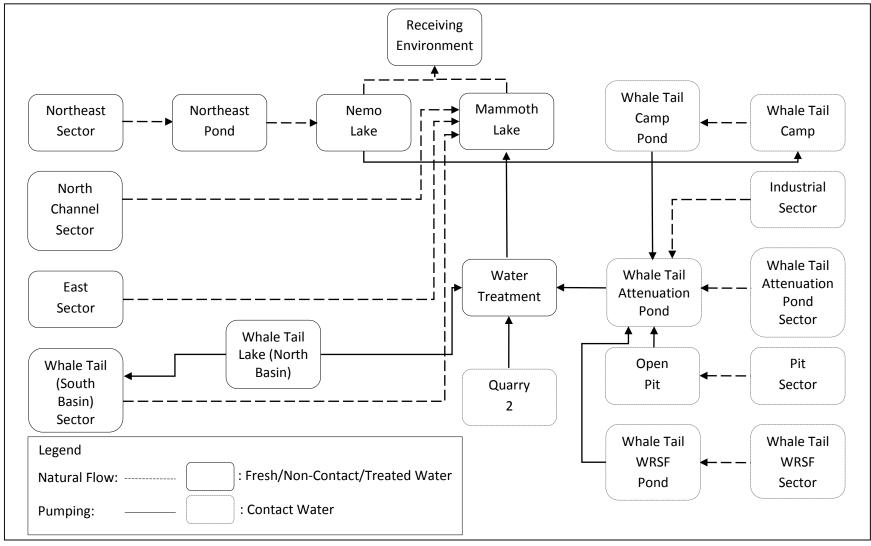


APPENDIX B • WATER MANAGEMENT SCHEMATIC FLOW SHEETS



35

Figure B.1 Water Management Flowsheet during Construction and Operations

AGNICO EAGLE

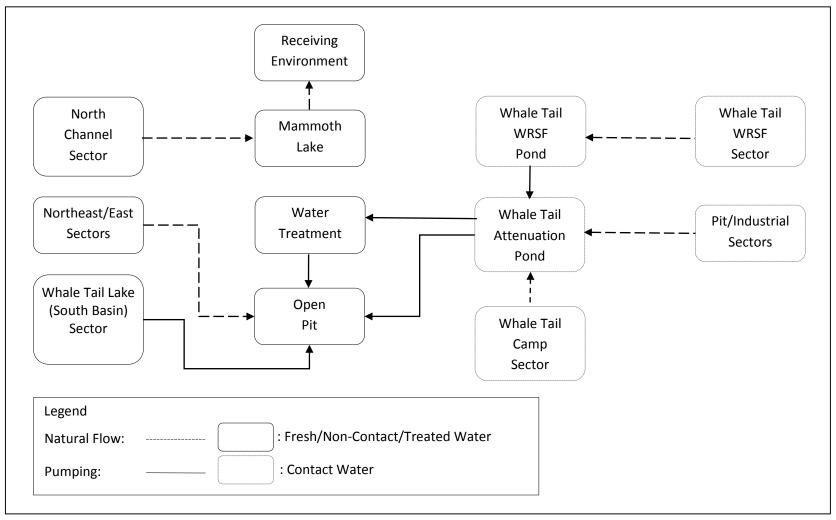


Figure B.2 Water Management Flowsheet during Closure (Year 4 [2022] to Year 7 [2025])

AGNICO EAGLE

June 2016 36

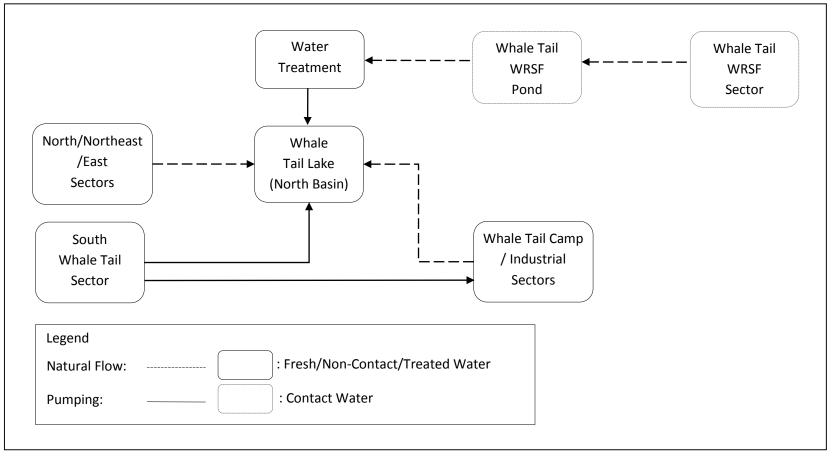


Figure B.3 Water Management Flowsheet during Closure (Year 8 [2026] to Year 11 [2029])

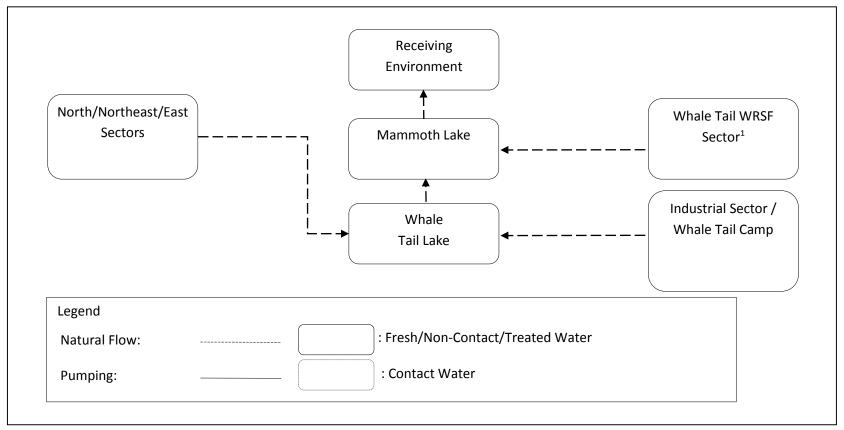


Figure B.4 Water Management Flowsheet during the Post-Closure

June 2016 38

 $^{^{1}}$ Breaching of Whale Tail WRSF Dike may be delayed if water treatment is required

APPENDIX C • SELECTED YEARLY WATER BALANCE DATA

Water balances for each storage facilities were extracted from the permitting level engineering report (SNC 2015) under mean annual climate conditions for the operational phase. Design criteria and considerations can be found in the permitting level engineering report (SNC 2015), and in the Volume 2, Appendix 2-J.

 Table C.1
 Whale Tail Waste Rock Storage Facility Pond Water Balance

Month	Temperature	Snowfall	Max Snow Sublimation	Net Inflow from Snow	Rainfall	Total Runoff	Other Qin	Total Inflow	Lake Evaporation	Maximum Evapotrans- piration	Total Inflow Net from Evaporation	Pumping out	Total Outflow
	[°C]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]
Jan	-31.3	7,536	9,864	0	19	0	0	0	0	0	0	0	0
Feb	-31.1	6,840	9,864	0	35	0	0	0	0	0	0	0	0
Mar	-26.3	9,981	9,864	117	31	0	0	0	0	0	0	0	0
Apr	-17.0	14,561	9,864	4,697	460	0	0	0	0	0	0	0	0
May	-6.4	8,871	9,864	0	5,663	0	0	0	0	0	0	0	0
Jun	4.9	3,285	0	3,285	19,847	65,478	0	65,478	3	3,110	62,365	62,365	62,365
Jul	11.6	6	0	6	42,199	42,205	0	42,205	30	35,062	7,112	7,112	7,112
Aug	9.8	671	0	671	46,176	46,847	0	46,847	31	35,486	11,330	11,330	11,330
Sep	3.1	7,465	0	7,465	37,987	45,452	0	45,452	12	13,961	31,478	31,478	31,478
Oct	-6.5	24,601	9,864	14,737	6,987	0	0	0	0	35	0	0	0
Nov	-19.3	18,180	9,864	8,316	213	0	0	0	0	0	0	0	0
Dec	-26.8	10,907	9,864	1,043	27	0	0	0	0	0	0	0	0
Year	-11.3	112,903	78,912	40,337	159,644	199,982	0	199,982	76	84,655	112,285	112,285	112,285

[°]C = degrees Celsius; m³ = cubic metres.

Table C.2 Whale Tail Camp Pond Water Balance

Month	Temperature	Snowfall	Max Snow Sublimation	Net Inflow from Snow	Rainfall	Total Runoff	Other Qin	Total Inflow	Lake Evaporation	Maximum Evapotrans- piration	Total Inflow Net from Evaporation	Pumping out	Total Outflow
	[°C]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]
Jan	-31.3	1,623	2,124	0	4	0	0	0	0	0	0	0	0
Feb	-31.1	1,473	2,124	0	7	0	0	0	0	0	0	0	0
Mar	-26.3	2,149	2,124	25	7	0	0	0	0	0	0	0	0
Apr	-17.0	3,135	2,124	1,011	99	0	0	0	0	0	0	0	0
May	-6.4	1,910	2,124	0	1,219	0	0	0	0	0	0	0	0
Jun	4.9	707	0	707	4,274	14,099	0	14,099	12	666	13,421	13,421	13,421
Jul	11.6	1	0	1	9,087	9,088	0	9,088	139	7,507	1,442	1,442	1,442
Aug	9.8	145	0	145	9,943	10,088	0	10,088	141	7,598	2,349	2,349	2,349
Sep	3.1	1,607	0	1,607	8,180	9,787	0	9,787	55	2,989	6,742	6,742	6,742
Oct	-6.5	5,297	2,124	3,173	1,504	0	0	0	0	8	0	0	0
Nov	-19.3	3,915	2,124	1,791	46	0	0	0	0	0	0	0	0
Dec	-26.8	2,349	2,124	225	6	0	0	0	0	0	0	0	0
Year	-11.3	24,311	16,992	8,686	34,376	43,062	0	43,062	347	18,768	23,954	23,954	23,954

[°]C = degrees Celsius; m³ = cubic metres.

Table C.3 Whale Tail Pit Water Balance (Groundwater not considered)

Month	Temperature	Snowfall	Max Snow Sublimation	Net Inflow from Snow	Rainfall	Total Runoff	Other Qin	Total Inflow	Lake Evaporation	Maximum Evapotrans- piration	Total Inflow Net from Evaporation	Pumping out	Total Outflow
	[°C]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]
Jan	-31.3	7,639	9,999	0	20	0	0	0	0	0	0	0	0
Feb	-31.1	6,933	9,999	0	35	0	0	0	0	0	0	0	0
Mar	-26.3	10,118	9,999	119	32	0	0	0	0	0	0	0	0
Apr	-17.0	14,760	9,999	4,761	466	0	0	0	0	0	0	0	0
May	-6.4	8,992	9,999	0	5,741	0	0	0	0	0	0	0	0
Jun	4.9	3,330	0	3,330	20,118	66,374	0	66,374	176	3,097	63,101	63,101	63,101
Jul	11.6	6	0	6	42,776	42,783	0	42,783	1,984	34,912	5,887	5,887	5,887
Aug	9.8	680	0	680	46,808	47,488	0	47,488	2,008	35,334	10,146	10,146	10,146
Sep	3.1	7,567	0	7,567	38,507	46,074	0	46,074	790	13,901	31,382	31,382	31,382
Oct	-6.5	24,938	9,999	14,939	7,082	0	0	0	2	35	0	0	0
Nov	-19.3	18,429	9,999	8,430	216	0	0	0	0	0	0	0	0
Dec	-26.8	11,056	9,999	1,057	27	0	0	0	0	0	0	0	0
Year	-11.3	114,449	79,992	40,889	161,829	202,719	0	202,719	4,960	87,280	110,516	110,516	110,516

[°]C = degrees Celsius; m³ = cubic metres.

Table C.4 Whale Tail Attenuation Pond Water Balance

Month	Temperature	Snowfall	Max Snow Sublimation	Net Inflow from Snow	Rainfall	Total Runoff	Pumping In from Dump, Pit and Exploration Camp	Total Inflow	Lake Evaporation	Maximum Evapotrans- piration	Total Inflow Net from Evaporation	Pumping out	Total Outflow
	[°C]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]
Jan	-31.3	6,319	8,271	0	16	0	0	0	0	0	0	0	0
Feb	-31.1	5,735	8,271	0	29	0	0	0	0	0	0	0	0
Mar	-26.3	8,369	8,271	98	26	0	0	0	0	0	0	0	0
Apr	-17.0	12,209	8,271	3,938	385	0	0	0	0	0	0	0	0
May	-6.4	7,438	8,271	0	4,749	0	0	0	0	0	0	0	0
Jun	4.9	2,754	0	2,754	16,641	54,903	138,886	193,789	251	2,528	191,011	191,011	191,011
Jul	11.6	5	0	5	35,384	35,389	14,441	49,830	2,826	28,496	18,508	18,508	18,508
Aug	9.8	563	0	563	38,719	39,282	23,825	63,107	2,860	28,841	31,406	31,406	31,406
Sep	3.1	6,259	0	6,259	31,852	38,111	69,603	107,714	1,125	11,347	95,242	95,242	95,242
Oct	-6.5	20,628	8,271	12,357	5,858	0	0	0	3	29	0	0	0
Nov	-19.3	15,244	8,271	6,973	179	0	0	0	0	0	0	0	0
Dec	-26.8	9,146	8,271	875	23	0	0	0	0	0	0	0	0
Year	-11.3	94,670	66,168	33,823	133,862	167,685	246,755	414,441	7,065	71,241	336,166	336,166	336,166

[°]C = degrees Celsius; m³ = cubic metres.

Table C.5 Northeast Pond Water Balance

Month	Temperature	Snowfall	Max Snow Sublimation	Net Inflow from Snow	Rainfall	Total Runoff	Other Qin	Total Inflow	Lake Evaporation	Maximum Evapotrans- piration	Total Inflow Net from Evaporation	Pumping out	Total Outflow
	[°C]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]
Jan	-31.3	13,917	18,216	0	36	0	0	0	0	0	0	0	0
Feb	-31.1	12,631	18,216	0	64	0	0	0	0	0	0	0	0
Mar	-26.3	18,432	18,216	216	58	0	0	0	0	0	0	0	0
Apr	-17.0	26,889	18,216	8,673	849	0	0	0	0	0	0	0	0
May	-6.4	16,382	18,216	0	10,459	0	0	0	0	0	0	0	0
Jun	4.9	6,066	0	6,066	36,651	120,918	0	120,918	0	5,746	115,173	0	115,173
Jul	11.6	12	0	12	77,929	77,941	0	77,941	0	64,768	13,173	0	13,173
Aug	9.8	1,239	0	1,239	85,274	86,514	0	86,514	0	65,551	20,962	0	20,962
Sep	3.1	13,785	0	13,785	70,151	83,936	0	83,936	0	25,790	58,147	0	58,147
Oct	-6.5	45,432	18,216	27,216	12,902	0	0	0	0	65	0	0	0
Nov	-19.3	33,574	18,216	15,358	394	0	0	0	0	0	0	0	0
Dec	-26.8	20,142	18,216	1,926	50	0	0	0	0	0	0	0	0
Year	-11.3	208,500	145,728	74,492	294,817	369,309	0	369,309	0	161,920	207,454	0	207,454

[°]C = degrees Celsius; m³ = cubic metres.

Table C.6 Whale Tail Lake (South Basin) Water Balance

Month	Temperature	Snowfall	Max Snow Sublimation	Net Inflow from Snow	Rainfall	Total Runoff	Other Qin	Total Inflow	Lake Evaporation	Maximum Evapotrans- piration	Total Inflow Net from Evaporation	Pumping out	Total Outflow
	[°C]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]
Jan	-31.3	166,428	217,845	0	429	0	0	0	0	0	0	0	0
Feb	-31.1	151,050	217,845	0	768	0	0	0	0	0	0	0	0
Mar	-26.3	220,430	217,845	2,585	692	0	0	0	0	0	0	0	0
Apr	-17.0	321,568	217,845	103,723	10,150	0	0	0	0	0	0	0	0
May	-6.4	195,907	217,845	0	125,075	0	0	0	0	0	0	0	0
Jun	4.9	72,542	0	72,542	438,310	1,446,063	0	1,446,063	33,893	57,778	1,354,392	0	1,354,392
Jul	11.6	139	0	139	931,955	932,094	0	932,094	382,064	651,314	0	0	0
Aug	9.8	14,822	0	14,822	1,019,793	1,034,614	0	1,034,614	386,686	659,192	0	0	0
Sep	3.1	164,858	0	164,858	838,935	1,003,792	0	1,003,792	152,132	259,344	592,317	0	592,317
Oct	-6.5	543,320	217,845	325,475	154,300	0	0	0	385	657	0	0	0
Nov	-19.3	401,510	217,845	183,665	4,714	0	0	0	0	0	0	0	0
Dec	-26.8	240,882	217,845	23,037	598	0	0	0	0	0	0	0	0
Year	-11.3	2,493,455	1,742,760	890,846	3,525,717	4,416,563	0	4,416,563	955,160	1,628,284	1,946,709	0	1,946,709

[°]C = degrees Celsius; m³ = cubic metres.

Table C.7 Lake A16 (Mammoth Lake) Water Balance

Month	Temperature	Snowfall	Max Snow Sublimation	Net Inflow from Snow	Rainfall	Total Runoff	Qin from Whale Tail South and Whale Tail Attenuation Pond	Total Inflow	Lake Evaporation	Maximum Evapotrans- piration	Total Inflow Net from Evaporation	Pumping out	Total Outflow
	[°C]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]	[m³]
Jan	-31.3	65,196	85,338	0	168	0	0	0	0	0	0	0	0
Feb	-31.1	59,172	85,338	0	301	0	0	0	0	0	0	0	0
Mar	-26.3	86,351	85,338	1,013	271	0	0	0	0	0	0	0	0
Apr	-17.0	125,970	85,338	40,632	3,976	0	0	0	0	0	0	0	0
May	-6.4	76,744	85,338	0	48,997	0	0	0	0	0	0	0	0
Jun	4.9	28,417	0	28,417	171,702	566,477	1,545,145	2,111,622	12,246	22,966	2,076,410	0	2,076,410
Jul	11.6	54	0	54	365,081	365,136	15,602	380,738	138,042	258,894	0	0	0
Aug	9.8	5,806	0	5,806	399,491	405,297	28,465	433,762	139,711	262,026	32,024	0	32,024
Sep	3.1	64,581	0	64,581	328,642	393,223	686,402	1,079,625	54,966	103,088	921,570	0	921,570
Oct	-6.5	212,839	85,338	127,501	60,445	0	0	0	139	261	0	0	0
Nov	-19.3	157,286	85,338	71,948	1,847	0	0	0	0	0	0	0	0
Dec	-26.8	94,362	85,338	9,024	234	0	0	0	0	0	0	0	0
Year	-11.3	976,779	682,704	348,977	1,381,155	1,730,132	2,275,614	4,005,746	345,104	647,236	3,030,004	0	3,030,004

[°]C = degrees Celsius; m³ = cubic metres.