

Exploration Licence 29/80

Annual Report 1985/1986.

**OPEN FILE**

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EXPLORATION LICENCE 29/80 PT. OF MINES				
5279/80				

EXPLORATION LICENCE 29/80 PT. OF MINES  
ANNUAL REPORT 1985/1986

*Records, Annual Report 09/80*

1. GOLD

A deposit of limonite was reported in Geological Survey Bulletin No. 41 to occur on the west bank of Deep Creek within EL 29/80. "The deposit forms a small mound rising above the level of Deep Creek flood plain." An attempt was made to find this deposit. Unfortunately, the area is now a reservoir, Lake Mikany, and it is thought that the iron occurrence, which may have associated gold, may be the small island within the lake.

Four quartzite samples from the drilling performed by Pioneer in the Beacon Hills were submitted for analysis for gold, platinum and palladium. The results were as follows:-

Hole No.	Depth (M)	Au	Pt	Pd (in ppm)
B-PP 5	6 - 7	0.019	BLD	BLD
7	5 - 6	0.011	BLD	0.003
10	7 - 8	0.006	BLD	BLD
11	4 - 5	BLD	BLD	BLD

A joint venture was entered into with Pan Australian Mining Ltd. to explore for gold in the western part of the Exploration Licence as well as an adjoining Exploration Licence to the west (EL 43/84). Unfortunately, the joint venture was suspended, due to disappointing early lode sampling results (in EL 43/84), and Pan Australian Mining Ltd. failed to expend their commitment for the period. (Refer our application for renewal letter of 28th May, 1986).

2. QUARTZITE SAND

A joint venture was entered into with Monier Ltd. on this Exploration Licence, as well as ELs 18/76 and 43/70, with regard to silica sand to 5 mm and flour.

The Beacon Hills quartzite was prospected and investigated to determine whether there was any sand there and of what quality. The only free sand found was a small occurrence of approximately 10 m by 10 m and of unknown depth, but almost certainly shallow and of little economic value. The chemical analysis was :-

$Al_2O_3$	$Fe_2O_3$	$TiO_2$	(in ppm)
250	220	560	

which would be suitable for beneficiating to plate glass requirements. However, another sample assayed

$Al_2O_3$	$Fe_2O_3$	$TiO_2$	(in ppm)
2210	110	720	

*presumably my*

+600 pi	+425 pi	+300 pi	+212 pi	+150 pi	+106 pi	+75 pi
27.3%	12.4%	14.6%	13.7%	13.3%	8.6%	2.3%

Monier comment that "the size grading is too wide for a glass sand and there would be considerable waste. The iron content is excellent, but the aluminium and titanium contents may be too high. From inspection the deposit would appear to be tiny and of curiosity value only".

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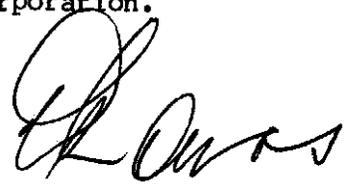
3. QUARTZITE ROCK

A trial lot of 20 - 30 tonnes of plus 1 inch minus 6 inch lump quartzite was hand picked from a quarry in the Beacon Hills. The quarry is on private land south of the DMR Ballast Reserve. The quartzite was transported to Temco at Bell Bay for testing. The sample passed tests for decrepitation, tumbling and chemical analysis. Temco has requested a further 900 tonnes initially of quartzite material for full scale tests, and the Mines Department permissions are currently being sought to excavate the quartzite and subsequent lot of 900 tonnes.

Interest has been expressed by Toyamenka of Japan in 5 mm and above of quartzite rock, and negotiations are currently taking place.

4. DOLOMITE

Dolomite beds occur in the western portion of the Exploration Licence, as well as in the adjoining EL 43/84. Samples of the dolomite have responded well to tests performed in Italy for the production of magnesium metal. See copy of Societa Italiana per il Magnesio e Leghe di Magnesio letters of 7th May, 1986 and 2nd May, 1986 confirming high analysis of Samples 1, 2 and 3. We are currently receiving assistance from the Tasmanian Development Authority (ref. our confidential accompanying telegram, detailing the feasibility of such an industry), in establishing a possible magnesium metal industry in the Smithton area. Two joint venture routes are currently open, either with an Italian magnesium company or a Brazilian one. Supervision of this project for Mineral Holdings Australia Pty. Ltd. is being carried out by R. Hudson, previously of Bechtel Corporation.



# SOCIETÀ ITALIANA PER IL MAGNESIO E LEGHE DI MAGNESIO

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SOCIETÀ PER AZIONI  
CAPITALE SOCIALE L. 5.000.000.000 VERSATO L. 4.500.000.000  
SEDE LEGALE BOLZANO

Bolzano, 2nd May 1986

Ns. rif. AL/lp

MINERAL HOLDINGS  
AUSTRALIA PTY. LIMITED  
2nd Floor  
100 Collins Street  
MELBOURNE, AUSTRALIA, 3000

OGGETTO:

For the attention of Mr. Neil Thomas

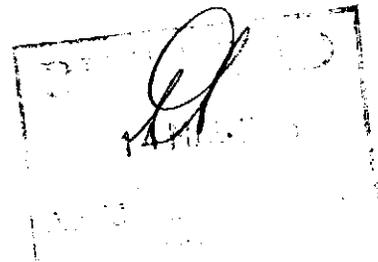
Dear Sir,

we send you herewith our evaluations on the samples you dispatched us.

- From the chemical point of view, the Dolomite's samples have a good composition, even though sample n° 1 has got a SiO<sub>2</sub> tenor decidedly higher than samples n° 2 and n° 3.
- Behaviour at calcination :  
Dolomite : Cleft phenomena between 1050 °C and 1100°C  
Magnesite: At 1000°C flaking phenomena.

Those results are merely indicative, because a definitive opinion on the behaviour at calcination, can only be given on an industrial-test basis, in revolving furnace at 1200°C, furthermore, it might be opportune for us to have more material at our disposal, in order to have a complete picture and do a reduction test with Fe-Si alloy on a pilot furnace.

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Anyway it is intended, that, for technical and economic reasons,  
Magnesite is not to be taken into consideration for the production  
of Magnesium, with the silicothermic process.

Yours faithfully

SOCIETA ITALIANA  
PER IL MAGNESIO E  
LEGHE DI MAGNESIO S.p.A.  
*[Handwritten Signature]*

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ANALYSES ON THE DOLOMITE AND MAGNESITE SAMPLESOF MINERAL HOLDINGS PTY. LTD.

- Sample n° 1 : Blackwood dolomite bridge darkergrey.  
Behaviour in furnace at 1100 ° C good;  
clefts along the crystallization lines.
- Sample n° 2 : Smithon quarry dolomite lighter grey.  
Behaviour in furnace at 1100 °C good;  
clefts along the crystallization lines.
- Sample n° 3 : Blackwood bridge dolomite lighter grey.  
Behaviour in furnace at 1100 °C good;
- Sample n° 4 : Magnesite. Flackings at 100 °C in furnace.

	Sample n° 1	Sample n° 2	Sample n° 3	Sample n° 4
P.F. %	47,10	47,39	47,35	45,72
SiO <sub>2</sub> %	0,27	0,02	0,03	11,57
R <sub>2</sub> O <sub>3</sub> %	0,32	0,44	0,54	0,73
CaO %	30,37	30,45	30,67	1,32
MgO %	20,97	21,14	20,90	40,43
Zn %	0,0008	0,0010	0,0015	0,0030
Mn %	0,0094	0,0108	0,0094	0,0443
Na %	0,012	0,010	0,018	0,005
K %	0,005	0,005	0,006	0,005
Others	0,94	0,53	0,47	0,17

# SOCIETÀ ITALIANA PER IL MAGNESIO E LEGHE DI MAGNESIO

SOCIETÀ PER AZIONI  
CAPITALE SOCIALE L. 5.000.000.000 VERSATO L. 4.500.000.000  
SEDE LEGALE BOLZANO

Bolzano, 7th May 1986

Ns. rif. AL/lp

MINERAL HOLDINGS  
AUSTRALIA PTY. LIMITED  
2nd Floor  
100 Collins Street  
MELBOURNE, AUSTRALIA, 3000

OGGETTO:

For the attention of Mr. Neil Thomas

Dear Sir,

we send you herewith the "on the whole" informations requested by you for a Magnesium Smelter by 10.000 T/Y referred to one Kg metal.

Dolomite, finished size	10.5 Kg/Kg Mg	
Fe-Si Alloy (Si 78%)	0.9 Kg/Kg Mg ✓	
Energy from Magnesium reduction	7.9 KWh/Kg Mg	—
Utilities	0.3 KWh/Kg Mg	— 8.2
Iron resistors	0.12 Kg/Kg Mg	
Heavy oil for Dolomite's calcination	0.89 Kg/Kg Mg	
Natural gas for remelting	0.11 m <sup>3</sup> /Kg Mg	
Flux Salts for remelting	0.15 Kg/Kg Mg	
Manual labour *	0.032 h/Kg Mg	
Non manual labour *	0.004 h/Kg MG	

(\*For these informations we consider 1650 yearly working hours for each person)

Employed electric power:

Average : 11500 KW  
Peak : 13000 KW

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These estimates are merely to be considered as valid, for Magnesium production. An eventual production of Fe-Si alloy is not taken into consideration.

Final production : A standard ingot production is foreseen.

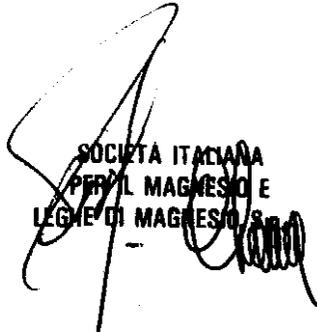
The production of other kinds of sizes (T-bars, Round bars) is conditioned by the market request.

Our production does not foresee extruded shapes, as there is no request, nevertheless we think that, anyway, it is more convenient to produce in sub-contact with Aluminium Alloy Extruders.

We further enclose an indicative flow-sheet of our production process.

We rebate our interest for an eventual know-how supply as well as technical assistance, and with the occasion we kindly greet you.

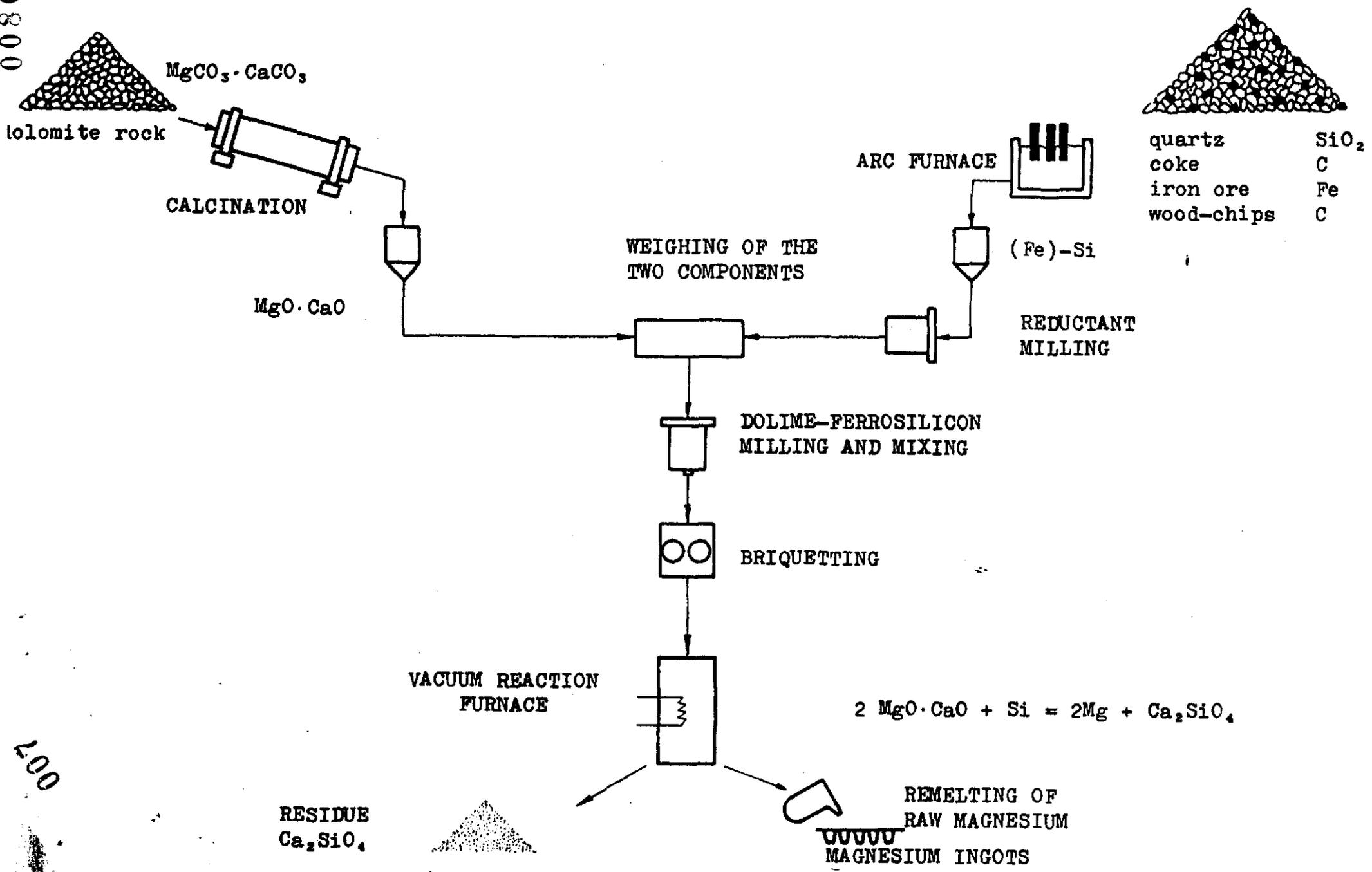
Best regards.



SOCIETA' ITALIANA  
PER IL MAGNESIO E  
LEGHE DI MAGNESIO S.p.A.

SIMPLIFIED FLOW SHEET FOR BOLZANO PROCESS

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