Appendix B1

Report: *Site Wide Water Balance Model Update*

TECHNICAL MEMORANDUM

DATE December 10, 2011 **PROJECT No.** 11-1221-0042

TO Mr. Stéphane Robert **DOC No.** 1321 Ver. B
Agnico-Eagle Mines Limited Meadowbank Division

FROM Dan Walker **EMAIL** Dan_Walker2@golder.com

SITE WIDE WATER BALANCE MODEL UPDATE, MEADOWBANK GOLD PROJECT, NUNAVUT

1.0 INTRODUCTION

At the request of Agnico-Eagle Mines Ltd. (AEM), this technical memorandum presents an update to the site wide water balance for the Meadowbank Gold Project, Nunavut. The update was completed in order to evaluate freshwater supply requirements over the life of mine based on actual milling and water usage rates at the mine between January 2010 and November 2011 inclusive.

2.0 BACKGROUND

Details of the site wide water balance for the Meadowbank Project are provided in *Meadowbank Gold Project Updated Water Management Plan* (AEM, July 2011; Doc. No. 1270). The model was developed to assist in the evaluation of the maximum operating storage volume of the contact water management infrastructure under average year climate conditions over the life the mine and under closure conditions. The model focuses specifically on contact water management infrastructure and areas that have been physically or chemically affected by mining activities.

The following summarizes the updates made to the model described in Doc. No. 1270 based on information provided by AEM:

- Actual milling rates (tonnes/month) and tailings slurry percent solids were entered for February 2010 to November 2011 inclusive;
- Estimated milling rates and tailings slurry percent solids (50%; assumed constant for the remainder of the mine life) were entered for December 2011 through to December 2012 inclusive;
- Estimated milling rate of 3,666,060 tonnes/year was entered for 2013 through 2015 (8,350 tonnes/day assumed for remainder of mine life to achieve 31.8×10^6 tonnes milled by January 2020);
- Actual ore water, reclaim and freshwater rates to process for February 2010 to October 2011, inclusive (November and December 2011 estimated as the average of September and October 2011 values) were used to calibrate model results;
- Ore water for remainder of mine life was calculated assuming that the average percentage moisture content of incoming ore in 2011;

Golder Associates Ltd.
500 - 4260 Still Creek Drive, Burnaby, British Columbia, Canada V5C 6C6
Tel: +1 (604) 296 4200 Fax: +1 (604) 298 5253 www.golder.com
Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

- Tailings slurry percent solids provided were used to calibrate modelled freshwater and reclaim rates to process to actual values provided by AEM for the same period;
- Minimum freshwater water make-up rate to process of 95.1 m^3/hr for 2010 and 2011, increasing slightly to 95.8 m^3/hr for the remainder of the mine life; and
- Other freshwater usage rates sourced from 3PL, 2PL and/or no-name lake for February 2010 to October 2011, inclusive, including potable water from 3PL; additional dust control from 3PL (via the freshwater tank); emulsion plant from 3PL (via the freshwater tank); batch plant, dust control, emulsion plant and/or production drills from 2PL (via water truck from East Dike); and emulsion plant from no-name lake. No additional dust control from 3PL was assumed after 2010 (included in Dust Control to Portage in Table 1). June 2011 emulsion plant from 3PL was assumed equal to the average of the previous two months and no additional volume was assumed after 2011. November and December 2011 values for emulsion plant from no-name lake, and batch plant, dust control, emulsion plant and/or production drills from 2PL were estimated as the average of September and October 2011 values. The resulting December 2011 monthly rate for emulsion plant from no-name lake was assumed constant for the remainder to the mine life, while the overall average 2011 monthly rate for batch plant, dust control, emulsion plant and/or production drills from 2PL was assumed for the remainder of the mine life.

3.0 UPDATED MODEL RESULTS

The results of the updated site water balance are summarized in Table 1 attached and in the flow logic diagrams presented on Figures 1 to 13. The results for mine years -1 (2009), 1 (2010), 2 (2011), 4 (2013), 6 (2015), 8 (2017), 10 (2019), and 12 (2021) are presented to coincide with key periods in the mine development plan with respect to water management. Time series of key water management facilities are presented on Figures 14 to 21.

3.1 Portage Area

Dewatering of the Second Portage Lake Arm directly to 3PL commenced in March 2009 (Year -1, model month 29) and continued until July 2009 (Year -1, model month 33) when TSS levels precluded direct discharge without further treatment (Figure 15). Decant of the remaining dewatering volume commenced in October 2009 (Year -1, model month 36) with the installation of two TSS treatment systems for a combined maximum treatment capacity of approximately 1,800 m^3/hr. The available TSS treatment capacity is estimated to be sufficient to complete decanting of the remaining water volume, including transfers from Bay-Goose Dike dewatering, by October 2011 (Year 2, model month 60) without the need for additional TSS management.

Dewatering of the Second Portage Arm will isolate three main basins:

- A north basin which will be used for tailings storage and a reclaim pond during the first 3.5 years of mill operations (Years 1 to 4; 2010 to 2013) (Figure 14);
- A central basin which will be used as an attenuation pond during the first 3.5 years of mill operations (2010 to 2013, Years 1 to 4), and for tailings storage and reclaim pond thereafter (Figure 15); and
- An east basin within which Portage Pit mining operations will be completed.

Under the current mine plan, the Tailings Storage Facility (TSF) will ultimately comprise the north and central basins and will be isolated from the east basin through the construction of the Central Dike.

In accordance with the existing mine water management plan (Doc. No. 1270), the updated model results shown on Figure 15 assume that the Portage Attenuation Pond will be operated to minimize the amount of water stored within the facility during the open water season. This will facilitate the construction of the Central Dike and maximize the storage capacity available for the spring freshet reporting from the pond tributary area. Based on this approach, 474,000 m^3 to 7.1x10^6 m^3 of water will be decanted annually to 3PL from the Portage Attenuation Pond during its operation (2010 to 2013, Years 1 to 4).

Based on the updated water balance model results shown on Figures 14 and 15, the water volume within the Reclaim Pond is expected to increase over the mine life. Nevertheless, the TSF is predicted to have sufficient capacity to store all excess water (once reclaim demands are satisfied) reporting to the Reclaim Pond during mine operations (Figures 14 and 15) providing that reclaim treatment is in place by May 2017 (Year 8, model month 127). A reclaim treatment rate of 15,000 m3/day, expanding to 25,000 m^3/day at the end of mine life, has been assumed for the updated water balance model, with the treated effluent being discharged to the Portage Pit Lake. It is noted that the treatment and discharge of excess Reclaim Pond water to the Portage Pit Lake may occur as early as January 2016 (Year 7, model month 111), if required. In accordance with Doc. No. 1270, the proposed water treatment strategy for reclaim pond water should be reviewed and updated as required throughout the mine life based on observed reclaim water quality and storage volumes.

The modeled process water rates over the life of mine are presented on Figure 16. As indicated, excess freshwater make-up to process is required in 2010 (Year 1, model months 39 to 50) to provide for mill start-up, and due to the comparatively lower tailings slurry solids content (*i.e.,* greater amount of water required for process) and limit on maximum reclaim pumping capacity. With the increase in tailings slurry solid content in January 2011 (Year 2, model month 51) onwards, the total process water demand drops, and the modeled reclaim rate is dictated by the minimum process freshwater requirement (*i.e.,* approximately 70,000 m^3/mon) rather than reclaim water availability or pumping capacity.

The estimated total annual freshwater requirements from all modeled sources is comparable at approximately 1.15 to 1.36x10^6 m^3/yr prior to diversion of 3PL water to assist with pit flooding in 2018 (Year 9) (Figure 17; Table 1). These values are greater than the currently licensed value of 700,000 m^3/yr from all sources including explosives mixing (Nunavut Water Board Water Licence No. 2AM-MEA0815 Type "A" dated June 9, 2008). As indicated in Table 1, the estimated water discharges to 3PL in 2010 to 2012 (Years 1 to 3) exceed the freshwater demands during the same period. In 2013 to 2018 (Years 4 to 9), a maximum of approximately 1.35x10^6 m^3/year of freshwater water will be required from 3PL. However, the diversion of 3PL water to assist with pit reflooding has been delayed by 3 years, from 2015 (Year 6) under the previous mine plan to 2018 (Year 9) under the updated mine plan (i.e., total freshwater demand in Years 6 to 8 are less than modelled previously). As a result, the modelled average annual reflooding requirement from 3PL has been reduced by approximately 400,000 m^3/year. Given the above, and the relatively large surface area and volume of 3PL (approximately 33 km^2 and 446x10^6 m^3, respectively; Golder, 2006. Bathymetric Surveys Meadowbank Project Nunavut, Doc. 309, Ver. O, dated 24 November, 2006), a total annual freshwater requirement of 1.35x10^6 m^3/yr is expected to have minimal impact on 3PL water levels relative to anticipated levels under the previous mine plan and current license conditions.

Flooding of the Portage Pit via diversion of Tear Drop Lake water and groundwater and dike seepage and runoff collection is assumed to commence in January 2016 (Year 7, model month 111). As indicated above,

flooding via controlled discharge from 3PL will not commence until 2019 (Year 9, model month 135) when Goose Island Pit operations cease, and will continue at an average annual rate of approximately $4.52x10^6$ m^3/yr (pumped June through September) through 2023 (Year 14, Figures 18 and 19). In accordance with Doc. No. 1270, the average annual discharge rate from 3PL was set to accommodate all of the Portage and Goose Island pit inflows and tributary area runoff, the mill site runoff, and reclaim pond treatment discharge over an eight year period (assuming average annual conditions). A reduction in the estimated average annual ($4.88x10^6$ m^3/yr from $5.28x10^6$ m^3/yr) and total ($26.7x10^6$ m^3 from $42.2x10^6$ m^3) 3PL water requirement for Portage and Goose Island pit flooding is realized under the updated mine plan due to the greater proportion of pit inflows, tributary area runoff, Tear Drop Lake diversions, and treated reclaim water being sent to the pit within the eight year flooding period. As described in Doc. No. 1207, the estimated reflooding volumes within the Goose Island and Portage pit dike areas, including the mined out pits, is approximately $12.7x10^6$ m^3 and $42.2x10^6$ m^3, respectively, for a total reflooding volume of approximately $54.9x10^6$ m^3.

3.2 Vault Area

Vault Lake dewatering and mining operations within the Vault Pit commence in 2014 (Year 5) and 2015 (Year 6), respectively (Table 1, Figure 20). The existing TSS treatment capacity on site for the dewatering of Second Portage Arm is estimated to be sufficient to complete dewatering of Vault Lake by January 2015 (Year 6, model month 99) without the need for the additional TSS management.

During mining operations, Vault Pit and RSF runoff will be redirected to the Vault Attenuation Pond prior to treatment (if necessary) and discharge to Wally Lake. In accordance with Doc. No. 833, the Vault Attenuation Pond was assumed to be operated such that the annual volume of water collected within the pond on a hydrologic year basis (Oct. 1 through Sept. 30) would be decanted during the open water period between June and September (Figure 20). This limits the amount of water that will be stored over the winter period and maximizes the storage capacity available for the spring freshet from the pond tributary area.

Flooding of the Vault Pit and Attenuation Pond via controlled discharge from Wally Lake is assumed to commence February 2020 (Year 11, model month 160) and continue at an average annual rate of approximately $4.0x10^6$ m^3/yr (pumped June through September) through 2025 (Year 16, Figure 21). The estimated average annual and total ($24.2x10^6$ m^3) Wally Lake water requirement for pit flooding is the same as was presented in Doc. No. 1270. The estimated reflooding volume within the Vault Dike, including the mined-out pit, is approximately $26.9x10^6$ m^3.

4.0 CLOSURE

We trust the above information meets with your requirements. If additional information is required, please do not hesitate to contact us.

GOLDER ASSOCIATES LTD.

Dan Walker, Ph.D., P.Eng. (BC, NWT/NU)
Associate

Annie Beaulieu
Associate

DRW/rs

Attachments: Table 1: Updated Water Balance Model Summary
Figures 1 to 21

c:\users\drwalker\desktop\11-1221-0042\december 2011 wb update\doc 1321 1210_11 tm-site wide water balance model update - meadowbank ver b.doc

Table 1: Updated Water Balance Model Summary

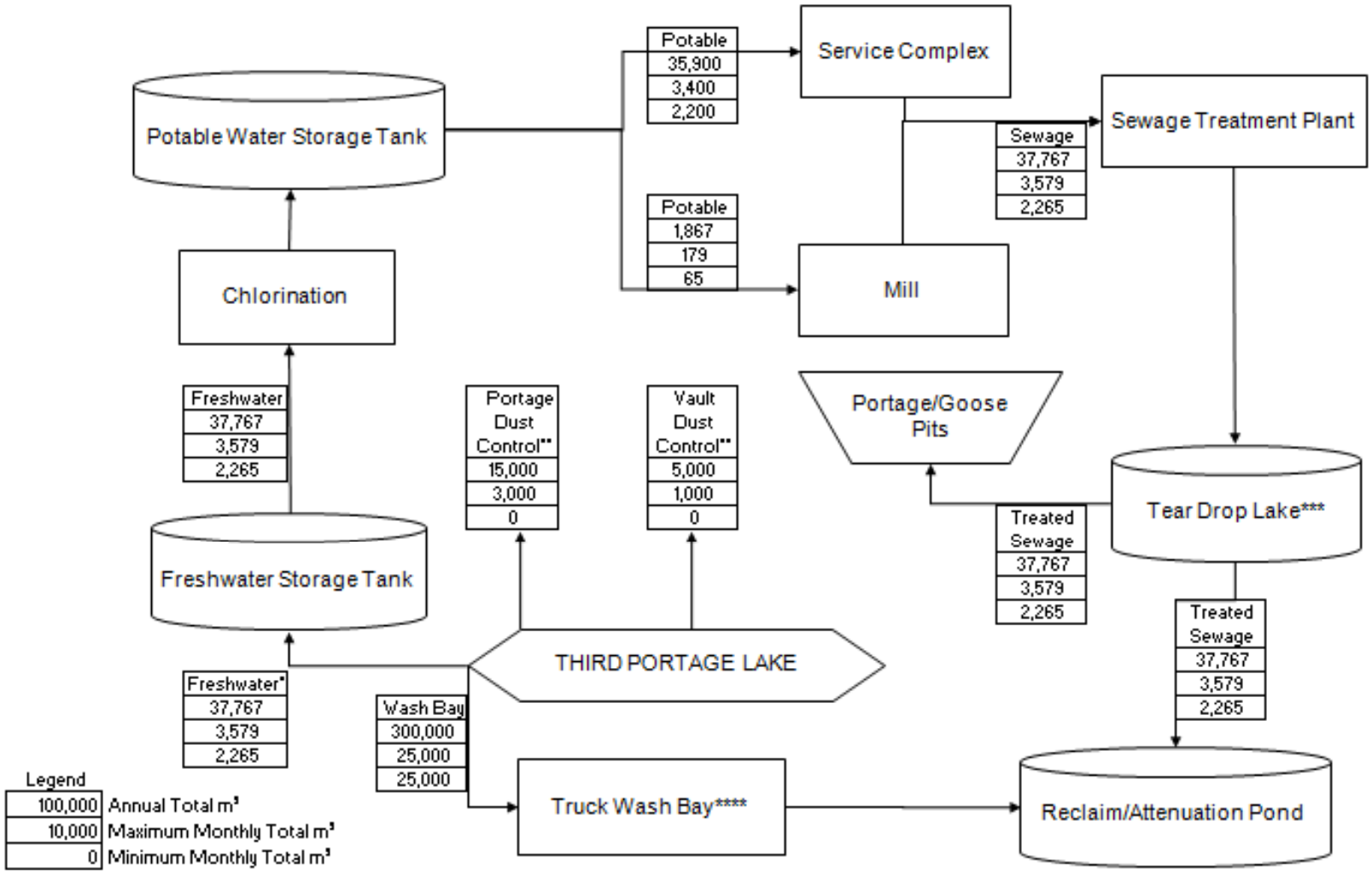
	Year -1		Year 1		Year 2		Year 4		Year 6		Year 8		Year 10		Year 12	
	inflow	outflow	inflow	outflow	inflow	outflow	inflow	outflow	inflow	outflow	inflow	outflow	inflow	outflow	inflow	outflow
	m³/year	m³/year	m³/year	m³/year	m³/year	m³/year	m³/year	m³/year	m³/year	m³/year	m³/year	m³/year	m³/year	m³/year	m³/year	m³/year
Reclaim Pond (Mine Year 1 to 4)																
Pumped from Wash Bay			150,000		300,000		100,000									
Treated Sewage from Tear Drop Lake			32,493													
Pumped from Goose Pit																
Pumped from Portage Pit			661,800													
Tails Storage Runoff & Seepage			1,611,600		1,756,200		733,700									
Other Areas Runoff			568,900		95,200											
Rock Storage Runoff			18,300		24,400											
Direct Precipitation			44,000		44,500		39,500									
Direct Evaporation				53,600		52,000		47,900								
Decant to Attenuation								1,543,800								
Reclaim Water to Mill				2,067,100		2,032,400		1,092,100								
Sub-Total			3,087,093	2,120,700	2,220,300	2,084,400	873,200	2,683,800								
Change in Storage			**966,393**		**135,900**		**(1,810,600)**									
Stormwater Attenuation Pond (Reclaim Pond Mine Year 4 to 9)																
Pumped from Wash Bay							200,000		300,000		300,000		300,000			
Treated Sewage from Tear Drop Lake	28,927						37,694		37,694							
Pumped from Goose Pit					3,277,064		348,400		985,200		1,009,300					
Pumped from Portage Pit	344,700				1,010,100		1,146,200		1,197,300							
East Dike to Attenuation	3,499,221		367,883													
Bay-Goose Dike Construction			1,491,450													
Rock Storage Runoff	7,717						24,400		24,400		82,700		82,700		82,700	
Other Areas Runoff	113,900		217,700		227,900		362,200		328,100		516,600		124,300		329,000	
Decant from Reclaim Pond							1,543,800									
Tails Storage Runoff & Seepage							1,605,600		2,368,800		2,018,800		2,030,600			
Direct Precipitation	108,700		38,300		16,700		38,700		37,400		31,400		6,200			
Direct Evaporation		128,200		46,100		12,600		51,100		45,400		37,200		6,700		
Reclaim Water to Mill								1,528,900		2,620,900		2,178,800		2,150,300		
Dewater to Third Portage		9,294,600														
Decant to Third Portage Lake		2,892,200		7,119,300		5,869,280		473,800								
Treatment to Portage Pit												3,652,500		1,402,700		205,800
Treatment to Goose Pit														1,402,700		205,800
Sub-Total	4,103,165	12,315,000	2,115,333	7,165,400	4,531,764	5,881,880	5,306,994	2,053,800	5,278,894	2,666,300	3,958,800	5,868,500	2,543,800	4,962,400	411,700	411,600
Change in Storage	**(8,211,835)**		**(5,050,067)**		**(1,350,117)**		**3,253,194**		**2,612,594**		**(1,909,700)**		**(2,418,600)**		**100**	
Mill Water Balance																
Ore Water			27,700		43,000		55,100		55,100		45,800		45,800			
Reclaim Water			2,067,100		2,032,400		2,621,000		2,620,900		2,178,800		2,150,300			
Process Freshwater from Third Portage			943,700		793,500		992,500		992,500		825,100		849,600			
Tailings Transport Water				3,038,600		2,868,900		3,668,500		3,668,500		3,049,800		3,049,800		
Sub-Total			3,038,500	3,038,600	2,868,900	2,868,900	3,668,600	3,668,500	3,668,500	3,668,500	3,049,700	3,049,800	3,045,700	3,049,800		
Balance			**(100)**		**0**		**100**		**0**		**(100)**		**(4,100)**			

Table 1: Updated Water Balance Model Summary (continued)

	Year -1		Year 1		Year 2		Year 4		Year 6		Year 8		Year 10		Year 12	
	inflow	outflow	inflow	outflow	inflow	outflow	inflow	outflow	inflow	outflow	inflow	outflow	inflow	outflow	inflow	outflow
	m³/year	m³/year	m³/year	m³/year	m³/year	m³/year	m³/year	m³/year	m³/year	m³/year	m³/year	m³/year	m³/year	m³/year	m³/year	m³/year
Goose Island Pit (Reflooding begins Mine Year 9)																
Direct Precipitation													25,400		36,600	
Other Area Runoff													159,200		157,500	
Goose Island Pit Runoff & Seepage					200,700		348,400		985,200		1,009,300		751,300		495,900	
Treated from Reclaim Pond													1,402,700		205,800	
Pumped from Third Portage													360,000		360,000	
Dewater to Third Portage																
Treated Sewage from Tear Drop Lake													18,847		18,847	
Pumped to Reclaim (to Mine Year 4)																
Pumped to Attenuation/Reclaim						3,277,064		348,400		985,200		1,009,300				
Evaporation														31,400		46,800
Sub-Total					200,700	3,277,064	348,400	348,400	985,200	985,200	1,009,300	1,009,300	2,717,447	31,400	1,274,647	46,800
Change in Storage					**(3,076,364)**		**0**		**0**		**0**		**2,686,047**		**1,227,847**	
Portage Pit (Reflooding begins Mine Year 7)																
Direct Precipitation											30,000		101,000		139,100	
Other Area Runoff											233,600		138,000		136,800	
Portage Runoff and Seepage	344,700		661,800		1,010,100		1,146,200		1,197,300		2,419,200		971,000		447,000	
Treated from Reclaim Pond											3,652,500		1,402,700		205,800	
Pumped from Third Portage													4,520,000		4,520,000	
Treated Sewage from Tear Drop Lake											37,694		18,847		18,847	
Pumped to Reclaim (to Mine Year 4)				661,800												
Pumped to Attenuation/Reclaim		344,700				1,010,100		1,146,200		1,197,300						
Evaporation												40,700		124,500		172,400
Sub-Total	344,700	344,700	661,800	661,800	1,010,100	1,010,100	1,146,200	1,146,200	1,197,300	1,197,300	6,372,994	40,700	7,151,547	124,500	5,467,547	172,400
Change in Storage	**0**		**0**		**0**		**0**		**0**		**6,332,294**		**7,027,047**		**5,295,147**	
Vault Water Attenuation Pond (Reflooding begins Mine Year 11)																
Vault Pit Runoff & Seepage									28,300		48,900		48,900			
Rock Storage Runoff									24,600		52,600		52,600		178,200	
Other Areas Runoff									489,500		378,000		378,000		570,400	
Direct Runoff									3,800		3,400		3,400		35,600	
Pumped from Wally Lake															4,040,000	
Direct Evaporation										9,300		8,000		8,000		46,700
Decant to Wally Lake										537,000		474,800		474,800		
Sub-Total									546,200	546,300	482,900	482,800	482,900	482,800	4,824,200	46,700
Change in Storage									**(100)**		**100**		**100**		**4,777,500**	

Table 1: Updated Water Balance Model Summary (continued)

	Year -1		Year 1		Year 2		Year 4		Year 6		Year 8		Year 10		Year 12	
	inflow	outflow	inflow	outflow	inflow	outflow	inflow	outflow	inflow	outflow	inflow	outflow	inflow	outflow	inflow	outflow
	m³/year	m³/year	m³/year	m³/year	m³/year	m³/year	m³/year	m³/year	m³/year	m³/year	m³/year	m³/year	m³/year	m³/year	m³/year	m³/year
Third Portage Lake																
Freshwater to Process				943,700		793,500		992,500		992,500		825,100		849,600		
Potable Freshwater		28,927		32,493		37,767		37,694		37,694		37,694		37,694		37,694
Freshwater to Wash Bay				150,000		300,000		300,000		300,000		300,000		300,000		
Bay-Goose Dike Construction				1,491,450												
Dust Control to Portage (freshwater)		15,000		20,970		15,000		15,000		15,000		15,000		15,000		
Dust Control to Vault (freshwater)										5,000		5,000		5,000		
Freshwater to Emulsion Plant						567										
Pumped to Goose Pit														360,000		360,000
Pumped to Portage Pit														4,520,000		4,520,000
Dewater from Attenuation	9,294,600															
Decant from Attenuation Treatment	2,892,200		7,119,300		5,869,280		473,800									
Sub-Total	12,186,800	43,927	7,119,300	2,638,613	5,869,280	1,146,835	473,800	1,345,194	0	1,350,194	0	1,182,794	0	6,087,294	0	4,917,694
Change in Storage	**12,142,873**		**4,480,687**		**4,722,446**		**(871,394)**		**(1,350,194)**		**(1,182,794)**		**(6,087,294)**		**(4,917,694)**	
Wally Lake																
Decant from Attenuation									537,000		474,800		474,800			
Pumped to Vault Lake																4,040,000
Sub-Total									537,000	0	474,800	0	474,800	0	0	4,040,000
Change in Storage									**537,000**		**474,800**		**474,800**		**(4,040,000)**	
Freshwater Use (not including pit reflooding)																
Freshwater to Process				943,700		793,500		992,500		992,500		825,100		849,600		
Potable Freshwater		28,927		32,493		37,767		37,694		37,694		37,694		37,694		37,694
Freshwater to Wash Bay				150,000		300,000		300,000		300,000		300,000		300,000		
Dust Control to Portage (freshwater)		15,000		20,970		15,000		15,000		15,000		15,000		15,000		
Dust Control to Vault (freshwater)										5,000		5,000		5,000		
Freshwater to Emulsion Plant (3PL)						567										
Freshwater to Emulsion Plant (no-name lake)				1,053		1,475		2,246		2,246		2,246		2,246		0
Freshwater from 2PL				287		9,100		9,100		9,100		9,100		9,100		0
Sub-Total	0	43,927	0	1,148,503	0	1,157,409	0	1,356,540	0	1,361,540	0	1,194,140	0	1,218,640	0	37,694
Freshwater Use	**43,927**		**1,148,503**		**1,157,409**		**1,356,540**		**1,361,540**		**1,194,140**		**1,218,640**		**37,694**	



* Freshwater requirements for milling process circuit not shown for clarity (see Figures 2-8)

** Dust control for Portage (3,000 m³ per month May through September Mine Year 1 through 10) and Vault (1000 m³ per month May through September Mine Year 6 through 10). Represents a model sink

*** Treated sewage water directed (via Tear Drop Lake) to Reclaim Pond mine years 1 and 4 to 6, to Attenuation Pond years 2 to 4, and Portage/Goose Pits in mine year 7 onwards to assist with pit flooding.

**** Wash Bay Water directed to Reclaim Pond

DRAFT

PROJECT

AGNICO-EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

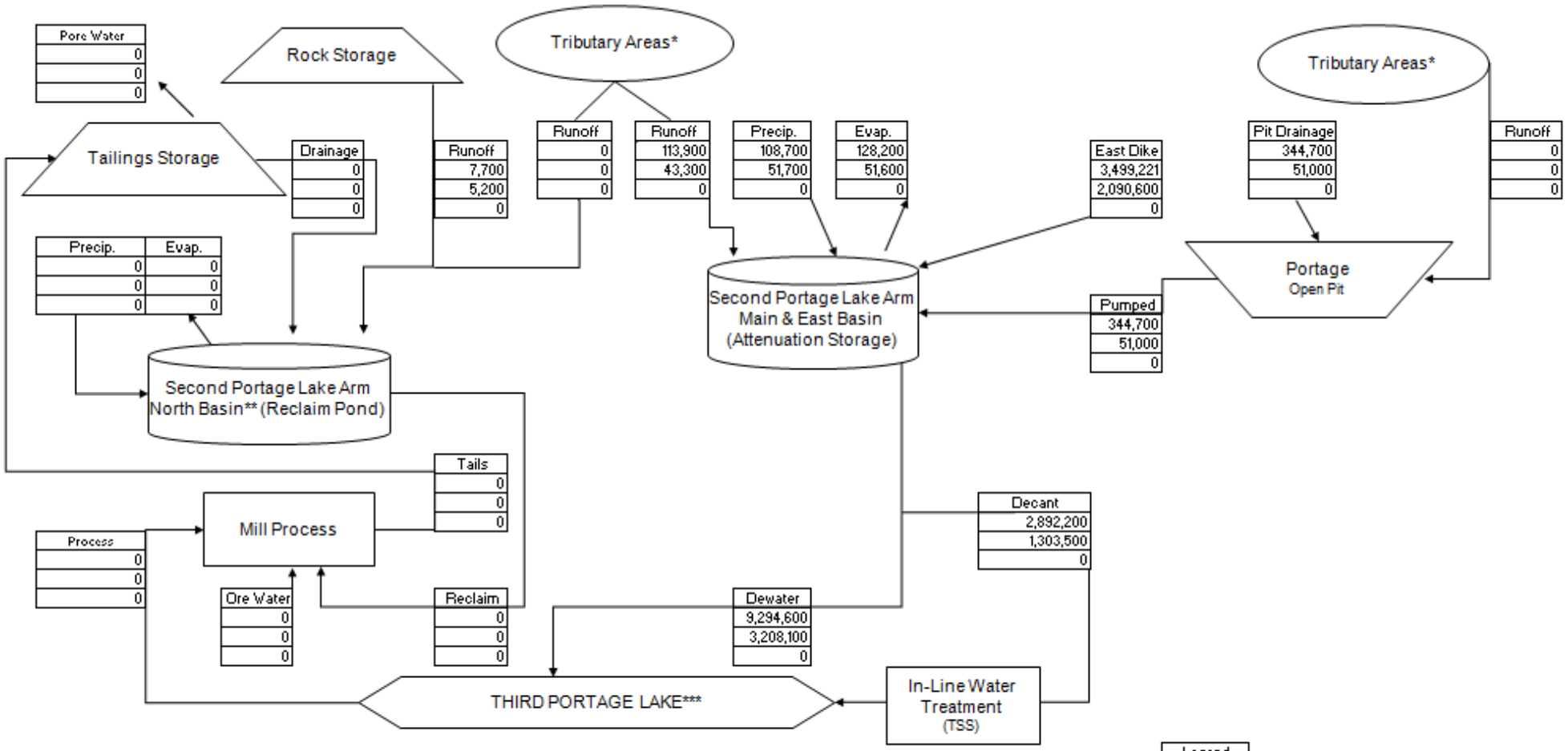
TITLE

POTABLE WATER BALANCE

Golder Associates

PROJECT No. 11-1221-0042			FILE No. Doc. No. 1321		
DESIGN	DRW	10DEC11	SCALE NTS		REV. B
CADD	DRW	10DEC11	FIGURE 1		
CHECK					
REVIEW					

REVISION DATE: 10DEC11 BY: DRW FILE: O:\Active_2011\1221\11-1221-0042\December 2011 WB Update\Report Figures 1 to 13.pptx



* Surfaces within mine affected areas that are not accounted for elsewhere and reporting to local sumps or pit sumps.

** Transfers to Second Portage Lake Arm from Sewage Treatment via Tear Drop Lake not shown for clarity (See Figure 1)

*** Freshwater withdrawals from Third Portage Lake for potable water (avg. 3.7 m³/h) not shown for clarity (See Figure 1)

Legend	
100,000	Annual Total m³
10,000	Maximum Monthly Total m³
0	Minimum Monthly Total m³
- - - - - - -	if required

PROJECT

AEM

AGNICO-EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

TITLE

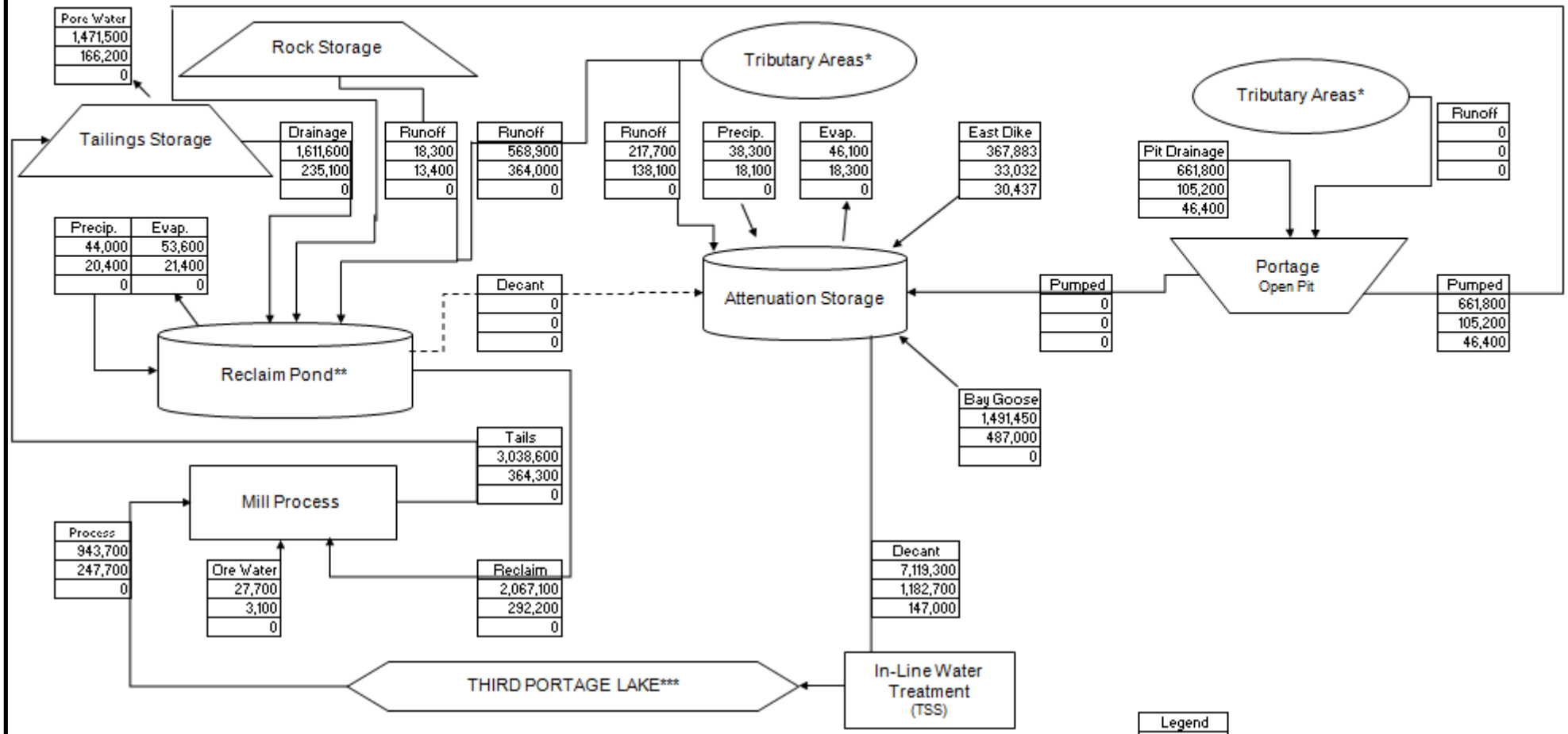
PORTAGE LOGIC DIAGRAM YEAR -1 (2009)

DRAFT

Golder Associates

PROJECT No. 11-1221-0042			FILE No. Doc. No. 1321	
DESIGN	DRW	10DEC11	SCALE NTS	REV. B
CADD	DRW	10DEC11	**FIGURE 2**	
CHECK				
REVIEW				

REVISION DATE: 10DEC11 BY: DRW FILE: O:\Active_2011\1221\11-1221-0042\December 2011 WB Update\Report Figures 1 to 13.pptx



* Surfaces within mine affected areas that are not accounted for elsewhere and reporting to local sumps or pit sumps.

** Transfers of treated sewage (via Tear Drop Lake) and truck washbay water to the Reclaim Pond not shown for clarity. See Figure 1.

*** Freshwater withdrawal for potable water (avg. 3.7 m^3/h), dust control (3,000 m^3/month for May through September) and truck washbay water not shown for clarity. See Figure 1.

Legend	
100,000	Annual Total m^3
10,000	Maximum Monthly Total m^3
0	Minimum Monthly Total m^3
- - - - - - -	if required

PROJECT

AEM

AGNICO-EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

TITLE

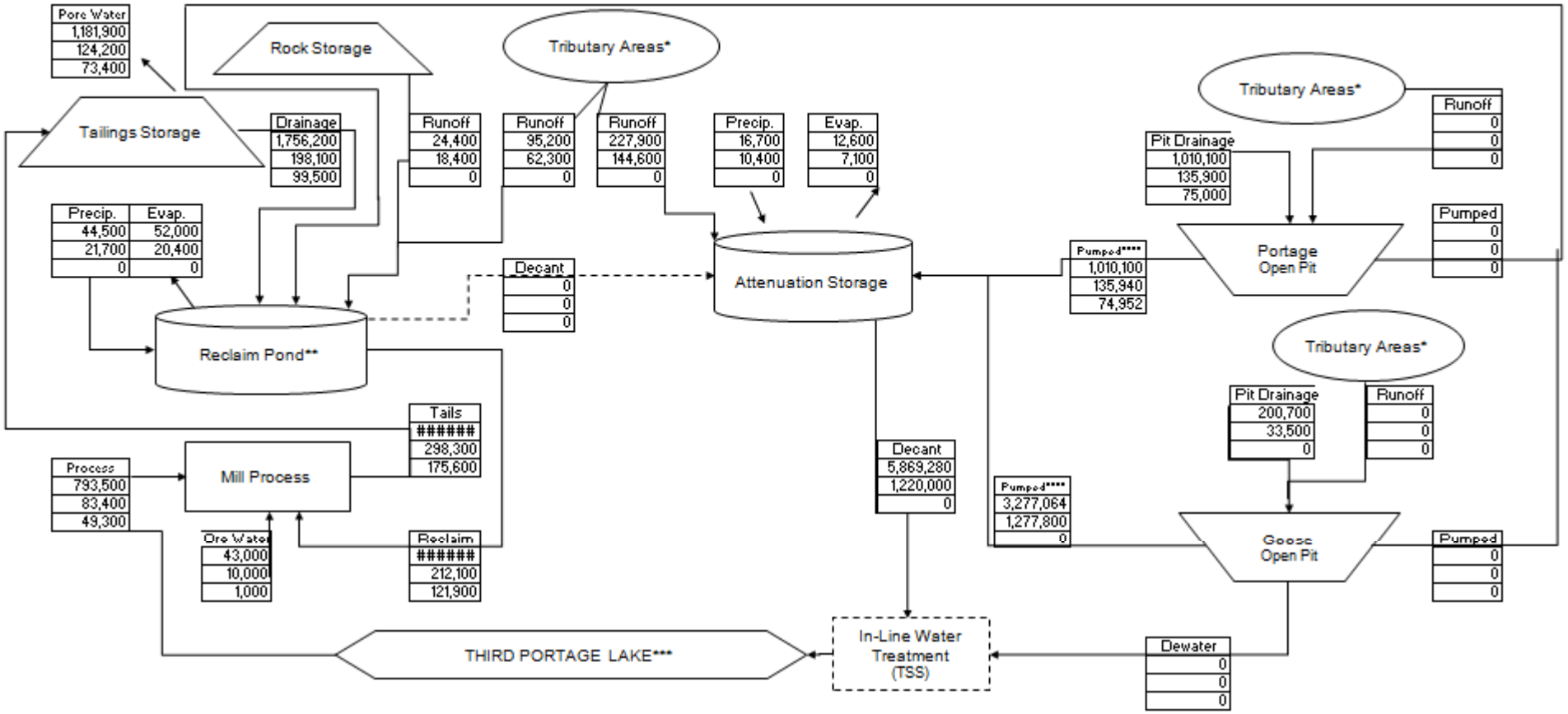
PORTAGE LOGIC DIAGRAM YEAR 1 (2010)

DRAFT

Golder Associates

PROJECT No. 11-1221-0042			FILE No. Doc. No. 1321	
DESIGN	DRW	10DEC11	SCALE NTS	REV. B
CADD	DRW	10DEC11	FIGURE 3	
CHECK				
REVIEW				

REVISION DATE: 10DEC11 BY: DRW FILE: O:\Active_2011\1221\11-1221-0042\December 2011 WB Update\Report Figures 1 to 13.pptx



* Surfaces within mine affected areas that are not accounted for elsewhere and reporting to local sumps or pit sumps.

** Transfers of treated sewage (via Tear Drop Lake) and truck washbay water to the Reclaim Pond not shown for clarity. See Figure 1.

*** Freshwater withdrawal for potable water (avg. 3.7 m^3/h), dust control (3,000 m^3/month for May through September) and truck washbay water not shown for clarity. See Figure 1.

**** Pumped water from Goose Pit to Attenuation includes dewatering volume that requires TSS treatment prior to decant to 3PL

Legend	
100,000	Annual Total m^3
10,000	Maximum Monthly Total m^3
0	Minimum Monthly Total m^3
------	if required

PROJECT

AGNICO-EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

TITLE

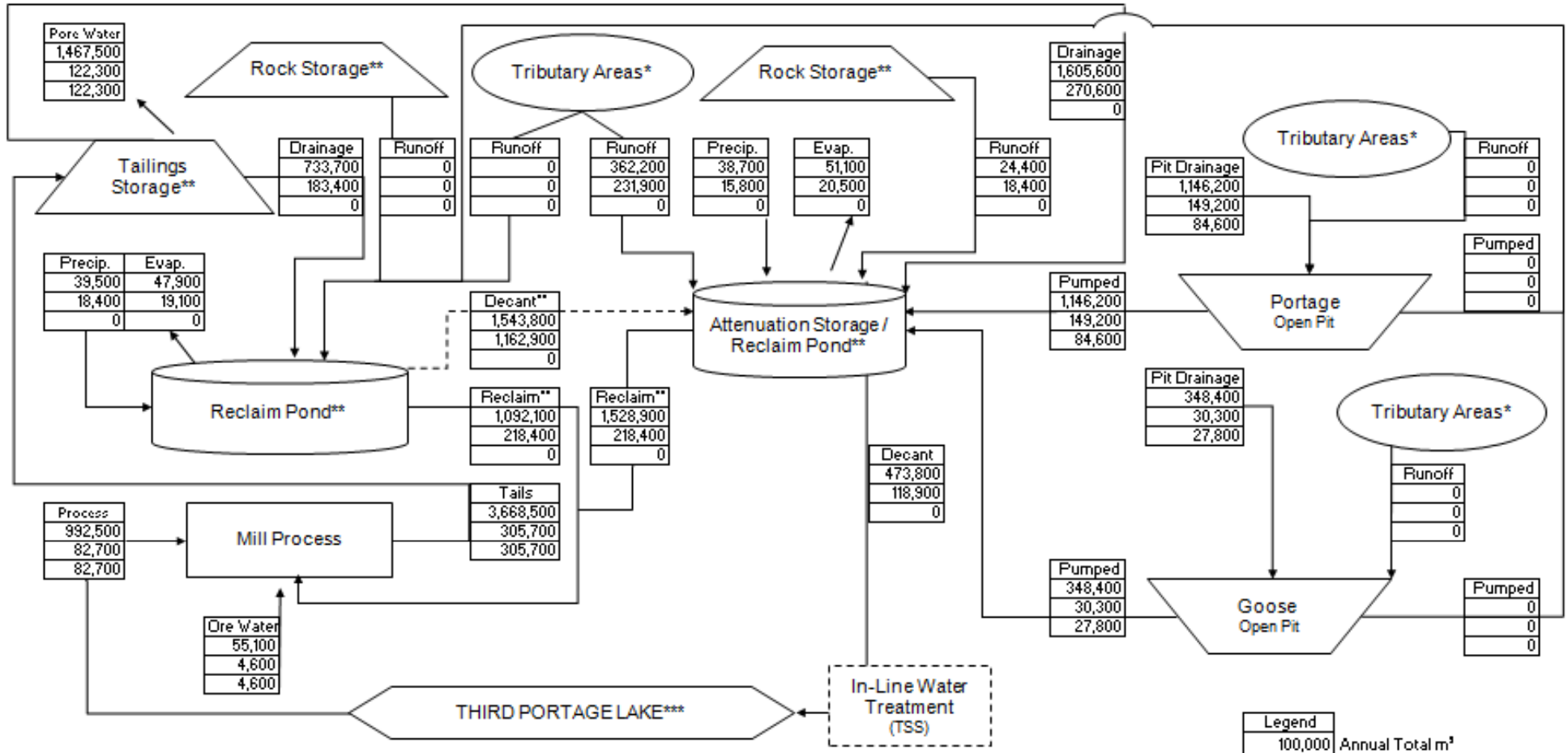
PORTAGE LOGIC DIAGRAM YEAR 2 (2011)

DRAFT

Golder Associates

PROJECT No. 11-1221-0042			FILE No. Doc. No. 1321	
DESIGN	DRW	10DEC11	SCALE NTS	REV. B
CADD	DRW	10DEC11	FIGURE 4	
CHECK				
REVIEW				

REVISION DATE: 10DEC11 BY: DRW FILE: O:\Active_2011\1221\11-1221-0042\December 2011 WB Update\Report Figures 1 to 13.pptx



* Surfaces within mine affected areas that are not accounted for elsewhere and reporting to local sumps or pit sumps.

** Reclaim Pond and Attenuation storage start to combine Mine Year 4 (2013). Reclaim from Attenuation Storage, Tailings Drainage, and Rock Storage Runoff to Attenuation occurs once Reclaim Pond is closed. Decant from Attenuation Storage occurs until ponds start to combine. Transfers of treated sewage (via Tear Drop Lake) and truck washbay water to the Reclaim Pond not shown for clarity. See Figure 1.

*** Freshwater withdrawal for potable water (avg. 3.7 m³/h), dust control (3,000 m³/month for May through September) and truck washbay water not shown for clarity. See Figure 1.

PROJECT

AEM

AGNICO-EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

TITLE

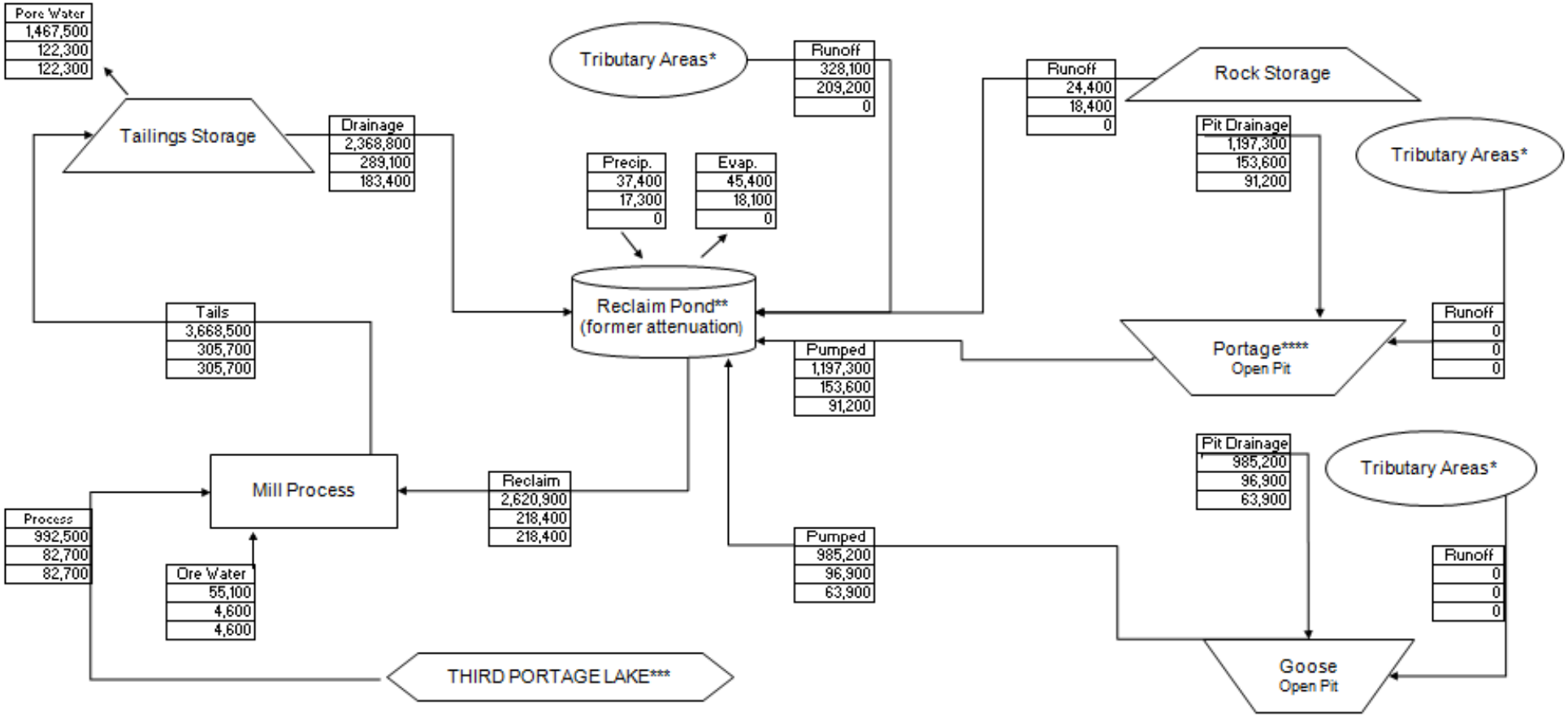
PORTAGE LOGIC DIAGRAM YEAR 4 (2013)

DRAFT

Golder Associates

PROJECT No. 11-1221-0042			FILE No. Doc. No. 1321	
DESIGN	DRW	10DEC11	SCALE NTS	REV. B
CADD	DRW	10DEC11	FIGURE 5	
CHECK				
REVIEW				

REVISION DATE: 10DEC11 BY: DRW FILE: O:\Active_2011\1221\11-1221-0042\December 2011 WB Update\Report Figures 1 to 13.pptx



* Surfaces within mine affected areas that are not accounted for elsewhere and reporting to local sumps or pit sumps.

** Transfers of treated sewage to the Reclaim Pond or Portage Pit (via Tear Drop Lake), and truck wash bay water to the Reclaim Pond not shown for clarity. See Figure 1.

*** Freshwater withdrawal for potable water (avg. 3.3 m³/h), dust control (3,000 m³/month for May through September) and truck washbay water not shown for clarity. See Figure 1.

**** Cessation of mining operations in Portage Pit occurs in Mine Year 6. In Mine Year 7 pumping of Portage Pit water to Reclaim Pond ceases & redirection of Tear Drop Lake water (incl. treated sewage) to Portage Pit commences to assist with pit flooding.

Legend	
100,000	Annual Total m³
10,000	Maximum Monthly Total m³
0	Minimum Monthly Total m³
-------	if required

PROJECT

AEM

AGNICO-EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

TITLE

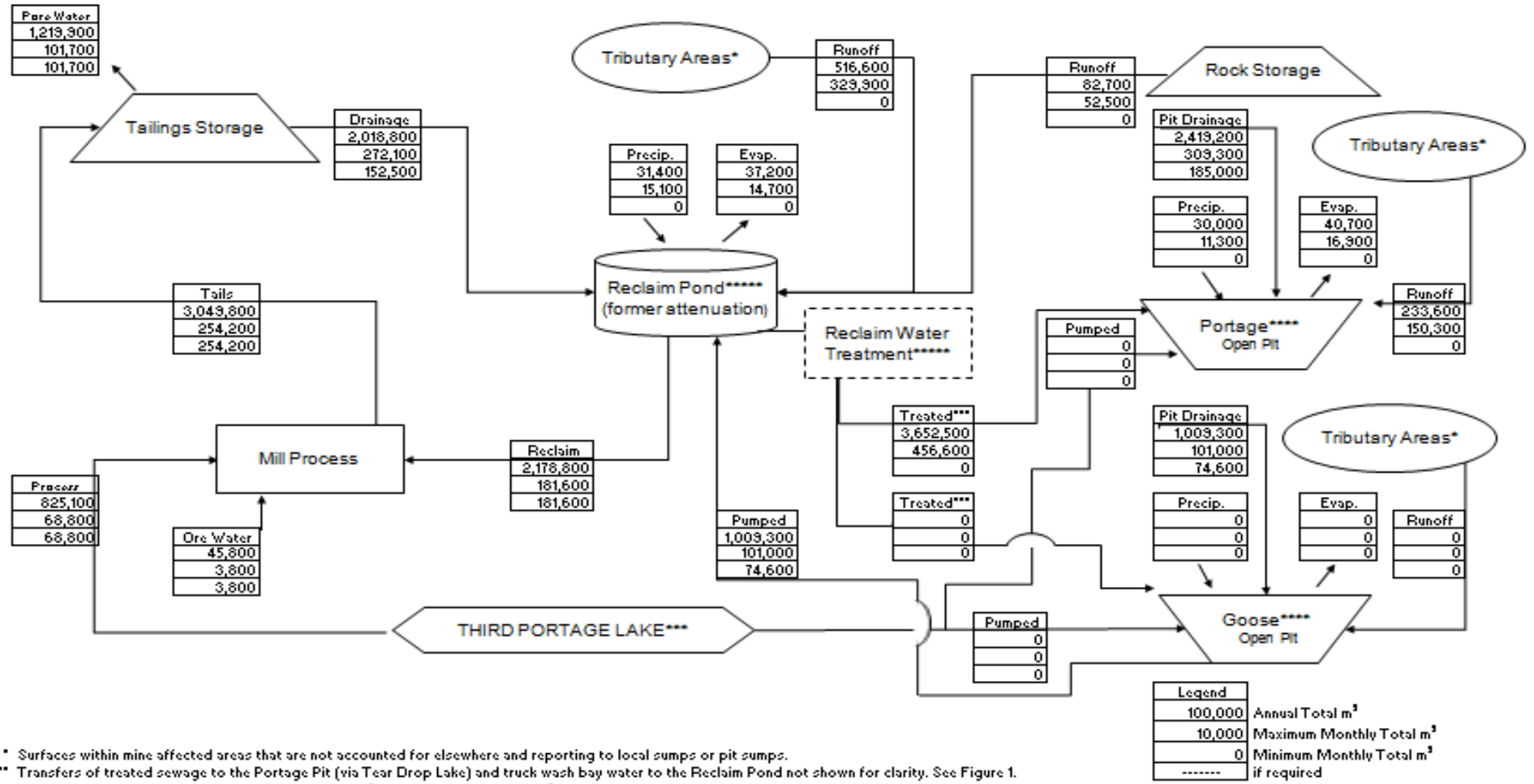
PORTAGE LOGIC DIAGRAM YEAR 6 (2015)

DRAFT

Golder Associates

PROJECT No. 11-1221-0042			FILE No. Doc. No. 1321	
DESIGN	DRW	10DEC11	SCALE NTS	REV. B
CADD	DRW	10DEC11		
CHECK			**FIGURE 6**	
REVIEW				

REVISION DATE: 10DEC11 BY: DRW FILE: O:\Active_2011\1221\11-1221-0042\December 2011 WB Update\Report Figures 1 to 13.pptx



* Surfaces within mine affected areas that are not accounted for elsewhere and reporting to local sumps or pit sumps.

** Transfers of treated sewage to the Portage Pit (via Tear Drop Lake) and truck wash bay water to the Reclaim Pond not shown for clarity. See Figure 1.

*** Freshwater withdrawal for potable water (avg. 3.7 m^3/h), dust control (3,000 m^3/month for May through September) and truck washbay water not shown for clarity. See Figure 1.

**** Cessation of mining operations in Portage Pit and Goose Pit, occurs in Mine Years 6 and 8, respectively. Commencement of transfers from Third Portage Lake to assist with pit flooding occurs in Mine Year 3. Redirection of Tear Drop Lake water to Portage Pit commences in Mine Year 7.

***** Treatment of Reclaim Pond water begins in Mine Year 8. Treated water assumed to be discharged to Portage Pit in Mine Year 8 and then in equal proportions to the Portage and Goose Island pits in Mine Year 9 onwards.

PROJECT

AEM

AGNICO-EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

TITLE

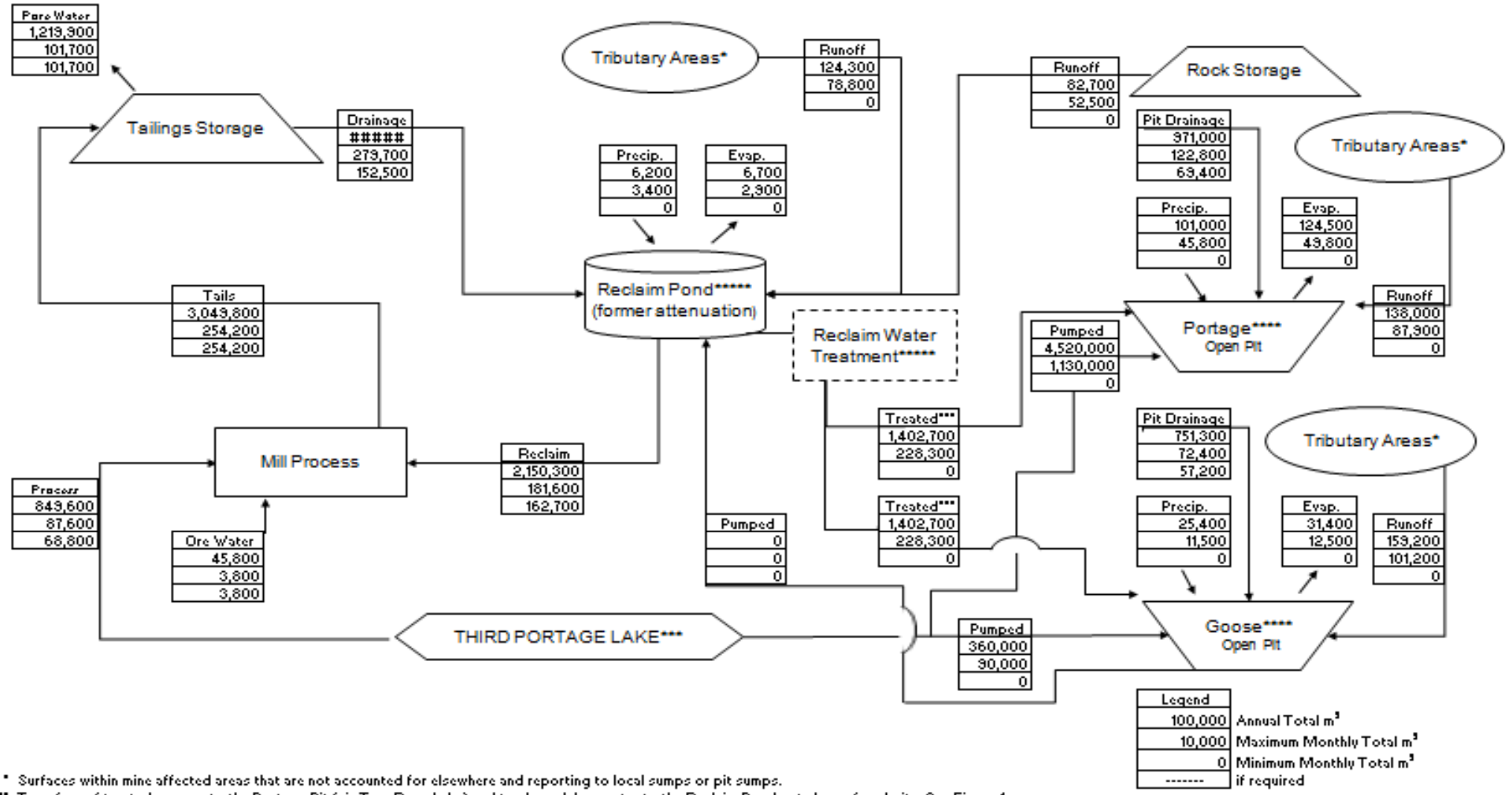
PORTAGE LOGIC DIAGRAM YEAR 8 (2017)

DRAFT

Golder Associates

PROJECT No. 11-1221-0042			FILE No. Doc. No. 1321	
DESIGN	DRW	10DEC11	SCALE NTS	REV. B
CADD	DRW	10DEC11	FIGURE 7	
CHECK				
REVIEW				

REVISION DATE: 10DEC11 BY: DRW FILE: O:\Active_2011\1221\11-1221-0042\December 2011 WB Update\Report Figures 1 to 13.pptx



* Surfaces within mine affected areas that are not accounted for elsewhere and reporting to local sumps or pit sumps.

** Transfers of treated sewage to the Portage Pit (via Tear Drop Lake) and truck wash bay water to the Reclaim Pond not shown for clarity. See Figure 1.

*** Freshwater withdrawal for potable water (avg. 3.7 m^3/h), dust control (3,000 m^3/month for May through September) and truck washbay water not shown for clarity. See Figure 1.

**** Cessation of mining operations in Portage Pit and Goose Pit, occurs in Mine Years 6 and 8, respectively. Commencement of transfers from Third Portage Lake to assist with pit flooding occurs in Mine Year 9. Redirection of Tear Drop Lake water to Portage Pit commences in Mine Year 7.

***** Treatment of Reclaim Pond water begins in Mine Year 8. Treated water assumed to be discharged to Portage Pit in Mine Year 8 and then in equal proportions to the Portage and Goose Island pits in Mine Year 9 onwards.

DRAFT

PROJECT

AEM

AGNICO-EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

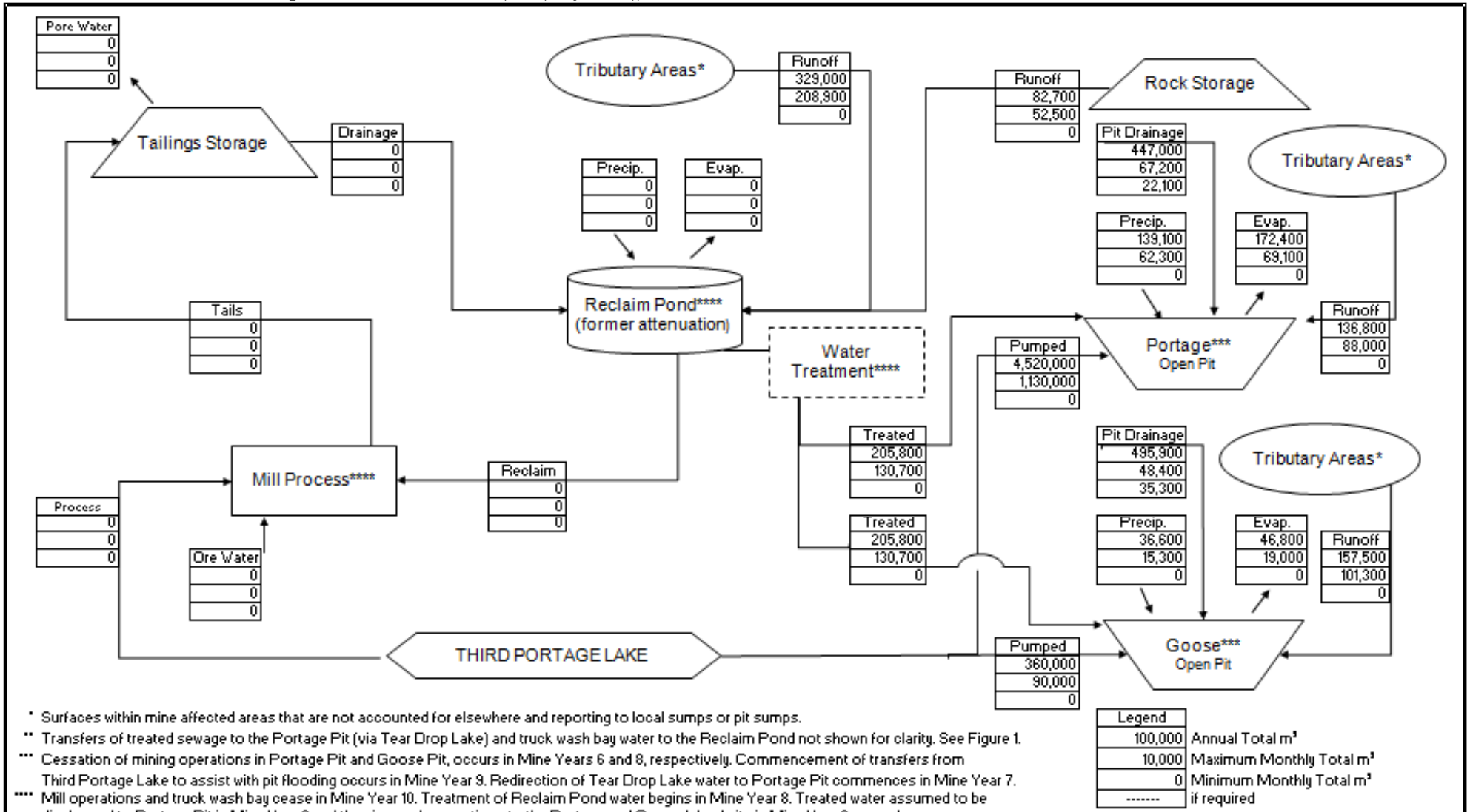
TITLE

PORTAGE LOGIC DIAGRAM YEAR 10 (2019)

Golder Associates

PROJECT No. 11-1221-0042			FILE No. Doc. No. 1321	
DESIGN	DRW	10DEC11	SCALE NTS	REV. B
CADD	DRW	10DEC11		
CHECK			**FIGURE 8**	
REVIEW				

REVISION DATE: 10DEC11 BY: DRW FILE: O:\Active_2011\1221\11-1221-0042\December 2011 WB Update\Report Figures 1 to 13.pptx



* Surfaces within mine affected areas that are not accounted for elsewhere and reporting to local sumps or pit sumps.

** Transfers of treated sewage to the Portage Pit (via Tear Drop Lake) and truck wash bay water to the Reclaim Pond not shown for clarity. See Figure 1.

*** Cessation of mining operations in Portage Pit and Goose Pit, occurs in Mine Years 6 and 8, respectively. Commencement of transfers from Third Portage Lake to assist with pit flooding occurs in Mine Year 9. Redirection of Tear Drop Lake water to Portage Pit commences in Mine Year 7.

**** Mill operations and truck wash bay cease in Mine Year 10. Treatment of Reclaim Pond water begins in Mine Year 8. Treated water assumed to be discharged to Portage Pit in Mine Year 8 and then in equal proportions to the Portage and Goose Island pits in Mine Year 9 onwards.

PROJECT

AEM

AGNICO-EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

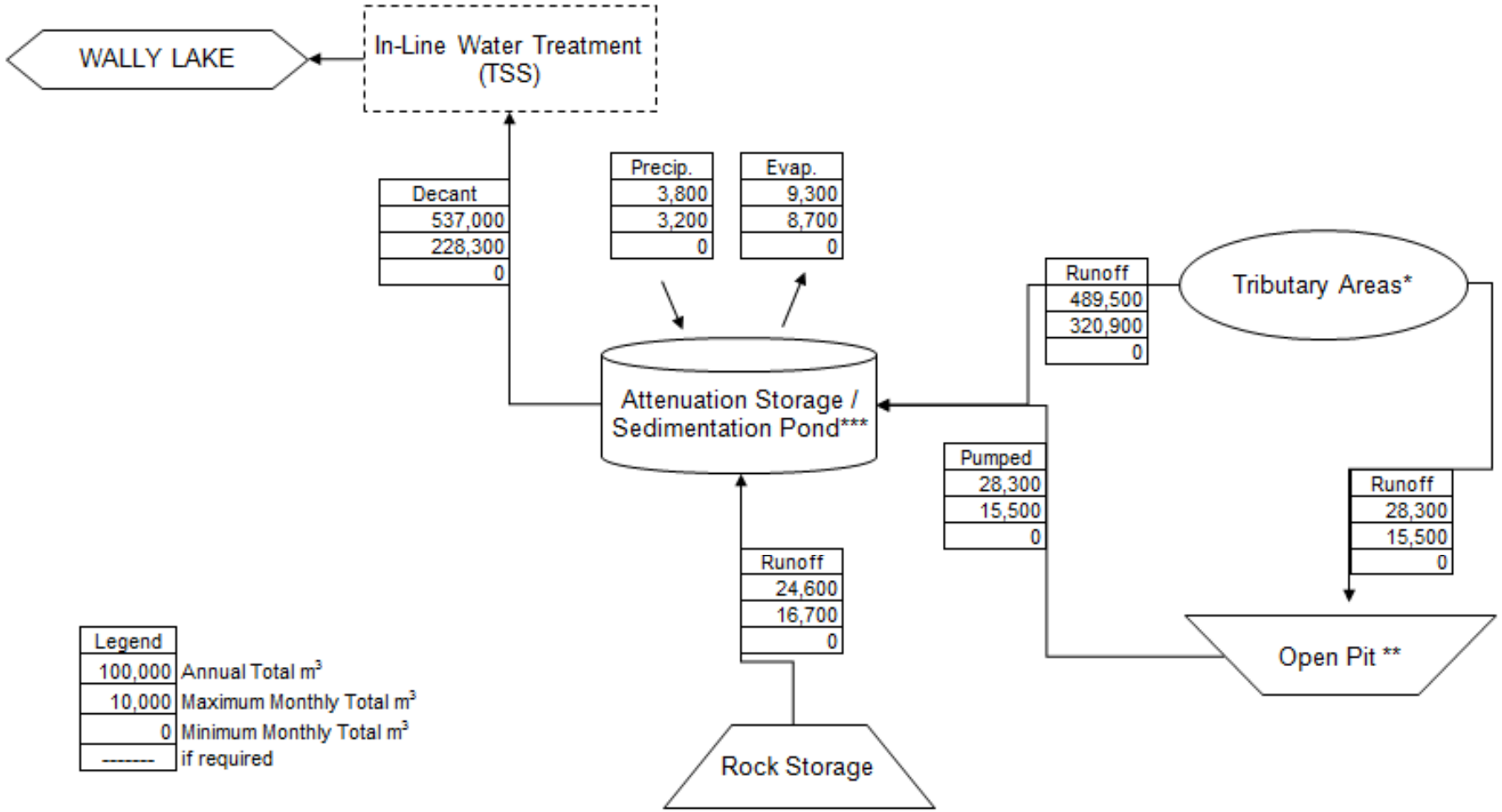
TITLE

PORTAGE LOGIC DIAGRAM YEAR 12 (2021)

DRAFT

Golder Associates

PROJECT No. 11-1221-0042			FILE No. Doc. No. 1321	
DESIGN	DRW	10DEC11	SCALE NTS	REV. B
CADD	DRW	10DEC11	FIGURE 9	
CHECK				
REVIEW				



* Surfaces within mine affected areas that are not accounted for elsewhere reporting to local sumps or pit sumps.

** Vault Pit Mining commences Mine Year 6. Dewatering completed in Mine Year 5

*** Freshwater withdrawal for dust control (1,000 m^3/month for May through September, Mine Year 6 through 11) not shown for clarity. See Figure 1.

PROJECT

AEM

AGNICO-EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

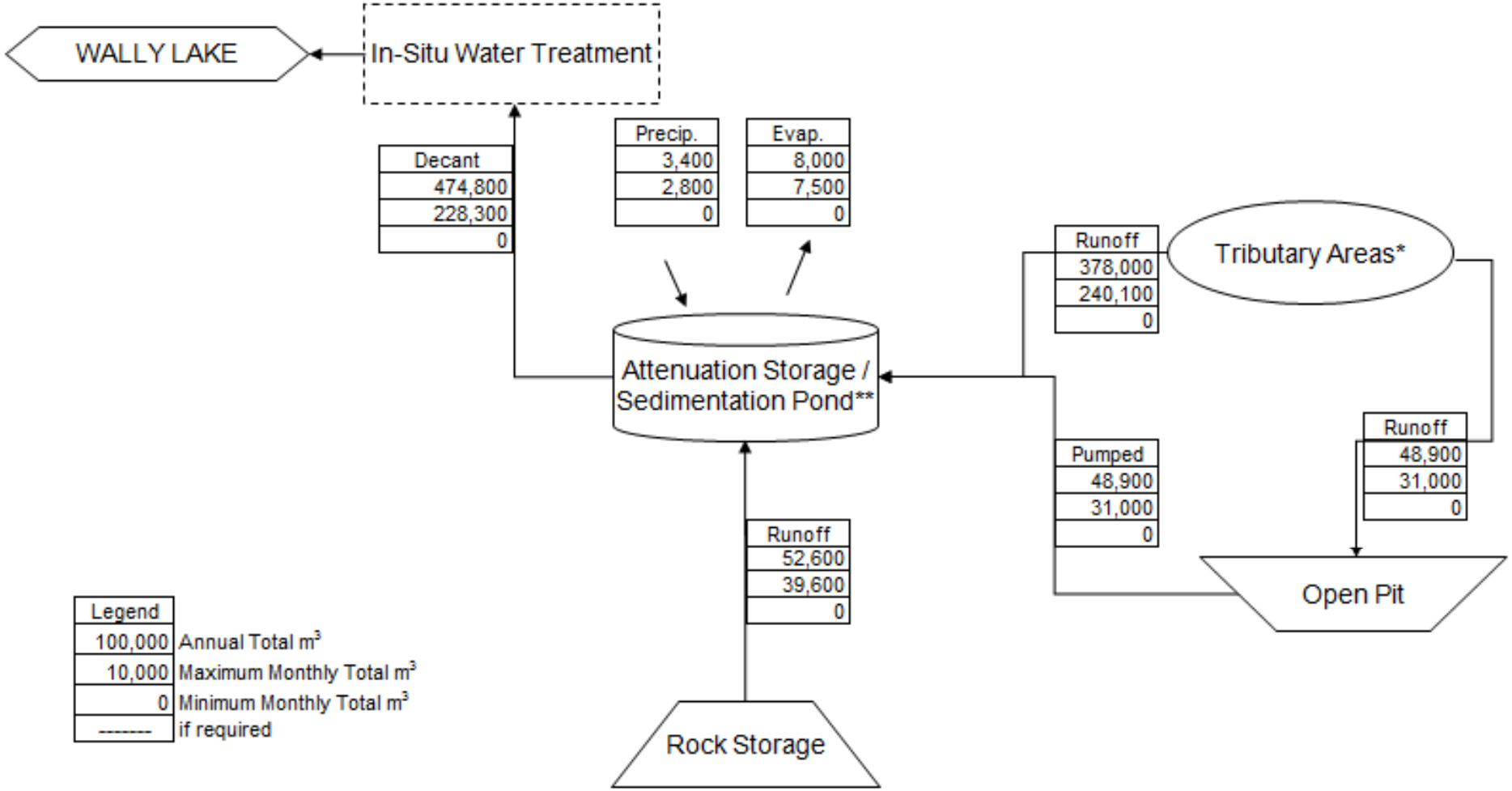
TITLE

VAULT LOGIC DIAGRAM YEAR 6 (2015)

DRAFT

Golder Associates

PROJECT No. 11-1221-0042			FILE No. Doc. No. 1321	
DESIGN	DRW	10DEC11	SCALE NTS	REV. B
CADD	DRW	10DEC11	FIGURE 10	
CHECK				
REVIEW				



* Surfaces within mine affected areas that are not accounted for elsewhere reporting to local sumps or pit sumps.

** Freshwater withdrawal for dust control (1,000 m^3/month for May through September, Mine Year 6 through 11) not shown for clarity. See Figure 1.

DRAFT

PROJECT

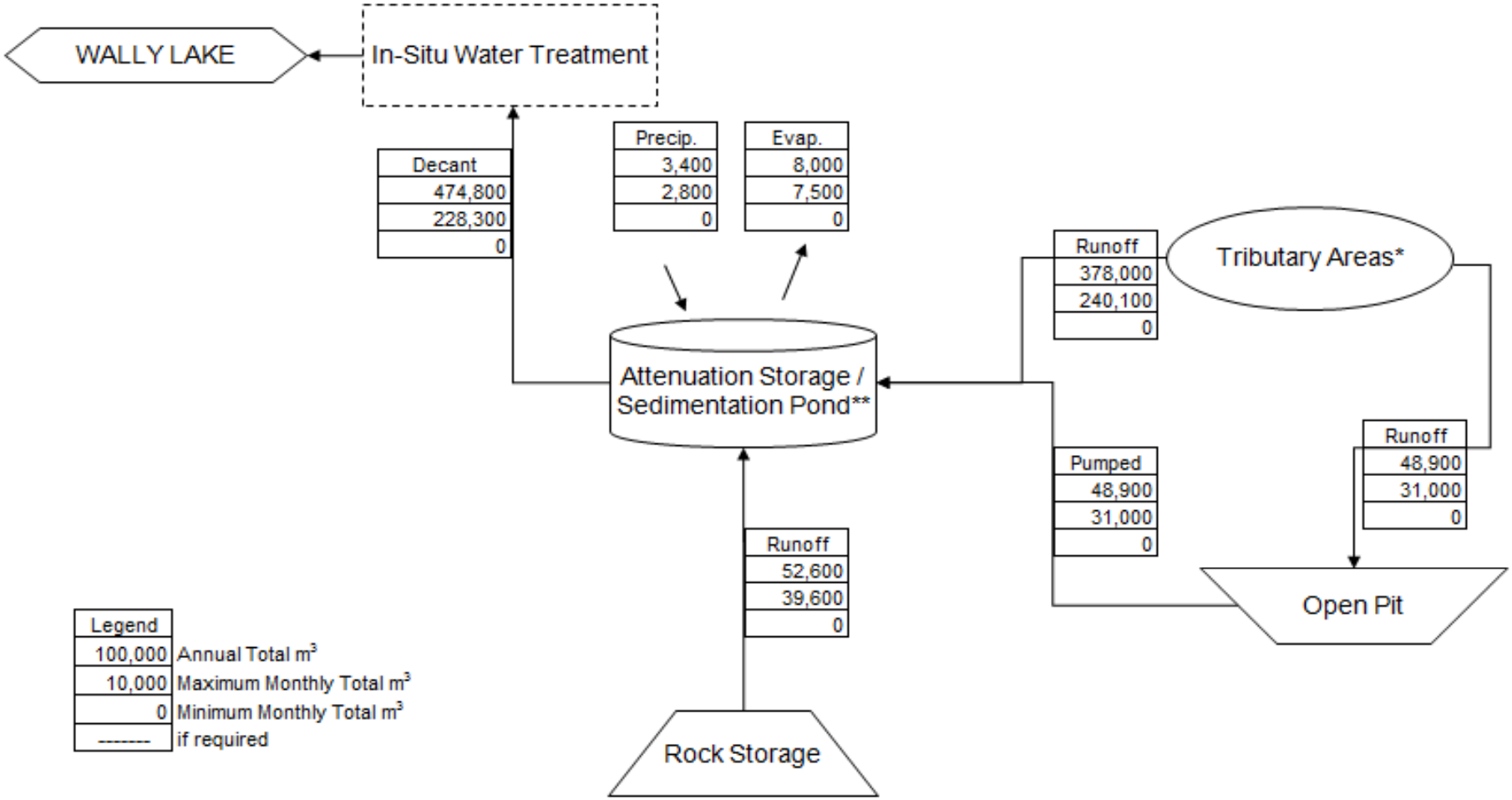
AGNICO-EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

TITLE

VAULT LOGIC DIAGRAM YEAR 8 (2017)

Golder Associates

PROJECT No. 11-1221-0042			FILE No. Doc. No. 1321	
DESIGN	DRW	10DEC11	SCALE NTS	REV. B
CADD	DRW	10DEC11	FIGURE 11	
CHECK				
REVIEW				



* Surfaces within mine affected areas that are not accounted for elsewhere reporting to local sumps or pit sumps.

** Freshwater withdrawal for dust control (1,000 m^3/month for May through September Mine Year 6 through 11) not shown for clarity. See Figure 1.

PROJECT

AEM

AGNICO-EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

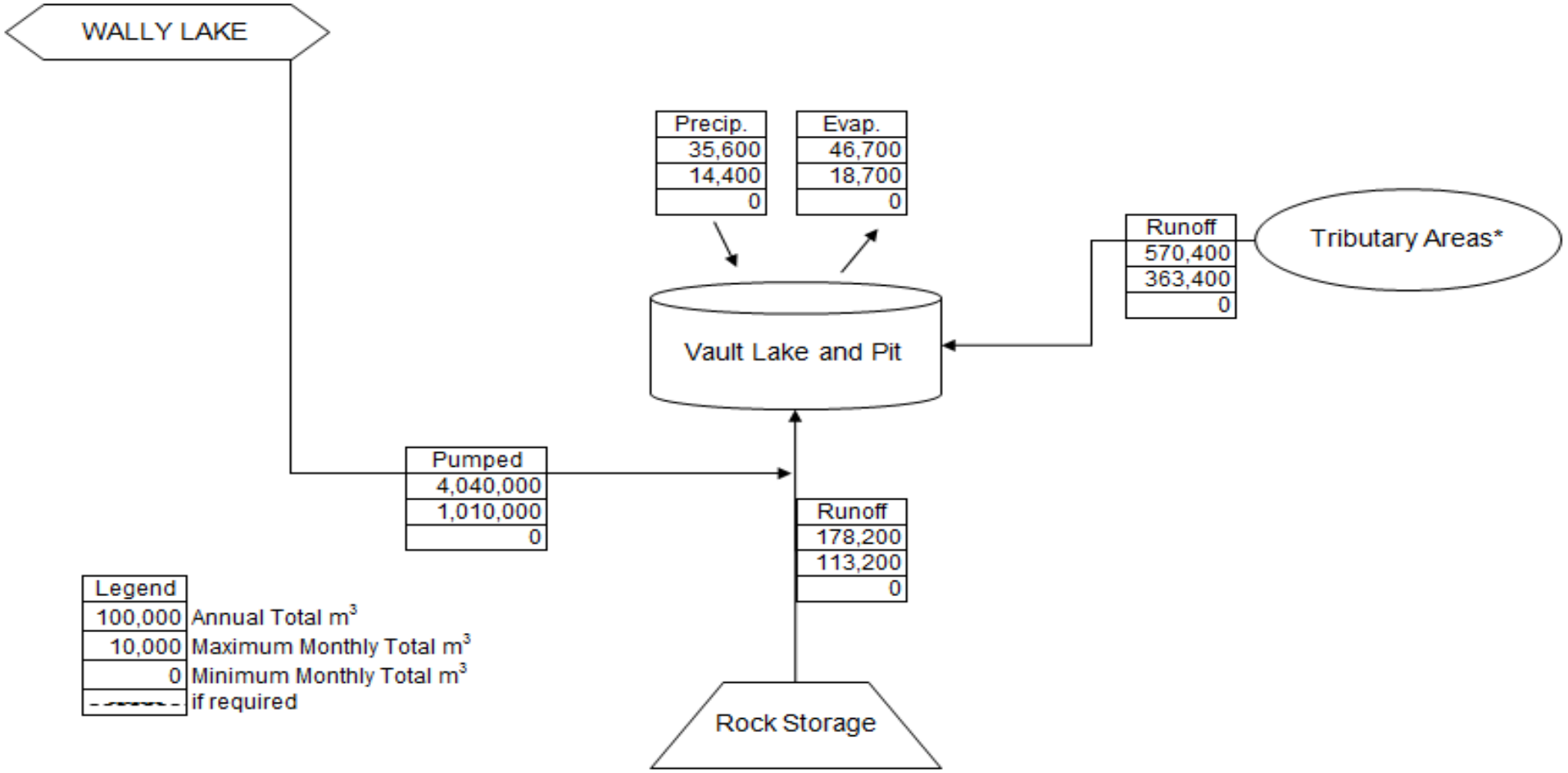
TITLE

VAULT LOGIC DIAGRAM YEAR 10 (2019)

DRAFT

Golder Associates

PROJECT No. 11-1221-0042			FILE No. Doc. No. 1321	
DESIGN	DRW	10DEC11	SCALE NTS	REV. B
CADD	DRW	10DEC11	**FIGURE 12**	
CHECK				
REVIEW				



* Surfaces within mine affected areas that are not accounted for elsewhere reporting to local sumps or pit sumps.

DRAFT

PROJECT

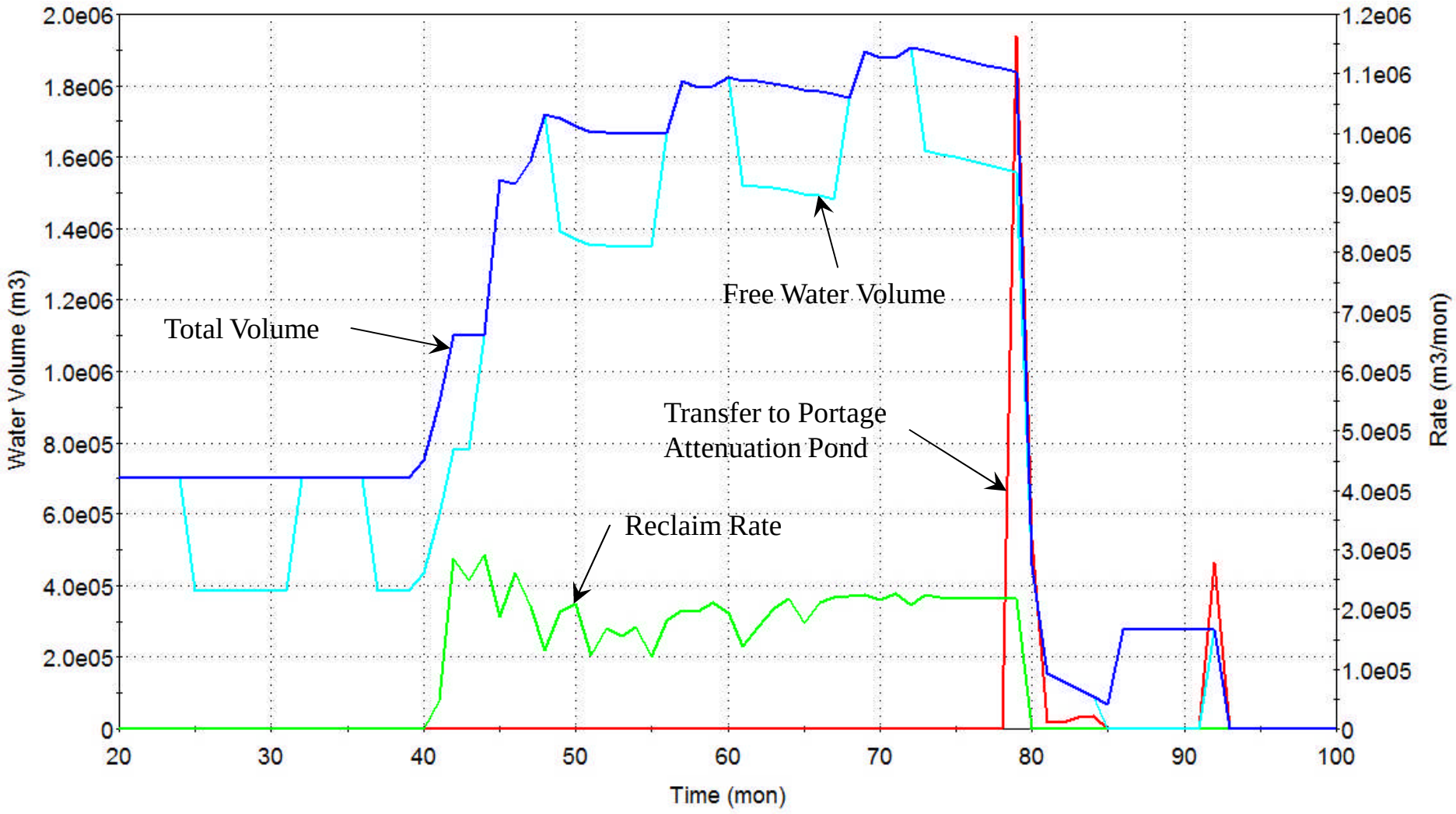
AGNICO-EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

TITLE

VAULT LOGIC DIAGRAM YEAR 12 (2021)

Golder Associates

PROJECT No. 11-1221-0042			FILE No. Doc. No. 1321	
DESIGN	DRW	10DEC11	SCALE NTS	REV. B
CADD	DRW	10DEC11	FIGURE 13	
CHECK				
REVIEW				



PROJECT

AEM

AGNICO-EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

TITLE

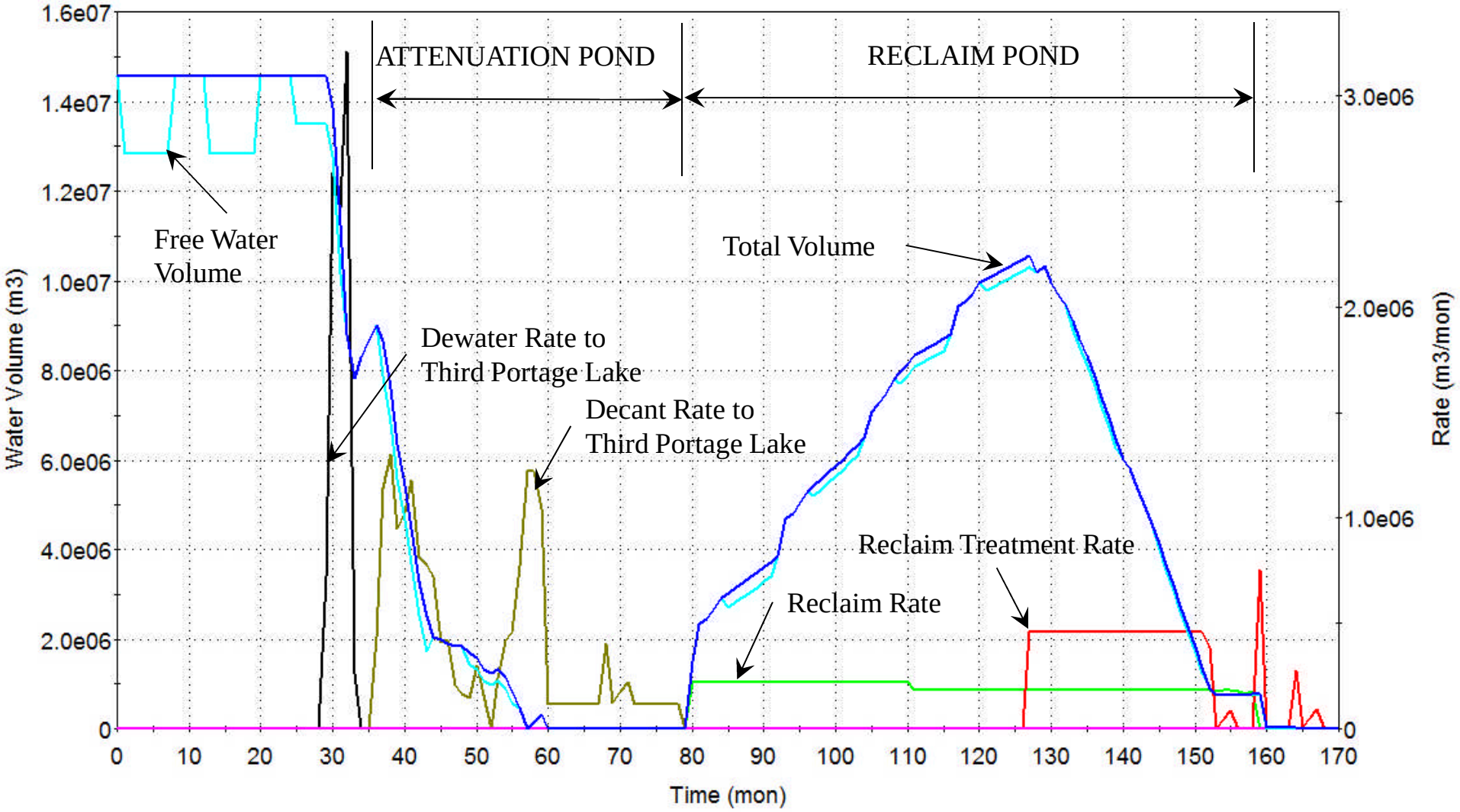
PORTAGE RECLAIM POND YEAR 1 TO 4 (2010 TO 2013)

DRAFT

Golder Associates

PROJECT No. 11-1221-0042			FILE No. Doc. No. 1321	
DESIGN	DRW	10DEC11	SCALE NTS	REV. B
CADD	DRW	10DEC11	**FIGURE 14**	
CHECK				
REVIEW				

REVISION DATE: 10DEC11 BY: DRW FILE: O:\Active_2011\1221\11-1221-0042\December 2011 WB Update\Report Figures 14 to 21.pptx



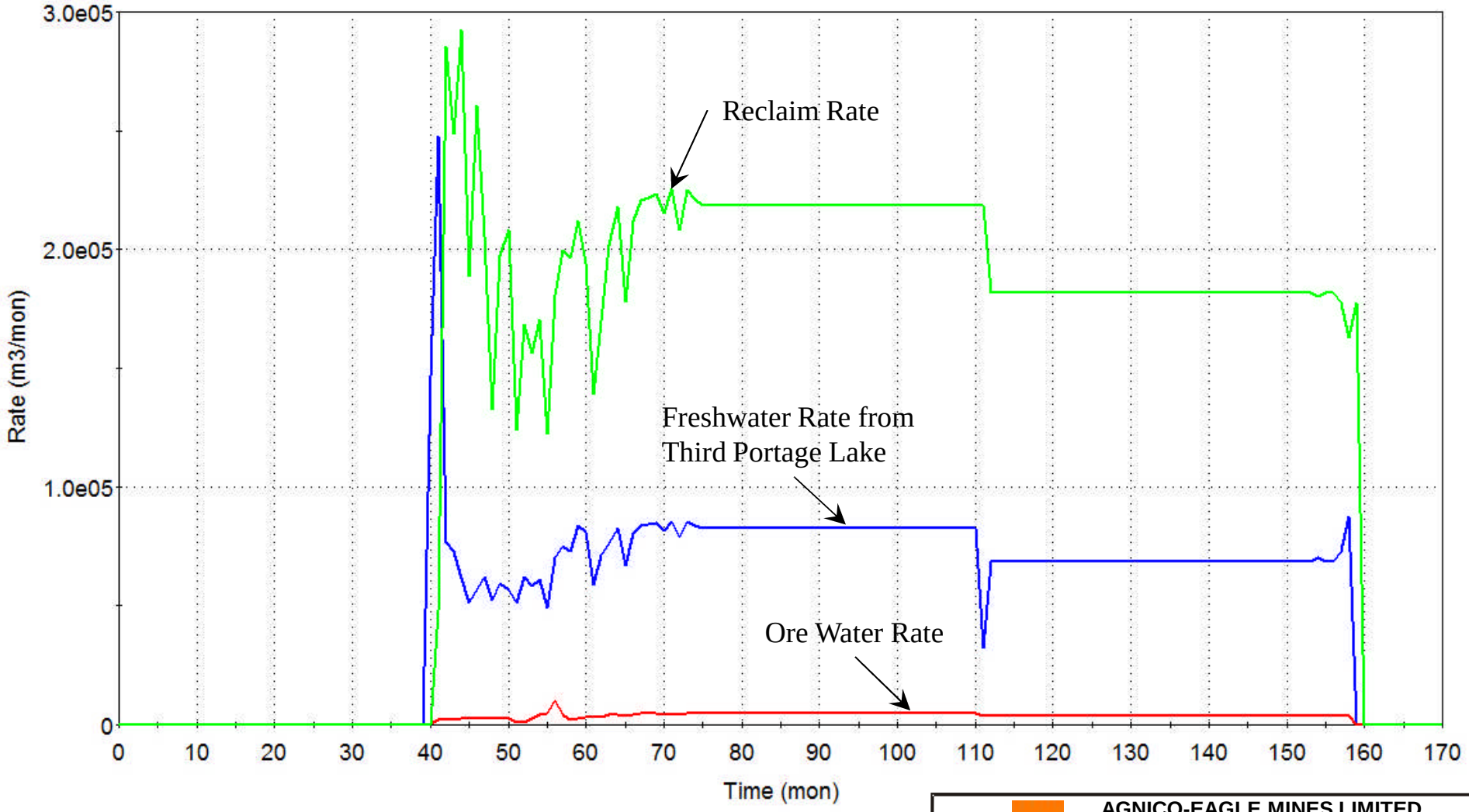
DRAFT

PROJECT AEM AGNICO-EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

TITLE
PORTAGE ATTENUATION POND
(YEAR 1 TO 4) (2010 TO 2013) AND
RECLAIM POND (YEAR 4 TO 10) (2013 TO 2019)

Golder Associates

PROJECT No. 11-1221-0042			FILE No. Doc. No. 1321	
DESIGN	DRW	10DEC11	SCALE NTS	REV. B
CADD	DRW	10DEC11	FIGURE 15	
CHECK				
REVIEW				



DRAFT

PROJECT AEM AGNICO-EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

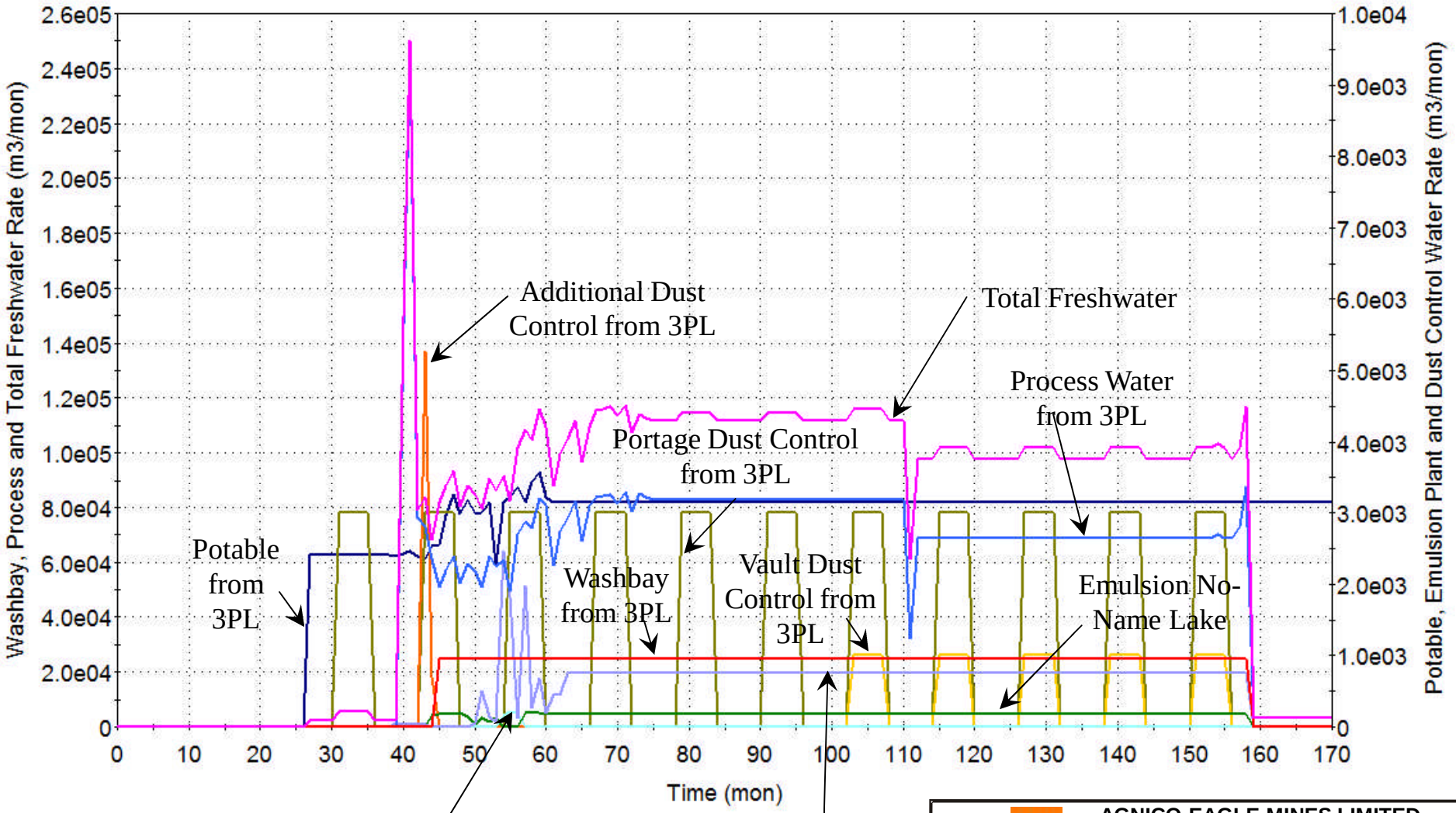
TITLE

PROCESS WATER TO MILL

Golder Associates

PROJECT No. 11-1221-0042			FILE No. Doc. No. 1321	
DESIGN	DRW	10DEC11	SCALE NTS	REV. B
CADD	DRW	10DEC11	FIGURE 16	
CHECK				
REVIEW				

REVISION DATE: 10DEC11 BY: DRW FILE: O:\Active_2011\1221\11-1221-0042\December 2011 WB Update\Report Figures 14 to 21.pptx



DRAFT

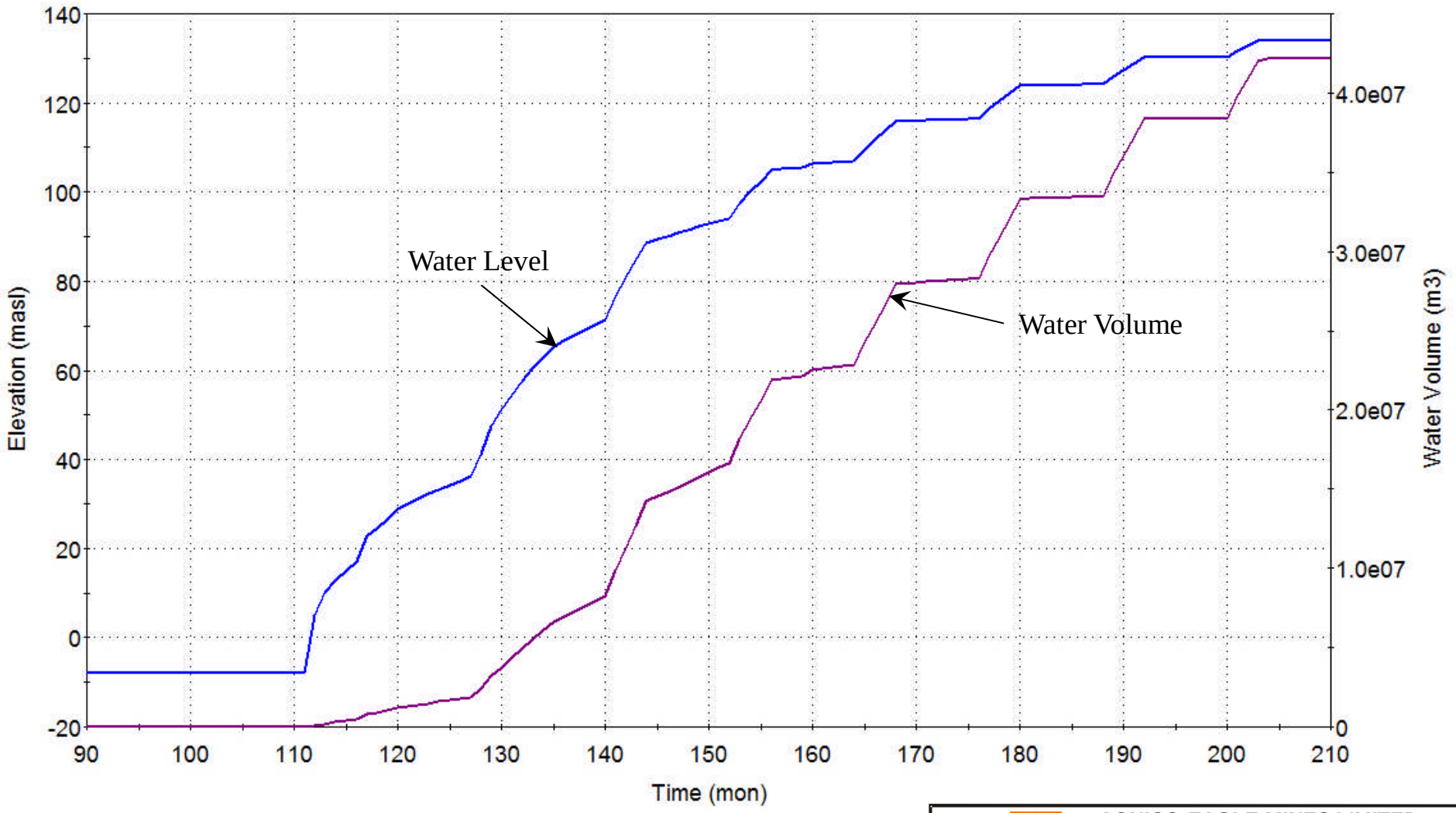
PROJECT AEM AGNICO-EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

TITLE

FRESHWATER REQUIREMENTS

Golder Associates

PROJECT No. 11-1221-0042			FILE No. Doc. No. 1321	
DESIGN	DRW	10DEC11	SCALE NTS	REV. B
CADD	DRW	10DEC11	**FIGURE 17**	
CHECK				
REVIEW				



DRAFT

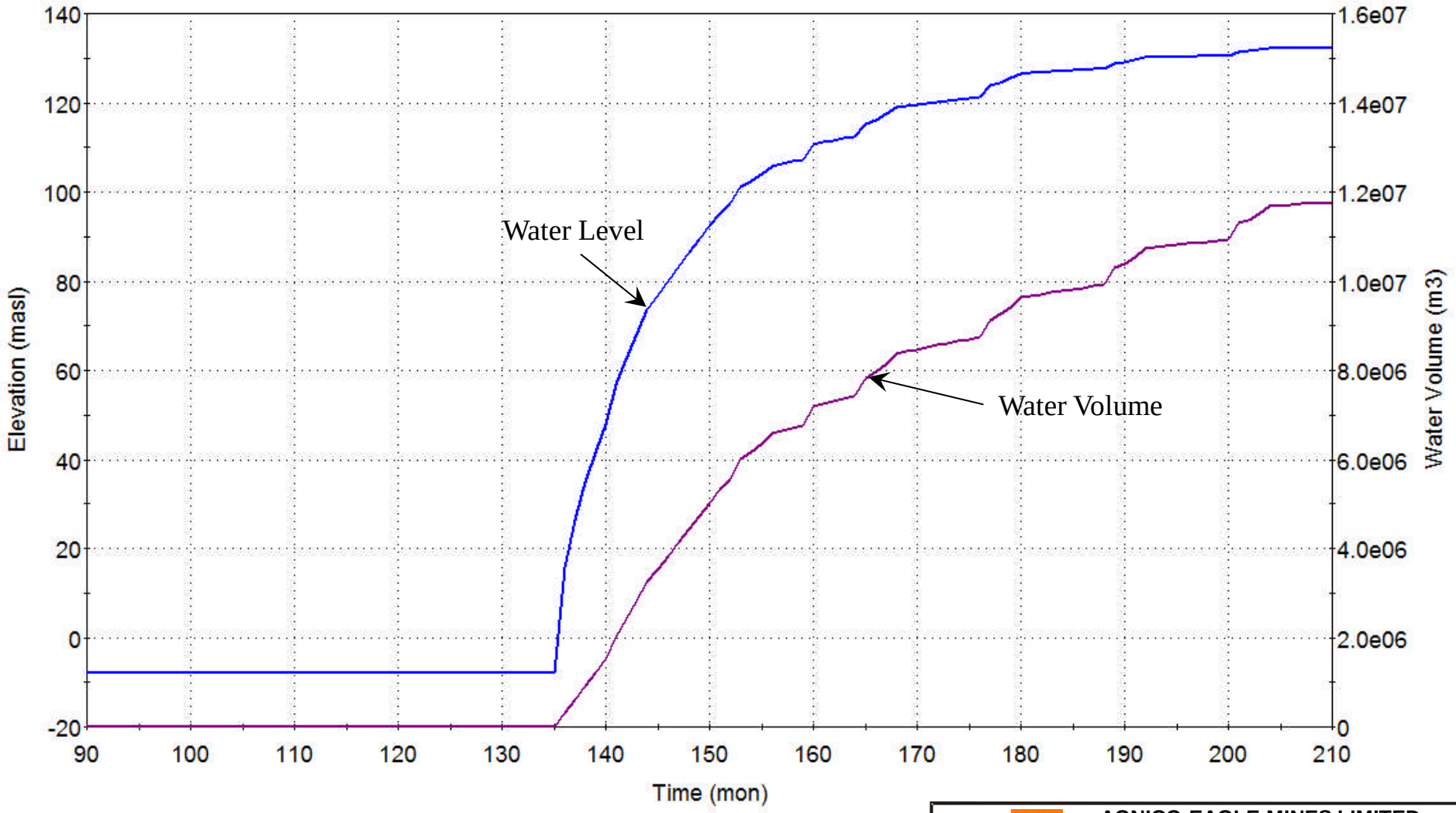
PROJECT AEM AGNICO-EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

TITLE
PORTAGE PIT LAKE
WATER LEVEL AND VOLUME
(YEAR 7 to 14) (2016 to 2023)

Golder Associates

PROJECT No. 11-1221-0042			FILE No. Doc. No. 1321	
DESIGN	DRW	10DEC11	SCALE NTS	REV. B
CADD	DRW	10DEC11	FIGURE 18	
CHECK				
REVIEW				

REVISION DATE: 10DEC11 BY: DRW FILE: O:\Active_2011\1221\11-1221-0042\December 2011 WB Update\Report Figures 14 to 21.pptx



DRAFT

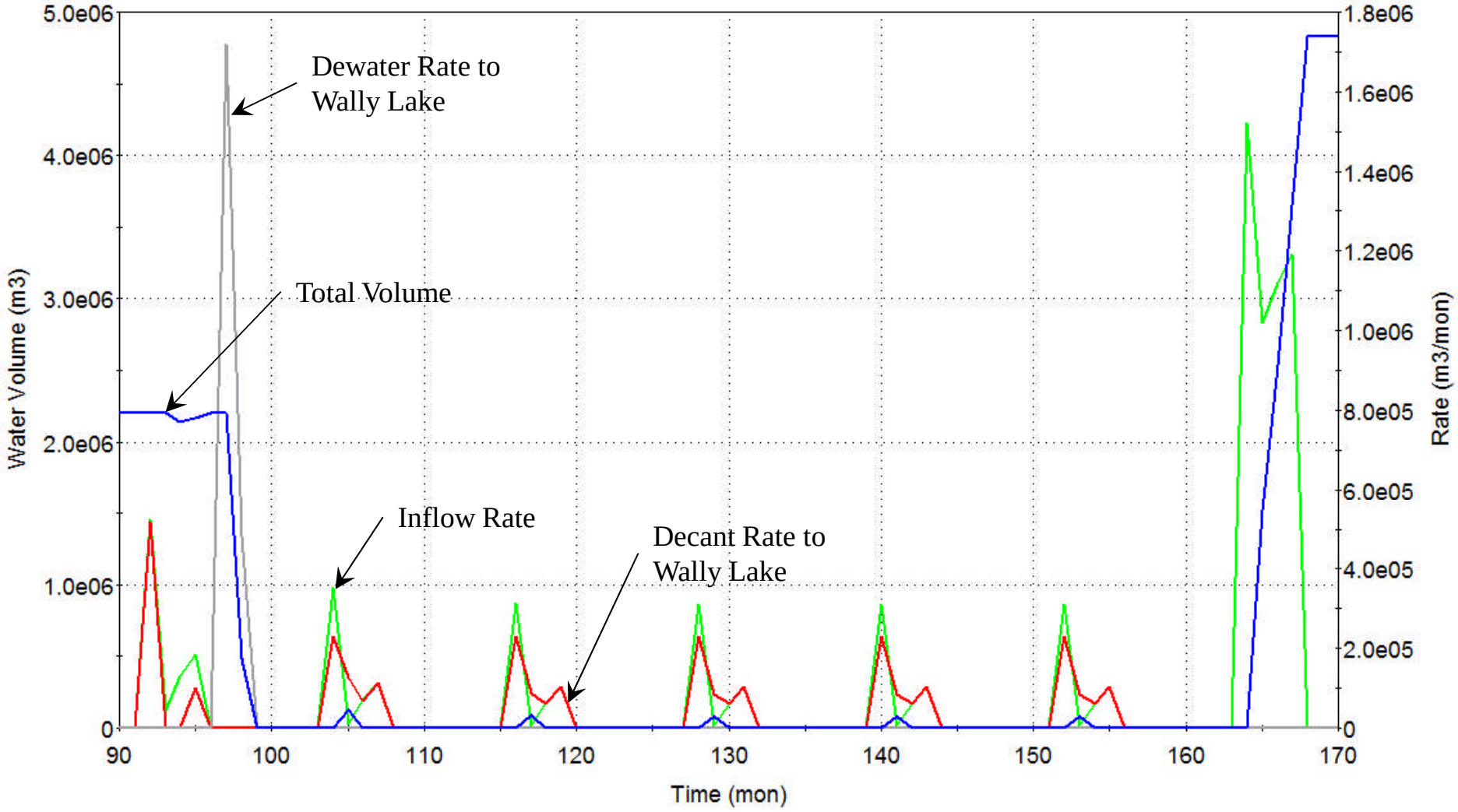
PROJECT AEM AGNICO-EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

TITLE
GOOSE ISLAND PIT LAKE
WATER LEVEL AND VOLUME
(YEAR 9 to 14) (2018 to 2023)

Golder Associates

PROJECT No. 11-1221-0042			FILE No. Doc. No. 1321	
DESIGN	DRW	10DEC11	SCALE NTS	REV. B
CADD	DRW	10DEC11	FIGURE 19	
CHECK				
REVIEW				

REVISION DATE: 10DEC11 BY: DRW FILE: O:\Active_2011\1221\11-1221-0042\December 2011 WB Update\Report Figures 14 to 21.pptx



DRAFT

PROJECT

AGNICO-EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

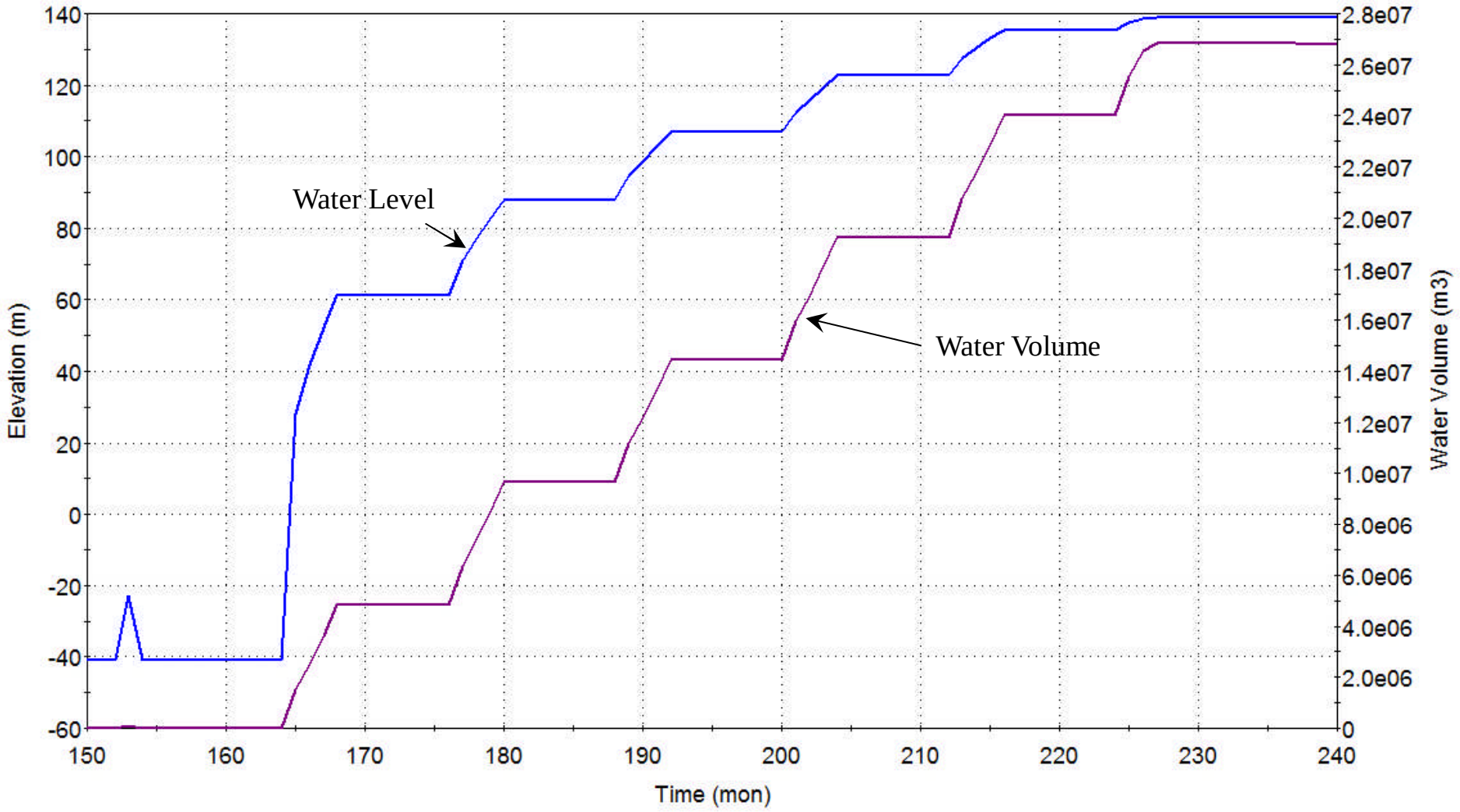
TITLE

VAULT ATTENUATION POND (YEAR 6 TO 10) (2015 TO 2019)

Golder Associates

PROJECT No. 11-1221-0042			FILE No. Doc. No. 1321	
DESIGN	DRW	10DEC11	SCALE NTS	REV. B
CADD	DRW	10DEC11	**FIGURE 20**	
CHECK				
REVIEW				

REVISION DATE: 10DEC11 BY: DRW FILE: O:\Active_2011\1221\11-1221-0042\December 2011 WB Update\Report Figures 14 to 21.pptx



DRAFT

PROJECT

AGNICO-EAGLE MINES LIMITED
MEADOWBANK GOLD PROJECT
NUNAVUT

TITLE

VAULT PIT LAKE
WATER LEVEL AND VOLUME
(YEAR 11 to 16) (2020 to 2025)

Golder Associates

PROJECT No. 11-1221-0042			FILE No. Doc. No. 1321	
DESIGN	DRW	10DEC11	SCALE NTS	REV. B
CADD	DRW	10DEC11	FIGURE 21	
CHECK				
REVIEW				