



























20			1.000
	800mm Cyclone	Batag Jig	
Separation Density	1.60	1.58	
Circ Medium RD	1.52	1.51	
Ecart Probable	0.03	0.07	
Ave Particle Size	7.00	7.00	
Near Density Material	8.40	11.26	
Theoretical Yield	79.82	79.82	
Organic Efficiency	99.11	92.20	
Sink in Float	1.31	3.82	
Float in Sink	1.68	7.51	
Total Misplaced	2.99	11.33	
Actual Yield	79.11	73.60	
Quality	28.00	28.00	







4 Sear	n Results		MUI
	800mm Cyclone	Batag Jig	1
Separation Density	1.48	1.41	-
Circ Medium RD	1.42	1.36	1
Ecart Probable	0.02	0.05	1
Ave Particle Size	7.00	7.00	
Near Density Material	25.30	24.45	
Theoretical Yield	38.80	38.86	1
Organic Efficiency	89.55	56.05	1
Sink in Float	4.87	9.30	1
Float in Sink	4.91	5.59	1
Total Misplaced	9.77	14.88	1
Actual Yield	34.74	21.78	
Quality	28.00	28.00	







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R	Financial ev	valuation	\$	MULTOTEC
	100 tph	Capital Costs	Running Costs	
	Spiral plant	R12 000 000	1,43	
	Teetered Bed Separator	R11 600 000	1,32	
	Fine Dense Medium Cyclones	R13 200 000	2,94	
	•			









	Mining	Coal Preparation	Rail PortOcean	Mining Combustion Generation	Mining Emission Control (ESP/NO _x /So _x)	Solid Waste Disposal
JS ber (Wh	1.0 - 1.5+	0.1 - 0.2+	0.6 - 0.8+	1.3 - 1.6	3.0 - 3.5+	Variable
			Total Cos	t = 6.0 - 7.6+		(Flyash is up to \$200/t in Japan

		Scena	rio 1			Scer	nario 2	
	DMS	Fines	Slimes	Total	DMS	Fines	Slimes	Total
Feed (Tpn)	850	100	50	1000	850	100	50	1000
Yield (%)	60	55			59	54		
Deaduct (Tab)	C40			505	504.5	54		
Product (Tpn)	510	00		000	501.5	04		555.5
Revenue @ \$120/ton	\$61 200.00	\$6 600.00		\$67 800.00	\$60 180.00	\$6 480.00		\$66 660.00
Difference and have	£1.140.00							
Dillerence per nour	31 140.00	-						
Operating Hours/year	7000							
Difference per year	\$7 980 000 00							
Dillerence per year	\$7 560 000.00	J						

MULTOTEC 🛚 🜌 Contents MULTOTEC DMC Flow Sheets Typical Dense Medium Process Flow Sheets * DMC Process * Washability STATIS ✤ Dense Medium Cyclones Cyclone Operation Cyclone Design FLOWTS DISCARD SHIS PRODUCT Performance Constraints . PPE DMC Factors (i) * Operational Parameters Cyclone selection * Fault Finding ✤ Maintenance NCTY (DRY L/W TO CYCLON) 0000(TUR (new) C 922 (new) 420 2H-33 100 200 250 8-10 10-12 12-16 20 24-39 41-47 E E E F fit H





















Cyclone Design							
Cyclone Dimer	nsions: DSM vs. M	ultotec					
Contraction of the second seco	the prove						
Cyclone type	DSM	Multotec					
Cyclone type Diameter	DSM D	Multotec					
Cyclone type Diameter Inlet	DSM D 0.2xD-Tangential	Multotec D 0.2xD,0.25xD,0.3xD – Evolute and Scrolled Evolute					
Cyclone type Diameter Inlet Cone Angle	DSM D 0.2xD-Tangential 20 Degrees	Multotec D 0.2xD,0.25xD,0.3xD – Evolute and Scrolled Evolute 20 Degrees					
Cyclone type Diameter Inlet Cone Angle Vortex finder	DSM D 0.2xD-Tangential 20 Degrees 0.43xD	Multotec D 0.2xD,0.25xD,0.3xD – Evolute and Scrolled Evolute 20 Degrees 0.43xD,0.5xD					
Cyclone type Diameter Inlet Cone Angle Vortex finder Spigot	DSM D 0.2xD-Tangential 20 Degrees 0.43xD 0.7xVF	Multotec D 0.2xD,0.25xD,0.3xD – Evolute and Scrolled Evolute 20 Degrees 0.43xD,0.5xD 0.7xVF, 0.8xVF					



Multotec	Standard Capacity	Cvclones	Multotec High Capacity Cyclones			
Cyclone Diameter (mm)	Max Particle Size (mm)	Coal Feed (t/h)	Cyclone Diameter (mm)	Max Particle Size (mm)	Coal Feed (t/h	
510	34	54	510	51	99	
610	41	81	610	61	145	
660	44	97	660	66	175	
710	47	114	710	71	207	
800	53	149	800	80	270	
900	60	196	900	94	355	
1000	67	249	1000	100	454	
1150	77	351	1150	115	638	
1300	87	468	1300	130	854	
1450	97	608	1450	145	1108	

















































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🛚 🖉 Cyclo	one Sele	ection		\diamond	MULTOTEC
	Feed Pa	rticle Siz	e Distributio	on	
		Size Grad	ina		
Upper	Lower	Midpoint	% Fractional	% Cumulative	
50.00	31.80	40.90	30.00	30.00	
31.80	16.00	23.90	26.60	56.60	
16.00	8.00	12.00	22.00	78.60	
8.00	4.00	6.00	14.00	92.60	
4.00	2.00	3.00	3.10	95.70	
2.00	1.40	1.70	2.80	98.50	
1.40	0.001	0.701	1.50	100.00	
Total			100.00		





















































































































































