REPORT ON PROJECT WATER MANAGEMENT (REF. NO. 1624/1)

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Suite 1400
750 West Pender Street
Vancouver, British Columbia
Canada V6C 2T8
Telephone (604) 685-0543
Telefax (604) 685-0147
CIS: 72360,477





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SECTION 1.0 - INTRODUCTION

This report provides an overview of the source and fate of all water associated with the Mt. Polley Project. An overall project water balance was completed by integrating the water balances for the mine site with the tailings facility. The objectives of the water balance analyses are to demonstrate that the tailings facility and open pit can be operated to ensure that no surface discharge of excess water will be required, and by selective addition of surface runoff from waste dumps and undisturbed catchment areas, the make-up water requirements from Polley Lake can be minimized.

A probabilistic water balance analysis using @RISK was developed to describe the effects of a statistical range of precipitation conditions over the entire life of the project. From the corresponding results, estimates were made of the probable requirements for fresh make-up water, probable tailings pond volume and probable volumes of additional water to be diverted out of the project area.

The @RISK Analysis and Modelling program is a software package that allows the input of a statistical distribution to describe an uncertain quantity. Instead of using a finite value to describe a particular quantity, individual values are repeatedly selected from a specified statistical distribution describing that quantity. These selected values are then used in subsequent calculations to generate a distribution of results that accounts for the uncertainty in the initial quantity.



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SECTION 2.0 - HYDROMETEOROLOGY

2.1 GENERAL

The hydrometeorological information used for the preparation of this report was taken from the most recent information incorporated in the Mine Development Certificate. A summary of the data is given in Table 2.1.

This section provides an overview of the applicable hydrometeorological information and how it was used to complete this analysis.

2.2 PRECIPITATION

A normal probability distribution was used to model the expected seasonal variability in precipitation data as shown in Figure 2.1. This distribution was chosen after using the software package BESTFIT to determine the underlying distribution of long term annual precipitation records for relevant AES stations in the region.

Since precipitation data at the site is limited, mean precipitation records for climatologically similar stations in the area were used to estimate a mean annual site precipitation of 755 mm. A coefficient of variation of 0.16 was determined for the standard deviation of 121 mm. These conditions were applied to the tailings facility and adjacent additional tailings catchment areas. To account for higher elevation, the waste dumps, pit area and mill site were modelled with a mean precipitation of 810 mm, a coefficient of variation of 0.16 and a standard deviation of 130 mm. The increased precipitation value is consistent with elevation correlations previously presented in the Stage I application documents. This data is summarized on Table 2.1.

2.3 **SNOWMELT**

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Snowfall at the site was considered to melt only during the months of September, April and May. All snowfall in September was assumed to melt during the month





and all snowfall accumulated during the remainder of the year was assumed to melt equally in April and May.

2.4 EVAPORATION

Evaporation data is consistent with previous analyses incorporated in the Mine Development Certificate (MDC). The annual evaporation rate of 423 mm at the site has been assumed to be constant for all years of operation and precipitation conditions.

2.5 RUNOFF

Runoff coefficients used in this analysis are consistent with values used in the Mine Development Certificate and included variable runoff coefficients based on dry, average and wet years. Dry years were defined as years when the total precipitation was less than or equal to 1.3 standard deviations below the mean (10 year dry), and wet years were defined as years when the total precipitation was at least 1.3 standard deviations above the mean (10 year wet). Runoff coefficients are presented in the following section.



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SECTION 3.0 - PROJECT COMPONENTS

The overall project components and development sequence are described in previous documents incorporated in the MDC. The main mine components incorporated in the model are illustrated on Figure 3.1 and include disturbed and undisturbed areas at; open pits, waste dumps, mill site, tailings facility, and also the additional undisturbed catchment areas (Areas A and B) immediately upgradient from the tailings area.

The project water balances consider the staged development of the various components of the project as summarized in:

- Table 3.1 Open Pit Development
- Table 3.2 Waste Dump Development
- Table 3.3 Tailings Storage Facility Development

In addition, specific assumptions incorporated in the water balance analyses are included in Table 3.4. These assumptions are consistent with those used in previous water balances for the tailings impoundment and mine site conducted in 1991.



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SECTION 4.0 - WATER BALANCE AND MAKE-UP WATER SUPPLY

4.1 GENERAL

The updated Water Management Plan for the Mt. Polley Project includes the following objectives:

- To minimize the volume of fresh water abstracted from Polley Lake.
- To limit the period of water removal from the Polley Lake/Hazeltine Creek system to high flow periods.
- To regulate additional surface water runoff into the tailings pond.
- To prevent the accumulation of excess water within the tailings impoundment so that the impoundment and open pit can be operated as a closed system with no surface water release.
- To supply make-up water for the milling process from within the project catchment area.
- To minimize the requirement for regulated discharges of surface runoff from the waste dumps.

These objectives will be managed simultaneously during operations by provision of surface water collection ditches around the project perimeter and by judicious transfer of "fresh" surface runoff from designated undisturbed catchment areas adjacent to the tailings impoundment.

The Starter Dam for the tailings impoundment will be constructed approximately one year prior to mill start-up, and will entrap the freshet runoff so that adequate quantities of water are available for mill start-up and the first years of operation.





During on-going operations, the size of the tailings supernatant pond will be controlled, to a large extent by mine operators, by the annual precipitation and evaporation regime and by the water released from the settled tailings. Process fresh water make-up requirements from Polley Lake will be minimized by utilization of water sources in the following priority:

- Tailings supernatant.
- Open pit dewatering.
- Open pit groundwater depressurization wells.
- Mill site and waste dump runoff.
- Runoff diversion structures will be operated to provide supplementary water from diverted catchment areas A and B upslope of the tailings impoundment.
- Transfer of excess stream flow from Polley Lake/Hazeltine Creek during peak flow periods.

A series of water balances have been carried out to evaluate the annual process requirements for fresh make-up water and the overall water surpluses or deficits for the Mt. Polley Project. Water balances have been carried out for all 14 years of the project life, under a range of hydrometeorological conditions and for the various catchment areas.

The monthly water balance incorporates inflows from the open pit into the tailings storage facility. Additional surface runoff from the millsite, the various waste dump areas and additional undisturbed catchment areas have also been determined separately. Runoff collection ditches are assumed to control the addition of surface runoff into the system.



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Linked water balances have been carried out for all 14 years of the mine life. An example of the linked water balances for average precipitation conditions are included in Appendices A and B. Appendix A includes the tailings facility and open pit as per the existing MDC, and Appendix B includes separate water balances for the mine site area plus the additional undisturbed catchment area A immediately upgradient from the tailings impoundment. The information in these two sets of tables is linked, and when the tailings pond volume drops below a minimum specified volume of 1.5 million m³, all available surface runoff is diverted into the process. Catchment Area B is not included in the water balances and is therefore considered to represent a contingency source of additional water to compensate for any process shortfalls.

4.2 WATER BALANCE

The fundamental objective of the overall Water Management Plan is to operate the project so that surface discharge of excess water from the tailings impoundment and open pit will not be required. Table 4.1 summarizes the various components of the water balance for average precipitation conditions (as shown in Appendices A and B) over the life of the project assuming Catchment Area B will not be required. The main components of the water balances are illustrated graphically on Figure 4.1 for the Year 1 water balance previously presented in 1991 and on Figure 4.2 for the current 1995 Year 1 water balance which minimizes make-up water recovery from Polley Lake. The main difference between the two options is that in the 1995 water balance model, the make-up water requirements are reduced by incorporating additional runoff water collection from waste dumps and the additional catchment area at the tailings facility, plus it utilizes ponded water that is contained in the tailings impoundment at start-up.

The annual water balance summaries for Years 1 and 14 previously developed in 1991 are compared to results from the updated water management plan in Tables 4.2 and 4.3. The updated values presented in this table were developed using similar water balance tables to those in the MDC and were conducted separately from the linked water balance results included in Appendix A, in order to provide an independent check on the @RISK water balance results.



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The variation in the volume of the tailings pond for average precipitation conditions is illustrated on Figure 4.3. The pond volume reaches a minimum during the winter months when there is little surface runoff and reaches a maximum volume in the summer after the freshet. Figure 4.3 also includes a smoothed average curve which tracks the tailings pond volume at the end of September in each year. The 50th percentile curve for September pond volumes, as determined in the @RISK analyses is also included for comparison.

The computer program @RISK was used to assess the risks of:

- accumulating too much water in the tailings impoundment over the life of the project,
- depleting the volume of water in the tailings pond so that an external source of make-up water would be required.

The @RISK program randomly selects separate annual precipitation values for each of the 14 years of operation and linked water balances are conducted. The water balances "link" the tailings facility and mine site water balances and also link the pond volumes from year to year. This process was repeated for 1000 iterations in order to provide estimates of the tailings pond volume, runoff water and make-up water requirements for various extreme combinations of wet and dry precipitation years. These results are illustrated on Figures 4.4, 4.5 and 4.6, and are discussed in the following section. It is evident that the updated water management strategy will achieve the permitted requirements for prevention of surface water discharge from the tailings facility and open pit, while minimizing the amount of make-up water removed from Polley Lake.

4.3 MAKE-UP WATER REQUIREMENTS

A fundamental requirement for the updated project water balances is that an adequate volume of water has to be stored at the tailings impoundment to compensate for low runoff periods during the cold winter months and during dry





summer months. It has been estimated that a minimum volume of 1.5 million m³ of water will need to be in storage prior to mill start-up. It is intended that this water will be obtained by constructing the tailings impoundment at least one year prior to mill start-up to allow capture of one year of direct surface runoff including the freshet. The amount of surface runoff which will be collected prior to start-up for various precipitation conditions is presented on Tables 4.4 to 4.7 and summarized as follows:

Summary of Water Available at Start-Up						
Precipitation	Surface Runoff Water (m³) Available					
Condition	with Catchment Area A with Catchment Areas A & B					
Average Year	1,455,000	1,992,000				
10 Year Dry	1,084,000	1,445,000				
50 Year Dry	921,000	1,220,000				
10 Year Wet	1,900,000	2,657,000				

These results indicate that if extremely dry conditions are encountered, up to 300,000 m³ of water may also need to be abstracted from either Polley Lake or Hazeltine Creek during peak freshet flows to supplement stored water in the first year of operation as 1.5 million m³ of water must be stored prior to start-up.

The tailings pond volumes determined by the @RISK analyses for the linked water balances extending over the 14 year project life are shown on Figure 4.4. An initial pond volume of 1.5 million m³ has been included at start-up and runoff from waste dumps and catchment Area A have been included when necessary to provide adequate water for milling. The monthly fluctuations in the volume of the tailings pond have not been included on this summary figure. Figure 4.5 illustrates the amount of excess surface runoff from all waste dumps plus the 240 ha of Catchment Area A that is not diverted into the mill process. It does not include for additional runoff available from Catchment Area B.

Comparison of Figures 4.4 and 4.5 illustrates that virtually all available runoff is diverted into the process under average and dry precipitation conditions for the first



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two to three years. The volume of stored water in the tailings impoundment is also reduced during this period. However, the analyses indicate that no additional make-up water will be required from Polley Lake except during the most extreme combinations of dry years. Figure 4.6 illustrates that there is about a 5% chance that some minor amount of additional make-up water will be required.

In practice, there is also a minimum pond volume which must be maintained in the tailings impoundment in order to compensate for ice accumulation in winter and to allow trouble free operation of the reclaim barge. Therefore, it will be necessary to include contingency provisions to transfer additional water into the tailings impoundment during operations. This additional water can be obtained from:

- selective diversion from Catchment Area B upgradient from the tailings impoundment, and/or
- transfer of excess flows from Polley Lake or Hazeltine Creek during peak flow periods. Minimum stream flows for fisheries releases would be maintained during any pumping period.

4.4 WATER MANAGEMENT PLAN

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The objective of the project Water Management Plan in the early years will be to route all project water flows from disturbed areas into the process or into associated mine site activities such as dust suppression. An additional objective is to selectively route runoff from upslope Catchment Areas A and B into the tailings impoundment in order to eliminate the need for an external source of make-up water from Polley Lake. In the later years of operation the objective will be to monitor and release selected surface water inflow components which meet the required quality standards in order to manage the final volume of ponded water in the tailings impoundment at closure. The following activities will be incorporated in the Water Management Plan:





- (i) Maximize the capture of surface and groundwater flows from within the project area.
- (ii) Maximize the use of the poorest quality water recovered from within the project area in the milling process and in associated activities (such as dust suppression).
- (iii) Minimize the deliberate introduction of excess clean fresh water from Polley Lake and Hazeltine Creek.
- (iv) Monitor the quality of surface runoff from disturbed areas and groundwater flows within the project site.
- (v) Release only the best quality water from within the project boundaries and in accordance with permitted requirements, as is necessary to maintain an overall project water balance under actual hydrometeorological conditions.
- (vi) Manage the operation of the tailings supernatant pond to optimize the volume of water stored on the tailings surface during operations and at closure.
- (vii) Develop and maintain a detailed data base to allow water balances for the site to be as accurate as possible and thereby become useful tools for predicting annual make-up water requirements and for scheduling releases of clean surface runoff water as appropriate.



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SECTION 5.0 - SUMMARY AND CONCLUSIONS

A revised water management plan has been developed for the Mt. Polley project. Detailed water balances have been conducted for each year of the project using average precipitation conditions. Water balances have also been developed for 1000 different 14 year combinations of annual precipitation in order to assess the risk of either accumulating too much water in the system or increasing the make-up water requirements. These revised water balances indicate that:

- (i) Discharge of excess water from the tailings facility and open pit will not be necessary. These results confirm the findings of the previous project water balances conducted in 1991.
- (ii) It is possible to eliminate the requirement for a water supply dam on Polley Lake.

The updated water management plan requires early construction of a starter dam at the tailings impoundment in order to capture surface runoff for one year prior to the projected early start-up in October, 1996. Surface runoff from undisturbed catchment areas immediately adjacent to the tailings impoundment will be routed into the facility in order to provide a minimum pond volume of 1.5 million m³ prior to start-up. This initial volume of water is projected to be drawn down during the first few years of operation, even if all mine site runoff and runoff from the additional Catchment Area A is routed into the mill process. However, the amount of surface runoff increases during the later years of operation when the waste dumps increase in area and surface runoff also increases. Therefore, the amount of surface runoff obtained from undisturbed catchment areas will decrease after the first few years of operation.

The water balance has been evaluated for each year of the 14 year project life and under various precipitation conditions. Water balances have been conducted for over 1000 different combinations of mine life precipitation conditions and the risks of significant water accumulation or depletion have been assessed. These probability analyses indicate that it is extremely unlikely that any additional make-



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up water, beyond the projected fresh water requirements of 24.9 m³/hr, will be required from Polley Lake. However, it is recommended that a contingency water supply of about 300,000 m³/yr be included in the revised permit application. It is anticipated that this volume of water would only be removed from either Polley Lake or Hazeltine Creek during high flow periods and would only remove water which is not required for minimum fisheries flow releases.



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TABLE 2.1 IMPERIAL METALS CORPORATION MT. POLLEY PROJECT PRECIPITATION DETAILS USED IN ANALYSIS

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DESCRIPTION		VAI	LUE	
Lower Elevations (ie. TSF)				
Mean annual precipitation (mm)	755			
"Dry" annual precipitation (mm)		60		
"Wet" annual precipitation (mm)		90)9	
"Max." annual precipitation (mm)		10	50	
"Min." annual precipitation (mm)		45	50	
Mean annual rainfall (mm)		45	51	
Mean annual snowfall (mm)		30		
Coefficient of variation		0.1		
Standard deviation (mm)		12	21	
Higher Elevations (ie. mill site, waste				
dumps, etc.)				
"Elevation" factor		1.07	285	
Mean annual precipitation (mm)		81	.0	
"Dry" annual precipitation (mm)		64	15	
"Wet" annual precipitation (mm)		97	15	
Coefficient of variation	0.16			
Standard deviation (mm)	130			
Proportions of Total Precipitation:				
Rainfall	0.60			
Snowfall	0.40			
Monthly Proportions of Precipitation:				
	Rainfall	Proportion	Snowfall	Proportion
	(mm)	as Rainfall	(mm)	as Snowfall
Oct	48.3	0.11	12.1	0.04
Nov	17.3	0.04	40.0	0.13
Dec	7.6	0.02	67.2	0.22
Jan	6.8	0.02	68.7	0.23
Feb	6.0	0.01	52.1	0.17
Mar	6.0	0.01	38.5	0.13
Apr	24.2	0.05	18.9	0.06
May	45.3	0.10	5.3	0.02
Jun	81.5	0.18	0.0	0.00
Jul	65.7	0.15	0.0	0.00
Aug	83.1	0.18	0.0	0.00
Sep	58.9	0.13	1.5	0.00
Total (mm)	450.7		304.3	



TABLE 3.1 IMPERIAL METALS CORPORATION MT. POLLEY PROJECT OPEN PIT DEVELOPMENT

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END	PIT CATO	PIT CATCHMENT AREAS (ha)					
OF YEAR	CENTRAL	NORTH	WEST	AREA (ha)			
0	0.0	0.0	0.0	0.0			
1	17.6	0.0	0.0	17.6			
2	17.6	0.0	0.0	17.6			
3	25.5	0.0	0.0	25.5			
4	25.5	0.0	0.0	25.5			
5	25.5	14.9	0.0	40.4			
6	25.5	14.9	0.0	40.4			
7	25.5	14.9	24.3	64.7			
8	25.5	14.9	24.3	64.7			
9	25.5	14.9	24.3	64.7			
10	25.5	14.9	24.3	64.7			
11	25.5	14.9	24.3	64.7			
12	25.5	14.9	24.3	64.7			
13	25.5	14.9	24.3	64.7			
14	25.5	14.9	24.3	64.7			

Notes

- 1. Pit areas in italics are conservative estimates only.
- 2. Pit areas measured from mining sequence plans c/o Wright Engineers ("Feasibility Study", Vol. 1 of 5).



TABLE 3.2 IMPERIAL METALS CORPORATION MT. POLLEY PROJECT WASTE DUMP DEVELOPMENT

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YEAR	WASTE	CUM.		DUMP CATCHMENT AREAS (ha)					TOTAL
	(T x1000)	WASTE	EAST		NORTH		WEST		WASTE
		(T x1000)	WASTE	UNDIST'BD	WASTE	UNDIST'BD	WASTE	UNDIST'BD	AREA (ha)
0	1217.0	1217.0							
1	2774.9	3991.9	10.0	70.0	0.0	0.0	0.0	0.0	10.0
2	2720.2	6712.1	14.7	65.3	0.0	0.0	0.0	0.0	14.7
3	2342.2	9054.3	19.3	60.7	0.0	0.0	0.0	0.0	19.3
4	1812.7	10867.0	24.0	56.0	0.0	0.0	0.0	0.0	24.0
5	9496.2	20363.2	28.7	51.3	9.3	75.7	0.0	0.0	38.0
6	7649.2	28012.4	33.3	46.7	18.7	66.3	0.0	37.0	52.0
7	10839.3	38851.7	38.0	42.0	28.0	57.0	2.3	34.8	68.3
8	11103.3	49955.0	42.7	37.3	37.3	47.7	4.5	32.5	84.5
9	8591.8	58546.8	47.3	32.7	46.7	38.3	6.8	30.3	100.8
10	1152.4	59699.2	52.0	28.0	56.0	29.0	9.0	28.0	117.0
11	0.0	59699.2	52.0	28.0	56.0	29.0	9.0	28.0	117.0
12	0.0	59699.2	52.0	28.0	56.0	29.0	9.0	28.0	117.0
13	0.0	59699.2	52.0	28.0	56.0	29.0	9.0	28.0	117.0
14	0.0	59699.2	52.0	28.0	56.0	29.0	9.0	28.0	117.0
				iq.					

Notes: - dump areas for years 1 and 14 taken from <u>Stage 1 Environmental and Socionomic Impact Assessment, Responses to Comments by the Agencies.</u> All areas for intermediate years are interpolated linearly.

TABLE 3.3 IMPERIAL METALS CORPORATION MT. POLLEY PROJECT TAILINGS STORAGE FACILITY DEVELOPMENT

Area of total impoundment =

230 ha

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END OF		AREAS (ha)						
YEAR	UNPREP'D	TOT. PREP'D	PREP'D	BEACH	BEACH	POND		
	BASIN	BASIN	BASIN	(incl. pond)	ONLY			
t=0	96	134	119	15	0	15		
1	96	134	64	70	48.9	21.1		
2	54	176	67	109	81.9	27.1		
3	54	176	38	138	104.8	33.2		
4	26	204	44	160	120.7	39.3		
5	26	204	19	185	139.6	45.4		
6	15	215	22	193	141.6	51.4		
7	15	215	13	202	144.5	57.5		
8	6	224	18	206	142.6	63.4		
9	6	224	15	209	139.4	69.6		
10	0	230	17	213	137.3	75.7		
11	0	230	13	217	135.2	81.8		
12	0	230	10	220	132.1	87.9		
13	0	230	6	224	130.1	93.9		
14	0	230	3	227	127	100		

Notes:

- 1) Unprep'd Basin = Total Impoundment Prep'd Basin.
- 2) Prep'd Basin taken from Filling Schedule and Staged Construction.
- 3) Prep'd Basin has been increased by 5% in order to equal total impoundment area after 10 years.
- 4) Beach (incl. pond) taken from D/A/C curve.
- 5) Pond volume varied linearly from 15ha at t=0 to 100ha at end of year 14.



TABLE 3.4 IMPERIAL METALS CORPORATION MT. POLLEY PROJECT ASSUMPTIONS USED IN WATER BALANCE ANALYSIS

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DESCRIPTION	VALUE			
General Details:				
Daily ore throughput (tpd)			13,425	
Tailings % solids			35%	
Tailings S.G.			2.78	
Yr. 1 initial pond volume (m ³)		1	,500,00	0
Water content of ore			4%	
Min fresh water makeup (% of water in	n with slurry)		2.4%	
Initial tailings dry density (t/m³)			0.9	
Final tailings dry density (t/m³)	Yr.1		1.1	
	Yr.2		1.2	
	Yr.3 - 14		1.3	
Pit g/w infiltration (m³/month)			39,818	
Beach evaporation factor			0.8	
Dust control (m³/month)			25,000	
Runoff Coefficients:		dry	ave	wet
Unprepared basin		20%	24%	29%
Prepared basin		90%	90%	90%
Tailings beach		90%	90%	90%
Pit area		45%	50%	55%
Waste rock		58%	60%	62 %
Undisturbed catchment		20%	24%	29%
Mill site		65%	70%	75%

TABLE 4.1 IMPERIAL METALS CORPORATION MT. POLLEY PROJECT ANNUAL WATER BALANCES FOR AVERAGE CONDITIONS - CATCHMENT AREA "A"

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YEAR	WATER	TAILINGS POND VOL. (m ³)		MAKEUP	EXCESS
	AVAILABLE (m³)	MIN.	MAX.	WATER REQ'D (m ³)	DIVERTED WATER (m³)
0	1,500,000	1,500,000	1,500,000		
1	1,136,187	765,590	1,432,777	0	0
2	1,233,138	610,223	1,341,963	0	0
3	1,440,914	866,681	1,663,887	0	150,014
4	1,441,040	1,090,844	1,760,095	0	435,218
5	1,507,113	1,120,791	1,861,307	0	549,537
6	1,491,361	1,136,205	1,929,259	0	770,682
7	1,603,921	1,181,655	2,032,575	0	756,609
8	1,674,549	1,215,669	2,100,044	0	876,349
9	1,735,786	1,276,298	2,172,620	0	922,218
10	1,824,823	1,341,827	2,264,337	0	957,312
11	1,889,491	1,420,501	2,343,190	0	967,572
12	1,933,176	1,474,927	2,398,170	0	977,832
13	1,652,895	1,518,504	2,132,030	0	1,287,699
14	1,703,906	1,270,389	2,194,337	0	945,683

Note: Excess Diverted Water is surplus runoff <u>not</u> diverted into tailings impoundment.





IMPERIAL METALS CORPORATION MT. POLLEY PROJECT

WATER BALANCE SUMMARY - ANNUAL WATER SURPLUS

Annual Surplus in Tailings Facility (m³)

	Initial Cas	se (1991)	New Case (1995)		
	Year 1	Year 14	Year 1	Year 7	Year 14
50 Year Dry	0	0	0	0	0
10 Year Dry	0	0	0	0	0
Average Year	0	$3,856^{(1)}$	0	0	0
10 Year Wet	0	$440,148^{(1)}$	0	87,098	74,626
50 Year Wet	0	$680,032^{(1)}$	0	311,451	309,400

Note:

1. The Initial Case (1991) does not include water usage for dust control or enhanced evaporation losses (approximately 400,000 m³/yr). The New Case (1995) includes for dust control (150,000 m³/year) but not enhanced evaporation (250,000 m³/year).



IMPERIAL METALS CORPORATION MT. POLLEY PROJECT

ADDITIONAL MAKE-UP WATER REQUIREMENTS

Precipitation Conditions	Permitted Option: Scenario 2 - Total
	Pit Inflow to Tailings Area or to
	Process

	1991 Model (m³/year)	1995 Model (m³/year)
Year 1 - 50 Year Dry	1,580,709	0
Year 1 - 10 Year Dry	1,490,936	0
Year 1 - Average Year	1,259,725	0
Year 1 - 10 Year Wet	973,150	0
Year 1 - 50 Year Wet	861,263	0
Year 14 - 50 Year Dry	646,609	0
Year 14 - 10 Year Dry	415,057	0
Year 14 - Average Year	0	0
Year 14 - 10 Year Wet	0	0
Year 14 - 50 Year Wet	0	0

Notes:

- 1. The additional make-up water required is in addition to the 4.6 percent minimum fresh make-up water required (418,611 m³/yr) to the mill. Of this, 200,000 m³/yr is water in ore, and the remainder is for fresh water requirements (ie: potable water, etc.)
- 2. The new 1995 water balance model assumes that approximately 1.5 million m³ of water is stored in the tailings impoundment in October of each year.
- 3. Year 1 water balances indicate that ponded water in the tailings facility may need to be supplemented with additional make-up water if the tailings pond volume becomes too low for practical operations. Therefore, a contingency make-up water allowance of 300,000 m³ may need to be extracted during freshet from the Polley Lake system under extreme dry start-up conditions during the first few years of operations.



MT. POLLEY PROJECT TAILINGS STORAGE FACILITY

WATER AVAILABLE AT START-UP Average Year Precipitation

Catchment Areas		Runoff Coeff.	2	
Stage I Tailings Facility Basin =	134 ha	90%	Total annual precipitation = 755	mm
Tailings Facility Unprepared Basin =	96 ha	24%		
Diverted Catchment Area A =	240 ha	24%		
Diverted Catchment Area B =	310 ha	24%		

1	UOB\DATA\1624\WATSTART,WK4												06-Feb-95	10:35 AM
	DESCRIPTION	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ANNUAL
A	Rainfall (mm/month)	48.3	17.3	7.6	6.8	6.0	6.0	24.2	45.3	81.5	65.7	83.1	58.9	450.7
в∥	Snowfall (mm/month - water equivalent)	12.1	40.0	67.2	68.7	52.1	38.5	18.9	5.3	0.0	0.0	0.0	1.5	304.3
C	Lake evaporation (mm/month)	15.0	0.0	0.0	0.0	0.0	0.0	0.0	47.0	112.0	107.0	92.0	50.0	423.0
	<water in=""> (m³)</water>										0			
1	Tailings Facility Catchment Area Runoff	58,250	20,864	9,166	8,201	7,236	7,236	29,185	421,618	98,289	79,234	100,219	71,033	910,530
2	Diverted Catchment Area A Runoff	27,821	9,965	4,378	3,917	3,456	3,456	13,939	201,370	46,944	37,843	47,866	33,926	434,880
3	Diverted Catchment Area B Runoff	35,935	12,871	5,654	5,059	4,464	4,464	18,005	260,102	60,636	48,881	61,826	43,822	561,720
4	Unprepared Basin Runoff	11,128	3,986	1,751	1,567	1,382	1,382	5,576	80,548	18,778	15,137	19,146	13,571	173,952
5	Total Monthly Precipitation Runoff	133,134	47,686	20,949	18,744	16,538	16,538	66,705	963,637	224,647	181,095	229,057	162,352	2,081,082
6	Cumulative Monthly Precipitation Runoff	133,134	180,820	201,768	220,512	237,050	253,589	320,294	1,283,931	1,508,578	1,689,673	1,918,730	2,081,082	
ľ	<water out=""> (m³)</water>													
	Surface Area of Start-up Pond (ha)	5	5	5	5	5	5	5	13	21	21	21	34	1
7	Evaporation from Start-up Pond	750	0	0	0	0	0	0	6,110	23,520	22,470	19,320	17,000	89,170
	<available in="" tsf="" water=""> (m³)</available>													
8	Total Monthly Available Water	132,384	47,686	20,949	18,744	16,538	16,538	66,705	957,527	201,127	158,625	209,737	145,352	1,991,912
9	Cumulative Monthly Available Water	132,384	180,070	201,018	219,762	236,300	252,839	319,544	1,277,071	1,478,198	1,636,823	1,846,560	1,991,912	1,771,712
	California Michael Manager Manager	102,004	100,070	201,010	217,702	220,300	252,055	J19,5 74	1,2//,0/1	1,770,130	1,000,020	1,040,500	1,221,212	
11-														

^{1.} Snowfall is given in equivalent depth of rainfall and is assumed to accumulate on catchment areas until May when it melts with 90% recovery in the tailings facility and 24% recovery from the diverted catchment areas.



MT. POLLEY PROJECT TAILINGS STORAGE FACILITY

WATER AVAILABLE AT START-UP 10 Year Dry Precipitation

Catchment Areas		Runoff Coeff.		
Stage I Tailings Facility Basin =	134 ha	90%	Total annual precipitation =	601.3 mm
Tailings Facility Unprepared Basin =	96 ha	20%		
Diverted Catchment Area A =	240 ha	20 %		
Diverted Catchment Area B =	310 ha	20%		

:UOB\DATA\1624\WATSTART.WK4												06-Feb-95	10:35 AM
DESCRIPTION	ОСТ	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ANNUAL
Rainfall (mm/month)	38.5	13.8	6.1	5.4	4.8	4.8	19.3	36.1	64.9	52.3	66.2	46.9	359.1
Snowfall (mm/month - water equivalent)	9.6	31.8	53.5	54.7	41.5	30.7	15.0	4.2	0.0	0.0	0.0	1.2	242.2
Lake evaporation (mm/month)	15.0	0.0	0.0	0.0	0.0	0.0	0.0	47.0	112.0	107.0	92.0	50.0	423.0
<water in=""> (m³)</water>													
Tailings Facility Catchment Area Runoff	46,431	16,643	7,357	6,512	5,789	5,789	23,276	335,630	78,269	63,074	79,837	56,561	725,168
Diverted Catchment Area A Runoff	18,480	6,624	2,928	2,592	2,304	2,304	9,264	133,584	31,152	25,104	31,776	22,512	288,624
Diverted Catchment Area B Runoff	23,870	8,556	3,782	3,348	2,976	2,976	11,966	172,546	40,238	32,426	41,044	29,078	372,806
Unprepared Basin Runoff	7,392	2,650	1,171	1,037	922	922	3,706	53,434	12,461	10,042	12,710	9,005	115,450
Total Monthly Precipitation Runoff	96,173	34,472	15,238	13,489	11,990	11,990	48,211	695,193	162,120	130,645	165,368	117,156	1,502,047
Cumulative Monthly Precipitation Runoff	96,173	130,645	145,883	159,372	171,363	183,353	231,565	926,758	1,088,878	1,219,524	1,384,891	1,502,047	
<water out=""> (m³)</water>													
Surface Area of Start-up Pond (ha)	0	5	5	5	5	· 5	5	13	13	13	13	21	
Evaporation from Start-up Pond	0	0	0	0	0	0	0	6,110	14,560	13,910	11,960	10,500	57,040
<available in="" tsf="" water=""> (m³)</available>										it.			
Total Monthly Available Water	96,173	34,472	15,238	13,489	11,990	11,990	48,211	689,083	147,560	116,735	153,408	106,656	1,445,007
Cumulative Monthly Available Water	96,173	130,645	145,883	159,372	171,363	183,353	231,565	920,648	1,068,208	1,184,944	1,338,351	1,445,007	
	Rainfall (mm/month) Snowfall (mm/month - water equivalent) Lake evaporation (mm/month) <water in=""> (m³) Tailings Facility Catchment Area Runoff Diverted Catchment Area A Runoff Diverted Catchment Area B Runoff Unprepared Basin Runoff Total Monthly Precipitation Runoff Cumulative Monthly Precipitation Runoff <water out=""> (m³) Surface Area of Start-up Pond (ha) Evaporation from Start-up Pond <available in="" tsf="" water=""> (m³) Total Monthly Available Water</available></water></water>	DESCRIPTION OCT Rainfall (mm/month) 38.5 Snowfall (mm/month - water equivalent) 9.6 Lake evaporation (mm/month) 15.0 <water in=""> (m³) 46,431 Tailings Facility Catchment Area Runoff 18,480 Diverted Catchment Area B Runoff 23,870 Unprepared Basin Runoff 7,392 Total Monthly Precipitation Runoff 96,173 Cumulative Monthly Precipitation Runoff 96,173 <water out=""> (m³) 0 Surface Area of Start-up Pond (ha) 0 Evaporation from Start-up Pond 0 <available in="" tsf="" water=""> (m³) 70 Total Monthly Available Water 96,173</available></water></water>	DESCRIPTIONOCTNOVRainfall (mm/month)38.513.8Snowfall (mm/month - water equivalent)9.631.8Lake evaporation (mm/month)15.00.0 <water in=""> (m³)Tailings Facility Catchment Area Runoff46,43116,643Diverted Catchment Area A Runoff18,4806,624Diverted Catchment Area B Runoff23,8708,556Unprepared Basin Runoff7,3922,650Total Monthly Precipitation Runoff96,17334,472Cumulative Monthly Precipitation Runoff96,173130,645<water out=""> (m³)Surface Area of Start-up Pond (ha)05Evaporation from Start-up Pond00<available in="" tsf="" water=""> (m³)Total Monthly Available Water96,17334,472</available></water></water>	DESCRIPTION OCT NOV DEC Rainfall (mm/month) 38.5 13.8 6.1 Snowfall (mm/month - water equivalent) 9.6 31.8 53.5 Lake evaporation (mm/month) 15.0 0.0 0.0 <water in=""> (m³) 15.0 0.0 0.0 Tailings Facility Catchment Area Runoff 46,431 16,643 7,357 Diverted Catchment Area A Runoff 18,480 6,624 2,928 Diverted Catchment Area B Runoff 23,870 8,556 3,782 Unprepared Basin Runoff 7,392 2,650 1,171 Total Monthly Precipitation Runoff 96,173 34,472 15,238 Cumulative Monthly Precipitation Runoff 96,173 130,645 145,883 <water out=""> (m³) 0 5 5 Evaporation from Start-up Pond 0 0 0 <available in="" tsf="" water=""> (m³) 15,238 Total Monthly Available Water 96,173 34,472 15,238</available></water></water>	DESCRIPTION OCT NOV DEC JAN Rainfall (mm/month) 38.5 13.8 6.1 5.4 Snowfall (mm/month - water equivalent) 9.6 31.8 53.5 54.7 Lake evaporation (mm/month) 15.0 0.0 0.0 0.0 <water in=""> (m³) 46,431 16,643 7,357 6,512 Diverted Catchment Area A Runoff 18,480 6,624 2,928 2,592 Diverted Catchment Area B Runoff 23,870 8,556 3,782 3,348 Unprepared Basin Runoff 7,392 2,650 1,171 1,037 Total Monthly Precipitation Runoff 96,173 34,472 15,238 13,489 Cumulative Monthly Precipitation Runoff 96,173 130,645 145,883 159,372 VATER OUT > (m³) 0 5 5 5 Evaporation from Start-up Pond 0 0 0 0 <available in="" tsf="" water=""> (m³) 15,238 13,489 Total Monthly Available Water 96,173 <t< td=""><td>DESCRIPTION OCT NOV DEC JAN FEB Rainfall (mm/month) 38.5 13.8 6.1 5.4 4.8 Snowfall (mm/month - water equivalent) 9.6 31.8 53.5 54.7 41.5 Lake evaporation (mm/month) 15.0 0.0 0.0 0.0 0.0 <water in=""> (m³) 46,431 16,643 7,357 6,512 5,789 Diverted Catchment Area Runoff 18,480 6,624 2,928 2,592 2,304 Diverted Catchment Area B Runoff 23,870 8,556 3,782 3,348 2,976 Unprepared Basin Runoff 7,392 2,650 1,171 1,037 922 Total Monthly Precipitation Runoff 96,173 34,472 15,238 13,489 11,990 Cumulative Monthly Precipitation Runoff 96,173 130,645 145,883 159,372 171,363 <water out=""> (m³) 3 5 5 5 5 5 Surface Area of Start-up Pond 0 0 <td< td=""><td>DESCRIPTION OCT NOV DEC JAN FEB MAR Rainfall (mm/month) 38.5 13.8 6.1 5.4 4.8 4.8 Snowfall (mm/month - 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water equivalent) 9.6 31.8 53.5 54.7 41.5 30.7 15.0 Lake evaporation (mm/month) 15.0 0.0<</td><td>DESCRIPTION OCT NOV DEC JAN FEB MAR APR MAY Rainfall (mm/month) 38.5 13.8 6.1 5.4 4.8 4.8 19.3 36.1 Snowfall (mm/month) - water equivalent) 9.6 31.8 53.5 54.7 41.5 30.7 15.0 4.2 Lake evaporation (mm/month) 15.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 47.0 <water in=""> (m³) Tailings Facility Catchment Area Runoff 46,431 16,643 7,357 6,512 5,789 5,789 23,276 335,630 Diverted Catchment Area Runoff 18,480 6,624 2,928 2,592 2,304 2,304 9,264 133,584 Diverted Catchment Area B Runoff 23,870 8,556 3,782 3,348 2,976 2,976 11,966 172,546 Unprepared Basin Runoff 7,392 2,650 1,171 1,037 922 922 3,706 53,434</water></td><td> DESCRIPTION OCT NOV DEC JAN FEB MAR APR MAY JUN </td><td> DESCRIPTION DEC JAN FEB MAR APR MAY JUN JUL </td><td> DESCRIPTION OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG </td><td> Rainfall (mm/month)</td></td<></water></water>	DESCRIPTION OCT NOV DEC JAN FEB MAR Rainfall (mm/month) 38.5 13.8 6.1 5.4 4.8 4.8 Snowfall (mm/month - water equivalent) 9.6 31.8 53.5 54.7 41.5 30.7 Lake evaporation (mm/month) 15.0 0.0 0.0 0.0 0.0 0.0 <water in=""> (m³) Tailings Facility Catchment Area Runoff 46,431 16,643 7,357 6,512 5,789 5,789 Diverted Catchment Area A Runoff 18,480 6,624 2,928 2,592 2,304 2,304 Diverted Catchment Area B Runoff 23,870 8,556 3,782 3,348 2,976 2,976 Unprepared Basin Runoff 7,392 2,650 1,171 1,037 922 922 Total Monthly Precipitation Runoff 96,173 34,472 15,238 13,489 11,990 11,990 Cumulative Monthly Precipitation Runoff 0 5 5 5 5 Surface Area of Start-u</water>	DESCRIPTION OCT NOV DEC JAN FEB MAR APR Rainfall (mm/month) 38.5 13.8 6.1 5.4 4.8 4.8 19.3 Snowfall (mm/month - water equivalent) 9.6 31.8 53.5 54.7 41.5 30.7 15.0 Lake evaporation (mm/month) 15.0 0.0<	DESCRIPTION OCT NOV DEC JAN FEB MAR APR MAY Rainfall (mm/month) 38.5 13.8 6.1 5.4 4.8 4.8 19.3 36.1 Snowfall (mm/month) - water equivalent) 9.6 31.8 53.5 54.7 41.5 30.7 15.0 4.2 Lake evaporation (mm/month) 15.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 47.0 <water in=""> (m³) Tailings Facility Catchment Area Runoff 46,431 16,643 7,357 6,512 5,789 5,789 23,276 335,630 Diverted Catchment Area Runoff 18,480 6,624 2,928 2,592 2,304 2,304 9,264 133,584 Diverted Catchment Area B Runoff 23,870 8,556 3,782 3,348 2,976 2,976 11,966 172,546 Unprepared Basin Runoff 7,392 2,650 1,171 1,037 922 922 3,706 53,434</water>	DESCRIPTION OCT NOV DEC JAN FEB MAR APR MAY JUN	DESCRIPTION DEC JAN FEB MAR APR MAY JUN JUL	DESCRIPTION OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG	Rainfall (mm/month)

^{1.} Snowfall is given in equivalent depth of rainfall and is assumed to accumulate on catchment areas until May when it melts with 90% recovery in the tailings facility and 20% recovery from the diverted catchment areas.



MT. POLLEY PROJECT TAILINGS STORAGE FACILITY

WATER AVAILABLE AT START-UP 50 Year Dry Precipitation

Catchment Areas Runoff Coeff. Stage I Tailings Facility Basin = Total annual precipitation = 134 ha 90% 508.9 mm 20% Tailings Facility Unprepared Basin = 96 ha Diverted Catchment Area A = 240 ha 20% Diverted Catchment Area B = 310 ha 20%

_	J:UOB\DATA\1624\WATSTART.WK4												06-Feb-95	10:35 AM
	DESCRIPTION	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ANNUAL
A	Rainfall (mm/month)	32.6	11.7	5.1	4.6	4.0	4.0	16.3	30.5	54.9	44.3	56.0	39.7	303.7
В	Snowfall (mm/month - water equivalent)	8.2	27.0	45.3	46.3	35.1	26.0	12.7	3.6	0.0	0.0	0.0	1.0	205.2
C	Lake evaporation (mm/month)	15.0	0.0	0.0	0.0	0.0	0.0	0.0	47.0	112.0	107.0	92.0	50.0	423.0
	<water in=""> (m³)</water>													
1	Tailings Facility Catchment Area Runoff	39,316	14,110	6,151	5,548	4,824	4,824	19,658	284,254	66,209	53,426	67,536	47,878	613,733
2	Diverted Catchment Area A Runoff	15,648	5,616	2,448	2,208	1,920	1,920	7,824	113,136	26,352	21,264	26,880	19,056	244,272
3	Diverted Catchment Area B Runoff	20,212	7,254	3,162	2,852	2,480	2,480	10,106	146,134	34,038	27,466	34,720	24,614	315,518
4	Unprepared Basin Runoff	6,259	2,246	979	883	768	768	3,130	45,254	10,541	8,506	10,752	7,622	97,709
5	Total Monthly Precipitation Runoff	81,435	29,227	12,740	11,491	9,992	9,992	40,717	588,779	137,140	110,661	139,888	99,171	1,271,232
6	Cumulative Monthly Precipitation Runoff	81,435	110,661	123,401	134,892	144,884	154,876	195,593	784,372	921,512	1,032,174	1,172,062	1,271,232	-
İ	<water out=""> (m³)</water>													
	Surface Area of Start-up Pond (ha)	0	5	5	5	5	5	5	8	13	13	13	13	
7	Evaporation from Start-up Pond	0	0	0	0	0	0	0	3,760	14,560	13,910	11,960	6,500	50,690
	<available in="" tsf="" water=""> (m³)</available>													
8	Total Monthly Available Water	81,435	29,227	12,740	11,491	9,992	9,992	40,717	585,019	122,580	96,751	127,928	92,671	1,220,542
9	Cumulative Monthly Available Water	81,435	110,661	123,401	134,892	144,884	154,876	195,593	780,612	903,192	999,944	1,127,872	1,220,542	
	_ &	,		,						,			,===,= ,=	

^{1.} Snowfall is given in equivalent depth of rainfall and is assumed to accumulate on catchment areas until May when it melts with 90% recovery in the tailings facility and 20% recovery from the diverted catchment areas.



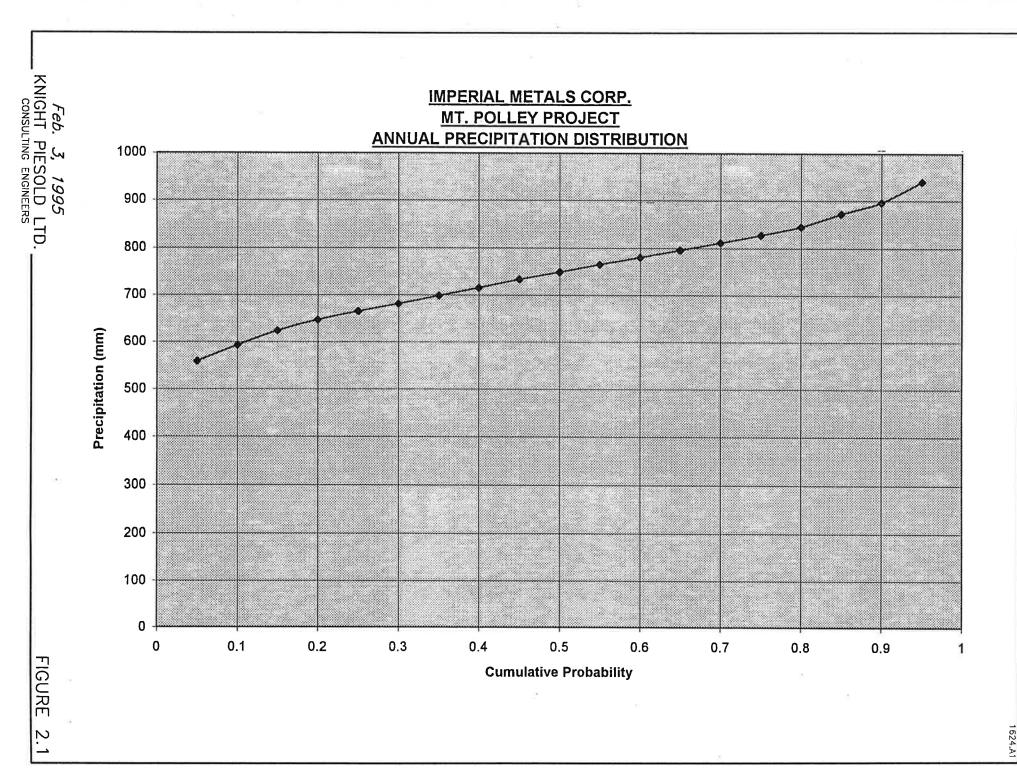
MT. POLLEY PROJECT TAILINGS STORAGE FACILITY

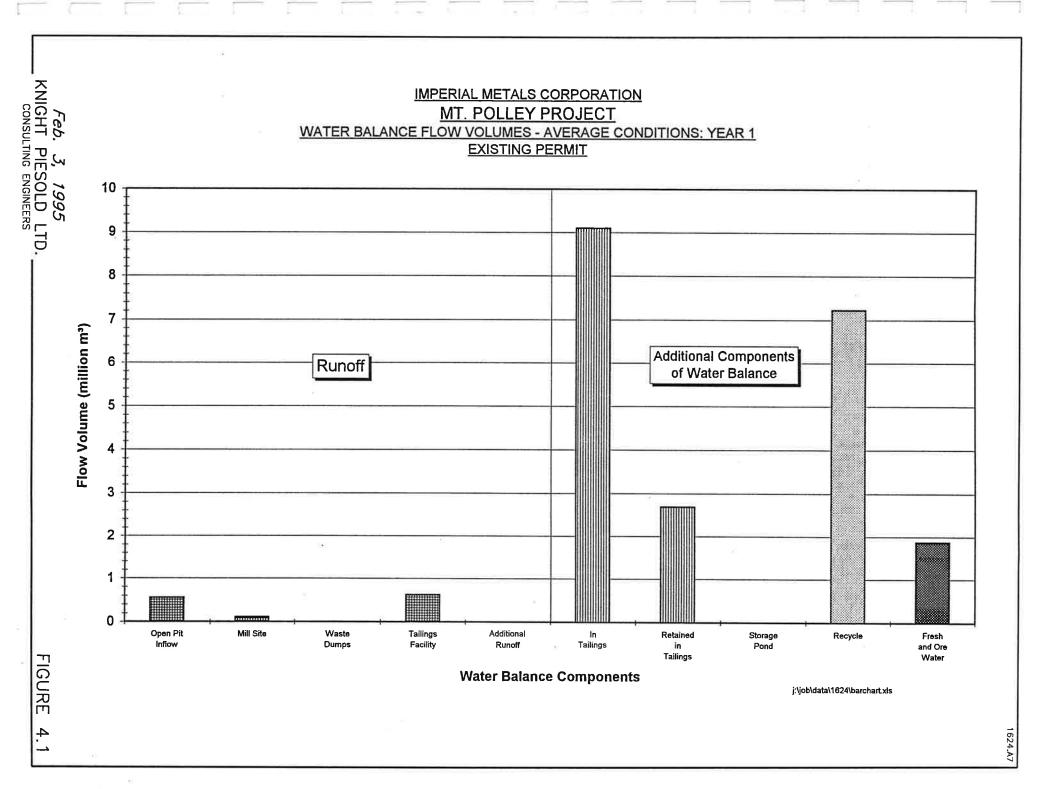
WATER AVAILABLE AT START-UP 10 Year Wet Precipitation

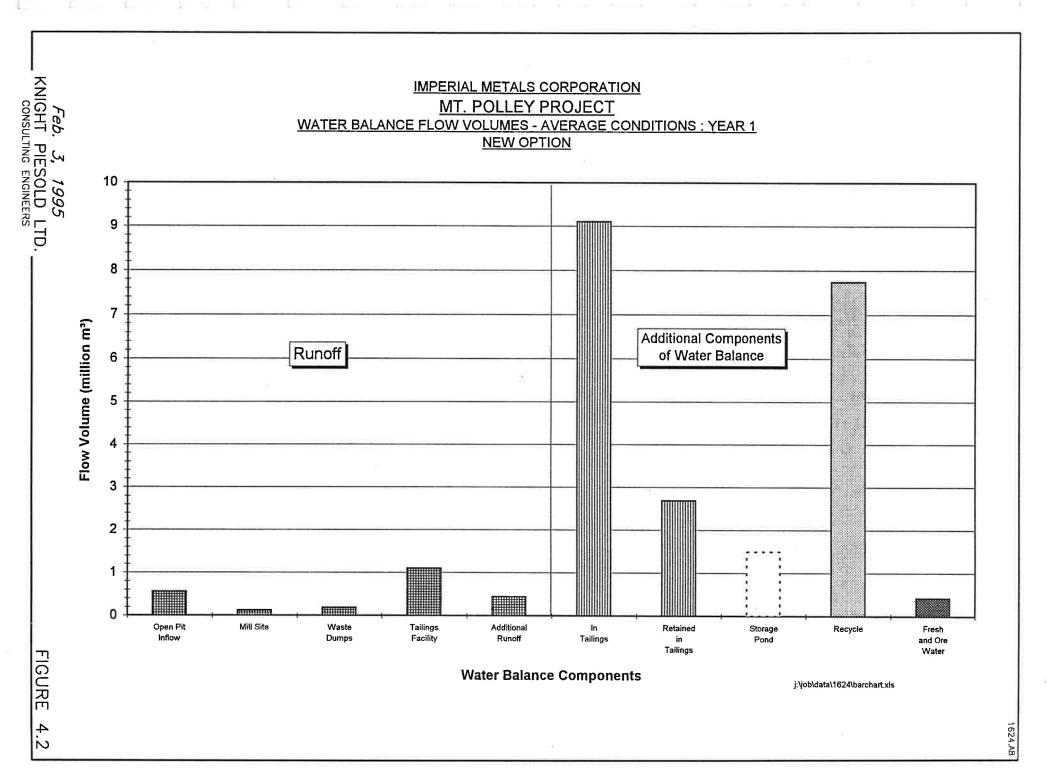
Catchment Areas		Runoff Coeff.		
Stage I Tailings Facility Basin =	134 ha	90%	Total annual precipitation =	908.7 mm
Tailings Facility Unprepared Basin =	96 ha	29%		
Diverted Catchment Area A =	240 ha	29%		
Diverted Catchment Area B =	310 ha	29 %		

1	UOB\DATA\1624\WATSTART.WK4												06-Feb-95	10:35 AM
	DESCRIPTION	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ANNUAL
A	Rainfall (mm/month)	58.1	20.8	9.1	8.2	7.2	7.2	29.1	54.5	98.1	79.1	100.0	70.9	542.3
В	Snowfall (mm/month - water equivalent)	14.6	48.2	80.9	82.7	62.7	46.3	22.8	6.4	0.0	0.0	0.0	1.8	366.4
c	Lake evaporation (mm/month)	15.0	0.0	0.0	0.0	0.0	0.0	0.0	47.0	112.0	107.0	92.0	50.0	423.0
	<water in=""> (m³)</water>													
1	Tailings Facility Catchment Area Runoff	70,069	25,085	10,975	9,889	8,683	8,683	35,095	507,605	118,309	95,395	120,600	85,505	1,095,892
2	Diverted Catchment Area A Runoff	40,438	14,477	6,334	5,707	5,011	5,011	20,254	292,946	68,278	55,054	69,600	49,346	632,455
3	Diverted Catchment Area B Runoff	52,232	18,699	8,181	7,372	6,473	6,473	26,161	378,389	88,192	71,111	89,900	63,739	816,921
4	Unprepared Basin Runoff	16,175	5,791	2,533	2,283	2,004	2,004	8,101	117,179	27,311	22,021	27,840	19,739	252,982
5	Total Monthly Precipitation Runoff	178,913	64,052	28,023	25,251	22,172	22,172	89,611	1,296,119	302,089	243,581	307,940	218,329	2,798,251
6	Cumulative Monthly Precipitation Runoff	178,913	242,965	270,987	296,238	318,410	340,582	430,192	1,726,312	2,028,401	2,271,981	2,579,921	2,798,251	
	<water out=""> (m³)</water>													
	Surface Area of Start-up Pond (ha)	5	5	5	5	5	5	5	21	34	34	34	50	
7	Evaporation from Start-up Pond	750	0	0	0	0	0	0	9,870	38,080	36,380	31,280	25,000	141,360
	<available in="" tsf="" water=""> (m³)</available>													
8	Total Monthly Available Water	178,163	64,052	28,023	25,251	22,172	22,172	89,611	1,286,249	264,009	207,201	276,660	193,329	2,656,891
9	Cumulative Monthly Available Water	178,163	242,215	270,237	295,488	317,660	339,832	429,442	1,715,692	1,979,701	2,186,901	2,463,561	2,656,891	
	Camara Table (1986)	2.5,200	,					,			_,,		_,,,	

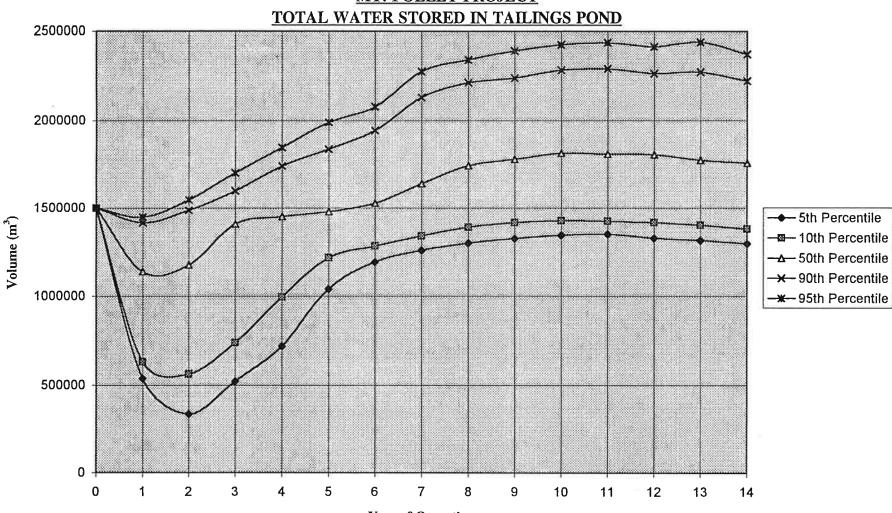
^{1.} Snowfall is given in equivalent depth of rainfall and is assumed to accumulate on catchment areas until May when it melts with 90% recovery in the tailings facility and 29% recovery from the diverted catchment areas.





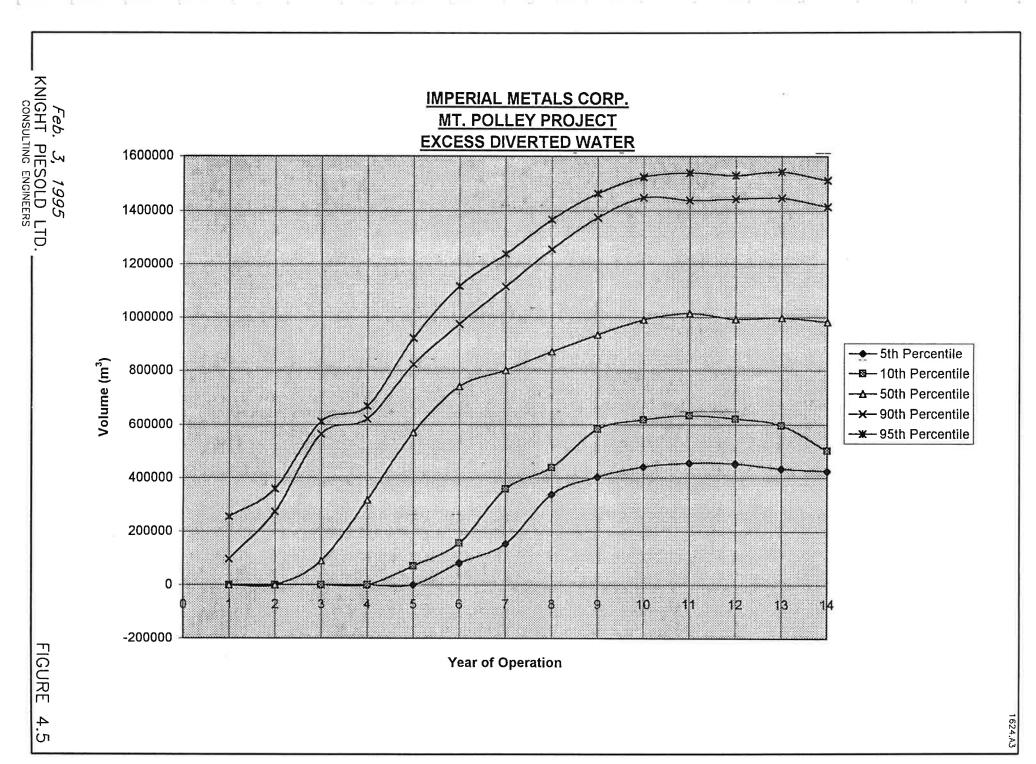


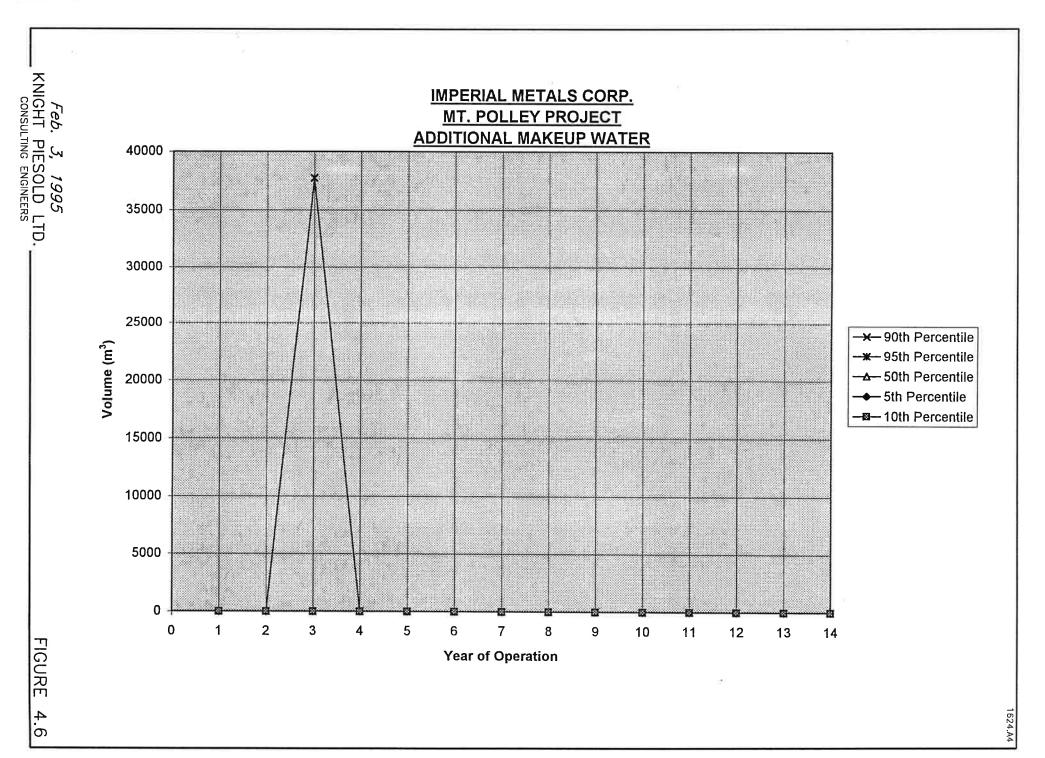
IMPERIAL METALS CORP. KNIGHT PIESOLD LTD. MT. POLLEY PROJECT **VARIATION IN TAILINGS POND VOLUME FOR AVERAGE** PRECIPITATION CONDITIONS 2500000 2000000 1500000 Ave. End of Month Volume (m³) -⊠-- Average → 50th Percentile 1000000 500000 sept jan may sept FIGURE 14 Year of Operation



Year of Operation

Note: Above curves are for average annual values and are based on pond volumes measured at the end of September in each year. Actual pond volumes fluctuate during each year.







APPENDIX A

TAILINGS STORAGE FACILITY MONTHLY WATER BALANCES FOR AVERAGE PRECIPITATION



TABLE A.1 IMPERIAL METALS CORPORATION MT. POLLEY PROJECT TAILINGS STORAGE FACILITY MONTHLY WATER BALANCE YEAR 1

Knight Piésold Ltd.

CONSULTING ENGINEERS
assumptions:

assumptions:						
daily ore throughput (tpd) = 13,425	min. fresh water makeup (%) = 2%	unprepared basin area (ha) = 96		<u>dry</u>	ave.	wet
tails % solids = 35%	initial dry density $(t/m^3) = 0.9$	prepared basin area (ha) = 64	unprep'd basin runoff coeff. =	20%	24 %	29%
tails S.G. = 2.78	final dry density $(t/m^3) = 1.1$	beach area (ha) = 49	prep'd basin runoff coeff. =	90%	90%	90%
initial pond volume $(m^3) = 1,500,000$	total pit area (ha) = 18	pond area (ha) = 21	beach runoff coeff. =	90%	90%	90%
		1 1 1 1 000	1, 60 60	1500	50 M	5500

water content of ore $=4\%$	it g/w infiltration	$n (m^3/mo) =$	39,818	1	beach evapora	tion factor =	0.80		pit area ru	noff coeff. =	45%	50%	5:
POODDATA\G24WATERBALSTATWBALXLS DESCRIPTION	ост	NOV	DEC	JAN	FEB	MAR	APR	МАУ	JUN	JUL	AUG	SEP	ANN
Rainfall (mm/month)	48.3	17.3	7.6	6.8	6.0	6.0	24.2	45.3	81.5	65.7	83.0	58.9	45
Snowfall (mm/month)	12.0	39.7	66.7	68.1	51.7	38.2	18.7	5.3	0.0	0.0	0.0	1.5	30
Evaporation (mm/month)	15.0	0.0	0.0	0.0	0.0	0.0	0.0	47.0	112.0	107.0	92.0	50.0	42
<water in=""> (m³)</water>													
With slurry	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	9,1
Precipitation onto pond	10,185	3,648	1,603	1,434	1,265	1,265	38,211	39,814	17,186	13,854	17,524	12,734	15
Beach runoff	21,244	7,609	3,343	2,991	2,639	2,639	79,700	83,044	35,847	28,897	36,550	26,561	33
Unprep'd basin runoff	11,122	3,984	1,750	1,566	1,382	1,382	41,724	43,475	18,766	15,128	19,135	13,905	17
Prep'd basin runoff	27,804	9,959	4,375	3,914	3,454	3,454	104,311	108,687	46,916	37,820	47,837	34,763	43
Recovery from open pit: precipitation	4,557	1,632	717	642	566	566	17,097	17,815	7,690	6,199	7,841	5,698	7
g/w infiltration	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	4
>>> Total Water Input	873,083	825,003	809,958	808,717	807,477	807,477	1,079,214	1,091,006	924,575	900,070	927,057	891,832	10,
<water out=""> (m³)</water>													
upernatant Recovery													
(+) Recovery from tailings	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	5,
(-) Seepage	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	6
(+) Total precipitation runoff	114,730	66,650	51,605	50,365	49,124	49,124	320,861	332,653	166,222	141,717	168,704	133,479	1,0
(-) Evaporation from pond	3,165	0	0	0	0	0	0	9,917	23,632	22,577	19,412	10,550	1,,
(-) Evaporation from beach	5,868	0	0	0	0	0	0	18,386	43,814	41,858	35,990	19,560	1
(+) Consolidation to final density	82,494	82,494	82,494	82,494	82,494	82,494	82,494	82,494	82,494	82,494	82,494	82,494	9
Sub-total (Water recovered as S/N)	581,614	542,567	527,523	526,282	525,041	525,041	796,779	780,267	574,693	553,199	589,219	579,287	7,:
Underdrainage recovery													
(+) Underdrainage	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	69
(-) Seepage losses	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	7
Sub-total (Water recovered as U/D)	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	62
Inrecoverable Water	,	•	0.00										1
Water retained in tailings	224,335	224,335	224,335	224,335	224,335	224,335	224,335	224,335	224,335	224,335	224,335	224,335	2,6
Evaporation from beach and pond	9,033	0	0	0	0	0	0	28,303	67,446	64,435	55,402	30,110	2:
Seepage losses	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	1 7
Sub-total (Unrecoverable water)	239,208	230,175	230,175	230,175	230,175	230,175	230,175	258,479	297,622	294,611	285,578	260,285	3,0
>>> Total Water Output	873,083	825,003	809,958	808,717	807,477	807,477	1,079,214	1,091,006	924,575	900,070	927,057	891,832	10,
Monthly water available (excluding stored water in TSF)	633,874	594,827	579,783	578,542	577,301	577,301	849,039	832,527	626,953	605,459	641,479	631,547	7,7
Available stored water in TSF at beginning of month	1,500,000	1,432,777	1,321,031	1,184,705	1,046,351	905,971	765,590	1,069,188	1,339,298	1,297,793	1,219,260	1,193,853	
Total Monthly Water Available	2,133,874	2,027,604	1,900,814	1,763,247	1,623,653	1,483,272	1,614,628	1,901,715	1,966,252	1,903,252	1,860,739	1,825,400	
Vater included with slurry	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	9,1
resh water input to mill	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	21
Vater in ore	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	15
Vater for dust control on roads	25,000	0	0	0	0	00	0	25,000	25,000	25,000	25,000	25,000	15
otal Mill Water Required	748,581	723,581	723,581	723,581	723,581	723,581	723,581	748,581	748,581	748,581	748,581	748,581	8,8
dditional makeup water required	0	0	0	0	0	0	0	0	0	0	0	0	1
Monthly precipitation water surplus/deficit	-114,706	-128,753	-143,798	-145,039	-146,279	-146,279	125,458	83,946	-121,627	-143,122	-107,102	-117,034	-1,:
Annual cumulative precipitation surplus/deficit	-114,706	-243,459	-387,257	-532,296	-678,575	-824,854	-699,396	-615,450	-737,077	-880,199	-987,300	-1,104,334	l
Total water in TSF at end of month (incl. mine site runoff)	1,432,777	1,321,031	1,184,705	1,046,351	905,971	765,590	1,069,188	1,339,298	1,297,793	1,219,260	1,193,853	1,136,187	
Excess runoff not diverted into tailings pond	0	0	0	0	0	0	0	0	0	0	0	0	1

TABLE A.2 IMPERIAL METALS CORPORATION MT. POLLEY PROJECT TAILINGS STORAGE FACILITY MONTHLY WATER BALANCE

YEAR 2

Knight Piésold Ltd.

CONSULTING ENGINEERS assumptions:

daily ore throughput (tpd) = 13,425

tails % solids = 35%

tails S.G. = 2.78

initial pond volume $(m^3) = 1,136,187$

water content of ore = 4%

min. fresh water makeup (%) = 2% initial dry density $(t/m^3) = 0.9$ final dry density $(t/m^3) = 1.2$

total pit area (ha) = 18 pit g/w infiltration $(m^3/mo) = 39,818$ unprepared basin area (ha) = 54 prepared basin area (ha) = 67 beach area (ha) = 82

pond area (ha) = 27 beach evaporation factor = 0.80

dry 20% unprep'd basin runoff coeff. = prep'd basin runoff coeff. = 90% beach runoff coeff. =

pit area runoff coeff. =

24% 90% 90% 90% 45% 50%

ave.

90% 55%

wet

29%

90%

2/6/65 14:53 E-FORDATANICA (WATERDAL STATWBAL XLS													
DESCRIPTION	ОСТ	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ANNU
Rainfall (mm/month)	48.3	17.3	7.6	6.8	6.0	6.0	24.2	45.3	81.5	65.7	83.0	58.9	450.
Snowfall (mm/month)	12.0	39.7	66.7	68.1	51.7	38.2	18.7	5.3	0.0	0.0	0.0	1,5	301.
Evaporation (mm/month)	15.0	0.0	0.0	0.0	0.0	0.0	0.0	47.0	112.0	107.0	92.0	50.0	423.
<water in=""> (m³)</water>													
With slurry	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	9,100,
Precipitation onto pond	13,081	4,685	2,058	1,842	1,625	1,625	49,077	51,136	22,073	17,794	22,507	16,355	203,8
Beach runoff	35,580	12,744	5,599	5,009	4,420	4,420	133,485	139,086	60,037	48,398	61,216	44,486	554
Unprep'd basin runoff	6,256	2,241	984	881	777	777	23,470	24,455	10,556	8,510	10,763	7,822	97,
Prep'd basin runoff	29,107	10,426	4,580	4,098	3,616	3,616	109,200	113,782	49,115	39,593	50,079	36,392	453
Recovery from open pit: precipitation	4,557	1,632	717	642	566	566	17,097	17,815	7,690	6,199	7,841	5,698	71,
g/w infiltration	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	477
>>> Total Water Input	886,753	829,899	812,109	810,642	809,175	809,175	1,130,500	1,144,443	947,642	918,665	950,576	908,924	10,95
<water out=""> (m³)</water>													
Supernatant Recovery													
(+) Recovery from tailings	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	5,41
(-) Seepage	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	697
(+) Total precipitation runoff	128,400	71,546	53,756	52,289	50,822	50,822	372,147	386,091	189,289	160,312	192,224	150,571	1,85
(-) Evaporation from pond	4,065	0	0	0	0	0	0	12,737	30,352	28,997	24,932	13,550	114
(-) Evaporation from beach	9,828	0	0	0	0	0	0	30,794	73,382	70,106	60,278	32,760	277
(+) Consolidation to final density	113,429	113,429	113,429	113,429	113,429	113,429	113,429	113,429	113,429	113,429	113,429	113,429	1,36
Sub-total (Water recovered as S/N)	621,360	578,399	560,609	559,142	557,674	557,674	879,000	849,412	592,407	568,061	613,866	611,113	7,54
Inderdrainage recovery													
(+) Underdrainage	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	697
(-) Seepage losses	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	70
tub-total (Water recovered as U/D)	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	627
Inrecoverable Water													
Water retained in tailings	193,400	193,400	193,400	193,400	193,400	193,400	193,400	193,400	193,400	193,400	193,400	193,400	2,32
Evaporation from beach and pond	13,893	0	0	0	0	0	0	43,531	103,734	99,103	85,210	46,310	391
Seepage losses	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	70
ub-total (Unrecoverable water)	213,133	199,240	199,240	199,240	199,240	199,240	199,240	242,772	302,975	298,344	284,451	245,550	2,78
>>> Total Water Output	886,753	829,899	812,109	810,642	809,175	809,175	1,130,500	1,144,443	947,642	918,665	950,576	908,924	10,9
fonthly water available (excluding stored water in TSF)	673,620	630,659	612,869	611,402	609,934	609,934	931,260	901,672	644,667	620,321	666,126	663,373	8,17
vailable stored water in TSF at beginning of month	1,136,187	1,109,579	1,033,977	930,874	825,502	717,863	610,223	999,307	1,341,963	1,319,640	1,257,153	1,257,890	
Total Monthly Water Available	1,809,807	1,740,238	1,646,846	1,542,275	1,435,437	1,327,797	1,541,483	1,900,978	1,986,630	1,939,961	1,923,279	1,921,263	
Vater included with slurry	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	9,10
Fresh water input to mill	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	218
Vater in ore Vater for dust control on roads	16,572 25,000	16,572 0	16,572 0	16,572 0	16,572 0	16,572 0	16,572 0	16,572 25,000	16,572	16,572	16,572	16,572	198
vater for dust control on roads Total Mill Water Required	748,581	723,581	723,581	723,581	723,581	723,581	723,581	748,581	25,000 748,581	25,000 748,581	25,000 748,581	25,000 748,581	8,83
Additional makeup water required	0	0	0	0	0	0	0	0	0	0	0	0	8,83
Southly precipitation water surplus/deficit	-74,961	-92,922	-110,712	-112,179	-113,646	-113,646	207,679	153,091	-103,913	-128,259	-82,455	-85,207	1
noning precipitation water surplus/deficit	-74,961	-92,922	-110,712 -278,594	-390,773	-504,419	-618,065	-410,386	-257,294	-361,208	-128,259 -489,467	-82,433 -571,922		-65
Fotal water in TSF at end of month (incl. mine site runoff)	1,109,579	1,033,977	930,874	-390,773 825,502	717,863	610,223	999,307	1,341,963	1,319,640	1,257,153	1,257,890	-657,129	
Excess runoff not diverted into tailings pond	0	1,033,977	930,874	823,302	0	010,223	0	1,341,963	1,319,640	1,257,153	1,257,890	1,233,138	
rycore renort not entered mio entiriks hong		J	U	U	· ·	U	U	U	U	υ	U	U	

TABLE A.3 IMPERIAL METALS CORPORATION MT. POLLEY PROJECT TAILINGS STORAGE FACILITY MONTHLY WATER BALANCE

YEAR 3

Knight Piésold Ltd.

CONSULTINGENGINEERS

daily ore throughput (tpd) = 13,425

tails % solids = 35%

tails S.G. = 2.78

initial pond volume $(m^3) = 1,233,138$

water content of ore = 4%

min. fresh water makeup (%) = 2% initial dry density $(t/m^3) = 0.9$

> final dry density $(t/m^3) = 1.3$ total pit area (ha) = 26

pit g/w infiltration (m³/mo) = 39,818

unprepared basin area (ha) = 54 prepared basin area (ha) = 38 beach area (ha) = 105 pond area (ha) = 33

beach evaporation factor = 0.80

unprep'd basin runoff coeff. = prep'd basin runoff coeff. = beach runoff coeff. =

pit area runoff coeff. =

24% 29% 90% 90% 90% 90%

ave.

20%

90%

90%

45%

50% 55%

SERPITION OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP AN inhibit (numbround) 48,3 17,3 7,6 6.3 6.0 6.0 24,2 45,3 81,5 65,7 83,0 55,9 4	1665 14:53	B. w manualio	ii (iii /iiio) —	55,010		outon orapora	1011 140101	0.00		pir aroa ra	noti cocii. –	4370	3070	337
12.0 39.7 68.1 51.7 38.2 18.7 5.3 0.0 0.0 0.0 0.0 1.5	DESCRIPTION	ОСТ	NOV	DEC	JAN	FEB	MAR	APR	МАТ	JUN	JUL	AUG	SEP	ANNU
Second comprisonable 15.0 0.0	Rainfall (mm/month)	48,3	17.3	7.6	6.8	6.0	6,0	24.2	45.3	81.5	65.7	83.0	58.9	450
Water RN> (m²) With stury 758,353 75	Snowfall (mm/month)			66.7	68.1	51.7	38.2	18.7	5,3	0.0	0,0	0.0	1.5	301
With shurry Precipitation and pend 16,035 1,750, 32 1,750, 33 1,750, 35 1,75	Evaporation (mm/month)	15.0	0.0	0.0	0.0	0.0	0.0	0.0	47.0	112.0	107.0	92.0	50.0	423
Precipitation sone posed 16,006 5,740 2,522 2,256 1,991 1,991 1,991 1,910 0,1020 17,173 20,107 2,173 20,107 2,173 1,991 1,99	<water in=""> (m³)</water>	1												
Beach rumoff Ungreq** Design transfer 45,299 16,308 7,164 6,410 5,656 170,809 177,975 76,824 61,931 78,333 56,924 70 Prep** Design transfer 6,256 2,241 994 881 777 777 777 3,470 2,445 10,556 2,246 2,803 20,640 2,25 Prep** Design transfer 6,603 3,931 3,9318	With slurry	758,353	758,353		758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	9,10
Ungregé basin runoff Pergé basin	Precipitation onto pond	16,026	5,740	2,522	2,256	1,991	1,991	60,124	62,646	27,042	21,799	27,573	20,037	249
Prey'd basin runoff Recovery from open pit: precipitation g/w infiltration 39,818 39,8														709
Recovery from open pit: precipitation grow in thirtain and provide in the following provide in t		1 1	,			777	7 77				8,510	10,763	7,822	97
WATER OUT > (m²) S9,003 89,073 812,477 810,971 809,465 809,485 39,818 39,81	•		,			, -	,	,					,	257
No.		1 '	,	,										102
WATER OUT> (m³) permanat Recovery (+) Recovery from tailings (451,524 451,524	g/w infiltration	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	477
pernatural Recovery (+) Recovery from taillings (+) Seconge (*) Seconder from the second (*) Seconder f	>>> Total Water Input	889,093	830,737	812,477	810,971	809,465	809,465	1,139,279	1,153,591	951,590	921,848	954,602	911,849	10,9
(+) Recovery from tailings (-) \$451,524 461,526 142,52	:WATER OUT> (m ³)													
(+) Recovery from tailings (-) 451,524	pernatant Recovery													
(+) Total precipitation runoff 130,740 72,344 54,125 52,619 51,113 51,113 51,113 380,926 395,238 130,328 154,325 196,259 196,250 153,497 18. (+) Evaporation from pond 4,980 0 0 0 0 0 0 0 15,604 37,184 35,524 30,544 16,600 14 (-) Evaporation from beach 12,576 0 0 0 0 0 0 0 15,604 37,184 35,524 30,544 16,600 14 (-) Evaporation from beach 12,576 0 0 0 0 0 0 0 39,005 139,605		451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451.524	451,524	451,524	451,524	5,41
(+) Total precipitation runoff (5) Evaporation from pond (4) 980 0 0 0 0 0 0 15,604 37,184 35,524 30,544 16,600 (6) Evaporation from beach (7) Evaporation from beach (12,576 0 0 0 0 0 0 0 39,405 39,005 139,605 139,								,						69
(+) Evaporation from beach (2,576 o 0 0 0 0 0 0 0,0 0,0 0,0 0,0 0,0 0,0 0 0,0 0 0,0 0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0,0 0 0,0 0 0,0														
(c) Evaporation from beach (12,576 0 0 0 0 0 0 0 0, 39,405 93,901 89,709 77,133 41,920 139,605														
(+) Consolidation to final density (+) Consolidatio	11	1												
th-total (Water recovered as S/N) 646,213 605,413 587,153 585,647 584,141 584,141 913,955 873,258 595,181 571,291 621,601 628,005 7,7 darderfrainage recovery (+) Underdrainage (1 '	139,605	139,605	139,605	139,605	139,605	139,605						
(+) Underdrainage (58,100 58,1	• •	1												7,79
Seepage losses 5,840 5,260 52,260	nderdrainage recovery													
(-) Seepage losses b-total (Water recovered as U/D) 52,260	(+) Underdrainage	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	69
The control of the first and the first at the ginning of month (incl. mine site runoff) (16,724 to 167,224 to	(-) Seepage losses	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	70
Water retained in tailings 167,224	b-total (Water recovered as U/D)	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	62
Evaporation from beach and pond	nrecoverable Water													
Seepage losses 5,840 5,8	Water retained in tailings	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	2,00
b-total (Unrecoverable water) 190,620 173,064 173,065 174,085 174,085 174,085 174,085 174,085 174,085	Evaporation from beach and pond	17,556	0	0	0	0	0	0	55,009	131,085	125,233	107,677	58,520	49:
>>> Total Water Output 889,093 830,737 812,477 810,971 809,465 809,465 1,139,279 1,153,591 951,590 921,848 954,602 911,849 10,500000000000000000000000000000000000	Seepage losses	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	70
onthly water available (excluding stored water in TSF) 698,473 657,673 639,413 637,907 636,401 636,401 966,215 925,518 647,441 623,551 673,861 680,265 8,4 Add Monthly Water Available 1,233,138 1,232,253 1,183,976 1,107,554 1,028,811 947,746 866,681 1,293,983 1,663,887 1,662,747 1,437,718 1,447,687 1,447,687 1,437,718 1,447,687 1,437,718 1,447,687 1,437,718 1,447,687 1,437,718 1,447,687 1,437,718 1,447,687 1,437,718 1,447,687 1,437,718 1,447,687 1,437,718 1,447,687 1,437,718 1,447,687	b-total (Unrecoverable water)	190,620	173,064	173,064	173,064	173,064	173,064	173,064	228,073	304,149	298,297	280,741	231,584	2,57
ailable stored water in TSF at beginning of month 1,233,138 1,232,253 1,183,976 1,107,554 1,028,811 947,746 866,681 1,293,983 1,663,887 1,562,747 1,437,718 1,447,687 1,931,611 1,889,926 1,823,389 1,745,461 1,665,212 1,584,147 1,832,896 2,219,501 2,311,328 2,186,298 2,111,579 2,127,952 1,931,611 1,889,926 1,823,389 1,745,461 1,665,212 1,584,147 1,832,896 2,219,501 2,311,328 2,186,298 2,111,579 2,127,952 1,931,611 1,889,926 1,823,389 1,745,461 1,665,212 1,584,147 1,832,896 2,219,501 2,311,328 2,186,298 2,111,579 2,127,952 1,931,611 1,889,926 1,823,389 1,745,461 1,665,212 1,584,147 1,832,896 2,219,501 2,311,328 2,186,298 2,111,579 2,127,952 1,931,611 1,889,926 1,823,389 1,745,461 1,665,212 1,584,147 1,832,896 2,219,501 2,311,328 2,186,298 2,111,579 2,127,952 1,931,611 1,889,926 1,823,389 1,745,461 1,665,212 1,584,147 1,832,896 2,219,501 2,311,328 2,186,298 2,111,579 2,127,952 1,931,611 1,889,926 1,823,389 1,745,461 1,665,212 1,584,147 1,832,896 2,219,501 2,311,328 2,186,298 2,111,579 2,127,952 1,931,611 1,889,926 1,823,389 1,745,461 1,665,212 1,584,147 1,832,896 2,219,501 2,311,328 2,186,298 2,111,579 2,127,952 1,931,611 1,889,926 1,823,389 1,745,461 1,665,212 1,584,147 1,832,896 2,219,501 2,311,328 2,186,298 2,111,579 2,127,952 1,931,611 1,889,926 1,823,389 1,745,461 1,665,212 1,584,147 1,832,896 2,219,501 2,311,328 2,186,298 2,111,579 2,127,952 1,931,611 1,829,926 1,823,389 1,745,461 1,665,212 1,584,147 1,832,896 2,219,501 2,311,328 2,186,298 2,111,579 2,127,952 1,931,611 1,829,926 1,823,389 1,663,887 1,562,747 1,437,718 1,447,687	>>> Total Water Output	889,093	830,737	812,477	810,971	809,465	809,465	1,139,279	1,153,591	951,590	921,848	954,602	911,849	10,9
tal Monthly Water Available 1,931,611 1,889,926 1,823,389 1,745,461 1,665,212 1,584,147 1,832,896 2,219,501 2,311,328 2,186,298 2,111,579 2,127,952 ater included with slurry 758,353										647,441	623,551	673,861	680,265	8,42
Taker included with slurry 758,353 75		1,233,138		1,183,976	1,107,554	1,028,811	947,746	866,681	1,293,983	1,663,887	1,562,747	1,437,718	1,447,687	
esh water input to mill 18,200													2,127,952	
ater in ore 16,572 16,5	•													9,10
ater for dust control on roads 25,000 0 0 0 0 0 25,000 25,	*													218
tal Mill Water Required 748,581 723,581 723,581 723,581 723,581 723,581 723,581 723,581 723,581 748,58														198
diditional makeup water required 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0														150
onthly precipitation water surplus/deficit -50,108 -65,908 -84,168 -85,673 -87,179 -87,179 242,634 176,937 -101,139 -125,030 -74,719 -68,315 -40,000 -100,00														8,83
nnual cumulative precipitation surplus/deficit -50,108 -116,016 -200,183 -285,857 -373,036 -460,215 -217,581 -40,644 -141,783 -266,813 -341,532 -409,848 otal water in TSF at end of month (incl. mine site runoff) 1,232,253 1,183,976 1,107,554 1,028,811 947,746 866,681 1,293,983 1,663,887 1,562,747 1,437,718 1,447,687 1,440,914														
otal water in TSF at end of month (incl. mine site runoff) 1,232,253 1,183,976 1,107,554 1,028,811 947,746 866,681 1,293,983 1,663,887 1,562,747 1,437,718 1,447,687 1,440,914														-40
														1
xcess runoff not diverted into tailings pond 0 0 0 0 0 83,058 66,956 0 0 15														
	xcess runoff not diverted into tailings pond	0	0	0	0	0	0	0	0	83,058	66,956	0	0	150

TABLE A.4 IMPERIAL METALS CORPORATION MT. POLLEY PROJECT TAILINGS STORAGE FACILITY MONTHLY WATER BALANCE YEAR 4

Knight Piésold Ltd.

CONSULTING ENGINEERS

36 Excess runoff not diverted into tailings pond

0

0

0

0

0

0

0

196,367

84,526

68,139

86,185

435,218

daily ore throughput (tpd) = 13,425 min. fresh water makeup (%) = 2% unprepared basin area (ha) = 26 ave. tails % solids = 35% initial dry density $(t/m^3) = 0.9$ prepared basin area (ha) = 44 unprep'd basin runoff coeff. = 20% 24% 29% tails S.G. = 2.78 final dry density $(t/m^3) = 1.3$ beach area (ha) = 121 90% 90% prep'd basin runoff coeff. = 90% initial pond volume $(m^3) = 1,440,914$ total pit area (ha) = 26 pond area (ha) = 39 beach runoff coeff. = 90% 90% 90% water content of ore = 4% pit g/w infiltration $(m^3/m_0) = 39.818$ beach evaporation factor = 0.80 pit area runoff coeff. = 55% 45% 50%

	water content of ore $= 4\%$	pit g/w infiltratio	n (m ³ /mo) =	39,818		beach evapora	ation factor =	0.80		pit area ru	noff coeff. =	45%	50%	55%
	J:VOBDATANGAWATERBALSTATWBALXES DESCRIPTION	ост	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ANNUAL
A	Rainfall (mm/month)	48.3	17.3	7.6	6.8	6.0	6.0	24.2	45.3	81.5	65.7	83.0	58.9	450.4
В	Snowfall (mm/month)	12.0	39.7	66.7	68.1	51.7	38.2	18.7	5,3	0.0	0.0	0.0	1,5	301.8
C	Evaporation (mm/month)	15.0	0.0	0.0	0.0	0.0	0,0	0.0	47.0	112.0	107.0	92.0	50.0	423.0
	<water in=""> (m³)</water>													
1	With slurry	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	9,100,232
2	Precipitation onto pond	18,970	6,795	2,985	2,671	2,357	2,357	71,170	74,156	32,010	25,805	32,639	23,718	295,633
3	Beach runoff	52,437	18,782	8,251	7,382	6,514	6,514	196,723	204,977	88,480	71,327	90,217	65,561	817,165
4	Unprep'd basin runoff	3,012	1,079	474	424	374	374	11,300	11,774	5,083	4,097	5,182	3,766	46,940
5	Prep'd basin runoff	19,115	6,847	3,008	2,691	2,375	2,375	71,714	74,722	32,255	26,002	32,888	23,899	297,889
6	Recovery from open pit: precipitation	6,603	2,365	1,039	930	820	820	24,772	25,811	11,142	8,982	11,360	8,255	102,898
7	g/w infiltration	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	477,816
8	>>> Total Water Input	898,308	834,038	813,927	812,269	810,610	810,610	1,173,850	1,189,612	967,139	934,382	970,457	923,371	11,138,573
	<water out=""> (m³)</water>													
	Symposition t Department													
	Supernatant Recovery	451 504	451 504	451 504	451 504	451 504	451 504	451 504	451 504	451 604	461 604	451 504	461 604	5 410 004
10	(+) Recovery from tailings	451,524 58,100	451,524 58,100	451,524 58,100	451,524	451,524 58,100	451,524	451,524 58,100	451,524	451,524	451,524	451,524	451,524	5,418,284
-	(-) Seepage			,	58,100		58,100	,	58,100	58,100	58,100	58,100	58,100	697,200
11	(+) Total precipitation runoff	139,955	75,685	55,575	53,916	52,257	52,257	415,497	431,260	208,787	176,030	212,104	165,018	2,038,341
12	(-) Evaporation from pond	5,895	0	0	0	0	0	0	18,471	44,016	42,051	36,156	19,650	166,239
13	111 -	14,484	0	0	0	0	0	0	45,383	108,147	103,319	88,835	48,280	408,449
14	(+) Consolidation to final density	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	1,675,256
15	Sub-total (Water recovered as S/N)	652,605	608,713	588,603	586,944	585,286	585,286	948,526	900,434	589,652	563,688	620,141	630,116	7,859,993
	Underdrainage recovery													
16	(+) Underdrainage	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	697,200
17	(-) Seepage losses	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	70,080
18	Sub-total (Water recovered as U/D)	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	627,120
	Unrecoverable Water													
19	Water retained in tailings	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	2,006,692
20	Evaporation from beach and pond	20,379	0	0	0	0	0	0	63,854	152,163	145,370	124,991	67,930	574,688
21	Seepage losses	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	70,080
22	Sub-total (Unrecoverable water)	193,443	173,064	173,064	173,064	173,064	173,064	173,064	236,919	325,228	318,435	298,056	240,994	2,651,460
23	>>> Total Water Output	898,308	834,038	813,927	812,269	810,610	810,610	1,173,850	1,189,612	967,139	934,382	970,457	923,371	11,138,573
24	Monthly water available (excluding stored water in TSF)	704,865	660,973	640,863	639,204	637,546	637,546	1,000,786	952,694	641,912	615,948	672,401	682,376	8,487,113
	Available stored water in TSF at beginning of month	1,440,914	1,447,292	1,402,627	1,327,792	1,250,468	1,170,656	1,090,844	1,555,981	1,760,095	1,653,426	1,520,793	1,444,614	0,407,113
773.55	Total Monthly Water Available	2,145,779	2,108,265	2,043,490	1,966,996	1,888,014	1,808,202	2,091,630	2,508,675	2,402,007	2,269,374	2,193,194	2,126,990	
	Water included with slurry	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	9,100,232
	Fresh water input to mill	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	218,406
	Water in ore	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	198,860
	Water for dust control on roads	25,000	0	0	0	0	0	0	25,000	25,000	25,000	25,000	25,000	150,000
31	Total Mill Water Required	748,581	723,581	723,581	723,581	723,581	723,581	723,581	748,581	748,581	748,581	748,581	748,581	8,832,966
1.552	Additional makeup water required	0	0	0	0	0	0	0	0	0	0	0	0	0
		-43,716	-62,607	-82,718	-84,376	-86,035	-86,035	277,205						
	Monthly precipitation water surplus/deficit Annual cumulative precipitation surplus/deficit	-43,716 -43,716	-106,323	-82,718 -189,041	-84,376	-86,035 -359,451	-86,033 -445,486	-168,281	204,113 35,832	-106,669 -70,836	-132,633 -203,469	-76,179 -279,648	-66,204 -345,853	-345,853
		1,447,292	1,402,627	1,327,792	1,250,468	1,170,656	1,090,844				,			
	Total water in TSF at end of month (incl. mine site runoff)	1,447,292	1,402,627	1,327,792	1,250,468	1,1/0,050	1,090,844	1,555,981	1,760,095	1,653,426	1,520,793	1,444,614	1,441,040	425 210

TABLE A.5 IMPERIAL METALS CORPORATION MT. POLLEY PROJECT TAILINGS STORAGE FACILITY MONTHLY WATER BALANCE

YEAR 5

Knight Piésold Ltd.

CONSULTING ENGINEERS

daily ore throughput (tpd) = 13,425 min. fresh water makeup (%) = 2% unprepared basin area (ha) = 26 tails % solids = 35% initial dry density $(t/m^3) = 0.9$ 24% 29% prepared basin area (ha) = 19 unprep'd basin runoff coeff. = 20% tails S.G. = 2.78 final dry density $(t/m^3) = 1.3$ beach area (ha) = 140 90% 90% 90% prep'd basin runoff coeff. = initial pond volume $(m^3) = 1,441,040$ total pit area (ha) = 40 pond area (ha) = 45 90% 90% 90% beach runoff coeff. = pit g/w infiltration (m3/mo) = 39,818 water content of ore = 4% beach evaporation factor = 0.80 pit area runoff coeff. = 45% 50% 55%

2/6/95 1: J:VOB\D	4:53 hata\ g24 waterral statwbal_xls													
DES	CRIPTION	ост	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ANNUAL
A Rainf	fall (mm/month)	48,3	17.3	7.6	6.8	6.0	6.0	24.2	45.3	81.5	65.7	83.0	58.9	450.4
B Snow	rfall (mm/month)	12.0	39.7	66.7	68.1	51.7	38.2	18.7	5.3	0.0	0.0	0.0	1,5	301.8
C Evap	oration (mm/month)	15,0	0.0	0,0	0.0	0.0	0.0	0.0	47.0	112.0	107.0	92.0	50.0	423,0
< W.	ATER IN> (m ³)													
1	With slurry	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	9,100,232
2	Precipitation onto pond	21,915	7,849	3,448	3,085	2,722	2,722	82,217	85,667	36,979	29,810	37,705	27,400	341,520
3	Beach runoff	60,648	21,723	9,543	8,538	7,534	7,534	227,528	237,074	102,335	82,496	104,344	75,827	945,122
4	Unprep'd basin runoff	3,012	1,079	474	424	374	374	11,300	11,774	5,083	4,097	5,182	3,766	46,940
5	Prep'd basin runoff	8,254	2,957	1,299	1,162	1,025	1,025	30,967	32,267	13,928	11,228	14,202	10,320	128,634
6	Recovery from open pit: precipitation	10,461	3,747	1,646	1,473	1,300	1,300	39,246	40,893	17,652	14,230	17,998	13,079	163,023
7	g/w infiltration	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	477,816
8	>>> Total Water Input	902,461	835,525	814,581	812,853	811,126	811,126	1,189,429	1,205,845	974,146	940,031	977,601	928,563	11,203,287
< W.	ATER OUT> (m ³)													
Super	matant Recovery													
9	(+) Recovery from tailings	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	5,418,284
10	(-) Seepage	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	697,200
11	(+) Total precipitation runoff	144,108	77,172	56,228	54,501	52,773	52,773	431,076	447,492	215,794	181,678	219,249	170,210	2,103,055
12	(-) Evaporation from pond	6,810	0	0	0	0	0	0	21,338	50,848	48,578	41,768	22,700	192,042
13	(-) Evaporation from beach	16,752	0	0	0	0	0	0	52,490	125,082	119,498	102,746	55,840	472,406
14	(+) Consolidation to final density	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	1,675,256
15 Sub-t	otal (Water recovered as S/N)	653,574	610,201	589,256	587,529	585,802	585,802	964,105	906,693	572,893	546,631	607,763	624,698	7,834,947
Unde	rdrainage recovery	1												
16	(+) Underdrainage	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	697,200
17	(-) Seepage losses	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	70,080
18 Sub-t	otal (Water recovered as U/D)	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	627,120
Unre	coverable Water													
19	Water retained in tailings	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	2,006,692
20	Evaporation from beach and pond	23,562	0	0	0	0	0	0	73,828	175,930	168,076	144,514	78,540	664,448
21	Seepage losses	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	70,080
22 Sub-t	otal (Unrecoverable water)	196,626	173,064	173,064	173,064	173,064	173,064	173,064	246,892	348,994	341,140	317,578	251,604	2,741,220
23	>>> Total Water Output	902,461	835,525	814,581	812,853	811,126	811,126	1,189,429	1,205,845	974,146	940,031	977,601	928,563	11,203,287
24 Mont	hly water available (excluding stored water in TSF)	705,834	662,461	641,516	639,789	638,062	638,062	1,016,365	958,953	625,153	598,891	660,023	676,958	8,462,067
- 12	able stored water in TSF at beginning of month	1,441,040	1,461,562	1,423,104	1,350,995	1,276,111	1,198,451	1,120,791	1,650,935	1,861,307	1,737,879	1,588,190	1,499,633	
26 Total	Monthly Water Available	2,146,875	2,124,023	2,064,620	1,990,784	1,914,172	1,836,513	2,137,156	2,609,888	2,486,460	2,336,770	2,248,213	2,176,591	
0.5000000000000000000000000000000000000	r included with slurry	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	9,100,232
	water input to mill	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	218,406
29 Wate		16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	198,860
	r for dust control on roads	25,000	0	0	00	00	00	0	25,000	25,000	25,000	25,000	25,000	150,000
-	Mill Water Required	748,581	723,581	723,581	723,581	723,581	723,581	723,581	748,581	748,581	748,581	748,581	748,581	8,832,966
- 11	tional makeup water required	0	0	0	0	0	0	0	0	0	0	0	0	0
- 11	hly precipitation water surplus/deficit	-42,746	-61,120	-82,064	-83,792	-85,519	-85,519	292,784	210,373	-123,428	-149,690	-88,557	-71,622	-370,900
	al cumulative precipitation surplus/deficit	-42,746	-103,866	-185,930	-269,722	-355,241	-440,760	-147,975	62,397	-61,031	-210,720	-299,277	-370,900	
0.0-0-0	water in TSF at end of month (incl. mine site runoff) ss runoff not diverted into tailings pond	1,461,562	1,423,104	1,350,995 0	1,276,111 0	1,198,451 0	1,120,791 0	1,650,935 0	1,861,307 247,868	1,737,879 106,757	1,588,190 86,060	1,499,633 108,852	1,507,113	549,537
Exce	29 TOTO 11 HOL GLACITED THE CALIFIES DOIN	J0	-	0	J	U	J	υ ————————————————————————————————————	241,000	100,/3/	00,000	100,832	U	349,337

TABLE A.6 IMPERIAL METALS CORPORATION MT. POLLEY PROJECT TAILINGS STORAGE FACILITY MONTHLY WATER BALANCE

YEAR 6

Knight Piésold Ltd.

CONSULTING ENGINEERS

daily ore throughput (tpd) = 13,425

tails % solids = 35%

tails S.G. = 2.78

initial pond volume $(m^3) = 1,507,113$

water content of ore = 4%

min. fresh water makeup (%) = 2% initial dry density (t/m^3) = 0.9

final dry density $(t/m^3) = 0.3$

total pit area (ha) = 40pit g/w infiltration (m³/mo) = 39,818 unprepared basin area (ha) = 15 prepared basin area (ha) = 22 beach area (ha) = 142

beach evaporation factor = 0.80

pond area (ha) = 51

unprep'd basin runoff coeff. =

prep'd basin runoff coeff. =

beach runoff coeff. =

pit area runoff coeff. =

dry ave. 20% 24% 90% 90% 90% 90%

45%

90% 90% 90% 90% 50% 55%

wet

29%

DESCRIPTION	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ANNUA
Rainfall (mm/month)	48.3	17.3	7.6	6.8	6.0	6.0	24.2	45.3	81.5	65.7	83.0	58,9	450.4
Snowfall (mm/month)	12.0	39.7	66.7	68.1	51.7	38.2	18.7	5.3	0.0	0.0	0.0	1.5	301.8
Evaporation (mm/month)	15.0	0.0	0.0	0,0	0.0	0,0	0,0	47.0	112.0	107.0	92.0	50,0	423.0
<water in=""> (m³)</water>													
With slurry	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	9,100,23
Precipitation onto pond	24,811	8,887	3,904	3,493	3,082	3,082	93,083	96,988	41,866	33,749	42,688	31,021	386,65
Beach runoff	61,516	22,034	9,680	8,661	7,642	7,642	230,787	240,471	103,801	83,678	105,839	76,913	958,66
Unprep'd basin runoff	1,738	622	273	245	216	216	6,519	6,793	2,932	2,364	2,990	2,173	27,08
Prep'd basin runoff	9,558	3,423	1,504	1,346	1,187	1,187	35,857	37,361	16,127	13,001	16,444	11,950	148,94
Recovery from open pit: precipitation	10,461	3,747	1,646	1,473	1,300	1,300	39,246	40,893	17,652	14,230	17,998	13,079	163,02
g/w infiltration	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	477,81
>>> Total Water Input	906,255	836,884	815,178	813,387	811,597	811,597	1,203,663	1,220,676	980,548	945,192	984,129	933,306	11,262,4
<water out=""> (m³)</water>													
Supernatant Recovery													
(+) Recovery from tailings	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	5,418,2
(-) Seepage	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	697,2
(+) Total precipitation runoff	147,902	78,531	56,825	55,035	53,245	53,245	445,311	462,324	222,196	186,839	225,776	174,954	2,162,
(-) Evaporation from pond	7,710	0	0	0	0	0	0	24,158	57,568	54,998	47,288	25,700	217,4
(-) Evaporation from beach	16,992	0	0	0	0	0	0	53,242	126,874	121,210	104,218	56,640	479,1
(+) Consolidation to final density	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	1,675,2
Sub-total (Water recovered as S/N)	656,228	611,560	589,853	588,063	586,273	586,273	978,339	917,953	570,783	543,660	607,299	625,642	7,861,9
Inderdrainage recovery													
(+) Underdrainage	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	697,20
(-) Seepage losses	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	70,08
Sub-total (Water recovered as U/D)	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	627,12
Unrecoverable Water					*1								
Water retained in tailings	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	2,006,6
Evaporation from beach and pond	24,702	0	0	0	0	0	0	77,400	184,442	176,208	151,506	82,340	696,55
Seepage losses	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	70,08
ub-total (Unrecoverable water)	197,766	173,064	173,064	173,064	173,064	173,064	173,064	250,464	357,506	349,272	324,570	255,404	2,773,3
>>> Total Water Output	906,255	836,884	815,178	813,387	811,597	811,597	1,203,663	1,220,676	980,548	945,192	984,129	933,306	11,262,
Monthly water available (excluding stored water in TSF)	708,488	663,820	642,113	640,323	638,533	638,533	1,030,599	970,213	623,043	595,920	659,559	677,902	8,489,0
Available stored water in TSF at beginning of month	1,507,113	1,467,021	1,432,504	1,362,126	1,288,791	1,212,498	1,136,205	1,707,627	1,929,259	1,803,721	1,651,061	1,562,039	
Total Monthly Water Available	2,215,602	2,130,841	2,074,617	2,002,449	1,927,324	1,851,031	2,166,804	2,677,840	2,552,302	2,399,641	2,310,620	2,239,941	
Vater included with slurry	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	9,100,2
resh water input to mill	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	218,40
Vater in ore	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	198,86
Vater for dust control on roads	25,000	0	0	0	0	0	0	25,000	25,000	25,000	25,000	25,000	150,0
otal Mill Water Required	748,581	723,581	723,581	723,581	723,581	723,581	723,581	748,581	748,581	748,581	748,581	748,581	8,832,
dditional makeup water required	0	0	0	0	0	0	0	0	0	0	0	0	0
fonthly precipitation water surplus/deficit	-40,092	-59,761	-81,467	-83,257	-85,048	-85,048	307,018	221,632	-125,538	-152,661	-89,022	-70,679	-343,9
annual cumulative precipitation surplus/deficit	-40,092	-99,853	-181,320	-264,578	-349,625	-434,673	-127,654	93,978	-31,560	-184,221	-273,242	-343,921	
Fotal water in TSF at end of month (incl. mine site runoff)	1,467,021	1,432,504	1,362,126	1,288,791	1,212,498	1,136,205	1,707,627	1,929,259	1,803,721	1,651,061	1,562,039	1,491,361	
Excess runoff not diverted into tailings pond	70,477	0	0	0	0	0	0	276,047	118,921	95,866	121,255	88,116	770,6

TABLE A.7 IMPERIAL METALS CORPORATION MT. POLLEY PROJECT TAILINGS STORAGE FACILITY MONTHLY WATER BALANCE YEAR 7

Knight Piésold Ltd.

daily ore throughput (tpd) = 13,425

tails % solids = 35% tails S.G. = 2.78

initial pond volume $(m^3) = 1,491,361$ water content of ore = 4%

min. fresh water makeup (%) = 2% initial dry density $(t/m^3) = 0.9$

final dry density $(t/m^3) = 1.3$

total pit area (ha) = 65 nit σ/w infiltration $(m^3/m_0) = 39.818$ unprepared basin area (ha) = 15 prepared basin area (ha) = 13

beach area (ha) = 145

pond area (ha) = 58heach evaporation factor = 0.80

unprep'd basin runoff coeff. = 20% prep'd basin runoff coeff. = beach runoff coeff. =

24% 90% 90% 90%

ave.

wet

29%

90%

90% 90% pit area runoff coeff. = 45% 50% 55%

dry

Water content of ore = 4% 2/6/35 14:53 1:0000Data1424;Waterpal;Waterpal;XLS	pit g/w infiltratio	n (m ³ /mo) =	39,818		beach evapora	ation factor =	0.80		pit area ru	moff coeff. =	45%	50%	55%
DESCRIPTION	ОСТ	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ANNUAL
A Rainfall (mm/month)	48,3	17.3	7.6	6.8	6.0	6,0	24.2	45.3	81.5	65.7	83.0	58.9	450.4
B Snowfall (mm/month)	12.0	39.7	66.7	68.1	51.7	38.2	18.7	5.3	0.0	0.0	0.0	1.5	301.8
Evaporation (mm/month)	15,0	0.0	0.0	0.0	0.0	0.0	0.0	47.0	112.0	107.0	92.0	50.0	423.0
<water in=""> (m³)</water>													
1 With slurry	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	9,100,232
Precipitation onto pond	27,756	9,941	4,367	3,908	3,448	3,448	104,130	108,499	46,834	37,755	47,754	34,703	432,541
Beach runoff	62,776	22,485	9,878	8,838	7,798	7,798	235,514	245,395	105,927	85,391	108,006	78,488	978,296
Unprep'd basin runoff	1,738	622	273	245	216	216	6,519	6,793	2,932	2,364	2,990	2,173	27,081
Prep'd basin runoff	5,648	2,023	889	795	702	702	21,188	22,077	9,530	7,682	9,717	7,061	88,013
Recovery from open pit: precipitation	16,753	6,001	2,636	2,359	2,081	2,081	62,852	65,489	28,269	22,789	28,824	20,946	261,080
g/w infiltration	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	477,816
8 >>> Total Water Input	912,841	839,243	816,214	814,315	812,415	812,415	1,228,374	1,246,424	991,663	954,151	995,461	941,541	11,365,058
<water out=""> (m³)</water>													
Supernatant Recovery	1												
9 (+) Recovery from tailings	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	5,418,284
(-) Seepage	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	697,200
(+) Total precipitation runoff	154,489	80,891	57,861	55,962	54,063	54,063	470,021	488,071	233,310	195,799	237,108	183,189	2,264,826
(-) Evaporation from pond	8,625	0	0	0	0	0	Ó	27,025	64,400	61,525	52,900	28,750	243,225
(-) Evaporation from beach	17,340	0	0	0	0	0	0	54,332	129,472	123,692	106,352	57,800	488,988
(+) Consolidation to final density	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	1,675,256
5 Sub-total (Water recovered as S/N)	661,552	613,919	590,890	588,990	587,091	587,091	1,003,049	939,743	572,466	543,610	610,885	629,667	7,928,953
Underdrainage recovery													
(+) Underdrainage	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	697,200
7 (-) Seepage losses	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	70,080
8 Sub-total (Water recovered as U/D)	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	627,120
Unrecoverable Water	1												
Water retained in tailings	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	2,006,692
Evaporation from beach and pond	25,965	0	0	0	0	0	0	81,357	193,872	185,217	159,252	86,550	732,213
1 Seepage losses	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	70,080
Sub-total (Unrecoverable water)	199,029	173,064	173,064	173,064	173,064	173,064	173,064	254,421	366,936	358,281	332,316	259,614	2,808,985
3 >>> Total Water Output	912,841	839,243	816,214	814,315	812,415	812,415	1,228,374	1,246,424	991,663	954,151	995,461	941,541	11,365,058
Monthly water available (excluding stored water in TSF)	713,812	666,179	643,150	641,250	639,351	639,351	1,055,309	992,003	624,726	595,870	663,145	681,927	8,556,073
Available stored water in TSF at beginning of month	1,491,361	1,530,099	1,472,697	1,403,832	1,331,851	1,256,753	1,181,655	1,789,153	2,032,575	1,908,721	1,756,010	1,670,575	
6 Total Monthly Water Available	2,205,173	2,196,277	2,115,847	2,045,083	1,971,202	1,896,104	2,236,964	2,781,156	2,657,302	2,504,591	2,419,155	2,352,502	
7 Water included with slurry	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	9,100,232
8 Fresh water input to mill	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	218,406
Water in ore	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	198,860
Water for dust control on roads	25,000	0	0	00	0	0	0	25,000	25,000	25,000	25,000	25,000	150,000
1 Total Mill Water Required	748,581	723,581	723,581	723,581	723,581	723,581	723,581	748,581	748,581	748,581	748,581	748,581	8,832,966
2 Additional makeup water required	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly precipitation water surplus/deficit	-34,769	-57,402	-80,431	-82,330	-84,229	-84,229	331,729	243,422	-123,854	-152,711	-85,436	-66,653	-276,893
Annual cumulative precipitation surplus/deficit	-34,769	-92,170	-172,601	-254,931	-339,160	-423,390	-91,661	151,761	27,907	-124,804	-210,239	-276,893	
5 Total water in TSF at end of month (incl. mine site runoff)	1,530,099	1,472,697	1,403,832	1,331,851	1,256,753	1,181,655	1,789,153	2,032,575	1,908,721	1,756,010	1,670,575	1,603,921	
Excess runoff not diverted into tailings pond	0	26,328	0	0	0	0	0	287,890	124,033	99,987	126,468	91,904	756,609

TABLE A.8 IMPERIAL METALS CORPORATION MT. POLLEY PROJECT TAILINGS STORAGE FACILITY MONTHLY WATER BALANCE YEAR 8

Knight Piésold Ltd.

CONSULTING ENGINEERS

daily ore throughput (tpd) = 13,425

tails % solids = 35%

tails S.G. = 2.78

initial pond volume $(m^3) = 1,603,921$

water content of ore = 4%

min. fresh water makeup (%) = 2% initial dry density (t/m^3) = 0.9

final dry density $(t/m^3) = 1.3$

total pit area (ha) = 65pit g/w infiltration (m³/mo) = 39,818 unprepared basin area (ha) = 6 prepared basin area (ha) = 18

beach area (ha) = 143pond area (ha) = 63beach evaporation factor = 0.80

unprep'd basin runoff coeff. = 20% prep'd basin runoff coeff. = 90% beach runoff coeff. = 90%

pit area runoff coeff. =

20% 24% 90% 90% 90% 90% 45% 50%

ave.

dry

90% 90% 50% 55%

wet

29%

90%

DESCRIPTION	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ANNUAL
Rainfall (mm/month)	48.3	17.3	7.6	6.8	6.0	6.0	24.2	45.3	81.5	65.7	83.0	58.9	450.4
Snowfall (mm/month)	12.0	39.7	66.7	68.1	51.7	38.2	18.7	5.3	0.0	0.0	0.0	1.5	301.8
Evaporation (mm/month)	15,0	0.0	0.0	0,0	0.0	0,0	0.0	47.0	112.0	107.0	92.0	50.0	423.0
<water in=""> (m³)</water>													
With slu rry	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	9,100,23
Precipitation onto pond	30,604	10,962	4,815	4,309	3,802	3,802	114,814	119,631	51,640	41,629	52,654	38,263	476,924
Beach runoff	61,951	22,189	9,748	8,722	7,696	7,696	232,417	242,169	104,534	84,269	106,586	77,456	965,432
Unprep'd basin runoff	695	249	109	98	86	86	2,608	2,717	1,173	946	1,196	869	10,832
Prep'd basin runoff	7,820	2,801	1,230	1,101	971	971	29,337	30,568	13,195	10,637	13,454	9,777	121,864
Recovery from open pit: precipitation	16,753	6,001	2,636	2,359	2,081	2,081	62,852	65,489	28,269	22,789	28,824	20,946	261,080
g/w infiltration	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	477,816
>>> Total Water Input	915,993	840,372	816,710	814,759	812,807	812,807	1,240,199	1,258,746	996,981	958,439	1,000,884	945,482	11,414,18
<water out=""> (m³)</water>													
Supernatant Recovery													
(+) Recovery from tailings	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	5,418,284
(-) Seepage	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	697,200
(+) Total precipitation runoff	157,641	82,020	58,357	56,406	54,454	54,454	481,847	500,393	238,629	200,086	242,532	187,130	2,313,94
(-) Evaporation from pond	9,510	0	0	0	0	0	0	29,798	71,008	67,838	58,328	31,700	268,182
(-) Evaporation from beach	17,112	0	0	0	0	0	0	53,618	127,770	122,066	104,954	57,040	482,558
(+) Consolidation to final density	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	1,675,256
Sub-total (Water recovered as S/N)	664,047	615,048	591,386	589,434	587,483	587,483	1,014,875	950,006	572,879	543,211	612,278	631,418	7,959,548
Underdrainage recovery											*		
(+) Underdrainage	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	697,200
(-) Seepage losses	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	70,080
Sub-total (Water recovered as U/D)	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	627,120
Unrecoverable Water													
Water retained in tailings	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	2,006,692
Evaporation from beach and pond	26,622	0	0	0	0	0	0	83,416	198,778	189,904	163,282	88,740	750,740
Seepage losses	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	70,080
Sub-total (Unrecoverable water)	199,686	173,064	173,064	173,064	173,064	173,064	173,064	256,480	371,842	362,968	336,346	261,804	2,827,512
>>> Total Water Output	915,993	840,372	816,710	814,759	812,807	812,807	1,240,199	1,258,746	996,981	958,439	1,000,884	945,482	11,414,18
Monthly water available (excluding stored water in TSF)	716,307	667,308	643,646	641,694	639,743	639,743	1,067,135	1,002,266	625,139	595,471	664,538	683,678	8,586,668
Available stored water in TSF at beginning of month	1,603,921	1,571,648	1,515,375	1,435,440	1,364,329	1,289,999	1,215,669	1,846,359	2,100,044	1,976,603	1,823,493	1,739,451	
Total Monthly Water Available	2,320,228	2,238,956	2,159,021	2,077,135	2,004,072	1,929,742	2,282,804	2,848,624	2,725,183	2,572,074	2,488,032	2,423,129	
Water included with slurry	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	9,100,232
Fresh water input to mill	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	218,406
Water in ore	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	198,860
Water for dust control on roads	25,000	Ó	0	Ó	Ó	0	Ó	25,000	25,000	25,000	25,000	25,000	150,000
Total Mill Water Required	748,581	723,581	723,581	723,581	723,581	723,581	723,581	748,581	748,581	748,581	748,581	748,581	8,832,966
Additional makeup water required	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly precipitation water surplus/deficit	-32,273	-56,273	-79,935	-81,886	-83,838	-83,838	343,554	253,685	-123,441	-153,110	-84,042	-64,902	-246,298
Annual cumulative precipitation surplus/deficit	-32,273	-88,546	-168,481	-250,367	-334,205	-418,043	-74,488	179,197	55,756	-97,354	-181,396	-246,298	
Total water in TSF at end of month (incl. mine site runoff)	1,571,648	1,515,375	1,435,440	1,364,329	1,289,999	1,215,669	1,846,359	2,100,044	1,976,603	1,823,493	1,739,451	1,674,549	
Excess runoff not diverted into tailings pond	76,536	27,413	12,043	0	0	0	0	299,733	129,145	104,108	131,680	95,692	876,349

TABLE A.9 IMPERIAL METALS CORPORATION MT. POLLEY PROJECT TAILINGS STORAGE FACILITY MONTHLY WATER BALANCE YEAR 9

Knight Piésold Ltd.

CONSULTING ENGINEERS

daily ore throughput (tpd) = 13,425

tails % solids = 35%

tails S.G. = 2.78

initial pond volume $(m^3) = 1,674,549$

water content of ore = 4%

min. fresh water makeup (%) = 2% initial dry density $(t/m^3) = 0.9$

final dry density $(t/m^3) = 1.3$

total pit area (ha) = 65 pit g/w infiltration (m³/mo) = 39,818 unprepared basin area (ha) = 6 prepared basin area (ha) = 15 beach area (ha) = 139

pond area (ha) = 70 beach evaporation factor = 0.80 unprep'd basin runoff coeff. = prep'd basin runoff coeff. = beach runoff coeff. =

pit area runoff coeff. =

24% 20% 90% 90% 90% 90%

dry

45%

90% 50% 55%

29%

90%

PEGGDIDMICH	ост	NOT?	DEC	TABI	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ANNUA
DESCRIPTION	OCT	NOV	DEC	JAN	FEB	MAK	APK	MAY	JUN	JUL	AUG	SEP	ANNUA
Rainfall (mm/month)	48,3	17.3	7.6	6.8	6.0	6,0	24.2	45.3	81.5	65.7	83.0	58.9	450.4
Snowfall (mm/month)	12,0	39.7	66.7	68.1	51.7	38.2	18.7	5.3	0.0	0.0	0.0	1.5	301.8
Evaporation (mm/month)	15.0	0.0	0.0	0.0	0.0	0,0	0.0	47.0	112.0	107.0	92.0	50.0	423.0
<water in=""> (m³)</water>													
With slurry	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	9,100,2
Precipitation onto pond	33,597	12,034	5,286	4,730	4,173	4,173	126,042	131,330	56,690	45,700	57,803	42,005	523,50
Beach runoff	60,561	21,691	9,529	8,526	7,523	7,523	227,202	236,734	102,188	82,377	104,194	75,718	943,7
Unprep'd basin runoff	695	249	109	98	86	86	2,608	2,717	1,173	946	1,196	869	10,83
Prep'd basin runoff	6,517	2,334	1,025	917	810	810	24,448	25,474	10,996	8,864	11,212	8,148	101,5
Recovery from open pit: precipitation	16,753	6,001	2,636	2,359	2,081	2,081	62,852	65,489	28,269	22,789	28,824	20,946	261,0
g/w infiltration	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	477,8
>>> Total Water Input	916,293	840,479	816,757	814,801	812,844	812,844	1,241,322	1,259,915	997,486	958,846	1,001,399	945,857	11,418,
<water out=""> (m³)</water>													
Supernatant Recovery													
(+) Recovery from tailings	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	5,418,
(-) Seepage	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	697,2
(+) Total precipitation runoff	157,940	82,127	58,404	56,448	54,492	54,492	482,969	501,563	239,134	200,493	243,047	187,504	2,318,
(-) Evaporation from pond	10,440	0	0	0	0	0	0	32,712	77,952	74,472	64,032	34,800	294,4
(-) Evaporation from beach	16,728	0	0	0	0	0	0	52,414	124,902	119,326	102,598	55,760	471,7
(+) Consolidation to final density	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	1,675,
Sub-total (Water recovered as S/N)	663,800	615,155	591,433	589,476	587,520	587,520	1,015,998	949,465	569,308	539,723	609,445	629,972	7,948,
Underdrainage recovery	İ												
(+) Underdrainage	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	697,2
(-) Seepage losses	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	70,08
Sub-total (Water recovered as U/D)	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	627,1
Unrecoverable Water													
Water retained in tailings	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	2,006,
Evaporation from beach and pond	27,168	0	0	0	0	0	0	85,126	202,854	193,798	166,630	90,560	766,1
Seepage losses	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	70,08
Sub-total (Unrecoverable water)	200,232	173,064	173,064	173,064	173,064	173,064	173,064	258,191	375,919	366,863	339,695	263,624	2,842,
>>> Total Water Output	916,293	840,479	816,757	814,801	812,844	812,844	1,241,322	1,259,915	997,486	958,846	1,001,399	945,857	11,418,
Monthly water available (excluding stored water in TSF)	716,060	667,415	643,693	641,736	639,780	639,780	1,068,258	1,001,725	621,568	591,983	661,705	682,232	8,575,
Available stored water in TSF at beginning of month	1,674,549	1,642,028	1,585,863	1,505,975	1,424,131	1,350,214	1,276,298	1,919,476	2,172,620	2,045,607	1,889,010	1,802,134	
Total Monthly Water Available	2,390,609	2,309,444	2,229,556	2,147,712	2,063,911	1,989,994	2,344,556	2,921,201	2,794,188	2,637,591	2,550,715	2,484,366	0.400.4
Water included with slurry	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	9,100,2
Presh water input to mill	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	218,4
Water in ore Water for dust control on roads	16,572 25,000	16,572 0	16,572 0	16,572 0	16,572 0	16,572 0	16,572 0	16,572 25,000	16,572 25,000	16,572 25,000	16,572 25,000	16,572 25,000	198,8 150,0
Water for dust control on roads Total Mill Water Required	748,581	723,581	723,581	723,581	723,581	723,581	723,581	748,581	748,581	748,581	748,581	748,581	8,832,
Additional makeup water required	0	0	0	0	0	0	0	0	0	0	0	0	0,832,
Monthly precipitation water surplus/deficit	-32,520	-56,165	-79,888	-81,844	-83,801	-83,801	344,677	253,144	-127,013	-156,597	-86,876	-66,348	-257,0
Annual cumulative precipitation surplus/deficit	-32,520	-88,686	-168,573	-250,417	-334,218	-85,801 -418,019	-73,341	179,803	52,790	-103,808	-190,684	-257,032	-25/,0
Annual cumulative precipitation surplus/deficit Fotal water in TSF at end of month (incl. mine site runoff)	1,642,028	1,585,863	1,505,975	1,424,131	1,350,214	1,276,298	1,919,476	2,172,620	2,045,607	1,889,010	1,802,134	1,735,786	
LOCAL WATER IN LOP AT ENG OF MODUL (INCL. MINE SITE PUROTI)	1,042,028	1,282,803	1,303,973	1,424,151	1,330,214	1,270,298	1,919,470	2,172,020	2,U45,0U/	1,889,010	1,802,134	1,735,780	DT .

TABLE A.10 IMPERIAL METALS CORPORATION MT. POLLEY PROJECT TAILINGS STORAGE FACILITY MONTHLY WATER BALANCE

YEAR 10

Knight Piésold Ltd.

CONSULTING ENGINEERS assumptions:

daily ore throughput (tpd) = 13,425

tails % solids = 35%

tails S.G. = 2.78

initial pond volume $(m^3) = 1,735,786$ water content of ore = 4%

final dry density $(t/m^3) = 1.3$

total pit area (ha) = 65 pit g/w infiltration (m³/mo) = 39,818

initial dry density $(t/m^3) = 0.9$

min. fresh water makeup (%) = 2%

unprepared basin area (ha) = 0 prepared basin area (ha) = 17

beach area (ha) = 137 pond area (ha) = 76 beach evaporation factor = 0.80 unprep'd basin runoff coeff. = prep'd basin runoff coeff. = beach runoff coeff. = pit area runoff coeff. =

90% 90% 90% 90% 90% 90% 45%

ave.

24%

dry

20%

50% 55%

wet

29%

ainfall (mm/month) nowfall (mm/month) vaporation (mm/month) With slurry Precipitation onto pond Beach runoff Unprep'd basin runoff Prep'd basin runoff Recovery from open pit: Total Water Input WATER OUT > (m³) Unpernatant Recovery (+) Recovery from tailings (-) Seepage (+) Total precipitation runoff (-) Evaporation from pond (-) Evaporation from beach (+) Consolidation to final density ub-total (Water recovered as S/N)	48.3 12.0 15.0 758,353 36,541 59,648 0 7,385	17.3 39.7 0.0	7.6 66.7 0.0	6.8 68.1 0.0	6.0 51.7 0.0	6.0 38.2 0.0	24.2 18.7 0.0	45.3 5.3 47.0	81.5 0.0 112.0	65.7 0.0 107.0	83.0 0.0 92.0	58.9 1.5 50.0	450.4 301.8
vaporation (mm/month) With slurry Precipitation onto pond Beach runoff Unprep'd basin runoff Prep'd basin runoff Recovery from open pit: Total Water Input WATER OUT > (m³) Unpernatant Recovery (+) Recovery from tailings (-) Seepage (+) Total precipitation runoff (-) Evaporation from pond (-) Evaporation from beach (+) Consolidation to final density	758,353 36,541 59,648 0 7,385	758,353	0.0										
With slurry Precipitation onto pond Beach runoff Unprep'd basin runoff Prep'd basin runoff Recovery from open pit: "WATER OUT > (m³) upernatant Recovery (+) Recovery from tailings (-) Seepage (+) Total precipitation runoff (-) Evaporation from pond (-) Evaporation from beach (+) Consolidation to final density	758,353 36,541 59,648 0 7,385	758,353		0.0	0.0	0.0	0.0	47.0	112.0	107.0	07.0	E0 0	
With slurry Precipitation onto pond Beach runoff Unprep'd basin runoff Prep'd basin runoff Recovery from open pit: >>> Total Water Input WATER OUT> (m³) upernatant Recovery (+) Recovery from tailings (-) Seepage (+) Total precipitation runoff (-) Evaporation from pond (-) Evaporation from beach (+) Consolidation to final density	36,541 59,648 0 7,385	,								107.0	92.0	30.0	423.0
Precipitation onto pond Beach runoff Unprep'd basin runoff Prep'd basin runoff Recovery from open pit: >>> Total Water Input WATER OUT > (m³) upernatant Recovery (+) Recovery from tailings (-) Seepage (+) Total precipitation runoff (-) Evaporation from pond (-) Evaporation from beach (+) Consolidation to final density	36,541 59,648 0 7,385	,											
Beach runoff Unprep'd basin runoff Prep'd basin runoff Recovery from open pit: "WATER OUT > (m³) upernatant Recovery (+) Recovery from tailings (-) Seepage (+) Total precipitation runoff (-) Evaporation from pond (-) Evaporation from beach (+) Consolidation to final density	59,648 0 7,385	13.088	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	9,100,2
Unprep'd basin runoff Prep'd basin runoff Recovery from open pit: >>> Total Water Input **WATER OUT> (m³) Unpernatant Recovery (+) Recovery from tailings (-) Seepage (+) Total precipitation runoff (-) Evaporation from pond (-) Evaporation from beach (+) Consolidation to final density	0 7,385	13,000	5,750	5,144	4,539	4,539	137,089	142,841	61,658	49,705	62,869	45,687	569,45
Prep'd basin runoff Recovery from open pit: precipitation g/w infiltration >>> Total Water Input EWATER OUT> (m³) upernatant Recovery (+) Recovery from tailings (-) Seepage (+) Total precipitation runoff (-) Evaporation from pond (-) Evaporation from beach (+) Consolidation to final density	7,385	21,365	9,386	8,398	7,410	7,410	223,779	233,168	100,649	81,137	102,625	74,577	929,55
Recovery from open pit: precipitation g/w infiltration >>> Total Water Input EWATER OUT> (m³) upernatant Recovery (+) Recovery from tailings (-) Seepage (+) Total precipitation runoff (-) Evaporation from pond (-) Evaporation from beach (+) Consolidation to final density	· ·	0	0	0	0	0	0	0	0	0	0	0	0
g/w infiltration >>> Total Water Input :WATER OUT > (m³) upernatant Recovery (+) Recovery from tailings (-) Seepage (+) Total precipitation runoff (-) Evaporation from pond (-) Evaporation from beach (+) Consolidation to final density		2,645	1,162	1,040	917	917	27,708	28,870	12,462	10,046	12,707	9,234	115,09
>>> Total Water Input (WATER OUT> (m³) upernatant Recovery (+) Recovery from tailings (-) Seepage (+) Total precipitation runoff (-) Evaporation from pond (-) Evaporation from beach (+) Consolidation to final density	16,753	6,001	2,636	2,359	2,081	2,081	62,852	65,489	28,269	22,789	28,824	20,946	261,08
WATER OUT > (m³) upernatant Recovery (+) Recovery from tailings (-) Seepage (+) Total precipitation runoff (-) Evaporation from pond (-) Evaporation from beach (+) Consolidation to final density	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	477,81
upernatant Recovery (+) Recovery from tailings (-) Seepage (+) Total precipitation runoff (-) Evaporation from pond (-) Evaporation from beach (+) Consolidation to final density	918,499	841,270	817,104	815,111	813,118	813,118	1,249,598	1,268,539	1,001,209	961,847	1,005,195	948,615	11,453,2
 (+) Recovery from tailings (-) Seepage (+) Total precipitation runoff (-) Evaporation from pond (-) Evaporation from beach (+) Consolidation to final density 													
(-) Seepage (+) Total precipitation runoff (-) Evaporation from pond (-) Evaporation from beach (+) Consolidation to final density													
(+) Total precipitation runoff (-) Evaporation from pond (-) Evaporation from beach (+) Consolidation to final density	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	5,418,2
(-) Evaporation from pond (-) Evaporation from beach (+) Consolidation to final density	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	697,20
(-) Evaporation from beach (+) Consolidation to final density	160,146	82,917	58,752	56,759	54,766	54,766	491,245	510,186	242,856	203,494	246,842	190,262	2,352,9
(+) Consolidation to final density	11,355	0	0	0	0	0	0	35,579	84,784	80,999	69,644	37,850	320,21
	16,476	0	0	0	0	0	0	51,625	123,021	117,529	101,053	54,920	464,62
ub-total (Water recovered as S/N)	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	1,675,2
	665,343	615,945	591,780	589,787	587,794	587,794	1,024,274	956,011	568,079	537,995	609,173	630,520	7,964,4
Inderdrainage recovery													
(+) Underdrainage	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	697,20
(-) Seepage losses	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	70,080
ub-total (Water recovered as U/D)	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	627,12
nrecoverable Water													
Water retained in tailings	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	2,006,69
Evaporation from beach and pond	27,831	0	0	0	0	0	0	87,204	207,805	198,528	170,697	92,770	784,83
Seepage losses	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	70,080
ub-total (Unrecoverable water)	200,895	173,064	173,064	173,064	173,064	173,064	173,064	260,268	380,869	371,592	343,761	265,834	2,861,6
>>> Total Water Output	918,499	841,270	817,104	815,111	813,118	813,118	1,249,598	1,268,539	1,001,209	961,847	1,005,195	948,615	11,453,2
fonthly water available (excluding stored water in TSF)	717,603	668,205	644,040	642,047	640,054	640,054	1,076,534	1,008,271	620,339	590,255	661,433	682,780	8,591,6
vailable stored water in TSF at beginning of month	1,735,786	1,704,809	1,649,433	1,569,893	1,488,359	1,415,093	1,341,827	2,004,647	2,264,337	2,136,096	1,977,770	1,890,623	
otal Monthly Water Available	2,453,389	2,373,014	2,293,473	2,211,940	2,128,413	2,055,147	2,418,360	3,012,918	2,884,676	2,726,350	2,639,203	2,573,403	
Vater included with slurry	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	9,100,2
resh water input to mill	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	218,40
Vater in ore	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	198,86
Vater for dust control on roads	25,000	00	0	0	0	0	0	25,000	25,000	25,000	25,000	25,000	150,00
otal Mill Water Required	748,581	723,581	723,581	723,581	723,581	723,581	723,581	748,581	748,581	748,581	748,581	748,581	8,832,9
dditional makeup water required		0											0
Ionthly precipitation water surplus/deficit	0	-	0	0	0	0	0	0	0	0	0	0	-
annual cumulative precipitation surplus/deficit	-30,977	-55,375	-79,541	-81,534	-83,527	-83,527	352,953	259,690	-128,241	-158,326	-87,147	-65,800	-
otal water in TSF at end of month (incl. mine site runoff) excess runoff not diverted into tailings pond		-	-	-	-	-	-	-					-241,3:

TABLE A.11 IMPERIAL METALS CORPORATION MT. POLLEY PROJECT TAILINGS STORAGE FACILITY MONTHLY WATER BALANCE YEAR 11

Knight Piésold Ltd.

CONSULTING ENGINEERS

assumptions:

daily ore throughput (tpd) = 13,425 tails % solids = 35%

tails S.G. = 2.78 initial pond volume $(m^3) = 1,824,823$

water content of ore = 4%

min. fresh water makeup (%) = 2% initial dry density $(t/m^3) = 0.9$ final dry density $(t/m^3) = 1.3$

total pit area (ha) = 65 pit g/w infiltration (m³/mo) = 39,818 unprepared basin area (ha) = 0 prepared basin area (ha) = 13 beach area (ha) = 135

pond area (ha) = 82beach evaporation factor = 0.80 unprep'd basin runoff coeff. = 20% prep'd basin runoff coeff. = 90% beach runoff coeff. = 90% pit area runoff coeff. = 45%

24% 29% 90% 90% 90% 90% 50% 55%

ave.

wet

dry

1	YORDATA HONWATERIAL STATWIAL XLS													
6	DESCRIPTION	ост	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ANNUAL
A	Rainfall (mm/month)	48.3	17.3	7.6	6.8	6.0	6.0	24.2	45.3	81.5	65.7	83.0	58.9	450.4
B	Snowfall (mm/month)	12.0	39.7	66.7	68.1	51.7	38.2	18.7	5.3	0.0	0.0	0.0	1.5	301.8
C	Evaporation (mm/month)	15.0	0.0	0.0	0.0	0.0	0.0	0.0	47.0	112.0	107.0	92.0	50.0	423.0
	<water in=""> (m³)</water>													
1	With slurry	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	9,100,232
2	Precipitation onto pond	39,486	14,143	6,213	5,559	4,905	4,905	148,136	154,351	66,627	53,710	67,935	49,368	615,337
3	Beach runoff	58,736	21,038	9,242	8,269	7,296	7,296	220,356	229,602	99,109	79,896	101,055	73,437	915,333
4	Unprep'd basin runoff	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Prep'd basin rumoff	5,648	2,023	889	795	702	702	21,188	22,077	9,530	7,682	9,717	7,061	88,013
6	Recovery from open pit: precipitation	16,753	6,001	2,636	2,359	2,081	2,081	62,852	65,489	28,269	22,789	28,824	20,946	261,080
7	g/w infiltration	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	477,816
8	>>> Total Water Input	918,793	841,375	817,151	815,153	813,155	813,155	1,250,703	1,269,690	1,001,705	962,247	1,005,701	948,983	11,457,810
	<water out=""> (m³)</water>													
	Supernatant Recovery													
9	(+) Recovery from tailings	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	5,418,284
10	(-) Seepage	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	697,200
11	(+) Total precipitation runoff	160,440	83,022	58,798	56,800	54,802	54,802	492,350	511,337	243,353	203,894	247,349	190,630	2,357,578
12	(-) Evaporation from pond	12,270	0	0	0	0	0	0	38,446	91,616	87,526	75,256	40,900	346,014
13	(-) Evaporation from beach	16,224	0	0	0	0	0	0	50,835	121,139	115,731	99,507	54,080	457,517
14	(+) Consolidation to final density	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	1,675,256
15	Sub-total (Water recovered as S/N)	664,975	616,051	591,826	589,828	587,830	587,830	1,025,378	955,084	563,626	533,666	605,614	628,679	7,950,388
- II	Underdrainage recovery													
16	(+) Underdrainage	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	697,200
17	(-) Seepage losses	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	70,080
18	Sub-total (Water recovered as U/D)	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	627,120
ŀ	Inrecoverable Water													
19	Water retained in tailings	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	2,006,692
20	Evaporation from beach and pond	28,494	0	0	0	0	0	0	89,281	212,755	203,257	174,763	94,980	803,531
21	Seepage losses	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	70,080
22	Sub-total (Unrecoverable water)	201,558	173,064	173,064	173,064	173,064	173,064	173,064	262,346	385,820	376,322	347,828	268,044	2,880,303
23	>>> Total Water Output	918,793	841,375	817,151	815,153	813,155	813,155	1,250,703	1,269,690	1,001,705	962,247	1,005,701	948,983	11,457,810
24	Monthly water available (excluding stored water in TSF)	717,235	668,311	644,086	642,088	640,090	640,090	1,077,638	1,007,344	615,886	585,926	657,874	680,939	8,577,508
	Available stored water in TSF at beginning of month	1,824,823	1,793,477	1,738,207	1,658,713	1,577,221	1,493,731	1,420,501	2,084,426	2,343,190	2,210,495	2,047,840	1,957,133	
26	Total Monthly Water Available	2,542,058	2,461,788	2,382,293	2,300,801	2,217,311	2,133,821	2,498,140	3,091,770	2,959,076	2,796,421	2,705,714	2,638,072	
27	Water included with slurry	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	9,100,232
28	Fresh water input to mill	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	218,406
	Water in ore	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	198,860
	Water for dust control on roads	25,000	0	0	0	0	0	0	25,000	25,000	25,000	25,000	25,000	150,000
-	Total Mill Water Required	748,581	723,581	723,581	723,581	723,581	723,581	723,581	748,581	748,581	748,581	748,581	748,581	8,832,966
	Additional makeup water required	0	0	0	0	0	0	0	0	0	0	0 707	0	0
	Monthly precipitation water surplus/deficit	-31,346	-55,270	-79,494	-81,492	-83,490	-83,490	354,058	258,764	-132,695	-162,655 -97,110	-90,707 -187,817	-67,642 -255,459	-255,459
	Annual cumulative precipitation surplus/deficit	-31,346	-86,616	-166,110	-247,602 1,577,001	-331,092	-414,582 1,420,501	-60,524	198,240	65,545 2,210,495	-97,110 2,047,840	-187,817 1,957,133	-255,459 1,889,491	
	Total water in TSF at end of month (incl. mine site runoff)	1,793,477 82.595	1,738,207 29,584	1,658,713 12,996	1,577,221 11,628	1,493,731 10,260	1,420,501	2,084,426 0	2,343,190 323,418	139,368	112,350	1,937,133	103,267	967,572
24.54	Excess runoff not diverted into tailings pond	82,393	29,384	12,990	11,028	10,200	U	U	242,418	175,500	112,550	142,100	102,207	301,312

TABLE A.12 IMPERIAL METALS CORPORATION MT. POLLEY PROJECT TAILINGS STORAGE FACILITY MONTHLY WATER BALANCE

YEAR 12

Knight Piésold Ltd.

CONSULTING ENGINEERS assumptions:

daily ore throughput (tpd) = 13,425

tails % solids = 35%

tails S.G. = 2.78

initial pond volume $(m^3) = 1,889,491$

water content of ore = 4%

min. fresh water makeup (%) = 2% initial dry density $(t/m^3) = 0.9$

> final dry density $(t/m^3) = 1.3$ total pit area (ha) = 65

pit g/w infiltration (m³/mo) = 39,818

unprepared basin area (ha) = 0 prepared basin area (ha) = 10 beach area (ha) = 132

pond area (ha) = 88 beach evaporation factor = 0.80 pit area runoff coeff. =

unprep'd basin runoff coeff. = 20% prep'd basin runoff coeff. = 90% beach runoff coeff. = 90%

dry

45%

90% 90% 90% 90%

29%

50% 55%

ave.

24%

DESCRIPTION	ост	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ANNUAI
Rainfall (mm/month)	48.3	17.3	7.6	6,8	6.0	6.0	24.2	45.3	81.5	65.7	83.0	58.9	450.4
Snowfall (mm/month)	12.0	39.7	66.7	68.1	51.7	38.2	18.7	5.3	0.0	0.0	0.0	1.5	301.8
Evaporation (mm/month)	15.0	0.0	0.0	0.0	0.0	0.0	0.0	47.0	112.0	107.0	92.0	50.0	423.0
<water in=""> (m³)</water>													
With slurry	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	9,100,23
Precipitation onto pond	42,430	15,198	6,676	5,974	5,271	5,271	159,182	165,861	71,595	57,715	73,001	53,050	661,224
Beach runoff	57,389	20,556	9,030	8,080	7,129	7,129	215,304	224,337	96,837	78,064	98,738	71,753	894,345
Unprep'd basin runoff	0	0	0	0	0	0	0	0	0	0	0	0	0
Prep'd basin runoff	4,344	1,556	684	612	540	540	16,299	16,982	7,331	5,909	7,474	5,432	67,702
Recovery from open pit: precipitation	16,753	6,001	2,636	2,359	2,081	2,081	62,852	65,489	28,269	22,789	28,824	20,946	261,080
g/w infiltration	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	477,816
>>> Total Water Input	919,088	841,480	817,197	815,194	813,191	813,191	1,251,807	1,270,841	1,002,202	962,648	1,006,208	949,351	11,462,39
<water out=""> (m³)</water>								1.0					
Supernatant Recovery													
(+) Recovery from tailings	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	5,418,28
(-) Seepage	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	697,200
(+) Total precipitation runoff	160,735	83,128	58,844	56,841	54,839	54,839	493,455	512,488	243,850	204,295	247,855	190,998	2,362,1
(-) Evaporation from pond	13,185	0	0	0	0	0	0	41,313	98,448	94,053	80,868	43,950	371,81
(-) Evaporation from beach	15,852	0	0	0	0	0	0	49,670	118,362	113,078	97,226	52,840	447,02
(+) Consolidation to final density	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	1,675,25
Sub-total (Water recovered as S/N)	664,726	616,156	591,873	589,870	587,867	587,867	1,026,483	954,534	560,068	530,193	602,790	627,237	7,939,66
Underdrainage recovery													
(+) Underdrainage	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	697,200
(-) Seepage losses	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	70,080
Sub-total (Water recovered as U/D)	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	627,120
Unrecoverable Water													
Water retained in tailings	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	2,006,69
Evaporation from beach and pond	29,037	0	0	0	0	0	0	90,983	216,810	207,131	178,094	96,790	818,843
Seepage losses	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	70,080
Sub-total (Unrecoverable water)	202,101	173,064	173,064	173,064	173,064	173,064	173,064	264,047	389,874	380,195	351,158	269,854	2,895,61
>>> Total Water Output	919,088	841,480	817,197	815,194	813,191	813,191	1,251,807	1,270,841	1,002,202	962,648	1,006,208	949,351	11,462,3
Monthly water available (excluding stored water in TSF)	716,986	668,416	644,133	642,130	640,127	640,127	1,078,743	1,006,794	612,328	582,453	655,050	679,497	8,566,78
Available stored water in TSF at beginning of month	1,889,491	1,857,897	1,802,733	1,723,285	1,641,834	1,558,381	1,474,927	2,139,957	2,398,170	2,261,918	2,095,790	2,002,260	.,,
Total Monthly Water Available	2,606,478	2,526,313	2,446,865	2,365,415	2,281,961	2,198,508	2,553,671	3,146,751	3,010,499	2,844,371	2,750,840	2,681,757	
Water included with slurry	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	9,100,23
Fresh water input to mill	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	218,400
Water in ore	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	198,860
Water for dust control on roads	25,000	-0	0	0	0	-0	0	25,000	25,000	25,000	25,000	25,000	150,000
Total Mill Water Required	748,581	723,581	723,581	723,581	723,581	723,581	723,581	748,581	748,581	748,581	748,581	748,581	8,832,96
Additional makeup water required	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly precipitation water surplus/deficit	-31,594	-55,164	-79,448	-81,451	-83,453	-83,453	355,163	258,213	-136,252	-166,128	-93,531	-69,084	-266,18
Annual cumulative precipitation surplus/deficit	-31,594	-86,759	-166,207	-247,657	-331,111	-414,564	-59,401	198,812	62,560	-103,568	-197,099	-266,183	
Total water in TSF at end of month (incl. mine site runoff)	1,857,897	1,802,733	1,723,285	1,641,834	1,558,381	1,474,927	2,139,957	2,398,170	2,261,918	2,095,790	2,002,260	1,933,176	
Excess runoff not diverted into tailings pond	82,595	29,584	12,996	11,628	10,260	10,260	0	323,418	139,368	112,350	142,105	103,267	977,83

TABLE A.13 IMPERIAL METALS CORPORATION MT. POLLEY PROJECT TAILINGS STORAGE FACILITY MONTHLY WATER BALANCE YEAR 13

Knight Piésold Ltd. CONSULTING ENGINEERS

daily ore throughput (tpd) = 13,425

tails % solids = 35%

tails S.G. = 2.78

initial pond volume $(m^3) = 1,933,176$

water content of ore = 4%

min. fresh water makeup (%) = 2% initial dry density $(t/m^3) = 0.9$

final dry density $(t/m^3) = 1.3$

total pit area (ha) = 65 pit g/w infiltration (m³/mo) = 39,818 unprepared basin area (ha) = 0 prepared basin area (ha) = 6 beach area (ha) = 130

unprep'd basin runoff coeff. = prep'd basin runoff coeff. = beach runoff coeff. = ave. 24% 29% 90% 90% 90%

50%

dry

20%

90%

90%

45%

pond area (ha) = 94 beach evaporation factor = 0.80

pit area runoff coeff. =

90% 55%

DESCRIPTION	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ANNUA
Rainfall (mm/month)	48,3	17.3	7.6	6.8	6.0	6.0	24.2	45.3	81.5	65.7	83.0	58.9	450.4
Snowfall (mm/month)	12.0	39.7	66.7	68.1	51.7	38.2	18.7	5.3	0.0	0.0	0.0	1.5	301.8
Evaporation (mm/month)	15.0	0.0	0.0	0.0	0.0	0.0	0.0	47.0	112.0	107.0	92.0	50.0	423.0
<water in=""> (m³)</water>													
With slurry	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	9,100,23
Precipitation onto pond	45,326	16,235	7,132	6,381	5,631	5,631	170,048	177,183	76,482	61,655	77,984	56,671	706,35
Beach runoff	56,520	20,244	8,893	7,957	7,021	7,021	212,044	220,941	95,371	76,882	97,243	70,666	880,80
Unprep'd basin runoff	0	0	0	0	0	0	0	0	0	0	0	0	0
Prep'd basin runoff	2,607	934	410	367	324	324	9,779	10,189	4,398	3,546	4,485	3,259	40,62
Recovery from open pit: precipitation	16,753	6,001	2,636	2,359	2,081	2,081	62,852	65,489	28,269	22,789	28,824	20,946	261,08
g/w infiltration	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	477,8
>>> Total Water Input	919,377	841,584	817,243	815,235	813,227	813,227	1,252,894	1,271,973	1,002,691	963,042	1,006,706	949,713	11,466,
<water out=""> (m³)</water>													
Supernatant Recovery													
(+) Recovery from tailings	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	5,418,2
(-) Seepage	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	697,20
(+) Total precipitation runoff	161,025	83,232	58,890	56,882	54,875	54,875	494,541	513,620	244,338	204,689	248,353	191,360	2,366,0
(-) Evaporation from pond	14,085	0	0	0	0	0	0	44,133	105,168	100,473	86,388	46,950	397,19
(-) Evaporation from beach	15,612	0	0	0	0	0	0	48,918	116,570	111,366	95,754	52,040	440,2:
(+) Consolidation to final density	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	1,675,2
Sub-total (Water recovered as S/N)	664,356	616,260	591,918	589,911	587,903	587,903	1,027,570	953,598	555,629	525,879	599,240	625,399	7,925,5
Underdrainage recovery													
(+) Underdrainage	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	697,20
(-) Seepage losses	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	70,08
Sub-total (Water recovered as U/D)	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	627,12
Unrecoverable Water													
Water retained in tailings	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	2,006,6
Evaporation from beach and pond	29,697	0	0	0	0	0	0	93,051	221,738	211,839	182,142	98,990	837,45
Seepage losses	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	70,08
Sub-total (Unrecoverable water)	202,761	173,064	173,064	173,064	173,064	173,064	173,064	266,115	394,802	384,903	355,206	272,054	2,914,2
>>> Total Water Output	919,377	841,584	817,243	815,235	813,227	813,227	1,252,894	1,271,973	1,002,691	963,042	1,006,706	949,713	11,466,
Monthly water available (excluding stored water in TSF)	716,616	668,520	644,178	642,171	640,163	640,163	1,079,830	1,005,858	607,889	578,139	651,500	677,659	8,552,6
Available stored water in TSF at beginning of month	1,933,176	1,901,211	1,846,151	1,766,748	1,685,338	1,601,921	1,518,504	1,874,753	2,132,030	1,991,339	1,820,897	1,723,817	
Total Monthly Water Available	2,649,792	2,569,731	2,490,329	2,408,919	2,325,502	2,242,084	2,598,333	2,880,611	2,739,919	2,569,478	2,472,397	2,401,475	
Water included with slurry	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	9,100,2
Fresh water input to mill	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	18,200	218,40
Water in ore	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	16,572	198,86
Water for dust control on roads	25,000	0	0	0	0	0	00	25,000	25,000	25,000	25,000	25,000	150,00
Total Mill Water Required	748,581	723,581	723,581	723,581	723,581	723,581	723,581	748,581	748,581	748,581	748,581	748,581	8,832,9
Additional makeup water required	0	0	0	0	0	0	0	0	0	0	0	0	0
Monthly precipitation water surplus/deficit	-31,965	-55,061	-79,402	-81,410	-83,417	-83,417	356,249	257,277	-140,691	-170,442	-97,080	-70,922	-280,2
Annual cumulative precipitation surplus/deficit	-31,965	-87,025	-166,428	-247,838	-331,255	-414,672	-58,423	198,854	58,163	-112,279	-209,359	-280,281	
Total water in TSF at end of month (incl. mine site runoff)	1,901,211	1,846,151	1,766,748	1,685,338	1,601,921	1,518,504	1,874,753	2,132,030	1,991,339	1,820,897	1,723,817	1,652,895	
Excess runoff not diverted into tailings pond	82,595	29,584	12,996	11.628	10,260	10,260	309,867	323,418	139,368	112,350	142,105	103,267	1,287,

TABLE A.14 IMPERIAL METALS CORPORATION MT. POLLEY PROJECT TAILINGS STORAGE FACILITY MONTHLY WATER BALANCE

YEAR 14

Knight Piésold Ltd.

CONSULTING ENGINEERS

daily ore throughput (tpd) = 13,425

tails % solids = 35%

tails S.G. = 2.78

initial pond volume $(m^3) = 1,652,895$

water content of ore = 4%

min. fresh water makeup (%) = 2% initial dry density $(t/m^3) = 0.9$

final dry density $(t/m^3) = 1.3$

total pit area (ha) = 65

pit g/w infiltration $(m^3/mo) = 39,818$

unprepared basin area (ha) = 0 prepared basin area (ha) = 3 beach area (ha) = 127

pond area (ha) = 100

beach evaporation factor = 0.80

20% unprep'd basin runoff coeff. = prep'd basin runoff coeff. = beach runoff coeff. =

pit area runoff coeff. =

90% 90% 90% 90% 45%

ave.

24 %

dry

90% 50% 55%

wet

29%

90%

2/6/35 14:53 J/JOBEDATA/IGA4WATERBAL/STATWBAL/XLS													
DESCRIPTION	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ANNUAL
A Rainfall (mm/month)	48.3	17.3	7.6	6.8	6.0	6.0	24.2	45.3	81,5	65.7	83.0	58.9	450.4
B Snowfall (mm/month)	12.0	39.7	66.7	68.1	51.7	38.2	18.7	5.3	0.0	0.0	0.0	1,5	301.8
C Evaporation (mm/month)	15.0	0.0	0.0	0.0	0.0	0.0	0.0	47.0	112.0	107.0	92.0	50.0	423.0
<water in=""> (m³)</water>													
1 With slurry	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	758,353	9,100,232
Precipitation onto pond	48,271	17,290	7,595	6,796	5,996	5,996	181,095	188,693	81,451	65,660	83,050	60,352	752,246
3 Beach runoff	55,174	19,762	8,682	7,768	6,854	6,854	206,992	215,676	93,098	75,050	94,926	68,983	859,817
4 Unprep'd basin runoff	0	0	0	0	0	0	0	0	0	0	0	0	0
5 Prep'd basin runoff	1,303	467	205	183	162	162	4,890	5,095	2,199	1,773	2,242	1,630	20,311
6 Recovery from open pit: precipitation	16,753	6,001	2,636	2,359	2,081	2,081	62,852	65,489	28,269	22,789	28,824	20,946	261,080
7 g/w infiltration	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	39,818	477,816
8 >>> Total Water Input	919,672	841,690	817,289	815,276	813,264	813,264	1,253,999	1,273,124	1,003,188	963,442	1,007,213	950,081	11,471,501
<water out=""> (m³)</water>													
Supernatant Recovery													
9 (+) Recovery from tailings	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	451,524	5,418,284
10 (-) Seepage	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	697,200
11 (+) Total precipitation runoff	161,319	83,337	58,936	56,924	54,911	54,911	495,646	514,771	244,835	205,090	248,860	191,729	2,371,269
12 (-) Evaporation from pond	15,000	0	0	0	0	0	0	47,000	112,000	107,000	92,000	50,000	423,000
13 (-) Evaporation from beach	15,240	0	0	0	0	0	0	47,752	113,792	108,712	93,472	50,800	429,768
14 (+) Consolidation to final density	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	139,605	1,675,256
15 Sub-total (Water recovered as S/N)	664,107	616,365	591,965	589,952	587,940	587,940	1,028,674	953,048	552,072	522,406	596,416	623,957	7,914,841
Underdrainage recovery													
16 (+) Underdrainage	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	58,100	697,200
17 (-) Seepage losses	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	70,080
18 Sub-total (Water recovered as U/D)	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	52,260	627,120
Unrecoverable Water	,	22,200	02,200	02,200	22,200	02,200	52,200	32,200	02,200	52,200	22,200	55,500	057,120
19 Water retained in tailings	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	167,224	2,006,692
20 Evaporation from beach and pond	30,240	0	0	0	0	0	0	94,752	225,792		185,472		
21 Seepage losses	5,840	5,840	5,840	5,840	_	_	_			215,712	,	100,800	852,768
22 Sub-total (Unrecoverable water)	203,304	173,064	173,064	173,064	5,840 173,064	5,840 173,064	5,840 173,064	5,840 267,816	5,840 398,856	5,840 388,776	5,840 358,536	5,840 273,864	70,080 2,929,540
	·		•	,			,				•		
23 >>> Total Water Output	919,672	841,690	817,289	815,276	813,264	813,264	1,253,999	1,273,124	1,003,188	963,442	1,007,213	950,081	11,471,501
24 Monthly water available (excluding stored water in TSF)	716,367	668,625	644,225	642,212	640,200	640,200	1,080,934	1,005,308	604,332	574,666	648,676	676,217	8,541,961
25 Available stored water in TSF at beginning of month	1,652,895	1,620,682	1,565,727	1,486,371	1,416,630	1,343,510	1,270,389	1,937,610	2,194,337	2,050,088	1,876,174	1,776,269	
26 Total Monthly Water Available 27 Water included with slurry	2,369,262	2,289,307	2,209,951	2,128,583	2,056,830	1,983,709	2,351,324	2,942,918	2,798,669	2,624,754	2,524,850	2,452,486	0.100.000
27 Water included with slurry 28 Fresh water input to mill	758,353 18,200	758,353 18,200	758,353 18,200	758,353 18,200	758,353 18,200	758,353 18,200	758,353 18,200	758,353 18,200	758,353 18,200	758,353 18,200	758,353 18,200	758,353 18,200	9,100,232 218,406
29 Water in ore	16,572	16,572	16,572	16,572	16,572	16,572	,			,	,	,	
30 Water for dust control on roads	25,000	0	0	10,372	0	0	16,572 0	16,572 25,000	16,572 25,000	16,572	16,572	16,572	198,860
31 Total Mill Water Required	748,581	723,581	723,581	723,581	723,581	723,581	723,581	748,581	748,581	25,000 748,581	25,000 748,581	25,000 748,581	150,000 8,832,966
32 Additional makeup water required	748,381	0	0	0	0	0	0	0	0	0	748,581	0	
33 Monthly precipitation water surplus/deficit	-32,213	-	-79,356	_		-	_	-	-		_		0
		-54,955		-81,368	-83,381	-83,381	357,354	256,727	-144,249	-173,915	-99,904	-72,364	-291,005
34 Annual cumulative precipitation surplus/deficit	-32,213	-87,168	-166,524	-247,893	-331,274	-414,655	-57,301	199,426	55,177	-118,737	-218,641	-291,005	lit i
35 Total water in TSF at end of month (incl. mine site runoff)	1,620,682	1,565,727	1,486,371	1,416,630	1,343,510 0	1,270,389	1,937,610 0	2,194,337 323,418	2,050,088 139,368	1,876,174 112,350	1,776,269 142,105	1,703,906 103,267	945,683
36 Excess runoff not diverted into tailings pond	82,595	29,584	12,996	n	Ω	n	n						0.15 692



APPENDIX B

MINE SITE - MONTHLY WATER BALANCES FOR AVERAGE PRECIPITATION



Knight Piésold Ltd. CONSULTING ENGINEERS

TABLE B.1 IMPERIAL METALS CORPORATION MT. POLLEY PROJECT MINE SITE RUNOFF MONTHLY WATER BALANCE YEAR 1

catch	ment	areas	(ha)	١.

Additional tailings area:

0

240

runoff coefficients:

<u>):</u>				runori coerricients:			
		dist'bd	undist'bd	8.5	dry	ave.	wet
I	East dump:	10	70	waste rock =	58%	60%	62 %
V	Vest dump:	0	0	undisturbed catchment =	20%	24%	29%
N	orth dump:	0	0	mill site =	65%	70%	75%
	Mill site:	20	5				

	2/6/5 14:53 J-yondata-1:0-(waterial-statwral-xls	tannigs area.		240										
	DESCRIPTION	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	-JUN	JUL	AUG	SEP	ANNUAL
В	Rainfall (mm/month) Snowfall (mm/month) Evaporation (mm/month)	51.8 12.9 15.0	18.5 42.6 0.0	8.1 71.5 0.0	7.3 73.1 0.0	6,4 55,4 0.0	6.4 41.0 0.0	25.9 20.1 0.0	48.6 5.6 47.0	87.4 0.0 112.0	70.4 0.0 107.0	89.1 0.0 92.0	63.2 1.6 50.0	483.2 323.8 423.0
1 2	< CATCHMENT RUNOFF> (m ³) East Waste Dump Waste rock runoff Undisturbed catchment runoff	3,107 8,700	1,113 3,116	489 1,369	437 1,225	386 1,081	386 1,081	11,657 32,640	12,146 34,010	5,243 14,681	4,227 11,835	5,346 14,969	3,885 10,878	48,423 135,584
3	West Waste Dump Waste rock runoff Undisturbed catchment runoff	0 0	0 0	0	0	0 0	0	0	0 0	0 0	0	0	0	0 0
5	North Waste Dump Waste rock runoff Undisturbed catchment runoff	0 0	0 0	0	0	0	0	0 0	0 0	0 0	0	0	0	0 0
7	Mill Site Catchment runoff	7,872	2,819	1,239	1,108	978	978	29,532	31,321	13,282	10,707	13,543	9,842	123,221
8	Additional Tailings Area Catchment Catchment runoff	27,804	9,959	4,375	3,914	3,454	3,454	104,311	108,687	46,916	37,820	47,837	34,763	433,294
9 10 11 12 13	<total runoff=""> (m³) East waste dump North waste dump West waste dump Mill site Additional tailings area catchment</total>	11,808 0 0 7,872 27,804	4,229 0 0 2,819 9,959	1,858 0 0 1,239 4,375	1,662 0 0 1,108 3,914	1,467 0 0 978 3,454	1,467 0 0 978 3,454	44,298 0 0 29,532 104,311	46,156 0 0 31,321 108,687	19,924 0 0 13,282 46,916	16,061 0 0 10,707 37,820	20,315 0 0 13,543 47,837	14,763 0 0 9,842 34,763	184,007 0 0 123,221 433,294
14 15	Total Waste Dumps and Mill Site Grand Total (including additional tails catchment)	19,679 47,483	7,049 17,007	3,097 7,471	2,771 6,685	2,445 5,899	2,445 5,899	73,829 178,140	77,477 186,164	33,206 80,122	26,769 64,589	33,858 81,695	24,605 59,367	307,228 740,521



TABLE B.2 IMPERIAL METALS CORPORATION MT. POLLEY PROJECT MINE SITE RUNOFF MONTHLY WATER BALANCE YEAR 2

catchment areas (ha):

runoff coefficients:

undist'bd East dump: 15 65 0 West dump: 0 North dump: 0 0 Mill site: 20 5 Additional tailings area: 0 240

 waste rock
 dry
 ave.
 wet

 waste rock
 58%
 60%
 62%

 undisturbed catchment
 20%
 24%
 29%

 mill site
 65%
 70%
 75%

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INOBIDATANGHWATERBALISTATWBALXIS

	DESCRIPTION	ост	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ANNUAL
В	Rainfall (mm/month) Snowfall (mm/month) Evaporation (mm/month)	51.8 12.9 15.0	18,5 42.6 0,0	8.1 71.5 0.0	7.3 73.1 0.0	6.4 55.4 0.0	6.4 41.0 0.0	25.9 20.1 0.0	48.6 5.6 47.0	87.4 0.0 112.0	70.4 0.0 107.0	89.1 0.0 92.0	63.2 1.6 50.0	483.2 323.8 423.0
2	< CATCHMENT RUNOFF> (m ³) East Waste Dump Waste rock runoff Undisturbed catchment runoff	4,557 8,120	1,632 2,908	717 1,278	642 1,143	566 1,009	566 1,009	17,097 30,464	17,815 31,743	7,690 13,702	6,199 11,046	7,841 13,971	5,698 10,153	71,020 126,545
3	West Waste Dump Waste rock runoff Undisturbed catchment runoff	0	0	0	0	0 0	0	0	0	0 0	0	0	0 0	0 0
5	North Waste Dump Waste rock runoff Undisturbed catchment runoff	0 0	0 0	0 0	0	0	0 0	0 0	0 0	0 0	0	0	0 0	0
7	Mill Site Catchment runoff	7,872	2,819	1,239	1,108	978	978	29,532	31,321	13,282	10,707	13,543	9,842	123,221
8	Additional Tailings Area Catchment Catchment runoff	27,804	9,959	4,375	3,914	3,454	3,454	104,311	108,687	46,916	37,820	47,837	34,763	433,294
9 10 11 12 13	<total runoff=""> (m³) East waste dump North waste dump West waste dump Mill site Additional tailings area catchment</total>	12,678 0 0 7,872 27,804	4,541 0 0 2,819 9,959	1,995 0 0 1,239 4,375	1,785 0 0 1,108 3,914	1,575 0 0 978 3,454	1,575 0 0 978 3,454	47,562 0 0 29,532 104,311	49,557 0 0 31,321 108,687	21,392 0 0 13,282 46,916	17,245 0 0 10,707 37,820	21,812 0 0 13,543 47,837	15,851 0 0 9,842 34,763	197,565 0 0 123,221 433,294
14 15	Total Waste Dumps and Mill Site Grand Total (including additional tails catchment)	20,549 48,353	7,360 17,319	3,233 7,608	2,893 6,807	2,553 6,007	2,553 6,007	77,093 181,404	80,878 189,565	34,674 81,590	27,952 65,772	35,355 83,192	25,692 60,455	320,786 754,080



TABLE B.3 IMPERIAL METALS CORPORATION MT. POLLEY PROJECT MINE SITE RUNOFF MONTHLY WATER BALANCE YEAR 3

catchment areas (ha):

runoff coefficients:

aitas (Ha).				runon coeniciens.			
		dist'bd	undist'bd	· · · · · · · · · · · · · · · · · · ·	dry	ave.	wet
	East dump:	19	61	waste rock =	58%	60%	62 %
	West dump:	0	0	undisturbed catchment =	20%	24%	29%
	North dump:	0	0	mill site =	65%	70%	75%
	Mill site:	20	5				
Additional	tailings area:	0	240				

DESCRIPTION	ост	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ANNUAL
Rainfall (mm/month)	51,8	18,5	8.1	7.3	6.4	6,4	25.9	48.6	87.4	70.4	89.1	63,2	483,2
Snowfall (mm/month)	12.9	42.6	71.5	73.1	55.4	41.0	20.1	5.6	0,0	0.0	0.0	1.6	323.8
Evaporation (mm/month)	15.0	0.0	0.0	0.0	0,0	0.0	0.0	47.0	112.0	107.0	92.0	50.0	423.0
<catchment runoff=""> (m³)</catchment>													
East Waste Dump													
Waste rock runoff	6,007	2,152	945	846	746	746	22,537	23,483	10,137	8,171	10,336	7,511	93,617
Undisturbed catchment runoff	7,540	2,701	1,186	1,062	937	937	28,288	29,475	12,723	10,257	12,973	9,427	117,506
West Waste Dump				17							×		
Waste rock runoff	0	0	0	0	0	0	0	0	0	0	0	0	0
Undisturbed catchment runoff	0	0	0	0	0	0	0	0	0	0	0	0	0
North Waste Dump													
Waste rock runoff	0	0	0	0	0	0	0	0	0	0	0	0	0
Undisturbed catchment runoff	0	0	0	0	0	0	0	0	0	0	0	0	0
Mill Site													
7 Catchment runoff	7,872	2,819	1,239	1,108	978	978	29,532	31,321	13,282	10,707	13,543	9,842	123,221
Additional Tailings Area Catchment	<u> </u>	,	_,	-,-			,	,	,	,	,-	7	
Raditional Tailings Area Catchment Catchment runoff	27,804	9,959	4,375	3,914	3,454	3,454	104,311	108,687	46,916	37,820	47,837	34,763	433,294
Catchinent Tunori	27,004	3,222	4,373	3,714	J,4J4	J,454	104,511	100,007	40,910	37,620	47,657	34,703	455,254
<total runoff=""> (m³)</total>													
East waste dump	13,548	4,852	2,132	1,907	1,683	1,683	50,826	52,958	22,860	18,428	23,309	16,938	211,123
North waste dump	0	0	0	0	0	0	Ó	Ó	0	Ó	0	Ó	0
West waste dump	0	0	0	0	0	0	0	0	0	0	0	0	0
Mill site	7,872	2,819	1,239	1,108	978	978	29,532	31,321	13,282	10,707	13,543	9,842	123,221
Additional tailings area catchment	27,804	9,959	4,375	3,914	3,454	3,454	104,311	108,687	46,916	37,820	47,837	34,763	433,294
Total Waste Dumps and Mill Site	21,419	7,672	3,370	3,016	2,661	2,661	80,357	84,279	36,142	29,136	36,852	26,780	334,345
Grand Total (including additional tails catchment)	49,223	17,631	7,745	6,930	6,115	6,115	184,668	192,966	83,058	66,956	84,688	61,543	767,638



TABLE B.4 IMPERIAL METALS CORPORATION MT. POLLEY PROJECT MINE SITE RUNOFF MONTHLY WATER BALANCE YEAR 4

catchment areas (ha):				runoff coefficients:			
		dist'bd	undist'bd		dry	ave.	wet
	East dump:	24	56	waste rock =	58%	60%	62 %
	West dump:	0	0	undisturbed catchment =	20%	24 %	29%
	North dump:	0	0	mill site =	65%	70%	75%
	Mill site:	20	5				

	Additiona	Mili site: Ltailings area:	0	240										
	2/6/95 14:53	-												
	J-VORDATA\\GY-WATERBAL'STATWHALXLS	T												
	DESCRIPTION	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ANNUAL
	Rainfall (mm/month)	51.8	18,5	8.1	7.3	6.4	6.4	25.9	48.6	87.4	70.4	89.1	63.2	483.2
	Snowfall (mm/month)	12.9	42.6	71.5	73.1	55.4	41.0	20.1	5.6	0.0	0.0	0.0	1.6	323.8
С	Evaporation (mm/month)	15.0	0.0	0,0	0.0	0.0	0.0	0.0	47.0	112.0	107.0	92.0	50.0	423.0
	<catchment runoff=""> (m³)</catchment>													
	East Waste Dump													1
1	Waste rock runoff	7,457	2,671	1,173	1,050	926	926	27,977	29,151	12,583	10,144	12,830	9,324	116,215
2	Undisturbed catchment runoff	6,960	2,493	1,095	980	865	865	26,112	27,208	11,744	9,468	11,975	8,702	108,467
	West Waste Dump													
3	Waste rock runoff	0	0	0	0	0	0	0	0	0	0	0	0	0
4	Undisturbed catchment runoff	0	0	0	0	0	0	0	0	0	0	0	0	0
	North Waste Dump													
5	Waste rock runoff	0	0	0	0	0	0	0	0	0	0	0	0	0
6	Undisturbed catchment runoff	0	0	0	0	0	0	0	0	0	0	0	0	0
	Mill Site	1												
7	Catchment runoff	7,872	2,819	1,239	1,108	978	978	29,532	31,321	13,282	10,707	13,543	9,842	123,221
- 20	Additional Tailings Area Catchment													1
8	Catchment runoff	27,804	9,959	4,375	3,914	3,454	3,454	104,311	108,687	46,916	37,820	47,837	34,763	433,294
	<total runoff=""> (m³)</total>													
9	East waste dump	14,418	5,164	2,269	2,030	1,791	1,791	54,090	56,359	24,328	19,612	24,805	18,026	224,682
10	North waste dump	0	0	0	O	0	0	0	0	0	0	0	0	0
11	·	0	0	0	0	0	0	0	0	0	0	0	0	0
12	Mill site	7,872	2,819	1,239	1,108	978	978	29,532	31,321	13,282	10,707	13,543	9,842	123,221
13	Additional tailings area catchment	27,804	9,959	4,375	3,914	3,454	3,454	104,311	108,687	46,916	37,820	47,837	34,763	433,294
14	Total Waste Dumps and Mill Site	22,289	7,984	3,507	3,138	2,769	2,769	83,621	87,680	37,610	30,319	38,349	27,868	347,903
15		50,093	17,942	7,882	7,052	6,223	6,223	187,932	196,367	84,526	68,139	86,185	62,631	781,197
-													-, -	



TABLE B.5 IMPERIAL METALS CORPORATION MT. POLLEY PROJECT MINE SITE RUNOFF MONTHLY WATER BALANCE YEAR 5

catchment areas (ha):

runoff coefficients:

21000 (22/)			ranon coombiens.			
	dist'bd	undist'bd		dry	ave.	wet
East dump:	29	51	waste rock =	58%	60%	62 %
West dump:	0	0	undisturbed catchment =	20%	24%	29%
North dump:	9	76	mill site =	65%	70%	75%
Mill site:	20	5				
Additional tailings area:	0	240				

- 5	J. VOEDATA V. SZ (WATERBAL STATWBAL XLS													
	DESCRIPTION	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ANNUAL
В	Rainfall (mm/month) Snowfall (mm/month) Evaporation (mm/month)	51,8 12,9 15,0	18.5 42.6 0.0	8.1 71.5 0.0	7.3 73.1 0.0	6.4 55.4 0.0	6.4 41.0 0.0	25.9 20.1 0.0	48.6 5.6 47.0	87.4 0.0 112.0	70.4 0.0 107.0	89.1 0.0 92.0	63.2 1.6 50.0	483.2 323.8 423.0
1 2	<catchment runoff=""> (m³) East Waste Dump Waste rock runoff Undisturbed catchment runoff</catchment>	8,907 6,380	3,190 2,285	1,402 1,004	1,254 898	1,107 793	1,107 793	33,417 23,936	34,820 24,941	15,030 10,766	12,116 8,679	15,325 10,977	11,137 7,977	138,812 99,428
3	West Waste Dump Waste rock runoff Undisturbed catchment runoff	0 0	0 0	0 0	0 0	0 0	0	0 0	0	0 0	0	0	0	0 0
5	North Waste Dump Waste rock runoff Undisturbed catchment runoff	2,900 9,405	1,039 3,369	456 1,480	408 1,324	360 1,168	360 1,168	10,880 35,283	11,337 36,763	4,894 15,869	3,945 12,793	4,990 16,181	3,626 11,758	45,195 146,560
7	Mill Site Catchment runoff	7,872	2,819	1,239	1,108	978	978	29,532	31,321	13,282	10,707	13,543	9,842	123,221
8	Additional Tailings Area Catchment Catchment runoff	27,804	9,959	4,375	3,914	3,454	3,454	104,311	108,687	46,916	37,820	47,837	34,763	433,294
9 10 11 12 13	<total runoff=""> (m³) East waste dump North waste dump West waste dump Mill site Additional tailings area catchment</total>	15,288 12,305 0 7,872 27,804	5,476 4,407 0 2,819 9,959	2,406 1,936 0 1,239 4,375	2,152 1,732 0 1,108 3,914	1,899 1,529 0 978 3,454	1,899 1,529 0 978 3,454	57,354 46,163 0 29,532 104,311	59,760 48,100 0 31,321 108,687	25,796 20,763 0 13,282 46,916	20,795 16,737 0 10,707 37,820	26,302 21,170 0 13,543 47,837	19,114 15,384 0 9,842 34,763	238,240 191,754 0 123,221 433,294
14 15	Total Waste Dumps and Mill Site Grand Total (including additional tails catchment)	35,464 63,268	12,702 22,661	5,580 9,955	4,993 8,907	4,405 7,859	4,405 7,859	133,048 237,359	139,180 247,868	59,841 106,757	48,240 86,060	61,016 108,852	44,340 79,103	553,216 986,509



TABLE B.6 IMPERIAL METALS CORPORATION MT. POLLEY PROJECT MINE SITE RUNOFF MONTHLY WATER BALANCE YEAR 6

240

catchment areas (ha):

Additional tailings area: 0

runoff coefficients:

-				Idnoir coornelens.				
		dist'bd	undist'bd	17	dry	ave.	wet	
	East dump:	33	47	waste rock =	58%	60%	62 %	
	West dump:	0	37	undisturbed catchment =	20%	24 %	29%	
	North dump:	19	66	mill site =	65%	70%	75%	
	Mill site:	20	5					

	J-YOB DATA-HO-(NVATERBALISTATWBALXIS													
	DESCRIPTION	ост	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ANNUAL
В	Rainfall (mm/month) Snowfall (mm/month) Evaporation (mm/month)	51.8 12.9 15.0	18.5 42.6 0.0	8.1 71.5 0.0	7.3 73.1 0.0	6,4 55.4 0,0	6,4 41.0 0.0	25.9 20.1 0.0	48.6 5.6 47.0	87.4 0.0 112.0	70.4 0.0 107.0	89.1 0.0 92.0	63.2 1.6 50.0	483.2 323.8 423.0
1 2	<catchment runoff=""> (m³) East Waste Dump Waste rock runoff Undisturbed catchment runoff</catchment>	10,3 <i>5</i> 7 5,800	3,710 2,077	1,630 913	1,458 817	1,287 721	1,287 721	38,858 21,760	40,488 22,673	17,477 9,787	14,089 7,890	17,820 9,979	12,950 7,252	161,409 90,389
3	West Waste Dump Waste rock runoff Undisturbed catchment runoff	0 4,599	0 1,647	0 724	0 647	0 571	0 571	0 17,253	0 17,977	0 7,760	0 6,255	0 7,912	0 5,750	0 71,666
5	North Waste Dump Waste rock runoff Undisturbed catchment runoff	5,800 8,245	2,077 2,953	913 1,297	817 1,161	721 1,024	721 1,024	21,760 30,931	22,673 32,228	9,787 13,912	7,890 11,215	9,979 14,185	7,252 10,308	90,389 128,482
7	Mill Site Catchment runoff	7,872	2,819	1,239	1,108	978	978	29,532	31,321	13,282	10,707	13,543	9,842	123,221
8	Additional Tailings Area Catchment Catchment runoff	27,804	9,959	4,375	3,914	3,454	3,454	104,311	108,687	46,916	37,820	47,837	34,763	433,294
9 10 11 12 13	<total runoff=""> (m³) East waste dump North waste dump West waste dump Mill site Additional tailings area catchment</total>	16,158 14,045 4,599 7,872 27,804	5,787 5,031 1,647 2,819 9,959	2,542 2,210 724 1,239 4,375	2,275 1,977 647 1,108 3,914	2,007 1,745 571 978 3,454	2,007 1,745 571 978 3,454	60,618 52,691 17,253 29,532 104,311	63,161 54,902 17,977 31,321 108,687	27,264 23,699 7,760 13,282 46,916	21,978 19,104 6,255 10,707 37,820	27,799 24,164 7,912 13,543 47,837	20,202 17,560 5,750 9,842 34,763	251,799 218,871 71,666 123,221 433,294
14 15	Total Waste Dumps and Mill Site Grand Total (including additional tails catchment)	42,673 70,477	15,284 25,243	6,715 11,090	6,008 9,922	5,301 8,755	5,301 8,755	160,093 264,404	167,360 276,047	72,005 118,921	58,046 95,866	73,418 121,255	53,353 88,116	665,557 1,098,850



TABLE B.7 IMPERIAL METALS CORPORATION MT. POLLEY PROJECT MINE SITE RUNOFF MONTHLY WATER BALANCE YEAR 7

catchment areas (ha):			runoff coefficients:			
	dist'bd	undist'bd		dry	ave.	wet
East dump:	38	42	waste rock =	58%	60%	62 %
West dump:	2	35	undisturbed catchment =	20%	24 %	29%
North dump:	28	57	mill site =	65%	70%	75%
Mill site:	20	5				
Additional tailings area:	0	240				

DESCRIPTION	ост	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ANNUAL
Rainfall (mm/month)	51.8	18.5	8.1	7.3	6.4	6.4	25.9	48.6	87.4	70.4	89.1	63.2	483.2
Snowfall (mm/month)	12.9	42.6	71.5	73.1	55.4	41.0	20.1	5.6	0.0	0.0	0.0	1.6	323.8
Evaporation (mm/month)	15.0	0.0	0.0	0.0	0.0	0.0	0.0	47.0	112.0	107.0	92.0	50.0	423.0
<catchment runoff=""> (m³)</catchment>													
East Waste Dump													
Waste rock runoff	11,808	4,229	1,858	1,662	1,467	1,467	44,298	46,156	19,924	16,061	20,315	14,763	184,007
Undisturbed catchment runoff	5,220	1,870	821	735	648	648	19,584	20,406	8,808	7,101	8,981	6,527	81,350
West Waste Dump	1 .												
Waste rock runoff	699	250	110	98	87	87	2,623	2,733	1,180	951	1,203	874	10,895
Undisturbed catchment runoff	4,319	1,547	680	608	537	537	16,204	16,883	7,288	5,875	7,431	5,400	67,308
North Waste Dump													
Waste rock runoff	8,700	3,116	1,369	1,225	1,081	1,081	32,640	34,010	14,681	11,835	14,969	10,878	135,584
Undisturbed catchment runoff	7,085	2,538	1,115	997	880	880	26,579	27,694	11,954	9,637	12,189	8,858	110,404
Mill Site													
Catchment runoff	7,872	2,819	1,239	1,108	978	978	29,532	31,321	13,282	10,707	13,543	9,842	123,221
Additional Tailings Area Catchment													
Catchment runoff	27,804	9,959	4,375	3,914	3,454	3,454	104,311	108,687	46,916	37,820	47,837	34,763	433,294
<total runoff=""> (m³)</total>													
East waste dump	17,028	6,099	2,679	2,397	2,115	2,115	63,882	66,562	28,732	23,162	29,296	21,289	265,357
North waste dump	15,785	5,654	2,484	2,222	1,961	1,961	59,219	61,704	26,635	21,471	27,158	19,735	245,988
West waste dump	5,018	1,797	790	706	623	623	18,826	19,616	8,468	6,826	8,634	6,274	78,203
Mill site	7,872	2,819	1,239	1,108	978	978	29,532	31,321	13,282	10,707	13,543	9,842	123,221
Additional tailings area catchment	27,804	9,959	4,375	3,914	3,454	3,454	104,311	108,687	46,916	37,820	47,837	34,763	433,294
Total Waste Dumps and Mill Site	45,702	16,370	7,191	6,434	5,677	5,677	171,459	179,203	77,117	62,167	78,631	57,141	712,769
Grand Total (including additional tails catchment)	73,506	26,328	11,566	10,349	9,131	9,131	275,770	287,890	124,033	99,987	126,468	91,904	1,146,062



TABLE B.8 IMPERIAL METALS CORPORATION MT. POLLEY PROJECT MINE SITE RUNOFF MONTHLY WATER BALANCE YEAR 8

catchment areas (ha):

runoff coefficients:

dist'bd undist'bd wet East dump: 43 37 waste rock = 58% 60% 62% West dump: 5 33 undisturbed catchment = 20% 24% 29% North dump: 37 48 mill site = 65% 70% 75%

Mill site: 20 5
Additional tailings area: 0 240

	Additoliai 2/605 14:59 D'UORDATA (ICA (WATERRALISTATWIAL XII)	tannigs area;	U	240										
- 1	DESCRIPTION	ост	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ANNUAL
В	Rainfall (mm/month) Snowfall (mm/month) Evaporation (mm/month)	51.8 12.9 15.0	18.5 42.6 0.0	8.1 71.5 0.0	7.3 73.1 0.0	6.4 55.4 0.0	6.4 41.0 0.0	25.9 20.1 0.0	48.6 5.6 47.0	87.4 0.0 112.0	70.4 0.0 107.0	89.1 0.0 92.0	63.2 1.6 50.0	483.2 323.8 423.0
1 2	<catchment runoff=""> (m³) East Waste Dump Waste rock runoff Undisturbed catchment runoff</catchment>	13,258 4,640	4,749 1,662	2,086 730	1,866 653	1,647 576	1,647 576	49,738 17,408	51,824 18,139	22,370 7,830	18,034 6,312	22,810 7,983	16,576 5,801	206,604 72,311
3 4	West Waste Dump Waste rock runoff Undisturbed catchment runoff	1,398 4,039	501 1,447	220 636	197 569	174 502	174 502	5,246 15,154	5,466 15,790	2,359 6,816	1,902 5,495	2,406 6,950	1,748 5,050	21,790 62,950
5 6	North Waste Dump Waste rock runoff Undisturbed catchment runoff	11,600 5,924	4,155 2,122	1,825 932	1,633 834	1,441 736	1,441 736	43,520 22,227	45,346 23,159	19,574 9,997	15,779 8,059	19,958 10,193	14,504 7,407	180,779 92,326
7	Mill Site Catchment runoff	7,872	2,819	1,239	1,108	978	978	29,532	31,321	13,282	10,707	13,543	9,842	123,221
8	Additional Tailings Area Catchment Catchment runoff	27,804	9,959	4,375	3,914	3,454	3,454	104,311	108,687	46,916	37,820	47,837	34,763	433,294
9 10 11 12 13	<total runoff=""> (m³) East waste dump North waste dump West waste dump Mill site Additional tailings area catchment</total>	17,898 17,525 5,438 7,872 27,804	6,411 6,277 1,948 2,819 9,959	2,816 2,758 856 1,239 4,375	2,520 2,467 766 1,108 3,914	2,223 2,177 675 978 3,454	2,223 2,177 675 978 3,454	67,146 65,747 20,400 29,532 104,311	69,963 68,506 21,256 31,321 108,687	30,200 29,571 9,175 13,282 46,916	24,345 23,838 7,397 10,707 37,820	30,793 30,151 9,356 13,543 47,837	22,377 21,911 6,799 9,842 34,763	278,915 273,105 84,740 123,221 433,294
14 15	Total Waste Dumps and Mill Site Grand Total (including additional tails catchment)	48,732 76,536	17,455 27,413	7,668 12,043	6,861 10,775	6,054 9,508	6,054 9,508	182,825 287,135	191,045 299,733	82,229 129,145	66,288 104,108	83,843 131,680	60,929 95,692	759,981 1,193,275



TABLE B.9 IMPERIAL METALS CORPORATION MT. POLLEY PROJECT MINE SITE RUNOFF MONTHLY WATER BALANCE YEAR 9

catchment areas (ha):				runoff coefficients:			
		dist'bd	undist'bd	S	dry	ave.	wet
	East dump:	47	33	waste rock =	58%	60%	62 %
	West dump:	7	30	undisturbed catchment =	20%	24 %	29%
	North dump:	47	38	mill site =	65%	70%	75%
	Mill site:	20	5				

	Ad	ditional tailings area:	0	240										
2/6/95 14:53														
J:VOB/DATA\16	E-HWATEKBAL-STATWBAL-XLS													
DESCRIP	TION	ост	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ANNUAL
A Rainfall (n		51.8	18.5	8.1	7.3	6.4	6.4	25.9	48.6	87.4	70.4	89.1	63.2	483.2
B Snowfall (mm/month)	12.9	42.6	71.5	73.1	55.4	41.0	20.1	5.6	0.0	0.0	0.0	1.6	323.8
C Evaporation	on (mm/month)	15.0	0.0	0.0	0.0	0.0	0.0	0.0	47.0	112.0	107.0	92.0	50.0	423.0
<catce< td=""><td>HMENT RUNOFF> (m³)</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></catce<>	HMENT RUNOFF> (m ³)													
East Waste	e Dump													
1	Waste rock runoff	14,708	5,268	2,314	2,071	1,827	1,827	55,178	57,493	24,817	20,006	25,304	18,389	229,201
2	Undisturbed catchment runoff	4,060	1,454	639	572	504	504	15,232	15,871	6,851	5,523	6,985	5,076	63,272
West Wast	te Dump													
3	Waste rock runoff	2,097	751	330	295	261	261	7,869	8,199	3,539	2,853	3,609	2,622	32,685
4	Undisturbed catchment runoff	3,760	1,347	592	529	467	467	14,105	14,697	6,344	5,114	6,469	4,701	58,592
North Was	ste Dump													
5	Waste rock runoff	14,500	5,194	2,282	2,041	1,801	1,801	54,401	56,683	24,468	19,724	24,948	18,130	225,973
6	Undisturbed catchment runoff	4,764	1,707	750	671	592	592	17,874	18,624	8,039	6,481	8,197	5,957	74,248
Mill Site														
7	Catchment runoff	7,872	2,819	1,239	1,108	978	978	29,532	31,321	13,282	10,707	13,543	9,842	123,221
Additional	Tailings Area Catchment	1												
8	Catchment runoff	27,804	9,959	4,375	3,914	3,454	3,454	104,311	108,687	46,916	37,820	47,837	34,763	433,294
<total< td=""><td>RUNOFF> (m³)</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></total<>	RUNOFF> (m ³)													
9	East waste dump	18,768	6,722	2,953	2,642	2,331	2,331	70,410	73,364	31,668	25,529	32,290	23,465	292,474
10	North waste dump	19,265	6,900	3,031	2,712	2,393	2,393	72,275	75,307	32,507	26,205	33,145	24,087	300,221
11	West waste dump	5,857	2,098	922	825	728	728	21,974	22,896	9,883	7,967	10,077	7,323	91,277
12	Mill site	7,872	2,819	1,239	1,108	978	978	29,532	31,321	13,282	10,707	13,543	9,842	123,221
13	Additional tailings area catchment	27,804	9,959	4,375	3,914	3,454	3,454	104,311	108,687	46,916	37,820	47,837	34,763	433,294
14	Total Waste Dumps and Mill Site	51,761	18,540	8,145	7,287	6,430	6,430	194,191	202,888	87,341	70,408	89,055	64,717	807,193
15	Grand Total (including additional tails catchment		28,499	12,520	11,202	9,884	9,884	298,501	311,575	134,256	108,229	136,892	99,479	1,240,487



TABLE B.10 IMPERIAL METALS CORPORATION MT. POLLEY PROJECT MINE SITE RUNOFF MONTHLY WATER BALANCE YEAR 10

catc	nment	areas	(ha):

runoff coefficients:

dist'bd undist'bd East dump: 52 28 62% waste rock = West dump: 28 undisturbed catchment = 20% 24% 29% North dump: 56 29 mill site = 65% 70% 75%

Mill site: 20 5 Additional tailings area: 0 240

1624WATERBAL/STATWBAL NIS

Rainfall (mm/month) 51.8 18.5 8.1 7.3 6.4 6.4 25.9 48.6 87.4 70.4 89.1 63.2 483 Avoirfall (mm/month) 12.9 42.6 71.5 73.1 55.4 41.0 20.1 5.6 0.0 0.0 0.0 0.0 47.0 112.0 107.0 92.0 50.0 423 **CATCHMENT RUNOFF> (m³) East Waste Dump 16.158 5,787 2,542 2,275 2,007 2,007 60,618 432 13,056 13,604 5,772 4,734 5,988 4,351 54.2 West Waste Dump 3 Waste rock runoff 2,797 1,002 440 394 347 10,492 10,1932 4,719 3,804 4,811 3,496 43.5 54.2 North Waste Dump 5 Waste rock runoff 17,401 6,232 2,738 2,450 2,162 2,162 2,162 2,162 3,1630 2,936 2,938 2,1756 7,11,4 Mill Sile 7,872 2,819 1,239 1,108 978 978 2,439 7,874 3,454 10,4311 10,667 3,430 1,246 4,903 3,454 1,490 6,082 4,903 6,201 4,507 5,611 Mill Sile **Catchment runoff 7,872 2,819 1,239 1,108 978 978 2,450 2,439 7,874 7,6765 33,136 2,777 3,942 2,455 3,454 10,4311 10,667 3,450 4,903 6,201 4,507 3,875 4,734 3,455 4,734 7,745 3,874 7,745 9,426 8,504 8,504 8,504 8,606 10,911 10,618 10,707 13,543 9,842 12,3,644 13,552 14,090 15,604 13,604 13,604 13,604 13,604 14,507 5,611 Mill Sile **Cotchment runoff 7,872 2,819 1,239 1,108 978 978 2,439 7,674 7,6765 33,136 2,6712 3,782 4,733 3,763 433,244 3,454 10,4311 10,6,687 7,6,765 33,136 2,772 3,818 10,797 7,848 7,878 9,842 123,2 4,709 13,543 13,679 7,848 13,538 10,799 7,848 13,538 10,799 7,848 13,544 14,541 15,687 15,696 15,696 15,696 15,696 15,696 15,696 15,696 15,696 15,696 15,696 15,696 16,686 16,696 16,686 17,696 18,69	DESCRIPTION	ост	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ANNUAI
Showfall (mm/month) 12.9 42.6 71.5 73.1 55.4 41.0 20.1 5.6 0.0 0.0 0.0 0.0 0.0 0.0 42.0	DESCRIPTION	OCI	NOV	DEC	JAIA	red.	IVIAR	AFK	IVLALI	JUN	JUL	AUG	SEF	AININUAL
C Evaporation (mm/month) 15.0 0.0 0.0 0.0 0.0 0.0 0.0 47.0 112.0 107.0 92.0 50.0 423 CATCHMENT RUNOFF> (m³) Bast Waste Dump 16,158 5,787 2,542 2,275 2,007 2,007 60,618 63,161 27,264 21,978 27,799 20,202 251,7 Undisturbed catchment runoff 3,480 1,246 548 490 432 432 13,056 13,604 5,872 4,734 5,988 4,351 54,2 West Waste rock runoff 2,797 1,002 440 394 347 347 10,492 10,932 4,719 3,804 4,811 3,496 43,5 Undisturbed catchment runoff 3,480 1,246 548 490 432 432 13,056 13,604 5,872 4,734 5,988 4,351 54,2 North Waste Dump Swate rock runoff 17,401 6,232 2,738 2,450 2,162 2,162 65,281 68,020 29,361 23,669 29,938 21,756 10,001 484 448 13,522 14,090 6,082 4,903 6,201 4,507 56,1 Will Site Catchment runoff 7,872 2,819 1,239 1,108 978 978 29,532 31,321 13,282 10,707 13,543 9,842 123,244 10,001 13,001	Rainfall (mm/month)	51.8	18.5	8.1	7.3	6.4	6.4	25.9	48.6	87.4	70.4	89.1	63.2	483.2
CATCHMENT RUNOFF> (m³) East Waste Dump 1	Snowfall (mm/month)	12.9	42.6	71.5	73.1	55.4	41.0	20.1	5.6	0.0	0.0	0.0	1.6	323.8
East Waste Dump Waste rock runoff Undisturbed catchment runoff 16,158 5,787 2,542 2,275 2,007 2,007 60,618 63,161 27,264 21,978 27,799 20,202 251,7 Undisturbed catchment runoff 2,797 1,002 440 394 347 347 10,492 10,932 4,719 3,804 4,811 3,496 43,5 Undisturbed catchment runoff 3,480 1,246 548 490 432 432 13,056 13,604 5,872 4,734 5,988 4,351 54,2 West Waste Dump Maste rock runoff 2,797 1,002 440 394 347 347 10,492 10,932 4,719 3,804 4,811 3,496 43,5 Undisturbed catchment runoff 3,480 1,246 548 490 432 432 13,056 13,604 5,872 4,734 5,988 4,351 54,2 North Waste Dump Waste rock runoff 17,401 6,232 2,738 2,450 2,162 5,162 65,281 68,020 29,361 23,669 29,938 21,756 (271,146) (10,145) (10,	Evaporation (mm/month)	15.0	0.0	0.0	0.0	0.0	0.0	0.0	47.0	112.0	107.0	92.0	50.0	423.0
1 Waste rock runoff Undisturbed catchment runoff 16,158 5,787 2,542 2,275 2,007 2,007 60,618 63,161 27,264 21,978 27,799 20,202 251,7 2 Undisturbed catchment runoff 3,480 1,246 548 490 432 432 13,056 13,604 5,872 4,734 5,988 4,351 54,2 Wast Waste Dump 3 Waste rock runoff Undisturbed catchment runoff 3,480 1,246 548 490 432 432 13,056 13,604 5,872 4,719 3,804 4,811 3,496 43,5 4 Undisturbed catchment runoff 17,401 6,232 2,738 2,450 2,162 65,281 68,020 29,361 23,669 29,938 21,756 Undisturbed catchment runoff 17,401 6,232 2,738 2,450 2,162 65,281 68,020 29,361 23,669 29,938 21,756 Undisturbed catchment runoff 17,401 6,232 2,738 2,450 2,162 65,281 68,020 29,361 23,669 29,938 21,756 Undisturbed catchment runoff 18 Catchment runoff 19,638 7,872 2,819 1,239 1,108 978 978 29,532 31,321 13,282 10,707 13,543 9,842 123,243 (2,734 2,7	<catchment runoff=""> (m³)</catchment>													
Undisturbed catchment runoff 2,797 1,002 440 394 347 347 10,492 10,932 4,719 3,804 4,811 3,496 43,5 West Waste Dump Waste rock runoff Undisturbed catchment runoff 17,401 6,232 2,738 2,450 2,162 2,162 65,281 68,020 29,361 23,669 29,938 21,756 Undisturbed catchment runoff 3,604 1,291 567 507 448 448 13,522 14,090 6,082 4,003 6,201 4,507 56,1 Mill Site Catchment runoff 7,872 2,819 1,239 1,108 978 978 29,532 31,321 13,282 10,707 13,543 9,842 123,2 Additional Tailings Area Catchment Catchment runoff 27,804 9,959 4,375 3,914 3,454 3,454 104,311 108,687 46,916 37,820 47,837 34,763 433,2 CTOTAL RUNOFF> (m³) Bast waste dump 19,638 7,034 3,090 2,765 2,439 2,609 78,803 82,109 35,443 28,572 36,139 26,262 327,3 Additional tailings area catchment Catchment runoff 21,005 7,524 3,305 2,957 2,609 2,609 78,803 82,109 35,443 28,572 36,139 26,262 327,3 West waste rounoff 27,804 9,959 4,375 3,914 3,454 3,454 104,311 108,687 46,916 37,820 47,837 34,763 433,2 Total Waste dump 21,005 7,524 3,305 2,957 2,609 2,609 78,803 82,109 35,443 28,572 36,139 26,262 327,3 Additional tailings area catchment 2 Mill site 7 Total Waste dump 21,005 7,524 3,305 2,957 2,609 2,609 78,803 82,109 35,443 28,572 36,139 26,262 327,3 Additional tailings area catchment 2 Mill site 3 Additional tailings area catchment 3 Additional tailings area catchment 3 Additional tailings area catchment 4 Total Waste Dumps and Mill Site 5 4,791 19,625 8,621 7,714 6,806 6,806 205,556 214,731 92,453 74,529 94,268 68,504 854,84	East Waste Dump													
West Waste Dump Waste rock runoff Undisturbed catchment runoff 17,401 6,232 2,738 2,450 2,162 2,162 2,162 2,162 2,162 2,162 3,480 1,246 Undisturbed catchment runoff Waste rock runoff Undisturbed catchment runoff 3,604 1,291 567 507 448 448 13,522 14,090 6,082 4,903 6,201 4,507 56,11 Mill Site Catchment runoff 7,872 2,819 1,239 1,108 978 978 29,532 31,321 13,282 10,707 13,543 9,842 123,243 433,2450 4,913 10,492 10,932 4,719 3,804 4,811 3,496 4,315 4,21 3,496 4,315 4,21 4,734 5,988 4,351 5,26 271,1 6,232 2,738 2,450 2,162 2,1	Waste rock runoff	16,158	5,787	2,542	2,275	2,007	2,007	60,618	63,161	27,264	21,978	27,799	20,202	251,799
Waste rock runoff Undisturbed catchment runoff 3,480 1,246 548 490 432 13,056 13,064 5,872 4,719 3,804 4,811 3,496 43,5 5,42 North Waste Dump Waste rock runoff 17,401 6,232 2,738 2,450 2,162 2,162 6,5281 6,8020 29,361 23,669 29,938 21,756 271,1 Mill Site Catchment runoff 7,872 2,819 1,239 1,108 978 978 29,532 31,321 13,282 10,707 13,543 9,842 123,2 Additional Tailings Area Catchment Catchment runoff 27,804 9,959 4,375 3,914 3,454 3,454 104,311 108,687 46,916 37,820 47,837 34,763 433,2 **TOTAL RUNOFF> (m³) Past waste dump 19,638 7,034 3,090 2,765 2,439 2,439 73,674 76,765 33,136 26,712 33,787 24,553 306,6 37,820 37	Undisturbed catchment runoff	3,480	1,246	548	490	432	432	13,056	13,604	5,872	4,734	5,988	4,351	54,234
Undisturbed catchment runoff 3,480 1,246 548 490 432 432 13,056 13,604 5,872 4,734 5,988 4,351 54,2 North Waste Dump Waste rock runoff Undisturbed catchment runoff 3,480 1,246 548 490 432 432 13,056 13,604 5,872 4,734 5,988 4,351 54,2 North Waste Dump Waste rock runoff Undisturbed catchment runoff 3,604 1,291 567 507 448 448 13,522 14,090 6,082 4,903 6,201 4,507 56,1 Mill Site Catchment runoff 7,872 2,819 1,239 1,108 978 978 29,532 31,321 13,282 10,707 13,543 9,842 123,2 Additional Tailings Area Catchment Catchment runoff 27,804 9,959 4,375 3,914 3,454 3,454 104,311 108,687 46,916 37,820 47,837 34,763 433,2 **COTAL RUNOFF> (m³) East waste dump North waste dump North waste dump 19,638 7,034 3,090 2,765 2,439 2,439 73,674 76,765 33,136 26,712 33,787 24,553 306,6 307,994 3,808 884 8780 780 23,548 24,536 10,591 3,838 10,799 7,848 9,849 123,2 447 104,311 108,687 46,916 37,820 47,837 34,763 433,2 44,763 433,2 44,763 433,2 44,763 433,2 44,763 433,2 44,763 433,2 44,763 433,2 44,763 433,2 44,763 434,763 435,2 44,763 434,763 435,2 44,763 434,763 435,2 44,763 44,763 45,763 45,763 46,916 47,837 47,83	West Waste Dump													
North Waste Dump Waste rock runoff Undisturbed catchment runoff 7,872 2,819 1,239 1,108 7,872 2,819 1,239 1,108 7,872 2,819 1,239 1,108 7,872 2,819 1,239 1,108 7,872 2,819 1,239 1,108 7,872 2,819 1,239 1,108 7,872 2,819 1,239 1,108 7,872 2,819 1,239 1,108 7,872 2,819 1,239 1,108 7,872 2,819 1,239 1,108 7,872 2,819 1,239 1,108 7,872 2,819 1,239 1,108 7,872 2,819 1,239 1,108 7,872 2,819 1,239 1,108	Waste rock runoff	2,797	1,002	440	394	347	347	10,492	10,932	4,719	3,804	4,811	3,496	43,581
Waste rock runoff Undisturbed catchment runoff 17,401 6,232 2,738 2,450 2,162 2,162 65,281 68,020 29,361 23,669 29,938 21,756 271,1 Undisturbed catchment runoff 3,604 1,291 567 507 448 448 13,522 14,090 6,082 4,903 6,201 4,507 56,1 Mill Site Catchment runoff 7,872 2,819 1,239 1,108 978 978 29,532 31,321 13,282 10,707 13,543 9,842 123,2 Additional Tailings Area Catchment Catchment Catchment runoff 27,804 9,959 4,375 3,914 3,454 3,454 104,311 108,687 46,916 37,820 47,837 34,763 433,2 **TOTAL RUNOFF> (m³) Bast waste dump 19,638 7,034 3,090 2,765 2,439 2,439 73,674 76,765 33,136 26,712 33,787 24,553 306,0 North waste dump 21,005 7,524 3,305 2,957 2,609 2,609 78,803 82,109 35,443 28,572 36,139 26,262 327,3 West waste dump 6,277 2,248 988 884 780 780 23,548 24,536 10,591 8,538 10,799 7,848 97,8 Mill site 7,872 2,819 1,239 1,108 978 978 29,532 31,321 13,282 10,707 13,543 9,842 123,2 Additional tailings area catchment 27,804 9,959 4,375 3,914 3,454 3,454 104,311 108,687 46,916 37,820 47,837 34,763 433,2 **Total Waste Dumps and Mill Site 54,791 19,625 8,621 7,714 6,806 6,806 205,556 214,731 92,453 74,529 94,268 68,504 854,4	Undisturbed catchment runoff	3,480	1,246	548	490	432	432	13,056	13,604	5,872	4,734	5,988	4,351	54,234
6 Undisturbed catchment runoff 3,604 1,291 567 507 448 448 13,522 14,090 6,082 4,903 6,201 4,507 56,1 Mill Site Catchment runoff 7,872 2,819 1,239 1,108 978 978 29,532 31,321 13,282 10,707 13,543 9,842 123,2 Additional Tailings Area Catchment Catchment runoff 27,804 9,959 4,375 3,914 3,454 3,454 104,311 108,687 46,916 37,820 47,837 34,763 433,2 **TOTAL RUNOFF> (m³)** East waste dump 19,638 7,034 3,090 2,765 2,439 2,439 73,674 76,765 33,136 26,712 33,787 24,553 306,6 North waste dump 21,005 7,524 3,305 2,957 2,609 2,609 78,803 82,109 35,443 28,572 36,139 26,262 327,3 West waste dump 6,277 2,248 988 884 780 780 23,548 24,536 10,591 8,538 10,799 7,848 97,8 Mill site 7,872 2,819 1,239 1,108 978 978 29,532 31,321 13,282 10,707 13,543 9,842 123,2 Additional tailings area catchment 27,804 9,959 4,375 3,914 3,454 3,454 104,311 108,687 46,916 37,820 47,837 34,763 433,2 **Total Waste Dumps and Mill Site 54,791 19,625 8,621 7,714 6,806 6,806 205,556 214,731 92,453 74,529 94,268 68,504 854,44	North Waste Dump													
Mill Site Catchment runoff Catchment runoff Catchment runoff Additional Tailings Area Catchment Catchment runoff Catchment runoff TOTAL RUNOFF> (m³) East waste dump North waste dump 19,638 7,872 2,819 1,239 1,108 978 978 9,959 4,375 3,914 3,454 3,454 104,311 108,687 46,916 37,820 47,837 34,763 433,22 **COTAL RUNOFF> (m³) East waste dump 19,638 7,034 3,090 2,765 2,439 2,439 73,674 76,765 33,136 26,712 33,787 24,553 306,0 North waste dump 21,005 7,524 3,305 2,957 2,609 2,609 78,803 82,109 35,443 28,572 36,139 26,262 327,3 West waste dump 6,277 2,248 988 884 780 780 23,548 24,536 10,591 8,538 10,799 7,848 97,841 Mill site 7,872 2,819 1,239 1,108 978 978 978 978 29,532 31,321 13,282 10,707 13,543 9,842 123,2 Additional tailings area catchment 27,804 9,959 4,375 3,914 3,454 3,454 104,311 108,687 46,916 37,820 47,837 34,763 433,2 Total Waste Dumps and Mill Site 54,791 19,625 8,621 7,714 6,806 6,806 205,556 214,731 92,453 74,529 94,268 68,504			,				,	,	,	,	,	,		271,168
7 Catchment runoff 7,872 2,819 1,239 1,108 978 978 29,532 31,321 13,282 10,707 13,543 9,842 123,2 Additional Tailings Area Catchment Catchment runoff 27,804 9,959 4,375 3,914 3,454 3,454 104,311 108,687 46,916 37,820 47,837 34,763 433,2 **TOTAL RUNOFF** (m³) East waste dump 19,638 7,034 3,090 2,765 2,439 2,439 73,674 76,765 33,136 26,712 33,787 24,553 306,0 North waste dump 21,005 7,524 3,305 2,957 2,609 2,609 78,803 82,109 35,443 28,572 36,139 26,262 327,3 West waste dump 6,277 2,248 988 884 780 780 23,548 24,536 10,591 8,538 10,799 7,848 97,8 Mill site 7,872 2,819 1,239 1,108 978 978 29,532 31,321 13,282 10,707 13,543 9,842 123,2 Additional tailings area catchment 27,804 9,959 4,375 3,914 3,454 3,454 104,311 108,687 46,916 37,820 47,837 34,763 433,24 Total Waste Dumps and Mill Site 54,791 19,625 8,621 7,714 6,806 6,806 205,556 214,731 92,453 74,529 94,268 68,504 854,44	Undisturbed catchment runoff	3,604	1,291	567	507	448	448	13,522	14,090	6,082	4,903	6,201	4,507	56,170
Additional Tailings Area Catchment Catchment runoff 27,804 9,959 4,375 3,914 3,454 3,454 104,311 108,687 46,916 37,820 47,837 34,763 433,22 **TOTAL RUNOFF> (m³3) East waste dump 19,638 7,034 3,090 2,765 2,439 2,439 73,674 76,765 33,136 26,712 33,787 24,553 306,6 North waste dump 21,005 7,524 3,305 2,957 2,609 2,609 78,803 82,109 35,443 28,572 36,139 26,262 327,3 West waste dump 6,277 2,248 988 884 780 780 23,548 24,536 10,591 8,538 10,799 7,848 97,8 Mill site 7,872 2,819 1,239 1,108 978 978 29,532 31,321 13,282 10,707 13,543 9,842 123,2 Additional tailings area catchment 27,804 9,959 4,375 3,914 3,454 3,454 104,311 108,687 46,916 37,820 47,837 34,763 433,2 44 Total Waste Dumps and Mill Site 54,791 19,625 8,621 7,714 6,806 6,806 205,556 214,731 92,453 74,529 94,268 68,504 854,4	Mill Site													
8 Catchment runoff 27,804 9,959 4,375 3,914 3,454 3,454 104,311 108,687 46,916 37,820 47,837 34,763 433,2 **TOTAL RUNOFF> (m³) East waste dump 19,638 7,034 3,090 2,765 2,439 2,439 73,674 76,765 33,136 26,712 33,787 24,553 306,0 North waste dump 21,005 7,524 3,305 2,957 2,609 2,609 78,803 82,109 35,443 28,572 36,139 26,262 327,3 West waste dump 6,277 2,248 988 884 780 780 23,548 24,536 10,591 8,538 10,799 7,848 97,8 Mill site 7,872 2,819 1,239 1,108 978 978 29,532 31,321 13,282 10,707 13,543 9,842 123,2 Additional tailings area catchment 27,804 9,959 4,375 3,914 3,454 3,454 104,311 108,687 46,916 37,820 47,837 34,763 433,2 **Total Waste Dumps and Mill Site 54,791 19,625 8,621 7,714 6,806 6,806 205,556 214,731 92,453 74,529 94,268 68,504 854,4	Catchment runoff	7,872	2,819	1,239	1,108	978	978	29,532	31,321	13,282	10,707	13,543	9,842	123,221
CTOTAL RUNOFF > (m³)	Additional Tailings Area Catchment													
East waste dump 19,638 7,034 3,090 2,765 2,439 2,439 73,674 76,765 33,136 26,712 33,787 24,553 306,0 North waste dump 21,005 7,524 3,305 2,957 2,609 2,609 78,803 82,109 35,443 28,572 36,139 26,262 327,3 West waste dump 6,277 2,248 988 884 780 780 23,548 24,536 10,591 8,538 10,799 7,848 97,8 Mill site 7,872 2,819 1,239 1,108 978 978 29,532 31,321 13,282 10,707 13,543 9,842 123,2 Additional tailings area catchment 27,804 9,959 4,375 3,914 3,454 3,454 104,311 108,687 46,916 37,820 47,837 34,763 433,2 Total Waste Dumps and Mill Site 54,791 19,625 8,621 7,714 6,806 6,806 205,556 214,731 92,453 74,529 94,268 68,504 854,4	Catchment runoff	27,804	9,959	4,375	3,914	3,454	3,454	104,311	108,687	46,916	37,820	47,837	34,763	433,294
North waste dump 21,005 7,524 3,305 2,957 2,609 2,609 78,803 82,109 35,443 28,572 36,139 26,262 327,3 West waste dump 6,277 2,248 988 884 780 780 23,548 24,536 10,591 8,538 10,799 7,848 97,8 Mill site 7,872 2,819 1,239 1,108 978 978 29,532 31,321 13,282 10,707 13,543 9,842 123,2 Additional tailings area catchment 27,804 9,959 4,375 3,914 3,454 3,454 104,311 108,687 46,916 37,820 47,837 34,763 433,2 Total Waste Dumps and Mill Site 54,791 19,625 8,621 7,714 6,806 6,806 205,556 214,731 92,453 74,529 94,268 68,504 854,4	<total runoff=""> (m³)</total>													
North waste dump 21,005 7,524 3,305 2,957 2,609 2,609 78,803 82,109 35,443 28,572 36,139 26,262 327,3 West waste dump 6,277 2,248 988 884 780 780 23,548 24,536 10,591 8,538 10,799 7,848 97,8 Mill site 7,872 2,819 1,239 1,108 978 978 29,532 31,321 13,282 10,707 13,543 9,842 123,2 Additional tailings area catchment 27,804 9,959 4,375 3,914 3,454 3,454 104,311 108,687 46,916 37,820 47,837 34,763 433,2 Total Waste Dumps and Mill Site 54,791 19,625 8,621 7,714 6,806 6,806 205,556 214,731 92,453 74,529 94,268 68,504 854,4	East waste dump	19,638	7,034	3,090	2,765	2,439	2,439	73,674	76,765	33,136	26,712	33,787	24,553	306,032
1 West waste dump 6,277 2,248 988 884 780 780 23,548 24,536 10,591 8,538 10,799 7,848 97,8 2 Mill site 7,872 2,819 1,239 1,108 978 978 29,532 31,321 13,282 10,707 13,543 9,842 123,2 3 Additional tailings area catchment 27,804 9,959 4,375 3,914 3,454 3,454 104,311 108,687 46,916 37,820 47,837 34,763 433,2 4 Total Waste Dumps and Mill Site 54,791 19,625 8,621 7,714 6,806 6,806 205,556 214,731 92,453 74,529 94,268 68,504 854,4	North waste dump	21,005	7,524	3,305	2,957				,	-	,	,		327,338
Additional tailings area catchment 27,804 9,959 4,375 3,914 3,454 3,454 104,311 108,687 46,916 37,820 47,837 34,763 433,24 Total Waste Dumps and Mill Site 54,791 19,625 8,621 7,714 6,806 6,806 205,556 214,731 92,453 74,529 94,268 68,504 854,4	West waste dump	6,277	2,248	988	884	780	780	23,548	24,536	10,591	8,538			97,814
Additional tailings area catchment 27,804 9,959 4,375 3,914 3,454 3,454 104,311 108,687 46,916 37,820 47,837 34,763 433,24 Total Waste Dumps and Mill Site 54,791 19,625 8,621 7,714 6,806 6,806 205,556 214,731 92,453 74,529 94,268 68,504 854,4		7,872	•	1,239	1,108	978	978	,	,	,	,	,	•	123,221
	Additional tailings area catchment	27,804				3,454	3,454		,		,	,		433,294
	Total Waste Dumps and Mill Site	54,791	19,625	8,621	7.714	6.806	6,806	205,556	214,731	92,453	74,529	94.268	68.504	854,406
5 Grand Total (including additional tails catchment) 82,595 29,584 12,996 11,628 10,260 10,260 309,867 323,418 139,368 112,350 142,105 103,267 1,287,		82,595	29,584	12,996	11,628	10,260	10,260	309,867	323,418	139,368	112,350	142,105	103,267	1,287,699



TABLE B.11 IMPERIAL METALS CORPORATION MT. POLLEY PROJECT MINE SITE RUNOFF MONTHLY WATER BALANCE YEAR 11

catchment areas (ha):				runoff coefficients:			
		dist'bd	undist'bd		dry	ave.	wet
	East dump:	52	28	waste rock =	58%	60%	62%
	West dump:	9	28	undisturbed catchment =	20%	24%	29%
	North dump:	56	29	mill site =	65%	70%	75%
	Mill site:	20	5				

	Additiona	tailings area:	0	240										
-	2/6/95 14:53 J.YORDATAH G KWATEKBALIGTATWRALXIS													
	DESCRIPTION	ост	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ANNUAL
927	Rainfall (mm/month)	51.8	18.5	8.1	7.3	6.4	6,4	25.9	48.6	87.4	70.4	89.1	63.2	483.2
	Snowfall (mm/month) Evaporation (mm/month)	12.9 15.0	42.6 0.0	71.5 0.0	73.1 0.0	55.4 0.0	41.0 0.0	20.1 0.0	5.6 47.0	0.0 112.0	0.0 107.0	0.0 92.0	1.6 50.0	323.8 423.0
	<catchment runoff=""> (m³)</catchment>													
	East Waste Dump													
1	Waste rock runoff	16,158	5,787	2,542	2,275	2,007	2,007	60,618	63,161	27,264	21,978	27,799	20,202	251,799
2	Undisturbed catchment runoff	3,480	1,246	548	490	432	432	13,056	13,604	5,872	4,734	5,988	4,351	54,234
	West Waste Dump	l												
3	Waste rock runoff	2,797	1,002	440	394	347	347	10,492	10,932	4,719	3,804	4,811	3,496	43,581
4	Undisturbed catchment runoff	3,480	1,246	548	490	432	432	13,056	13,604	5,872	4,734	5,988	4,351	54,234
	North Waste Dump													1
5	Waste rock runoff	17,401	6,232	2,738	2,450	2,162	2,162	65,281	68,020	29,361	23,669	29,938	21,756	271,168
6	Undisturbed catchment runoff	3,604	1,291	567	507	448	448	13,522	14,090	6,082	4,903	6,201	4,507	56,170
	Mill Site							,	,	,	,	,	,	, , , , ,
7	Catchment runoff	7,872	2,819	1,239	1,108	978	978	29,532	31,321	13,282	10,707	13,543	9,842	123,221
		7,072	2,017	1,239	1,100	270	2/3	29,332	31,321	13,202	10,707	13,543	9,042	123,221
	Additional Tailings Area Catchment		0.050											
8	Catchment runoff	27,804	9,959	4,375	3,914	3,454	3,454	104,311	108,687	46,916	37,820	47,837	34,763	433,294
	<total runoff=""> (m³)</total>													
9	East waste dump	19,638	7,034	3,090	2,765	2,439	2,439	73,674	76,765	33,136	26,712	33,787	24,553	306,032
10	North waste dump	21,005	7,524	3,305	2,957	2,609	2,609	78,803	82,109	35,443	28,572	36,139	26,262	327,338
11	West waste dump	6,277	2,248	988	884	780	780	23,548	24,536	10,591	8,538	10,799	7,848	97,814
12		7,872	2,819	1,239	1,108	978	978	29,532	31,321	13,282	10,707	13,543	9,842	123,221
13		27,804	9,959	4,375	3,914	3,454	3,454	104,311	108,687	46,916	37,820	47,837	34,763	433,294
14	Total Waste Dumps and Mill Site	54,791	19,625	8,621	7.714	6,806	6,806	205,556	214,731	92,453	74,529	94,268	68,504	854,406
15	Grand Total (including additional tails catchment)	82,595	29,584	12,996	11,628	10,260	10,260	309,867	323,418	139,368	112,350	142,105	103,267	1,287,699
-			32,00.	*******	11,020	10,200	10,200	507,007	525,710	100,000	112,330	172,103	105,207	1,207,099



TABLE B.12 IMPERIAL METALS CORPORATION MT. POLLEY PROJECT MINE SITE RUNOFF MONTHLY WATER BALANCE YEAR 12

catchment areas (ha):

runoff coefficients:

dist'bd undist'bd East dump: 28 -58% 62 % 52 waste rock = West dump: 9 28 undisturbed catchment = 20% 24% 29% North dump: 56 29 mill site = 65% 70% 75%

Mill site: 20 5
Additional tailings area: 0 240

(UOBIDATA) (GI-(WATERBAY STATWBAL XI.S.													
DESCRIPTION	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ANNUA
Rainfall (mm/month)	51.8	18,5	8.1	7.3	6.4	6.4	25.9	48.6	87.4	70.4	89.1	63.2	483.2
Snowfall (mm/month)	12.9	42.6	71.5	73.1	55.4	41.0	20.1	5,6	0.0	0.0	0.0	1.6	323.8
Evaporation (mm/month)	15.0	0.0	0.0	0.0	0.0	0.0	0.0	47.0	112.0	107.0	92.0	50.0	423.0
<catchment runoff=""> (m³)</catchment>													
East Waste Dump													
Waste rock runoff	16,158	5,787	2,542	2,275	2,007	2,007	60,618	63,161	27,264	21,978	27,799	20,202	251,79
Undisturbed catchment runoff	3,480	1,246	548	490	432	432	13,056	13,604	5,872	4,734	5,988	4,351	54,23
West Waste Dump													
Waste rock runoff	2,797	1,002	440	394	347	347	10,492	10,932	4,719	3,804	4,811	3,496	43,58
Undisturbed catchment runoff	3,480	1,246	548	490	432	432	13,056	13,604	5,872	4,734	5,988	4,351	54,23
North Waste Dump													
Waste rock runoff	17,401	6,232	2,738	2,450	2,162	2,162	65,281	68,020	29,361	23,669	29,938	21,756	271,10
Undisturbed catchment runoff	3,604	1,291	567	507	448	448	13,522	14,090	6,082	4,903	6,201	4,507	56,17
Mill Site													
Catchment runoff	7,872	2,819	1,239	1,108	978	978	29,532	31,321	13,282	10,707	13,543	9,842	123,2
Additional Tailings Area Catchment	1												
Catchment runoff	27,804	9,959	4,375	3,914	3,454	3,454	104,311	108,687	46,916	37,820	47,837	34,763	433,25
<total runoff=""> (m³)</total>													
East waste dump	19,638	7,034	3,090	2,765	2,439	2,439	73,674	76,765	33,136	26,712	33,787	24,553	306,03
North waste dump	21,005	7,524	3,305	2,957	2,609	2,609	78,803	82,109	35,443	28,572	36,139	26,262	327,33
West waste dump	6,277	2,248	988	884	780	780	23,548	24,536	10,591	8,538	10,799	7,848	97,81
Mill site	7,872	2,819	1,239	1,108	978	978	29,532	31,321	13,282	10,707	13,543	9,842	123,2
Additional tailings area catchment	27,804	9,959	4,375	3,914	3,454	3,454	104,311	108,687	46,916	37,820	47,837	34,763	433,2
Total Waste Dumps and Mill Site	54,791	19,625	8,621	7,714	6,806	6,806	205,556	214,731	92,453	74,529	94,268	68,504	854.4
Grand Total (including additional tails catchment)	82,595	29,584	12,996	11,628	10,260	10,260	309,867	323,418	139,368	112,350	142,105	103,267	1,287,0



TABLE B.13 IMPERIAL METALS CORPORATION MT. POLLEY PROJECT MINE SITE RUNOFF MONTHLY WATER BALANCE YEAR 13

					0.									
	2/6/95 14:53	East dump: West dump: North dump: Mill site: tailings area:	dist'bd 52 9 56 20	undist'bd 28 28 29 5 240				waste rock = l catchment = mill site =	dry 58 % 20 % 65 %	ave. 60% 24% 70%	wet 62 % 29 % 75 %			
- 8	DESCRIPTION	ост	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ANNUAL
В	Rainfall (mm/month) Snowfall (mm/month) Evaporation (mm/month)	51.8 12.9 15.0	18.5 42.6 0.0	8.1 71.5 0.0	7.3 73.1 0.0	6.4 55.4 0.0	6,4 41.0 0.0	25.9 20.1 0.0	48.6 5.6 47.0	87.4 0.0 112.0	70.4 0.0 107.0	89.1 0.0 92.0	63.2 1.6 50.0	483.2 323.8 423.0
1 2 3 4 5 6	CATCHMENT RUNOFF > (m³) Bast Waste Dump Waste rock runoff Undisturbed catchment runoff West Waste Dump Waste rock runoff Undisturbed catchment runoff North Waste Dump Waste rock runoff Undisturbed catchment runoff Mill Site Catchment runoff Additional Tailings Area Catchment Catchment runoff	16,158 3,480 2,797 3,480 17,401 3,604 7,872 27,804	5,787 1,246 1,002 1,246 6,232 1,291 2,819 9,959	2,542 548 440 548 2,738 567 1,239 4,375	2,275 490 394 490 2,450 507 1,108 3,914	2,007 432 347 432 2,162 448 978	2,007 432 347 432 2,162 448 978	60,618 13,056 10,492 13,056 65,281 13,522 29,532	63,161 13,604 10,932 13,604 68,020 14,090 31,321 108,687	27,264 5,872 4,719 5,872 29,361 6,082 13,282 46,916	21,978 4,734 3,804 4,734 23,669 4,903 10,707 37,820	27,799 5,988 4,811 5,988 29,938 6,201 13,543 47,837	20,202 4,351 3,496 4,351 21,756 4,507 9,842 34,763	251,799 54,234 43,581 54,234 271,168 56,170 123,221 433,294
9 10 11 12 13	Mill site	19,638 21,005 6,277 7,872 27,804	7,034 7,524 2,248 2,819 9,959	3,090 3,305 988 1,239 4,375	2,765 2,957 884 1,108 3,914	2,439 2,609 780 978 3,454	2,439 2,609 780 978 3,454	73,674 78,803 23,548 29,532 104,311	76,765 82,109 24,536 31,321 108,687	33,136 35,443 10,591 13,282 46,916	26,712 28,572 8,538 10,707 37,820	33,787 36,139 10,799 13,543 47,837	24,553 26,262 7,848 9,842 34,763	306,032 327,338 97,814 123,221 433,294
14 15	Total Waste Dumps and Mill Site Grand Total (including additional tails catchment)	54,791 82,595	19,625 29,584	8,621 12,996	7,714 11,628	6,806 10,260	6,806 10,260	205,556 309,867	214,731 323,418	92,453 139,368	74,529 112,350	94,268 142,105	68,504 103,267	854,406 1,287,699



TABLE B.14 IMPERIAL METALS CORPORATION MT. POLLEY PROJECT MINE SITE RUNOFF MONTHLY WATER BALANCE YEAR 14

catchment areas (ha):

runoff coefficients:

dist'bd undist'bd 62 % East dump: 52 28 waste rock = 58% 60% West dump: 9 28 29% undisturbed catchment = 20% 24 % North dump: 56 29 mill site = 65% 70% 75%

Mill site: 20 5 Additional tailings area: 0 240

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DESCRIPTION	ОСТ	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ANNUAL
Rainfall (mm/month)	51,8	18.5	8.1	7.3	6.4	6.4	25.9	48.6	87.4	70.4	89.1	63.2	483.2
Snowfall (mm/month)	12.9	42.6	71.5	73.1	55.4	41.0	20.1	5.6	0.0	0.0	0.0	1,6	323.8
Evaporation (mm/month)	15.0	0.0	0.0	0.0	0,0	0.0	0.0	47.0	112.0	107.0	92.0	50.0	423.0
<catchment runoff=""> (m³)</catchment>													
East Waste Dump	1												
Waste rock runoff	16,158	5,787	2,542	2,275	2,007	2,007	60,618	63,161	27,264	21,978	27,799	20,202	251,799
Undisturbed catchment runoff	3,480	1,246	548	490	432	432	13,056	13,604	5,872	4,734	5,988	4,351	54,234
West Waste Dump													1
Waste rock runoff	2,797	1,002	440	394	347	347	10,492	10,932	4,719	3,804	4,811	3,496	43,581
Undisturbed catchment runoff	3,480	1,246	548	490	432	432	13,056	13,604	5,872	4,734	5,988	4,351	54,234
North Waste Dump													
Waste rock runoff	17,401	6,232	2,738	2,450	2,162	2,162	65,281	68,020	29,361	23,669	29,938	21,756	271,168
Undisturbed catchment runoff	3,604	1,291	567	507	448	448	13,522	14,090	6,082	4,903	6,201	4,507	56,170
Mill Site													0
Catchment runoff	7,872	2,819	1,239	1,108	978	978	29,532	31,321	13,282	10,707	13,543	9,842	123,221
Additional Tailings Area Catchment													
Catchment runoff	27,804	9,959	4,375	3,914	3,454	3,454	104,311	108,687	46,916	37,820	47,837	34,763	433,294
<total runoff=""> (m³)</total>													
East waste dump	19,638	7,034	3,090	2,765	2,439	2,439	73,674	76,765	33,136	26,712	33,787	24,553	306,032
North waste dump	21,005	7,524	3,305	2,957	2,609	2,609	78,803	82,109	35,443	28,572	36,139	26,262	327,338
West waste dump	6,277	2,248	988	884	780	780	23,548	24,536	10,591	8,538	10,799	7,848	97,814
Mill site	7,872	2,819	1,239	1,108	978	978	29,532	31,321	13,282	10,707	13,543	9,842	123,221
Additional tailings area catchment	27,804	9,959	4,375	3,914	3,454	3,454	104,311	108,687	46,916	37,820	47,837	34,763	433,294
Total Waste Dumps and Mill Site	54,791	19,625	8,621	7,714	6,806	6,806	205,556	214,731	92,453	74,529	94,268	68,504	854,406
Grand Total (including additional tails catchment)	82,595	29,584	12,996	11,628	10,260	10,260	309,867	323,418	139,368	112,350	142,105	103,267	1,287,699