FIGURE 23: ANNUAL AVERAGE WATER BALANCE SUPPLIED BY TWP

Flocculant addition

Flocculant strength

Thickener feed solids massflow rate

7.4

0.0002

0.0015

tph

tph

%

Lehating Process Water Balance

Gland seal water addition per pump

Road dust control

Frequency of dosing

Bowser volume

No of trucks

2.6

15

2

2

m³/h

m³

#

#/day

2.50 m³/hr

Plant Operating Data			Potable water	2.29	m³/hr	Thickener			Raw water supply requirement		Dirty water dam	
Operating time available per day	24	hrs	No of staff	366	#	Feed	75.91		Ancillary processes			
Utilisation	87	%	Water usage per staff member	150	l/day	Underflow	0.53	m³/h	Flocculant supply	0.13 m ³ /h	Minimum Volume	33364 m³
Actual operating time	20.88	hrs	Water loss via RO	5	%	Overflow	75.38	m³/h	Dust suppession	1.25 m ³ /h	Lossses (Evap)	10%
			Water loss via RO	0.114	m³/hr	Process water tank			Gland service supply	0.00 m ³ /h		
Cyclone feed solids	7.07	tph				In			Potable water	2.29 m ³ /h		
Cyclone split (UF/OF)	95:5		Sewage treatment plant recycle	1.96	m³/hr	Thickener overflow	75.38	m³/h	Mining services	1.55 m ³ /h		
Cyclone OF tonnage	0.3535	tph	Sewage water received as % of used	90	%	Slimes return	4.19	m³/h	Sub Total	5.21 m ³ /h		
Cyclone UF tonnage	6.72	tph	Sewage plant effluent received	2.17	m³/hr	Raw water make-up	2.49	m³/h	Process water make-up	2.49 m ³ /h		
Solids SG	4.52	t/m³				Groundwater dewatering	5.00	m³/h	Total	7.70 m ³ /h		
I			Spray water	69.47	m³/hr	Storm water influx						
Cyclone underflow solids	69.96	%	Primary screen feed	100	tph	Total in	87.06	m³/h	ı			
Water concentration	30.04	%	Spray water addition	0.60	m³∕t	Out		_	wo		Raw Water	Source
Cyclone underflow L:S	0.429		Secondary screen feed	16.6	tph	Spraywater	69.47	m ³ /h				
Cyclone underflow water flowrate	2.88	m³/h	Spray water addition	0.60	m³/t	Spillage washing	10.12	m³/h	ss re			
ı						Flushing	0.26	m³/h	· · ·			
Cyclone overflow solids	0.55	%	Flushing water	0.26	m³/hr	Road dust control	2.50	m³/h	• • • • • • • • • • • • • • • • • • •			
Water concentration	99.45	%	Flushing flow required	25	m³/hr	Tailings dilution water	4.71	m³/h	↓			
Cyclone overflow L:S	179.99		Flushing time	15	min/day	/ 						
Cyclone overflow water flowrate	63.70	m³/h				Total out	87.06	m³/h		rty water (Ground wa	ater and Storm)	
			Spillage washing	10.12	m³/hr	Variance	0.00	m³/h	Process Water			
Thickener feed solids	0.3535	tph	Number of pumps	5		Slimes dam			Road dust control Tank	aw water		-
Desired thickener underflow solids	40	%	Slurry flow per pump	25	m³/hr	In						
Water concentration	60.00	%	Total slurry flow	125	m³/hr	Feed from tailings tank	8.12	m³/h				
Thickener underflow L:S	0.67		Washing time	2	hrs/day	Gland service water added to slimes	0.00	m³/h		Mining		
Thickener underflow water flowrate	0.53	m³/h	Spillage slurry density	1.1	t/m³	Flushing water	0.26	m³/h	Washing Flushing oraywater	Service	s	-
			Spillage slurry % solids	11.67	%	Total in	8.39		Washing			
Tailings feed solids	7.07	'.	Slurry water flow	121.45					ds	Potable		
Tailings water flowrate	3.41		Per pump	24.29	m³/hr	Return %	50.00		Ψ Ψ Ψ	water		
Tailings solids	67.43	%										
Water concentration	32.57	%	Mining services	•	0.4	Out	4.40	3.0		Gland		
		2	Mining process water return	0	m³/hr	Return to process water dam	4.19	m³/h		service]
Dilution water addition	4.71		Mining process water supply	1.5	m³/hr	Evaporation/Seepage/Lockup	4.19	m ³ /h				
Final tailings water flowrate	8.12	m³/h				Total out	8.39	m ³ /h		Flocculan		_
Final tailings solids	46.53	%	Lumpy stockpile losses	2.50	m³/hr	Variance	0.00	m ³ /h	4	make-up		
		0	Ore moisture %	3	%	Return water dam						
ire water	0.00	m³/h	Lumpy stockpile massflow rate	83.4	tph	ln .				Dust suppression	nn (
		_				Return from slimes dam	4.19	m³/h		suppression		
Oust suppression water	1.25	m³/h	Fine stockpile losses	0.46	m³/hr	Mining process water return	0.00	m³/h				
No of suppression points	5	#	Ore moisture %	5	%	Total in	4.19	m³/h				
Water usage per suppression point	0.25	m³/h	Lumpy stockpile massflow rate	9.1	tph			_				
			Slimes return %	50	%	Total out to process water tank	4.19	m³/h				
Sland service water	0	m³/h										
No of operating slurry pumps	0		Flocculant supply	0.13	m³/h							
Gland seal water addition per pump	50	l/min	Flocculant addition	30	g/t							
Cland coal water addition per nump	0.0	3/1-	This key or food polide manufless == t-	7 4	ماصد	I						