RESOURCE_MASTOR™

A&B MYLEC PTY LTD
INNOVATIVE SOLUTIONS
METALLURGICAL CONSULTANTS
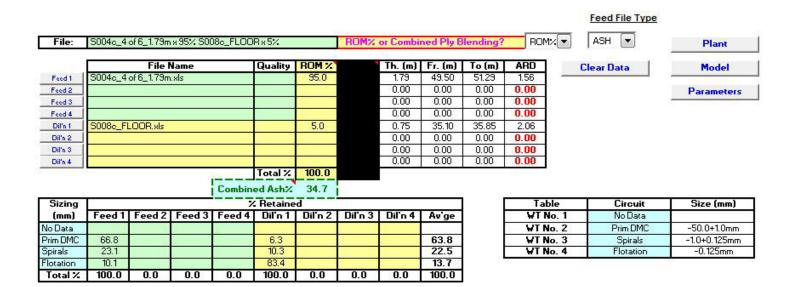
A&B Mylec was formed in 1995 to provide metallurgical, process engineering and coal technology expertise to the Australian mining industry. The company is located in Rockhampton and Brisbane Queensland Australia. Apart from serving the Australian coal mining industry, the company undertakes metallurgical and coal quality evaluation work in South Africa, Mozambique, Botswana, Mongolia, Indonesia, Russian Federation, Canada, Colombia and the USA. From the Company's inception our suite of metallurgical services has worked seamlessly with our coal quality expertise ensuring that an awareness of the whole coal chain contributes to all developed solutions. Our gamut of services span the earliest stages of mine site development and evaluation, incorporate all stages of project investigation and feasibility, through to detailed process design, implementation, market definition and support.

A&B Mylec's patented plant simulation package *RESOURCE_MASTOR™*, enables timely and accurate simulations of product yield and quality for your resource and plant feed data. *RESOURCE_MASTOR™* uses validated washability data to highlight any source of inefficiency in the Coal Preparation Plant (CPP). *RESOURCE_MASTOR™* is a user-friendly simulation package that utilises a whole of circuit modelling approach, incorporating a combination of available literature and in-house models, and can be custom designed for your specific mine site CPP.

Generation of washability tables from borecore, strip samples or plant feed samples can be used for the generation of budget yield expectations and forward production planning or shorter term reconciliation of actual versus expected comparisons. Target / optimum CPP setup configuration and medium settings can be generated to minimise operating run hours at incorrect and / or inefficient conditions.

Clear layout of up to eight simulation data sources enables multiple scenarios can be simulated easily. The size distribution across each CPP circuit is clearly displayed for the individual feed sources and the combined feed source.

Feed File Type

File: S004c_4 of 6_1.79m x 95% S008c_FLOOR x 5% | ROM% or Combined Ply Blending? | ROM% | ASH | Plant

	File Name	Quality	ROM %		Th. (m)	Fr. (m)	To (m)	ARD
Feed 1	S004c_4 of 6_1.79m.xls		95.0		1.79	49.50	51.29	1.56
Feed 2					0.00	0.00	0.00	0.00
Feed 3					0.00	0.00	0.00	0.00
Feed 4					0.00	0.00	0.00	0.00
Dil'n 1	S008c_FLOOR.xls		5.0		0.75	35.10	35.85	2.06
Dil'n 2					0.00	0.00	0.00	0.00
Dil'n 3					0.00	0.00	0.00	0.00
Dil'n 4					0.00	0.00	0.00	0.00
		Total %	100.0					

Clear Data

Model

Parameters

Combined Ash% 34.7

Sizing (mm)	% Retained								
	Feed 1	Feed 2	Feed 3	Feed 4	Dil'n 1	Dil'n 2	Dil'n 3	Dil'n 4	Av'ge
No Data									
Prim DMC	66.8				6.3				63.8
Spirals	23.1				10.3				22.5
Flotation	10.1				83.4				13.7
Total %	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0

Table	Circuit	Size (mm)
WT No. 1	No Data	
WT No. 2	Prim DMC	-50.0+1.0mm
WT No. 3	Spirals	-1.0+0.125mm
WT No. 4	Flotation	-0.125mm

PARTITION CURVE SHAPE FACTORS

Washability Table No. 1	Circuit:	No Data	Current Saved
Low density tail: (T0)		0.00	0.00
High density tail: (T1)		1.00	1.00

Washability Table No. 2 (Primary)	Circuit:	Prim DMC	Current Saved
Low density tail: (T0)		0.00	0.01
High density tail: (T1)		1.00	0.98

Washability Table No. 2 (Secondary)	Circuit:	N/A	Current Saved
Low density tail: (T0)		0.00	0.00
High density tail: (T1)		1.00	1.00

Washability Table No. 3	Circuit:	Spirals	Current Saved
Low density tail: (T0)		0.00	0.01
High density tail: (T1)		1.00	0.98

Parameters utilised to simulate metallurgical efficiency are clearly displayed and can easily be altered. The impact of changing each of the parameters is graphically displayed to illustrate the impacts of the metallurgical efficiency parameters.

Washability Table No. 1	Circuit:	No Data	Current Saved
Density Device Ep:		0.020	0.020
Loss Factor (Dewatering etc):		2.0	2.0

Washability Table No. 2 (Primary)	Circuit:	Prim DMC	Current Saved
Density Device Ep:		0.040	0.040
Loss Factor (Dewatering etc):		3.0	3.0

Washability Table No. 2 (Secondary)	Circuit:	N/A	Current Saved
Density Device Ep:		0.040	0.040
Loss Factor (Dewatering etc):		3.0	3.0

Washability Table No. 3	Circuit:	Spirals	Current Saved
Density Device Ep:		0.120	0.120
Spiral Contamination %:		3.0	3.0
Product Yld. Ben. %:		95.0	95.0
Product Ash Ben. %:		95.0	95.0
Loss Factor (Dewatering etc):		5.0	5.0

Washability Table No. 4	Circuit:	Flotation	Current Saved
Loss Factor (Dewatering etc):		5.0	5.0
Flotation Contamination %:		1.0	1.0
Select Cumulative Flotation Fraction		Cum. Fraction 3	

SELECT MODE OF OPERATION OF SIMULATION SYSTEM:
Normal Simulation

SELECT SIMULATION TYPE "Fixed Ash" or "Fixed SG":
Normal Simulation - Fixed Ash

RUN SIMULATION

Data
Plant Configuration
Parameters

NOTE: Edit Default Parameters before running simulation, if necessary.
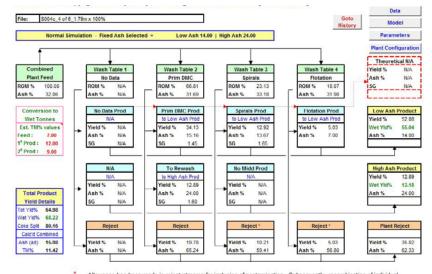
Initiate Multiple Simulation Tool

Goto History Reporting

Simulations can be run in either a fixed ash or fixed SG mode with the use of a drop down box. The use of simple push button tools enables the user to start the simulation process easily and rapidly.

SELECTION SUMMARY STATEMENT:
Normal Simulation Mode - Fixed Ash - Selected

FIXED ASH - PRODUCT TARGET ASH% SELECTION:	
Normal Simulation Target Ash% Parameters	
Coking Coal (Low Ash) Target%	14.0
Steaming Coal (High Ash) Target%	24.0
N/A - Theoretical Mode NOT Selected!	
N/A - Theoretical Mode NOT Selected!	7.0

N/A - Fixed SG NOT Selected!		
Normal Simulation Cutpoint Parameters		
	Primary	Secondary
Circuit No. 1 - No Data	1.85	1.85
Circuit No. 2 - Prim DMC	1.85	1.85
	Product	N/A
Circuit No. 3 - Spirals	1.90	1.70
N/A - Theoretical Mode NOT Selected!		
N/A - Theoretical Mode NOT Selected!		1.50

Simulation outputs are clearly displayed on a circuit by circuit and whole of plant basis for both the product(s) and the reject streams. Each simulation can be custom built to meet your particular circuit configuration. All simulations can be recorded at the touch of a button with all information stored in a separate tab. Utilising as little as a plant feed ash sample and a resource database, *RESOURCE_MASTOR*[TM] can be used to quickly simulate any changes in dilution from a feed source.

If you would like more details of any of A&B Mylec's suite of services please do not hesitate to contact A&B Mylec on the details below or visit our web site www.abmylec.com.au