MASS BALANCE - CHIP THICKNESS SCREENING (CTS) SYSTEM

LEGEND

G.O.	Gross Oversize Chips
O.T.	Overthick Chips
ORE	Overthick Removal Efficiency
ACO	Accepts Carry-Over
PCO	Pins Carry-Over
AFL	Accepts Fibre Loss
FCO	Fines Carry-Over
SPG	Small Particle Generation
UPH	Units per Hour (=200 ft³)
BDt/h	Bone Dry Tonnes per Hour
ft³/h	Cubic Feet per Hour
t/h	Tonnes per Hour

FROM CHIP RECLAIM(S)

Chip Furnish to Screening

G.O. =	0.05	%
O.T. =	25.0	%
Accepts =	64.0	%
Pins =	6.0	%
Fines =	5.0	%
TOTAL =	**100**	%
UPH =	**100**	
BDt/h =	**90.9**	

SCALPING SCREEN
IFO = 2.5"

Chips to Primary(s)

O.T. =	25.0	%
Accepts =	64.0	%
Pins =	6.0	%
Fines =	5.0	%
TOTAL =	**99.95**	%
UPH =	**99.95**	

TO LANDFILL Gross OverSized Chips

G.O. =	0.05	%
TOTAL =	**0.05**	%
ft³/h =	**10**	
BDt/h =	**0.05**	

100%

PRIMARY SCREEN(S)
7.5 mm
Capacity = 100 UPH each
ORE = 95%
ACO = 5%

Clean Accept Chips to Digester = **48.0%**
Flow Range = 45-60%

O.T. =	0.82	%
Accepts =	47.2	%
Pins =	0.0	%
Fines =	0.0	%
TOTAL =	**48.0**	%
UPH =	**48**	

Overthick Chips to Crushers
26.9%

O.T. =	23.8	%
Accepts =	3.2	%
Pins =	0.0	%
Fines =	0.0	%
TOTAL =	**26.9**	%
UPH =	**26.9**	%

Fines Rich Chips **25.0%**

O.T. =	0.43	%
Accepts =	13.6	%
Pins =	6.0	%
Fines =	5.0	%
TOTAL =	**25.0**	
UPH =	**25**	

Fines Rich Chips

100%

SECONDARY SCREEN(S)
16 mm square holes
Capacity = 45 UPH each
PCO = 10%
AFL = 5%

AIR DENSITY SEPARATOR(S)

Clean Accept Chips to Digester = **55.7%**

O.T. =	0.43	%
Accepts =	12.9	%
Pins =	0.6	%
Fines =	0.0	%
TOTAL =	**13.9**	%
UPH =	**13.9**	

44.3%

Pins and Fines

Accepts =	0.7	%
Pins =	5.4	%
Fines =	5.0	%
TOTAL =	**11.1**	%
UPH =	**11.1**	

Pins and Fines

Clean Overthick

TO LANDFILL
Rocks and Knots

Heavies	0.001	%
TOTAL =	**0.001**	%
ft³/h =	**10**	
t/h =	**0.11**	

100%

TERTIARY SCREEN(S)
3 mm square holes
FCO = 10%
AFL = 10%

Pin Chips to Metering Screws= **55%**

Accepts =	0.7	%
Pins =	4.9	%
Fines =	0.5	%
TOTAL =	**6.0**	%
UPH =	**6.0**	

45%
Chip Fines

Chip Fines Rejects

Accepts =	0.0	%
Pins =	0.5	%
Fines =	4.5	%
TOTAL =	**5.0**	%
UPH =	**5.0**	

CHIP CRUSHER(S)
Capacity = 30 UPH each
SPG = 1.0%

O.T. =	0.0	%
Accepts =	25.9	%
Pins =	0.8	%
Fines =	0.3	%
TOTAL =	**26.9**	%
UPH =	**26.9**	

Crushed Overthick Chips

100%

Pins **75%**

PINS METERING SCREW(S)
Variable speed 0-100%

Excess Pins **25%**

Pin Chips to Digester

Accepts =	0.5	%
Pins =	3.6	%
Fines =	0.4	%
TOTAL =	**4.5**	%
UPH =	**4.5**	

Rejected Pin Chips

Accepts =	0.2	%
Pins =	1.2	%
Fines =	0.1	%
TOTAL =	**1.5**	%
UPH =	**1.5**	

Chip Accepts to Digesters

O.T. =	1.3	%
Accepts =	86.5	%
Pins =	5.0	%
Fines =	0.6	%
TOTAL =	**93.4**	%
UPH =	**93.4**	
BDt/h =	**84.9**	

Chip Fines to Hog Fuel

Accepts =	0.2	%
Pins =	1.8	%
Fines =	4.6	%
TOTAL =	**6.5**	%
UPH =	**6.5**	
BDt/h =	**6.0**	

CHIPS TO DIGESTERS

FINES TO HOG FUEL

Notes
1) - Values shown are percentages of the total flow into the screenroom, except for UPH and BDt/h which are the material flow rate at each stage of the process.
2) - This mass balance is based on typical industry values and must be re-calculated for the actual chip classification data.

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Prepared by: Paul Janzé
Advanced Biomass Consulting Inc.