

TASMANIA MAGNESITE NL

ARTHUR RIVER MAGNESITE

PRELIMINARY CORE CHARACTERISATION AND CALCINATION DATA

NOVEMBER 2010

1 INTRODUCTION

Although the Arthur River magnesite resource has previously been subjected to a range of development strategies by the former holders of the relevant mining leases, Tasmania Magnesite NL (TMNL) deemed it appropriate to commission a range of preliminary characterisation tests on core samples of known origin. While some of the previous testwork data may be relevant to TMNL's objectives, evaluation of some of the previous data now available to TMNL can be considered as less than reliable because of (a) confusion as to the origin of samples and (b) different objectives as much of the earlier work carried out by Crest was aimed at production of magnesium metal rather caustic and/or refractory grades of magnesia.

2 CORE SAMPLES

In consultation with Stewart Capp of Derwent Geoscience Pty Ltd, five core samples of known origin were selected for the proposed preliminary characterisation testwork program. Details of these samples are provided in Attachment 1.

For convenience, the core samples were given the following identification tags.

<u>TMNL</u>	<u>Laboratory</u>
698377	377
698378	378
698379	379
698381	381
698382	382

3 TESTWORK PROGRAM

Based on in-house experience and cross-referenced against known industrial practice, Process Technologies Australia Pty Ltd (PTA) initiated discussions with the management of Burnie Research Laboratory (BRL) and as a result of those discussions BRL submitted a quotation and testwork flowsheet (Attachment 2). Following inspection of BRL's facilities and discussions concerning standard industrial testwork procedures, BRL's quotation was subsequently accepted by the management of TMNL and the nominated core samples delivered to BRL. It was also agreed that PTA would have an oversight of the testwork as it was being executed by BRL.

In order for TMNL have total confidence in the analytical data generated by BRL, it was agreed between BRL and PTA that duplicate magnesium assays using an alternative ISO rated analytical technique would be routinely reported and that chemical grades of magnesium oxide and magnesium carbonate would be used as the internal standards.

4 TESTWORK PROCEDURES

The as-received core samples were dried in air at 100°C prior to being crushed in a laboratory-scale roll crusher with an upper sizing of 100% minus 4.75 mm. This relatively small upper sizing was selected to ensure that relatively homogenous samples could be recovered for all subsequent testwork procedures by appropriate splitting/riffling techniques.

Size fractions and P80's of the crushed samples were determined by standard cyclosizing procedures. Because of the limited amount of sample available not attempt was made to determine crushing/grinding characteristics such as Bond Work Indexes. This data will

need to be generated at a later stage of project development to determine crushing energy requirements and equipment sizing.

Calcination tests were carried out in an electrically heated muffle furnace fitted with a programmable temperature controller with each sample held in a ceramic crucible loosely covered to avoid losses due to decrepitation effects as a result of uncontrolled carbon dioxide evolution. To ensure that each sample underwent as close to identical thermal regimes as possible, the following procedures were adopted after consultation between BRL and PTA.

- Ramp furnace to 600°C
- Add sample at 600°C
- Ramp up furnace to target temperature
- Hold at target temperature for 1 hour
- Remove sample and allow to cool in air
- Ramp down furnace to 600°C

Routine analyses for MgO, CaO, Fe₂O₃, Al₂O₃ and SiO₂ were carried out by standard XRF procedures with all data being corrected for weight loss on ignition at 1000°C to take into account of carbon dioxide evolution during preparation of the XRF sample discs.

As noted above, check/duplicate magnesium assays were carried out by standard atomic absorption spectroscopy (AAS) procedures.

5 **TESTWORK RESULTS**

BRL's sizing, calcination and analytical testwork data sheets are included as Attachment 3, from which the following general conclusions can be drawn.

- There was little difference in the crushing characteristics of each of the samples. This is to be expected given the absence of any highly altered and/or clay-like material.
- There was very good correlation between the head assays determined by BRL and those previously determined and reported in the log data sheets – See Attachment 1. The respective MgO assays are as follows.

	<i>BRL</i>	<i>Core</i>
377	46.27	46.72
378	40.25	42.62
379	45.73	46.45
381	40.93	41.80
382	38.53	38.56

- There is good correlation between the head and size analyses between the original, duplicate, check and calcination samples especially when taking into account sampling errors introduced during splitting/riffling because of the relatively coarse particle size of each sample and the small sub-sample size (1 g for XRF and 100 g for calcination tests. For example, the MgO contents of the four separate sub-samples are as follows.

377	46.27	46.56	46.68	47.40
378	40.25	41.48	41.76	43.01
379	45.73	46.02	46.32	46.38

381	40.93	42.33	42.33	42.55
382	38.53	39.87	40.08	41.46

- The relatively high magnesite contents of samples 377 and 379 are immediately apparent given that pure magnesite (MgCO_3) has an MgO content of 54.24%. Based on the MgO assays alone the data suggest that these samples are composed of about 85% magnesite.
- Apart from relatively low dolomite contents, as evidenced by the CaO assays, the main gangue mineral appears to be quartz, with little iron-aluminium containing minerals such as sheet silicates. If/when the project advances it will be appropriate to gain a higher level of understanding of the basic mineralogy of the resource, particularly in terms of segregation of major gangue minerals.
- Assays as a function of particle size are relatively consistent suggesting that while it might be possible to upgrade the coarsely crushed material by a combination of physical techniques, there appears to be no or only limited segregation of gangue minerals as a function of particle size.
- The calcination data are consistent with industrial experience especially when taking into account the experimental procedures adopted and the negative impact of calcination in a confined environment such as a muffle furnace compared what would be expected in a commercial-scale rotary kiln or a multiple hearth furnace. Thus evolution of carbon dioxide as measured by weight loss generally falls in the following ranges.

600°C	1-3%
700°C	28-36%
750°C	36-41%
800°C	43-49%
850°C	45-51%
1000°C	46-50%

These data indicate that thermal decomposition is typically achieved at or above 850°C and are consistent with the known thermal decomposition data for pure magnesite and pure dolomite. In addition, the data are consistent with industrial practice. For example, QMAG operate their multiple hearth furnace at a maximum temperature of 1100°C for their caustic calcined products.

- The MgO contents (%) of the 1000°C calcined products are as follows.

377	87.92
378	78.23
379	88.99
381	81.81
382	74.69

These data are generally consistent with the estimated magnesite contents of the original head samples.

- The calcined products show some discolorisation to off-white/cream to a pale yellow-brown, consistent with the formation of iron(III) oxide at the elevated temperatures. The colour changes are significantly less than those that occur with

Savage River magnesite in which there is a substantial degree of isomorphous substitution of iron for magnesium in the magnesite lattice.

- The assays of the two highest purity magnesite 1000°C products (377 and 379) are below the specifications for many but not all commercially available magnesia products (caustic and refractory). This is not surprising given that none of the sample were subjected to physical beneficiation before calcination.
- Normal industrial practice is to physically upgrade run-of-mine magnesite ahead of calcination and this is often followed by a further upgrading in order to meet product specifications.
- The calcination products formed at 850°C and above are considerably softer and wet screening showed an increase in the percentage of finer particles.

6 GENERAL CONCLUSIONS

All of the preliminary data generated are internally consistent and indicate that provided a target magnesite content of at least 90% as feedstock for downstream processing can be routinely produced from run-of-mine ore, then a suitable range of magnesia-containing products should be produced from the Arthur River resource.

In order to minimise the extent of physical beneficiation, PTA suggests that resource estimates and mine planning should be based on a 40% MgO cut-off grade, equivalent to about 78% magnesite

A prime objective for the next stage of project development from a processing point of view is to undertake a range of physical beneficiation programs designed to achieve upgrading of run-of-mine magnesite ore to a minimum of 90% magnesite ahead of calcination and any further upgrading. This should include, but not be limited to, froth flotation to remove quartz and other gangue minerals.

PTA has initiated a review of all relevant testwork carried out by previous holders of the Arthur River tenements that is available to TMNL. In addition, PTA is reviewing technical data available in the public domain that may provide further assistance in defining appropriate beneficiation technologies. Furthermore, PTA has commenced a review of potential service providers for larger scale testwork programs as well as potential equipment suppliers. A number of the latter may be able to assist with access to larger scale testwork facilities.

ATTACHMENT 1

Memorandum

From: Stewart Capp
To: John Canterford, Alan Daley and File.
Date: 14th October 2010
Subject: Metallurgical Samples Selected for Test Work.

John,

Please find following a description of the samples submitted to Ammtec in Burnie on 6th October for the current round of calcinations tests.

Logic of Sample Selection

The samples were selected on the basis that they satisfied the following criteria;

1. They are within the conceptual pit put forward by Gemell Mining Engineers in September 2010.
2. There was continuous ¼ core available over an identifiable interval in the existing drill core (AR013 to AR026) in storage in Wynyard.
3. They comprise a minimum downhole interval of 3m, and a minimum weight of 1Kg.
4. They do not contain any obvious contaminants such as cavity fill which might be straightforward to remove by physical beneficiation.
5. They satisfy the following requirements requested by Process Technologies
 - a. 2 high grade samples of the order of 44% MgO, 1-2 % CaO and low contaminants.
 - b. 1 sample with higher dolomite/magnesite ratios of up to 15% dolomite.
 - c. 1 sample with higher silica (1-2%).

The proposed test work flow sheet is summarised below;

A - weigh sample

B - crush (dry) to 100% minus 5 mm and prepare size analysis: -5+2 mm, -2+1 mm and - 1 mm

C - split out suitable samples for chemical analysis - MgO, CaO, Fe₂O₃, Al₂O₃, SiO₂ and LOI (1000oC)

D - split out 100 g samples and heat in electric muffle furnace for 1 h at temperature - 600oC, 700oC, 750oC, 800oC, 850oC, 1000oC - cool in air - check weight loss and re screen (dry) - repeat above chemical assays - heating rate above 650oC needs to be controlled so as to avoid rapid evolution of carbon dioxide

Subject to the results obtained, XRD patterns of each sample as well as selected calcination products - we are particularly interested in checking the relative amounts of magnesite and dolomite and any opportunity to screen out dolomite and possibly free quartz.

698377

Sample Type – High Grade Magnesite, with low contaminants.

Drill Hole: AR013

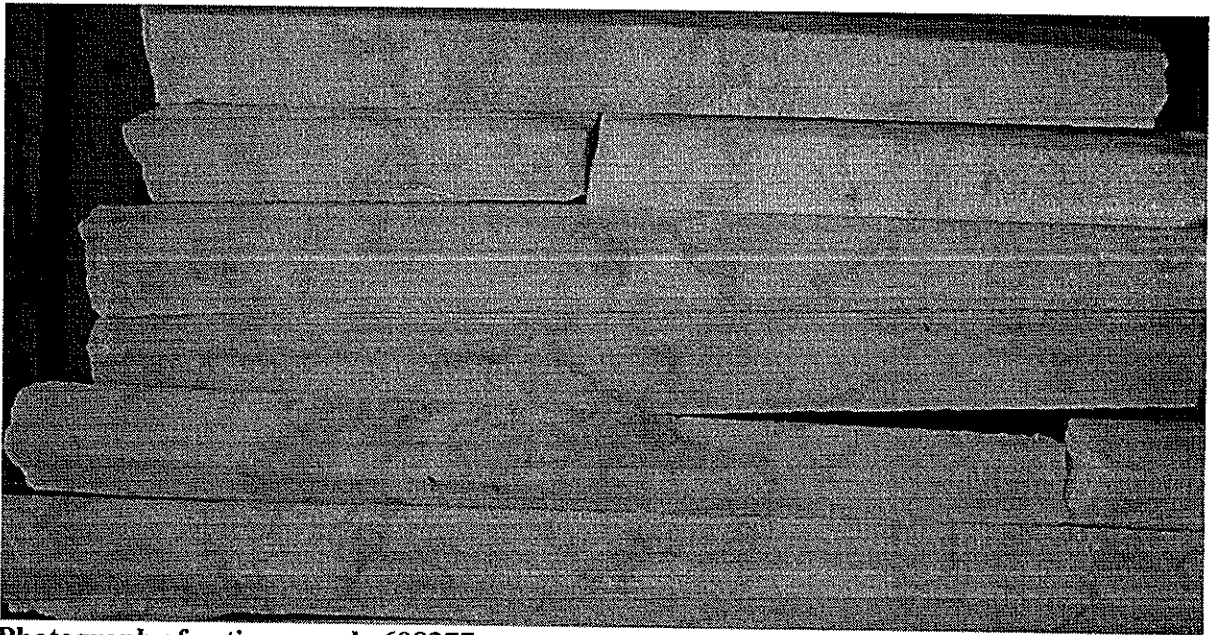
From: 86.3m

To: 89.5m

Description: White, massive cuneiform magnesite

Analytical data:

HOLE_ID	SAMPLE	From	To	TYPE	CORESIZE	Length	SiO2	TiO2	Al2O3	Fe2O3	MnO	MgO	CaO	Na2O	K2O	P2O5	SO3	LOI
AR013		86.30	87.90			1.60	2.90	-0.01	-0.05	0.12	0.02	46.70	0.68	0.12	-0.01	-0.01	0.04	48.97
AR013		87.90	89.50			1.60	1.97	-0.01	0.13	0.10	0.02	46.73	1.00	0.13	-0.01	-0.01	0.04	49.74
AR013	698377	86.30	89.50	1/4 Core	HQ	3.20	2.44	-0.01	0.04	0.11	0.02	46.72	0.84	0.13	-0.01	-0.01	0.04	49.36



Photograph of entire sample 698377

698378

Sample Type – Higher CaO, with other contaminants low.

Drill Hole: AR013

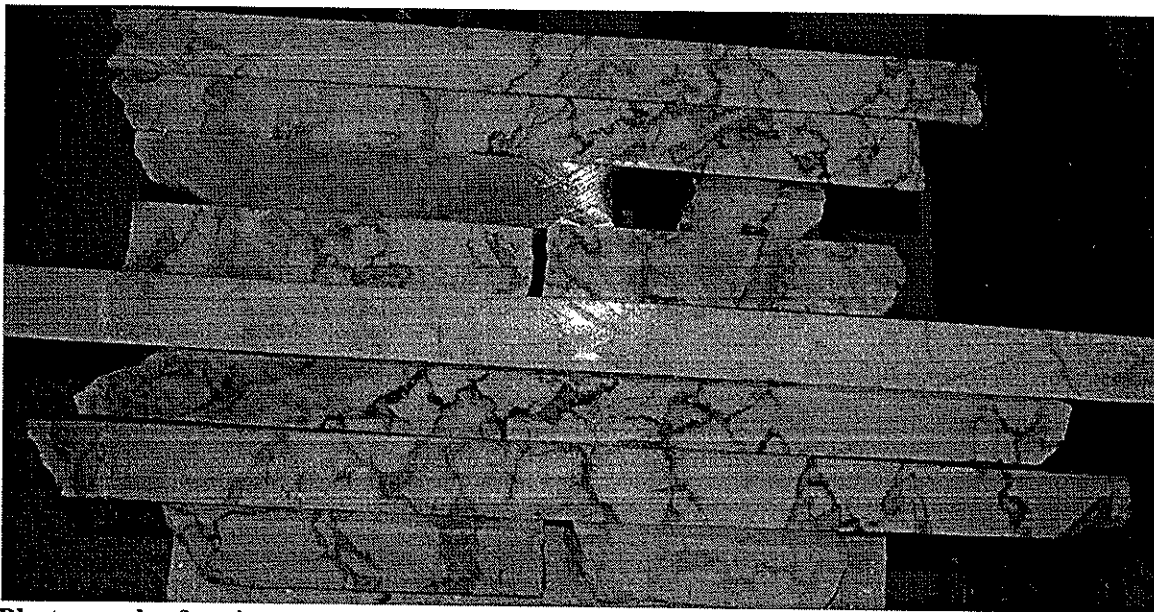
From: 131.6m

To: 134.6m

Description: White magnesite with dark (dolomitic?) veining and angular brecciated appearance.

Analytical data:

HOLE_ID	SAMPLE	From	To	TYPE	CORESIZE	Length	SiO2	TiO2	Al2O3	Fe2O3	MnO	MgO	CaO	Na2O	K2O	P2O5	SO3	LOI
AR013		131.60	133.20			1.60	1.53	-0.01	-0.05	0.41	0.04	45.68	1.64	0.11	-0.01	-0.01	0.06	50.07
AR013		133.20	134.60			1.40	2.27	-0.01	-0.05	0.66	0.06	39.12	9.09	0.10	-0.01	-0.01	0.10	48.54
AR013	698378	131.60	134.60	1/4 Core	HQ	3.00	1.88	-0.01	-0.05	0.53	0.05	42.62	5.12	0.11	-0.01	-0.01	0.08	49.36



Photograph of entire sample 698378

698379

Sample Type – High Grade Magnesite with low contaminants.

Drill Hole: AR013

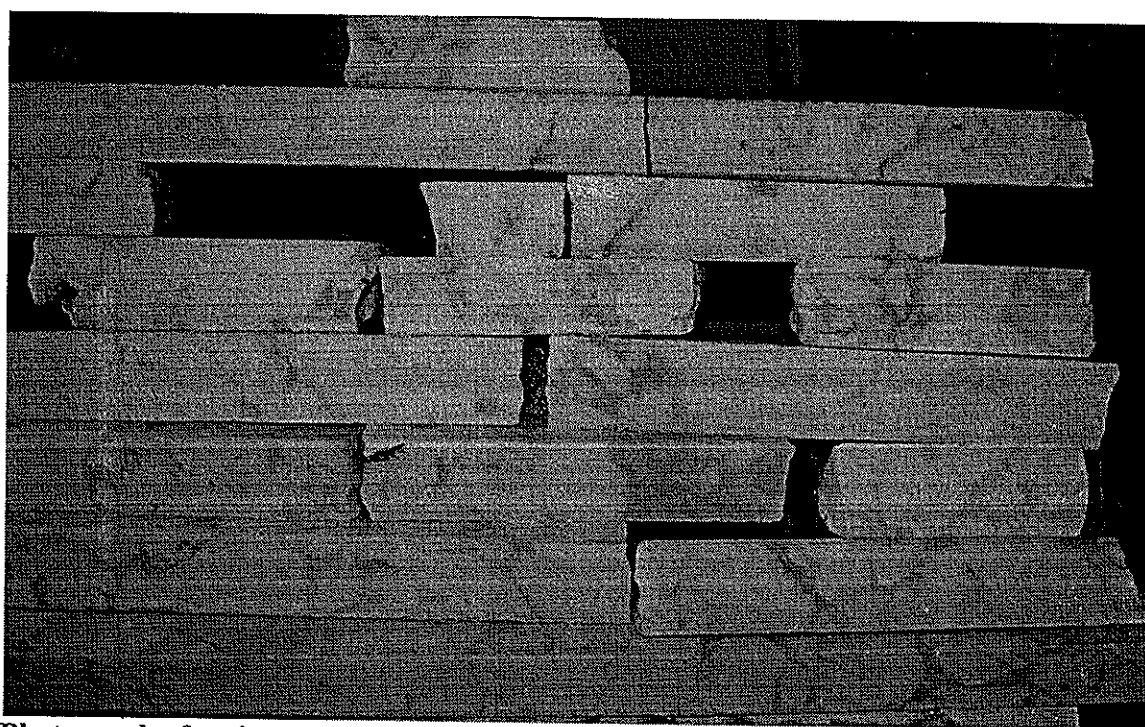
From: 149.6m

To: 152.6m

Description: White, massive cuneiform magnesite.

Analytical data:

HOLE ID	SAMPLE	From	To	TYPE	CORESIZE	Length	SiO2	TiO2	Al2O3	Fe2O3	MnO	MgO	CaO	Na2O	K2O	P2O5	SO3	LOI
AR013		149.60	151.20			1.60	1.93	-0.01	0.08	0.17	0.02	46.38	1.25	0.12	-0.01	-0.01	0.06	49.77
AR013		151.20	152.60			1.40	1.90	-0.01	-0.05	0.14	0.02	46.53	1.04	0.12	-0.01	-0.01	0.07	49.79
AR013	698379	149.60	152.60	1/4 Core	HQ	3.00	1.92	-0.01	0.02	0.16	0.02	46.45	1.15	0.12	-0.01	-0.01	0.06	49.78



Photograph of entire sample 698379

698381

Sample Type – High Grade Magnesite with elevated levels of CaO, SiO₂ and Fe₂O₃.

Drill Hole: AR020

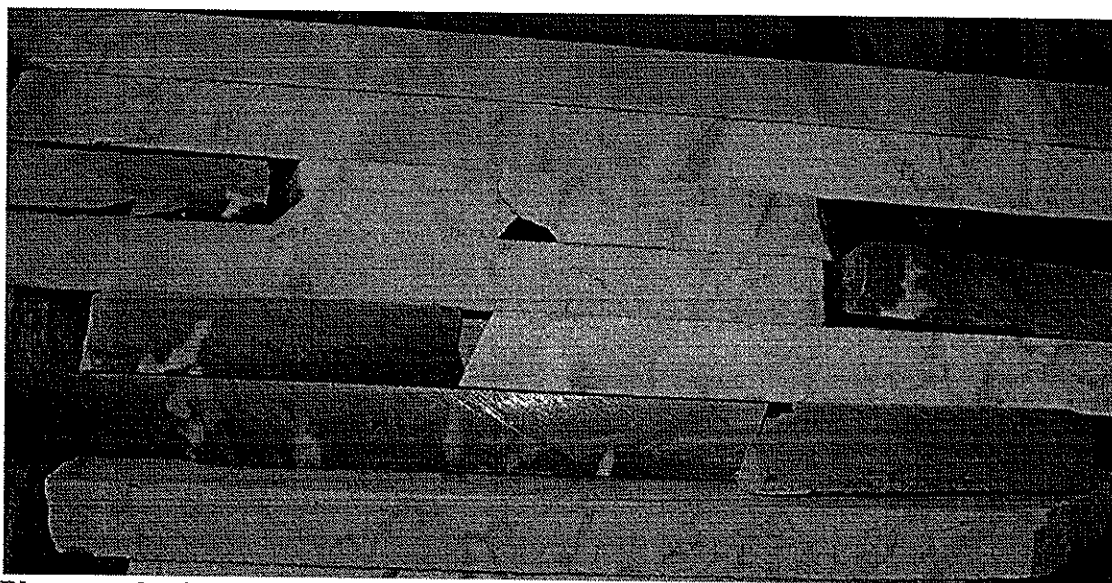
From: 85m

To: 88m

Description: Generally white/pink to buff coloured magnesite, with veining tending to be parallel sided (rather than a jigsaw pattern).

Analytical data:

HOLE ID	SAMPLE	From	To	TYPE	CORESIZE	Length	SiO2	TiO2	Al2O3	Fe2O3	MnO	MgO	CaO	Na2O	K2O	P2O5	SO3	LOI
AR020		85.00	86.30			1.30	4.23	-0.01	0.10	0.75	0.09	44.46	0.99	0.10	-0.01	-0.01	-0.01	49.59
AR020		86.30	88.00			1.70	6.28	-0.01	-0.05	0.75	0.08	39.77	5.22	0.09	-0.01	-0.01	0.02	47.70
AR020	698381	85.00	88.00	1/4 Core	HQ	3.00	5.39	-0.01	0.01	0.75	0.08	41.80	3.39	0.09	-0.01	-0.01	0.01	48.52



Photograph of entire sample 698381

698382

Sample Type – High SiO₂, with elevated Fe₂O₃, Al₂O₃, CaO & SO₃. The “dirtiest” sample selected.

Drill Hole: AR016

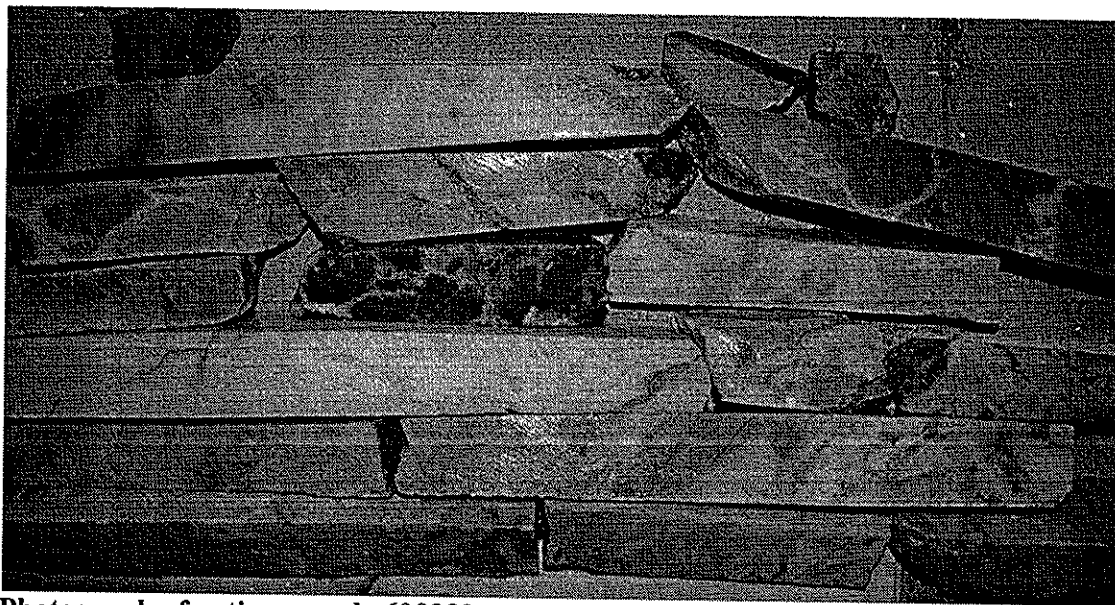
From: 134.6m

To: 138.2m

Description: Dark brown to light green/cream massive magnesite with breccia textures.

Analytical data:

HOLE_ID	SAMPLE	From	To	TYPE	CORESIZ	Length	SiO2	TiO2	Al2O3	Fe2O3	MnO	MgO	CaO	Na2O	K2O	P2O5	SO3	LOI
AR016		134.60	136.10			1.50	10.57	0.02	0.51	0.98	0.08	38.71	4.08	0.12	0.03	-0.01	0.50	44.60
AR016		136.10	138.20			2.10	11.87	-0.01	-0.05	0.86	0.07	38.46	3.89	0.10	-0.01	-0.01	0.06	45.07
AR016	698382	134.60	138.20	1/4 Core	HQ	3.60	11.33	0.00	0.18	0.91	0.07	38.56	3.97	0.11	0.01	-0.01	0.24	44.87



Photograph of entire sample 698382

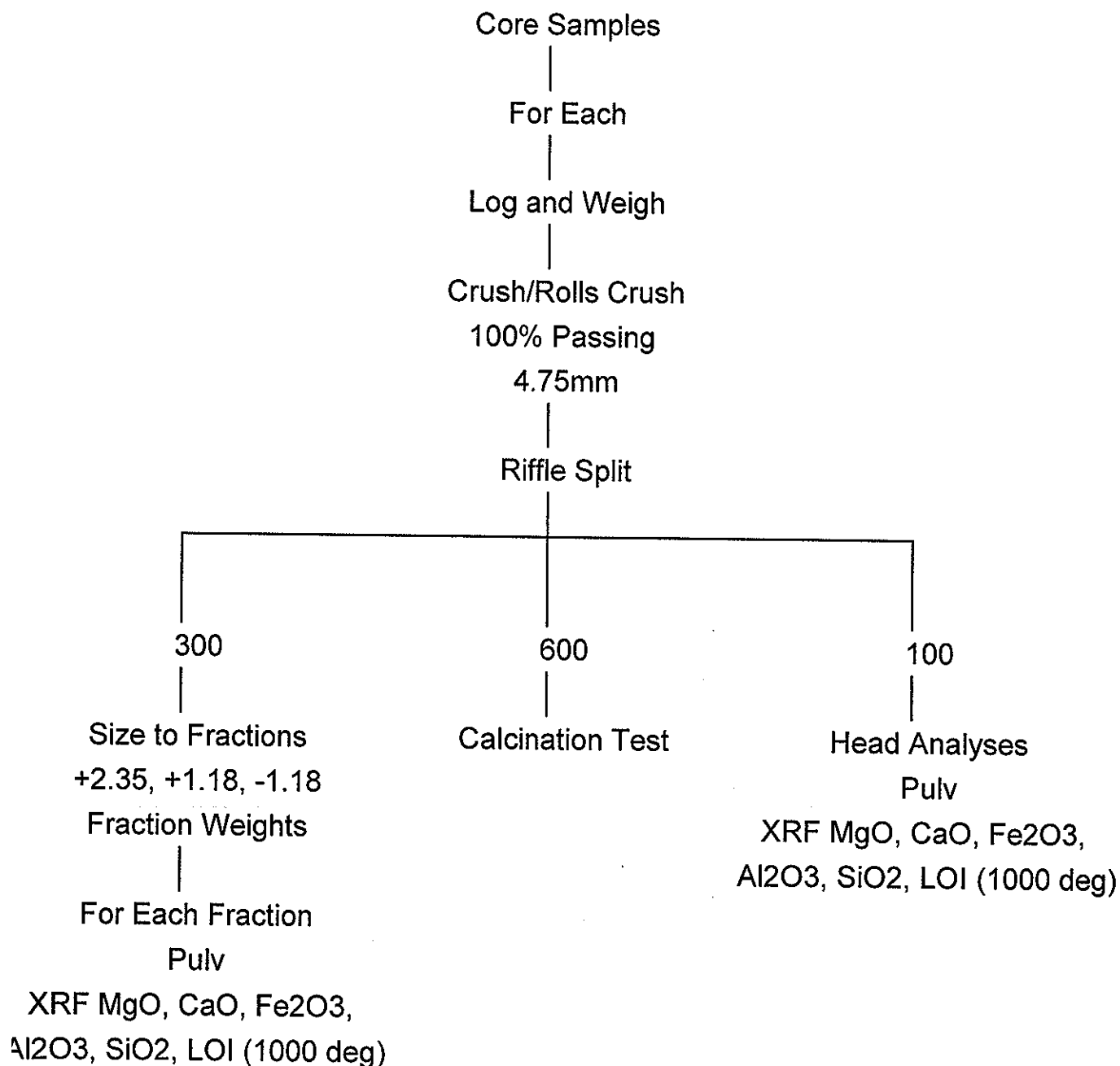
ATTACHMENT 2

Burnie RESEARCH LABORATORY

CLIENT	Tasmanian Magnesite
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1

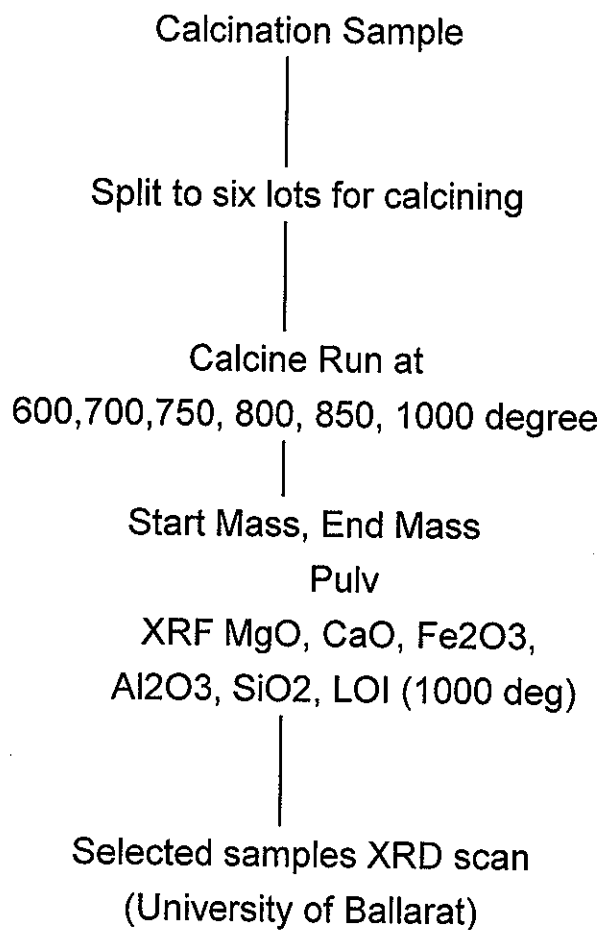
STAGE	Sample Preparation
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CLIENT	Tasmanian Magnesite
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STAGE	Calcination Testing
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2



ITEMISED COST BREAKDOWN FOR METALLURGICAL TESTWORK

Quote By: John Glen Date: 04/10/10

Project Tamanian Magnesite	Client John Canterford
Samples Received/Description Split Core, 5 samples	Weight kg >1kg each

Item	Testwork/Description	No. of samples tested	No. of tests per sample	Tests total (\$)	Total Cost (\$)
1.0	<u>Sample Preparation</u> Log, dry and weigh samples received Stage crush to 100%pass 4.75mm Dry sizing to fractions for analysis	5 5	1 1	55 150	275 750
2.0	<u>Calcination Testing</u> Calcine at defined temperatures Start and End Mass	5	6	150	4,500
	<u>Analyses</u> Pulv, Fusion XRF, MgO, CaO, Fe2O3, Al2O3, SiO2, LOI Selected samples XRD SCAN (Uni of Ballarat) Allow 10 scans	50 10	1 1	38 110	1,900 1,100
5.0	<u>Sub-Total</u>				8,525
6.0	<u>Technical Supervision and Reporting: 17.5% of Total</u>				1,492
7.0	<u>Total Project Cost (excluding GST)</u>				10,017

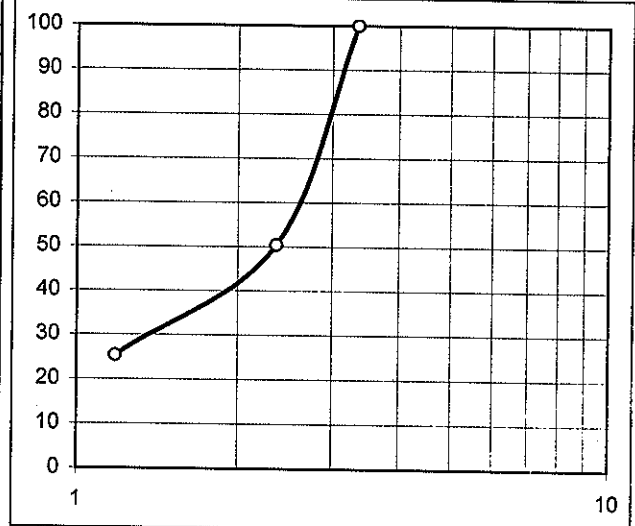
ATTACHMENT 3

Burnie RESEARCH LABORATORY
SIZE ANALYSIS REPORT SHEET WITH SUB

PROJECT	T0598
SAMPLE	377
FROM TEST NO	crushed ore
DATE	11/10/2010
TECHNICIAN	MW

SIZING

Product Sized 377		SIZE mm	WEIGHTS		
			gm	(%)	%PASS
	P80		0.00	0.00	100.0
			0.00	0.00	100.0
			0.00	0.00	100.0
			0.00	0.00	100.0
			0.00	0.00	100.0
	2.95	3.35	0.00	0.00	100.0
		2.36	224.76	49.60	50.4
		1.18	113.21	24.99	25.4
CYCLOSIZER	CS1	34	0.00	0.00	25.4
FLOW 185	CS2	27	0.00	0.00	25.4
TEMP 21	CS3	19	0.00	0.00	25.4
SG 2.80	CS4	13	0.00	0.00	25.4
MINS 20	CS5	8	0.00	0.00	25.4
CENTRIFUGE	CS6	4	0.00	0.00	25.4
		SUB	115.13	25.41	0.0
		TOTAL	453.10	100.00	



ANALYSES

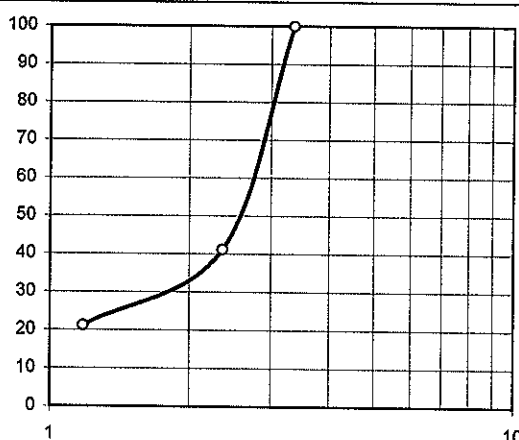
SIZE mm	WT %	MgO		CaO		Fe2O3		Al2O3		SiO2		LOI	
		%	dist	%	dist	%	dist	%	dist	%	dist	%	dist
3.35	49.60	46.61	49.7	0.82	50.4	0.08	23.2	0.42	52.8	2.44	41.1	47.88	49.6
1.18	24.99	46.67	25.1	0.76	23.5	0.25	36.6	0.36	22.8	2.81	23.9	48.42	25.2
-1.18	25.41	46.22	25.2	0.83	26.1	0.27	40.2	0.38	24.5	4.05	35.0	47.53	25.2
CALC	100.00	46.53	100.0	0.81	100.0	0.17	100.0	0.39	100.0	2.94	100.0	47.93	100.0
ASSAY		46.27		0.78		0.13		0.30		2.41		47.82	

Burnie RESEARCH LABORATORY
SIZE ANALYSIS REPORT SHEET WITH SUB

PROJECT	T0598
SAMPLE	378
FROM TEST NO	crushed ore
DATE	11/10/2010
TECHNICIAN	MW

SIZING

Product Sized 378		SIZE mm	WEIGHTS		
			gm	(%)	%PASS
	P80		0.00	0.00	100.0
			0.00	0.00	100.0
			0.00	0.00	100.0
			0.00	0.00	100.0
			0.00	0.00	100.0
		3.35	0.00	0.00	100.0
	3.01	2.36	267.47	58.81	41.2
		1.18	91.13	20.04	21.2
CYCLOSIZER	CS1	34	0.00	0.00	21.2
FLOW 185	CS2	27	0.00	0.00	21.2
TEMP 21	CS3	19	0.00	0.00	21.2
SG 2.80	CS4	13	0.00	0.00	21.2
MINS 20	CS5	8	0.00	0.00	21.2
CENTRIFUGE	CS6	4	0.00	0.00	21.2
SUB			96.20	21.15	0.0
TOTAL			454.80	100.00	



ANALYSES

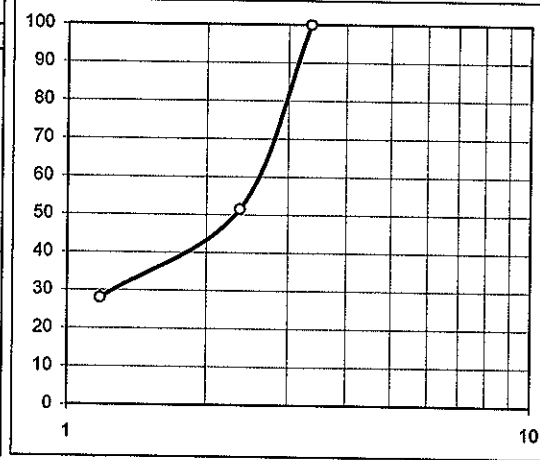
SIZE mm	WT %	MgO		CaO		Fe2O3		Al2O3		SiO2		LOI	
		%	dist	%	dist	%	dist	%	dist	%	dist	%	dist
2.36	58.81	39.93	59.0	6.52	58.7	0.65	62.2	0.04	42.2	2.57	55.5	39.21	58.7
1.18	20.04	40.06	20.2	6.40	19.6	0.56	18.2	0.15	54.0	2.10	15.5	40.12	20.5
-1.18	21.15	39.34	20.9	6.68	21.6	0.57	19.6	0.01	3.8	3.73	29.0	38.74	20.9
CALC	100.00	39.83	100.0	6.53	100.0	0.62	100.0	0.06	100.0	2.72	100.0	39.30	100.0
ASSAY		40.25		6.39		0.57		0.01		2.46		39.63	

Burnie RESEARCH LABORATORY
SIZE ANALYSIS REPORT SHEET WITH SUB

PROJECT	T0598
SAMPLE	379
FROM TEST NO	crushed ore
DATE	11/10/2010
TECHNICIAN	MW

SIZING

Product Sized 379		SIZE mm	WEIGHTS		
			gm	(%)	%PASS
	P80		0.00	0.00	100.0
			0.00	0.00	100.0
			0.00	0.00	100.0
			0.00	0.00	100.0
			0.00	0.00	100.0
		3.35	0.00	0.00	100.0
	2.94	2.36	219.98	48.48	51.5
		1.18	106.94	23.57	28.0
CYCLOSIZER	CS1	34	0.00	0.00	28.0
FLOW 185	CS2	27	0.00	0.00	28.0
TEMP 21	CS3	19	0.00	0.00	28.0
SG 2.80	CS4	13	0.00	0.00	28.0
MINS 20	CS5	8	0.00	0.00	28.0
CENTRIFUGE	CS6	4	0.00	0.00	28.0
		SUB	126.88	27.96	0.0
		TOTAL	453.80	100.00	



ANALYSES

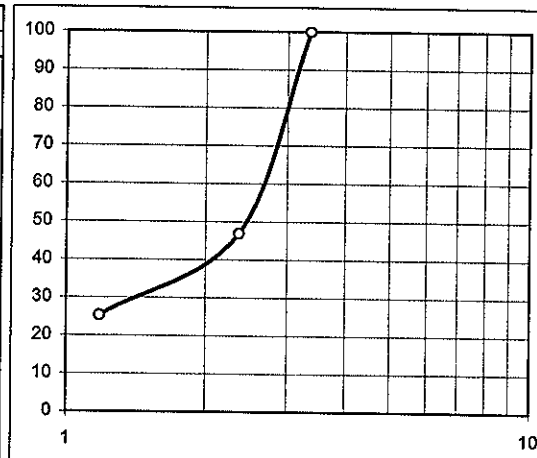
SIZE mm	WT %	MgO		CaO		Fe2O3		Al2O3		SiO2		LOI	
		%	dist	%	dist	%	dist	%	dist	%	dist	%	dist
2.36	48.48	45.98	48.6	1.34	49.7	0.12	42.7	0.23	63.6	2.21	51.7	47.24	48.3
1.18	23.57	45.89	23.6	1.18	21.3	0.13	22.5	0.01	1.3	1.32	15.0	48.23	24.0
-1.18	27.96	45.77	27.9	1.36	29.1	0.17	34.9	0.22	35.1	2.46	33.2	47.16	27.8
CALC	100.00	45.90	100.0	1.31	100.0	0.14	100.0	0.18	100.0	2.07	100.0	47.45	100.0
ASSAY		45.73		1.25		0.16		0.07		2.14		47.46	

Burnie RESEARCH LABORATORY
SIZE ANALYSIS REPORT SHEET WITH SUB

PROJECT	T0598
SAMPLE	381
FROM TEST NO	crushed ore
DATE	11/10/2010
TECHNICIAN	MW

SIZING

Product Sized 381		SIZE mm	WEIGHTS		
			gm	(%)	%PASS
	P80		0.00	0.00	100.0
			0.00	0.00	100.0
			0.00	0.00	100.0
			0.00	0.00	100.0
			0.00	0.00	100.0
		3.35	0.00	0.00	100.0
	2.98	2.36	240.76	53.10	46.9
		1.18	97.82	21.57	25.3
CYCLOSIZER	CS1	34	0.00	0.00	25.3
FLOW 185	CS2	27	0.00	0.00	25.3
TEMP 21	CS3	19	0.00	0.00	25.3
SG 2.80	CS4	13	0.00	0.00	25.3
MINS 20	CS5	8	0.00	0.00	25.3
CENTRIFUGE	CS6	4	0.00	0.00	25.3
		SUB	114.82	25.32	0.0
		TOTAL	453.40	100.00	



ANALYSES

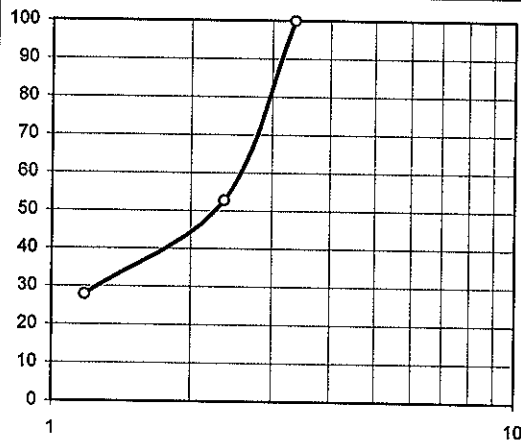
SIZE mm	WT %	MgO		CaO		Fe2O3		Al2O3		SiO2		LOI	
		%	dist	%	dist	%	dist	%	dist	%	dist	%	dist
2.36	53.10	40.87	52.8	3.25	52.4	0.75	51.8	0.04	30.7	5.62	56.3	43.19	52.6
1.18	21.57	41.57	21.8	3.23	21.2	0.77	21.6	0.21	65.6	5.20	21.2	44.25	21.9
-1.18	25.32	41.14	25.4	3.44	26.4	0.81	26.7	0.01	3.7	4.72	22.5	43.74	25.4
CALC	100.00	41.09	100.0	3.29	100.0	0.77	100.0	0.07	100.0	5.30	100.0	43.56	100.0
ASSAY		40.93		3.31		0.78		0.17		5.39		43.71	

Burnie RESEARCH LABORATORY
SIZE ANALYSIS REPORT SHEET WITH SUB

PROJECT	T0598
SAMPLE	382
FROM TEST NO	crushed ore
DATE	11/10/2010
TECHNICIAN	MW

SIZING

Product Sized 382		SIZE mm	WEIGHTS		
			gm	(%)	%PASS
	P80		0.00	0.00	100.0
			0.00	0.00	100.0
			0.00	0.00	100.0
			0.00	0.00	100.0
			0.00	0.00	100.0
		3.35	0.00	0.00	100.0
	2.93	2.36	214.67	47.28	52.7
		1.18	112.5	24.78	27.9
CYCLOSIZER	CS1	34	0.00	0.00	27.9
FLOW 185	CS2	27	0.00	0.00	27.9
TEMP 21	CS3	19	0.00	0.00	27.9
SG 2.80	CS4	13	0.00	0.00	27.9
MINS 20	CS5	8	0.00	0.00	27.9
CENTRIFUGE	CS6	4	0.00	0.00	27.9
		SUB	126.83	27.94	0.0
		TOTAL	454.00	100.00	



ANALYSES

SIZE mm	WT %	MgO		CaO		Fe2O3		Al2O3		SiO2		LOI	
		%	dist	%	dist	%	dist	%	dist	%	dist	%	dist
2.36	47.28	38.44	47.5	3.55	43.3	0.81	47.3	0.22	64.2	11.92	51.4	39.70	47.0
1.18	24.78	38.32	24.8	3.84	24.5	0.80	24.5	0.02	3.1	11.00	24.8	40.33	25.0
-1.18	27.94	37.90	27.7	4.47	32.2	0.82	28.3	0.19	32.8	9.34	23.8	40.08	28.0
CALC	100.00	38.26	100.0	3.88	100.0	0.81	100.0	0.16	100.0	10.97	100.0	39.96	100.0
ASSAY		38.53		3.88		0.82		0.04		11.12		39.61	

CALCINE (+1.18mm) SIZING

total +1.18mm (gm)	66.00
total -1.18mm (gm)	13.58
total sample mass (gm)	79.58

Date Submitted	11/10/10
Submitted By	MW
No of Samples	20
Type	Solids
Priority	12/10/10
Assays Completed	15/10/10
Invoice Completed	15/10/10

Burnie RESEARCH LABORATORY INTERNAL SAMPLE DISPATCH SHEET

Duplicate Samples

Dispatch		Analysis Results								Mass
Sample Description	Number	Pulv y/n	MgO % XRF	CaO % XRF	Fe2O3 % XRF	Al2O3 % XRF	SiO2 % XRF	LOI 1000deg %		
Sample 377 +2.36mm	598001	y	46.80	0.91	0.16	0.75	3.25	47.88		
+1.18mm	598002	y	46.94	0.83	0.31	0.52	3.55	48.42		
-1.18mm	598003	y	46.64	0.90	0.33	0.57	4.51	47.53		
Head	598004	y	46.56	0.82	0.19	0.20	3.18	47.87		
Sample 378 +2.36mm	598005	y	41.48	6.73	0.65	0.67	3.36	39.21		
+1.18mm	598006	y	41.50	6.60	0.60	0.19	3.08	40.12		
-1.18mm	598007	y	40.86	6.87	0.61	0.47	4.34	38.74		
Head	598008	y	41.48	6.53	0.62	0.14	3.35	39.63		
Sample 379 +2.36mm	598009	y	46.40	1.41	0.19	0.73	3.05	47.24		
+1.18mm	598010	y	46.31	1.25	0.21	0.20	2.35	48.23		
-1.18mm	598011	y	46.29	1.45	0.24	0.73	3.30	47.16		
Head	598012	y	46.02	1.32	0.24	0.34	2.96	47.46		
Sample 381 +2.36mm	598013	y	42.23	3.36	0.79	0.68	5.84	43.19		
+1.18mm	598014	y	42.78	3.35	0.81	0.43	5.45	44.25		
-1.18mm	598015	y	42.58	3.54	0.85	0.52	5.06	43.74		
Head	598016	y	42.33	3.45	0.80	0.25	5.56	43.71		
Sample 382 +2.36mm	598017	y	39.99	3.64	0.85	0.70	10.82	39.70		
+1.18mm	598018	y	39.90	3.98	0.83	0.35	10.11	40.33		
-1.18mm	598019	y	39.63	4.59	0.85	0.60	8.86	40.08		
Head	598020	y	39.87	4.03	0.85	0.31	10.26	39.61		
REPEAT (NEW CALIBR)	1									
Sample 377 head	598004	y	46.68	0.84	0.19	0.77	3.22	47.87		
Sample 378 head	598008	y	41.76	6.56	0.58	0.99	3.42	39.63		
Sample 379 head	598009	y	46.32	1.33	0.23	0.98	2.97	47.46		
Sample 381 head	598016	y	42.33	3.44	0.82	0.77	5.57	43.71		
Sample 382 head	598020	y	40.08	4.03	0.85	0.85	10.26	39.61		

* Check assays

Duplicates and Standards							
Sample Number	MgO %	CaO %	Fe2O3 %	Al2O3 %	SiO2 %		

Internal Invoice									
Invoice		Pulv	MgO	CaO	Fe2O3	Al2O3	SiO2	LOI	
15/10/10	\$/unit	\$9.00	\$12.00	\$2.00	\$2.00	\$2.00	\$2.00	\$10.00	
598001	units	20	20	20	20	20	20	20	
\$780.00	total	\$180.00	\$240.00	\$40.00	\$40.00	\$40.00	\$40.00	\$200.00	

Date Submitted	19/11/10
Submitted By	DK
No of Samples	20
Type	Solids
Priority	23/11/10
Assays Completed	
Invoice Completed	

Burnie RESEARCH LABORATORY INTERNAL SAMPLE DISPATCH SHEET

Calculation Data

Dispatch		Analysis Results								
Sample Description	Number	Pulv y/n	MgO % XRF	CaO % XRF	Fe2O3 % XRF	Al2O3 % XRF	SiO2 % XRF	Initial Weight g	Final Weight g	LOI %
600* 377 Head	598026	y	47.40	0.96	0.39	0.56	3.41	99.18	98.18	
600* 378 Head	598027	y	43.01	6.08	0.89	0.17	3.51	100.66	99.41	
600* 379 Head	598028	y	46.38	1.46	0.29	0.67	2.87	101.86	100.67	
600* 381 Head	598029	y	42.55	3.00	0.87	0.18	6.17	101.64	97.96	
600* 382 Head	598030	y	41.46	4.33	1.03	0.72	10.98	100.66	94.07	
700* 377 Head	598031	y	65.22	1.17	0.32	0.57	4.39	100.72	64.65	
700* 378 Head	598032	y	53.25	8.17	0.77	0.22	4.32	101.32	72.70	
700* 379 Head	598033	y	63.39	1.81	0.36	0.59	3.43	103.79	70.29	
700* 381 Head	598034	y	61.18	4.48	1.17	0.11	7.33	102.26	66.09	
700* 382 Head	598035	y	55.90	5.68	1.28	0.69	14.05	99.32	70.01	
750* 377 Head	598036	y	69.08	1.22	0.40	0.05	4.19	99.22	60.88	
750* 378 Head	598037	y	60.20	9.83	0.84	0.63	4.93	100.28	64.90	
750* 379 Head	598038	y	71.14	1.94	0.53	0.10	3.83	101.88	60.78	
750* 381 Head	598039	y	64.55	5.10	1.37	0.73	8.97	101.63	61.50	
750* 382 Head	598040	y	56.12	5.95	1.23	0.27	14.20	100.69	63.74	
800* 377 Head	598041	y	80.82	1.58	0.45	0.69	5.89	101.62	52.62	
800* 378 Head	598042	y	67.90	11.93	1.11	0.12	5.32	100.51	56.98	
800* 379 Head	598043	y	78.44	2.22	0.43	0.63	3.81	101.16	53.68	
800* 381 Head	598044	y	69.70	5.81	1.58	0.16	8.99	100.30	55.53	
800* 382 Head	598045	y	65.58	6.34	1.61	0.77	15.87	100.71	58.12	
850* 377 Head	598046	y	89.16	1.41	0.69	0.09	5.68	99.54	50.32	
850* 378 Head	598047	y	73.42	12.34	1.29	0.57	5.51	100.00	54.27	
850* 379 Head	598048	y	88.59	2.73	0.69	0.07	4.47	102.26	51.56	
850* 381 Head	598049	y	78.55	6.18	1.81	0.58	10.70	99.77	52.34	
850* 382 Head	598050	y	68.30	6.87	1.91	0.15	18.42	102.06	57.41	
1000* 377 Head	598051	y	87.92	1.43	0.66	0.62	6.12	101.19	50.86	
1000* 378 Head	598052	y	78.23	12.08	1.94	0.07	5.88	102.05	52.23	
1000* 379 Head	598053	y	88.99	2.67	0.69	0.98	5.13	102.23	50.94	
1000* 381 Head	598054	y	81.81	6.14	1.75	0.07	9.25	102.18	52.45	
1000* 382 Head	598055	y	74.69	6.35	1.90	0.64	16.54	100.67	54.14	

Duplicates and Standards							
Sample Number	MgO %	CaO %	Fe2O3 %	Al2O3 %	SiO2 %		

Internal Invoice										
Invoice		Pulv	MgO	CaO	Fe2O3	Al2O3	SiO2	Initial	Final	
0/01/00	\$/unit	\$9.00	\$100.00		\$12.00	\$2.00	\$2.00	\$2.00	\$2.00	
598026	units		20		20	20	20	20	20	
\$2,400.00	total	\$0.00	#####	\$0.00	\$240.00	\$40.00	\$40.00	\$40.00	\$40.00	