baseline	-79%	-80%	-81%	-55%	-70%	-81%	-78%	-76%	-76%	-78%	-79%	-79%	-76%
Post-Closure	122	114	111	164	813	409	189	141	140	136	123	120	215
% Change from Baseline	-13%	-11%	-11%	-5%	17%	-27%	-40%	-38%	-25%	-16%	-17%	-16%	-14%
Creek 661													
H1 (WQ5)													
Baseline	2.1	1.7	1.3	1.0	56	49	20	8.8	4.9	3.3	2.6	2.3	13
Construction (Year -2)	2.1	1.7	1.3	0.7	55	48	19	8.7	4.8	3.3	2.6	2.3	13
% Change from Baseline	0%	0%	0%	-29%	-1%	-1%	-2%	-1%	-1%	0%	1%	1%	-1%
Operations (Year 17)	0.0	0.0	0.0	0.0	54	48	19	6.2	2.6	1.4	0.6	0.0	11
% Change from Baseline	-100%	-100%	-100%	-100%	-3%	-2%	-5%	-30%	-46%	-59%	-78%	-99%	-13%
Closure (Year 20)	0.0	0.0	0.0	0.0	54	48	19	6.2	2.6	1.4	0.6	0.0	11
% Change from Baseline	-100%	-100%	-100%	-100%	-3%	-2%	-5%	-30%	-46%	-59%	-78%	-99%	-13%
Post-Closure	2.1	1.7	1.3	1.0	56	49	20	8.8	4.9	3.3	2.6	2.3	13
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
1-505659 (upper extents of watershed on tributary potentially impacted by mine footprint)													
Baseline	4.0	2.3	1.2	2.3	188	138	47	20	12	7.6	6.0	5.0	36
Construction (Year -2)	4.1	2.4	1.4	2.4	196	139	46	20	12	7.5	6.0	5.1	37
% Change from Baseline	3%	8%	16%	4%	4%	1%	-1%	-2%	-2%	-1%	0%	2%	2%
Operations (Year 17)	6.2	5.2	4.6	4.9	130	77	31	16	11	8.2	7.1	6.6	26
% Change from Baseline	54%	Increase	Increase	Increase	-31%	-44%	-32%	-19%	-8%	8%	19%	33%	-28%
Closure (Year 20)	2.5	1.9	1.7	4.5	105	55	22	11	7.2	4.7	3.7	3.1	18
% Change from Baseline	-37%	-17%	42%	98%	-44%	-60%	-53%	-45%	-40%	-39%	-38%	-39%	-49%
Post-Closure	2.8	2.0	1.8	4.4	105	55	22	12	7.6	5.0	4.0	3.3	19
% Change from Baseline	-30%	-11%	54%	92%	-44%	-60%	-52%	-43%	-37%	-34%	-34%	-33%	-48%
1-661 (upstream of confluence with Chedakuz Creek upstream of Tatelkuz Lake)													
Baseline	62	55	52	67	572	379	180	116	86	66	60	62	146
Construction (Year -2)	62	55	52	67	579	380	179	116	86	66	60	62	147
% Change from Baseline	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%
Operations (Year 17)	62	56	53	68	509	316	164	110	84	66	60	62	134
% Change from Baseline	0%	1%	2%	1%	-11%	-17%	-9%	-5%	-3%	0%	-1%	-1%	-8%
Closure (Year 20)	58	53	51	69	486	293	155	106	80	63	57	59	127
% Change from Baseline	-5%	-3%	-2%	3%	-15%	-23%	-14%	-9%	-8%	-5%	-5%	-6%	-13%
Post-Closure	60	55	52	70	487	294	155	108	81	64	59	61	129
% Change from Baseline	-2%	-1%	0%	4%	-15%	-22%	-14%	-7%	-6%	-3%	-2%	-2%	-12%
Creek 705													

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
6-705 (WQ16 in upper extents of watershed downstream of fish compensation)													
Baseline	0.0	0.0	0.0	0.0	78	57	15	5.4	2.5	1.3	0.8	0.0	13
Construction (Year -2)	2.7	2.2	1.6	1.2	111	81	24	9.8	5.7	3.8	3.2	2.9	21
% Change from Baseline	Increase	Increase	Increase	Increase	42%	43%	59%	83%	Increase	Increase	Increase	Increase	56%
Operations (Year 17)	2.7	2.2	1.6	1.2	111	81	24	9.8	5.7	3.8	3.2	2.9	21
% Change from Baseline	Increase	Increase	Increase	Increase	42%	43%	59%	83%	Increase	Increase	Increase	Increase	56%
Closure (Year 20)	2.7	2.2	1.6	1.2	111	81	24	9.8	5.7	3.8	3.2	2.9	21
% Change from Baseline	Increase	Increase	Increase	Increase	42%	43%	59%	83%	Increase	Increase	Increase	Increase	56%
Post-Closure	2.7	2.2	1.6	1.2	111	81	24	9.8	5.7	3.8	3.2	2.9	21
% Change from Baseline	Increase	Increase	Increase	Increase	42%	43%	59%	83%	Increase	Increase	Increase	Increase	56%
4-705 (midpoint of watershed)													
Baseline	0.0	0.0	0.0	0.0	250	157	43	12	4.3	1.6	0.9	0.0	39
Construction (Year -2)	3.7	2.7	2.2	4.6	284	181	52	16	6.9	7.6	6.1	5.1	48
% Change from Baseline	Increase	Increase	Increase	Increase	14%	15%	20%	36%	62%	Increase	Increase	Increase	22%
Operations (Year 17)	3.7	2.7	2.2	4.6	284	181	52	16	6.9	7.6	6.1	5.1	48
% Change from Baseline	Increase	Increase	Increase	Increase	14%	15%	20%	36%	62%	Increase	Increase	Increase	22%
Closure (Year 20)	3.7	2.7	2.2	4.6	284	181	52	16	6.9	7.6	6.1	5.1	48
% Change from Baseline	Increase	Increase	Increase	Increase	14%	15%	20%	36%	62%	Increase	Increase	Increase	22%
Post-Closure	3.7	2.7	2.2	4.6	284	181	52	16	6.9	7.6	6.1	5.1	48
% Change from Baseline	Increase	Increase	Increase	Increase	14%	15%	20%	36%	62%	Increase	Increase	Increase	22%
H7 (lower extents of watershed)													
Baseline	4.0	0.3	0.2	15	688	388	114	44	24	15	11	9	109
Construction (Year -2)	6.2	4.1	3.7	14	722	412	123	48	28	18	14	11	117
% Change from Baseline	56%	Increase	Increase	-8%	5%	6%	8%	10%	13%	16%	21%	27%	7%
Operations (Year 17)	6.2	4.1	3.7	14	722	412	123	48	28	18	14	11	117
% Change from Baseline	56%	Increase	Increase	-8%	5%	6%	8%	10%	13%	16%	21%	27%	7%
Closure (Year 20)	6.2	4.1	3.7	14	722	412	123	48	28	18	14	11	117
% Change from Baseline	56%	Increase	Increase	-8%	5%	6%	8%	10%	13%	16%	21%	27%	7%
Post-Closure	6.2	4.1	3.7	14	722	412	123	48	28	18	14	11	117
% Change from Baseline	56%	Increase	Increase	-8%	5%	6%	8%	10%	13%	16%	21%	27%	7%
1-705 (upstream of confluence of Fawnie Creek)													
Baseline	17	13	12	31	718	409	128	56	35	24	21	19	124
Construction (Year -2)	20	16	14	28	752	432	137	60	38	27	23	21	131
% Change from Baseline	16%	17%	17%	-9%	5%	6%	7%	8%	9%	10%	12%	14%	6%
Operations (Year 17)	20	16	14	28	752	432	137	60	38	27	23	21	131
% Change from Baseline	16%	17%	17%	-9%	5%	6%	7%	8%	9%	10%	12%	14%	6%
Closure (Year 20)	20	16	14	28	752	432	137	60	38	27	23	21	131
% Change from Baseline	16%	17%	17%	-9%	5%	6%	7%	8%	9%	10%	12%	14%	6%
Post-Closure	20	16	14	28	752	432	137	60	38	27	23	21	131

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	**Annual**
% Change from Baseline	16%	17%	17%	-9%	5%	6%	7%	8%	9%	10%	12%	14%	6%
Chedakuz Creek													
15-CC (outlet of Tatelkuz Lake)													
Baseline	712	726	819	835	1,558	1,533	923	601	496	587	817	734	862
Construction (Year -2)	712	726	819	837	1,566	1,535	922	600	495	587	817	733	863
% Change from Baseline	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%
Operations (Year 17)	711	724	816	824	1,496	1,457	903	594	491	581	812	731	845
% Change from Baseline	0%	0%	0%	-1%	-4%	-5%	-2%	-1%	-1%	-1%	-1%	0%	-2%
Closure (Year 20)	708	722	816	818	1,464	1,424	891	589	487	575	805	728	836
% Change from Baseline	-1%	0%	0%	-2%	-6%	-7%	-3%	-2%	-2%	-2%	-1%	-1%	-3%
Post-Closure	718	732	826	845	1,624	1,501	911	598	498	593	821	739	867
% Change from Baseline	1%	1%	1%	1%	4%	-2%	-1%	0%	1%	1%	0%	1%	1%
H5 (midway between Davidson Creek and Turtle Creek confluences)													
Baseline	1,070	1,090	1,230	1,255	2,341	2,304	1,387	903	745	881	1,228	1,102	1,295
Construction (Year -2)	1,045	1,067	1,205	1,212	2,198	2,207	1,338	867	716	851	1,197	1,077	1,248
% Change from Baseline	-2%	-2%	-2%	-3%	-6%	-4%	-4%	-4%	-4%	-4%	-3%	-2%	-4%
Operations (Year 17)	945	971	1,106	1,063	1,626	1,648	1,107	716	595	721	1,070	970	1,045
% Change from Baseline	-12%	-11%	-10%	-15%	-31%	-28%	-20%	-21%	-20%	-18%	-13%	-12%	-19%
Closure (Year 20)	943	970	1,107	1,070	1,655	1,644	1,104	715	593	719	1,067	967	1,046
% Change from Baseline	-12%	-11%	-10%	-15%	-29%	-29%	-20%	-21%	-20%	-18%	-13%	-12%	-19%
Post-Closure	1,057	1,079	1,217	1,265	2,513	2,100	1,264	819	702	863	1,200	1,083	1,264
% Change from Baseline	-1%	-1%	-1%	1%	7%	-9%	-9%	-9%	-6%	-2%	-2%	-2%	-2%

Source: Flows are from **Appendix 5.1.2.1B** (Knight Piésold, 2013d). % change has been determined by AMEC. Where a baseline values of zero results in a division by zero or error for % change or a % change is greater than 100% then this has been noted as an "Increase" and no numeric value is presented.
- There are no flows for Node 11-DC as this drainage area is directed towards the 705 Watershed. There are no flows for Node H2 during operations and closure as the freshwater supply system does not exist for this scenario. During post-closure Node H2 does not exist; therefore surface water flows for the TSF spillway plunge pool are used.

Note: L/s = litre per second; % = percent.

Table 4: Estimated 1:10–year Wet Monthly and Annual Surface Water Flow Changes in Turtle Creek, Davidson Creek, Creek 661, Creek 705, and Chedakuz Creek from the Project for Construction (Year -2), Operations (Year 17), Closure (Year 20), and Post-closure

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
Turtle Creek													
H3 (WQ11 in upper watershed on tributary Creek 700)													
Baseline	12	8.1	8.6	138	310	338	86	37	34	71	66	21	94
Construction (Year -2)	12	8.1	8.6	138	310	338	86	37	34	71	66	21	94
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operations (Year 17)	12	8.1	8.6	138	310	338	86	37	34	71	66	21	94
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Closure (Year 20)	12	8.1	8.6	138	310	338	86	37	34	71	66	21	94
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Post-Closure	12	8.1	8.6	138	310	338	86	37	34	71	66	21	94
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
H6 (midpoint of watershed)													
Baseline	165	146	159	659	1,041	943	305	201	189	272	278	192	379
Construction (Year -2)	165	146	159	659	1,041	943	305	201	189	272	278	192	379
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operations (Year 17)	165	146	159	659	1,041	943	305	201	189	272	278	192	379
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Closure (Year 20)	165	146	159	659	1,041	943	305	201	189	272	278	192	379
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Post-Closure	165	146	159	659	1,041	943	305	201	189	272	278	192	379
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
1-TC (WQ 13 upstream of confluence with Chedakuz Creek)													
Baseline	204	182	196	711	1,104	995	347	241	227	313	322	233	423
Construction (Year -2)	204	182	196	711	1,104	995	347	241	227	313	322	233	423
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operations (Year 17)	204	182	196	711	1,104	995	347	241	227	313	322	233	423
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Closure (Year 20)	204	182	196	711	1,104	995	347	241	227	313	322	233	423
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Post-Closure	204	182	196	711	1,104	995	347	241	227	313	322	233	423
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Davidson Creek													
11-DC (upper extents of watershed upstream of proposed TSF)													
Baseline	0.0	0.0	0.0	29	74	86	21	5.0	2.3	2.4	0.6	0.1	18
Construction (Year -2)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
Operations (Year 17)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
Closure (Year 20)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
Post-Closure	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
H2 (WQ10 midpoint of watershed immediately downstream of proposed TSF)													
Baseline	172	159	150	385	1,210	1,358	427	231	207	231	227	189	412
Construction (Year -2)	131	121	113	269	907	1,005	333	180	160	174	170	144	309
% Change from Baseline	-24%	-24%	-24%	-30%	-25%	-26%	-22%	-22%	-23%	-25%	-25%	-24%	-25%
Operations (Year 17)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
Closure (Year 20)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
Post-Closure	144	131	127	458	1,390	1,118	328	169	181	226	190	161	385
% Change from Baseline	-16%	-17%	-15%	19%	15%	-18%	-23%	-27%	-13%	-2%	-16%	-15%	-7%
H4B (WQ26)													
Baseline	231	208	197	542	1407	1519	525	304	267	305	313	262	507
Construction (Year -2)	192	171	164	427	1104	1169	430	253	221	250	258	218	405
% Change from Baseline	-17%	-18%	-17%	-21%	-22%	-23%	-18%	-17%	-17%	-18%	-18%	-17%	-20%
Operations (Year 17)	44	35	40	179	195	154	75	52	43	57	73	69	85
% Change from Baseline	-81%	-83%	-80%	-67%	-86%	-90%	-86%	-83%	-84%	-81%	-77%	-74%	-83%
Closure (Year 20)	46	36	43	218	279	228	94	59	48	69	83	69	106
% Change from Baseline	-80%	-83%	-78%	-60%	-80%	-85%	-82%	-81%	-82%	-77%	-74%	-74%	-79%
Post-Closure	190	169	168	610	1535	1225	397	221	220	276	252	219	457
% Change from Baseline	-18%	-19%	-15%	13%	9%	-19%	-24%	-27%	-17%	-9%	-19%	-16%	-10%
4-DC													
Baseline	243	217	220	656	1,539	1,595	551	316	279	339	353	282	549
Construction (Year -2)	204	181	187	543	1,235	1,248	456	266	232	270	298	238	447
% Change from Baseline	-16%	-17%	-15%	-17%	-20%	-22%	-17%	-16%	-17%	-20%	-16%	-15%	-19%
Operations (Year 17)	57	64	65	284	342	238	104	66	57	87	118	99	132
% Change from Baseline	-77%	-71%	-71%	-57%	-78%	-85%	-81%	-79%	-80%	-74%	-67%	-65%	-76%
Closure (Year 20)	57	45	71	316	423	311	123	73	62	106	130	97	151
% Change from Baseline	-76%	-79%	-68%	-52%	-72%	-81%	-78%	-77%	-78%	-69%	-63%	-66%	-72%
Post-Closure	199	176	192	717	1,662	1,303	425	234	231	327	307	239	501
% Change from Baseline	-18%	-19%	-13%	9%	8%	-18%	-23%	-26%	-17%	-3%	-13%	-15%	-9%
1-DC (WQ7 upstream of confluence with Chedakuz Creek)													
Baseline	277	250	254	712	1,598	1,640	588	351	313	375	391	318	589
Construction (Year -2)	238	214	222	598	1,294	1,295	493	300	267	319	335	274	488

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
% Change from Baseline	-14%	-15%	-13%	-16%	-19%	-21%	-16%	-14%	-15%	-15%	-14%	-14%	-17%
Operations (Year 17)	92	78	102	349	399	287	140	99	88	124	145	114	168
% Change from Baseline	-67%	-69%	-60%	-51%	-75%	-83%	-76%	-72%	-72%	-67%	-63%	-64%	-71%
Closure (Year 20)	94	80	103	383	482	358	159	106	93	136	156	118	189
% Change from Baseline	-66%	-68%	-60%	-46%	-70%	-78%	-73%	-70%	-70%	-64%	-60%	-63%	-68%
Post-Closure	236	211	227	769	1,721	1,346	460	268	265	363	344	275	540
% Change from Baseline	-15%	-15%	-11%	8%	8%	-18%	-22%	-24%	-15%	-3%	-12%	-14%	-8%
Creek 661													
H1 (WQ5)													
Baseline	10	7.3	5.9	44	202	228	62	26	18	22	22	15	55
Construction (Year -2)	9.8	7.2	5.9	42	197	222	60	26	18	21	21	14	54
% Change from Baseline	-1%	-1%	0%	-5%	-2%	-2%	-2%	-2%	-2%	-2%	-2%	-2%	-2%
Operations (Year 17)	9.9	5.5	3.5	66	200	227	61	28	20	23	24	16	57
% Change from Baseline	-1%	-25%	-41%	49%	-1%	0%	-1%	8%	9%	3%	11%	12%	4%
Closure (Year 20)	9.9	5.5	3.5	66	200	227	61	28	20	23	24	16	57
% Change from Baseline	-1%	-25%	-41%	49%	-1%	0%	-1%	8%	9%	3%	11%	12%	4%
Post-Closure	10	7.3	5.9	44	202	228	62	26	18	22	22	15	55
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
1-505659 (upper extents of watershed on tributary potentially impacted by mine footprint)													
Baseline	25	21	19	170	407	458	142	56	44	77	73	36	127
Construction (Year -2)	25	20	19	177	426	478	143	56	44	78	74	35	131
% Change from Baseline	-2%	-2%	-4%	4%	5%	4%	0%	0%	0%	2%	2%	-1%	3%
Operations (Year 17)	18	12	10	124	310	298	96	42	35	60	57	28	91
% Change from Baseline	-30%	-40%	-49%	-27%	-24%	-35%	-32%	-24%	-19%	-22%	-22%	-22%	-29%
Closure (Year 20)	17	13	13	99	242	186	63	29	24	42	41	22	66
% Change from Baseline	-33%	-36%	-32%	-42%	-41%	-59%	-55%	-49%	-46%	-45%	-43%	-37%	-48%
Post-Closure	17	14	14	111	242	186	64	29	24	42	42	23	67
% Change from Baseline	-31%	-32%	-29%	-35%	-40%	-59%	-55%	-48%	-45%	-45%	-43%	-35%	-47%
1-661 (upstream of confluence with Chedakuz Creek upstream of Tatelkuz Lake)													
Baseline	139	120	119	621	1,378	1,504	462	214	187	298	297	177	460
Construction (Year -2)	138	120	119	628	1,393	1,519	462	213	187	300	298	176	463
% Change from Baseline	0%	0%	0%	1%	1%	1%	0%	0%	0%	1%	0%	0%	1%
Operations (Year 17)	132	112	111	590	1,288	1,348	416	200	178	279	281	169	425
% Change from Baseline	-5%	-7%	-7%	-5%	-7%	-10%	-10%	-6%	-5%	-6%	-6%	-5%	-7%
Closure (Year 20)	130	113	114	569	1,218	1,238	384	187	168	262	265	163	401
% Change from Baseline	-6%	-6%	-4%	-8%	-12%	-18%	-17%	-13%	-10%	-12%	-11%	-8%	-13%
Post-Closure	132	115	116	571	1,219	1,238	385	187	168	263	266	164	402
% Change from Baseline	-5%	-4%	-2%	-8%	-12%	-18%	-17%	-12%	-10%	-12%	-11%	-7%	-13%
Creek 705													

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
6-705 (WQ16 in upper extents of watershed downstream of fish compensation)													
Baseline	4.9	2.5	2.1	58	193	95	46	20	17	28	24	9.5	42
Construction (Year -2)	9.7	7.4	6.6	70	268	176	68	28	21	37	33	15	62
% Change from Baseline	96%	Increase	Increase	22%	39%	85%	47%	40%	26%	29%	35%	56%	48%
Operations (Year 17)	9.7	7.4	6.6	70	268	176	68	28	21	37	33	15	62
% Change from Baseline	96%	Increase	Increase	22%	39%	85%	47%	40%	26%	29%	35%	56%	48%
Closure (Year 20)	9.7	7.4	6.6	70	268	176	68	28	21	37	33	15	62
% Change from Baseline	96%	Increase	Increase	22%	39%	85%	47%	40%	26%	29%	35%	56%	48%
Post-Closure	9.7	7.4	6.6	70	268	176	68	28	21	37	33	15	62
% Change from Baseline	96%	Increase	Increase	22%	39%	85%	47%	40%	26%	29%	35%	56%	48%
4-705 (midpoint of watershed)													
Baseline	12	3.7	3.3	243	668	334	137	61	53	102	66	29	143
Construction (Year -2)	16	8.5	7.6	220	741	417	159	69	57	104	97	34	161
% Change from Baseline	37%	Increase	Increase	-9%	11%	25%	16%	13%	7%	2%	48%	20%	13%
Operations (Year 17)	16	8.5	7.6	220	741	417	159	69	57	104	97	34	161
% Change from Baseline	37%	Increase	Increase	-9%	11%	25%	16%	13%	7%	2%	48%	20%	13%
Closure (Year 20)	16	8.5	7.6	220	741	417	159	69	57	104	97	34	161
% Change from Baseline	37%	Increase	Increase	-9%	11%	25%	16%	13%	7%	2%	48%	20%	13%
Post-Closure	16	8.5	7.6	220	741	417	159	69	57	104	97	34	161
% Change from Baseline	37%	Increase	Increase	-9%	11%	25%	16%	13%	7%	2%	48%	20%	13%
H7 (lower extents of watershed)													
Baseline	58	35	33	569	1,781	1,026	358	170	151	301	290	95	405
Construction (Year -2)	63	51	47	674	1,855	1,110	380	178	157	309	295	113	436
% Change from Baseline	9%	47%	40%	19%	4%	8%	6%	5%	4%	2%	1%	19%	8%
Operations (Year 17)	63	51	47	674	1,855	1,110	380	178	157	309	295	113	436
% Change from Baseline	9%	47%	40%	19%	4%	8%	6%	5%	4%	2%	1%	19%	8%
Closure (Year 20)	63	51	47	674	1,855	1,110	380	178	157	309	295	113	436
% Change from Baseline	9%	47%	40%	19%	4%	8%	6%	5%	4%	2%	1%	19%	8%
Post-Closure	63	51	47	674	1,855	1,110	380	178	157	309	295	113	436
% Change from Baseline	9%	47%	40%	19%	4%	8%	6%	5%	4%	2%	1%	19%	8%
1-705 (upstream of confluence of Fawnie Creek)													
Baseline	75	53	56	664	1,826	1,053	376	186	167	318	302	122	433
Construction (Year -2)	79	57	59	709	1,900	1,138	399	195	173	326	309	126	456
% Change from Baseline	6%	8%	7%	7%	4%	8%	6%	4%	4%	3%	2%	4%	5%
Operations (Year 17)	79	57	59	709	1,900	1,138	399	195	173	326	309	126	456
% Change from Baseline	6%	8%	7%	7%	4%	8%	6%	4%	4%	3%	2%	4%	5%
Closure (Year 20)	79	57	59	709	1,900	1,138	399	195	173	326	309	126	456
% Change from Baseline	6%	8%	7%	7%	4%	8%	6%	4%	4%	3%	2%	4%	5%
Post-Closure	79	57	59	709	1,900	1,138	399	195	173	326	309	126	456

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	**Annual**
% Change from Baseline	6%	8%	7%	7%	4%	8%	6%	4%	4%	3%	2%	4%	5%
Chedakuz Creek													
15-CC (outlet of Tatelkuz Lake)													
Baseline	1,227	1,183	1,347	3,377	7,798	6,948	2,833	1,625	1,847	1,726	1,944	1,449	2,775
Construction (Year -2)	1,226	1,183	1,347	3,380	7,809	6,961	2,832	1,625	1,847	1,727	1,944	1,448	2,777
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operations (Year 17)	1,221	1,178	1,345	3,364	7,716	6,818	2,791	1,613	1,840	1,713	1,934	1,443	2,748
% Change from Baseline	0%	0%	0%	0%	-1%	-2%	-1%	-1%	0%	-1%	0%	0%	-1%
Closure (Year 20)	1,220	1,178	1,345	3,354	7,669	6,725	2,764	1,601	1,830	1,700	1,923	1,439	2,729
% Change from Baseline	-1%	0%	0%	-1%	-2%	-3%	-2%	-2%	-1%	-1%	-1%	-1%	-2%
Post-Closure	1,237	1,193	1,357	3,405	7,886	6,914	2,810	1,620	1,852	1,731	1,945	1,458	2,784
% Change from Baseline	1%	1%	1%	1%	1%	0%	-1%	0%	0%	0%	0%	1%	0%
H5 (midway between Davidson Creek and Turtle Creek confluences)													
Baseline	1,843	1,778	2,025	5,074	11,719	10,442	4,257	2,443	2,776	2,594	2,921	2,177	4,171
Construction (Year -2)	1,807	1,744	1,997	5,003	11,538	10,163	4,168	2,394	2,731	2,548	2,877	2,137	4,092
% Change from Baseline	-2%	-2%	-1%	-1%	-2%	-3%	-2%	-2%	-2%	-2%	-1%	-2%	-2%
Operations (Year 17)	1,667	1,619	1,894	4,812	10,872	9,184	3,781	2,190	2,545	2,368	2,712	1,989	3,803
% Change from Baseline	-10%	-9%	-6%	-5%	-7%	-12%	-11%	-10%	-8%	-9%	-7%	-9%	-9%
Closure (Year 20)	1,667	1,619	1,895	4,820	10,892	9,180	3,776	2,185	2,541	2,365	2,710	1,987	3,803
% Change from Baseline	-10%	-9%	-6%	-5%	-7%	-12%	-11%	-11%	-8%	-9%	-7%	-9%	-9%
Post-Closure	1,815	1,755	2,016	5,126	11,936	10,174	4,086	2,354	2,730	2,586	2,884	2,148	4,134
% Change from Baseline	-2%	-1%	0%	1%	2%	-3%	-4%	-4%	-2%	0%	-1%	-1%	-1%

Source: Flows are from **Appendix 5.1.2.1B** (Knight Piésold, 2013d). % change has been determined by AMEC. Where a % change is greater than 100% then this has been noted as an "Increase" and no numeric value is presented.
- There are no flows for Node 11-DC as this drainage area is directed towards the 705 Watershed. There are no flows for Node H2 during operations and closure as the freshwater supply system does not exist for this scenario. During post-closure Node H2 does not exist; therefore surface water flows for the TSF spillway plunge pool are used.

Note: L/s = litre per second; % = percent.

Table 5: Estimated 1:20–year Dry Monthly and Annual Surface Water Flow Changes in Turtle Creek, Davidson Creek, Creek 661, Creek 705 and Chedakuz Creek from the Project for Construction (Year -2), Operations (Year 17), Closure (Year 20), and Post-closure

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
Turtle Creek													
H3 (WQ11 in upper watershed on tributary Creek 700)													
Baseline	1.8	1.3	1.1	1.6	139	64	18	6.8	3.8	2.3	1.9	2.0	20
Construction (Year -2)	1.8	1.3	1.1	1.6	139	64	18	6.8	3.8	2.3	1.9	2.0	20
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operations (Year 17)	1.8	1.3	1.1	1.6	139	64	18	6.8	3.8	2.3	1.9	2.0	20
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Closure (Year 20)	1.8	1.3	1.1	1.6	139	64	18	6.8	3.8	2.3	1.9	2.0	20
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Post-Closure	1.8	1.3	1.1	1.6	139	64	18	6.8	3.8	2.3	1.9	2.0	20
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
H6 (midpoint of watershed)													
Baseline	61	53	48	82	389	205	142	112	94	69	62	63	115
Construction (Year -2)	61	53	48	82	389	205	142	112	94	69	62	63	115
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operations (Year 17)	61	53	48	82	389	205	142	112	94	69	62	63	115
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Closure (Year 20)	61	53	48	82	389	205	142	112	94	69	62	63	115
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Post-Closure	61	53	48	82	389	205	142	112	94	69	62	63	115
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
1-TC (WQ 13 upstream of confluence with Chedakuz Creek)													
Baseline	82	74	67	106	430	237	174	142	122	93	83	85	141
Construction (Year -2)	82	74	67	106	430	237	174	142	122	93	83	85	141
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operations (Year 17)	82	74	67	106	430	237	174	142	122	93	83	85	141
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Closure (Year 20)	82	74	67	106	430	237	174	142	122	93	83	85	141
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Post-Closure	82	74	67	106	430	237	174	142	122	93	83	85	141
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Davidson Creek													
11-DC (upper extents of watershed upstream of proposed TSF)													
Baseline	0.0	0.0	0.0	0.0	25	15	3.5	0.7	0.1	0.0	0.0	0.0	3.7
Construction (Year -2)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
Operations (Year 17)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
Closure (Year 20)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
Post-Closure	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
H2 (WQ10 midpoint of watershed immediately downstream of proposed TSF)													
Baseline	90	84	57	46	432	369	204	145	116	99	91	65	150
Construction (Year -2)	68	63	59	36	341	327	165	112	89	77	71	69	123
% Change from Baseline	-24%	-24%	3%	-22%	-21%	-12%	-19%	-23%	-23%	-22%	-22%	5%	-18%
Operations (Year 17)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
Closure (Year 20)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
Post-Closure	80	77	73	71	560	256	102	90	81	86	81	77	136
% Change from Baseline	-11%	-8%	28%	54%	30%	-31%	-50%	-38%	-30%	-13%	-11%	17%	-9%
H4B (WQ26)													
Baseline	103	94	79	87	529	434	251	182	148	105	93	91	183
Construction (Year -2)	82	74	72	76	438	389	212	150	122	101	89	84	157
% Change from Baseline	-20%	-21%	-9%	-12%	-17%	-10%	-15%	-17%	-17%	-3%	-4%	-7%	-14%
Operations (Year 17)	0.3	0.2	0.2	16	65	34	24	17	12	7.9	5.1	2.8	15
% Change from Baseline	-100%	-100%	-100%	-81%	-88%	-92%	-91%	-91%	-92%	-92%	-95%	-97%	-92%
Closure (Year 20)	1.1	0.9	0.8	16	103	51	29	19	13	5.9	4.0	3.6	21
% Change from Baseline	-99%	-99%	-99%	-81%	-80%	-88%	-88%	-90%	-91%	-94%	-96%	-96%	-89%
Post-Closure	87	82	81	96	640	302	133	98	100	102	90	84	158
% Change from Baseline	-15%	-12%	2%	10%	21%	-31%	-47%	-46%	-32%	-2%	-3%	-7%	-14%
4-DC													
Baseline	104	94	91	115	577	446	256	184	148	120	106	104	195
Construction (Year -2)	87	78	74	103	487	400	217	153	126	104	99	96	169
% Change from Baseline	-16%	-17%	-18%	-10%	-16%	-10%	-15%	-17%	-15%	-13%	-7%	-7%	-14%
Operations (Year 17)	2.2	0.3	0.3	33	104	42	28	19	13	12	7.8	3.1	22
% Change from Baseline	-98%	-100%	-100%	-71%	-82%	-91%	-89%	-90%	-91%	-90%	-93%	-97%	-89%
Closure (Year 20)	1.1	0.9	1.1	25	143	60	33	21	14	8.6	5.8	3.9	27
% Change from Baseline	-99%	-99%	-99%	-78%	-75%	-87%	-87%	-89%	-90%	-93%	-95%	-96%	-86%
Post-Closure	91	86	92	117	692	314	137	101	102	112	101	100	170
% Change from Baseline	-12%	-9%	2%	1%	20%	-30%	-46%	-45%	-31%	-7%	-5%	-3%	-13%
1-DC (WQ7 upstream of confluence with Chedakuz Creek)													
Baseline	127	117	112	141	617	478	286	213	175	144	129	127	222
Construction (Year -2)	105	97	92	129	526	431	247	181	149	123	109	106	191

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
% Change from Baseline	-17%	-17%	-18%	-8%	-15%	-10%	-14%	-15%	-15%	-15%	-15%	-16%	-14%
Operations (Year 17)	24	22	19	61	143	69	56	47	39	30	25	24	47
% Change from Baseline	-81%	-81%	-83%	-56%	-77%	-86%	-80%	-78%	-78%	-79%	-80%	-81%	-79%
Closure (Year 20)	25	22	20	62	182	88	62	49	40	30	25	24	52
% Change from Baseline	-80%	-81%	-83%	-56%	-71%	-82%	-78%	-77%	-77%	-79%	-80%	-81%	-76%
Post-Closure	111	105	100	142	731	345	166	129	128	118	106	107	191
% Change from Baseline	-13%	-10%	-11%	1%	19%	-28%	-42%	-39%	-27%	-18%	-18%	-16%	-14%
Creek 661													
H1 (WQ5)													
Baseline	1.7	1.4	1.1	0.8	47	39	17	7.6	4.0	2.5	1.9	1.8	10
Construction (Year -2)	1.7	1.4	1.1	0.4	46	39	16	7.5	4.0	2.5	2.0	1.8	10
% Change from Baseline	1%	0%	0%	-48%	-1%	-1%	-2%	-1%	0%	1%	1%	1%	-1%
Operations (Year 17)	0.0	0.0	0.0	0.0	45	39	16	5.0	2.0	1.0	0.3	0.0	9.0
% Change from Baseline	-100%	-100%	-100%	-100%	-3%	-2%	-5%	-34%	-51%	-62%	-83%	-100%	-14%
Closure (Year 20)	0.0	0.0	0.0	0.0	45	39	16	5.0	2.0	1.0	0.3	0.0	9.0
% Change from Baseline	-100%	-100%	-100%	-100%	-3%	-2%	-5%	-34%	-51%	-62%	-83%	-100%	-14%
Post-Closure	1.7	1.4	1.1	0.8	47	39	17	7.6	4.0	2.5	1.9	1.8	10
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
1-505659 (upper extents of watershed on tributary potentially impacted by mine footprint)													
Baseline	3.1	1.7	0.8	1.2	168	116	40	17	10	5.5	4.2	3.8	31
Construction (Year -2)	3.2	1.8	0.9	1.3	175	117	39	17	9.8	5.4	4.2	3.8	32
% Change from Baseline	4%	9%	19%	4%	4%	0%	-1%	-2%	-2%	-2%	-1%	2%	2%
Operations (Year 17)	5.3	4.6	4.1	3.1	115	64	27	14	9.4	6.2	5.3	5.4	22
% Change from Baseline	72%	Increase	Increase	Increase	-31%	-45%	-32%	-18%	-6%	13%	26%	44%	-29%
Closure (Year 20)	1.9	1.4	1.3	2.8	93	46	19	9.7	6.1	3.4	2.6	2.3	16
% Change from Baseline	-38%	-13%	58%	Increase	0	-1	-1	-44%	-39%	-38%	-37%	-39%	-49%
Post-Closure	2.2	1.5	1.4	2.8	94	46	19	10	6.4	3.7	2.8	2.5	16
% Change from Baseline	-30%	-8%	71%	Increase	-44%	-60%	-52%	-42%	-36%	-32%	-32%	-33%	-48%
1-661 (upstream of confluence with Chedakuz Creek upstream of Tatelkuz Lake)													
Baseline	55	49	46	49	505	312	157	107	77	53	48	53	126
Construction (Year -2)	55	49	46	49	511	312	157	106	77	53	48	54	126
% Change from Baseline	0%	0%	0%	0%	1%	0%	-1%	0%	0%	0%	0%	0%	0%
Operations (Year 17)	55	51	48	50	446	258	144	102	75	54	48	53	115
% Change from Baseline	1%	3%	4%	2%	-12%	-17%	-9%	-5%	-3%	1%	0%	0%	-9%
Closure (Year 20)	52	48	46	51	427	239	136	98	72	51	46	51	110
% Change from Baseline	-5%	-3%	-1%	5%	-15%	-23%	-14%	-8%	-7%	-4%	-5%	-5%	-13%
Post-Closure	54	49	46	52	428	240	137	99	73	53	48	53	111
% Change from Baseline	-2%	0%	1%	6%	-15%	-23%	-13%	-7%	-5%	-1%	-1%	-2%	-12%
Creek 705													

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
6-705 (WQ16 in upper extents of watershed downstream of fish compensation)													
Baseline	0.0	0.0	0.0	0.0	69	53	13	4.4	1.9	0.8	0.6	0.0	12
Construction (Year -2)	2.3	1.8	1.3	0.7	98	73	21	8.4	4.4	2.7	2.3	2.3	18
% Change from Baseline	Increase	Increase	Increase	Increase	43%	38%	60%	90%	Increase	Increase	Increase	Increase	53%
Operations (Year 17)	2.3	1.8	1.3	0.7	98	73	21	8.4	4.4	2.7	2.3	2.3	18
% Change from Baseline	Increase	Increase	Increase	Increase	43%	38%	60%	90%	Increase	Increase	Increase	Increase	53%
Closure (Year 20)	2.3	1.8	1.3	0.7	98	73	21	8.4	4.4	2.7	2.3	2.3	18
% Change from Baseline	Increase	Increase	Increase	Increase	43%	38%	60%	90%	Increase	Increase	Increase	Increase	53%
Post-Closure	2.3	1.8	1.3	0.7	98	73	21	8.4	4.4	2.7	2.3	2.3	18
% Change from Baseline	Increase	Increase	Increase	Increase	43%	38%	60%	90%	Increase	Increase	Increase	Increase	53%
4-705 (midpoint of watershed)													
Baseline	0.0	0.0	0.0	0.0	217	141	37	9.7	3.7	0.9	0.7	0.0	34
Construction (Year -2)	3.0	2.1	1.7	2.6	248	161	45	13	5.1	5.2	4.1	3.8	41
% Change from Baseline	Increase	Increase	Increase	Increase	14%	14%	21%	39%	40%	Increase	Increase	Increase	21%
Operations (Year 17)	3.0	2.1	1.7	2.6	248	161	45	13	5.1	5.2	4.1	3.8	41
% Change from Baseline	Increase	Increase	Increase	Increase	14%	14%	21%	39%	40%	Increase	Increase	Increase	21%
Closure (Year 20)	3.0	2.1	1.7	2.6	248	161	45	13	5.1	5.2	4.1	3.8	41
% Change from Baseline	Increase	Increase	Increase	Increase	14%	14%	21%	39%	40%	Increase	Increase	Increase	21%
Post-Closure	3.0	2.1	1.7	2.6	248	161	45	13	5.1	5.2	4.1	3.8	41
% Change from Baseline	Increase	Increase	Increase	Increase	14%	14%	21%	39%	40%	Increase	Increase	Increase	21%
H7 (lower extents of watershed)													
Baseline	2.7	0.1	0.0	12	601	338	97	36	19	10	7.3	6.5	94
Construction (Year -2)	4.8	2.8	2.6	7.9	632	358	105	40	22	12	9.0	7.9	100
% Change from Baseline	80%	Increase	Increase	-32%	5%	6%	8%	11%	14%	18%	24%	21%	6%
Operations (Year 17)	4.8	2.8	2.6	7.9	632	358	105	40	22	12	9.0	7.9	100
% Change from Baseline	80%	Increase	Increase	-32%	5%	6%	8%	11%	14%	18%	24%	21%	6%
Closure (Year 20)	4.8	2.8	2.6	7.9	632	358	105	40	22	12	9.0	7.9	100
% Change from Baseline	80%	Increase	Increase	-32%	5%	6%	8%	11%	14%	18%	24%	21%	6%
Post-Closure	4.8	2.8	2.6	7.9	632	358	105	40	22	12	9.0	7.9	100
% Change from Baseline	80%	Increase	Increase	-32%	5%	6%	8%	11%	14%	18%	24%	21%	6%
1-705 (upstream of confluence of Fawnie Creek)													
Baseline	14	11	10	26	629	357	110	47	28	17	14	14	106
Construction (Year -2)	16	13	12	18	659	377	118	51	31	19	16	16	112
% Change from Baseline	17%	18%	18%	-30%	5%	5%	7%	9%	10%	11%	13%	16%	5%
Operations (Year 17)	16	13	12	18	659	377	118	51	31	19	16	16	112
% Change from Baseline	17%	18%	18%	-30%	5%	5%	7%	9%	10%	11%	13%	16%	5%
Closure (Year 20)	16	13	12	18	659	377	118	51	31	19	16	16	112
% Change from Baseline	17%	18%	18%	-30%	5%	5%	7%	9%	10%	11%	13%	16%	5%
Post-Closure	16	13	12	18	659	377	118	51	31	19	16	16	112

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	**Annual**
% Change from Baseline	17%	18%	18%	-30%	5%	5%	7%	9%	10%	11%	13%	16%	5%
Chedakuz Creek													
15-CC (outlet of Tatelkuz Lake)													
Baseline	659	677	763	685	1,240	1,238	788	522	411	503	723	666	740
Construction (Year -2)	659	677	763	687	1,248	1,240	787	521	411	504	723	666	740
% Change from Baseline	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%
Operations (Year 17)	658	676	760	675	1,186	1,171	770	515	407	499	718	664	725
% Change from Baseline	0%	0%	0%	-1%	-4%	**-5%**	-2%	-1%	-1%	-1%	-1%	0%	-2%
Closure (Year 20)	655	674	760	670	1,158	1,143	759	511	404	493	712	661	717
% Change from Baseline	-1%	0%	0%	-2%	**-7%**	**-8%**	-4%	-2%	-2%	-2%	-1%	-1%	-3%
Post-Closure	665	683	770	694	1,299	1,209	777	519	414	509	726	671	745
% Change from Baseline	1%	1%	1%	1%	**5%**	-2%	-1%	0%	1%	1%	0%	1%	1%
H5 (midway between Davidson Creek and Turtle Creek confluences)													
Baseline	991	1,018	1,147	1,029	1,864	1,860	1,184	784	618	757	1,086	1,001	1,112
Construction (Year -2)	967	995	1,122	991	1,738	1,778	1,139	751	592	728	1,057	977	1,070
% Change from Baseline	-2%	-2%	-2%	-4%	-7%	-4%	-4%	-4%	-4%	-4%	-3%	-2%	-4%
Operations (Year 17)	872	903	1,024	858	1,242	1,292	930	612	484	609	938	876	887
% Change from Baseline	-12%	-11%	-11%	-17%	-33%	-31%	-21%	-22%	-22%	-20%	-14%	-13%	-20%
Closure (Year 20)	870	902	1,025	864	1,268	1,289	928	610	482	607	935	874	888
% Change from Baseline	-12%	-11%	-11%	-16%	-32%	-31%	-22%	-22%	-22%	-20%	-14%	-13%	-20%
Post-Closure	979	1,007	1,133	1,037	2,016	1,680	1,070	706	579	739	1,060	983	1,082
% Change from Baseline	-1%	-1%	-1%	1%	8%	-10%	-10%	-10%	-6%	-2%	-2%	-2%	-3%

Source: Flows are from **Appendix 5.1.2.1B** (Knight Piésold, 2013d). % change has been determined by AMEC. Where a baseline values of zero results in a division by zero or error for % change or a % change is greater than 100% then this has been noted as an "Increase" and no numeric value is presented.
- There are no flows for Node 11-DC as this drainage area is directed towards the 705 Watershed. There are no flows for Node H2 during operations and closure as the freshwater supply system does not exist for this scenario. During post-closure Node H2 does not exist; therefore surface water flows for the TSF spillway plunge pool are used.

Note: L/s = litre per second; % = percent.

Table 6: Estimated 1:20–year Wet Monthly and Annual Surface Water Flow Changes in Turtle Creek, Davidson Creek, Creek 661, Creek 705 and Chedakuz Creek from the Project for Construction (Year -2), Operations (Year 17), Closure (Year 20), and Post-closure

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
Turtle Creek													
H3 (WQ11 in upper watershed on tributary Creek 700)													
Baseline	15	10	11	240	343	415	104	45	44	109	102	28	122
Construction (Year -2)	15	10	11	240	343	415	104	45	44	109	102	28	122
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operations (Year 17)	15	10	11	240	343	415	104	45	44	109	102	28	122
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Closure (Year 20)	15	10	11	240	343	415	104	45	44	109	102	28	122
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Post-Closure	15	10	11	240	343	415	104	45	44	109	102	28	122
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
H6 (midpoint of watershed)													
Baseline	187	166	185	853	1176	1139	335	216	206	322	336	220	445
Construction (Year -2)	187	166	185	853	1176	1139	335	216	206	322	336	220	445
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operations (Year 17)	187	166	185	854	1176	1139	335	216	206	322	336	220	445
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Closure (Year 20)	187	166	185	853	1176	1139	335	216	206	322	336	220	445
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Post-Closure	187	166	185	853	1176	1139	335	216	206	322	336	220	445
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
1-TC (WQ 13 upstream of confluence with Chedakuz Creek)													
Baseline	228	204	223	901	1241	1189	378	257	245	364	380	264	490
Construction (Year -2)	228	204	223	901	1241	1189	378	257	245	364	380	264	490
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operations (Year 17)	228	204	223	901	1241	1189	378	257	245	364	380	264	490
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Closure (Year 20)	228	204	223	901	1241	1189	378	257	245	364	380	264	490
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Post-Closure	228	204	223	901	1241	1189	378	257	245	364	380	264	490
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Davidson Creek													
11-DC (upper extents of watershed upstream of proposed TSF)													
Baseline	0.1	0.0	0.0	35	85	107	27	6.4	3.3	6.7	2.3	0.5	23
Construction (Year -2)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
Operations (Year 17)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
Closure (Year 20)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
Post-Closure	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
H2 (WQ10 midpoint of watershed immediately downstream of proposed TSF)													
Baseline	186	172	162	502	1,375	1,596	468	245	222	256	254	207	471
Construction (Year -2)	142	131	123	346	1,023	1,155	363	191	171	192	190	158	349
% Change from Baseline	-24%	-24%	-24%	-31%	-26%	-28%	-22%	-22%	-23%	-25%	-25%	-24%	-26%
Operations (Year 17)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
Closure (Year 20)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
Post-Closure	154	140	136	653	1,556	1,342	379	188	204	256	213	177	450
% Change from Baseline	-17%	-19%	-16%	30%	13%	-16%	-19%	-23%	-8%	0%	-16%	-15%	-4%
H4B (WQ26)													
Baseline	256	229	217	680	1,589	1,774	575	324	287	342	358	294	577
Construction (Year -2)	213	190	181	529	1,238	1,340	469	270	238	279	294	246	457
% Change from Baseline	-17%	-17%	-16%	-22%	-22%	-24%	-18%	-17%	-17%	-18%	-18%	-16%	-21%
Operations (Year 17)	52	42	46	242	223	186	86	60	51	73	102	74	103
% Change from Baseline	-80%	-82%	-79%	-64%	-86%	-90%	-85%	-81%	-82%	-79%	-71%	-75%	-82%
Closure (Year 20)	54	43	53	301	316	275	108	68	57	89	116	82	130
% Change from Baseline	-79%	-81%	-76%	-56%	-80%	-84%	-81%	-79%	-80%	-74%	-68%	-72%	-77%
Post-Closure	210	185	184	834	1,711	1,458	454	245	243	314	287	246	531
% Change from Baseline	-18%	-19%	-15%	23%	8%	-18%	-21%	-24%	-15%	-8%	-20%	-16%	-8%
4-DC													
Baseline	270	241	245	814	1,739	1,869	606	338	302	386	410	319	628
Construction (Year -2)	232	205	213	668	1,386	1,437	501	284	253	306	347	271	509
% Change from Baseline	-14%	-15%	-13%	-18%	-20%	-23%	-17%	-16%	-16%	-21%	-15%	-15%	-19%
Operations (Year 17)	71	75	77	352	396	295	123	78	69	112	147	113	159
% Change from Baseline	-74%	-69%	-68%	-57%	-77%	-84%	-80%	-77%	-77%	-71%	-64%	-65%	-75%
Closure (Year 20)	69	55	95	405	484	382	145	85	74	137	163	119	184
% Change from Baseline	-75%	-77%	-61%	-50%	-72%	-80%	-76%	-75%	-75%	-65%	-60%	-63%	-71%
Post-Closure	222	195	215	938	1,853	1,555	489	259	256	382	360	272	583
% Change from Baseline	-18%	-19%	-12%	15%	7%	-17%	-19%	-23%	-15%	-1%	-12%	-15%	-7%
1-DC (WQ7 upstream of confluence with Chedakuz Creek)													
Baseline	306	275	281	870	1,798	1,911	643	374	337	422	448	356	668
Construction (Year -2)	264	236	247	724	1,447	1,484	537	320	287	359	385	309	550

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
% Change from Baseline	-14%	-14%	-12%	-17%	-19%	-22%	-16%	-14%	-15%	-15%	-14%	-13%	-18%
Operations (Year 17)	109	92	125	432	453	342	157	109	98	148	180	138	199
% Change from Baseline	-64%	-67%	-55%	-50%	-75%	-82%	-76%	-71%	-71%	-65%	-60%	-61%	-70%
Closure (Year 20)	111	93	126	481	544	426	178	116	104	164	196	143	223
% Change from Baseline	-64%	-66%	-55%	-45%	-70%	-78%	-72%	-69%	-69%	-61%	-56%	-60%	-67%
Post-Closure	260	231	251	983	1,913	1,594	522	293	290	417	398	309	622
% Change from Baseline	-15%	-16%	-11%	13%	6%	-17%	-19%	-22%	-14%	-1%	-11%	-13%	-7%
Creek 661													
H1 (WQ5)													
Baseline	12	8.9	7.3	88	242	283	72	31	22	28	29	19	70
Construction (Year -2)	12	8.8	7.3	75	235	276	71	30	22	28	29	19	68
% Change from Baseline	-2%	-1%	0%	-15%	-3%	-3%	-2%	-2%	-2%	-2%	-2%	-2%	-4%
Operations (Year 17)	12	6.9	4.4	90	241	283	72	35	27	33	41	21	72
% Change from Baseline	-1%	-23%	-40%	2%	0%	0%	0%	15%	21%	16%	40%	8%	3%
Closure (Year 20)	12	6.9	4.4	90	241	283	72	35	27	33	41	21	72
% Change from Baseline	-1%	-23%	-40%	2%	0%	0%	0%	15%	21%	16%	40%	8%	3%
Post-Closure	12	8.9	7.3	88	242	283	72	31	22	28	29	19	70
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
1-505659 (upper extents of watershed on tributary potentially impacted by mine footprint)													
Baseline	32	28	29	313	454	543	166	64	52	106	104	47	162
Construction (Year -2)	32	27	27	326	475	570	167	64	53	109	106	46	167
% Change from Baseline	-3%	-4%	-6%	4%	5%	5%	1%	0%	1%	3%	2%	-2%	3%
Operations (Year 17)	20	14	11	196	351	360	113	48	41	79	77	34	112
% Change from Baseline	-37%	-50%	-62%	-37%	-23%	-34%	-32%	-25%	-21%	-25%	-26%	-28%	-31%
Closure (Year 20)	22	17	18	147	272	221	74	33	28	57	58	30	81
% Change from Baseline	-32%	-38%	-39%	-53%	-40%	-59%	-56%	-49%	-46%	-46%	-44%	-37%	-50%
Post-Closure	22	18	18	176	273	221	74	33	29	58	59	30	84
% Change from Baseline	-31%	-35%	-37%	-44%	-40%	-59%	-55%	-49%	-46%	-46%	-44%	-36%	-48%
1-661 (upstream of confluence with Chedakuz Creek upstream of Tatelkuz Lake)													
Baseline	156	134	133	851	1,561	1,828	529	233	208	369	373	205	548
Construction (Year -2)	155	134	133	862	1,577	1,849	528	232	209	372	374	204	552
% Change from Baseline	0%	0%	0%	1%	1%	1%	0%	0%	0%	1%	0%	0%	1%
Operations (Year 17)	147	124	123	801	1,468	1,656	475	218	198	343	349	195	508
% Change from Baseline	-6%	-8%	-8%	-6%	-6%	-9%	-10%	-7%	-5%	-7%	-6%	-5%	-7%
Closure (Year 20)	146	126	127	767	1,387	1,518	437	203	186	321	329	189	478
% Change from Baseline	-6%	-7%	-5%	-10%	-11%	-17%	-17%	-13%	-11%	-13%	-12%	-8%	-13%
Post-Closure	147	128	130	768	1,389	1,518	438	203	187	321	329	189	479
% Change from Baseline	-6%	-5%	-3%	-10%	-11%	-17%	-17%	-13%	-10%	-13%	-12%	-8%	-13%
Creek 705													

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
6-705 (WQ16 in upper extents of watershed downstream of fish compensation)													
Baseline	5.8	2.7	2.5	74	219	102	54	25	22	44	42	12	50
Construction (Year -2)	12	8.8	8.0	125	303	196	78	33	25	50	46	19	75
% Change from Baseline	99%	Increase	Increase	69%	38%	92%	46%	35%	13%	15%	8%	60%	49%
Operations (Year 17)	12	8.8	8.0	125	303	196	78	33	25	50	46	19	75
% Change from Baseline	99%	Increase	Increase	69%	38%	92%	46%	35%	13%	15%	8%	60%	49%
Closure (Year 20)	12	8.8	8.0	125	303	196	78	33	25	50	46	19	75
% Change from Baseline	99%	Increase	Increase	69%	38%	92%	46%	35%	13%	15%	8%	60%	49%
Post-Closure	12	8.8	8.0	125	303	196	78	33	25	50	46	19	75
% Change from Baseline	99%	Increase	Increase	69%	38%	92%	46%	35%	13%	15%	8%	60%	49%
4-705 (midpoint of watershed)													
Baseline	15	4.2	4.2	314	768	372	161	76	84	184	145	32	180
Construction (Year -2)	21	10	9.5	474	849	469	186	85	77	166	159	50	213
% Change from Baseline	46%	Increase	Increase	51%	11%	26%	16%	11%	-9%	-10%	9%	54%	18%
Operations (Year 17)	21	10	9.5	474	849	469	186	85	77	166	159	50	213
% Change from Baseline	46%	Increase	Increase	51%	11%	26%	16%	11%	-9%	-10%	9%	54%	18%
Closure (Year 20)	21	10	9.5	474	849	469	186	85	77	166	159	50	213
% Change from Baseline	46%	Increase	Increase	51%	11%	26%	16%	11%	-9%	-10%	9%	54%	18%
Post-Closure	21	10	9.5	474	849	469	186	85	77	166	159	50	213
% Change from Baseline	46%	Increase	Increase	51%	11%	26%	16%	11%	-9%	-10%	9%	54%	18%
H7 (lower extents of watershed)													
Baseline	74	41	39	1,100	2,038	1,177	420	205	195	425	410	122	521
Construction (Year -2)	81	74	67	1,170	2,120	1,277	446	214	201	462	454	157	560
% Change from Baseline	9%	78%	74%	6%	4%	9%	6%	4%	3%	9%	11%	29%	8%
Operations (Year 17)	81	74	67	1,170	2,120	1,277	446	214	201	462	454	157	560
% Change from Baseline	9%	78%	74%	6%	4%	9%	6%	4%	3%	9%	11%	29%	8%
Closure (Year 20)	81	74	67	1,170	2,120	1,277	446	214	201	462	454	157	560
% Change from Baseline	9%	78%	74%	6%	4%	9%	6%	4%	3%	9%	11%	29%	8%
Post-Closure	81	74	67	1,170	2,120	1,277	446	214	201	462	454	157	560
% Change from Baseline	9%	78%	74%	6%	4%	9%	6%	4%	3%	9%	11%	29%	8%
1-705 (upstream of confluence of Fawnie Creek)													
Baseline	92	64	69	1,147	2,084	1,204	438	221	208	457	442	159	549
Construction (Year -2)	96	79	73	1,251	2,167	1,305	464	230	214	465	485	163	583
% Change from Baseline	4%	22%	5%	9%	4%	8%	6%	4%	3%	2%	10%	2%	6%
Operations (Year 17)	96	79	73	1,251	2,167	1,305	464	230	214	465	485	163	583
% Change from Baseline	4%	22%	5%	9%	4%	8%	6%	4%	3%	2%	10%	2%	6%
Closure (Year 20)	96	79	73	1,251	2,167	1,305	464	230	214	465	485	163	583
% Change from Baseline	4%	22%	5%	9%	4%	8%	6%	4%	3%	2%	10%	2%	6%
Post-Closure	96	79	73	1,251	2,167	1,305	464	230	214	465	485	163	583

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	**Annual**
% Change from Baseline	4%	22%	5%	9%	4%	8%	6%	4%	3%	2%	10%	2%	6%
Chedakuz Creek													
15-CC (outlet of Tatelkuz Lake)													
Baseline	1,325	1,268	1,446	4,115	9,796	8,606	3,320	1,872	2,226	2,011	2,197	1,595	3,315
Construction (Year -2)	1,325	1,268	1,446	4,119	9,803	8,622	3,319	1,871	2,225	2,012	2,198	1,595	3,317
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operations (Year 17)	1,318	1,262	1,444	4,105	9,733	8,482	3,275	1,858	2,219	1,997	2,187	1,589	3,289
% Change from Baseline	0%	0%	0%	0%	-1%	-1%	-1%	-1%	0%	-1%	0%	0%	-1%
Closure (Year 20)	1,318	1,262	1,443	4,095	9,694	8,378	3,244	1,844	2,207	1,982	2,175	1,584	3,269
% Change from Baseline	-1%	0%	0%	0%	-1%	-3%	-2%	-1%	-1%	-1%	-1%	-1%	-1%
Post-Closure	1,336	1,278	1,456	4,148	9,862	8,583	3,296	1,866	2,231	2,015	2,198	1,606	3,323
% Change from Baseline	1%	1%	1%	1%	1%	0%	-1%	0%	0%	0%	0%	1%	0%
H5 (midway between Davidson Creek and Turtle Creek confluences)													
Baseline	1,991	1,905	2,173	6,184	14,721	12,933	4,989	2,813	3,344	3,022	3,302	2,398	4,981
Construction (Year -2)	1,952	1,870	2,144	6,116	14,590	12,615	4,896	2,764	3,301	2,976	3,257	2,355	4,903
% Change from Baseline	-2%	-2%	-1%	-1%	-1%	-2%	-2%	-2%	-1%	-2%	-1%	-2%	-2%
Operations (Year 17)	1,806	1,740	2,044	5,959	14,228	11,713	4,499	2,565	3,127	2,803	3,094	2,201	4,648
% Change from Baseline	-9%	-9%	-6%	-4%	-3%	-9%	-10%	-9%	-6%	-7%	-6%	-8%	-7%
Closure (Year 20)	1,807	1,741	2,045	5,965	14,222	11,711	4,494	2,560	3,122	2,799	3,092	2,200	4,647
% Change from Baseline	-9%	-9%	-6%	-4%	-3%	-9%	-10%	-9%	-7%	-7%	-6%	-8%	-7%
Post-Closure	1,960	1,880	2,165	6,249	14,881	12,721	4,824	2,733	3,308	3,020	3,265	2,366	4,948
% Change from Baseline	-2%	-1%	0%	1%	1%	-2%	-3%	-3%	-1%	0%	-1%	-1%	-1%

Source: Flows are from **Appendix 5.1.2.1B** (Knight Piésold, 2013d). % change has been determined by AMEC. Where a % change is greater than 100% then this has been noted as an "Increase" and no numeric value is presented.
- There are no flows for Node 11-DC as this drainage area is directed towards the 705 Watershed. There are no flows for Node H2 during operations and closure as the freshwater supply system does not exist for this scenario. During post-closure Node H2 does not exist; therefore surface water flows for the TSF spillway plunge pool are used.

Note: L/s = litre per second; % = percent.

Table 7: Estimated 1:50–year Dry Monthly and Annual Surface Water Flow Changes in Turtle Creek, Davidson Creek, Creek 661, Creek 705, and Chedakuz Creek from the Project for Construction (Year -2), Operations (Year 17), Closure (Year 20), and Post-closure

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
Turtle Creek													
H3 (WQ11 in upper watershed on tributary Creek 700)													
Baseline	1.4	1.0	0.8	0.9	124	51	15	5.4	2.8	1.4	1.2	1.4	17
Construction (Year -2)	1.4	1.0	0.8	0.9	124	51	15	5.4	2.8	1.4	1.2	1.4	17
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operations (Year 17)	1.4	1.0	0.8	0.9	124	51	15	5.4	2.8	1.4	1.2	1.4	17
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Closure (Year 20)	1.4	1.0	0.8	0.9	124	51	15	5.4	2.8	1.4	1.2	1.4	17
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Post-Closure	1.4	1.0	0.8	0.9	124	51	15	5.4	2.8	1.4	1.2	1.4	17
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
H6 (midpoint of watershed)													
Baseline	53	46	40	61	339	166	128	104	85	57	50	54	99
Construction (Year -2)	53	46	40	61	339	166	128	104	85	57	50	54	99
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operations (Year 17)	53	46	40	61	339	166	128	104	85	57	50	54	99
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Closure (Year 20)	53	46	40	61	339	166	128	104	85	57	50	54	99
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Post-Closure	53	46	40	61	339	166	128	104	85	57	50	54	99
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
1-TC (WQ 13 upstream of confluence with Chedakuz Creek)													
Baseline	72	65	58	81	377	194	158	132	111	78	69	74	122
Construction (Year -2)	72	65	58	81	377	194	158	132	111	78	69	74	122
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operations (Year 17)	72	65	58	81	377	194	158	132	111	78	69	74	122
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Closure (Year 20)	72	65	58	81	377	194	158	132	111	78	69	74	122
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Post-Closure	72	65	58	81	377	194	158	132	111	78	69	74	122
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Davidson Creek													
11-DC (upper extents of watershed upstream of proposed TSF)													
Baseline	0.0	0.0	0.0	0.0	22	12	2.7	0.5	0.1	0.0	0.0	0.0	3.1
Construction (Year -2)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
Operations (Year 17)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
Closure (Year 20)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
Post-Closure	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
H2 (WQ10 midpoint of watershed immediately downstream of proposed TSF)													
Baseline	58	53	50	34	374	308	184	136	107	88	57	57	125
Construction (Year -2)	63	58	53	27	298	279	149	105	82	69	62	62	109
% Change from Baseline	8%	10%	6%	-21%	-20%	-9%	-19%	-23%	-23%	-22%	10%	9%	-13%
Operations (Year 17)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
Closure (Year 20)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
Post-Closure	74	71	67	69	493	208	87	82	75	75	72	69	120
% Change from Baseline	28%	35%	34%	Increase	32%	-32%	-53%	-40%	-30%	-15%	28%	22%	-4%
H4B (WQ26)													
Baseline	80	73	70	67	461	364	227	169	118	90	78	79	156
Construction (Year -2)	73	66	64	60	385	334	192	140	112	89	77	73	139
% Change from Baseline	-9%	-9%	-8%	-11%	-17%	-8%	-15%	-17%	-5%	-1%	-2%	-7%	-11%
Operations (Year 17)	0	0	0	11	56	27	20	14	10	6	3	2	13
% Change from Baseline	-100%	-100%	-100%	-83%	-88%	-93%	-91%	-92%	-92%	-93%	-96%	-98%	-92%
Closure (Year 20)	1	1	1	11	90	41	25	16	11	4	3	2	17
% Change from Baseline	-99%	-99%	-99%	-83%	-81%	-89%	-89%	-91%	-91%	-95%	-97%	-97%	-89%
Post-Closure	78	74	73	86	566	248	114	87	89	88	81	74	138
% Change from Baseline	-2%	2%	4%	28%	23%	-32%	-50%	-48%	-25%	-2%	3%	-6%	-12%
4-DC													
Baseline	92	84	80	90	503	373	230	171	136	104	90	90	170
Construction (Year -2)	80	72	67	82	427	341	195	141	117	91	85	84	149
% Change from Baseline	-13%	-14%	-16%	-9%	-15%	-9%	-15%	-17%	-14%	-12%	-6%	-7%	-13%
Operations (Year 17)	1	0	0	24	89	33	23	16	10	9	5	2	18
% Change from Baseline	-99%	-100%	-100%	-73%	-82%	-91%	-90%	-91%	-92%	-91%	-94%	-98%	-90%
Closure (Year 20)	1	1	1	21	123	47	28	18	12	6	4	2	22
% Change from Baseline	-99%	-99%	-99%	-77%	-76%	-87%	-88%	-90%	-91%	-94%	-96%	-97%	-87%
Post-Closure	82	79	83	101	612	257	117	90	91	96	86	88	149
% Change from Baseline	-10%	-6%	3%	12%	22%	-31%	-49%	-47%	-33%	-7%	-4%	-2%	-13%
1-DC (WQ7 upstream of confluence with Chedakuz Creek)													
Baseline	113	105	100	112	540	403	259	198	161	126	110	111	195
Construction (Year -2)	94	87	82	104	464	370	224	169	137	107	93	93	169

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
% Change from Baseline	-17%	-17%	-19%	-7%	-14%	-8%	-13%	-15%	-15%	-15%	-16%	-17%	-13%
Operations (Year 17)	20	18	15	48	123	57	50	42	35	25	20	19	39
% Change from Baseline	-82%	-83%	-85%	-57%	-77%	-86%	-81%	-79%	-78%	-80%	-82%	-83%	-80%
Closure (Year 20)	21	19	15	48	158	73	55	44	36	24	20	20	44
% Change from Baseline	-82%	-82%	-85%	-57%	-71%	-82%	-79%	-78%	-78%	-81%	-82%	-82%	-77%
Post-Closure	100	95	89	123	649	286	144	117	116	101	90	93	167
% Change from Baseline	-12%	-9%	-11%	10%	20%	-29%	-44%	-41%	-28%	-20%	-18%	-16%	-14%
Creek 661													
H1 (WQ5)													
Baseline	1.3	1.1	0.9	0.6	38	31	14	6.4	3.2	1.9	1.4	1.3	8.4
Construction (Year -2)	1.3	1.1	0.9	0.2	38	31	14	6.3	3.2	1.9	1.4	1.3	8.3
% Change from Baseline	1%	1%	0%	-66%	-1%	-1%	-2%	-1%	0%	1%	1%	1%	-1%
Operations (Year 17)	0.0	0.0	0.0	0.0	37	30	13	3.9	1.4	0.7	0.2	0.0	7.2
% Change from Baseline	-100%	-100%	-100%	-100%	-3%	-2%	-6%	-38%	-56%	-65%	-87%	-100%	-14%
Closure (Year 20)	0.0	0.0	0.0	0.0	37	30	13	3.9	1.4	0.7	0.2	0.0	7.2
% Change from Baseline	-100%	-100%	-100%	-100%	-3%	-2%	-6%	-38%	-56%	-65%	-87%	-100%	-14%
Post-Closure	1.3	1.1	0.9	0.6	38	31	14	6.4	3.2	1.9	1.4	1.3	8.4
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
1-505659 (upper extents of watershed on tributary potentially impacted by mine footprint)													
Baseline	2.3	1.2	0.5	0.6	149	96	33	15	8.1	3.8	2.8	2.7	26
Construction (Year -2)	2.4	1.3	0.6	0.7	155	96	33	14	7.9	3.7	2.8	2.8	27
% Change from Baseline	5%	11%	22%	4%	4%	0%	-2%	-2%	-2%	-2%	-1%	3%	2%
Operations (Year 17)	4.5	4.0	3.6	1.9	100	52	22	12	7.8	4.5	3.8	4.3	18
% Change from Baseline	95%	Increase	Increase	Increase	-32%	-46%	-32%	-17%	-4%	19%	35%	57%	-30%
Closure (Year 20)	1.4	1.1	0.9	1.5	81	38	16	8.4	5.0	2.4	1.8	1.7	13
% Change from Baseline	-38%	-10%	78%	Increase	-45%	-61%	-52%	-43%	-38%	-36%	-36%	-39%	-49%
Post-Closure	1.6	1.1	1.0	1.7	82	38	16	8.7	5.3	2.6	1.9	1.9	14
% Change from Baseline	-30%	-4%	94%	Increase	-45%	-60%	-51%	-41%	-34%	-30%	-31%	-32%	-49%
1-661 (upstream of confluence with Chedakuz Creek upstream of Tatelkuz Lake)													
Baseline	48	44	40	34	439	250	135	97	68	42	37	45	107
Construction (Year -2)	48	44	41	34	444	250	135	96	68	42	37	45	107
% Change from Baseline	0%	0%	0%	0%	1%	0%	-1%	-1%	-1%	-1%	0%	0%	0%
Operations (Year 17)	49	45	43	36	385	204	124	92	67	43	38	45	97
% Change from Baseline	2%	4%	5%	3%	-12%	-18%	-9%	-4%	-2%	2%	1%	1%	-9%
Closure (Year 20)	46	43	40	37	369	190	118	89	64	41	36	43	93
% Change from Baseline	-5%	-2%	-1%	7%	-16%	-24%	-13%	-8%	-7%	-3%	-4%	-5%	-13%
Post-Closure	48	44	41	37	369	191	118	91	65	42	37	45	94
% Change from Baseline	-1%	0%	1%	9%	-16%	-24%	-13%	-6%	-5%	0%	0%	-1%	-12%
Creek 705													

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
6-705 (WQ16 in upper extents of watershed downstream of fish compensation)													
Baseline	0.0	0.0	0.0	0.0	60	49	11	3.6	1.4	0.1	0.5	0.0	10
Construction (Year -2)	1.9	1.5	1.1	0.4	86	65	18	7.1	3.0	1.9	1.6	1.8	16
% Change from Baseline	Increase	Increase	Increase	Increase	43%	32%	62%	98%	Increase	Increase	Increase	Increase	51%
Operations (Year 17)	1.9	1.5	1.1	0.4	86	65	18	7.1	3.0	1.9	1.6	1.8	16
% Change from Baseline	Increase	Increase	Increase	Increase	43%	32%	62%	98%	Increase	Increase	Increase	Increase	51%
Closure (Year 20)	1.9	1.5	1.1	0.4	86	65	18	7.1	3.0	1.9	1.6	1.8	16
% Change from Baseline	Increase	Increase	Increase	Increase	43%	32%	62%	98%	Increase	Increase	Increase	Increase	51%
Post-Closure	1.9	1.5	1.1	0.4	86	65	18	7.1	3.0	1.9	1.6	1.8	16
% Change from Baseline	Increase	Increase	Increase	Increase	43%	32%	62%	98%	Increase	Increase	Increase	Increase	51%
4-705 (midpoint of watershed)													
Baseline	0.0	0.0	0.0	0.0	186	125	31	7.5	3.2	0.5	0.5	0.0	29
Construction (Year -2)	2.4	1.6	1.2	1.4	213	141	37	11	3.7	3.4	2.6	2.8	35
% Change from Baseline	Increase	Increase	Increase	Increase	14%	13%	22%	43%	14%	Increase	Increase	Increase	19%
Operations (Year 17)	2.4	1.6	1.2	1.4	213	141	37	11	3.7	3.4	2.6	2.8	35
% Change from Baseline	Increase	Increase	Increase	Increase	14%	13%	22%	43%	14%	Increase	Increase	Increase	19%
Closure (Year 20)	2.4	1.6	1.2	1.4	213	141	37	11	3.7	3.4	2.6	2.8	35
% Change from Baseline	Increase	Increase	Increase	Increase	14%	13%	22%	43%	14%	Increase	Increase	Increase	19%
Post-Closure	2.4	1.6	1.2	1.4	213	141	37	11	3.7	3.4	2.6	2.8	35
% Change from Baseline	Increase	Increase	Increase	Increase	14%	13%	22%	43%	14%	Increase	Increase	Increase	19%
H7 (lower extents of watershed)													
Baseline	1.9	0.1	0.0	9.4	517	290	81	29	14	6.3	4.3	5.2	80
Construction (Year -2)	4.0	1.9	1.7	4.3	543	306	87	33	16	7.5	5.5	5.4	85
% Change from Baseline	Increase	Increase	Increase	-54%	5%	5%	8%	12%	16%	20%	28%	4%	6%
Operations (Year 17)	4.0	1.9	1.7	4.3	543	306	87	33	16	7.5	5.5	5.4	85
% Change from Baseline	Increase	Increase	Increase	-54%	5%	5%	8%	12%	16%	20%	28%	4%	6%
Closure (Year 20)	4.0	1.9	1.7	4.3	543	306	87	33	16	7.5	5.5	5.4	85
% Change from Baseline	Increase	Increase	Increase	-54%	5%	5%	8%	12%	16%	20%	28%	4%	6%
Post-Closure	4.0	1.9	1.7	4.3	543	306	87	33	16	7.5	5.5	5.4	85
% Change from Baseline	Increase	Increase	Increase	-54%	5%	5%	8%	12%	16%	20%	28%	4%	6%
1-705 (upstream of confluence of Fawnie Creek)													
Baseline	11	8.7	7.8	22	542	307	93	39	22	11	9.1	11	90
Construction (Year -2)	13	10	9.4	11	569	323	99	42	24	13	10	12	95
% Change from Baseline	19%	20%	20%	-51%	5%	5%	7%	9%	11%	13%	15%	18%	5%
Operations (Year 17)	13	10	9.4	11	569	323	99	42	24	13	10	12	95
% Change from Baseline	19%	20%	20%	-51%	5%	5%	7%	9%	11%	13%	15%	18%	5%
Closure (Year 20)	13	10	9.4	11	569	323	99	42	24	13	10	12	95
% Change from Baseline	19%	20%	20%	-51%	5%	5%	7%	9%	11%	13%	15%	18%	5%
Post-Closure	13	10	9.4	11	569	323	99	42	24	13	10	12	95

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	**Annual**
% Change from Baseline	19%	20%	20%	-51%	5%	5%	7%	9%	11%	13%	15%	18%	5%
Chedakuz Creek													
15-CC (outlet of Tatelkuz Lake)													
Baseline	604	626	705	548	959	973	659	445	334	424	630	598	625
Construction (Year -2)	604	626	705	550	966	974	658	445	333	424	630	598	626
% Change from Baseline	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%
Operations (Year 17)	604	626	702	540	913	915	643	439	330	420	625	596	613
% Change from Baseline	0%	0%	0%	-2%	**-5%**	**-6%**	-2%	-1%	-1%	-1%	-1%	0%	-2%
Closure (Year 20)	601	624	702	535	890	892	634	436	327	415	620	593	606
% Change from Baseline	-1%	0%	0%	-2%	**-7%**	**-8%**	-4%	-2%	-2%	-2%	-2%	-1%	-3%
Post-Closure	610	632	712	555	1,009	948	649	443	336	429	633	602	630
% Change from Baseline	1%	1%	1%	1%	**5%**	-3%	-1%	0%	1%	1%	1%	1%	1%
H5 (midway between Davidson Creek and Turtle Creek confluences)													
Baseline	908	941	1,059	824	1,441	1,462	990	669	501	637	946	898	940
Construction (Year -2)	886	920	1,035	791	1,334	1,394	950	639	478	611	919	876	903
% Change from Baseline	-2%	-2%	-2%	-4%	-7%	-5%	-4%	-4%	-5%	-4%	-3%	-2%	-4%
Operations (Year 17)	797	833	940	674	918	983	764	512	384	504	808	781	741
% Change from Baseline	-12%	-12%	-11%	-18%	-36%	-33%	-23%	-23%	-23%	-21%	-15%	-13%	-21%
Closure (Year 20)	794	832	941	680	939	980	762	511	382	502	806	779	742
% Change from Baseline	-13%	-12%	-11%	-17%	-35%	-33%	-23%	-24%	-24%	-21%	-15%	-13%	-21%
Post-Closure	898	932	1,046	830	1,572	1,306	888	596	467	620	922	881	913
% Change from Baseline	-1%	-1%	-1%	1%	9%	-11%	-10%	-11%	-7%	-3%	-3%	-2%	-3%

Source: Flows are from **Appendix 5.1.2.1B** (Knight Piésold, 2013d). % change has been determined by AMEC. Where a baseline values of zero results in a division by zero or error for % change or a % change is greater than 100% then this has been noted as an "Increase" and no numeric value is presented.
- There are no flows for Node 11-DC as this drainage area is directed towards the 705 Watershed. There are no flows for Node H2 during operations and closure as the freshwater supply system does not exist for this scenario. During post-closure Node H2 does not exist; therefore surface water flows for the TSF spillway plunge pool are used.

Note: L/s = litre per second; % = percent.

Table 8: Estimated 1:50–year Wet Monthly and Annual Surface Water Flow Changes in Turtle Creek, Davidson Creek, Creek 661, Creek 705, and Chedakuz Creek from the Project for Construction (Year -2), Operations (Year 17), Closure (Year 20), and Post-closure

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
Turtle Creek													
H3 (WQ11 in upper watershed on tributary Creek 700)													
Baseline	19	13	15	447	384	524	130	57	60	175	167	39	169
Construction (Year -2)	19	13	15	447	384	524	130	57	60	175	167	39	169
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operations (Year 17)	19	13	15	447	384	524	130	57	60	175	167	39	169
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Closure (Year 20)	19	13	15	447	384	524	130	57	60	175	167	39	169
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Post-Closure	19	13	15	447	384	524	130	57	60	175	167	39	169
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
H6 (midpoint of watershed)													
Baseline	215	191	219	1,143	1,350	1,410	373	234	227	390	414	257	535
Construction (Year -2)	215	191	219	1,143	1,350	1,410	373	234	227	390	414	257	535
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operations (Year 17)	215	191	219	1,143	1,350	1,410	373	234	227	390	414	257	535
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Closure (Year 20)	215	191	219	1,143	1,350	1,410	373	234	227	390	414	257	535
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Post-Closure	215	191	219	1,143	1,350	1,410	373	234	227	390	414	257	535
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
1-TC (WQ 13 upstream of confluence with Chedakuz Creek)													
Baseline	259	232	259	1,176	1,416	1,452	416	277	267	431	459	304	579
Construction (Year -2)	259	232	259	1,176	1,416	1,452	416	277	267	431	459	304	579
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operations (Year 17)	259	232	259	1,176	1,416	1,452	416	277	267	431	459	304	579
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Closure (Year 20)	259	232	259	1,176	1,416	1,452	416	277	267	431	459	304	579
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Post-Closure	259	232	259	1,176	1,416	1,452	416	277	267	431	459	304	579
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Davidson Creek													
11-DC (upper extents of watershed upstream of proposed TSF)													
Baseline	0.4	0.1	0.0	41	99	136	34	8.4	5.1	21	11	2.2	30
Construction (Year -2)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
Operations (Year 17)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
Closure (Year 20)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
Post-Closure	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
H2 (WQ10 midpoint of watershed immediately downstream of proposed TSF)													
Baseline	203	189	178	675	1588	1915	519	262	241	288	288	230	548
Construction (Year -2)	156	144	135	458	1173	1352	401	204	186	216	215	175	401
% Change from Baseline	-23%	-24%	-24%	-32%	-26%	-29%	-23%	-22%	-23%	-25%	-25%	-24%	-27%
Operations (Year 17)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
Closure (Year 20)	-	-	-	-	-	-	-	-	-	-	-	-	-
% Change from Baseline	-	-	-	-	-	-	-	-	-	-	-	-	-
Post-Closure	168	151	147	914	1767	1649	446	211	233	295	243	196	535
% Change from Baseline	-18%	-20%	-17%	35%	11%	-14%	-14%	-19%	-3%	2%	-16%	-15%	-2%
H4B (WQ26)													
Baseline	286	256	241	878	1,822	2,113	637	348	312	388	415	334	669
Construction (Year -2)	240	213	203	673	1,409	1,563	518	290	258	317	341	281	526
% Change from Baseline	-16%	-17%	-16%	-23%	-23%	-26%	-19%	-17%	-17%	-18%	-18%	-16%	-21%
Operations (Year 17)	62	51	53	339	260	230	101	70	61	96	148	92	130
% Change from Baseline	-78%	-80%	-78%	-61%	-86%	-89%	-84%	-80%	-80%	-75%	-64%	-73%	-81%
Closure (Year 20)	65	53	65	433	363	339	128	80	68	120	169	102	165
% Change from Baseline	-77%	-79%	-73%	-51%	-80%	-84%	-80%	-77%	-78%	-69%	-59%	-69%	-75%
Post-Closure	234	205	204	1,168	1,933	1,773	529	275	271	362	333	281	631
% Change from Baseline	-18%	-20%	-15%	33%	6%	-16%	-17%	-21%	-13%	-7%	-20%	-16%	-6%
4-DC													
Baseline	304	270	278	1,038	1,994	2,233	675	365	330	446	485	367	732
Construction (Year -2)	268	235	246	842	1,579	1,685	555	307	278	352	413	314	590
% Change from Baseline	-12%	-13%	-11%	-19%	-21%	-25%	-18%	-16%	-16%	-21%	-15%	-14%	-19%
Operations (Year 17)	88	89	94	449	468	377	148	93	85	147	188	140	197
% Change from Baseline	-71%	-67%	-66%	-57%	-77%	-83%	-78%	-75%	-74%	-67%	-61%	-62%	-73%
Closure (Year 20)	84	67	129	523	563	481	173	101	91	169	210	148	228
% Change from Baseline	-73%	-75%	-54%	-50%	-72%	-78%	-74%	-72%	-72%	-62%	-57%	-60%	-69%
Post-Closure	252	220	244	1,256	2,094	1,897	572	291	287	454	432	315	693
% Change from Baseline	-17%	-19%	-12%	21%	5%	-15%	-15%	-20%	-13%	2%	-11%	-14%	-5%
1-DC (WQ7 upstream of confluence with Chedakuz Creek)													
Baseline	341	305	315	1,091	2,053	2,270	711	401	365	482	523	405	772
Construction (Year -2)	295	263	279	897	1,641	1,731	592	343	312	411	451	352	631

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
% Change from Baseline	-13%	-14%	-11%	-18%	-20%	-24%	-17%	-14%	-15%	-15%	-14%	-13%	-18%
Operations (Year 17)	131	110	159	551	523	417	178	121	110	180	230	172	240
% Change from Baseline	-62%	-64%	-50%	-49%	-75%	-82%	-75%	-70%	-70%	-63%	-56%	-58%	-69%
Closure (Year 20)	133	111	160	621	623	518	203	130	117	203	252	178	271
% Change from Baseline	-61%	-64%	-49%	-43%	-70%	-77%	-71%	-68%	-68%	-58%	-52%	-56%	-65%
Post-Closure	289	254	281	1,284	2,156	1,927	601	324	320	488	469	353	729
% Change from Baseline	-15%	-17%	-11%	18%	5%	-15%	-15%	-19%	-12%	1%	-10%	-13%	-6%
Creek 661													
H1 (WQ5)													
Baseline	16	11	9.3	179	296	361	87	36	28	39	41	26	94
Construction (Year -2)	16	11	9.3	144	288	352	85	36	27	37	40	25	89
% Change from Baseline	-2%	-1%	-1%	-20%	-3%	-3%	-2%	-3%	-2%	-3%	-3%	-3%	-5%
Operations (Year 17)	16	8.6	5.6	120	296	363	87	45	37	49	75	26	94
% Change from Baseline	-3%	-23%	-40%	-33%	0%	0%	1%	24%	35%	28%	82%	1%	0%
Closure (Year 20)	16	8.6	5.6	120	296	363	87	45	37	49	75	26	94
% Change from Baseline	-3%	-23%	-40%	-33%	0%	0%	1%	24%	35%	28%	82%	1%	0%
Post-Closure	16	11	9.3	179	296	361	87	36	28	39	41	26	94
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
1-505659 (upper extents of watershed on tributary potentially impacted by mine footprint)													
Baseline	43	40	45	622	513	657	199	76	64	154	155	64	219
Construction (Year -2)	42	38	41	649	538	694	200	76	65	159	159	63	227
% Change from Baseline	-3%	-5%	-9%	4%	5%	6%	1%	0%	1%	4%	2%	-2%	3%
Operations (Year 17)	24	16	13	328	402	446	134	56	50	109	107	42	144
% Change from Baseline	-45%	-60%	-72%	-47%	-22%	-32%	-32%	-26%	-23%	-29%	-31%	-34%	-34%
Closure (Year 20)	30	24	25	221	311	269	87	38	34	82	85	41	104
% Change from Baseline	-32%	-41%	-46%	-64%	-39%	-59%	-56%	-50%	-47%	-47%	-45%	-36%	-53%
Post-Closure	30	25	25	295	311	269	88	38	34	81	85	41	110
% Change from Baseline	-31%	-38%	-44%	-53%	-39%	-59%	-56%	-50%	-47%	-47%	-45%	-36%	-50%
1-661 (upstream of confluence with Chedakuz Creek upstream of Tatelkuz Lake)													
Baseline	177	152	152	1214	1796	2278	614	257	236	470	481	243	672
Construction (Year -2)	177	152	152	1231	1815	2307	614	256	236	474	483	241	678
% Change from Baseline	0%	0%	0%	1%	1%	1%	0%	0%	0%	1%	0%	-1%	1%
Operations (Year 17)	165	139	138	1130	1703	2087	551	239	223	432	447	229	624
% Change from Baseline	-7%	-9%	-9%	-7%	-5%	-8%	-10%	-7%	-5%	-8%	-7%	-6%	-7%
Closure (Year 20)	166	141	145	1073	1605	1911	506	222	210	404	420	222	585
% Change from Baseline	-6%	-7%	-5%	-12%	-11%	-16%	-18%	-14%	-11%	-14%	-13%	-8%	-13%
Post-Closure	166	144	148	1073	1607	1910	506	221	210	402	418	222	586
% Change from Baseline	-6%	-5%	-3%	-12%	-11%	-16%	-18%	-14%	-11%	-14%	-13%	-8%	-13%
Creek 705													

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual
6-705 (WQ16 in upper extents of watershed downstream of fish compensation)													
Baseline	6.9	3.0	2.9	95	253	111	64	30	30	72	74	15	63
Construction (Year -2)	14	11	10	239	349	222	92	39	30	72	66	24	97
% Change from Baseline	Increase	Increase	Increase	Increase	38%	100%	44%	29%	-1%	0%	-11%	67%	54%
Operations (Year 17)	14	11	10	239	349	222	92	39	30	72	66	24	97
% Change from Baseline	Increase	Increase	Increase	Increase	38%	100%	44%	29%	-1%	0%	-11%	67%	54%
Closure (Year 20)	14	11	10	239	349	222	92	39	30	72	66	24	97
% Change from Baseline	Increase	Increase	Increase	Increase	38%	100%	44%	29%	-1%	0%	-11%	67%	54%
Post-Closure	14	11	10	239	349	222	92	39	30	72	66	24	97
% Change from Baseline	Increase	Increase	Increase	Increase	38%	100%	44%	29%	-1%	0%	-11%	67%	54%
4-705 (midpoint of watershed)													
Baseline	18	4.9	5.2	403	898	420	193	99	136	358	328	37	242
Construction (Year -2)	29	13	12	1125	990	536	222	106	108	279	277	76	314
% Change from Baseline	60%	Increase	Increase	Increase	10%	28%	15%	7%	-20%	-22%	-16%	Increase	30%
Operations (Year 17)	29	13	12	1125	990	536	222	106	108	279	277	76	314
% Change from Baseline	60%	Increase	Increase	Increase	10%	28%	15%	7%	-20%	-22%	-16%	Increase	30%
Closure (Year 20)	29	13	12	1125	990	536	222	106	108	279	277	76	314
% Change from Baseline	60%	Increase	Increase	Increase	10%	28%	15%	7%	-20%	-22%	-16%	Increase	30%
Post-Closure	29	13	12	1125	990	536	222	106	108	279	277	76	314
% Change from Baseline	60%	Increase	Increase	Increase	10%	28%	15%	7%	-20%	-22%	-16%	Increase	30%
H7 (lower extents of watershed)													
Baseline	97	49	45	1,869	2,372	1,374	505	255	261	640	630	158	688
Construction (Year -2)	105	110	101	2,177	2,465	1,496	533	264	265	728	739	228	768
% Change from Baseline	8%	Increase	Increase	16%	4%	9%	6%	3%	2%	14%	17%	44%	12%
Operations (Year 17)	105	110	101	2,177	2,465	1,496	533	264	265	728	739	228	768
% Change from Baseline	8%	Increase	Increase	16%	4%	9%	6%	3%	2%	14%	17%	44%	12%
Closure (Year 20)	105	110	101	2,177	2,465	1,496	533	264	265	728	739	228	768
% Change from Baseline	8%	Increase	Increase	16%	4%	9%	6%	3%	2%	14%	17%	44%	12%
Post-Closure	105	110	101	2,177	2,465	1,496	533	264	265	728	739	228	768
% Change from Baseline	8%	Increase	Increase	16%	4%	9%	6%	3%	2%	14%	17%	44%	12%
1-705 (upstream of confluence of Fawnie Creek)													
Baseline	117	80	88	2,011	2,419	1,401	521	268	266	688	678	215	729
Construction (Year -2)	120	118	108	2,328	2,512	1,523	550	277	272	779	790	243	802
% Change from Baseline	3%	47%	23%	16%	4%	9%	6%	3%	2%	13%	17%	13%	10%
Operations (Year 17)	120	118	108	2,328	2,512	1,523	550	277	272	779	790	243	802
% Change from Baseline	3%	47%	23%	16%	4%	9%	6%	3%	2%	13%	17%	13%	10%
Closure (Year 20)	120	118	108	2,328	2,512	1,523	550	277	272	779	790	243	802
% Change from Baseline	3%	47%	23%	16%	4%	9%	6%	3%	2%	13%	17%	13%	10%
Post-Closure	120	118	108	2,328	2,512	1,523	550	277	272	779	790	243	802

Mine Phase	Estimated Monthly and Annual Surface Water Flows (L/s)												
	Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	**Annual**
% Change from Baseline	3%	47%	23%	16%	4%	9%	6%	3%	2%	13%	17%	13%	10%
Chedakuz Creek													
15-CC (outlet of Tatelkuz Lake)													
Baseline	1,445	1,370	1,565	5,143	12,665	10,952	3,970	2,194	2,745	2,389	2,523	1,778	4,062
Construction (Year -2)	1,445	1,370	1,565	5,147	12,667	10,972	3,970	2,193	2,745	2,390	2,523	1,778	4,064
% Change from Baseline	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operations (Year 17)	1,437	1,363	1,564	5,138	12,644	10,850	3,921	2,179	2,739	2,373	2,511	1,771	4,041
% Change from Baseline	-1%	-1%	0%	0%	0%	-1%	-1%	-1%	0%	-1%	0%	0%	-1%
Closure (Year 20)	1,437	1,364	1,563	5,129	12,625	10,733	3,886	2,163	2,726	2,357	2,499	1,766	4,021
% Change from Baseline	-1%	0%	0%	0%	0%	-2%	-2%	-1%	-1%	-1%	-1%	-1%	-1%
Post-Closure	1,457	1,381	1,576	5,181	12,689	10,950	3,944	2,188	2,750	2,391	2,523	1,789	4,068
% Change from Baseline	1%	1%	1%	1%	0%	0%	-1%	0%	0%	0%	0%	1%	0%
H5 (midway between Davidson Creek and Turtle Creek confluences)													
Baseline	2,171	2,059	2,352	7,729	19,033	16,458	5,966	3,297	4,125	3,590	3,791	2,673	6,104
Construction (Year -2)	2,130	2,023	2,324	7,669	19,007	16,095	5,869	3,250	4,087	3,545	3,746	2,628	6,031
% Change from Baseline	-2%	-2%	-1%	-1%	0%	-2%	-2%	-1%	-1%	-1%	-1%	-2%	-1%
Operations (Year 17)	1,977	1,888	2,228	7,582	19,265	15,405	5,474	3,065	3,944	3,389	3,589	2,469	5,856
% Change from Baseline	-9%	-8%	-5%	-2%	1%	-6%	-8%	-7%	-4%	-6%	-5%	-8%	-4%
Closure (Year 20)	1,979	1,889	2,228	7,584	19,208	15,407	5,468	3,059	3,938	3,385	3,587	2,468	5,850
% Change from Baseline	-9%	-8%	-5%	-2%	1%	-6%	-8%	-7%	-5%	-6%	-5%	-8%	-4%
Post-Closure	2,136	2,032	2,347	7,812	19,079	16,361	5,817	3,234	4,108	3,598	3,755	2,639	6,077
% Change from Baseline	-2%	-1%	0%	1%	0%	-1%	-3%	-2%	0%	0%	-1%	-1%	0%

Source: Flows are from **Appendix 5.1.2.1B** (Knight Piésold, 2013d). % change has been determined by AMEC. Where a % change is greater than 100% then this has been noted as an "Increase" and no numeric value is presented.
- There are no flows for Node 11-DC as this drainage area is directed towards the 705 Watershed. There are no flows for Node H2 during operations and closure as the freshwater supply system does not exist for this scenario. During post-closure Node H2 does not exist; therefore surface water flows for the TSF spillway plunge pool are used.

Note: L/s = litre per second; % = percent.