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ANNUAL REPORT

1995

E.L.24/88 CHAMPION ROAD

by

Vic Threader

for

Mineral Holdings Australia Pty Ltd.

EL24/88		
21 NOV 1995		
See folio 36		

95-3799

ANNUAL REPORT 1995 EL 24/88  
CHAMPION RD - MINERAL HOLDINGS -  
THREADER, V.

Figure 1

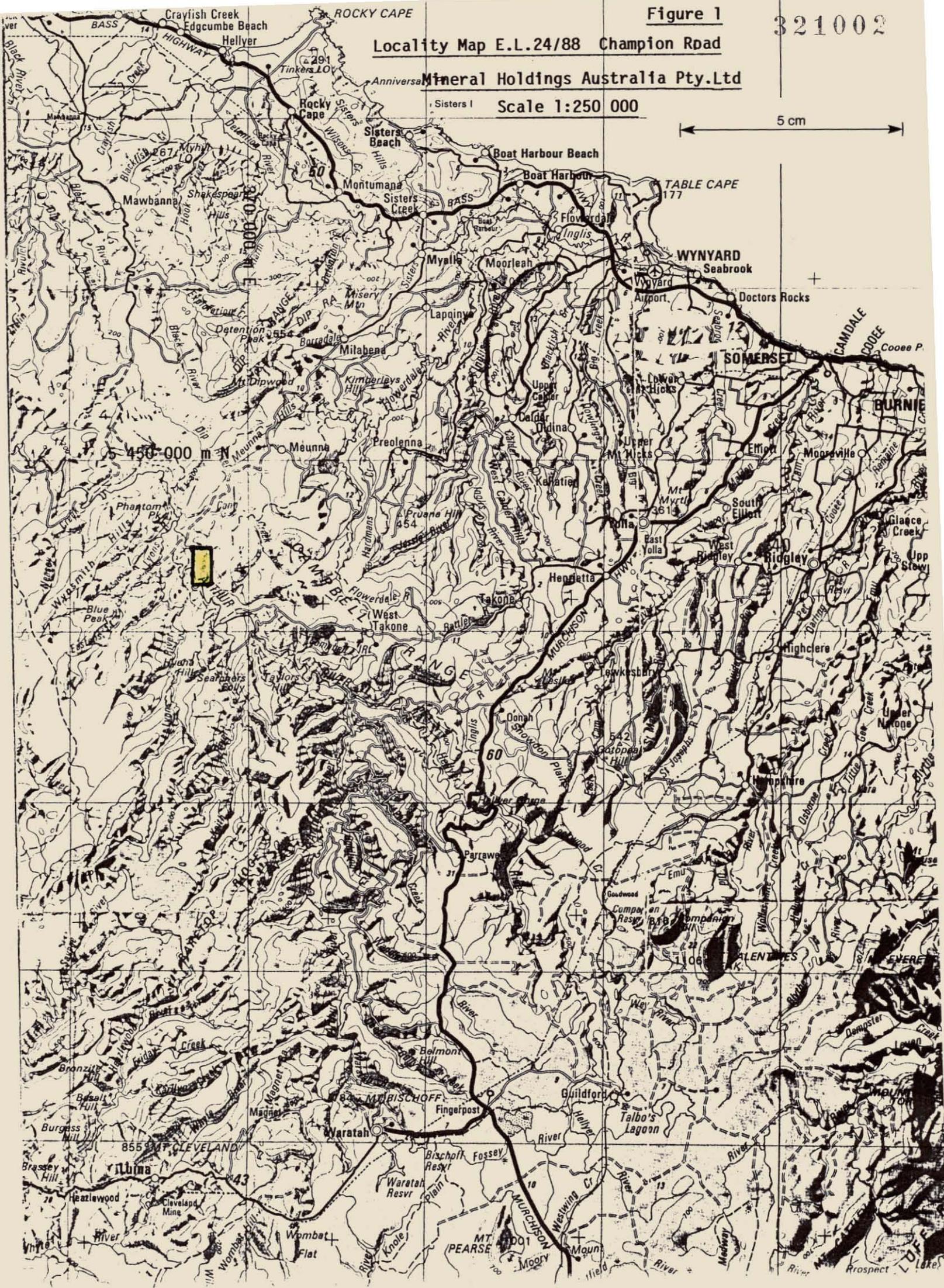
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Locality Map E.L.24/88 Champion Road

Mineral Holdings Australia Pty.Ltd

Scale 1:250 000

5 cm



C O N T E N T S

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### INTRODUCTION

The licence area (2 Sq.Km.) is situated in Northwest Tasmania 30km.south of Rocky Cape.and was issued on 28 October 1988.It lies in State Forest containing mixed wet eucalypt and rain forest species.

The resource being investigated is fine grained silica sand (silica flour) which is thought to be derived as a replacement after carbonates, in this case magnesite which occurs at Cann Creek 3 km. to the north of the licence.

Silica Flour has a number of industrial applications particularly in glass manufacture Specifications were given in the Annual Report for 1991-2 and two more which are currently being produced by Index Minerals on a trial basis were given in the Annual Report for 1992-4 and are also included in the Appendix to this report.

### PREVIOUS EXPLORATION

The sand was first observed in road cuttings along Champion Road.and was prospected by excavator in 1990 & 1991.An in situ reserve of 150-200,000t.was estimated in two separate lenses.

The sand lenses appear to follow a southwesterly trend from the assumed source magnesite area at Cann Creek. Accordingly,a reconnaissance survey was made along this line and another deposit was discovered.That deposit is the subject of this report.

### CURRENT EXPLORATION

Eleven pits were excavated in this deposit.Five of them (Nos.1,2,4,6 & 10) were dug to the limit of the machine (6m.+) in silica flour and did not reach bottom (logs and analyses in Appendix 2).Thick scrub and a steep slope to a creek gully rendered it impractical to determine the southern boundary of the deposit.The sand was not exposed on this slope but it is assumed to be present under soil cover.It is also probable that other deposits occur across the gully and further reconnaissance is warranted.

The resource area delineated on Figure 3 covers 5000+ S.M and the average thickness of the deposit is at least 6m.The in situ reserves are therefore 30,000C.M (Indicated) or,allowing 1.69 for the density of dry sand, 50,000t.As the deposit was not fully delineated and not bottomed,this figure can be considered a minimum.reserve tonnage.

The particle size distribution of this sand is not dissimilar from that of the previously prospected sand on Champion Road with around 60% finer than 150um.The specifications in the Appendix to this report require maxima of 95% -150um.for 75/150 Spec.and 95%of -200um. for75/75 Spec. which means that there would be a reject

fraction of at least 40%. It is noted however that the average size distribution, in round figures is:

+425um.	30%
-425+150	10
-150	<u>60</u>
	100

There is therefore a significant proportion (30%) of the sand probably containing composite grains of silica flour which, if disaggregated, could increase the size of the resource.

Full chemical analyses are not yet available but the iron content has been determined (Appendix 2) as this is a critical factor in the specification.

Two samples (Nos. 6 & 10) are within specification and are comparable with results obtained from previous test pits on Champion Road as determined by the same laboratory when it operated as M.K. Silica (Iron content as determined by Analabs was consistently higher than M.K. Silica for the same samples). It is a matter for laboratory studies to determine whether material outside specification can be utilised by beneficiation, blending with higher grade material or rejected. This matter will be addressed when the full extent of the resource is known.

#### FURTHER EXPLORATION

The deposit appears to extend to the south and exploratory test pitting/drilling is recommended to trace it to the licence boundary. The initial investigation at the current site was carried out with a hand held Stihl auger which was limited to a depth of 1m. in this ground and so only allowed the top half metre of the resource to be penetrated. In addition to this, the excavator was unable to reach the bottom of the deposit. A less intrusive exploration tool and one with a greater depth capacity like the "Wacka" drill could usefully be employed to complete this task. There would then be no need to construct access tracks unless follow up bulk sampling and/or mining was intended.

PHANTOM PEAK

ML 45/89  
Cann Creek

EL 24/88  
Champion Road

STATE FOREST

WARATAH NORTH

**EL24/88 CHAMPION ROAD**

-  Previously Prospected Areas
-  Current Prospect
-  Recommended Area for Prospecting

Map Base: FOLLY 1:25 000

5 cm

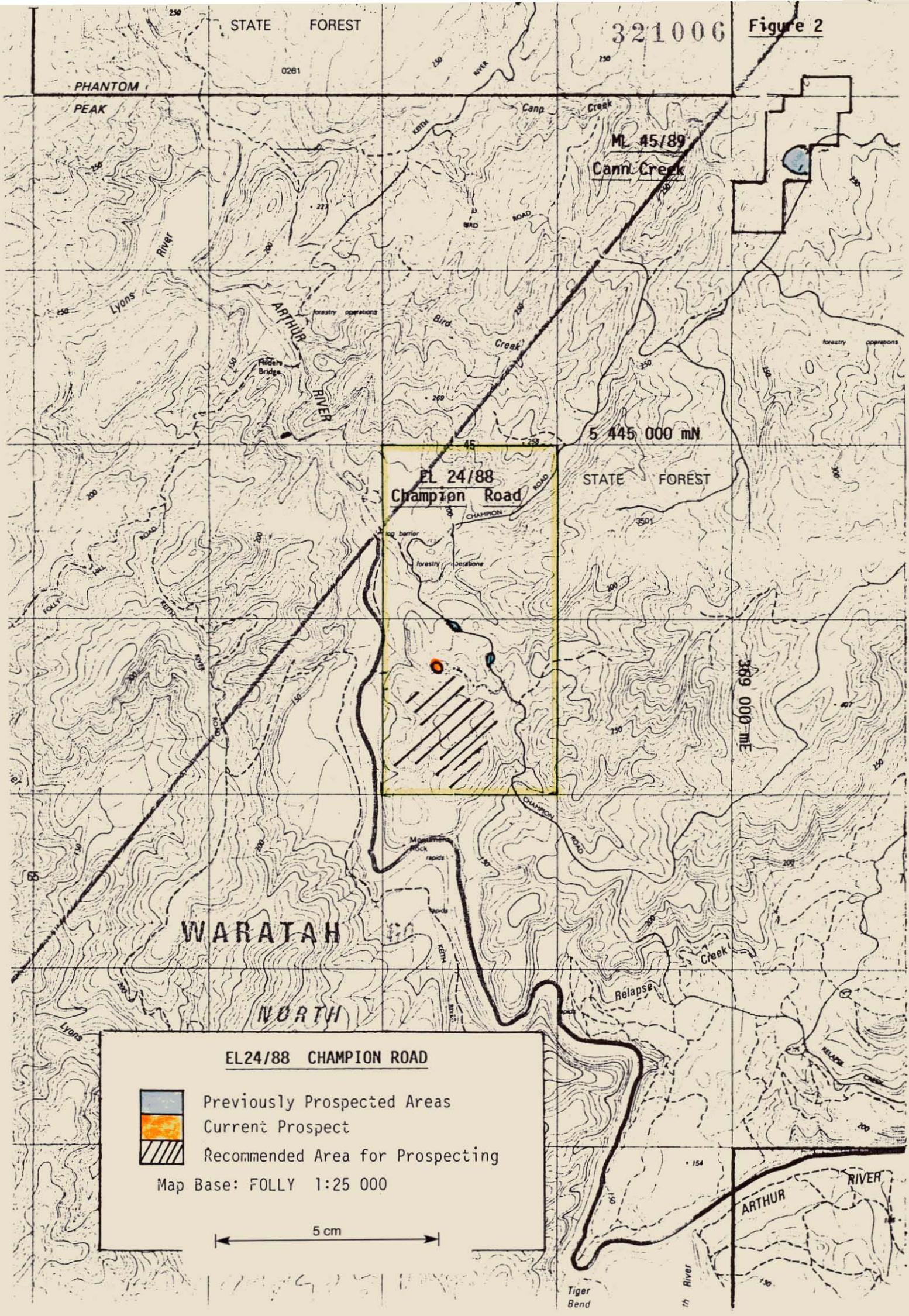
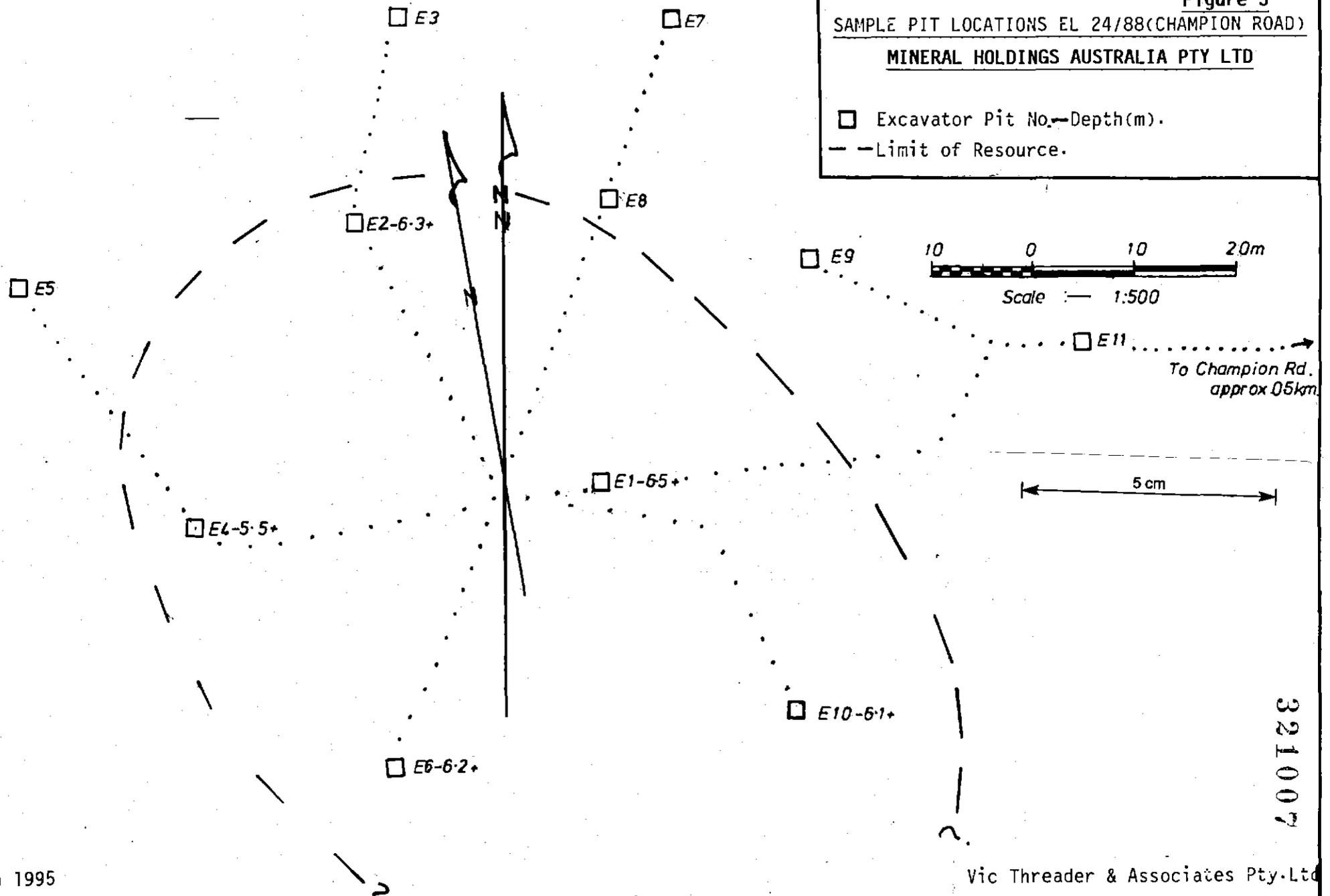


Figure 3

SAMPLE PIT LOCATIONS EL 24/88(CHAMPION ROAD)

MINERAL HOLDINGS AUSTRALIA PTY LTD

□ Excavator Pit No.—Depth(m).  
- - - Limit of Resource.

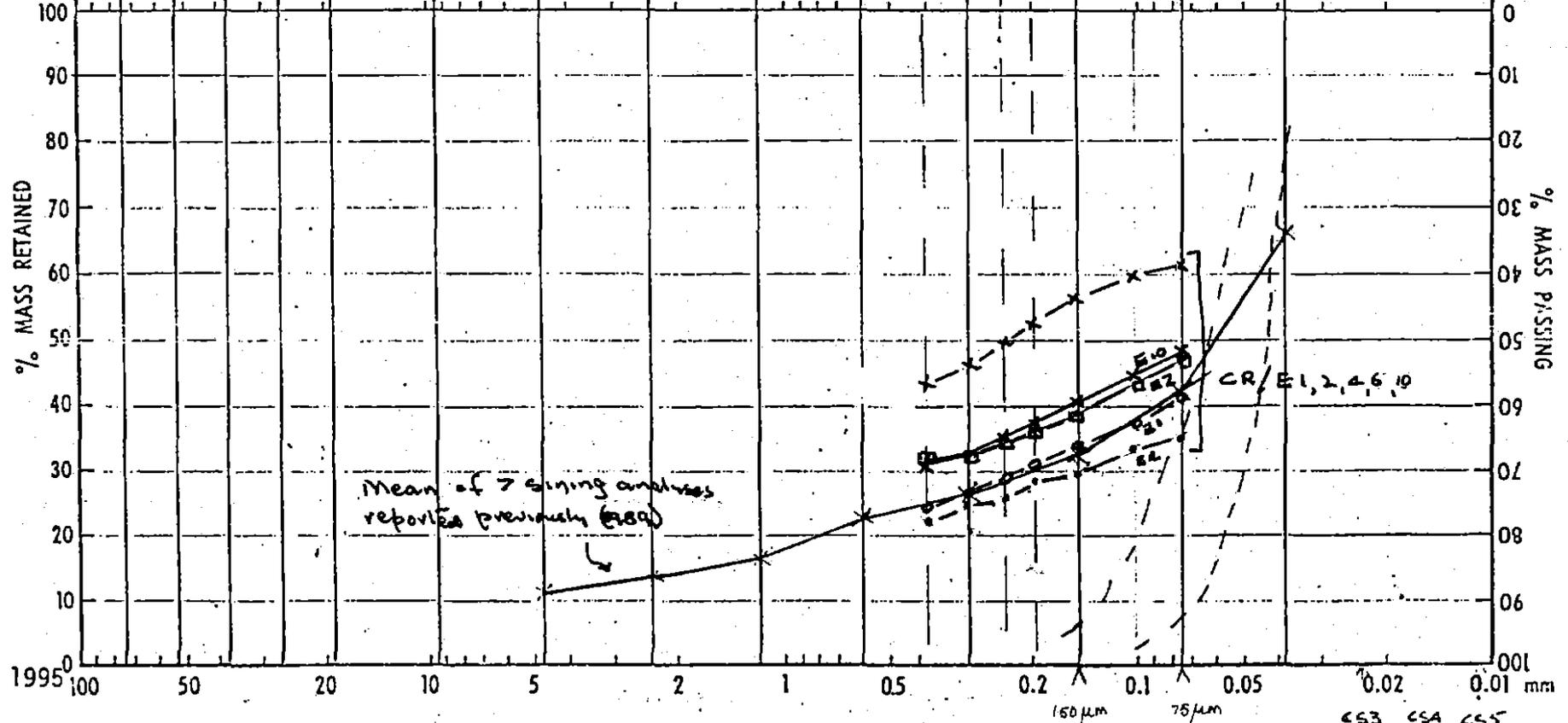


March 1995

Vic Threder & Associates Pty.Ltd

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REFERENCE No.	LAB. SERIAL No.	LOCALITY					Figure 4							
		CHAMPION ROAD (E1,2,4,6,10) compared with 1989 analyses												
COARSE AGGREGATE					FINE AGGREGATE					A77-1957 (concrete)				
COARSE AGGREGATE			FINE AGGREGATE		BINDER			N.A.A.S.R.A. (road materials)						
COBBLE	PEBBLE		GRANULE	SAND					SILT					
				V. COARSE	COARSE	MEDIUM	FINE	V. FINE						
-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6 φ		
75	53	37.5	26.5	19	9.5	4.75	2.36	1.18	0.6	0.3	0.15	0.075	0.038	Aust. Stand. Sieve



EL24/88 1995

CS3 CSA CS5  
(0.25) (0.075) (0.125)

321008

APPENDICES

## APPENDIX 1

A.M.G.Coordinates\*

<u>Test Pit No.</u>	<u>E</u> <u>m.North</u>	<u>N</u> <u>m.East</u>
1	367 310	5 443 700 ✓
2	367 290	5 443 730 +
3	367 300	5 443 750
4	367 270	5 443 700 ✓
5	<del>366 900</del> 367 260	5 443 730 +
6	367 280	5 443 680
7	367 <sup>30</sup> 310	5 443 740
8	367 320	5 443 730 +
9	367 330	5 443 720
10	367 320	5 443 680
11	367 360	5 443 700

\*Approximate only (Test Pits were located by pace and compass traverse from Champion Road)

## APPENDIX 2

EXCAVATOR PIT LOGS EL24/88(CHAMPION ROAD) MARCH 1995					GRAIN SIZE ANALYSES:CUMULATIVE PERCENTAGES AT THE FOLLOWING SCREEN SIZES (µm.)								
PIT No.	DEPTH (m)		THICKNESS (m)	LOG	Fe <sub>2</sub> O <sub>3</sub> (ppm)	425	300	250	212	150	106	75	-75
	FROM	TO											
E1	0 0.20	0.20 6.50	0.20 6.30 ✓	Red soil White silica flour 235 containing angular quartz fragments(50mm.)		24.6	27.6	29.4	31.3	34.0	37.2	41.4	58.8
E2	0 0.30	0.30 6.30	0.30 6.00 ✓	Black soil White silica flour 95		32.4	34.4	35.6	37.0	39.7	43.0	47.3	52.8
E3	0 0.30 1.30	0.30 1.30 3.50	0.30 1.00 2.20	Soil Gravel White to dirty white silica flour contain- ing 1m.diam.clay pod.	----								
E4	0 0.50	0.50 5.50	0.50 5.0 ✓	Soil White silica flour 245		22.6	25.0	26.4	28.1	30.6	33.7	35.4	64.6
E5	0 0.50	0.50 2.80	0.50 2.30	Soil Grey quartz gravel, in part iron stained and containing pods of brown clay.	---								
E6	0 0.30	0.30 6.20	0.30 5.90 ✓	Soil Hard white silica flour becoming harder at bottom of pit.	15	42.8	47.5	50.1	52.7	56.2	60.2	60.5	39.5
E7	0 0.40 4.00	0.40 4.00 4.50	0.40 3.60 0.50	Red soil Iron stained quartz gravel containing clay pods White clay	---								
E8	0 0.20	0.20 1.00	0.20 0.80	Red soil Coarse grained, iron stained gravel (up to 200mm.)	---								
E9	0 0.30	0.30 3.50	0.30 3.20	Soil Iron stained silica flour containing brown clay pods.	---								
E10	0 0.30	0.30 6.10	0.30 5.80 ✓	Red soil Soft white silica flour 20		30.9	34.4	36.23	38.1	40.8	44.0	47.9	52.1
E11	0 1.00	1.00 1.50	1.00 0.50	Coarse grained sandstone Yellow clay	--								

I N D E X

APPENDIX 3(1)

321012

# INDEX MINERAL PROCESSORS

Trading as I.M.P. Silica. (A division of Index Trust Group-Registered Office 236 Elizabeth St. Brisbane Qld.)

Fine Grinding  
Processing  
Bagging  
Sales of  
Mineral Products .

**HEAD OFFICE:** 744 Progress Road,  
Wacol, Qld. 4076  
**AUSTRALIA.**  
Phone no: 61 7 271 4655  
Fax: 61 7 271 4352

## STANDARD SPECIFICATION SHEET

**Product Name:** Silica Flour

**Grade:** 75/150

**U.S. Mesh:** 100

**Chemical Analysis:**

SiO <sub>2</sub> .....	>99.8%	
Fe <sub>2</sub> O <sub>3</sub> .....	0.0030%	30ppm
TiO <sub>2</sub> .....	0.0020%	20ppm
Al <sub>2</sub> O <sub>3</sub> .....	0.0080%	80ppm
CaO.....	0.0300%	300ppm
MgO.....	0.0150%	150ppm
Na <sub>2</sub> O.....	0.0020%	20ppm
Mn.....	0.000040%	0.40ppm
Cu.....	0.000030%	0.30ppm
Cr.....	0.000050%	0.50ppm
Ni.....	0.000014%	0.14ppm

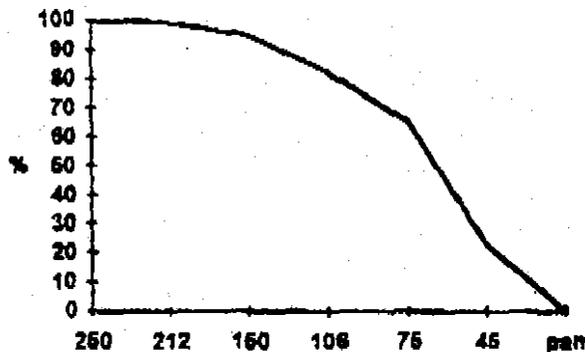
**Particle Size Distribution:**

+300 micron.....	nil	
-300+250 micron.....	nil	
-250+212 micron.....	0.8%	0.8
-212+150 micron.....	4.2%	4.2
-150+106 micron.....	12.5%	12.5
-106+75 micron.....	17.3%	17.3
-75+45 micron.....	42.2%	42.2
-45 micron.....	23%	23

**Physical Description:** White powder with low contamination levels. Approximately 95% passing U.S. 100 mesh screen.

**Applications:** Suitable for use in glass, ceramics, fibreglass, abrasives, cleansers,refractories, grouts and tile manufacture.

This product is one of a range of HIGH QUALITY silica products available from I.M.P. SILICA. It is supplied dry in one tonne bulk bags or multi-ply paper sacks of 25kg or 40kg.



**Particle Size Distribution**  
(% passing in microns)

David P. Collidge,  
Manager,  
I.M.P. SILICA,  
TASMANIA

**WORKS OFFICE:** Minna Road,  
Heybridge, Burnie,  
TASMANIA, 7320,  
PHONE NO: 61 04 313 066  
FAX: 61 04 315 769

DATE: NOVEMBER 1994.



APPENDIX 3(2)

321013

# INDEX MINERAL PROCESSORS

Trading as L.M.P. Silica. (A division of Index Trust Group-Registered Office 236 Elizabeth St. Brisbane Qld.)

Fine Grinding  
Processing  
Bagging  
Sales of  
Mineral Products.

**HEAD OFFICE:** 744 Progress Road,  
Wacol, Qld. 4076  
**AUSTRALIA.**  
Phone no: 61 7 271 4655  
Fax: 61 7 271 4352

## STANDARD SPECIFICATION SHEET

Product Name: Silica Flour

Grade: 75/75

U.S. Mesh: 200

### Chemical Analysis:

SiO <sub>2</sub> .....	>99.8%	
Fe <sub>2</sub> O <sub>3</sub> .....	0.0045%	45ppm
TiO <sub>2</sub> .....	0.0100%	100ppm
Al <sub>2</sub> O <sub>3</sub> .....	0.0250%	250ppm
CaO.....	0.0870%	870ppm
MgO.....	0.0870%	870ppm
Na <sub>2</sub> O.....	0.0025%	25ppm
Mn.....	0.000050%	0.50ppm
Cu.....	0.000020%	0.20ppm
Cr.....	0.000120%	1.20ppm
Ni.....	0.000020%	0.20ppm

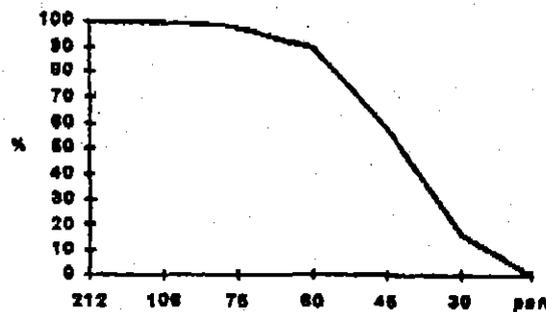
### Particle Size Distribution:

+250 micron.....	nil	
-250+212 micron.....	trace	
-212+106 micron.....	0.2%	
-106+75 micron.....	2.1%	2.1%
-75+60 micron.....	7.7%	10.0%
-60+45 micron.....	31.5%	41.5%
-45+30 micron.....	42.0%	83.5%
-30 micron.....	16.5%	100.0%

**Physical Description:** White powder with low contamination levels. Approximately 95% passing U.S. 200 mesh screen.

**Applications:** Suitable for use in glass, ceramics, fibreglass, cleansers,refractories, grouts, fillers and resins.

This product is one of a range of **HIGH QUALITY** silica products available from I.M.P. SILICA. It is supplied dry in bulk or one tonne bulk bags or multi-ply paper sacks of 25kg or 40kg.



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EL24/88 1995