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Metallurgical Testwork and Research

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FLOTATION TESTWORK ON TWO COMPOSITE MAGNESITE ORES FROM MAIN CK-.GOLDEN TRIANGLE – 46M/90

FLOTATION TESTWORK ON TWO COMPOSITE MAGNESITE ORES FROM MAIN CREEK

CLIENT: Golden Triangle Resources NL

JOB No.: 7740

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SUMMARY

A flotation testwork programme was undertaken on two composite samples of magnesite ore.

The head assays of the samples are shown in Table 1:

TABLE 1: HEAD ASSAYS

Sample	MgO %	SiO_2 %	Fe_2O_3 %	CaO %	Al_2O_3 %	LOI %	P_2O_5 %	Na_2O %	SO_3 %
Comp. 1	43.9	2.82	0.80	2.32	<0.05	50.1	<0.01	0.10	0.06
Comp. 2	42.0	3.03	3.31	2.80	<0.05	49.0	<0.01	0.09	0.06

Each sample underwent an ICP scan, giving the results shown in Table 2:

TABLE 2: ICP

Sample	Ag ppm	Al ppm	As ppm	Ba ppm	Be ppm	Bi ppm	Ca ppm	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe ppm
Comp 1	<3	<100	<10	<5	<2	<20	15486	<2	<5	<10	11	4970
Comp 2	<3	<100	<10	<5	<2	<20	18747	<2	<5	<10	6	20406

Sample	Hf ppm	K ppm	Li ppm	Mg ppm	Mn ppm	Mo ppm	Na ppm	Nb ppm	Ni ppm	P ppm	Pb ppm	S ppm
Comp 1	<20	<500	<2	294904	412	<10	<50	<10	<10	<30	<20	168
Comp 2	<20	<500	<2	278128	850	<10	<50	<10	<10	<30	<20	199

Sample	Sb ppm	Sc ppm	Se ppm	Sr ppm	Ta ppm	Te ppm	Th ppm	Ti ppm	U ppm	V ppm	Y ppm	Zn ppm
Comp 1	<10	<2	<10	11	<20	<10	<10	<10	<100	<2	<2	25
Comp 2	<10	<2	<10	15	<20	<10	<10	<10	<100	<2	<2	50

Sample	P2O5 %	Na2O %	SO3 %	CO3 %	Zr ppm	B ppm
Comp 1	<0.01	0.10	0.06	71.9	<5	<20
Comp 2	<0.02	0.09	0.06	68.0	<5	<20

A mineralogical examination of the two samples showed the major minerals in composite #1 to be magnesite and dolomite, and in composite #2 to be magnesite, dolomite, and talc. Quartz and pyrite were observed in both samples. The composition of the magnesite in composite #2 was found to vary, some sections being richer in iron than others.

Grind establishment testwork showed the samples to be very soft, composite #1 being softer than composite #2. The milling times were lengthened by removing 67% of the rod charge and the grind sizes were chosen to be P80 of 106μm and 212μm.

Screen analyses were performed on both composites after milling to a P80 of 106μm and 212μm, and also after stage-milling to a P100 of 212μm. These results are illustrated graphically in Figure 1 for composite #1 and in Figure 2 for composite #2.

The following comments can be made about the composite #1 results:

- The mass distribution of the milled material is biased towards the finer (<23μm) size fractions.
- The MgO and Fe_2O_3 distributions follow the mass distribution, while the SiO_2 and CaO are concentrated in the coarser fractions.
- The smallest slime production (arbitrarily taken as 11μm) occurred when the sample was milled to P80 = 212μm.

The following comments can be made about the composite 2 results:

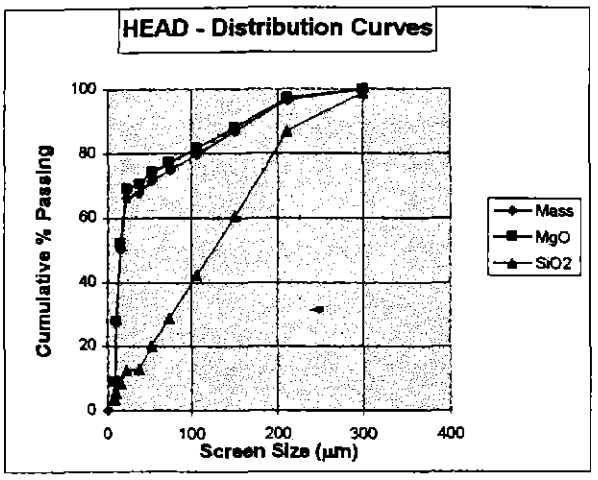
- The mass distribution of the milled material is more evenly distributed than in the composite #1 sample, but with a slight bias towards the fine (<23μm) and coarse (>75μm) fractions.
- The MgO and Fe_2O_3 distributions follow the mass distribution, while the SiO_2 and CaO are concentrated in the coarser fractions.
- The smallest slime production (arbitrarily taken as 11μm) occurred when the sample was milled to a P80 of 212μm.

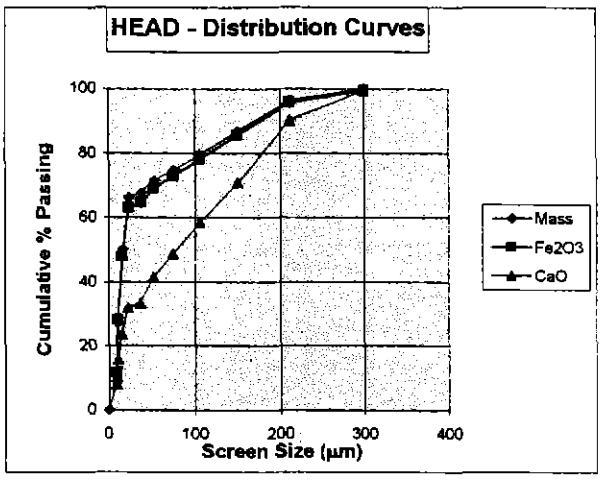
The two samples were subjected to a number of float tests in an attempt to upgrade the magnesite.

These results are summarised in Table 3

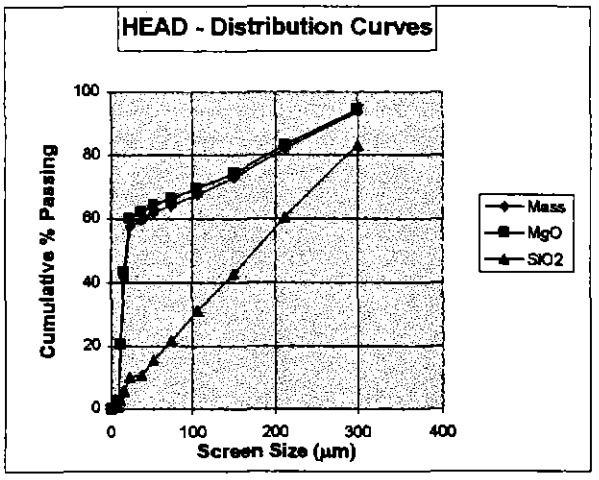
FIGURE 1: SIZE ANALYSES FOR COMPOSITE 1

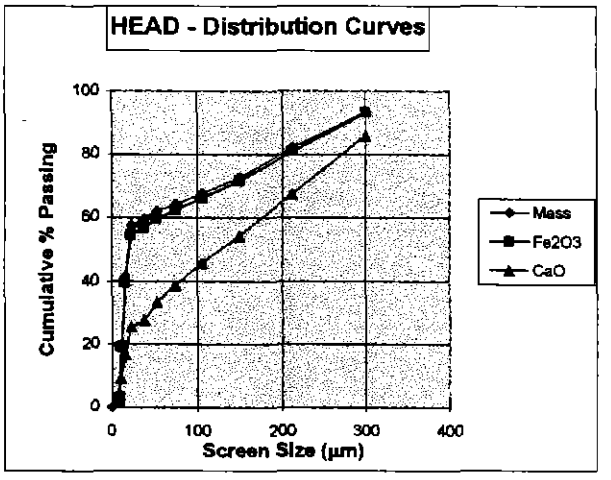
Milled to a P80 of 106µm.



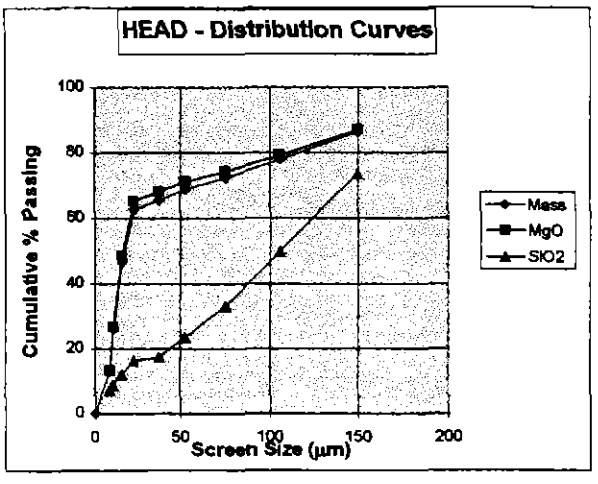


Milled to a P80 of 212µm.





Milled to a P100 of 212µm.



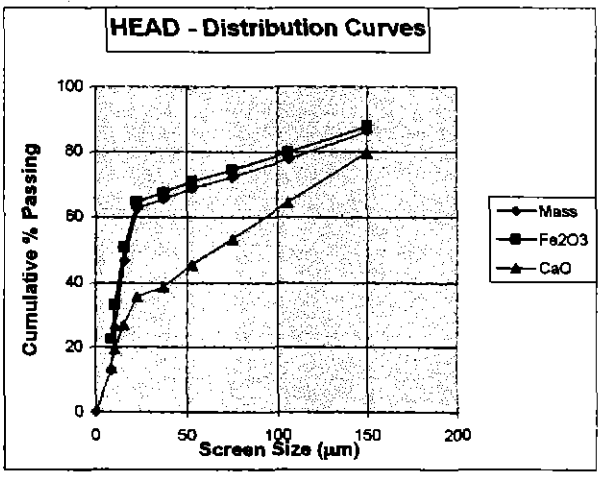
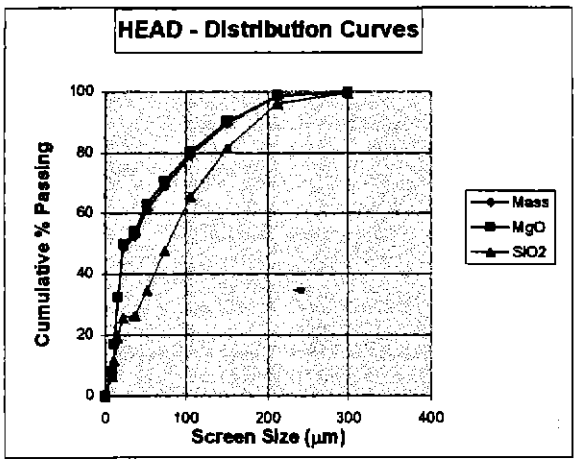
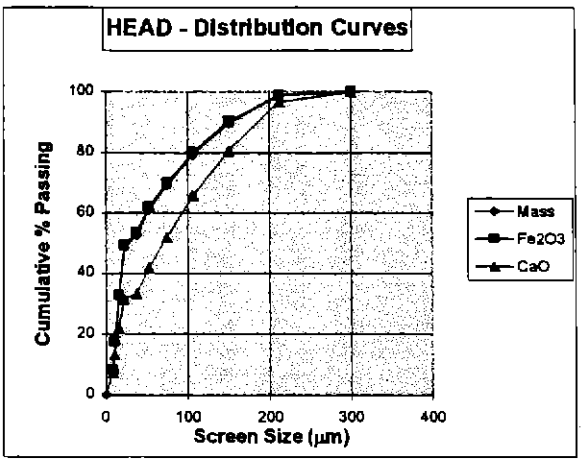


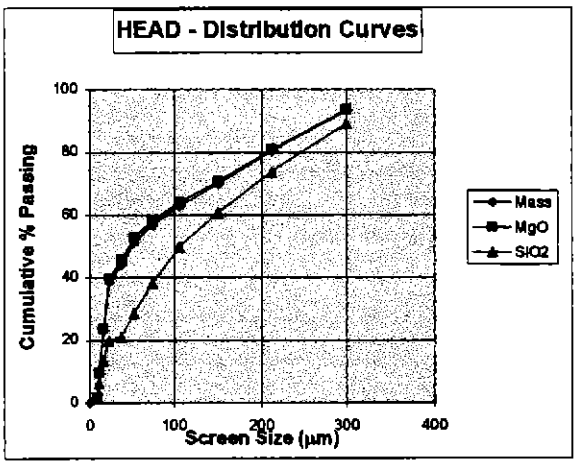
FIGURE 2: SIZE ANALYSES FOR COMPOSITE 2

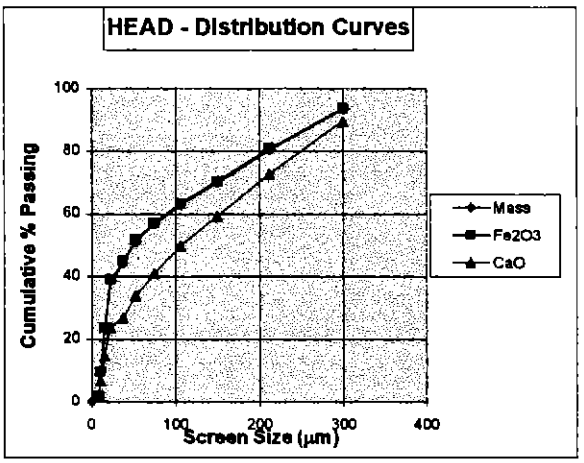
Milled to a P80 of 106μm.



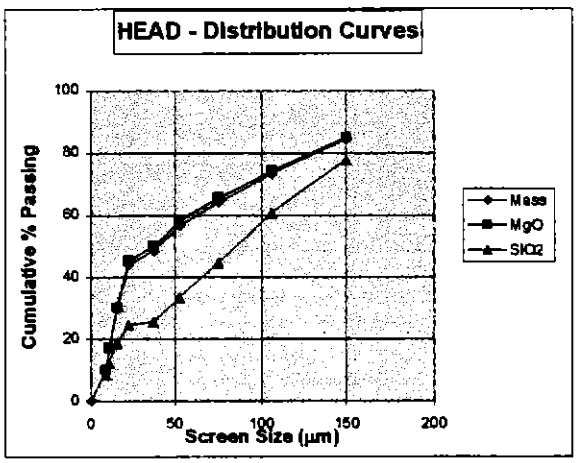


Milled to a P80 of 212μm.





Milled to a P100 of 212μm.



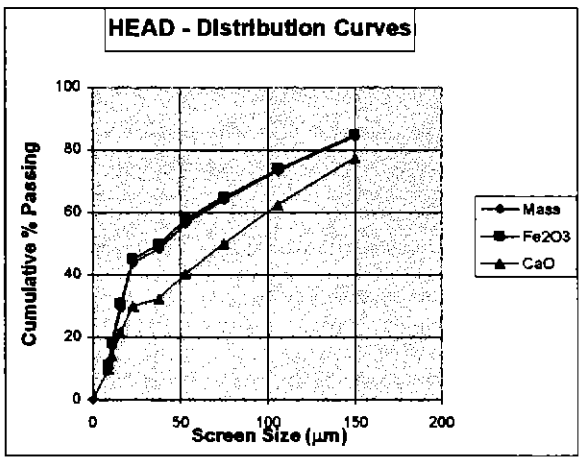


TABLE 3: SUMMARY OF FLOTATION RESULTS

Test No. RB-	Conditions	Quartz Concr.(objective: 95%SiO2 reject) Mass %	SiO_2 Grade %	SiO_2 Distribt. %	MgO Grade %	MgO Distribt. %	Magnesite Concr. (Silica tails) Mass %	SiO_2 Grade %	SiO_2 Distribt. %	MgO Grade %	MgO Distribt. %
	Composite # 1										
2041	P80=106µm, 600g/t K2C, 210g/t Starch, 600g/t FS2	38.5	7.8	97.6	41.9	37.3	61.5	0.12	2.4	44.2	62.7
2042	P80=212µm, 450g/t K2C, 210g/t Starch, 600g/t FS2	23.4	11.2	94.1	41.1	22.0	76.6	0.21	5.9	44.6	78.0
2046	P80=212µm, 450g/t K2C, 300g/t Starch, 800g/t FS2	36.0	7.0	93.7	42.8	35.0	64.0	0.26	6.3	44.6	65.0
2047	P80=212µm, 400g/t K2C, 300g/t Starch, 1000g/t HAL519	7.6	35.1	94.9	28.9	5.0	92.4	0.15	5.1	45.3	95.0
2048	P80=212µm, 450g/t K2C, 50g/t Quebr., 900g/t HAL519, 100g/t Sod Sil.	44.9	5.4	92.0	43.2	44.2	55.1	0.39	8.0	44.5	55.8
2059	P80=212µm, 200g/t K2C, 750g/t FS2, 100g/t Sod Sil.	22.5	12.2	96.2	39.9	20.7	77.5	0.14	3.8	44.6	79.3
2063	Rept. 2047	21.1	12.5	93.6	39.8	19.3	78.9	0.23	6.4	44.5	80.7
	Composite # 2										
2043	P80=106µm, 450g/t K2C, 210g/t Starch, 800g/t FS2	31.6	8.7	92.2	40.2	30.4	68.4	0.34	7.8	42.6	69.6
2044	P80=212µm, 450g/t K2C, 210g/t Starch, 800g/t FS2	26.0	11.3	95.7	39.2	24.4	74.0	0.18	4.3	42.5	75.6
2049	P80=212µm, 450g/t K2C, 300g/t Starch, 800g/t FS2	24.1	10.1	84.1	39.5	22.9	75.9	0.61	15.9	42.2	77.1
2050	P80=212µm, 400g/t K2C, 300g/t Starch, 800g/t HAL519	15.9	15.8	83.3	37.2	14.2	84.1	0.60	16.7	42.6	85.8
2051	P80=212µm, 450g/t K2C, 50g/t Quebr., 900g/t HAL519, 100g/t Sod Sil.	39.0	7.1	93.1	40.6	37.9	61.0	0.34	6.9	42.6	62.1
2060	P80=212µm, 450g/t K2C, 750g/t FS2, 100g/t Sod Sil.	9.1	28.8	87.7	31.8	6.9	90.9	0.00	12.3	42.7	93.1
2062	P80=106µm, 300g/t K2C, 750g/t FS2, 100g/t Sod Sil.	11.1	26.2	97.4	32.4	8.6	88.9	0.09	2.6	42.8	91.4

The following comments can be made about these results:

- The SiO_2 is successfully removed during the quartz prefloat.
- Subsequent MgO flotation was able to slightly increase the MgO grade, but at an unacceptably high loss of recovery.

Based on these results, each sample underwent bulk flotation to remove the quartz, yielding a magnesite product for further processing. These results are shown in Table 4:

TABLE 4: SUMMARY OF BULK FLOTATION TESTS

Composite Sample #:	Conditions	Quartz Concr.(objective: 95%SiO2 reject) Mass %	SiO_2 Grade %	SiO_2 Distribt. %	MgO Grade %	MgO Distribt. %	Magnesite Concr. (Silica tails) Mass %	SiO_2 Grade %	SiO_2 Distribt. %	MgO Grade %	MgO Distribt. %
1	P80=212µm, 200g/t K2C	13.8	18.4	98.3	37.1	11.7	86.2	0.05	1.7	44.8	88.3
2	P80=106µm, 300g/t K2C	18.6	16.2	99.2	36.9	16.5	81.4	0.03	0.8	42.9	83.5

The magnesite concentrates were subjected to an ICP scan, and these results are shown in Table 5:

TABLE 5: ICP SCAN OF MAGNESITE CONCENTRATE

Sample	Ag ppm	Al ppm	As ppm	Ba ppm	Be ppm	Bi ppm	Ca ppm	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe ppm
Comp 1	<3	<100	<10	<5	<2	<20	16777	<2	<5	<10	<5	4796
Comp 2	<3	<100	<10	<5	<2	<20	20606	<2	<5	16	<5	20808

Sample	Hf ppm	K ppm	Li ppm	Mg ppm	Mn ppm	Mo ppm	Na ppm	Nb ppm	Ni ppm	P ppm	Pb ppm	S ppm
Comp 1	<20	<500	<2	272038	427	<10	<50	<10	<10	<30	<20	51
Comp 2	<20	<500	<2	262626	889	<10	<50	<10	19	<30	<20	47

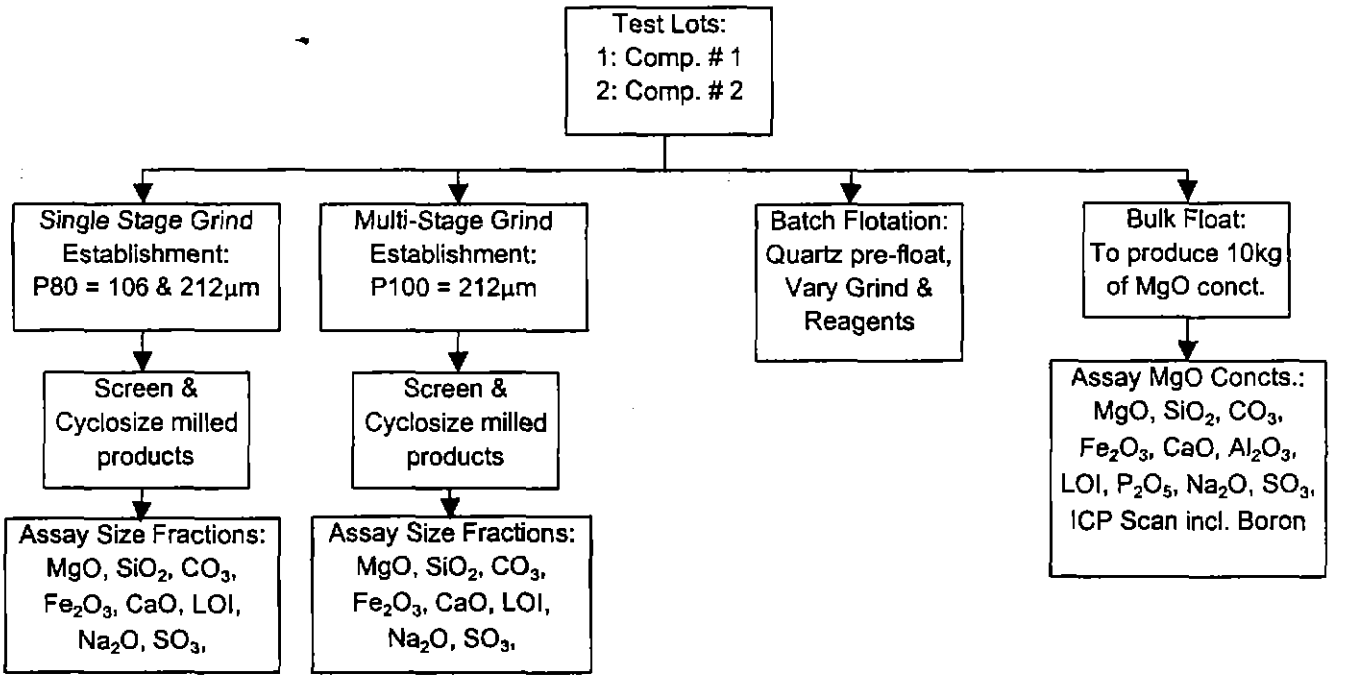
Sample	Sb ppm	Sc ppm	Se ppm	Sr ppm	Ta ppm	Te ppm	Th ppm	Ti ppm	U ppm	V ppm	Y ppm	Zn ppm
Comp 1	<10	<2	<10	12	<20	<10	<10	42	<100	<2	<2	32
Comp 2	<10	<2	<10	17	<20	<10	<10	14	<100	2	<2	58

Sample	P2O5 %	Na2O %	SO3 %	CO3 %	Zr ppm	B ppm
Comp 1	<0.01	<0.05	0.03	72	9	<20
Comp 2	<0.01	<0.05	0.03	67.5	<5	<20

1 INTRODUCTION

Mr Andrew Firek, representing Golden Triangle Resources, requested Oretest Pty Ltd to perform a number of flotation tests on two samples of magnesite ore from Main Creek, Tasmania. The testwork programme is shown in Figure 3:

FIGURE 3: TESTWORK PROGRAMME



The aim of the testwork was to produce magnesite concentrates for further processing.

All assays were conducted by Analabs of Welshpool, Western Australia using the following methods:

- MgO, SiO_2, Fe_2O_3, LOI, P_2O_5, Na_2O, SO_3 – in solids - XRF
- CO_3 in solids - Leco Combustion
- ICP Scan - ICP – AES
- Boron in solids - Sodium Peroxide / ICP-AES

Mineralogical examination was carried out by Dr. Natalia Streltsova of Oretest.

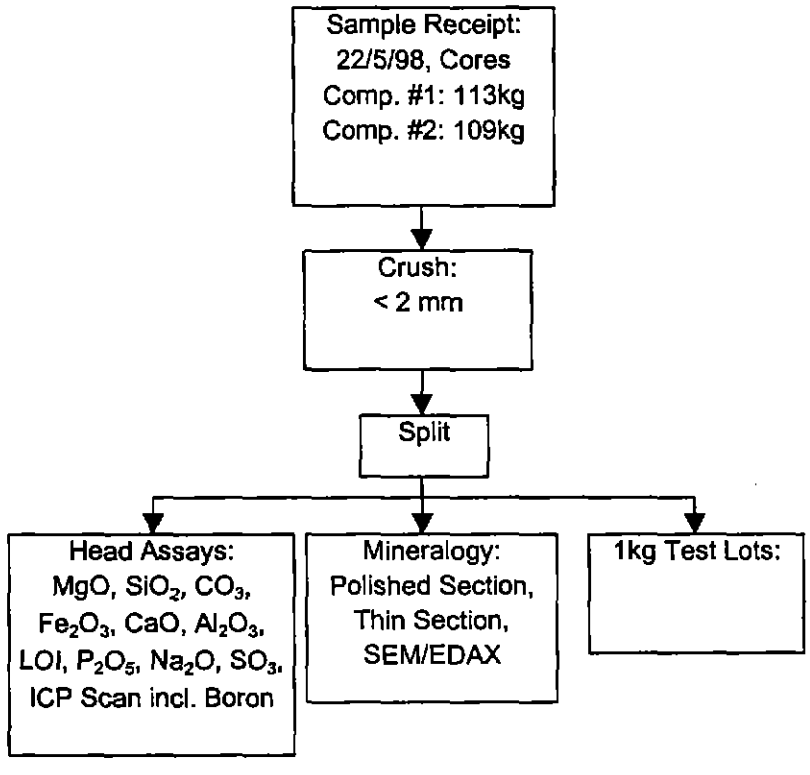
Sample preparation of solid samples was conducted at Oretest's laboratory sample preparation facility.

All tests were conducted in Perth tap water.

2 SAMPLES / SAMPLE PREPARATION

Two core samples, with a mass of approximately 100kg each, were delivered to Oretest on 22 May 1998. The samples were prepared according to the flowsheet shown in Figure 4:

FIGURE 4: SAMPLE PREPARATION



2.1 HEAD ASSAYS

The head assays and ICP scan of the two samples are shown in Tables 6 and 7 respectively:

At 30 June 1995, mining leases covered 128 sq km, or 0.2 per cent of the State, and the following exploration licenses (EL) and retention licenses (RL) were either pending or granted:

Lease Type	*Area (Km²)*	*% of State*
Metallic EL and RL	8,153	12
Non-metallic EL and RL	713	1
On-shore petroleum EL	3,478	5

During 1994-95, 15 Exploration Tender Areas were offered, and the resulting successful companies were given Exploration Licences. Companies submitted 157 exploration reports. These were indexed on the TASXPLOR database and incorporated into the division's collection, which totalled 4,467 reports at 30 June 1995. The reports are a valuable component to the geological and mineral knowledge of Tasmania. Microfilming of reports continued, and microfiche of all open-file reports are available.

Section Reports

Tasmanian Geological Survey

The Tasmanian Geological Survey is responsible for:

- Resource investigations and promotions;
- Engineering geology and groundwater;
- Geophysical services;
- Analytical services; and
- Petrology and mineralogy.

To achieve the objectives of this Section, the following activities are undertaken,

- Carrying out assessment of the earth resource potential of Tasmania.
- Provide advice and direct support to Government, industry and the general public on all geoscientific matters.
- Devise and implement projects and strategies to assist the development of mineral exploration and other industries in Tasmania.
- Collect, integrate, interpret, publish and present information on the geology, geophysics, geochemistry, earth resources and land stability of Tasmania.
- Promote and market the mineral resource potential of Tasmania.
- Regulate and monitor the progress of mineral exploration in Tasmania.
- Provide a repository and archival services for valuable geoscientific data, drill core, rock and mineral specimens.
- Provide essential support services for Section activities.

To achieve the outcomes of increased and more effective mineral investment in Tasmania, the Geological Survey is led so as to ensure :

TABLE 6 : HEAD ASSAYS

Sample	MgO %	SiO_2 %	Fe_2O_3 %	CaO %	Al_2O_3 %	LOI %	P_2O_5 %	Na_2O %	SO_3 %
Comp. 1	43.9	2.82	0.80	2.32	<0.05	50.1	<0.01	0.10	0.06
Comp. 2	42.0	3.03	3.31	2.80	<0.05	49.0	<0.01	0.09	0.06

TABLE 7 : ICP

Sample	Ag ppm	Al ppm	As ppm	Ba ppm	Be ppm	Bi ppm	Ca ppm	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe ppm
Comp 1	<3	<100	<10	<5	<2	<20	15486	<2	<5	<10	11	4970
Comp 2	<3	<100	<10	<5	<2	<20	18747	<2	<5	<10	6	20406

Sample	Hf ppm	K ppm	Li ppm	Mg ppm	Mn ppm	Mo ppm	Na ppm	Nb ppm	Ni ppm	P ppm	Pb ppm	S ppm
Comp 1	<20	<500	<2	294904	412	<10	<50	<10	<10	<30	<20	168
Comp 2	<20	<500	<2	278128	850	<10	<50	<10	<10	<30	<20	199

Sample	Sb ppm	Sc ppm	Se ppm	Sr ppm	Ta ppm	Te ppm	Th ppm	Ti ppm	U ppm	V ppm	Y ppm	Zn ppm
Comp 1	<10	<2	<10	11	<20	<10	<10	<10	<100	<2	<2	25
Comp 2	<10	<2	<10	15	<20	<10	<10	<10	<100	<2	<2	50

Sample	P2O5 %	Na2O %	SO3 %	CO3 %	Zr ppm	B ppm
Comp 1	<0.01	0.10	0.06	71.9	<5	<20
Comp 2	<0.02	0.09	0.06	68.0	<5	<20

2.2 MINERALOGY

The detailed mineralogical report is shown in Appendix 1. In summary, the following comments can be made:

- The major minerals in composite #1 are magnesite and dolomite.

- The major minerals in composite #2 are magnesite, dolomite and talc.
- Small quantities of quartz and pyrite were observed in both samples.
- The magnesite grains, in composite #1 are composed of smaller, rounded particles of 10 to 30μm diameter. This could be the reason for the production of fines during crushing and milling.
- The minerals in composite #2 are not as massive as those in composite #1.
- The magnesite grains observed in composite #2 have a variable composition, some containing iron-rich areas.

3 TESTWORK PROCEDURES AND RESULTS

3.1 PROCEDURES

The following standard procedures were utilised:

- Grind Establishment
- Screening and Size Assaying
- Batch Flotation

These procedures are presented in detail in Appendix 2.

3.2 RESULTS AND DISCUSSION

3.2.1 Grind Establishment

The two samples were extremely soft, returning milling times of approximately three minutes to achieve a P80 of 106µm. The mill rod inventory was reduced from 15 to 5 and the grind establishment repeated. The required milling times required to achieve a P80 of 106 and 212µm are shown in Table 8, while the detailed test data is shown in Tables 12 and 13 in Section 4.

TABLE 8: GRIND ESTABLISHMENT

	Milling Times (mins)	
Composite #	P80 = 106µm	P80 = 212µm
1	21.5	16.5
2	40.0	30.0

These results are indicative of extremely soft ores.

3.2.2 Size Analyses

Each sample was milled to a P80 of 106 and 212µm, and also stage milled to a P100 of 212µm. The products were screened and cyclosized, and the size fractions assayed. The detailed results may be found in Tables 14 to 19 in Section 4, while a graphical comparison may be found in Figures 5 and 6.

The following comments can be made about these results:

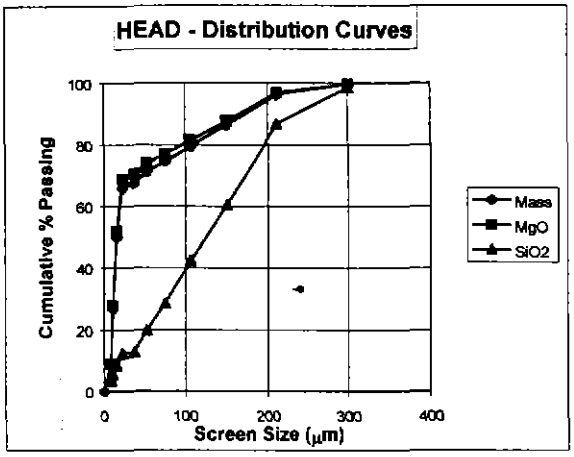
Composite #1:

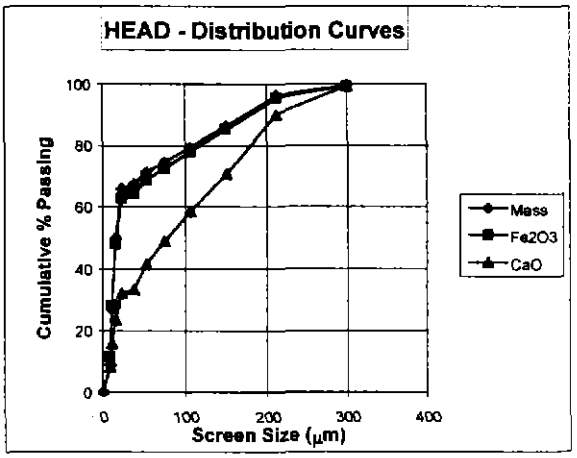
- This material readily breaks down to a size finer than 23µm. This is in agreement with the findings of the mineralogical examination.

- The MgO and Fe_2O_3 distributions closely follow the mass distribution, while the SiO_2 and CaO are concentrated in the coarser fractions.

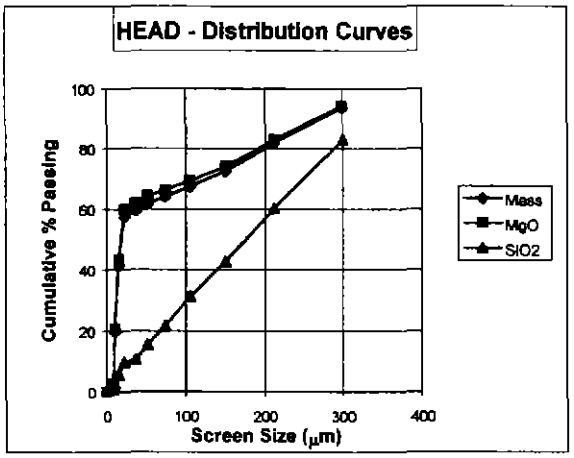
FIGURE 5: SIZE ANALYSES FOR COMPOSITE 1

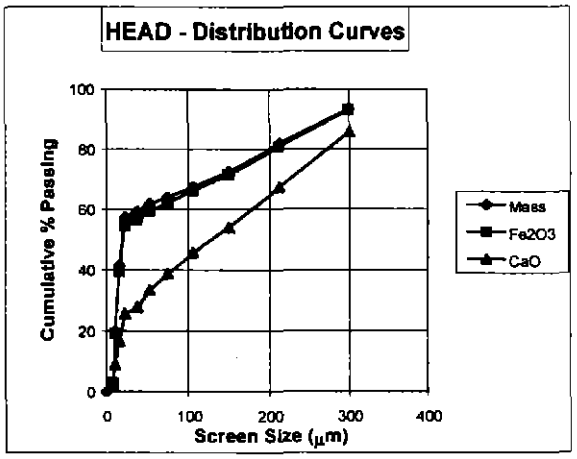
Milled to a P80 of 106μm.



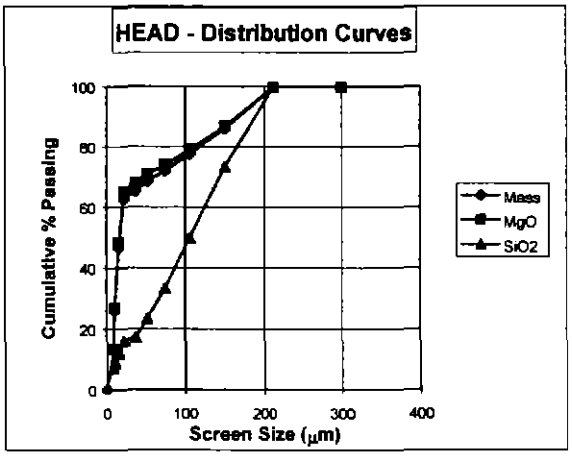


Milled to a P80 of 212μm.





Milled to a P100 of 212μm.



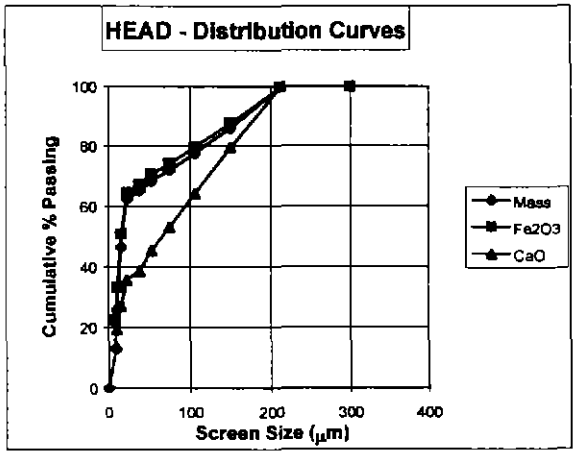
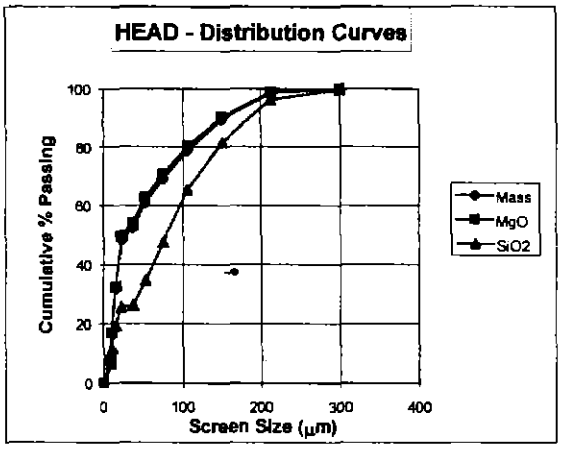
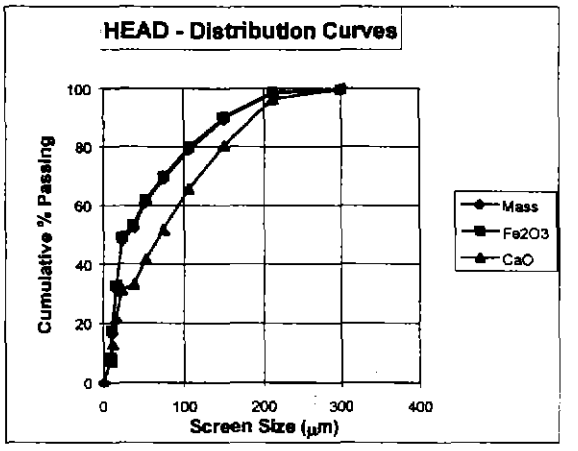


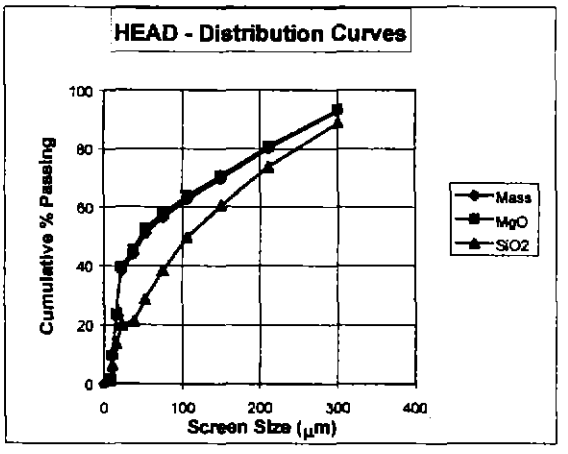
FIGURE 6: SIZE ANALYSES FOR COMPOSITE 2

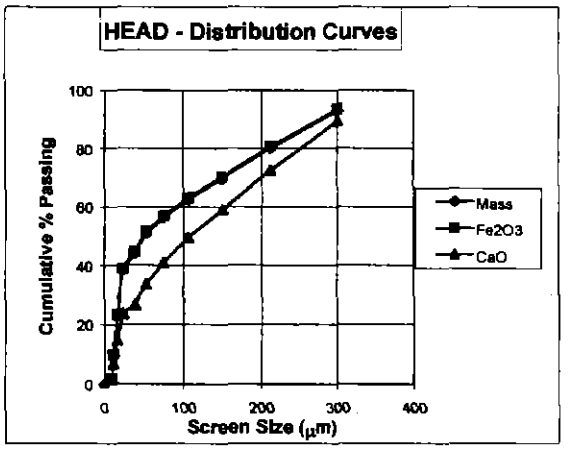
Milled to a P80 of 106μm.



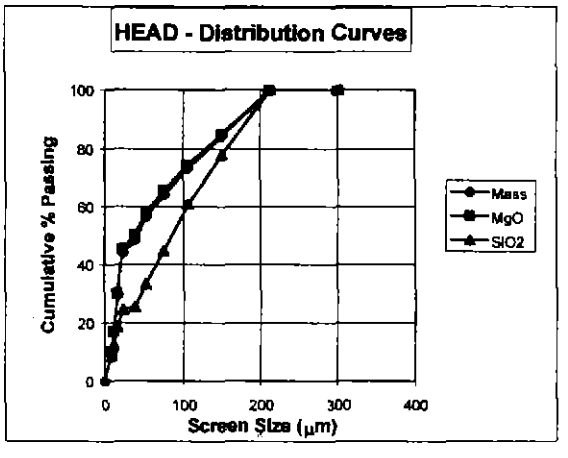


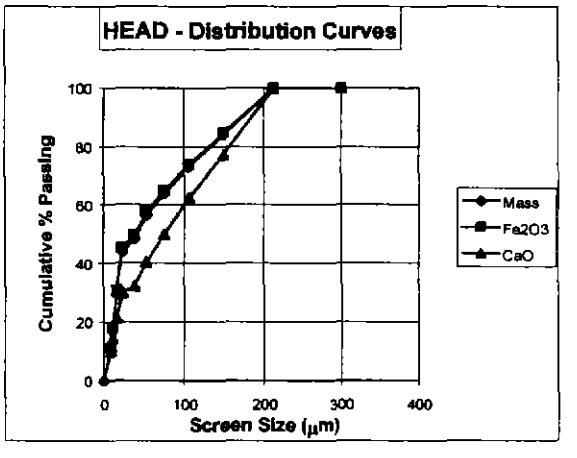
Milled to a P80 of 212μm.





Milled to a P100 of 212μm.





- The production of slimes is deleterious to flotation, and should therefore be avoided. Of the three grinds investigated, milling in a single stage to a P80 of 212µm produced the least slime.

Composite #2

- The mass distribution of the milled material is more evenly distributed than in Composite #1, but with a slight bias towards the fine (<23µm) and coarse (>75µm) fractions.

- The MgO and Fe_2O_3 distributions closely follow the mass distribution, while the SiO_2 and CaO are concentrated in the coarser fractions.

- Single stage milling to a P80 of 212µm produced the least slime of the three grinds investigated.

3.2.3 Batch Flotation

The detailed test data may be found in Tables 20 to 33 in Section 4, while the results are summarised in Table 9 below:

TABLE 9: SUMMARY OF FLOTATION RESULTS

		Quartz Concl.(objective: 95%SiO2 reject)					Magnesite Concl. (Silica tails)				
Test No. RB-	Conditions	Mass %	SiO_2 Grade %	SiO_2 Distribt. %	MgO Grade %	MgO Distribt. %	Mass %	SiO_2 Grade %	SiO_2 Distribt. %	MgO Grade %	MgO Distribt. %
	Composite # 1										
2041	P80=106µm, 600g/t K2C, 210g/t Starch, 600g/t FS2	38.5	7.8	97.6	41.9	37.3	61.5	0.12	2.4	44.2	62.7
2042	P80=212µm, 450g/t K2C, 210g/t Starch, 600g/t FS2	23.4	11.2	94.1	41.1	22.0	76.6	0.21	5.9	44.6	78.0
2046	P80=212µm, 450g/t K2C, 300g/t Starch, 800g/t FS2	36.0	7.0	93.7	42.8	35.0	64.0	0.26	6.3	44.6	65.0
2047	P80=212µm, 400g/t K2C, 300g/t Starch, 1000g/t HAL519	7.6	35.1	94.9	28.9	5.0	92.4	0.15	5.1	45.3	95.0
2048	P80=212µm, 450g/t K2C, 50g/t Quebr., 900g/t HAL519, 100g/t Sod Sil.	44.9	5.4	92.0	43.2	44.2	55.1	0.39	8.0	44.5	55.8
2059	P80=212µm, 200g/t K2C, 750g/t FS2, 100g/t Sod Sil.	22.5	12.2	96.2	39.9	20.7	77.5	0.14	3.8	44.6	79.3
2063	Rept. 2047	21.1	12.5	93.6	39.8	19.3	78.9	0.23	6.4	44.5	80.7
	Composite # 2										
2043	P80=106µm, 450g/t K2C, 210g/t Starch, 800g/t FS2	31.6	8.7	92.2	40.2	30.4	68.4	0.34	7.8	42.6	69.6
2044	P80=212µm, 450g/t K2C, 210g/t Starch, 800g/t FS2	26.0	11.3	95.7	39.2	24.4	74.0	0.18	4.3	42.5	75.6
2049	P80=212µm, 450g/t K2C, 300g/t Starch, 800g/t FS2	24.1	10.1	84.1	39.5	22.9	75.9	0.61	15.9	42.2	77.1
2050	P80=212µm, 400g/t K2C, 300g/t Starch, 800g/t HAL519	15.9	15.8	83.3	37.2	14.2	84.1	0.60	16.7	42.6	85.8
2051	P80=212µm, 450g/t K2C, 50g/t Quebr., 900g/t HAL519, 100g/t Sod Sil.	39.0	7.1	93.1	40.6	37.9	61.0	0.34	6.9	42.6	62.1
2060	P80=212µm, 450g/t K2C, 750g/t FS2, 100g/t Sod Sil.	9.1	28.8	87.7	31.8	6.9	90.9	0.00	12.3	42.7	93.1
2062	P80=106µm, 300g/t K2C, 750g/t FS2, 100g/t Sod Sil.	11.1	26.2	97.4	32.4	8.6	88.9	0.09	2.6	42.8	91.4

The following comments can be made about these results:

- The SiO_2 may be successfully separated from the magnesite during the quartz flotation stage.

- Attempts to further increase the grade of MgO were not successful, a slight increase in grade only being achieved at the cost of a large loss of recovery.

3.2.4 Bulk Flotation

The bulk MgO concentrates, required for further testwork, were obtained by repeating the selected batch floats until approximately 10kg of MgO concentrate was produced for each composite sample. The detailed test data is shown in Table 34 and 35 of Section 4, while a summary of the results obtained is shown in Table 10:

TABLE 10: SUMMARY OF BULK FLOTATION TESTS

Composite Sample #:	Conditions	Quartz Concl.(objective: 95%SiO2 reject)					Magnesite Concl. (Silica tails)				
		Mass %	SiO_2		MgO		Mass %	SiO_2		MgO	
			Grade %	Distribt. %	Grade %	Distribt. %		Grade %	Distribt. %	Grade %	Distribt. %
1	P80=212µm, 200g/t K2C	13.8	18.4	98.3	37.1	11.7	86.2	0.05	1.7	44.8	88.3
2	P80=106µm, 300g/t K2C	18.6	16.2	99.2	36.9	16.5	81.4	0.03	0.8	42.9	83.5

The magnesite concentrates underwent an ICP scan, yielding the results shown in Table 11:

TABLE 11: ICP SCAN OF MAGNESITE CONCENTRATE

Sample	Ag ppm	Al ppm	As ppm	Ba ppm	Be ppm	Bi ppm	Ca ppm	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe ppm
Comp 1	<3	<100	<10	<5	<2	<20	16777	<2	<5	<10	<5	4796
Comp 2	<3	<100	<10	<5	<2	<20	20606	<2	<5	16	<5	20808

Sample	Hf ppm	K ppm	Li ppm	Mg ppm	Mn ppm	Mo ppm	Na ppm	Nb ppm	Ni ppm	P ppm	Pb ppm	S ppm
Comp 1	<20	<500	<2	272038	427	<10	<50	<10	<10	<30	<20	51
Comp 2	<20	<500	<2	262626	889	<10	<50	<10	19	<30	<20	47

Sample	Sb ppm	Sc ppm	Se ppm	Sr ppm	Ta ppm	Te ppm	Th ppm	Ti ppm	U ppm	V ppm	Y ppm	Zn ppm
Comp 1	<10	<2	<10	12	<20	<10	<10	42	<100	<2	<2	32
Comp 2	<10	<2	<10	17	<20	<10	<10	14	<100	2	<2	58

Sample	P2O5 %	Na2O %	SO3 %	CO3 %	Zr ppm	B ppm
Comp 1	<0.01	<0.05	0.03	72	9	<20
Comp 2	<0.01	<0.05	0.03	67.5	<5	<20

3.3 COMMENTS AND CONCLUSIONS

The following comments can be made about the testwork performed:

- The two composite samples are extremely soft, and care needs to be taken to prevent overgrinding.
- Screening of the milled products reveals that the MgO and Fe_2O_3 distributions closely follow the mass distribution, while the SiO_2 and CaO are biased in favour of the coarser fractions.
- The major contaminants are SiO_2, CaO and Fe_2O_3.
- The SiO_2 can be successfully removed during flotation, however the close association of the dolomite and magnesite, and the fact that the iron is a component of the magnesite, means that the production of a magnesite concentrate low in CaO and Fe_2O_3 is unlikely.

4 DETAILED TEST DATA

Tables 12-13: Grind Establishment
Tables 14-17: Single Stage Milling and Screening
Tables 18-19: Multi-Stage Milling and Screening
Tables 20-33: Batch Flotation Tests
Tables 34-35: Bulk Flotation Tests

Table 12 Grind Establishment Results

Client	Golden Triangle
Job No	7740
Sample	Comp. #2
Date	26/05/98

Laboratory Rod Mill	
Charge Wt, g	1000
No of rods	5
% solids	50
Mill	Flot #2

Time/mins.	30		45	
Screen Size microns	Wt. Retained g	Cum Passing	Wt. Retained g	Cum Passing
212	196.30	80.4%	3.00	99.7%
150	105.9	69.8%	23.2	97.4%
106	69.6	62.8%	90.6	88.3%
-106	628.2		883.2	
Total	1000.0		1000.0	

Time mins	212 microns	106 microns
30	80.4%	62.8%
45	99.7%	88.3%

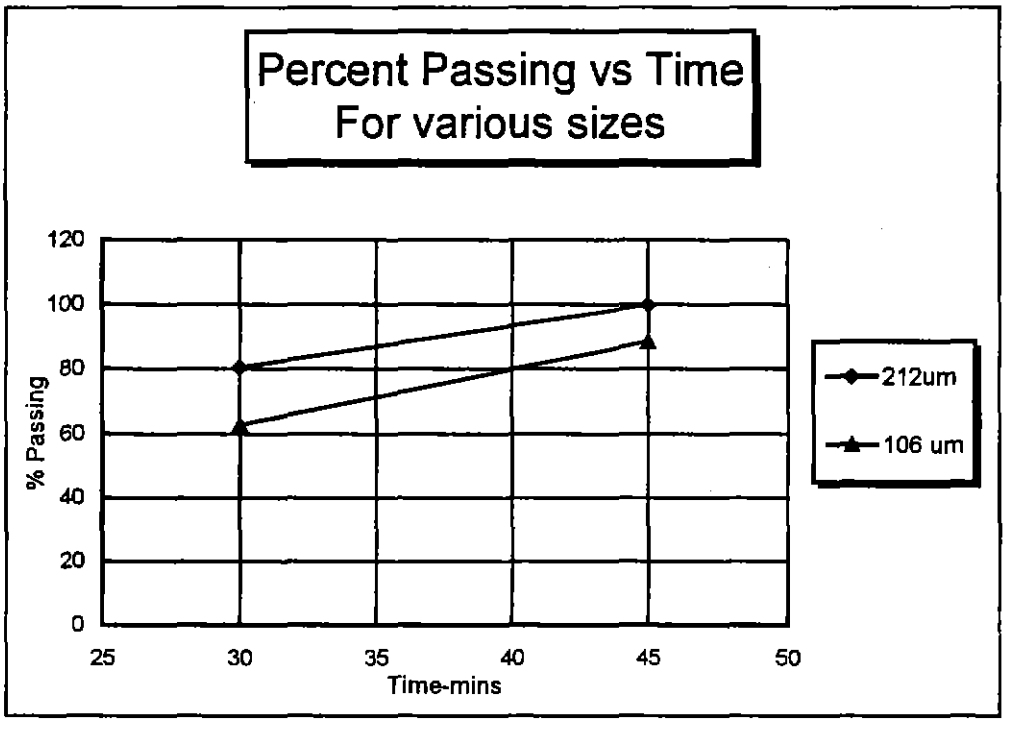


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Table 13 Grind Establishment Results

Client	Golden Triangle
Job No	7740
Sample	Comp. #1
Date	26/05/98

Laboratory Rod Mill	
Charge Wt, g	1000
No of rods	5
% solids	50
Mill	Flot #2

Time/mins.	10		22	
Screen Size microns	Wt. Retained g	Cum Passing	Wt. Retained g	Cum Passing
212	419.30	58.1%	25.20	97.5%
150	49.9	53.1%	84.9	89.0%
106	30.7	50.0%	72.6	81.7%
-106	500.1		817.3	
Total	1000.0		1000.0	

Time mins	212 microns	106 microns
10	58.1%	50.0%
22	97.5%	81.7%

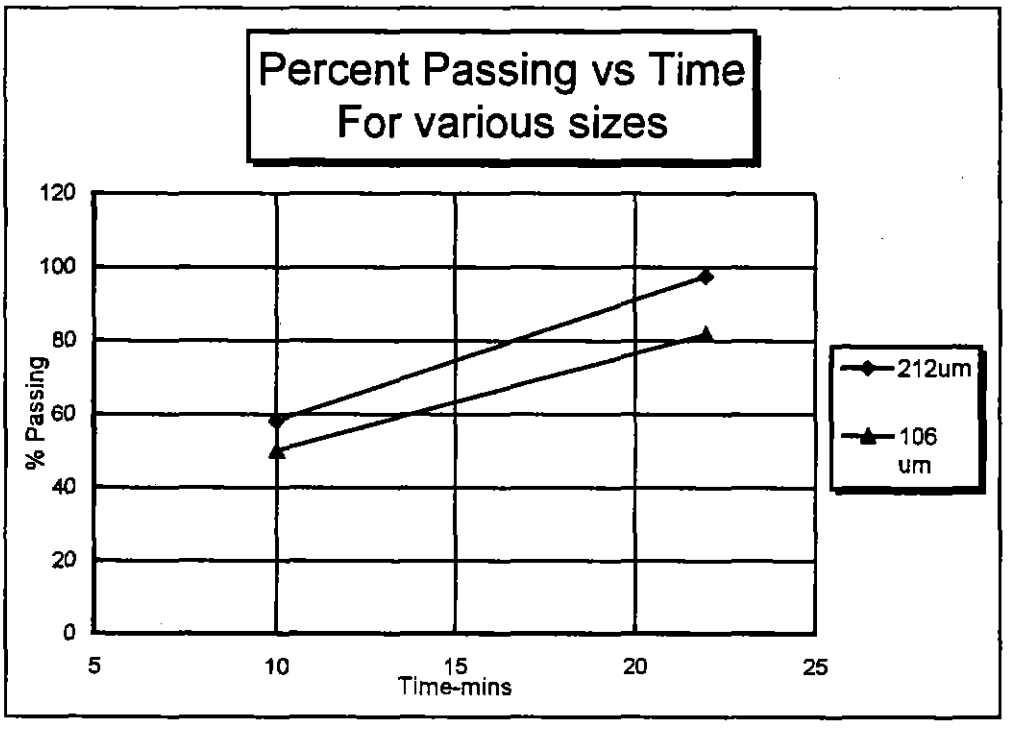

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TABLE 14A

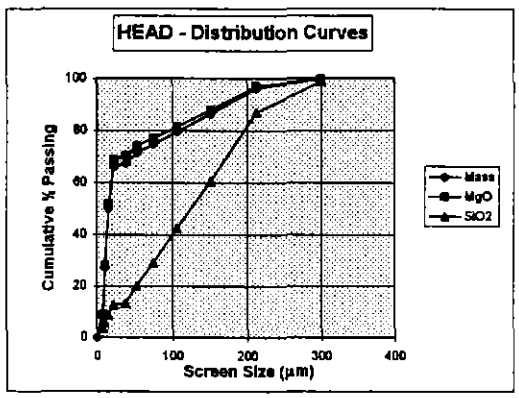
CLIENT NAME:	Golden Triangle
SAMPLE DESCRIPTION:	Composite #1: Milled to P80 = 106µm
JOB NUMBER:	7740
TEST NUMBER:	
DATE:	5/06/98

HEAD - SIZE AND METAL DISTRIBUTION ANALYSIS

SIZE (µm)	Weight		Cum. % Weight		MgO		Cum %	Cum. %	SiO_2		Cum %	Cum. %	Al_2O_3
	(g)	(%)	Passing	Retained	Assay (%)	Dist (%)	Passing Grade	MgO Passing	Assay (%)	Dist (%)	Passing Grade	SiO2 Passing	Assay %
300	3	0.3	99.7	0.3	36.1	0.2	43.6	99.8	13.0	1.3	2.8	98.7	0.14
212	34	3.4	96.4	3.6	37.0	2.8	43.8	96.9	9.9	11.9	2.5	86.9	<0.05
150	99	9.9	86.5	13.5	39.8	9.0	44.3	87.9	7.5	26.3	2.0	60.5	<0.05
106	71	7.1	79.4	20.6	40.1	6.5	44.7	81.4	7.2	18.2	1.5	42.3	<0.05
75	49	4.9	74.6	25.4	39.5	4.4	45.0	77.0	7.8	13.6	1.1	28.7	<0.05
53	32	3.2	71.3	28.7	40.0	3.0	45.2	74.0	7.6	8.8	0.8	19.9	<0.05
38	38	3.8	67.5	32.5	41.3	3.6	45.4	70.4	5.1	7.0	0.5	12.9	<0.05
23	16	1.6	66.0	34.0	45.3	1.6	45.4	68.8	0.8	0.4	0.5	12.5	<0.05
16	160	16.0	50.0	50.0	46.2	16.9	45.2	51.9	0.7	3.9	0.5	8.6	<0.05
11	229	22.9	27.1	72.9	45.6	24.0	44.9	27.9	0.4	2.9	0.6	5.6	<0.05
9	182	18.2	8.90	91.1	45.5	18.9	43.7	8.92	0.3	2.2	1.1	3.4	<0.05
0	89	8.9	0.00	100.0	43.7	8.92			1.1	3.4			0.10
Total	1,000	100.0			43.6	100.0			2.8	100.0			
Heads		100.0			43.9				2.82				

HEAD - SIZE AND METAL DISTRIBUTION ANALYSIS

SIZE (µm)	Weight		Cum. % Weight		Fe_2O_3		Cum %	Cum. %	CaO		Cum %	Cum. %	P_2O_5
	(g)	(%)	Passing	Retained	Assay (%)	Dist (%)	Passing Grade	Fe2O3 Passing	Assay (%)	Dist (%)	Passing Grade	CaO Passing	Assay %
300	3	0.3	99.7	0.3	1.67	0.6	0.76	99.4	5.1	0.6	2.20	99.4	<0.01
212	34	3.4	96.4	3.6	0.88	3.9	0.76	95.6	6.07	9.2	2.07	90.2	<0.01
150	99	9.9	86.5	13.5	0.79	10.2	0.75	85.3	4.3	19.2	1.81	70.9	<0.01
106	71	7.1	79.4	20.6	0.80	7.4	0.75	78.0	3.88	12.4	1.63	58.5	<0.01
75	49	4.9	74.6	25.4	0.85	5.4	0.74	72.6	4.35	9.6	1.45	48.9	<0.01
53	32	3.2	71.3	28.7	0.88	3.7	0.74	68.8	5.02	7.3	1.29	41.6	<0.01
38	38	3.8	67.5	32.5	0.88	4.4	0.73	64.4	4.69	8.1	1.09	33.5	<0.01
23	16	1.6	66.0	34.0	0.82	1.7	0.73	62.8	2.03	1.4	1.07	32.0	<0.01
16	160	16.0	50.0	50.0	0.71	14.9	0.73	47.9	1.16	8.4	1.04	23.6	<0.01
11	229	22.9	27.1	72.9	0.66	19.8	0.80	28.1	0.74	7.7	1.30	16.0	<0.01
9	182	18.2	8.9	91.1	0.70	16.6	0.99	11.5	0.94	7.7	2.04	8.2	<0.01
0	89	8.9	0.0	100.0	0.99	11.5			2.04	8.2			<0.01
Total	1,000	100.0			0.76	100.0			2.21	100.0			
Heads		100.0			0.80				2.3				



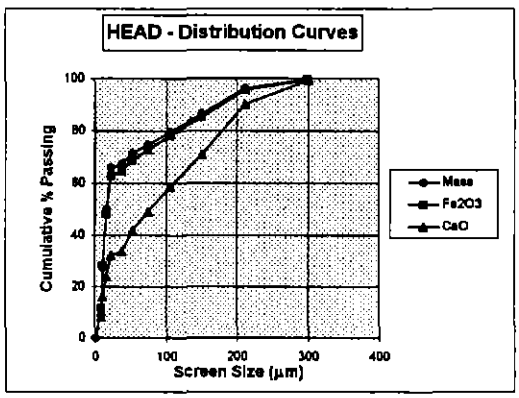


TABLE 14B

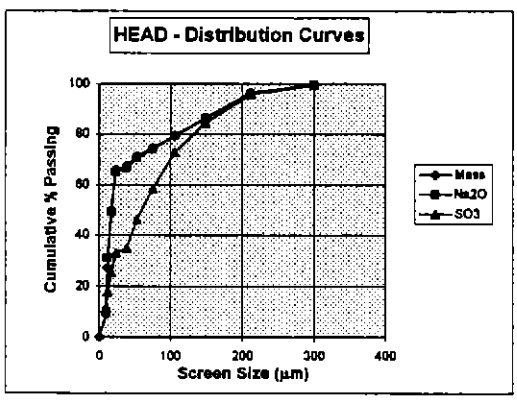
CLIENT NAME:	Golden Triangle
SAMPLE DESCRIPTION:	Composite #1: Milled to P80 = 106µm
JOB NUMBER:	7740
TEST NUMBER:	
DATE:	5/06/98

HEAD - SIZE AND METAL DISTRIBUTION ANALYSIS

SIZE (µm)	Weight		Cum. % Weight		Na_2O		Cum %	Cum. %	SO_3		Cum %	Cum. %
	(g)	(%)	Passing	Retained	Assay (%)	Dist (%)	Passing Grade	Na2O Passing	Assay (%)	Dist (%)	Passing Grade	SO3 Passing
300	3	0.3	99.7	0.3	0.14	0.4	0.10	99.6	0.12	0.5	0.06	99.5
212	34	3.4	96.4	3.6	0.11	3.6	0.10	96.0	0.07	3.8	0.06	95.6
150	99	9.9	86.5	13.5	0.10	9.7	0.10	86.3	0.07	11.4	0.06	84.3
106	71	7.1	79.4	20.6	0.10	7.0	0.10	79.3	0.10	11.6	0.06	72.7
75	49	4.9	74.6	25.4	0.11	5.3	0.10	74.1	0.18	14.4	0.05	58.3
53	32	3.2	71.3	28.7	0.11	3.5	0.10	70.6	0.23	12.2	0.04	46.1
38	38	3.8	67.5	32.5	0.11	4.1	0.10	66.4	0.18	11.3	0.03	34.8
23	16	1.6	66.0	34.0	0.10	1.5	0.10	64.9	0.07	1.8	0.03	33.0
16	160	16.0	50.0	50.0	0.10	15.7	0.10	49.1	0.03	7.9	0.03	25.2
11	229	22.9	27.1	72.9	0.08	18.0	0.12	31.1	0.02	7.5	0.04	17.6
9	182	18.2	8.90	91.1	0.12	21.4	0.11	9.64	0.02	6.0	0.08	11.7
0	89	8.9	0.00	100.0	0.11	9.64			0.08	11.7		
Total	1,000	100.0			0.10	100.0			0.06	100.0		
Heads		100.0			0.1				0.06			

HEAD - SIZE AND METAL DISTRIBUTION ANALYSIS

SIZE (µm)	Weight		Cum. % Weight		LOI		Cum %	Cum. %	CO_3		Cum %	Cum. %
	(g)	(%)	Passing	Retained	Assay (%)	Dist (%)	Passing Grade	LOI Passing	Assay (%)	Dist (%)	Passing Grade	CO3 Passing
300	3	0.3	99.7	0.3	45.0	0.2	50.06	99.8	65.0	0.3	67.87	99.7
212	34	3.4	96.4	3.6	45.6	3.1	50.22	96.7	63.0	3.1	68.04	96.6
150	99	9.9	86.5	13.5	47.3	9.3	50.55	87.4	63.3	9.2	68.58	87.4
106	71	7.1	79.4	20.6	47.4	6.7	50.83	80.7	65.9	6.9	68.82	80.6
75	49	4.9	74.6	25.4	46.9	4.6	51.09	76.1	66.7	4.8	68.96	75.8
53	32	3.2	71.3	28.7	46.9	3.0	51.27	73.1	61.7	2.9	69.28	72.8
38	38	3.8	67.5	32.5	48.2	3.7	51.45	69.4	67.8	3.8	69.37	69.0
23	16	1.6	66.0	34.0	49.0	1.5	51.50	67.9	69.0	1.6	69.38	67.4
16	160	16.0	50.0	50.0	51.4	16.4	51.55	51.5	69.7	16.4	69.27	51.0
11	229	22.9	27.1	72.9	51.7	23.6	51.47	27.8	68.1	23.0	70.27	28.0
9	182	18.2	8.9	91.1	51.7	18.7	51.07	9.1	70.3	18.8	70.20	9.2
0	89	8.9	0.0	100.0	51.1	9.1			70.2	9.2		
Total	1,000	100.0			50.0	100.0			67.9	100.0		
Heads		100.0			50.1				71.9			



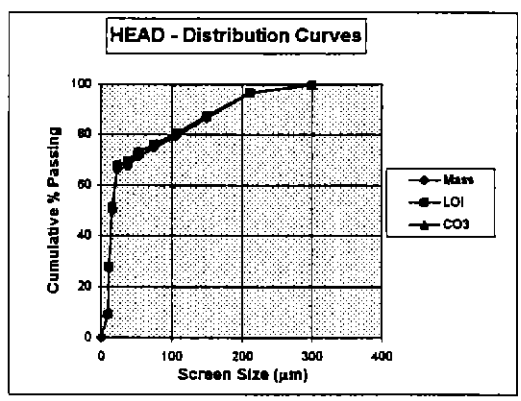


TABLE 15A

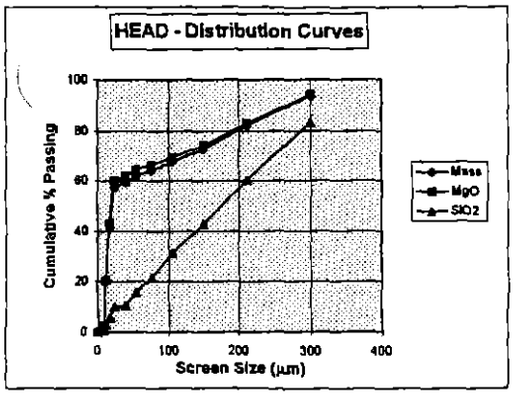
CLIENT NAME:	Golden Triangle
SAMPLE DESCRIPTION:	Composite #1: Milled to P80 = 212µm
JOB NUMBER:	7740
TEST NUMBER:	
DATE:	5/06/98

HEAD - SIZE AND METAL DISTRIBUTION ANALYSIS

SIZE	Weight		Cum. % Weight		MgO		Cum %	Cum. %	SiO_2		Cum %	Cum. %	Al_2O_3
(µm)	(g)	(%)	Passing	Retained	Assay (%)	Dist (%)	Passing Grade	MgO Passing	Assay (ppm)	Dist (%)	Passing Grade	SiO2 Passing	Assay %
300	64	6.4	93.6	6.4	39.7	5.7	44.3	94.3	7.22	16.9	2.42	83.1	<005
212	117	11.7	81.9	18.1	42.1	11.2	44.6	83.0	5.30	22.8	2.00	60.3	<0.05
150	93	9.3	72.6	27.4	41.9	8.9	44.9	74.2	5.15	17.6	1.60	42.7	<0.05
106	52	5.2	67.5	32.5	41.1	4.8	45.2	69.4	6.06	11.5	1.26	31.2	<0.05
75	35	3.4	64.0	36.0	39.6	3.1	45.5	66.3	7.60	9.6	0.92	21.6	<0.05
53	22	2.2	61.8	38.2	39.8	2.0	45.7	64.2	7.45	6.1	0.68	15.5	<0.05
38	24	2.4	59.4	40.6	40.2	2.2	45.9	62.0	5.38	4.8	0.49	10.7	<0.05
23	20	2.0	57.3	42.7	45.2	2.1	46.0	59.9	0.97	0.7	0.47	10.0	<0.05
16	159	15.9	41.4	58.6	46.1	16.7	45.9	43.3	0.72	4.2	0.38	5.8	<0.05
11	215	21.5	19.9	80.1	46.4	22.7	45.3	20.5	0.36	2.8	0.40	2.9	<0.05
9	174	17.4	2.5	97.5	45.6	18.0	43.8	2.5	0.34	2.2	0.79	0.7	<0.05
0	25	2.5	0.0	100.0	43.8	2.5	0.0	0.0	0.79	0.7	0.00	0.0	0.05
Total	1,000	100.0			44.0	100.0			2.72	100.0			
Heads		100.0			43.9				2.82				

HEAD - SIZE AND METAL DISTRIBUTION ANALYSIS

SIZE	Weight		Cum. % Weight		Fe_2O_3		Cum %	Cum. %	CaO		Cum %	Cum. %	P_2O_5
(µm)	(g)	(%)	Passing	Retained	Assay (%)	Dist (%)	Passing Grade	Fe2O3 Passing	Assay (%)	Dist (%)	Passing Grade	CaO Passing	Assay %
300	64	6.4	93.6	6.4	0.82	7.0	0.74	93.0	4.82	14.2	1.98	85.8	<0.01
212	117	11.7	81.9	18.1	0.78	12.2	0.74	80.8	3.42	18.5	1.78	67.3	<0.01
150	93	9.3	72.6	27.4	0.75	9.3	0.74	71.5	3.10	13.3	1.61	54.0	<0.01
106	52	5.2	67.5	32.5	0.79	5.4	0.73	66.1	3.51	8.4	1.46	45.6	<0.01
75	35	3.4	64.0	36.0	0.85	3.9	0.73	62.2	4.37	7.0	1.31	38.7	<0.01
53	22	2.2	61.8	38.2	0.95	2.8	0.72	59.4	5.20	5.3	1.17	33.4	<0.01
38	24	2.4	59.4	40.6	0.87	2.8	0.71	56.5	5.04	5.7	1.01	27.7	<0.01
23	20	2.0	57.3	42.7	0.82	2.2	0.71	54.3	2.34	2.2	0.96	25.5	<0.01
16	159	15.9	41.4	58.6	0.70	14.8	0.71	39.5	1.20	8.8	0.87	16.7	<0.01
11	215	21.5	19.9	80.1	0.71	20.4	0.72	19.0	0.76	7.6	0.99	9.1	<0.01
9	174	17.4	2.5	97.5	0.70	16.3	0.83	2.8	0.90	7.2	1.62	1.9	<0.01
0	25	2.5	0.0	100.0	0.83	2.8			1.62	1.9			<0.01
Total	1,000	100.0			0.75	100.0			2.16	100.0			
Heads		100.0			0.80				2.30				



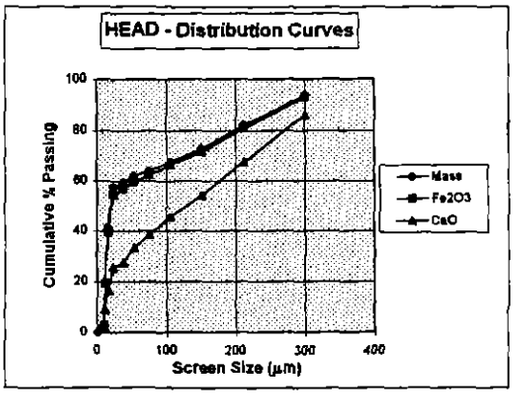


TABLE 15B

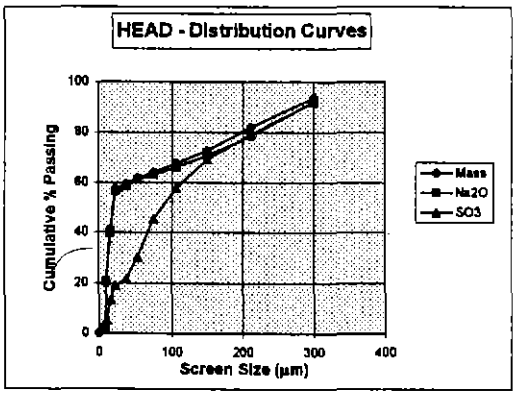
CLIENT NAME:	Golden Triangle
SAMPLE DESCRIPTION:	Composite #1: Milled to P80 = 212µm
JOB NUMBER:	7740
TEST NUMBER:	
DATE:	5/06/98

HEAD - SIZE AND METAL DISTRIBUTION ANALYSIS

SIZE (µm)	Weight		Cum. % Weight		Na2O		Cum % Passing Grade	Cum. % Na2O Passing	SO3		Cum % Passing Grade	Cum. % SO3 Passing
	(g)	(%)	Passing	Retained	Assay (%)	Dist (%)			Assay (ppm)	Dist (%)		
300	64	6.4	93.6	6.4	0.13	8.0	0.1	92.0	0.07	8.1	0.05	91.9
212	117	11.7	81.9	18.1	0.12	13.6	0.1	78.5	0.06	12.8	0.05	79.1
150	93	9.3	72.6	27.4	0.09	8.0	0.1	70.4	0.06	10.2	0.05	68.9
106	52	5.2	67.5	32.5	0.09	4.5	0.1	66.0	0.12	11.3	0.05	57.6
75	35	3.4	64.0	36.0	0.09	3.0	0.1	63.0	0.20	12.6	0.04	45.1
53	22	2.2	61.8	38.2	0.10	2.1	0.1	60.8	0.37	15.0	0.03	30.1
38	24	2.4	59.4	40.6	0.10	2.3	0.1	58.5	0.19	8.4	0.02	21.7
23	20	2.0	57.3	42.7	0.11	2.1	0.1	56.3	0.07	2.6	0.02	19.1
16	159	15.9	41.4	58.6	0.11	16.8	0.1	39.5	0.02	5.8	0.02	13.3
11	215	21.5	19.9	80.1	0.09	18.7	0.1	20.9	0.02	7.8	0.02	5.4
9	174	17.4	2.5	97.5	0.11	18.4	0.1	2.4	0.01	3.2	0.05	2.3
0	25	2.5	0.0	100.0	0.10	2.4			0.05	2.3		
Total	1,000	100.0			0.10	100.0			0.05	100.0		
Heads		100.0			0.10				0.06			

HEAD - SIZE AND METAL DISTRIBUTION ANALYSIS

SIZE (µm)	Weight		Cum. % Weight		LOI		Cum % Passing Grade	Cum. % LOI Passing	CO3		Cum % Passing Grade	Cum. % CO3 Passing
	(g)	(%)	Passing	Retained	Assay (%)	Dist (%)			Assay (%)	Dist (%)		
300	64	6.4	93.6	6.4	47.2	6.0	50.3	94.0	72.2	6.9	65.9	93.1
212	117	11.7	81.9	18.1	48.5	11.3	50.6	82.7	70.0	12.4	65.3	80.7
150	93	9.3	72.6	27.4	48.6	9.0	50.9	73.7	64.2	9.0	65.5	71.7
106	52	5.2	67.5	32.5	48.0	4.9	51.1	68.7	63.7	5.0	65.6	66.8
75	35	3.4	64.0	36.0	47.0	3.2	51.3	65.5	66.0	3.4	65.6	63.3
53	22	2.2	61.8	38.2	47.1	2.1	51.4	63.4	67.0	2.2	65.6	61.1
38	24	2.4	59.4	40.6	48.1	2.3	51.6	61.1	62.6	2.3	65.7	58.8
23	20	2.0	57.3	42.7	51.0	2.1	51.6	59.0	63.0	1.9	65.8	56.9
16	159	15.9	41.4	58.6	51.3	16.3	51.7	42.7	61.2	14.7	67.5	42.2
11	215	21.5	19.9	80.1	51.7	22.2	51.7	20.6	66.5	21.6	68.7	20.6
9	174	17.4	2.5	97.5	51.7	18.0	52.0	2.6	68.6	18.0	69.0	2.6
0	25	2.5	0.0	100.0	52.0	2.6			69.0	2.6		
Total	1,000	100.0			50.1	100.0			66.3	100.0		
Heads		100.0			50.1				71.9			



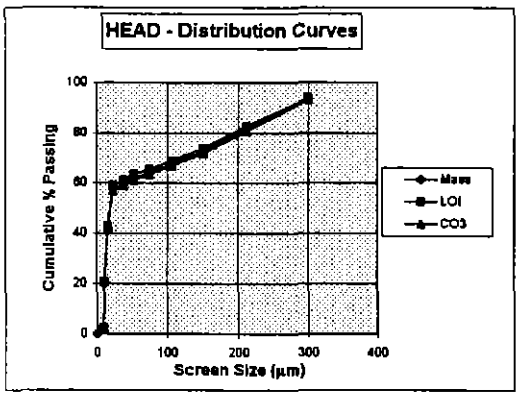


TABLE 16A

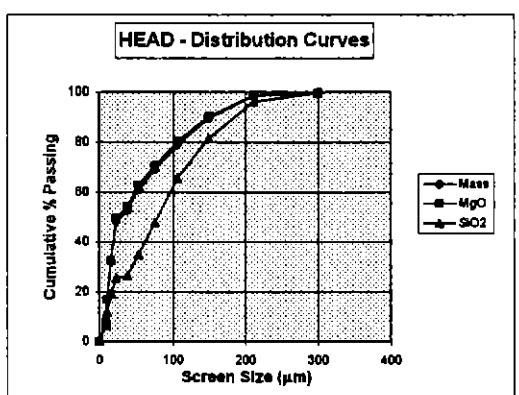
CLIENT NAME:	Golden Triangle
SAMPLE DESCRIPTION:	Composite #2: Milled to P80 = 106µm
JOB NUMBER:	7740
TEST NUMBER:	
DATE:	5/06/98

HEAD - SIZE AND METAL DISTRIBUTION ANALYSIS

SIZE (µm)	Weight		Cum. % Weight		MgO		Cum % Passing Grade	Cum. % MgO Passing	SiO2		Cum % Passing Grade	Cum. % SiO2 Passing
	(g)	(%)	Passing	Retained	Assay (%)	Dist (%)			Assay (ppm)	Dist (%)		
300	1	0.1	99.9	0.1	38.7	0.1	41.8	99.9	8.36	0.4	3.01	99.6
212	13	1.3	98.5	1.5	36.6	1.2	41.8	98.7	7.88	3.5	2.94	96.2
150	90	9.0	89.6	10.4	39.6	8.5	42.0	90.2	4.88	14.5	2.75	81.6
106	104	10.4	79.2	20.8	40.0	9.9	42.3	80.3	4.70	16.2	2.49	65.5
75	101	10.1	69.1	30.9	39.8	9.6	42.7	70.7	5.33	17.8	2.08	47.6
53	80	8.0	61.1	38.9	41.1	7.9	42.9	62.7	4.86	13.0	1.71	34.6
38	86	8.6	52.5	47.5	42.5	8.7	43.0	54.0	2.98	8.5	1.50	26.2
23	42	4.2	48.3	51.7	44.2	4.4	42.9	49.6	0.47	0.7	1.59	25.5
16	165	16.5	31.8	68.2	43.6	17.3	42.5	32.3	1.18	6.5	1.80	19.0
11	150	15.0	16.8	83.3	42.7	15.4	42.2	16.9	1.47	7.3	2.11	11.7
9	90	9.0	7.7	92.3	42.8	9.2	41.6	7.7	1.75	5.2	2.52	6.5
0	77	7.7	0.0	100.0	41.6	7.7	0.0	0.0	2.52	6.5	0.00	0.0
Total	1,000	100.0			41.8	100.0			3.01	100.0		
Heads		100.0			42.0				3.03			

HEAD - SIZE AND METAL DISTRIBUTION ANALYSIS

SIZE (µm)	Weight		Cum. % Weight		Fe_2O_3		Cum % Passing Grade	Cum. % Fe2O3 Passing	CaO		Cum % Passing Grade	Cum. % CaO Passing
	(g)	(%)	Passing	Retained	Assay (%)	Dist (%)			Assay (%)	Dist (%)		
300	1	0.1	99.9	0.1	3.61	0.2	3.25	99.8	3.7	0.2	2.7	99.8
212	13	1.3	98.5	1.5	2.79	1.1	3.25	98.7	6.9	3.4	2.6	96.5
150	90	9.0	89.6	10.4	3.10	8.6	3.27	90.2	4.8	15.9	2.4	80.6
106	104	10.4	79.2	20.8	3.21	10.3	3.28	79.9	3.9	14.8	2.2	65.7
75	101	10.1	69.1	30.9	3.23	10.0	3.28	69.9	3.7	13.9	2.0	51.8
53	80	8.0	61.1	38.9	3.26	8.1	3.29	61.8	3.4	10.1	1.8	41.7
38	86	8.6	52.5	47.5	3.19	8.4	3.30	53.4	2.7	8.4	1.7	33.3
23	42	4.2	48.3	51.7	3.35	4.3	3.30	49.1	1.3	2.0	1.8	31.3
16	165	16.5	31.8	68.2	3.26	16.6	3.32	32.5	1.6	9.6	1.9	21.8
11	150	15.0	16.8	83.3	3.26	15.1	3.37	17.4	1.6	8.7	2.1	13.1
9	90	9.0	7.7	92.3	3.35	9.3	3.40	8.1	1.8	5.9	2.5	7.2
0	77	7.7	0.0	100.0	3.40	8.1			2.5	7.2		
Total	1,000	100.0			3.25	100.0			2.7	100.0		
Heads		100.0			3.31				2.8			



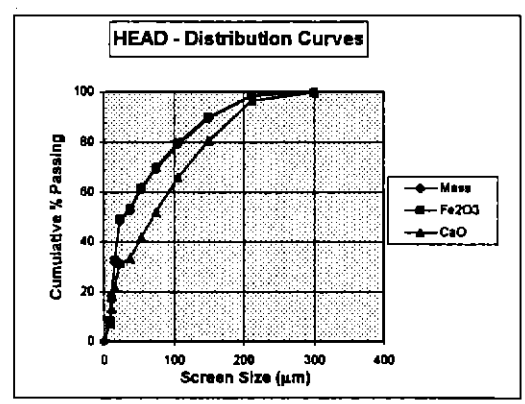


TABLE 16B

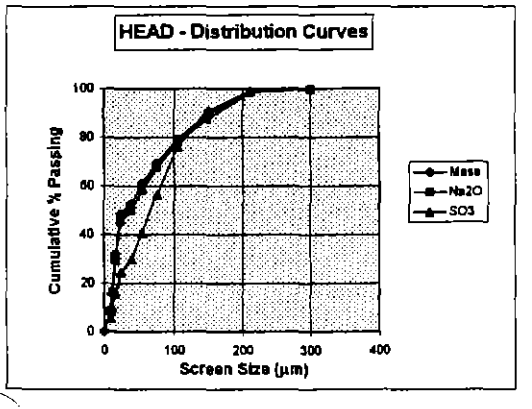
CLIENT NAME:	Golden Triangle
SAMPLE DESCRIPTION:	Composite #2: Milled to P80 = 106µm
JOB NUMBER:	7740
TEST NUMBER:	
DATE:	5/06/98

HEAD - SIZE AND METAL DISTRIBUTION ANALYSIS

SIZE (µm)	Weight		Cum. % Weight		Na2O		Cum % Passing Grade	Cum. % Na2O Passing	SO3		Cum % Passing Grade	Cum. % SO3 Passing
	(g)	(%)	Passing	Retained	Assay (%)	Dist (%)			Assay (ppm)	Dist (%)		
300	1	0.1	99.9	0.1	0.09	0.1	0.09	99.9	0.05	0.1	0.06	99.9
212	13	1.3	98.5	1.5	0.11	1.6	0.09	98.3	0.04	0.9	0.06	98.9
150	90	9.0	89.6	10.4	0.11	10.7	0.09	87.6	0.05	8.0	0.06	90.9
106	104	10.4	79.2	20.8	0.09	10.1	0.09	77.5	0.08	14.8	0.05	76.1
75	101	10.1	69.1	30.9	0.09	9.8	0.09	67.7	0.11	19.8	0.05	56.3
53	80	8.0	61.1	38.9	0.11	9.6	0.09	58.1	0.11	15.8	0.04	40.5
38	86	8.6	52.5	47.5	0.09	8.3	0.09	49.8	0.07	10.7	0.03	29.8
23	42	4.2	48.3	51.7	0.10	4.5	0.09	45.3	0.07	5.2	0.03	24.6
16	165	16.5	31.8	68.2	0.09	16.1	0.08	29.2	0.03	8.9	0.03	15.7
11	150	15.0	16.8	83.3	0.08	13.0	0.09	16.2	0.02	5.4	0.03	10.4
9	90	9.0	7.7	92.3	0.08	7.8	0.10	8.4	0.03	4.8	0.04	5.5
0	77	7.7	0.0	100.0	0.10	8.4			0.04	5.5		
Total	1,000	100.0			0.09	100.0			0.06	100.0		
Heads		100.0			0.09				0.06			

HEAD - SIZE AND METAL DISTRIBUTION ANALYSIS

SIZE (µm)	Weight		Cum. % Weight		LOI		Cum % Passing Grade	Cum. % LOI Passing	CO3		Cum % Passing Grade	Cum. % CO3 Passing
	(g)	(%)	Passing	Retained	Assay (%)	Dist (%)			Assay (%)	Dist (%)		
300	1	0.1	99.9	0.1	45.8	0.1	49.0	99.9	63.5	0.1	69.5	99.9
212	13	1.3	98.5	1.5	45.9	1.2	49.1	98.6	63.4	1.2	69.6	98.7
150	90	9.0	89.6	10.4	47.7	8.7	49.2	89.9	66.9	8.6	69.8	90.0
106	104	10.4	79.2	20.8	48.0	10.2	49.4	79.7	68.3	10.2	70.0	79.8
75	101	10.1	69.1	30.9	47.6	9.8	49.6	70.0	69.3	10.1	70.2	69.8
53	80	8.0	61.1	38.9	48.0	7.9	49.8	62.1	63.1	7.3	71.1	62.5
38	86	8.6	52.5	47.5	49.0	8.6	50.0	53.5	66.4	8.2	71.9	54.3
23	42	4.2	48.3	51.7	50.6	4.3	49.9	49.2	64.2	3.9	72.5	50.4
16	165	16.5	31.8	68.2	50.2	16.9	49.7	32.3	70.9	16.9	73.3	33.6
11	150	15.0	16.8	83.3	50.0	15.3	49.5	16.9	72.3	15.6	74.3	17.9
9	90	9.0	7.7	92.3	49.8	9.2	49.2	7.8	74.2	9.6	74.4	8.3
0	77	7.7	0.0	100.0	49.2	7.8		0.0	74.4	8.3		0.0
Total	1,000	100.0			49.0	100.0			69.5	100.0		
Heads		100.0			49.0				68.0			



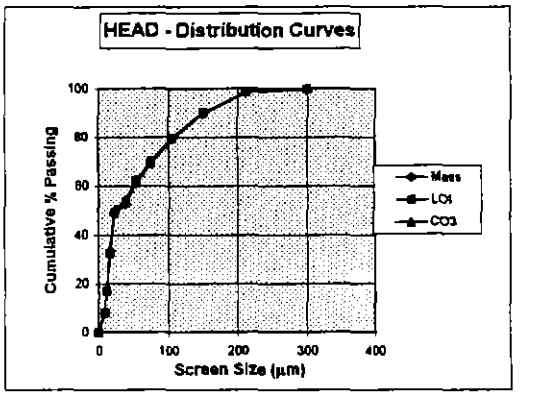


TABLE 17A

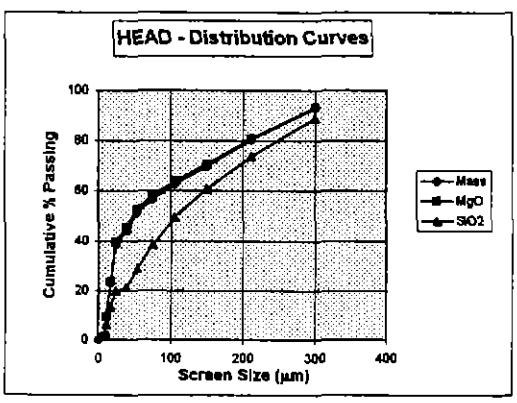
CLIENT NAME:	Golden Triangle
SAMPLE DESCRIPTION:	Composite #2: Milled to P80 = 212µm
JOB NUMBER:	7740
TEST NUMBER:	
DATE:	5/06/98

HEAD - SIZE AND METAL DISTRIBUTION ANALYSIS

SIZE (µm)	Weight		Cum. % Weight		MgO		Cum % Passing Grade	Cum. % MgO Passing	SiO2		Cum % Passing Grade	Cum. % SiO2 Passing
	(g)	(%)	Passing	Retained	Assay (%)	Dist (%)			Assay (ppm)	Dist (%)		
300	69	6.9	93.1	6.9	39.9	6.6	42.0	93.4	4.65	11.0	2.79	89.0
212	128	12.8	80.3	19.7	41.1	12.6	42.1	80.8	3.48	15.3	2.68	73.7
150	105	10.5	69.8	30.2	40.6	10.2	42.3	70.6	3.64	13.1	2.54	60.6
106	70	7.0	62.8	37.2	40.2	6.7	42.6	63.9	4.53	10.9	2.31	49.7
75	62	6.2	56.6	43.4	40.1	5.9	42.9	57.9	5.36	11.4	1.98	38.3
53	55	5.5	51.1	48.9	40.7	5.4	43.1	52.6	5.20	9.8	1.63	28.5
38	70	7.0	44.0	56.0	42.5	7.1	43.2	45.5	3.08	7.4	1.40	21.1
23	56	5.6	38.4	61.6	44.3	5.9	43.0	39.5	0.71	1.4	1.50	19.8
16	154	15.4	23.0	77.0	43.5	16.0	42.7	23.5	1.22	6.4	1.69	13.3
11	136	13.6	9.4	90.6	42.9	14.0	42.4	9.5	1.52	7.1	1.94	6.2
9	78	7.8	1.6	98.4	42.5	7.9	42.0	1.6	1.83	4.9	2.46	1.3
0	16	1.6	0.0	100.0	42.0	1.6			2.46	1.3		
Total	999	100.0			41.8	100.0			2.92	100.0		
Heads		100.0			42.0				3.03			

HEAD - SIZE AND METAL DISTRIBUTION ANALYSIS

SIZE (µm)	Weight		Cum. % Weight		Fe2O3		Cum % Passing Grade	Cum. % Fe2O3 Passing	CaO		Cum % Passing Grade	Cum. % CaO Passing
	(g)	(%)	Passing	Retained	Assay (%)	Dist (%)			Assay (%)	Dist (%)		
300	69	6.9	93.1	6.9	3.04	6.5	3.26	93.5	4.11	10.6	2.58	89.4
212	128	12.8	80.3	19.7	3.24	12.8	3.26	80.7	3.52	16.8	2.43	72.7
150	105	10.5	69.8	30.2	3.26	10.6	3.26	70.2	3.46	13.5	2.28	59.1
106	70	7.0	62.8	37.2	3.26	7.0	3.27	63.1	3.63	9.5	2.13	49.7
75	62	6.2	56.6	43.4	3.26	6.2	3.27	56.9	3.75	8.7	1.95	41.0
53	55	5.5	51.1	48.9	3.16	5.4	3.28	51.6	3.56	7.3	1.78	33.7
38	70	7.0	44.0	56.0	3.20	6.9	3.29	44.6	2.69	7.0	1.63	26.7
23	56	5.6	38.4	61.6	3.34	5.8	3.28	38.9	1.44	3.0	1.66	23.7
16	154	15.4	23.0	77.0	3.25	15.4	3.30	23.4	1.57	9.0	1.72	14.7
11	136	13.6	9.4	90.6	3.29	13.8	3.33	9.6	1.56	7.9	1.94	6.8
9	78	7.8	1.6	98.4	3.31	8.0	3.40	1.7	1.82	5.3	2.53	1.5
0	16	1.6	0.0	100.0	3.40	1.7			2.53	1.5		
Total	999	100.0			3.25	100.0			2.69	100.0		
Heads		100.0			3.31				2.80			



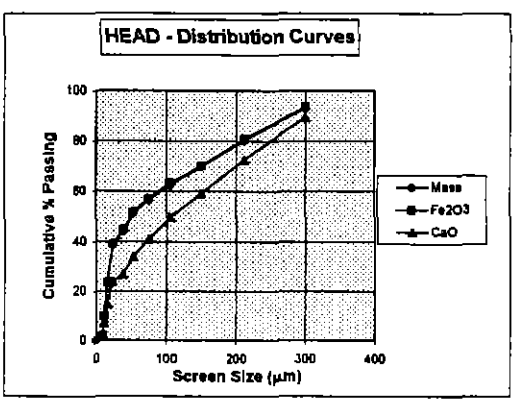


TABLE 17B

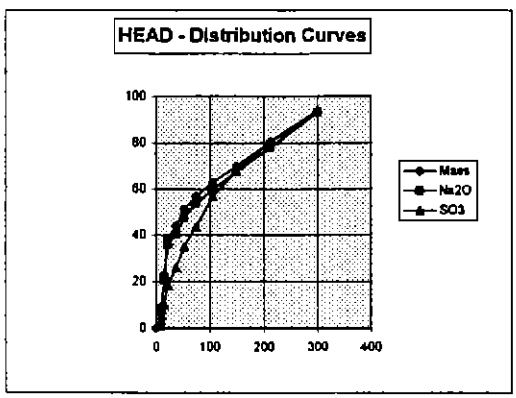
CLIENT NAME:	Golden Triangle
SAMPLE DESCRIPTION:	Composite #2: Milled to P80 = 212µm
JOB NUMBER:	7740
TEST NUMBER:	
DATE:	5/06/98

HEAD - SIZE AND METAL DISTRIBUTION ANALYSIS

SIZE (µm)	Weight		Cum. % Weight		Na2O		Cum % Passing Grade	Cum. % Na2O Passing	SO3		Cum % Passing Grade	Cum. % SO3 Passing
	(g)	(%)	Passing	Retained	Assay (%)	Dist (%)			Assay (ppm)	Dist (%)		
300	69	6.9	93.1	6.9	0.10	6.9	0.10	93.1	0.05	6.0	0.06	94.0
212	128	12.8	80.3	19.7	0.12	15.3	0.10	77.8	0.06	13.5	0.06	80.5
150	105	10.5	69.8	30.2	0.10	10.5	0.10	67.4	0.07	12.9	0.06	67.6
106	70	7.0	62.8	37.2	0.11	7.7	0.10	59.7	0.09	11.0	0.05	56.5
75	62	6.2	56.6	43.4	0.10	6.2	0.10	53.5	0.12	13.0	0.04	43.5
53	55	5.5	51.1	48.9	0.11	6.0	0.09	47.5	0.09	8.7	0.04	34.8
38	70	7.0	44.0	56.0	0.10	7.0	0.09	40.5	0.07	8.6	0.03	26.2
23	56	5.6	38.4	61.6	0.08	4.5	0.09	36.1	0.08	7.9	0.03	18.4
16	154	15.4	23.0	77.0	0.10	15.3	0.09	20.7	0.03	8.1	0.03	10.3
11	136	13.6	9.4	90.6	0.10	13.5	0.08	7.2	0.02	4.8	0.03	5.5
9	78	7.8	1.6	98.4	0.08	6.2	0.06	1.0	0.03	4.1	0.05	1.4
0	16	1.6	0.0	100.0	0.06	1.0			0.05	1.4		
Total	999	100.0			0.10	100.0			0.06	100.0		
Heads		100.0			0.09				0.06			

HEAD - SIZE AND METAL DISTRIBUTION ANALYSIS

SIZE (µm)	Weight		Cum. % Weight		LOI		Cum % Passing Grade	Cum. % LOI Passing	CO3		Cum % Passing Grade	Cum. % CO3 Passing
	(g)	(%)	Passing	Retained	Assay (%)	Dist (%)			Assay (%)	Dist (%)		
300	69	6.9	93.1	6.9	47.9	6.7	49.1	93.3	66.2	6.5	70.2	93.5
212	128	12.8	80.3	19.7	48.6	12.7	49.2	80.6	69.0	12.6	70.4	80.8
150	105	10.5	69.8	30.2	48.5	10.4	49.3	70.2	71.4	10.7	70.3	70.1
106	70	7.0	62.8	37.2	48.1	6.9	49.5	63.3	67.7	6.8	70.5	63.3
75	62	6.2	56.6	43.4	47.4	6.0	49.7	57.3	70.7	6.3	70.5	57.0
53	55	5.5	51.1	48.9	47.8	5.4	49.9	51.9	70.3	5.5	70.5	51.5
38	70	7.0	44.0	56.0	49.0	7.0	50.0	44.9	69.9	7.0	70.7	44.5
23	56	5.6	38.4	61.6	50.5	5.8	50.0	39.2	77.1	6.2	69.7	38.3
16	154	15.4	23.0	77.0	50.2	15.8	49.8	23.4	71.0	15.7	68.8	22.7
11	136	13.6	9.4	90.6	50.0	13.9	49.6	9.5	70.7	13.8	66.2	8.9
9	78	7.8	1.6	98.4	49.7	7.9	49.0	1.6	66.4	7.4	65.0	1.5
0	16	1.6	0.0	100.0	49.0	1.6		0.0	65.0	1.5		0.0
Total	999	100.0			49.1	100.0			69.9	100.0		
Heads		100.0			49.0				68.0			



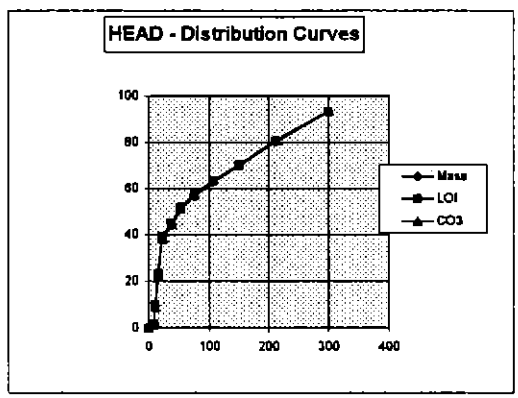


TABLE 18A

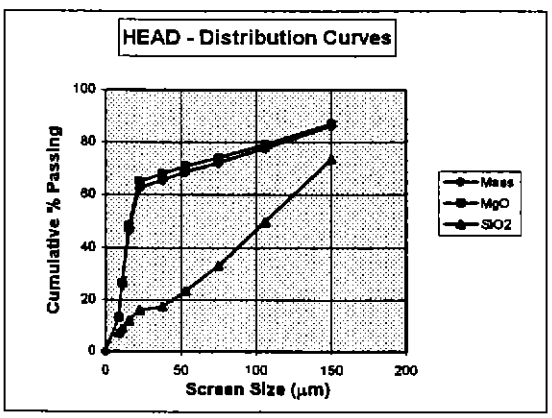
CLIENT NAME:	Golden Triangle
SAMPLE DESCRIPTION:	Composite #1: Stage - milled to P100 = 212µm
JOB NUMBER:	7740
TEST NUMBER:	
DATE:	10/06/98

HEAD - SIZE AND METAL DISTRIBUTION ANALYSIS

SIZE (µm)	Weight		Cum. % Weight		MgO		Cum %	Cum. %	SiO_2		Cum %	Cum. %	Al_2O_3
	(g)	(%)	Passing	Retained	Assay (%)	Dist (%)	Passing Grade	MgO Passing	Assay (ppm)	Dist (%)	Passing Grade	SiO2 Passing	Assay %
150	139	13.8	86.2	13.8	41.6	13.2	44.0	86.8	5.37	26.6	2.38	73.4	<0.05
106	85	8.5	77.7	22.3	40.1	7.8	44.4	79.0	7.78	23.6	1.79	49.7	<0.05
75	56	5.6	72.1	27.9	39.2	5.0	44.8	74.0	8.37	16.7	1.28	33.0	<0.05
53	35	3.5	68.6	31.4	38.6	3.1	45.1	70.9	7.73	9.8	0.95	23.2	<0.05
38	32	3.2	65.4	34.6	41.1	3.0	45.3	67.9	5.23	6.0	0.74	17.2	<0.05
23	29	2.9	62.5	37.5	44.1	2.9	45.4	65.0	1.05	1.1	0.72	16.2	<0.05
16	159	15.9	46.5	53.5	45.4	16.6	45.4	48.4	0.75	4.3	0.71	11.9	<0.05
11	207	20.7	25.9	74.1	46.2	21.9	44.7	26.5	0.42	3.1	0.95	8.8	<0.05
9	129	12.9	13.0	87.0	45.6	13.5	43.8	13.0	0.39	1.8	1.50	7.0	<0.05
0	130	13.0	0.0	100.0	43.8	13.0			1.50	7.0			0.15
Total	1,000	100.0			43.7	100.0			2.79	100.0			
Heads		100.0			43.9				2.82				

HEAD - SIZE AND METAL DISTRIBUTION ANALYSIS

SIZE (µm)	Weight		Cum. % Weight		Fe_2O_3		Cum %	Cum. %	CaO		Cum %	Cum. %	P_2O_5
	(g)	(%)	Passing	Retained	Assay (%)	Dist (%)	Passing Grade	Fe2O3 Passing	Assay (%)	Dist (%)	Passing Grade	CaO Passing	Assay %
150	139	13.8	86.2	13.8	0.74	12.3	0.85	87.7	3.36	20.3	2.12	79.7	<0.01
106	85	8.5	77.7	22.3	0.77	7.9	0.85	79.8	4.13	15.3	1.90	64.4	<0.01
75	56	5.6	72.1	27.9	0.83	5.6	0.86	74.3	4.57	11.1	1.69	53.2	<0.01
53	35	3.5	68.6	31.4	0.84	3.6	0.86	70.7	5.11	7.9	1.51	45.3	<0.01
38	32	3.2	65.4	34.6	0.87	3.3	0.86	67.3	4.83	6.8	1.35	38.6	<0.01
23	29	2.9	62.5	37.5	0.82	2.8	0.86	64.5	2.37	3.0	1.30	35.6	<0.01
16	159	15.9	46.5	53.5	0.72	13.8	0.91	50.7	1.25	8.7	1.32	26.9	<0.01
11	207	20.7	25.9	74.1	0.71	17.6	1.06	33.0	0.83	7.5	1.72	19.4	<0.01
9	129	12.9	13.0	87.0	0.69	10.7	1.43	22.3	1.01	5.7	2.42	13.7	<0.01
0	130	13.0	0.0	100.0	1.43	22.3			2.42	13.7			<0.01
Total	1,000	100.0			0.83	100.0			2.29	100.0			
Heads		100.0			0.80				2.32				



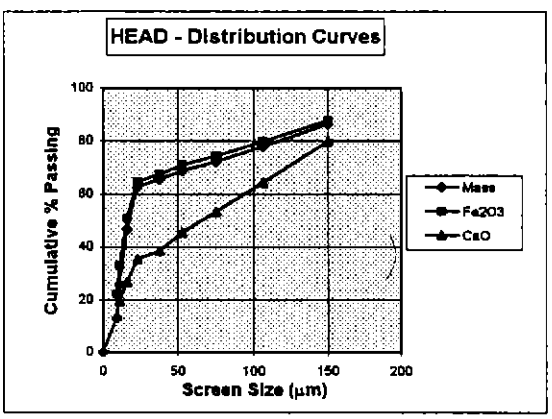


TABLE 18B

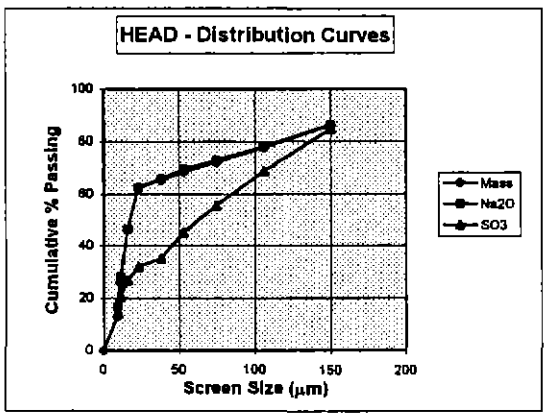
CLIENT NAME:	Golden Triangle
SAMPLE DESCRIPTION:	Composite #1: Stage - milled to P100 = 212µm
JOB NUMBER:	7740
TEST NUMBER:	
DATE:	10/06/98

HEAD - SIZE AND METAL DISTRIBUTION ANALYSIS

SIZE (µm)	Weight		Cum. % Weight		Na2O		Cum % Passing Grade	Cum. % Na2O Passing	SO3		Cum % Passing Grade	Cum. % SO3 Passing
	(g)	(%)	Passing	Retained	Assay (%)	Dist (%)			Assay (ppm)	Dist (%)		
150	139	13.8	86.2	13.8	0.10	13.7	0.10	86.3	0.07	15.3	0.06	84.7
106	85	8.5	77.7	22.3	0.10	8.4	0.10	77.9	0.12	16.1	0.06	68.6
75	56	5.6	72.1	27.9	0.09	5.0	0.10	73.0	0.15	13.2	0.05	55.4
53	35	3.5	68.6	31.4	0.10	3.5	0.10	69.5	0.18	10.1	0.04	45.3
38	32	3.2	65.4	34.6	0.12	3.8	0.10	65.7	0.20	10.1	0.03	35.2
23	29	2.9	62.5	37.5	0.12	3.4	0.10	62.3	0.07	3.2	0.03	32.0
16	159	15.9	46.5	53.5	0.10	15.8	0.10	46.5	0.02	5.0	0.04	27.0
11	207	20.7	25.9	74.1	0.09	18.4	0.11	28.2	0.02	6.5	0.05	20.5
9	129	12.9	13.0	87.0	0.09	11.5	0.13	16.7	0.03	6.1	0.07	14.4
0	130	13.0	0.0	100.0	0.13	16.7			0.07	14.4		
Total	1,000	100.0			0.10	100.0			0.06	100.0		
Heads		100.0			0.10				0.06			

HEAD - SIZE AND METAL DISTRIBUTION ANALYSIS

SIZE (µm)	Weight		Cum. % Weight		LOI		Cum % Passing Grade	Cum. % LOI Passing	CO3		Cum % Passing Grade	Cum. % CO3 Passing
	(g)	(%)	Passing	Retained	Assay (%)	Dist (%)			Assay (%)	Dist (%)		
150	139	13.8	86.2	13.8	48.5	13.4	50.3	86.6	64.2	13.1	68.4	86.9
106	85	8.5	77.7	22.3	47.2	8.0	50.7	78.6	63.4	7.9	69.0	79.0
75	56	5.6	72.1	27.9	46.7	5.2	51.0	73.4	64.3	5.3	69.3	73.7
53	35	3.5	68.6	31.4	47.0	3.3	51.2	70.1	65.2	3.4	69.5	70.3
38	32	3.2	65.4	34.6	48.1	3.1	51.3	67.0	59.7	2.8	70.0	67.5
23	29	2.9	62.5	37.5	50.9	2.9	51.3	64.1	67.2	2.8	70.2	64.6
16	159	15.9	46.5	53.5	51.3	16.3	51.3	47.7	68.6	16.1	70.7	48.5
11	207	20.7	25.9	74.1	51.7	21.3	51.1	26.4	70.8	21.6	70.6	26.9
9	129	12.9	13.0	87.0	51.6	13.3	50.6	13.1	71.2	13.5	70.0	13.4
0	130	13.0	0.0	100.0	50.6	13.1			70.0	13.4		
Total	1,000	100.0			50.1	100.0			67.8	100.0		
Heads		100.0			50.1				71.9			



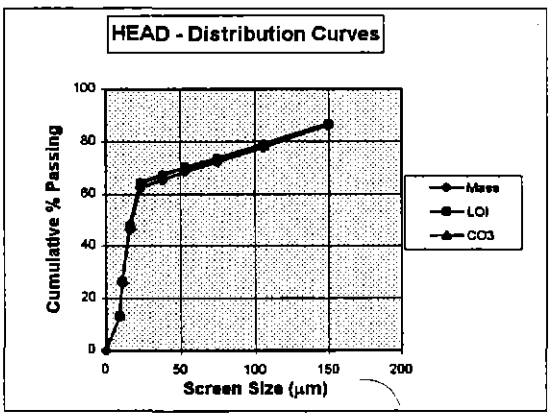


TABLE 19A

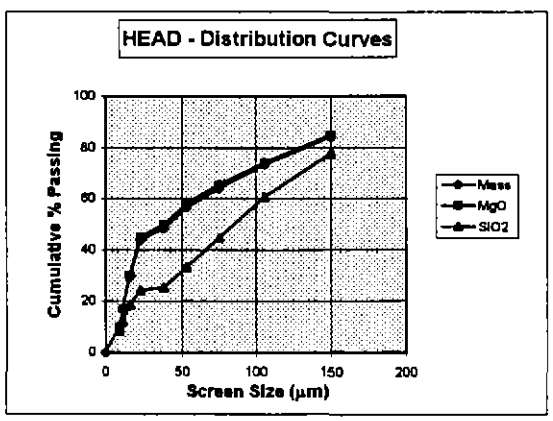
CLIENT NAME:	Golden Triangle
SAMPLE DESCRIPTION:	Composite #2: Stage - milled to P100 = 212µm
JOB NUMBER:	7740
TEST NUMBER:	
DATE:	10/06/98

HEAD - SIZE AND METAL DISTRIBUTION ANALYSIS

SIZE (µm)	Weight		Cum. % Weight		MgO		Cum % Passing Grade	Cum. % MgO Passing	SiO_2		Cum % Passing Grade	Cum. % SiO2 Passing	Al_2O_3 Assay %
	(g)	(%)	Passing	Retained	Assay (%)	Dist (%)			Assay (ppm)	Dist (%)			
150	158	15.8	84.2	15.8	39.8	15.1	41.8	84.9	4.25	22.3	2.77	77.7	<0.05
106	109	10.9	73.4	26.6	40.4	10.6	42.0	74.3	4.67	16.9	2.49	60.8	<0.05
75	92	9.2	64.1	35.9	39.3	8.8	42.3	65.5	5.28	16.2	2.09	44.6	<0.05
53	76	7.6	56.6	43.4	40.6	7.4	42.6	58.1	4.50	11.3	1.77	33.3	<0.05
38	82	8.2	48.4	51.6	41.6	8.2	42.7	49.9	2.89	7.9	1.58	25.4	<0.05
23	45	4.4	43.9	56.1	43.9	4.7	42.6	45.2	0.66	1.0	1.67	24.4	<0.05
16	144	14.4	29.5	70.5	43.5	15.1	42.2	30.0	1.20	5.8	1.90	18.6	<0.05
11	125	12.5	17.0	83.0	42.8	12.9	41.8	17.1	1.48	6.2	2.21	12.5	<0.05
9	69	6.9	10.1	89.9	42.4	7.1	41.3	10.0	1.75	4.0	2.53	8.5	<0.05
0	101	10.1	0.0	100.0	41.3	10.0			2.53	8.5			0.12
Total	1,000	100.0			41.5	100.0			3.01	100.0			
Heads		100.0			42.0				3.03				

HEAD - SIZE AND METAL DISTRIBUTION ANALYSIS

SIZE (µm)	Weight		Cum. % Weight		Fe_2O_3		Cum % Passing Grade	Cum. % Fe2O3 Passing	CaO		Cum % Passing Grade	Cum. % CaO Passing	P_2O_5 Assay %
	(g)	(%)	Passing	Retained	Assay (%)	Dist (%)			Assay (%)	Dist (%)			
150	158	15.8	84.2	15.8	3.14	15.2	3.27	84.8	3.94	22.6	2.53	77.4	<0.01
106	109	10.9	73.4	26.6	3.25	10.9	3.28	73.9	3.75	14.8	2.35	62.6	<0.01
75	92	9.2	64.1	35.9	3.16	9.0	3.29	64.9	3.76	12.6	2.14	50.0	<0.01
53	76	7.6	56.6	43.4	3.16	7.3	3.31	57.6	3.50	9.6	1.96	40.3	<0.01
38	82	8.2	48.4	51.6	3.14	7.9	3.34	49.7	2.73	8.1	1.83	32.2	<0.01
23	45	4.4	43.9	56.1	3.33	4.6	3.34	45.1	1.34	2.2	1.88	30.0	<0.01
16	144	14.4	29.5	70.5	3.24	14.4	3.39	30.7	1.63	8.6	2.00	21.5	<0.01
11	125	12.5	17.0	83.0	3.28	12.6	3.48	18.1	1.58	7.2	2.32	14.3	<0.01
9	69	6.9	10.1	89.9	3.34	7.1	3.57	11.0	1.77	4.4	2.69	9.8	<0.01
0	101	10.1	0.0	100.0	3.57	11.0			2.69	9.8			<0.01
Total	1,000	100.0			3.25	100.0			2.75	100.0			
Heads		100.0			3.31				2.80				



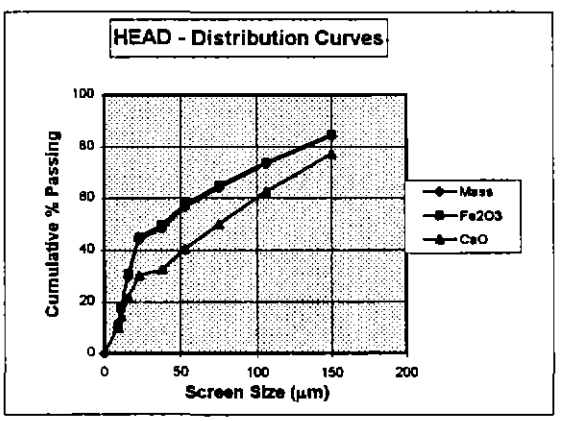


TABLE 19B

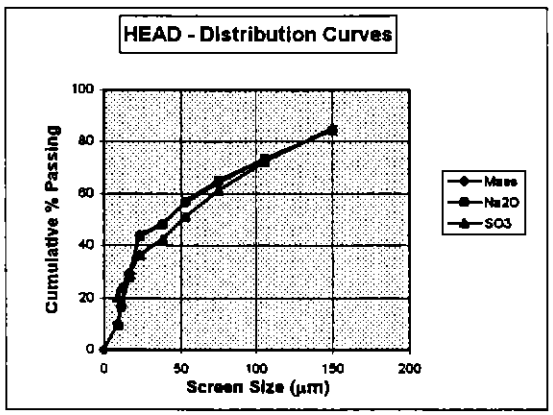
CLIENT NAME:	Golden Triangle
SAMPLE DESCRIPTION:	Composite #2: Stage - milled to P100 = 212µm
JOB NUMBER:	7740
TEST NUMBER:	
DATE:	10/06/98

HEAD - SIZE AND METAL DISTRIBUTION ANALYSIS

SIZE (µm)	Weight		Cum. % Weight		Na2O		Cum % Passing Grade	Cum. % Na2O Passing	SO3		Cum % Passing Grade	Cum. % SO3 Passing
	(g)	(%)	Passing	Retained	Assay (%)	Dist (%)			Assay (ppm)	Dist (%)		
150	158	15.8	84.2	15.8	0.10	15.7	0.10	84.3	0.07	14.7	0.08	85.3
106	109	10.9	73.4	26.6	0.10	10.8	0.10	73.5	0.09	13.1	0.07	72.3
75	92	9.2	64.1	35.9	0.09	8.3	0.10	65.2	0.09	11.1	0.07	61.2
53	76	7.6	56.6	43.4	0.11	8.3	0.10	57.0	0.10	10.1	0.07	51.1
38	82	8.2	48.4	51.6	0.11	9.0	0.10	48.0	0.08	8.7	0.07	42.4
23	45	4.4	43.9	56.1	0.10	4.4	0.10	43.6	0.10	5.9	0.06	36.5
16	144	14.4	29.5	70.5	0.11	15.8	0.09	27.8	0.04	7.7	0.07	28.8
11	125	12.5	17.0	83.0	0.09	11.2	0.10	16.6	0.03	5.0	0.11	23.8
9	69	6.9	10.1	89.9	0.11	7.6	0.09	9.0	0.04	3.7	0.15	20.1
0	101	10.1	0.0	100.0	0.09	9.0			0.15	20.1		
Total	1,000	100.0			0.10	100.0			0.08	100.0		
Heads		100.0			0.09				0.06			

HEAD - SIZE AND METAL DISTRIBUTION ANALYSIS

SIZE (µm)	Weight		Cum. % Weight		LOI		Cum % Passing Grade	Cum. % LOI Passing	CO3		Cum % Passing Grade	Cum. % CO3 Passing
	(g)	(%)	Passing	Retained	Assay (%)	Dist (%)			Assay (%)	Dist (%)		
150	158	15.8	84.2	15.8	48.3	15.5	49.2	84.5	69.6	15.7	69.8	84.3
106	109	10.9	73.4	26.6	48.0	10.7	49.4	73.8	71.6	11.2	69.5	73.1
75	92	9.2	64.1	35.9	47.6	9.0	49.6	64.9	68.8	9.1	69.6	64.0
53	76	7.6	56.6	43.4	48.2	7.4	49.8	57.4	65.4	7.1	70.2	56.9
38	82	8.2	48.4	51.6	49.0	8.2	49.9	49.2	67.1	7.9	70.7	49.0
23	45	4.4	43.9	56.1	50.5	4.6	49.9	44.7	67.8	4.3	71.0	44.7
16	144	14.4	29.5	70.5	50.3	14.8	49.7	29.8	70.5	14.6	71.3	30.1
11	125	12.5	17.0	83.0	50.2	12.8	49.3	17.1	70.1	12.6	72.1	17.5
9	69	6.9	10.1	89.9	49.8	7.0	48.9	10.0	72.8	7.2	71.7	10.3
0	101	10.1	0.0	100.0	48.9	10.0			71.7	10.3		
Total	1,000	100.0			49.0	100.0			69.8	100.0		
Heads		100.0			49.0				68.0			



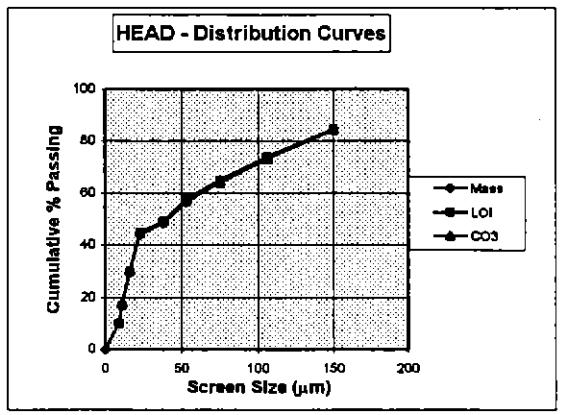


TABLE : 20 BATCH FLOTATION

CLIENT NAME:	Golden Triangle
SAMPLE DESCRIPTION :	Magnesite Composite #1
JOB NUMBER :	7740
TEST DESCRIPTION:	Batch Flotation
TEST NUMBER :	RB2041
DATE :	11-Jun-98

OBJECTIVES

Optimise grade and recovery of magnesite.

Vary grind

COMMENTS

Stage	Cell Size litre	Rotor RPM	Scraper Size mm	Scraper Freq. sec
Rougher	2.5	900	n/a	n/a
Cleaner	na			
Reclnr	na			

MASS AND METAL BALANCES

PRODUCT	MASS		Cum	MgO		Cum		SiO_2		Cum		Fe_2O_3
	g	%	%	%	%dist	%	%dist	%	%dist	%	%dist	%
Feed	1000			43.90				2.82				0.80
Quartz con 1	384.7	38.5	38.5	41.9	37.3	41.9	37.3	7.8	97.6	7.8	97.6	0.73
Quartz con 2	113.3	11.3	49.8	45.4	11.9	42.7	49.1	0.4	1.4	6.1	99.0	0.75
Magn. Con 1	201	20.1	20.1	45.1	20.9	45.1	20.9	0.0	0.1	0.0	0.1	0.74
Magn. Con 2	91.7	9.2	29.3	43.6	9.2	44.6	30.1	0.0	0.0	0.0	0.1	0.75
Magn. Con 3	34.1	3.4	32.7	42.6	3.4	44.4	33.5	0.0	0.0	0.0	0.1	0.79
Tail	175.5	17.5	100.0	42.9	17.4	42.9	100.0	0.2	0.9	0.2	100.0	0.83
Calc'd Head	1000.3	100.0		43.3	100.0			3.1	100.0			0.76
Assay Head				43.9				2.8				0.80

SCHEDULE OF REAGENTS **WATER:** Perth Tap **Grind: P80 = 106 µm**

Operation	Time (min) Condtn.	Time (min) Float (frth rmvl)	K2C g/t	FS-2 g/t	Caust. Starch g/t	Flotol B g/t	pH	mV (Sat AgCl)	Temp °C
Grind	21.5								
Condition	5.0		600		210		10.7		
Qrtz con 1	0.0	5.0				33			
Qrtz con 2	0.0	3.0					10.4		
MgO con 1	3.0	3.0		600			9.9		
MgO con 2	0.0	3.0							
MgO con 3	0.0	2.0				16.5	9.0		
TOTALS	29.5	16.0	600	600	210	49.5			

FLOTATION PROCEDURE

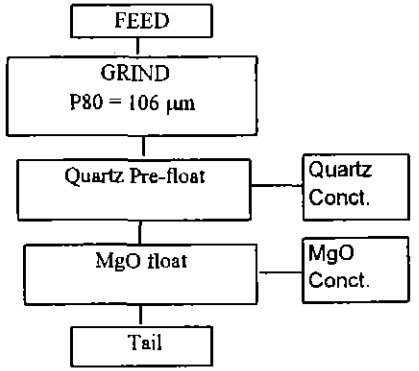


TABLE : 21 BATCH FLOTATION

CLIENT NAME:	Golden Triangle
SAMPLE DESCRIPTION :	Magnesite Composite #1
JOB NUMBER :	7740
TEST DESCRIPTION:	Batch Flotation
TEST NUMBER :	RB2042
DATE :	11-Jun-98

OBJECTIVES

Optimise grade and recovery of magnesite.

Sighter, Vary Grind

COMMENTS

Stage	Cell Size litre	Rotor RPM	Scraper Size mm	Scraper Freq. sec
Rougher	2.5	900	n/a	n/a
Cleaner	na			
Reclnr	na			

MASS AND METAL BALANCES

PRODUCT	MASS		Cum	MgO		Cum		SiO_2		Cum		Fe_2O_3
	g	%	%	%	%dist	%	%dist	%	%dist	%	%dist	%
Feed	1000			43.90				2.82				0.80
Quartz con 1	230.9	23.4	23.4	41.1	22.0	41.1	22.0	11.2	94.1	11.2	94.1	0.75
Quartz con 2	60.9	6.2	29.6	45.4	6.4	42.0	28.4	1.1	2.5	9.1	96.7	0.76
Magn. Con 1	159.9	16.2	16.2	46.2	17.1	46.2	17.1	0.0	0.1	0.0	0.1	0.70
Magn. Con 2	116.0	11.8	28.0	45.2	12.1	45.8	29.2	0.0	0.0	0.0	0.1	0.75
Magn. Con 3	48.3	4.9	32.8	45.1	5.0	45.7	34.3	0.1	0.2	0.0	0.3	0.79
Tail	371.1	37.6	100.0	43.5	37.3	43.5	100.0	0.2	3.0	0.2	100.0	0.79
Calc'd Head	987.1	100.0		43.7	100.0			2.8	100.0			0.76
Assay Head				43.9				2.8				0.80

SCHEDULE OF REAGENTS **WATER:** Perth Tap **Grind: P80 = 212 µm**

Operation	Time (min) Condtn.	Time (min) Float (fith rmvl)	K2C g/t	FS-2 g/t	Caust. Starch g/t	Flotol B g/t	pH	mV (Sat AgCl)	Temp °C
Grind	16.5								
Condition	5.0		450		210		10.7		
Qrtz con 1	0.0	4.0				33			
Qrtz con 2	0.0	2.0					10.3		
MgO con 1	3.0	3.0		600			9.9	75	
MgO con 2	0.0	3.0							
MgO con 3	0.0	2.0				16.5	9.3	115	
TOTALS	24.5	14.0	450	600	210	49.5			

FLOTATION PROCEDURE

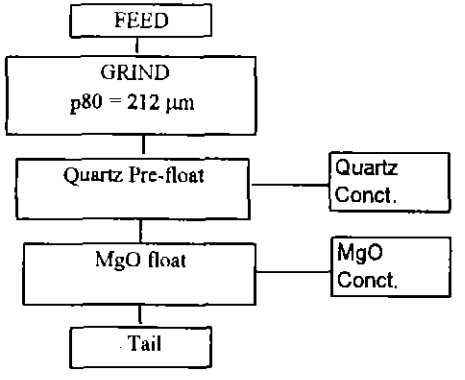


TABLE : 22 BATCH FLOTATION

CLIENT NAME:	Golden Triangle
SAMPLE DESCRIPTION :	Magnesite Composite # 1
JOB NUMBER :	7740
TEST DESCRIPTION:	Batch Flotation
TEST NUMBER :	RB2046
DATE :	15-Jun-98

OBJECTIVES

Optimise grade and recovery of magnesite.

Increase Starch, FS-2

COMMENTS

Stage	Cell Size litre	Rotor RPM	Scraper Size mm	Scraper Freq. sec
Rougher	2.5	900	n/a	n/a
Cleaner	na			
Reclnr	na			

MASS AND METAL BALANCES

PRODUCT	MASS		Cum	MgO		Cum		SiO_2		Cum		Fe_2O_3	CO3
	g	%	%	%	%dist	%	%dist	%	%dist	%	%dist	%	%
Feed	1000			43.9				2.82				0.80	71.9
Quartz con 1	325.9	33.0	33.0	42.6	31.9	42.6	31.9	7.4	90.9	7.4	90.9	0.74	65.7
Quartz con 2	29.9	3.0	36.0	45.0	3.1	42.8	35.0	2.5	2.8	7.0	93.7	0.76	72.7
Magn. Con 1	220.7	22.3	22.3	46.0	23.4	46.0	23.4	0.0	0.1	0.0	0.1	0.75	70.9
Magn. Con 2	171.1	17.3	39.6	44.1	17.4	45.2	40.8	0.0	0.1	0.0	0.1	0.79	66.3
Magn. Con 3	85.2	8.6	48.3	43.7	8.6	44.9	49.3	0.2	0.6	0.0	0.7	0.80	63.4
Tail	155.4	15.7	100.0	43.7	15.6	43.7	100.0	1.0	5.5	1.0	100.0	0.82	65.4
Calc'd Head	988.2	100.0		44.0	100.0			2.7	100.0			0.77	66.9
Assay Head				43.9				2.8				0.80	71.9

SCHEDULE OF REAGENTS **WATER:** Perth Tap **Grind: P80 = 212 µm**

Operation	Time (min) Condtn.	Time (min) Float (frth rmvl)	K2C g/t	FS-2 g/t	Caust Starch g/t	Flotol B g/t	pH	mV (Sat AgCl)	Temp °C
Grind	16.5						9.5	115	17.5
Condition	5.0		450		300		10.8	-22	18
Qrtz con 1	0.0	5.0							
Qrtz con 2	0.0	3.0					10.2	-15	18
MgO con 1	3.0	3.0		600					
MgO con 2	2.0	3.0		100					
MgO con 3	2.0	3.0		100		16.5	8.6	130	19
TOTALS	28.5	17.0	450	800	300	16.5			

FLOTATION PROCEDURE

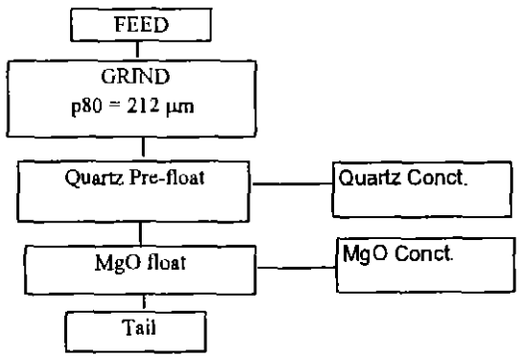


TABLE : 23 BATCH FLOTATION

CLIENT NAME:	Golden Triangle
SAMPLE DESCRIPTION :	Magnesite Composite # 1
JOB NUMBER :	7740
TEST DESCRIPTION:	Batch Flotation
TEST NUMBER :	RB2047
DATE :	16-Jun-98

OBJECTIVES

Optimise grade and recovery of magnesite.

Decrease K2C, increase Starch, and HAL 519

COMMENTS

Stage	Cell Size litre	Rotor RPM	Scraper Size mm	Scraper Freq. sec
Rougher	2.5	900	n/a	n/a
Cleaner	na			
Reclnr	na			

MASS AND METAL BALANCES

PRODUCT	MASS		Cum	MgO		Cum		SiO_2		Cum		Fe_2O_3	CO3
	g	%	%	%	%dist	%	%dist	%	%dist	%	%dist	%	%
Feed	1000			43.9				2.82				0.80	71.9
Quartz con 1	75.3	7.6	7.6	28.9	5.0	28.9	5.0	35.1	94.9	35.1	94.9	0.75	33.9
Quartz con 2	50.8	5.1	12.7	45.9	5.3	35.7	10.3	1.0	1.8	21.3	96.7	0.71	55.8
Magn. Con 1	33.7	3.4	3.4	46.6	3.6	46.6	3.6	0.0	0.0	0.0	0.0	0.72	66.6
Magn. Con 2	143.1	14.4	17.7	46.5	15.2	46.5	18.7	0.0	0.0	0.0	0.0	0.71	62.0
Magn. Con 3	339.4	34.1	51.8	45.7	35.4	46.0	54.1	0.0	0.0	0.0	0.0	0.73	55.7
Tail	354.1	35.5	100.0	44.1	35.6	44.1	100.0	0.3	3.3	0.3	100.0	0.76	52.4
Calc'd Head	996.4	100.0		44.0	100.0			2.8	100.0			0.74	54.2
Assay Head				43.9				2.8				0.80	71.9

SCHEDULE OF REAGENTS **WATER:** Perth Tap **Grind: P80 = 212 µm**

Operation	Time (min) Condtn.	Time (min) Float (frth rmvl)	K2C g/t	HAL519 g/t	Caust. Starch g/t	Flotol B g/t	pH	mV (Sat AgCl)	Temp °C
Grind	16.5						9.5	205	16
Condition	5.0		300		300	16.5			16
Qrtz con 1	0.0	5.0							
Qrtz con 2	1.0	4.0					10.3	58	18.5
MgO con 1	3.0	3.0		600		33			
MgO con 2	1.0	3.0		200					
MgO con 3	1.0	7.0		200		16.5	8.5	240	20
TOTALS	27.5	22.0	300	1000	300	66			

FLOTATION PROCEDURE

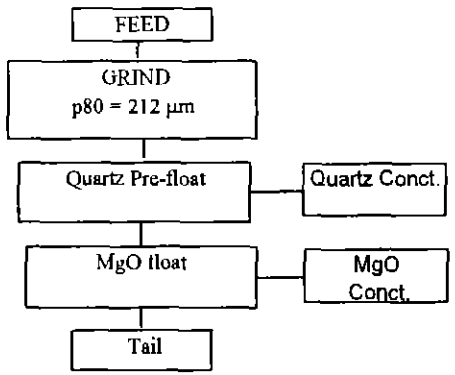


TABLE : 24 BATCH FLOTATION

CLIENT NAME:	Golden Triangle
SAMPLE DESCRIPTION :	Magnesite Composite # 1
JOB NUMBER :	7740
TEST DESCRIPTION:	Batch Flotation
TEST NUMBER :	RB2063
DATE :	29-Jun-98

OBJECTIVES

Optimise grade and recovery of magnesite.
Repeat RB 2047
Decrease K2C, increase Starch, and HAL 519

COMMENTS

Stage	Cell Size litre	Rotor RPM	Scraper Size mm	Scraper Freq. sec
Rougher	2.5	900	n/a	n/a
Cleaner	na			
Reclnr	na			

MASS AND METAL BALANCES

PRODUCT	MASS		Cum	MgO		Cum		SiO_2		Cum		Fe_2O_3	CO3
	g	%	%	%	%dist	%	%dist	%	%dist	%	%dist	%	%
Feed	1000			43.9				2.82				0.80	71.9
Quartz con 1	139.5	14.0	14.0	37.4	12.1	37.4	12.1	17.9	89.0	17.9	89.0	0.81	
Quartz con 2	70.7	7.1	21.1	44.4	7.2	39.8	19.3	1.9	4.7	12.5	93.6	0.81	
Magn. Con 1	36.6	3.7	3.7	45.9	3.9	45.9	3.9	0.2	0.3	0.2	0.3	0.76	
Magn. Con 2	209.2	21.0	24.7	45.9	22.2	45.9	26.1	0.0	0.0	0.0	0.3	0.71	
Magn. Con 3	253.5	25.5	50.2	44.5	26.1	45.2	52.1	0.0	0.0	0.0	0.3	0.73	
Tail	285.6	28.7	100.0	43.3	28.6	43.3	100.0	0.6	6.1	0.6	100.0	0.75	
Calc'd Head	995.1	100.0		43.5	100.0			2.8	100.0			0.75	0.0
Assay Head				43.9				2.8				0.80	71.9

SCHEDULE OF REAGENTS **WATER:** *Perth Tap* ***Grind: P80 = 212 µm***

Operation	Time (min) Condtn.	Time (min) Float (fifth rmvl)	K2C g/t	HAL519 g/t	Caust. Starch g/t	Flotol B g/t	pH	mV (Sat AgCl)	Temp °C
Grind	16.5						9.6	165	12
Condition	5.0		300		300	16.5			13
Qrtz con 1	0.0	5.0							
Qrtz con 2	2.0	3.0	100				10.6	82	15
MgO con 1	3.0	3.0		600		33			
MgO con 2	1.0	3.0		200					
MgO con 3	1.0	7.0		200		16.5	8.5	146	16
TOTALS	28.5	21.0	400	1000	300	66			

FLOTATION PROCEDURE

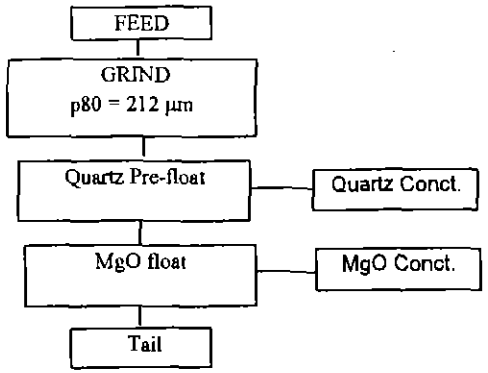


TABLE : 25 BATCH FLOTATION

CLIENT NAME:	Golden Triangle
SAMPLE DESCRIPTION :	Magnesite Composite # 1
JOB NUMBER :	7740
TEST DESCRIPTION:	Batch Flotation
TEST NUMBER :	RB2048
DATE :	16-Jun-98

OBJECTIVES

Optimise grade and recovery of magnesite.

Hal 519, Quebracho, Sod Silicate

COMMENTS

Stage	Cell Size litre	Rotor RPM	Scraper Size mm	Scraper Freq. sec
Rougher	2.5	900	n/a	n/a
Cleaner	na			
Reclnr	aa			

MASS AND METAL BALANCES

PRODUCT	MASS		Cum	MgO		Cum		SiO_2		Cum		Fe_2O_3	CO3
	g	%	%	%	%dist	%	%dist	%	%dist	%	%dist	%	%
Feed	1000			43.90				2.82				0.80	71.9
Quartz con 1	352.9	35.5	35.5	42.6	34.4	42.6	34.4	6.6	87.9	6.6	87.9	0.74	59.8
Quartz con 2	93.8	9.4	44.9	45.5	9.8	43.2	44.2	1.2	4.1	5.4	92.0	0.73	51.5
Magn. Con 1	197.4	19.8	19.8	45.2	20.4	45.2	20.4	0.0	0.0	0.0	0.0	0.71	42.8
Magn. Con 2	81.7	8.2	28.1	44.1	8.2	44.9	28.7	0.0	0.0	0.0	0.0	0.75	52.6
Tail	269.1	27.0	100.0	44.0	27.1	44.0	100.0	0.8	8.0	0.8	100.0	0.78	50.8
Calc'd Head	994.9	100.0		43.9	100.0			2.7	100.0			0.74	52.6
Assay Head				43.9				2.8				0.80	71.9

SCHEDULE OF REAGENTS **WATER:** Perth Tap **Grind: P80 = 212 µm**

Operation	Time (min) Condtn	Time (min) Float (frth rmvl)	K2C g/t	Hal 519 g/t	Quebracho g/t	Sodium Silicate g/t	Flotol B g/t	pH	mV (Sat AgCl)	Temp °C
Grind	16.5							9.6	300	17
Condition	5.0		450		50		16.5			17.5
Qrtz con 1	0.0	4.0								
Qrtz con 2	0.0	3.0						9.2	150	19
MgO con 1	2.0	3.0		500		100	16.5			
MgO con 2	1.0	3.0		400				7.9	170	19
TOTALS	24.5	13.0	450	900	50	100	33			

FLOTATION PROCEDURE

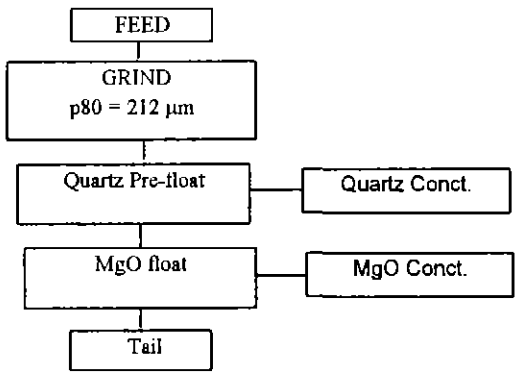


TABLE : 26 BATCH FLOTATION

CLIENT NAME:	Golden Triangle
SAMPLE DESCRIPTION :	Magnesite Composite # 1
JOB NUMBER :	7740
TEST DESCRIPTION:	Batch Flotation
TEST NUMBER :	RB2059
DATE :	26-Jun-98

OBJECTIVES

Optimise grade and recovery of magnesite.

Reduce K2C, no starch, sod. silicate

COMMENTS

Stage	Cell Size litre	Rotor RPM	Scraper Size mm	Scraper Freq. sec
Rougher	2.5	900	50	10
Cleaner	na			
Reclnr	na			

MASS AND METAL BALANCES

PRODUCT	MASS		Cum	MgO		Cum		SiO_2		Cum		Fe_2O_3	CO3
	g	%	%	%	%dist	%	%dist	%	%dist	%	%dist	%	%
Feed	1000			43.9				2.82				0.80	71.9
Quartz con 1	167.1	16.8	16.8	38.3	14.8	38.3	14.8	15.7	92.1	15.7	92.1	0.72	47.5
Quartz con 2	56.6	5.7	22.5	44.8	5.9	39 9	20.7	2.1	4.1	12.2	96.2	0.75	56.3
Magn. Con 1	37.6	3.8	3.8	45.0	3.9	45.0	3.9	0.3	0.4	0.3	0.4	0.79	59.0
Magn. Con 2	198 0	19 9	23.7	45.3	20.7	45.3	24.7	0.0	0.0	0.0	0.4	0.73	58.0
Magn. Con 3	239.2	24.1	47.8	44.6	24.7	44.9	49.4	0.0	0.0	0 0	0.4	0.73	51.5
Tail	294.0	29.6	100.0	44.1	30.0	44.1	100.0	0.3	3.4	0.3	100.0	0.78	57.9
Calc'd Head	992.5	100.0		43.6	100.0			2.9	100.0			0.75	54.5
Assay Head				43.9				2.8				0.80	71.9

SCHEDULE OF REAGENTS **WATER:** Perth Tap **Grind: P80 = 212 µm**

Operation	Time (min) Condtn.	Time (min) Float (frth rmvl)	K2C g/t	FS2 g/t	Sod. Silicate g/t	Flotol B g/t	pH	mV (Sat AgCl)	Temp °C
Grind	16.5						9.6	126	17
Condition	2.0		200			16.5			17.5
Qrtz con 1	0.0	3.0							
Qrtz con 2	1.0	2.0					9.4	130	18.5
MgO con 1	3.0	2.0		250	100	16.5			
MgO con 2	1.0	3.0		250					
MgO con 3	1.0	3.0		250			8.7	145	19
TOTALS	24.5	13.0	200	750	100	33			

FLOTATION PROCEDURE

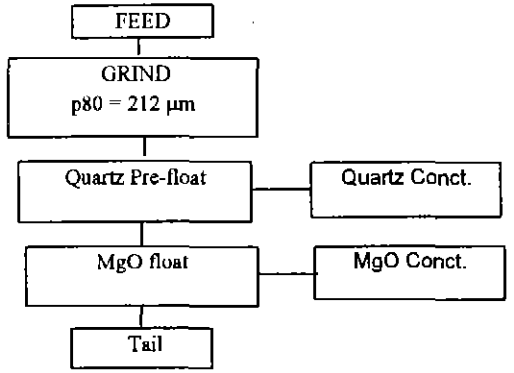


TABLE : 27 BATCH FLOTATION

CLIENT NAME:	Golden Triangle
SAMPLE DESCRIPTION :	Magnesite Composite #2
JOB NUMBER :	7740
TEST DESCRIPTION:	Batch Flotation
TEST NUMBER :	RB2043
DATE :	11-Jun-98

OBJECTIVES

Optimise grade and recovery of magnesite.

Vary Grind

COMMENTS

Stage	Cell Size litre	Rotor RPM	Scraper Size mm	Scraper Freq. sec
Rougher	2.5	900	n/a	n/a
Cleaner	na			
Reclnr	na			

MASS AND METAL BALANCES

PRODUCT	MASS		Cum	MgO		Cum		SiO_2		Cum		Fe_2O_3	CO3
	g	%	%	%	%dist	%	%dist	%	%dist	%	%dist	%	%
Feed	1000			42.00				3.03				3.31	68.0
Quartz con 1	288.6	29.0	29.0	40.0	27.7	40.0	27.7	9.2	89.6	9.2	89.6	3.12	64.1
Quartz con 2	26.3	2.6	31.6	42.6	2.7	40.2	30.4	3.0	2.6	8.7	92.2	3.35	70.3
Magn. Con 1	81.4	8.2	8.2	43.6	8.5	43.6	8.5	0.2	0.5	0.2	0.5	3.37	67.9
Magn. Con 2	48.7	4.9	13.1	43.7	5.1	43.6	13.6	0.1	0.2	0.2	0.7	3.33	72.1
Magn. Con 3	286.1	28.7	41.8	42.8	29.4	43.1	43.0	0.0	0.1	0.1	0.8	3.31	67.4
Tail	264.5	26.6	100.0	41.9	26.6	41.9	100.0	0.8	7.0	0.8	100.0	3.30	70.2
Calc'd Head	995.6	100.0		41.9	100.0			3.0	100.0			3.26	67.5
Assay Head				42.0				3.0				3.31	68.0

SCHEDULE OF REAGENTS **WATER:** Perth Tap **Grind: P80 = 212 µm**

Operation	Time (min) Condtn.	Time (min) Float (frth rmvl)	K2C g/t	FS-2 g/t	Caust. Starch g/t	Flotol B g/t	pH	mV (Sat AgCl)	Temp °C
Grind	30.0						9.8	130	17.5
Condition	5.0		450		210		10.8	29	
Qrtz con 1	0.0	5.0							18
Qrtz con 2	0.0	3.0					10.2	90	
MgO con 1	3.0	3.0		600					19
MgO con 2	1.0	3.0				16.5			
MgO con 3	1.0	4.0					8.9	142	20
				200					
TOTALS	40.0	18.0	450	800	210	16.5			

FLOTATION PROCEDURE

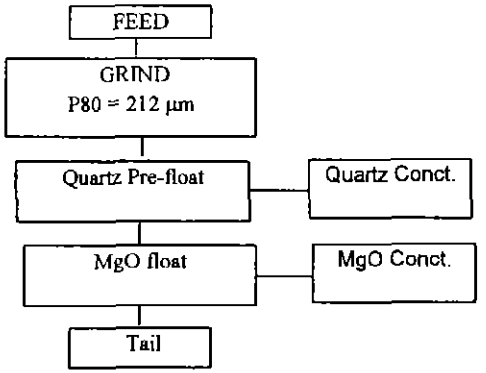


TABLE : 28 BATCH FLOTATION

CLIENT NAME:	Golden Triangle
SAMPLE DESCRIPTION :	Magnesite Composite #2
JOB NUMBER :	7740
TEST DESCRIPTION:	Batch Flotation
TEST NUMBER :	RB2044
DATE :	11-Jun-98

OBJECTIVES

Optimise grade and recovery of magnesite.

Sighter, Vary Grind

COMMENTS

Stage	Cell Size litre	Rotor RPM	Scraper Size mm	Scraper Freq. sec
Rougher	2.5	900	n/a	n/a
Cleaner	na			
Recln	na			

MASS AND METAL BALANCES

PRODUCT	MASS		Cum	MgO		Cum		SiO_2		Cum		Fe_2O_3	CO_3
	g	%	%	%	%dist	%	%dist	%	%dist	%	%dist	%	%
Feed	1000			42.00				3.03				3.31	68.0
Quartz con 1	257.3	26.0	26.0	39.2	24.4	39.2	24.4	11.3	95.7	11.3	95.7	3.14	58.8
Quartz con 2	55	5.5	31.5	43.4	5.8	39.9	30.2	1.2	2.1	9.5	97.9	3.45	63.2
Magn. Con 1	34.6	3.5	3.5	42.8	3.6	42.8	3.6	0.5	0.5	0.5	0.5	3.36	71.8
Magn. Con 2	34.4	3.5	7.0	43.7	3.6	43.3	7.2	0.2	0.2	0.3	0.8	3.43	71.3
Magn. Con 3	39.9	4.0	11.0	43.5	4.2	43.3	11.4	0.1	0.2	0.3	0.9	3.37	62.5
Magn. Con 4	439.1	44.3	55.3	42.5	45.2	42.6	56.6	0.0	0.1	0.1	1.1	3.27	59.1
Tail	131.0	13.2	100.0	41.4	13.1	41.4	100.0	0.3	1.1	0.3	100.0	3.26	62.7
Calc'd Head	991.3	100.0		41.6	100.0			3.1	100.0			3.26	60.7
Assay Head				42.0				3.0				3.31	68.0

SCHEDULE OF REAGENTS **WATER:** Perth Tap **Grind: P80 = 106 µm**

Operation	Time (min) Condtn.	Time (min) Float (frth rmvl)	K2C g/t	FS-2 g/t	Caust. Starch g/t	Flotol B g/t	pH	mV (Sat AgCl)	Temp °C
Grind	40.0						9.8	135	16
Condition	5.0		450		210		10.9	25	16
Qrtz con 1	0.0	5.0							
Qrtz con 2	0.0	3.0					10.3	82	16
MgO con 1	3.0	3.0		600		33			
MgO con 2	0.0	3.0				16.5			
MgO con 3	0.0	4.0							
MgO con 4	2.0	2.0		200			8.4	150	18
TOTALS	50.0	20.0	450	800	210	49.5			

FLOTATION PROCEDURE

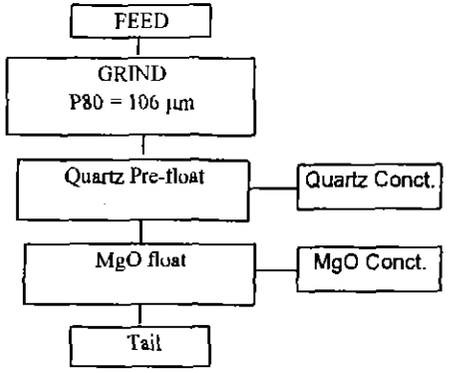


TABLE : 29 BATCH FLOTATION

CLIENT NAME:	Golden Triangle
SAMPLE DESCRIPTION :	Magnesite Composite #2
JOB NUMBER :	7740
TEST DESCRIPTION:	Batch Flotation
TEST NUMBER :	RB2049
DATE :	16-Jun-98

OBJECTIVES

Optimise grade and recovery of magnesite.

Increase Starch

COMMENTS

Stage	Cell Size litre	Rotor RPM	Scraper Size mm	Scraper Freq. sec
Rougher	2.5	900	n/a	n/a
Cleaner	na			
Reclnr	na			

MASS AND METAL BALANCES

PRODUCT	MASS		Cum	MgO		Cum		SiO_2		Cum		Fe_2O_3	CO3
	g	%	%	%	%dist	%	%dist	%	%dist	%	%dist	%	%
Feed	1000			42.00				3.03				3.31	68.0
Quartz con 1	203.2	20.6	20.6	39.3	19.4	39.3	19.4	10.9	77.0	10.9	77.0	3.01	46.5
Quartz con 2	34.4	3.5	24.1	40.9	3.4	39.5	22.9	5.9	7.1	10.1	84.1	3.17	54.4
Magn. Con 1	252.4	25.5	25.5	43.1	26.5	43.1	26.5	0.0	0.0	0.0	0.0	3.30	56.9
Magn. Con 2	162.1	16.4	42.0	41.8	16.5	42.6	43.1	0.1	0.7	0.0	0.7	3.21	49.1
Magn. Con 3	113.0	11.4	53.4	41.5	11.4	42.4	54.5	0.4	1.6	0.1	2.3	3.27	47.1
Tail	222.8	22.6	100.0	41.7	22.6	41.7	100.0	1.8	13.6	1.8	100.0	3.27	50.0
Calc'd Head	987.9	100.0		41.5	100.0			2.9	100.0			3.21	50.7
Assay Head				42.0				3.0				3.31	68.0

SCHEDULE OF REAGENTS **WATER:** Perth Tap **Grind: P80 = 212 µm**

Operation	Time (min) Condtn.	Time (min) Float (frth rmvl)	K2C g/t	FS-2 g/t	Caust. Starch g/t	Flotol B g/t	pH	mV (Sat AgCl)	Temp °C
Grind	30.0						9.6	188	18
Condition	5.0		450		300				
Qrtz con 1	0.0	5.0							18.5
Qrtz con 2	0.0	3.0					10.3	26	
MgO con 1	3.0	3.0		600					20
MgO con 2	1.0	3.0		100		16.5			
MgO con 3	1.0	2.0		100			9.4	50	21
TOTALS	40.0	16.0	450	800	300	16.5			

FLOTATION PROCEDURE

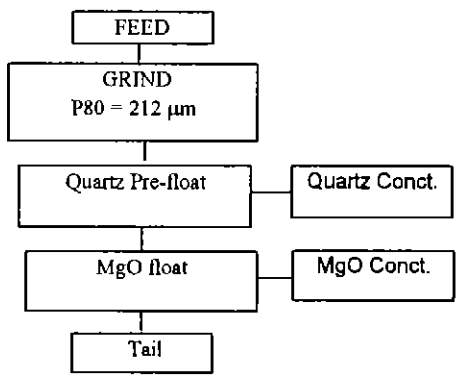


TABLE : 30 BATCH FLOTATION

CLIENT NAME:	Golden Triangle
SAMPLE DESCRIPTION :	Magnesite Composite #2
JOB NUMBER :	7740
TEST DESCRIPTION:	Batch Flotation
TEST NUMBER :	RB2050
DATE :	16-Jun-98

OBJECTIVES

Optimise grade and recovery of magnesite.

Decrease K2C, increase Starch, HAL519

COMMENTS

Stage	Cell Size litre	Rotor RPM	Scraper Size mm	Scraper Freq. sec
Rougher	2.5	900	n/a	n/a
Cleaner	na			
Reclnr	na			

MASS AND METAL BALANCES

PRODUCT	MASS		Cum	MgO		Cum		SiO_2		Cum		Fe_2O_3	CO3
	g	%	%	%	%dist	%	%dist	%	%dist	%	%dist	%	%
Feed	1000			42.00				3.03				3.31	68.0
Quartz con 1	143.2	14.5	14.5	37.3	12.9	37.3	12.9	15.8	75.7	15.8	75.7	2.86	51.3
Quartz con 2	14.5	1.5	15.9	36.4	1.3	37.2	14.2	15.7	7.6	15.8	83.3	2.75	47.6
Magn. Con 1	109.3	11.0	11.0	44.1	11.7	44.1	11.7	0.1	0.5	0.1	0.5	3.40	61.2
Magn. Con 2	173.0	17.5	28.5	43.9	18.4	44.0	30.1	0.0	0.0	0.1	0.5	3.31	53.2
Magn. Con 3	143.2	14.5	43.0	42.8	14.9	43.6	44.9	0.0	0.0	0.0	0.5	3.25	49.0
Tail	406.2	41.1	100.0	41.5	40.9	41.5	100.0	1.2	16.3	1.2	100.0	3.29	57.3
Calc'd Head	989.4	100.0		41.7	100.0			3.0	100.0			3.23	54.8
Assay Head				42.0				3.0				3.31	68.0

SCHEDULE OF REAGENTS **WATER:** Perth Tap **Grind: P80 = 212 µm**

Operation	Time (min) Condtn.	Time (min) Float (frth mvl)	K2C g/t	HAL519 g/t	Caust. Starch g/t	Flotol B g/t	pH	mV (Sat AgCl)	Temp °C
Grind	30.0						9.6	68	18.5
Condition	5.0		300		300	16.5			
Qrtz con 1	0.0	4.0							
Qrtz con 2	0.0	3.0					10.4	8	20
MgO con 1	3.0	3.0		600		33			
MgO con 2	1.0	3.0		100					
MgO con 3	1.0	3.0		100			8.5	46	21
TOTALS	40.0	16.0	300	800	300	49.5			

FLOTATION PROCEDURE

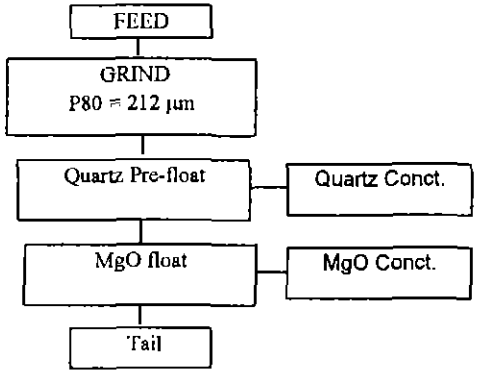


TABLE : 31 BATCH FLOTATION

CLIENT NAME:	Golden Triangle
SAMPLE DESCRIPTION :	Magnesite Composite #2
JOB NUMBER :	7740
TEST DESCRIPTION:	Batch Flotation
TEST NUMBER :	RB2051
DATE :	17-Jun-98

OBJECTIVES

Optimise grade and recovery of magnesite.

Hal 519, Quebracho, Sod Silicate

COMMENTS

Stage	Cell Size litre	Rotor RPM	Scraper Size mm	Scraper Freq. sec
Rougher	2.5	900	n/a	n/a
Cleaner	na			
Reclnr	na			

MASS AND METAL BALANCES

PRODUCT	MASS		Cum	MgO		Cum		SiO_2		Cum		Fe_2O_3	CO3
	g	%	%	%	%dist	%	%dist	%	%dist	%	%dist	%	%
Feed	1000			42.00				3.03				3.31	68.0
Quartz con 1	230.6	23.4	23.4	38.9	21.7	38.9	21.7	11.2	87.7	11.2	87.7	3.08	54.7
Quartz con 2	154.2	15.6	39.0	43.2	16.1	40.6	37.9	1.0	5.4	7.1	93.1	3.28	62.7
Magn. Con 1	117.3	11.9	11.9	43.2	12.3	43.2	12.3	0.0	0.0	0.0	0.0	3.20	44.4
Magn. Con 2	129.5	13.1	25.0	42.9	13.5	43.0	25.7	0.0	0.0	0.0	0.0	3.24	44.5
Magn. Con 3	68.7	7.0	32.0	42.4	7.1	42.9	32.8	0.0	0.0	0.0	0.0	3.30	51.8
Tail	286.3	29.0	100.0	42.3	29.3	42.3	100.0	0.7	6.9	0.7	100.0	3.35	48.5
Calc'd Head	986.6	100.0		41.8	100.0			3.0	100.0			3.24	51.4
Assay Head				42.0				3.0				3.31	68.0

SCHEDULE OF REAGENTS **WATER:** Perth Tap **Grind: P80 = 212 µm**

Operation	Time (min) Condtn.	Time (min) Float (frth rmvl)	K2C g/t	HAL519 g/t	Quebracho g/t	Sodium Silicate g/t	Flotol B g/t	pH	mV (Sat AgCl)	Temp °C
Grind	30.0							9.9	150	16
Condition	5.0		450		50		16.5			
Qrtz con 1	0.0	4.0								
Qrtz con 2	0.0	3.0						9.7	125	17.5
MgO con 1	2.0	3.0		500		100	16.5			
MgO con 2	1.0	3.0		200						
MgO con 3	1.0	3.0		200				8.3	155	19
TOTALS	39.0	16.0	450	900	50	100	33			

FLOTATION PROCEDURE

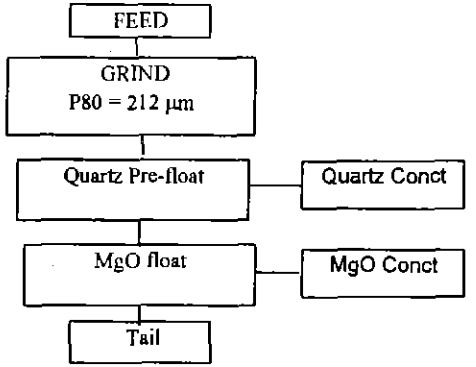


TABLE : 32 BATCH FLOTATION

CLIENT NAME:	Golden Triangle
SAMPLE DESCRIPTION :	Magnesite Composite #2
JOB NUMBER :	7740
TEST DESCRIPTION:	Batch Flotation
TEST NUMBER :	RB2060
DATE :	23-Jun-98

OBJECTIVES

Optimise grade and recovery of magnesite.

No Starch, Reduce K2C, Sod. Silicate

COMMENTS

Stage	Cell Size litre	Rotor RPM	Scraper Size mm	Scraper Freq. sec
Rougher	2.5	900	50	10
Cleaner	na			
Reclnr	na			

MASS AND METAL BALANCES

PRODUCT	MASS		Cum	MgO		Cum		SiO_2		Cum		Fe_2O_3	CO3
	g	%	%	%	%dist	%	%dist	%	%dist	%	%dist	%	%
Feed	1000			42.00				3.03				3.31	68.0
Quartz con 1	61.4	6.2	6.2	27.1	4.0	27.1	4.0	40.0	82.9	40.0	82.9	2.28	32.2
Quartz con 2	28.9	2.9	9.1	41.6	2.9	31.8	6.9	5.0	4.9	28.8	87.7	3.47	49.9
Magn. Con 1	25.1	2.5	2.5	42.8	2.6	42.8	2.6	1.2	1.0	1.2	1.0	3.58	51.8
Magn. Con 2	304.9	30.8	33.3	43.4	32.1	43.4	34.7	0.0	0.0	0.1	1.0	3.31	51.4
Magn. Con 3	270.8	27.3	60.6	42.9	28.1	43.2	62.8	0.0	0.0	0.1	1.0	3.28	51.0
Tail	300.3	30.3	100.0	41.7	30.3	41.7	100.0	1.1	11.2	1.1	100.0	3.27	52.4
Calc'd Head	991.4	100.0		41.7	100.0			3.0	100.0			3.24	50.4
Assay Head				42.0				3.0				3.31	68.0

SCHEDULE OF REAGENTS **WATER:** Perth Tap **Grind: P80 = 212 µm**

Operation	Time (min) Condtn.	Time (min) Float (frth rmvl)	K2C g/t	FS2 g/t	Sod. Silicate g/t	Flotol B g/t	pH	mV (Sat AgCl)	Temp °C
Grind	30.0						9.9	75	15
Condition	2.0		400			33			
Qrtz con 1	0.0	3.0	50						
Qrtz con 2	1.0	1.0					9.5	100	15.5
MgO con 1	3.0	3.0		250	100				
MgO con 2	1.0	3.0		250					
MgO con 3	1.0	3.0		250		16.5	8.8	118	18
TOTALS	38.0	13.0	450	750	100	49.5			

FLOTATION PROCEDURE

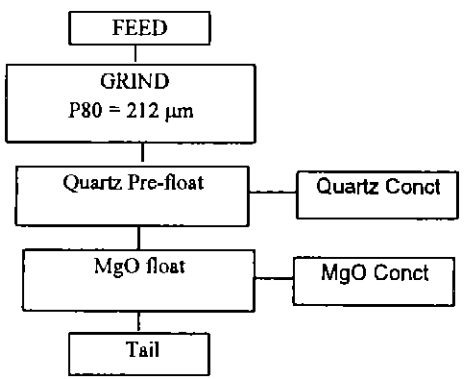


TABLE : 33 BATCH FLOTATION

CLIENT NAME:	Golden Triangle
SAMPLE DESCRIPTION :	Magnesite Composite #2
JOB NUMBER :	7740
TEST DESCRIPTION:	Batch Flotation
TEST NUMBER :	RB2062
DATE :	23-Jun-98

OBJECTIVES

Optimise grade and recovery of magnesite.

No Starch, Reduce K2C, Sod. Silicate
P80 = 106µm

COMMENTS

Stage	Cell Size litre	Rotor RPM	Scraper Size mm	Scraper Freq. sec
Rougher	2.5	900	50	10
Cleaner	na			
Reclnr	na			

MASS AND METAL BALANCES

PRODUCT	MASS		Cum	MgO		Cum		SiO_2		Cum		Fe_2O_3	CO3
	g	%	%	%	%dist	%	%dist	%	%dist	%	%dist	%	%
Feed	1000			42.00				3.03				3.31	68.0
Quartz con 1	88.2	8.9	8.9	30.1	6.4	30.1	6.4	31.1	92.7	31.1	92.7	2.48	37.0
Quartz con 2	22.2	2.2	11.1	41.2	2.2	32.4	8.6	6.4	4.8	26.2	97.4	3.38	49.4
Magn. Con 1	14.9	1.5	1.5	42.2	1.5	42.2	1.5	1.7	0.8	1.7	0.8	3.58	59.6
Magn. Con 2	321.0	32.3	33.8	43.6	33.9	43.6	35.4	0.0	0.0	0.1	0.8	3.39	56.0
Magn. Con 3	403.4	40.6	74.5	42.5	41.5	43.0	76.9	0.0	0.0	0.0	0.8	3.27	50.9
Tail	143.1	14.4	100.0	41.8	14.5	41.8	100.0	0.4	1.7	0.4	100.0	3.27	50.7
Calc'd Head	992.8	100.0		41.6	100.0			3.0	100.0			3.25	51.3
Assay Head				42.0				3.0				3.31	68.0

SCHEDULE OF REAGENTS **WATER:** Perth Tap **Grind: P80 = 106 µm**

Operation	Time (min) Condtn.	Time (min) Float (frth rnvl)	K2C g/t	FS2 g/t	Sod. Silicate g/t	Flotol B g/t	pH	mV (Sat AgCl)	Temp °C
Grind	40.0						9.7	121	16.5
Condition	2.0		300			16.5			
Qrtz con 1	0.0	3.0							
Qrtz con 2	1.0	2.0					9.4	123	18
MgO con 1	3.0	2.0		250	100	16.5			
MgO con 2	1.0	3.0		250					
MgO con 3	1.0	3.0		250			8.4	140	19
TOTALS	48.0	13.0	300	750	100	33			

FLOTATION PROCEDURE

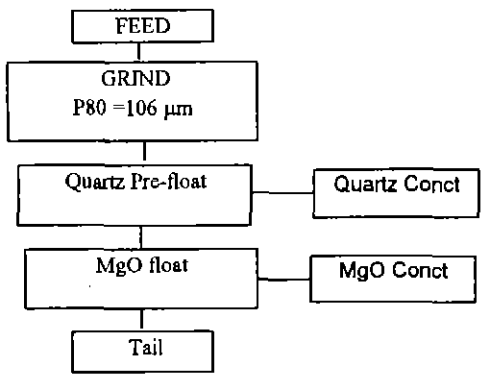


TABLE : 34 BATCH FLOTATION

CLIENT NAME:	Golden Triangle
SAMPLE DESCRIPTION :	Magnesite Composite # 1
JOB NUMBER :	7740
TEST DESCRIPTION:	Batch Flotation
TEST NUMBER :	Bulk #1
DATE :	4-Jul-98

OBJECTIVES

Bulk Float:
To produce conct for further processing.

COMMENTS

Stage	Cell Size litre	Rotor RPM	Scraper Size mm	Scraper Freq. sec
Rougher	5	900	50	10
Cleaner	na			
Reclnr	na			

MASS AND METAL BALANCES

PRODUCT	MASS		Cum	MgO		Cum		SiO_2		Cum		Fe_2O_3	CO3	LOI	SO3
	g	%	%	%	%dist	%	%dist	%	%dist	%	%dist	%	%	%	%
Feed	12000			43.9				2.82				0.80	71.9	50.10	0.06
Quartz con 1	1269.3	10.6	10.6	34.9	8.5	34.9	8.5	23.2	95.3	23.2	95.3	0.75	59.0	39.44	0.34
Quartz con 2	384.1	3.2	13.8	44.5	3.3	37.1	11.7	2.40	3.0	18.4	98.3	0.78	74.0	50.33	0.07
MgO Conc	10315.8	86.2	100.0	44.8	88.3	44.8	100.0	0.05	1.7	0.1	100.0	0.73	72.0	51.43	0.03
Calc'd Head	11969.2	100.0		43.7	100.0			2.58	100.0			0.73	70.7	50.1	0.06
Assay Head				43.9				2.82				0.80	71.9	50.1	0.06

SCHEDULE OF REAGENTS **WATER:** Perth Tap **Grind: P80 = 212 µm**

Operation	Time (min) Condtn.	Time (min) Float (frth rmvl)	K2C g/t	FS2 g/t	Sod. Silicate g/t	Flotol B g/t	pH	mV (Sat AgCl)	Temp °C
Grind	16.5						9.6	155	16.5
Condition	2.0		200			16.5	9.7	140	
Qrtz con 1	0.0	3.0							
Qrtz con 2	0.0	2.0					9.4	152	17.5
TOTALS	18.5	5.0	200	0	0	16.5			

FLOTATION PROCEDURE

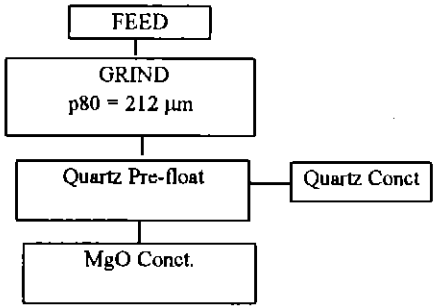


TABLE : 35 BATCH FLOTATION

CLIENT NAME:	Golden Triangle
SAMPLE DESCRIPTION :	Magnesite Composite #2
JOB NUMBER :	7740
TEST DESCRIPTION:	Batch Flotation
TEST NUMBER :	Bulk #2
DATE :	3-Jul-98

OBJECTIVES

Bulk Float:
To produce conct for further processing.

COMMENTS

Stage	Cell Size litre	Rotor RPM	Scraper Size mm	Scraper Freq. sec
Rougher	5	900	50	10
Cleaner	na			
Reclnr	na			

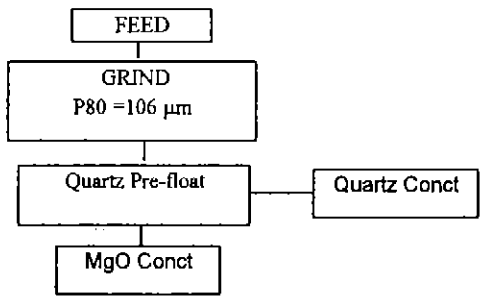
MASS AND METAL BALANCES

PRODUCT	MASS g	MASS %	Cum %	MgO %	MgO %dist	Cum %	Cum %dist	SiO_2 %	SiO_2 %dist	Cum %	Cum %dist	Fe_2O_3 %	CO3 %	LOI %	SO3 %
Feed	12000			42.00				3.03				3.31	68.0	49.00	0.1
Quartz con 1	1830.7	15.3	15.3	35.8	13.1	35.8	13.1	19.0	95.5	19.0	95.5	2.92	59.0	40.40	0.27
Quartz con 2	397.4	3.3	18.6	42.1	3.3	36.9	16.5	3.35	3.7	16.2	99.2	3.38	72.0	48.70	0.08
MgO Conct.	9740.0	81.4	100.0	42.9	83.5	42.9	100.0	0.03	0.8	0.0	100.0	3.66	67.5	50.60	0.03
Calc'd Head	11968.1	100.0		41.8	100.0			3.05	100.0			3.54	66.3	49.0	0.07
Assay Head				42.0				3.03				3.31	68.0	49.0	0.06

SCHEDULE OF REAGENTS **WATER:** Perth Tap **Grind: P80 = 106 µm**

Operation	Time (min) Condtn.	Time (min) Float (frth rmvl)	K2C g/t	FS2 g/t	Sod. Silicate g/t	Flotol B g/t	pH	mV (Sat AgCl)	Temp °C
Grind	40.0						9.7	146	16
Condition	2.0		300			16.5	9.7	142	
Qrtz con 1	0.0	3.0							
Qrtz con 2	0.0	2.0					9.5	150	17
TOTALS	42.0	5.0	300	0	0	16.5			

FLOTATION PROCEDURE



APPENDIX 1

MINERALOGY

458052

ORETEST
Metallurgical Testwork and Research

INTERNATIONAL QUALITY MANAGEMENT SYSTEM ISO 9002 NATA CERTIFIED

MINERALOGICAL EXAMINATION OF TWO COMPOSITE MAGNESITE ORES FROM MAIN CREEK

CLIENT: Golden Triangle Resources NL

JOB No.: 7740

DATE: 22 July 1998

Dr N. Streltsova

Dr I. Corrans

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A.C.N. 060 739 835

1 INTRODUCTION

Two composite samples of magnesite ore were studied by scanning electron microscopy (SEM). The aim of the study was to characterise major and minor mineral phases and to determine the liberation size of Magnesite for further flotation testing.

All pictures in this report are back-scattered electron images of the samples (unless otherwise specified).

The energy of back-scattered electrons is directly proportional to the mean atomic number of the scattering material. Therefore, the brightness of the particles is proportional to their mean atomic weight, i.e. the minerals with lower atomic weight will have lower brightness and the heavier mineral phases will have higher brightness.

SEM is equipped with the energy dispersive spectrometer (EDS), which collects characteristic elemental X-rays produced by focussed electron beam bombarding the particle. This EDS spectrometer allows one to analyse the elemental composition of the mineral particles simultaneously while producing their back-scattered electron images using back-scattered electron detector.

2 SEM RESULTS

COMPOSITE 1

Thin Section 1A

This section represents massive Magnesite (M) and Dolomite (D) intergrowth containing Pyrite (Py) inclusions. Magnesite areas reach 1-1.5cm in size while Dolomite occurs as massive blocks and as thinner secondary veins and finely intergrown texture.

Pyrite grains tend to form in Dolomite or near the Magnesite / Dolomite grain boudaries. The size of Pyrite inclusions is very variable and ranges from <50μm to 0.3mm.

Pic 1: The field area of this image is approximately 10 x 6.5mm. Darker area is Magnesite (M) and lighter area on the left is Dolomite (D).

Pic 2: The field area of this image is approximately 12 x 9mm. The picture demonstrates very coarse Magnesite / Dolomite intergrowth. Dolomite contains a large number of bright Pyrite included grains.

Pic 3: The field area is approximately 10 x 6.5mm. Similar massive Magnesite / Dolomite material with large Pyrite grains associated mostly with Dolomite.

Pic 4, 5: These pictures are showing the same type of Magnesite / Dolomite massive intergrowth and also some Dolomite veins.

Pic 6: Demonstrates Magnesite / Dolomite grain boundary and Pyrite inclusions in Dolomite at higher magnification. The field area is approximately 1.1 x 0.8mm.

Pic 7: Shows the formation of Dolomite veins in Magnesite.

Pic 8: Demonstrates Dolomite / Magnesite texture. The approximate size of Magnesite areas in Dolomite is 300-400μm.

Pic 9: Shows smaller Dolomite inclusion (60-70μm) in Magnesite.

Thin Section 1B

Magnesite and Dolomite are two major minerals in this section. Some Quartz is also observed as various size grains. Pyrite inclusions occur in Dolomite or within the Magnesite / Dolomite grain boundary.

Pic 1-3: Demonstrate massive Magnesite / Dolomite texture and Pyrite included in Dolomite. Dolomite forms extended directional flows which sometimes exceed 1mm in cross-section.

Pic 4,5: Show Dolomite / Magnesite massive intergrowth where Magnesite contains some Quartz grains (Q). Quartz particles in Pic. 4 vary in size from 15 to 30μm while Quartz grains in Pic 5 are significantly coarser and reach 140μm in size.

Pic 6: Demonstrates a very large area of Dolomite. The field dimension of this image is approximately 7 x 5mm.

Polished Block 1

Composite 1 was crushed to –2mm, the material was mixed with resin to form a solidified block. The surface of the block was polished to expose the cross-sections of the particles. Magnesite can be distinguished from Dolomite and Quartz by its darker shade of grey colour.

Pic 1: An overall view of the sample. It appears that the particle size distribution after cursching is close to bimodal. Crushing produced a significant amount of fine material with particle size below 20μm while the number of medium size grains is limited. Large grain in the centre is Magnesite / Quartz texture.

Pic 2: Demonstrates very large grain of Magnesite with included broad Dolomite vein. The length of this grain is about 1.4mm. Liberated Dolomite particle (up to 300μm) is shown below.

Pic 3: Large block of Magnesite (400-500μm) with finer Dolomite inclusions of up to 20μm in size. Liberated Dolomite particles of approximately 120μm in size are also shown.

Pic 4: Demonstrates the finer fraction of the crushed sample at higher magnification. The size of Magnesite particles in this view does not exceed 50μm. Some coarser Dolomite and Quartz particles were observed (up to 50-100μm). They appeared to be well liberated.

Pic 5: Shows similar area with fine Magnesite particles and a few larger Dolomite / Quartz grains.

Pic 6: Shows very large Magnesite grain with Quartz inclusions of up to 100μm in size.

Pic 7: Demonstrates massive Dolomite and Dolomite / Magnesite grains and also a large magnesite particle with Quartz inclusions of up to 120μm in size.

Pic 8: Massive Quartz / Magnesite intergrowth (0.7mm) and well liberated large Quartz grain.

Pic 9: Demonstrates Magnesite texture at higher magnification. It shows that the Magnesite structure is not very uniform and is built of the smaller rounded Magnesite blocks of approximately 10 to 30μm in size. This may explain the formation of a significant amount of fine Magnesite particles in crushing. A large Pyrite grain is also shown.

COMPOSITE 2

Thin Section 2A

The minerals in this section are not as massive as in the first sample. Magnesite Dolomite and Talc are major minerals, but some small amounts of Quartz were also observed. Talc was originally identified as Amphibole (Orthopyroxene-hydrated silicate) and, therefore, it is labelled "Amp" in the pictures. However, more detailed elemental analysis later confirmed that this fibrous material is Talc.

Pic 1: Shows Magnesite matrix with Quartz and Talc inclusions. The length of the Talc fibre is approximately 200μm.

Pic 2: Demonstrates the patchwork of Talc and Magnesite. The liberation size for magnesite in this view is about 100μm. The elemental spectra of Magnesite indicated that it contains a small amount of iron.

Pic 3: Demonstrates massive Talc vein in Magnesite. The thickness of the vein is about 400μm. The elemental composition of Talc material is not very uniform as indicated by the colour variation. It's lighter areas contain small amounts of iron and also have higher magnesium content.

Pic 4: Patch work of Talc and Magnesite. The liberation size for Magnesite is still fairly coarse at about 120-150μm.

Pic 5: Shows Magnesite matrix containing Talc / Dolomite composite intergrowth. The boundary between Talc (lighter) and Dolomite (darker) is well exposed. The area of Talc / Dolomite intergrowth is relatively large with the thickness exceeding 120–150µm.

Pic 6: Demonstrates another example of Magnesite matrix containing Dolomite and Dolomite / Talc intergrowth (left). Some coarse Pyrite particles are also shown on the right.

Pic 7: Coarse Talc / Magnesite texture.

Thin Section 2B

This section contains Magnesite, Dolomite and Quartz. Magnesite areas are extremely large and in some parts of the section extend to about 1-1.2cm (see Pic 4). Quartz and particulary Dolomite occur in two distinctive forms. "Primary" form is characterised by well faced large particles reaching 3-5mm in size. "Secondary" form is represented by finer intergrowth of both Dolomite and Quartz with Magnesite. An uneven contrast of Magnesite in these areas reveals that the Magnesite composition varies. Indeed, the lighter sections are iron-rich while the darker sections have no associated iron.

It appears that in the presence of sulphur iron is bound in Pyrite. Pyrite, however, was not found in this section of the sample. Due to the sulphur defficiency, excess iron in this system is bound in Magnesite.

Pic 1: Demonstrates in the central part a "primary" form of Quartz and Dolomite. The dimensions of the cross-section of the largest Quartz grain are approximately 2 x 4mm. Massive Dolomite and Quartz areas in the centre transform into the finer "secondary" areas.

Pic 2 and 3: Show "secondary" intergrowth of Dolomite and Magnesite. Iron-rich Magnesite areas are clearly demonstrated by contrast variations. Liberation size for Magnesite in these areas will be significantly finer than for the massive "primary" material type (Pic 4).

Polished Block 2

The sample preparation procedure is the same as described above for Composite 1.

Crushed Composite 2 appears to have smoother particle size distribution compared to Composite 1. Fine fraction largely consists of broken down Magnesite. Medium size fraction (80-300µm) contains liberated Magnesite, Dolomite and Quartz grain as well as a significant amount of composite Magnesite / Quartz and Magnesite / Dolomite grains. A small number of Talc were also present.

Coarse Magnesite grains / >300-400µm often contain inclusions of Dolomite and Quartz. These inclusions rarely constitute more than 20% of the particle volume. However, a number of complex Magnesite / Dolomite grains with high Dolomite content were also observed. They originate from the "secondary" type material described overleaf:

Pic 1: Overview of the sample showing all size fractions of the crushed material. Coarse particles are Magnesite and Magnesite / Dolomite. Medium size fraction contains large amounts of liberated Dolomite and some Quartz.

Pic 2, 3: Medium and fine fractions at higher magnification. Dolomite and Quartz in this view are in approximately equal proportions.

Pic 4: Large Magnesite grain with inclusions of Dolomite and Quartz (up to 100µm) and very large composite grain of Magnesite / Dolomite.

Pic 5: Composite grains of Magnesite with Quartz and Dolomite.

Pic 6: Composite grain of Magnesite with massive Dolomite and "secondary" Quartz.

Pic 7: Very large Magnesite Dominant grains with few inclusions of Dolomite and Quartz.

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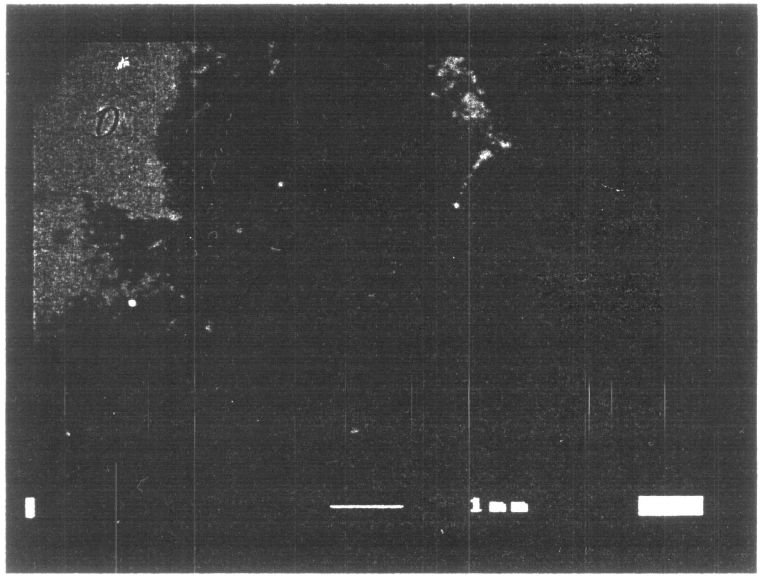
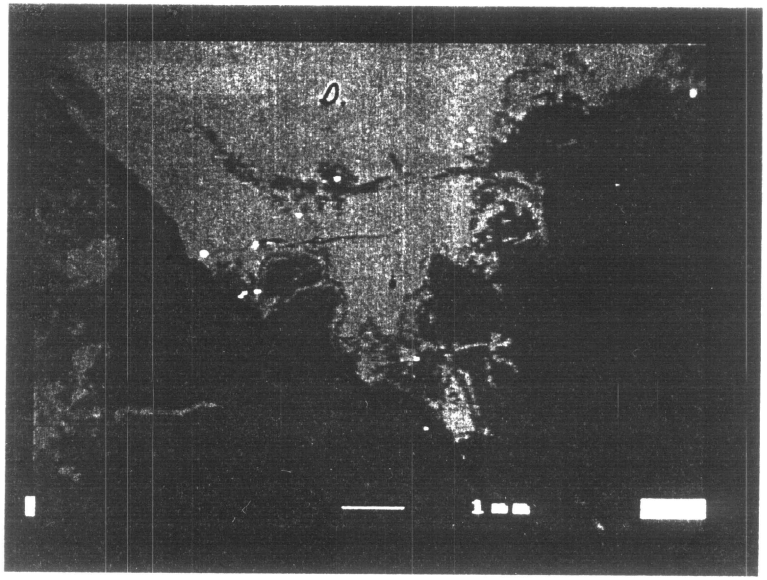
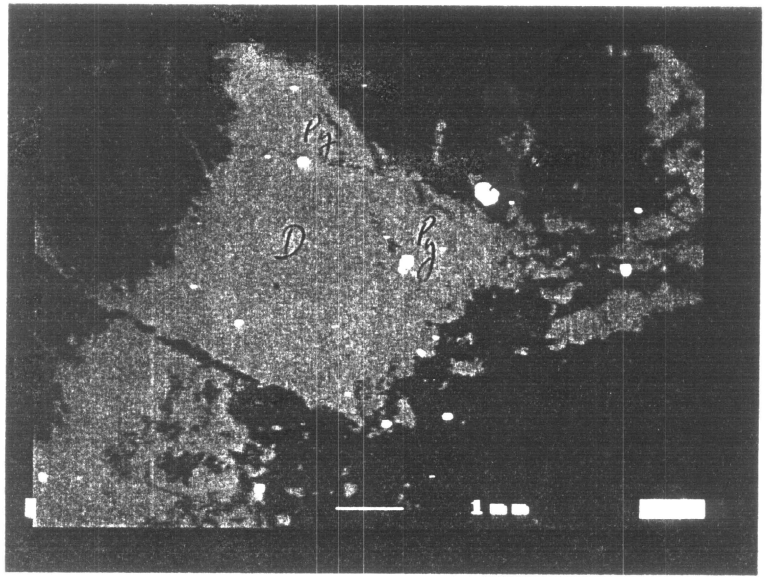


Pic. 1

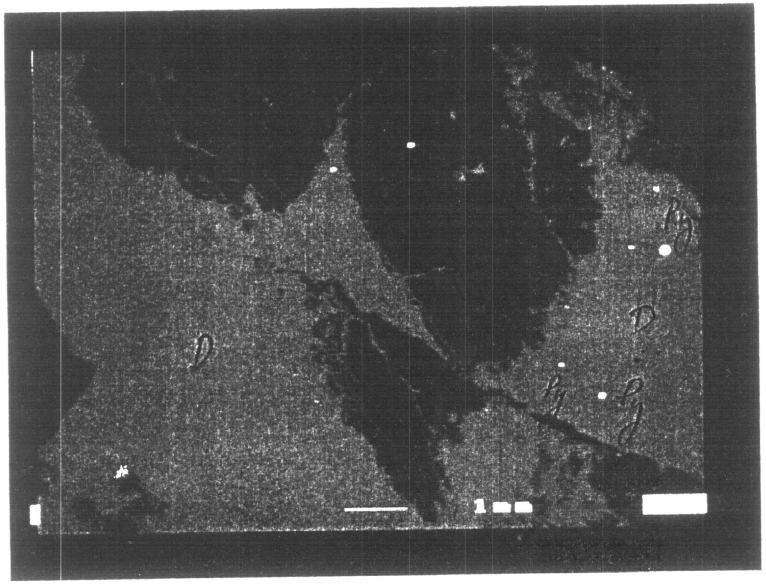


Pic. 2

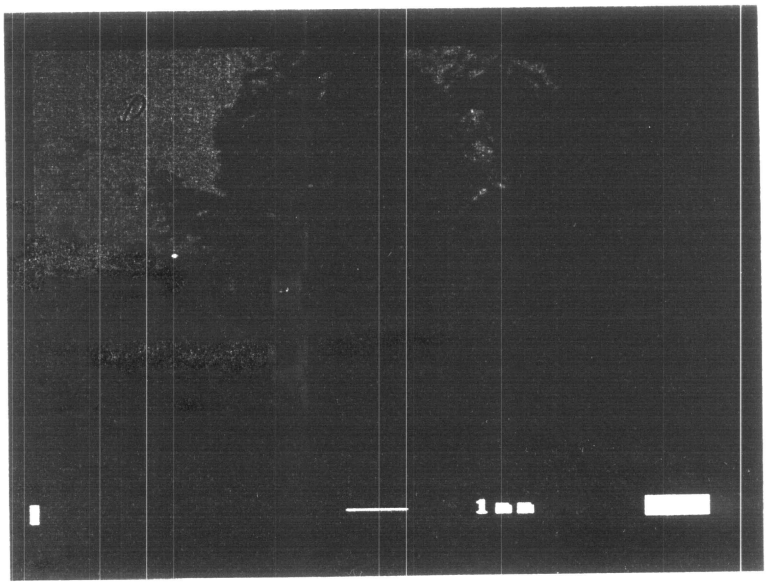
Magnesite Ore
Sample 1
Thin section A



Pic. 3

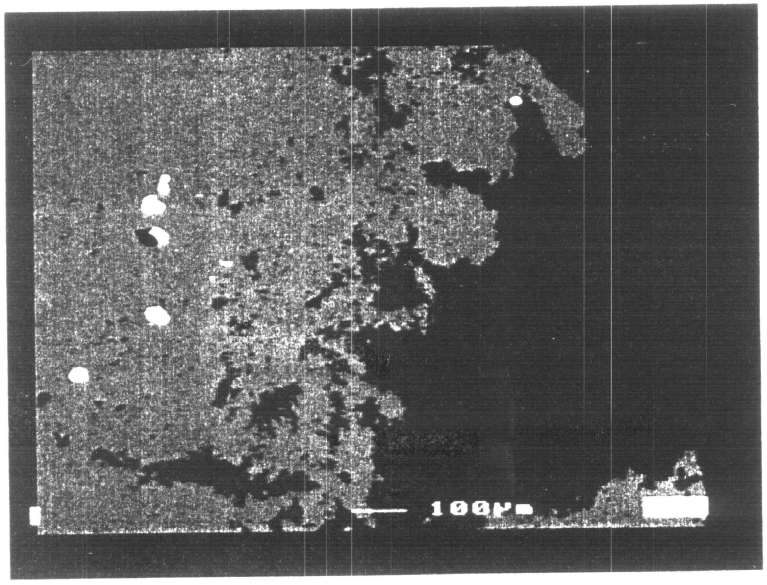


Pic. 4

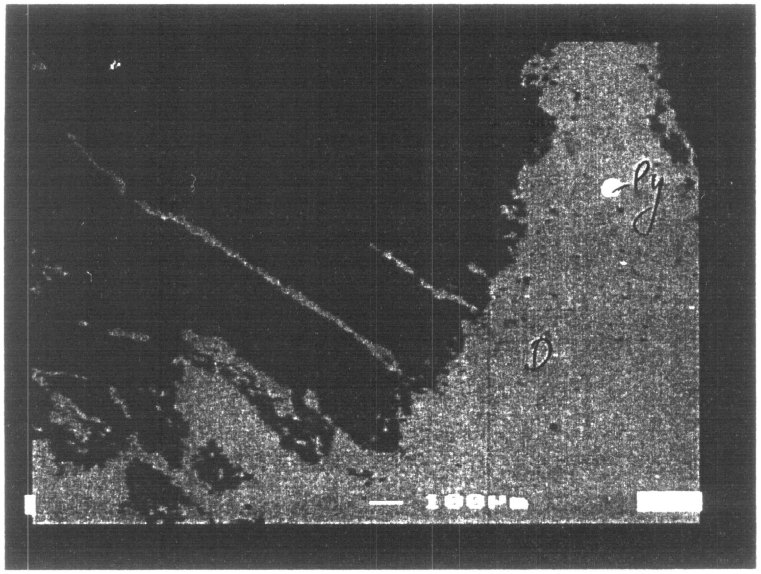


Pic. 5

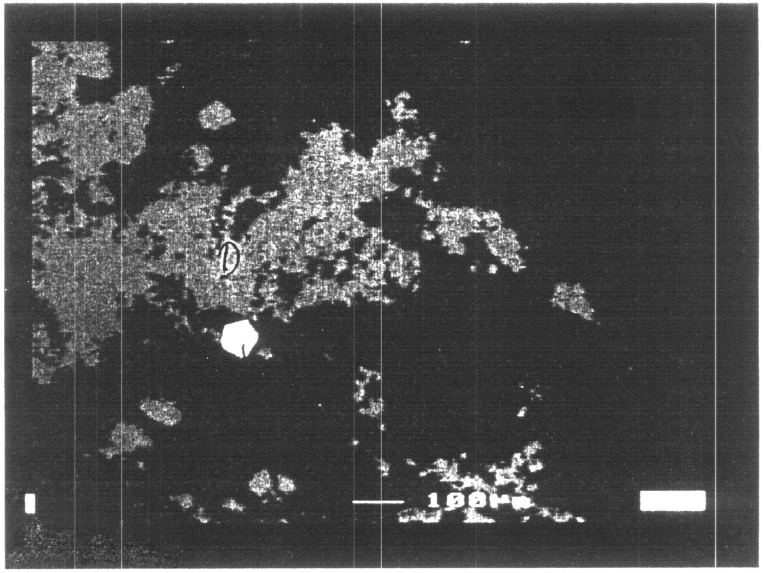
Magnesite Ore
Sample 1
Thin section A



Pic. 6

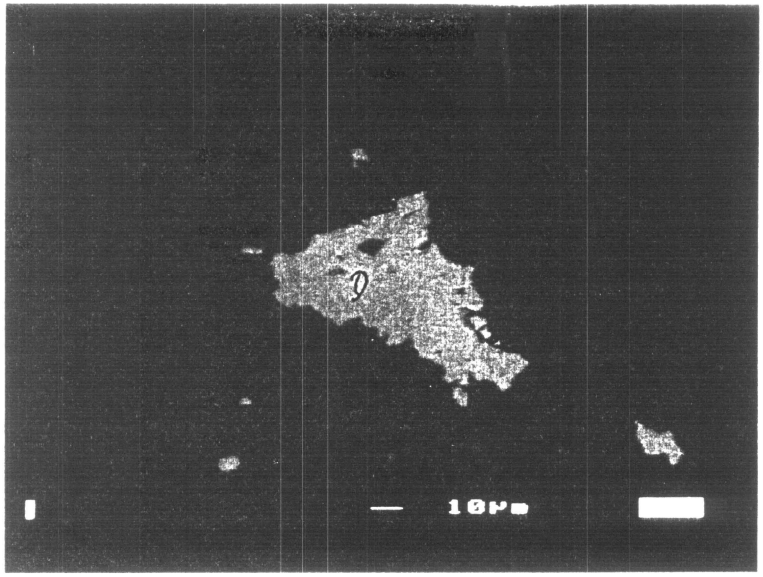


Pic. 7

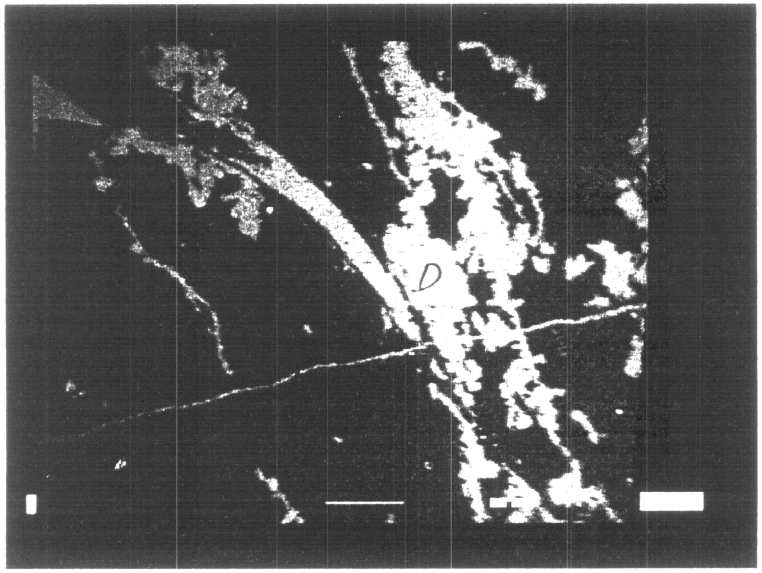


Pic. 8

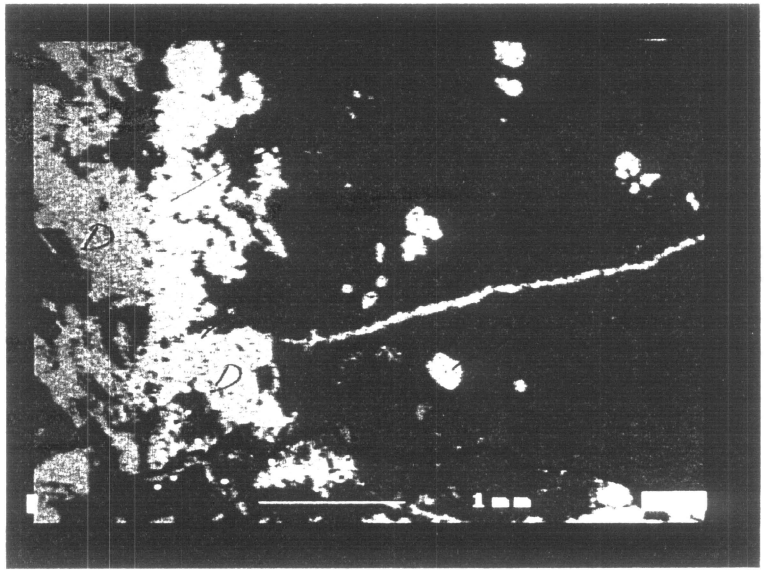
Magnesite Ore
Sample 1
Thin section A



Pic. 9

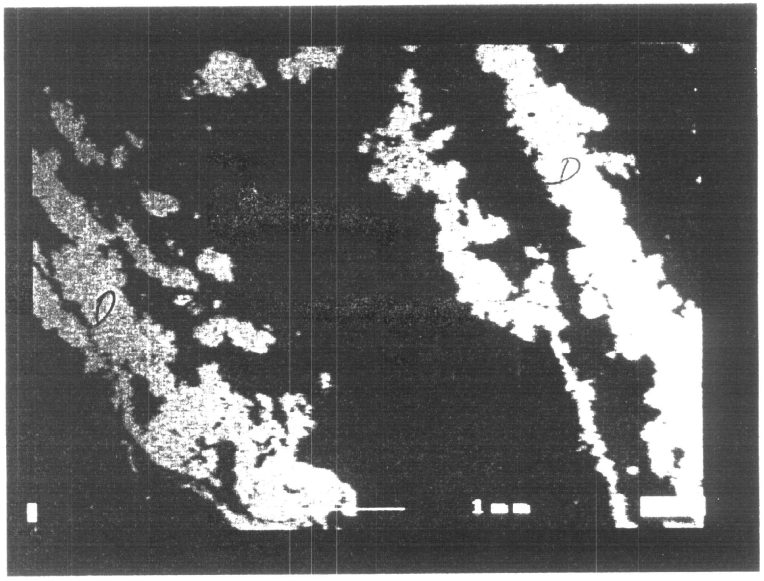


Pic. 1

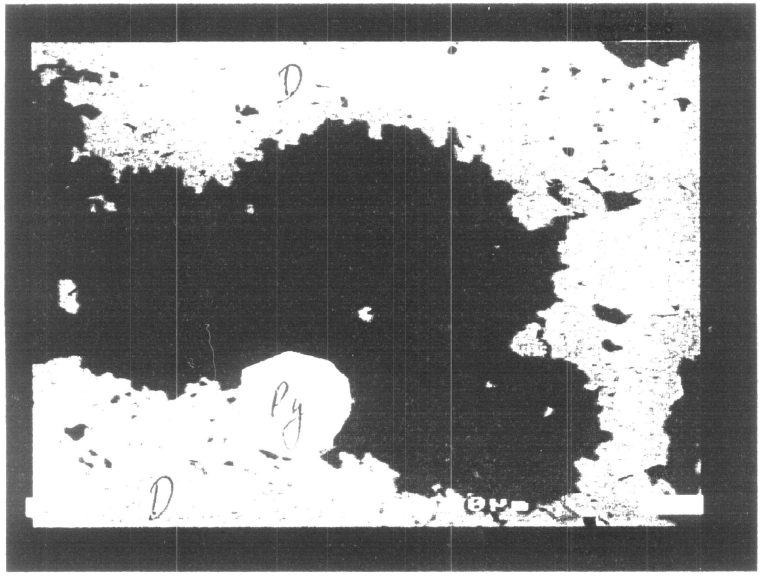


Pic. 2

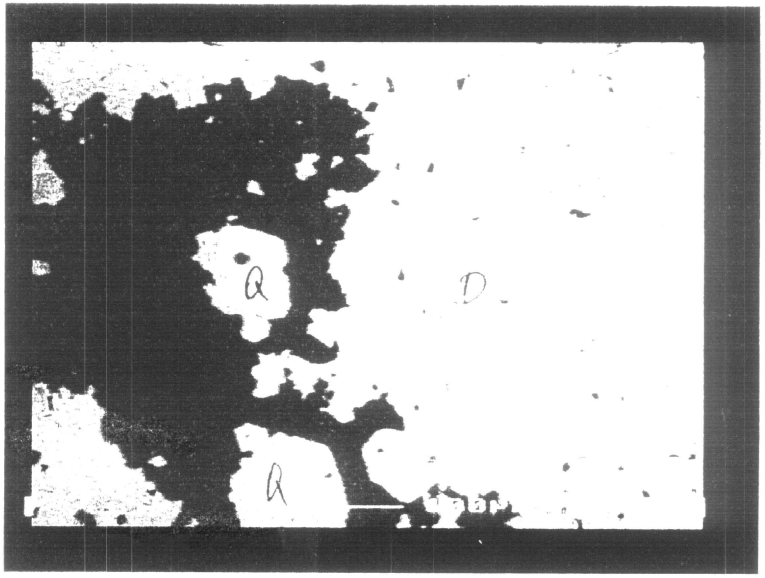
Magnesite Ore
Sample 1
Thin section B



Pic. 3

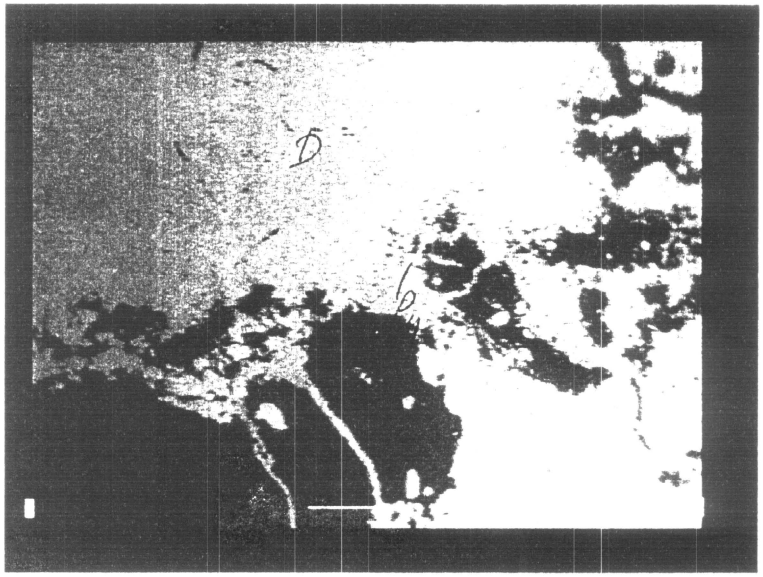


Pic. 4

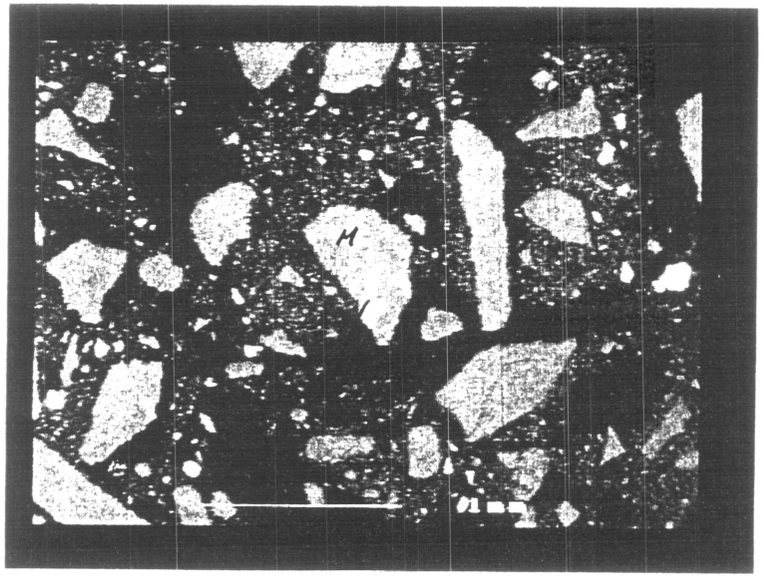


Pic. 5

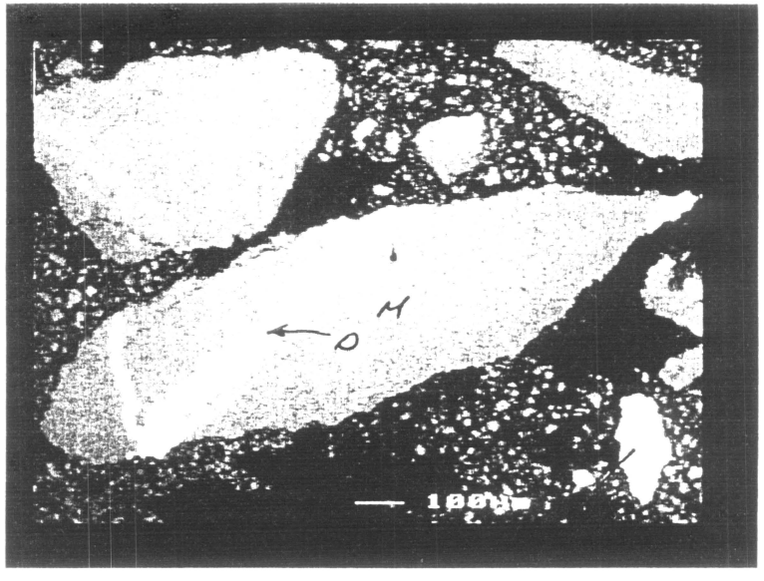
Magnesite Ore
Sample 1
Thin section B



Pic. 6

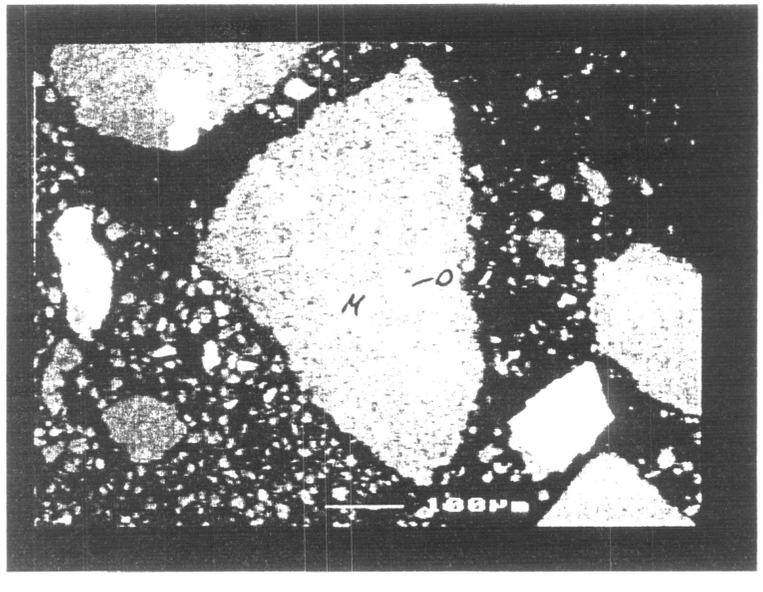


Pic. 1

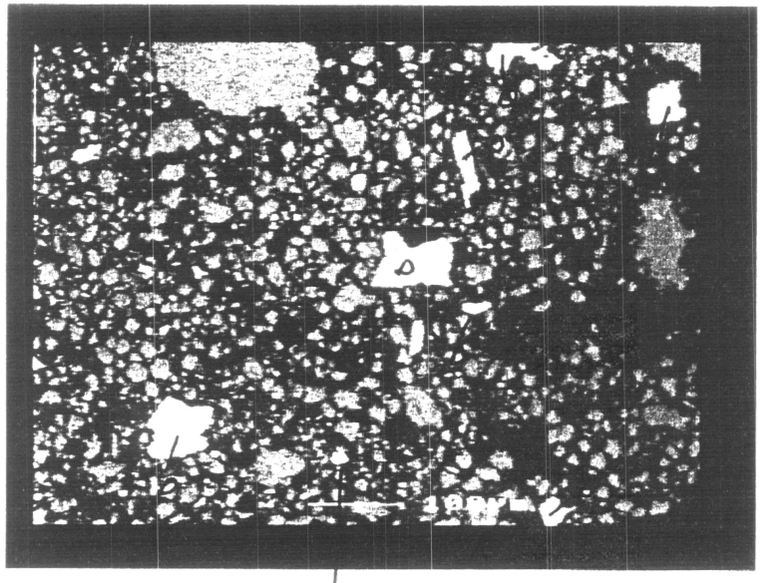


Pic. 2

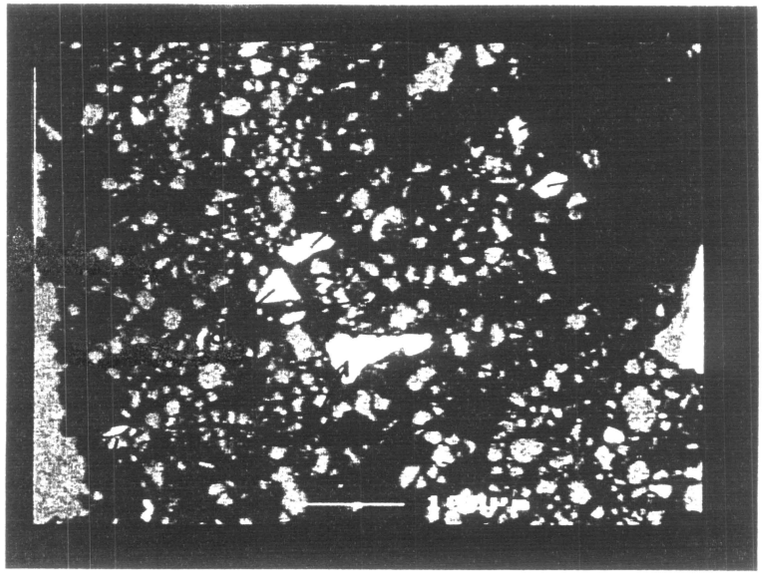
Magnesite Ore
Sample 1
Polished block



Pic. 3

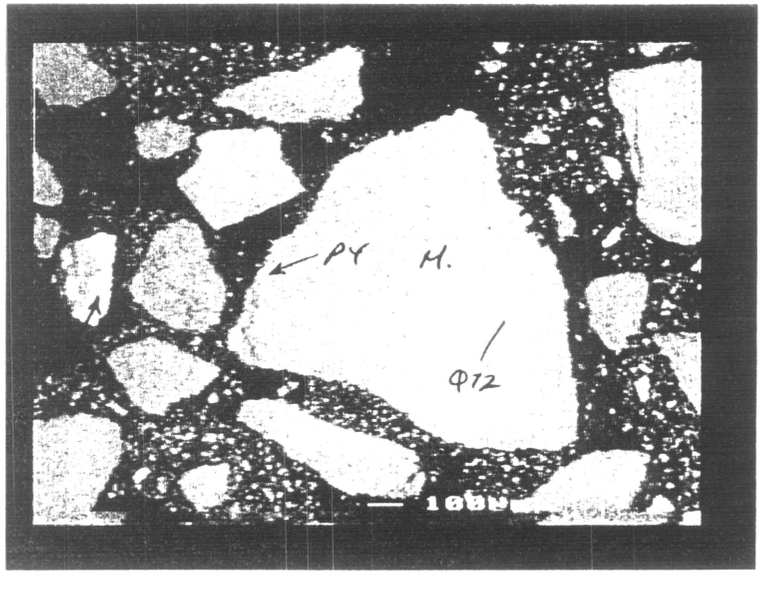


Pic. 4

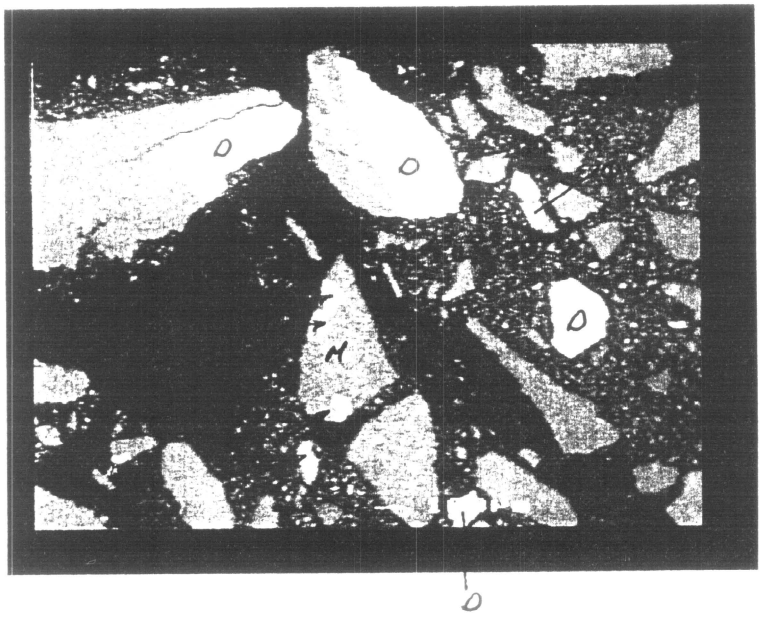


Pic. 5

Magnesite Ore
Sample 1
Polished block



Pic. 6



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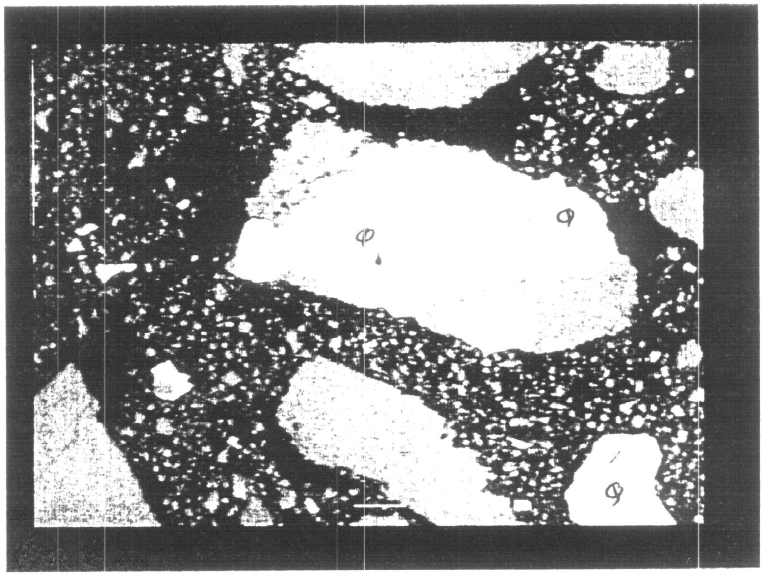
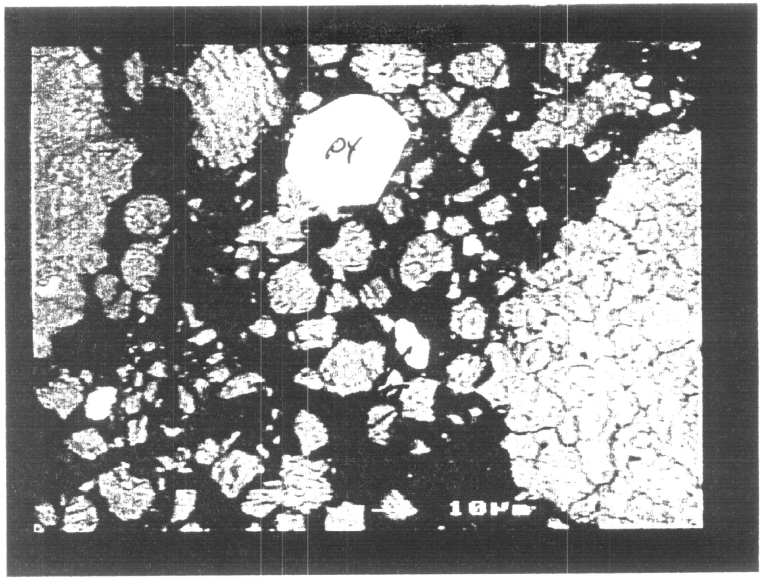
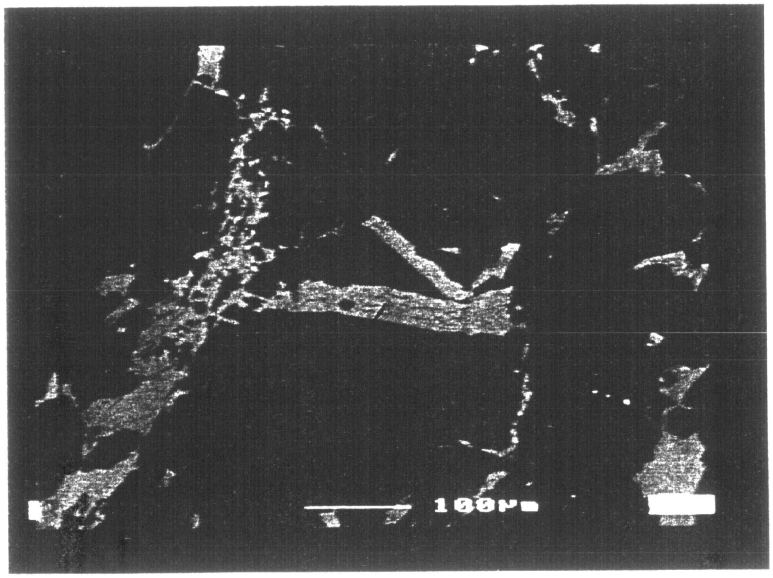


Pic. 8

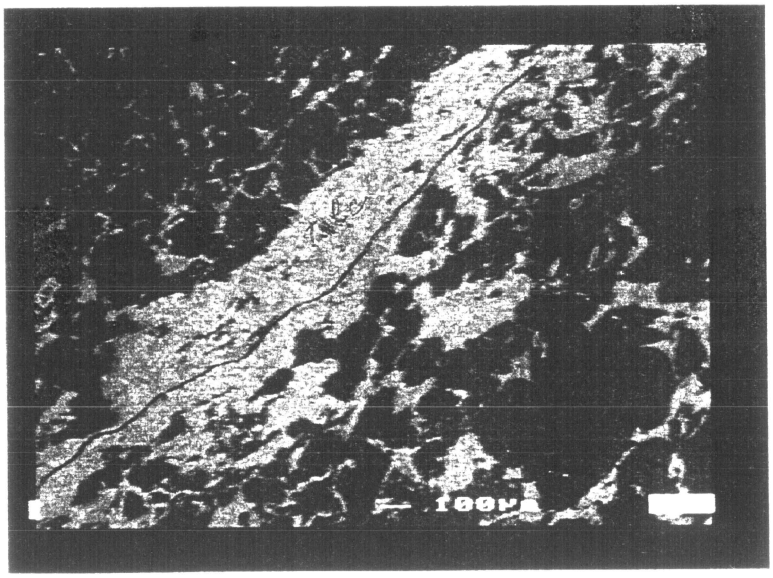
Magnesite Ore
Sample 1
Polished block



Pic. 9

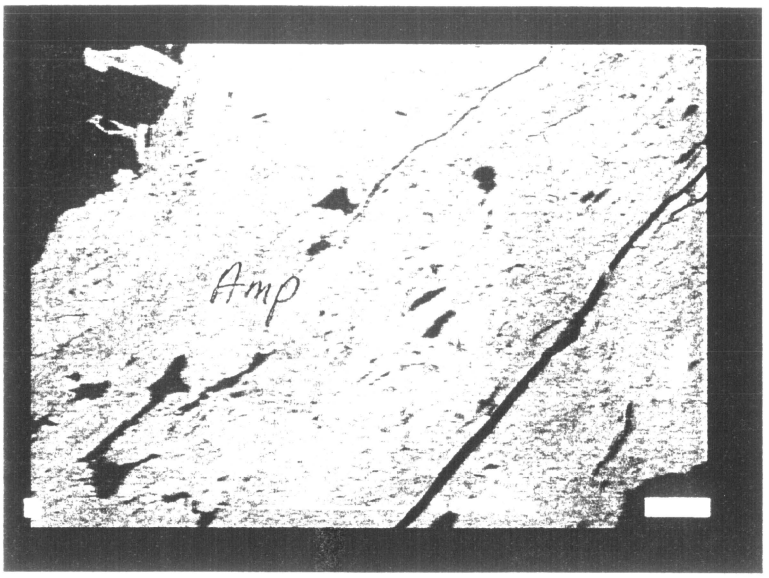


Pic. 1

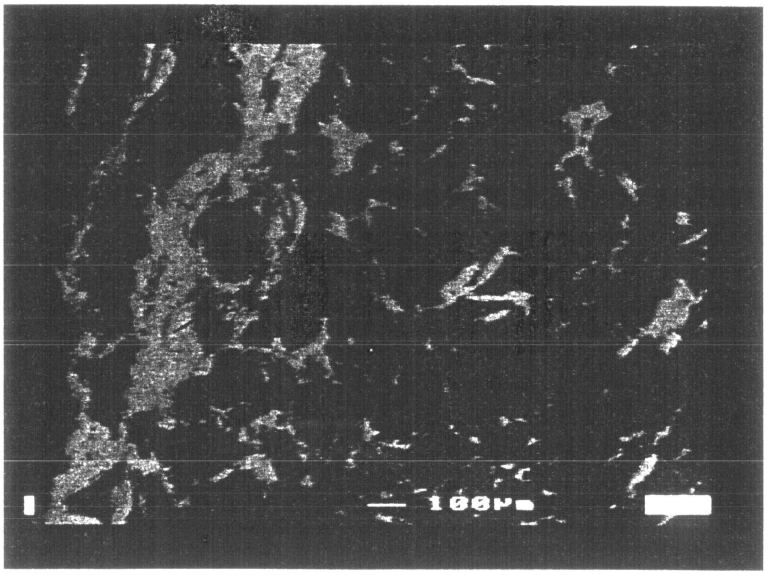


Pic. 2

Magnesite Ore
Sample 2, Thin Section A

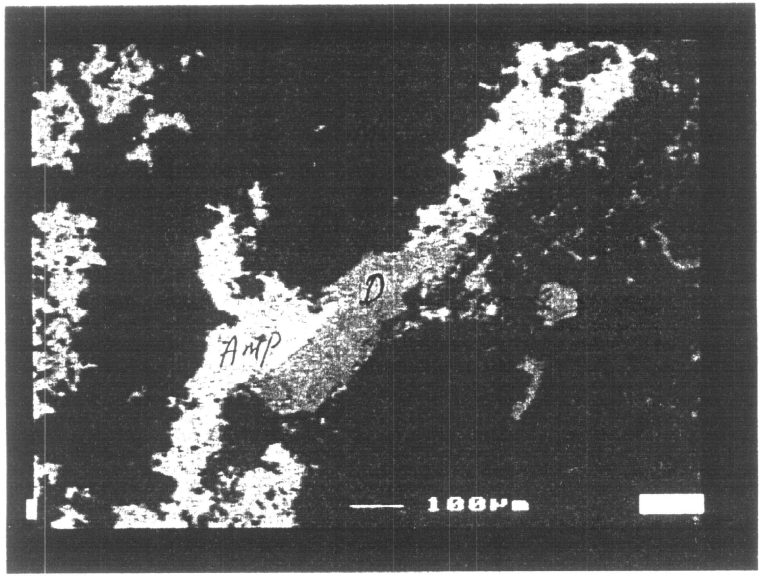


Pic. 3

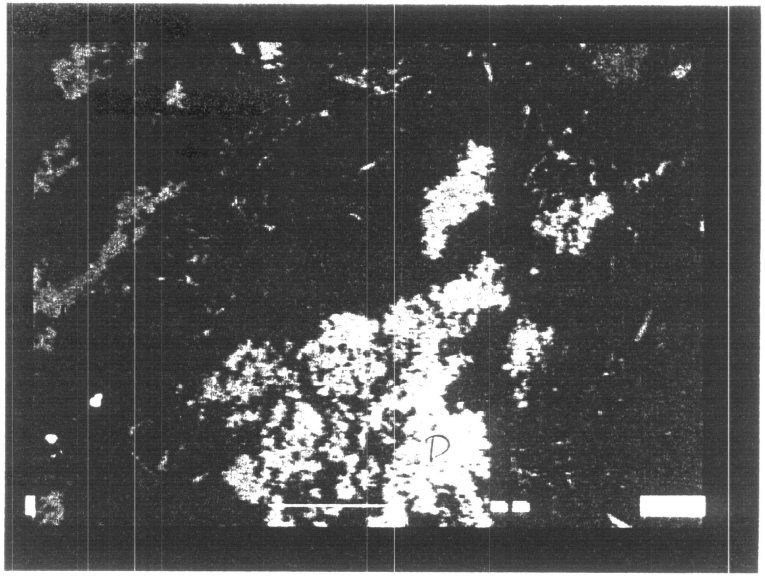


Pic. 4

Magnesite Ore
Sample 2, Thin Section A

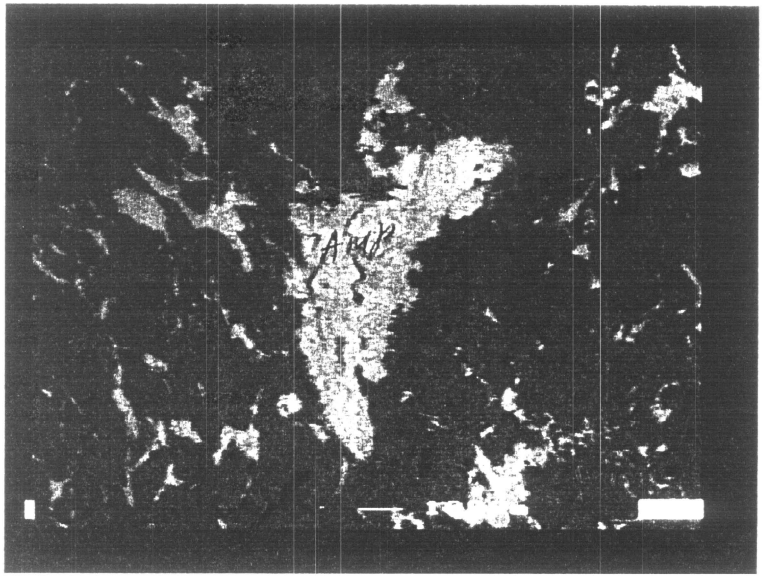


Pic. 5

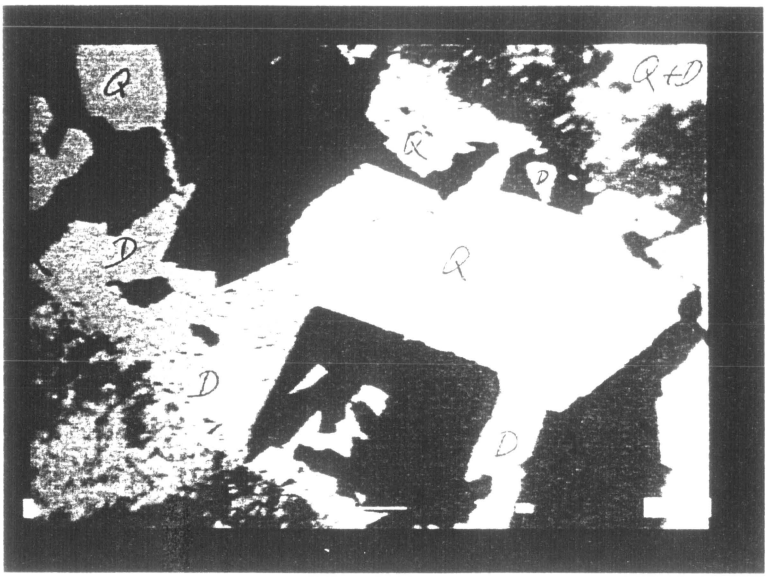


Pic. 6

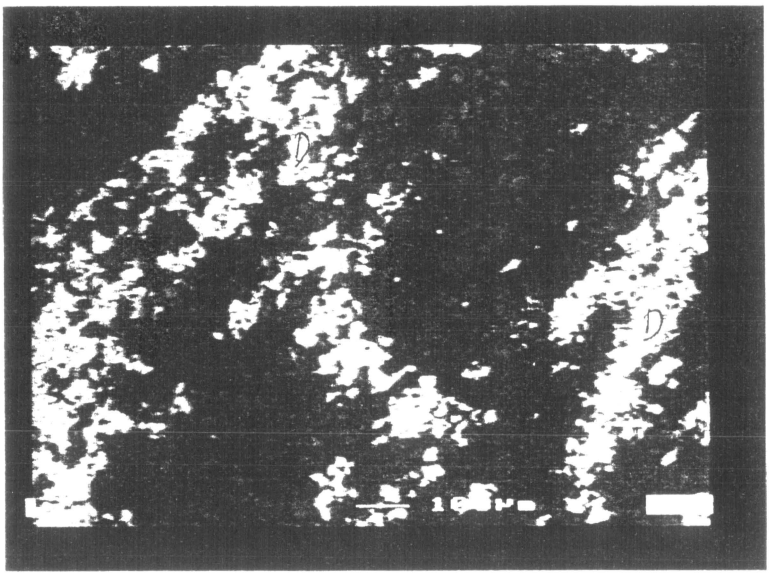
Magnesite Ore
Sample 2
Thin Section A



Pic. 7

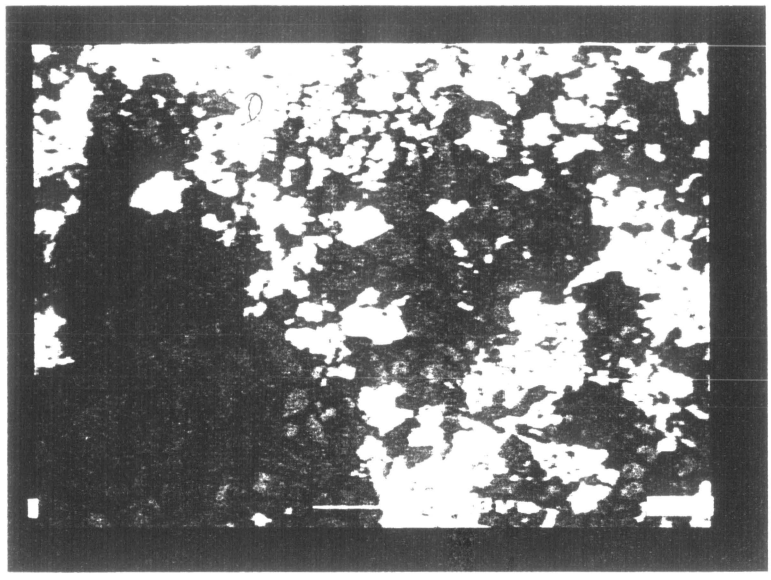


Pic. 1

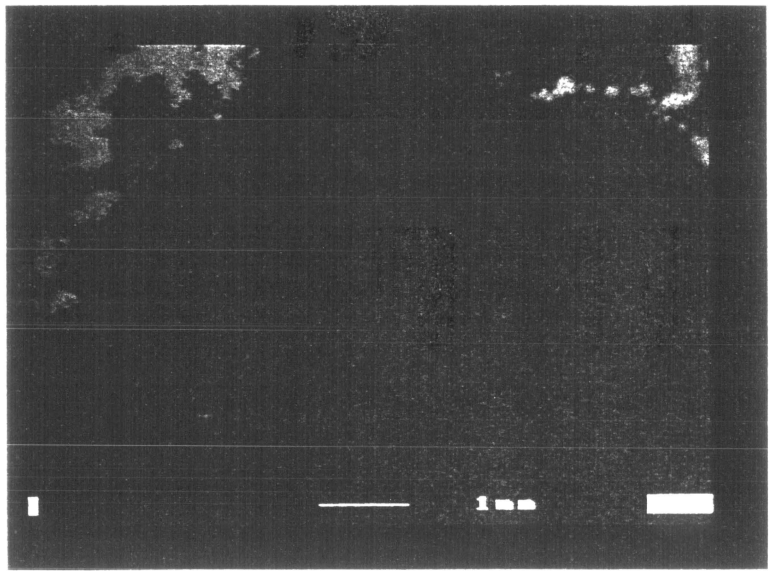


Pic. 2

Magnesite Ore
Sample 2, Thin Section B

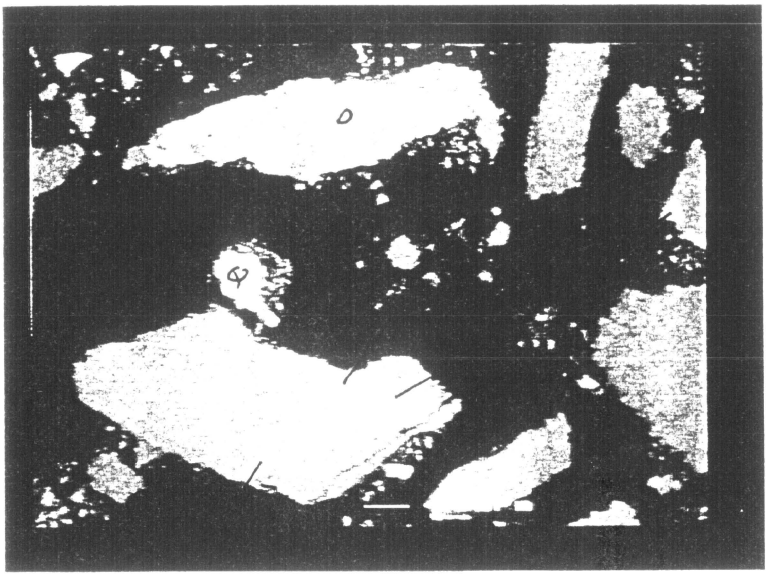


Pic. 3

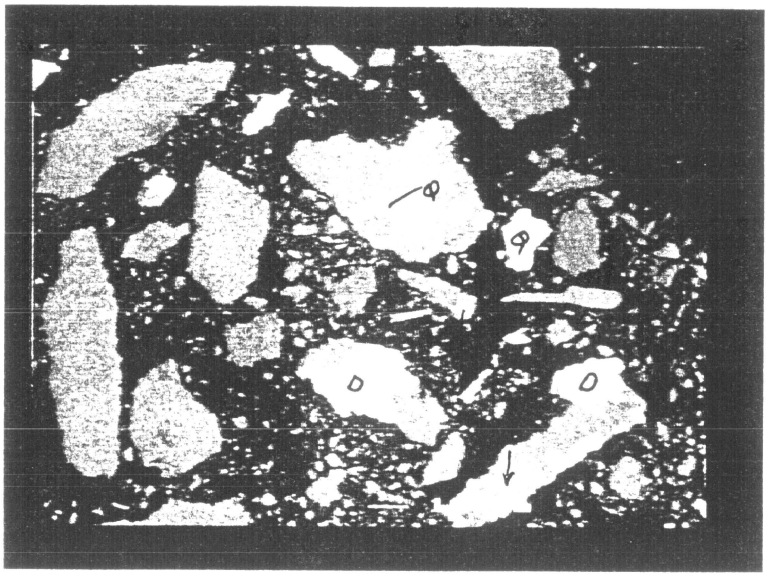


Pic. 4

Magnesite Ore
Sample 2, Thin Section B

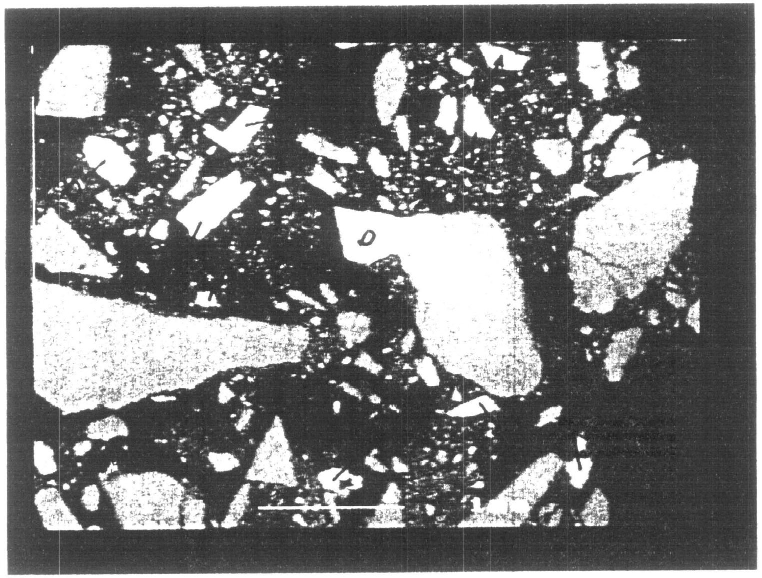


Pic. 4

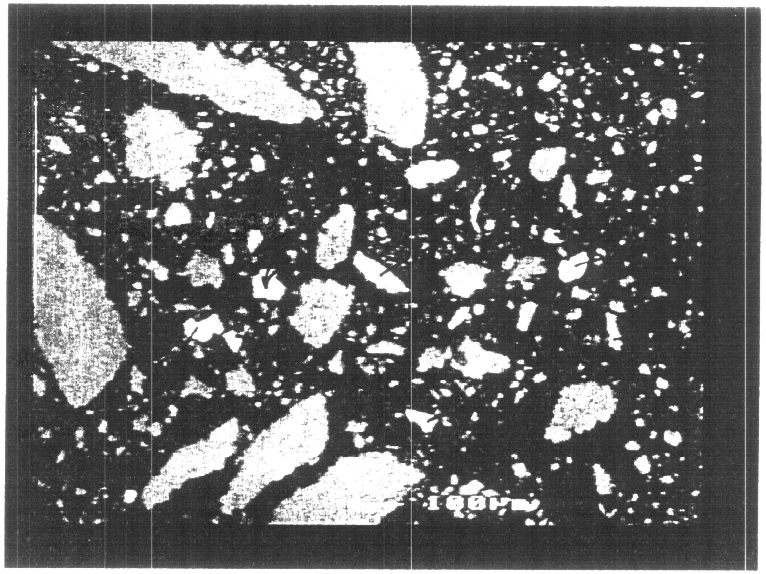


Pic. 5

Magnesite Ore
Sample 2, Polished Block

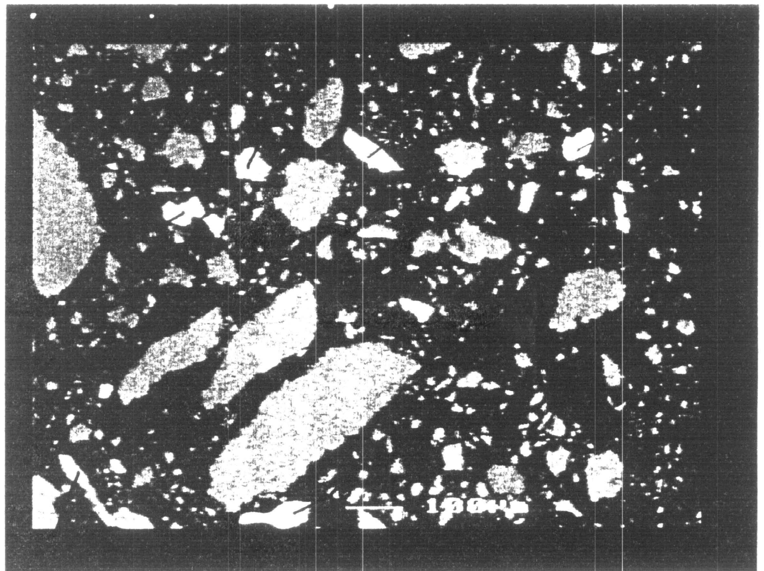


Pic. 1

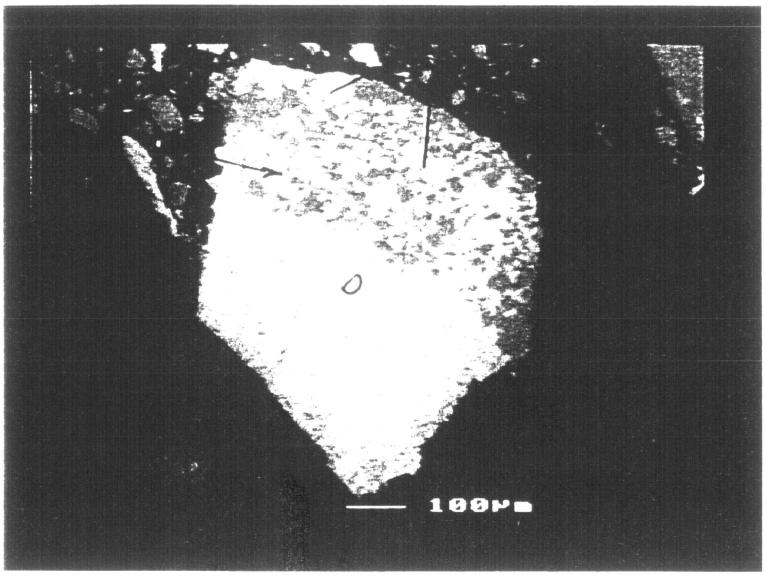


Pic. 2

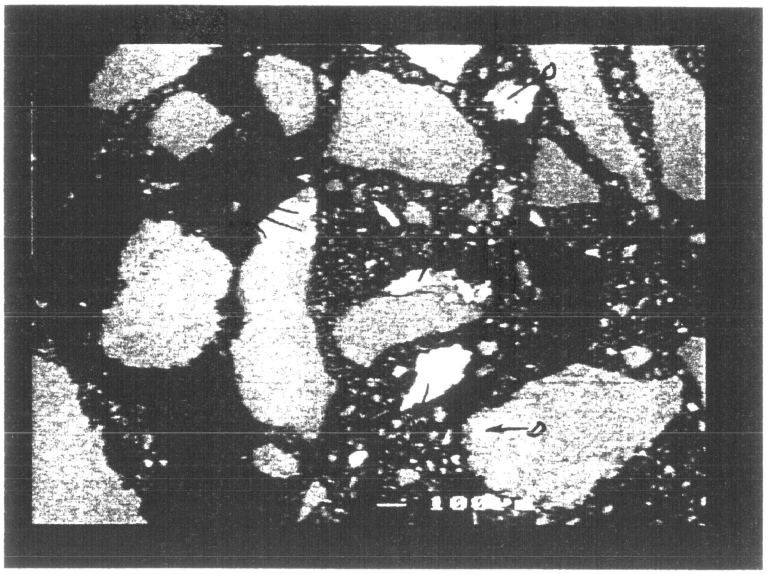
Magnesite Ore
Sample 2
Polished Block



Pic. 3



Pic. 6



Pic. 7

Magnesite Ore
Sample 2, Polished Block

APPENDIX 2

PROCEDURES

GRIND ESTABLISHMENT

PROCEDURE No. 1

Three 500g batches of the sample are ground for various times in a laboratory rod mill.

The ground slurries are filtered, dried then size analyses conducted on the ground product to determine the relationship between grind time and resulting grind size.

From these results the grind times required to produce the target grind sizes are established.

SCREENING AND SIZE-ASSAYING

PROCEDURE No. 1

A representative sub-sample of suitable weight is taken by riffling or rotary splitting.

As a general guide the following weights are used:

i)	Below 150 µm	0.5 kg
ii)	150 µm - 2 mm	1 kg
iii)	2 mm - 10 mm	2 kg
iv)	10 mm - 50 mm	5 - 20 kg

The following screen types are used:

i) Ro-tap - for sizing in the range below 1 mm.

ii) 'Cheers' - type vibrating screen for sizing in the range 1 mm - 50 mm.

Wet screening is generally done below 150 µm while dry screening is done above this size.

Individual fractions are dried, weighed and further prepared for assaying if required.

BATCH FLOTATION

PROCEDURE No. 1

The charge weight of ore (usually 1 kg or 2 kg) is milled in a laboratory rod mill for the time required to give the desired size distribution. At the completion of grinding, the slurry is washed directly into the roughing flotation cell. The cell size is chosen to give the desired pulp density in the roughing stage (for a 1 kg charge a 2.5 litre cell is used).

Flotation is carried out using standard Agitair bench machines. Special modifications are available (if required) to control pulp volume and froth removal rate during flotation. Air flowrate is controlled by a rotameter. Agitator speed is set, usually at 700 rpm for conditioning, 700 - 750 rpm for rougher flotation and 750 - 800 rpm for cleaning.

Cleaning is carried out in smaller cells, using lower pulp densities compared to roughing. The smallest cell available is 0.5 litre.

Froth products are collected, filtered, weighed, and prepared for assay, as is the final tailings.

This report has been prepared by Oretest Pty Ltd (Oretest) on the request of Mr Andrew Firek of Golden Triangle Resources NL.

This report documents the results of metallurgical testwork conducted by Oretest on the samples provided to Oretest by the Client as detailed in Section 2 of the report.

The testwork which Oretest was required by the Client to carry out on the Samples, the results of which are documented in this report, is detailed in Section 1.

This report is provided to the Client on the basis that the Client expressly acknowledges that:

(a) no representations have been made to Oretest as to the purpose for which the tests are required to be conducted; and

(b) the Testwork was carried out on Samples provided by the Client and that Oretest was not in any way involved in the drilling, collection or transportation of the Samples and, until the date upon which they were delivered to Oretest by the Client, was not involved in any way in the handling of the Samples

By this report, Oretest makes no representation or warranty (express or implied) as to the nature, source, completeness or handling of the Samples and Oretest and its directors, employees, agents and consultants denies and disclaims all liability (including for negligence) for any loss, cost, expense or damage arising from the opinions or conclusions contained in this report to the extent that loss, cost, expense or damage arises from the nature, source, completeness or handling of the Samples prior to their delivery to Oretest.

Oretest expressly denies liability for all damages for loss of opportunity, loss of revenue, loss of actual or anticipated profit or other consequential loss arising either directly or indirectly from reliance by the Client or any other person on the content and conclusions of this report.