E.L. 29/80

ANNUAL REPORT

for the year ending 29.6.1989

MINERAL HOLDINGS AUSTRALIA PTY. LTD.

June 1989

Vic Threader and Associates Pty. Ltd.
Kingston Beach.

AMG REFERENCE POINTS ADDED

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Introduction

The licence area consists of:

1) (Western area) 10 km^2 in dolomite south of Smithton. A groundwater monitoring programme is in progress in the area, and

2) (Eastern area) 9 km^2 which contains two areas of potential metallurgical quality quartzite. A drilling programme is currently in progress to evaluate this resource.

The application area has been reduced to 11 km^2 (6 in the western area and 5 in the eastern area).

Dolomite

Quality: The Smithton dolomite which occupies the major part of the Western area of E.L. 29/80 is highly variable in quality, as indicated by previous exploration 1945 (1) and 1983 (2 & 3). In this report an additional 30m hole off the Trowutta Road at grid reference 55GCQ409736 was drilled for water level monitoring purposes. Analysis of samples from this hole at 3m intervals shows a mean SiO_2 content of 27% to a depth of 18m and 6% over the remaining 12m mean.

Fe_2O_3 content is 2.5% and Al_2O_3 content is 2.3% (Appendix 1).

In these three contaminents the stone is inferior to the B.H.P. exploration data of 1945 and the C.R.A. data of 1983. It is probably an acceptable grade for agricultural use but is unsuitable for metallurgical purposes.

Gold Content: Gold assays were carried out on these ten samples (Appendix 1). In brief, the gold content ranged from BLD to 210 P.P.B. These figures are significantly above those listed in the Handbook of Geochemistry - Springer Verlag for sedimentary, including carbonate

rocks (Appendix 2). The reason for this is unclear; there is no published data available on the mineralogy of the Smithton dolomite but the gold could possibly be present in the crystal lattice of pyrite grains. The economic significance of this gold content is however not thought to be of economic importance unless the dolomite was involved in a process which liberated that gold. The cost of recovery of that gold, if it was all recoverable, would very likely exceed its value (63 PPB is equivalent to 1 gm/16.67t dolomite or $13/t at present prices).

Underground Water: One of the reasons given by C.R.A. in their final report was that underground water would be a major problem in the economic management of a quarry in Smithton Dolomite. This is not borne out by the experience of the existing quarry at Smithton but it was thought expedient to conduct a 12 months underground water monitoring programme in conjunction with the Engineering Geology Section of the Department of Mines. Results for the first quarter are included in this report (Appendix 3), which shows an overall trend from mid January to mid March of a drop in static level from 0.63m to 1.18m below ground level. The programme will extend over a 12 month period, after which two other holes will be drilled to enable pump tests to be conducted from these holes and drawdown to be determined. This information is necessary to ascertain problems likely to be met in quarrying, the costs of pumping and the effects on underground water supply by dewatering a quarry operation.

Additional underground water data from Dept. of Mines records is also included (Appendix 4). The available information was meagre and of little assistance except to indicate variability in underground water yield and depth of cover on the dolomite.

Programme for 1989-90: Satellite boreholes will be drilled in the vicinity of the underground water monitor to enable pump tests to be carried out and to obtain additional data on the quality of dolomite.

Quartzite

Current Mapping and Drilling Programme: A mapping and percussion drilling programme was conducted in the South Forest area where Forest Quartzite is known to occur. The areas were on private property owned by B. Bellinger and J. Bergman. The quartzite outcrop in general appears to be of high quality but a maximum of 98% SiO_2 was recorded from surface sampling in 1988. It was, however, decided to carry out a limited drilling programme to determine the continuity in depth and whether there was any improvement in quality. Results were highly variable but some apparently good sections were drilled (Appendix 5). The best sections were in BB 3, BB 6, BB 7 and JB 1 as judged by whiteness of sample and drilling penetration rate but chemical analyses are not yet available. Received per letter 26.6.89. See Appendix 5.

Programme for 1989-90: The area to the north of the BB series of holes contains the largest potential tonnage of quartzite in this area and if results warrant, the drilling programme will be extended into this area.

The southeast corner of the E.L. contains a small outcrop area of quartzite which was also drilled. The potential reserve within the licence area is quite small but if analytical results from these samples justify it, the area to the south will be applied for and explored also.

APPENDIX 1

Chemical Analyses of Samples from

30m Groundwater Monitoring Borehole (Percussion)

GOS

624007

DEPARTMENT OF MINES

Launceston Office:
Chemical and Metallurgical Laboratory,
287 Wellington Street,
LAUNCESTON 7249

Mineral Holdings Aust. P/L
2nd Floor
100 Collins Street
Melbourne 3000

8.3.89

Copy V. Threader

Reg. Nos 890510-19 891428

Dear Sir,

Please find enclosed results of samples submitted to this laboratory by Mr. Vic Threader, and stated to be from the Smithton area. Sample also from Dip Range.

Yours faithfully,

(P.L. James)
Chief Chemist & Metallurgist

Mineral Holdings Reg. Nos 890510-19 & 891428

8.3.89

Reg. Nos	Descriptions	SiO_2%	Al_2O_3%	Fe_2O_3%	CaO%	MgO%	SO_3%	L.O.I.%	Au g/t
890510	No 1 Smithton	45.0	3.1	2.9	14.5	10.3	0.5	23.2	
511	2 "	16.9	1.6	1.8	23.0	16.8	1.1	36.8	
512	3 "	13.1	2.4	2.3	23.6	16.9	1.3	37.8	
513	4 "	27.5	2.4	1.9	20.0	14.4	1.5	31.2	
514	5 "	43.7	1.7	1.4	15.8	11.3	0.6	24.2	* to come
515	6 "	18.3	4.7	4.0	21.2	15.8	0.3	33.6	
516	7 "	7.8	2.7	2.4	25.5	18.3	0.4	40.9	
517	8 "	4.7	2.3	2.1	26.6	19.0	0.7	42.3	
518	9 "	9.1	3.3	2.8	25.1	17.8	1.0	39.1	
519	10 "	2.0	0.8	1.5	28.3	20.3	0.5	44.9	

891428 Dip Range Thomas Mt. <0.008
(Pt charged for/Result to follow)

*Gold results to follow.

Analyses by. L.A.L. Lloyd
R Roby

(P.L. James)
Chief Chemist & Metallurgist

624008

624009 Forest 29/80

003

DEPARTMENT OF MINES

TASMANIA

Launceston Office:
Chemical and Metallurgical Laboratory,
287 Wellington Street,
LAUNCESTON 7249

Enquiries:
Phone:
Your ref.:
Our file:

Mineral Holdings Pty Ltd
2nd Floor
100 Collins Street
Melbourne 3000

21st March 1989

Reg. Nos 890510-19

Dear Sir,

Please find below the gold results on samples submitted to this laboratory and stated to be from the Smithton area.

Reg. Nos	Description	Au g/t	20 grams PPB
890510	No 1 Smithton	0.04	40
511	2 "	0.03	30
512	3 "	0.05	50
513	4 "	0.03	30
514	5 "	0.02	20
515	6 "	0.21	210
516	7 "	≤0.02	
517	8 "	0.21	210
518	9 "	≤0.02	
519	10 "	0.04	40
			63 (mean)

Yours faithfully,

(P.L. James)
Chief Chemist & Metallurgist

Analyses by. L.M. Hay.

Gary V Thredgold

Telephone (003) 44 2431 Fax (003) 44 6565

APPENDIX 2

Gold Content of Sedimentary Rocks

(from Handbook of Geochemistry – Springer Verlag)

Table 79-K-1. *Gold content of sedimentary rocks*

Rock type	Locality and description	Number of samples	Gold (ppb) range	Gold (ppb) average	Method	Reference
Quartzite conglomerate	Wyoming (U.S.A.)	407	<10—2000	87	A	1
Conglomerate	Kola Peninsula (U.S.S.R.), Kolmozero-Voronya series	8	0.7—80	11	S	9
Conglomerate	Maritime Territory (U.S.S.R.), Ogodzhinsk syncline	—	—	100	S	14
Sandstone	Wyoming (U.S.A.)	218	—	109	A	1
Greywacke	Yellowknife, Northwest Territories (Canada)	—	—	10	Fa[aa]	4
Sandstone	Colorado Plateau (U.S.A.), Moenkopi Formation (Triassic)	12	10—200	52	A	5
Sandstone	Wisconsin, Kentucky (U.S.A.); Ontario (Canada); Australia	5	0.3—12	3.6	N	3, 8
Sandstone	California (U.S.A.), Tertiary, Kettleman Hills	1	—	41	N	8
Sandstone	Martime territory (U.S.S.R.), Ogodzhinsk syncline	—	—	6.5	S	14
Sandstone	Maritime territory (U.S.S.R.), Sagursk series	—	—	2.8	S	14
Sandstone	Altai and Chukotka (U.S.S.R.), includes chert from 3 sandstones	27	0.6—6.2	2.1	N	17
Sandstone	Taskazgan, Tamdytau (U.S.S.R.), Precambrian, mainly sandstone, mudstone, schists and carbonaceous-siliceous rocks	201	?—2500	25	S[b]	11
Calcareous sandstone	Chukotka (U.S.S.R.), Iultinsk massif	1	—	5	S	15
Sandstone, siltstone, argillite	Kazakhstan (U.S.S.R.), Proterozoic to Upper Ordovician	51	1.0—7.8	2.6	S	19
Sandstone and alevro-argillite	Primurya region (U.S.S.R.)	14	0.8—4.0	1.7	S, N	15
Siltstone	Colorado Plateau (U.S.A.), Moenkopi Formation (Triassic)	6	10—30	18	A	5

Siltstone	Maritime territory (U.S.S.R.), Ogodzhinsk syncline	—	—	2.5	S	14
Siltstone	Altai (U.S.S.R.)	2	5.5—6.2	5.9	N	17
Shale	Wyoming (U.S.A.), Harebell Formation and Pinyon Conglomerate	24	—	57	A	1
Shale	Kuznetsk Ala-Tau and Chukotka (U.S.S.R.)	23	0.66—8.6	2.3	N	17
Shale	Kansas and South Dakota (U.S.A.)	2	4.7—7.2	6.0	N	8
Shale	Chukotka (U.S.S.R.), Iultinsk massif	2	1—1	1	S	15
Argillaceous rock	Maritime territory (U.S.S.R.), Sagursk series	—	—	1.2	S	14
Mudstone and claystone	Colorado Plateau (U.S.A.), Moenkopi Formation	6	10—460	142	A	1
Limestone	Wyoming (U.S.A.), Harebell Formation and Pinyon Conglomerate	13	—	38	A	1
Limestone	Kansas (U.S.A.), Paola Limestone	1	—	4.8	N	8
Limestone	Altai and Chukotka (U.S.S.R.)	3	1.3—2.6	2.1	N	17
Limestone	Kazakhstan (U.S.S.R.), Proterozoic and Upper Ordovician	11	<1.0—3.2	1.0	S	19
Limestone	Northern Nura-Tau, Uzbekistan (U.S.S.R.)	2	5—5	5	We	13
Limestone, dolomite, calcareous siltstone	Colorado Plateau (U.S.A.), Moenkopi Formation (Triassic)	6	10—60	22	A	5
Carbonate	Florida (U.S.A.), Recent	2	0.8—3.9	2.4	N	8
Oolite	Cheltenham (England)	1	—	2.3	N	8

[a] See footnotes to Table 79-K-3 for references.
[b] Analyses carried out by both spectrochemical and assay methods.
[c] Analytical procedure described as a gold chemical method.
[aa] Fa — fire assay.

Table 79-K-2. *Gold content of Recent sediments*

Rock type	Locality and description	Number of samples	Gold (ppb) range	Gold (ppb) average	Method	Reference
	a) Deep sea sediments					
Pelagic clay	Brazil Basin; core, 3 samples 343 to 887 cm	1	4.2—31	16	N	8
Lutite	Argentine Basin; core, 4 samples 100 to 1045 cm	1	3.1—17.3	7.2	N	2, 8
Lutite etc.	Indian, Antarctic and Pacific Oecans	7	0.6—4.2	2.0	N	7
Clay-rich sediment	East Pacific Rise from 90°W to 139°W at 13°S	14	1.3—7.6	3.1	N	7
Sediment	Pacific; 56—60 cm core interval analyzed	1	—	9.0	N	2
Calcareous ooze	Caribbean; 15 samples 19 to 1369 cm	1	0.9—4.0	2.2	N	12
Globigerina ooze	Antarctic; core, 9 samples 0 to 1006 cm	1	0.6—2.3	1.2	N	12
Siliceous ooze	Antarctic; core, 9 samples 0 to 1600 cm	1	0.58—1.5	0.87	N	12
Pelagic clay	Antarctic; core, 4 samples 0 to 1585 cm	1	1.0—2.3	1.6	N	12
Manganese nodules	Atlantic, Pacific, Indian and Antarctic Oceans	19	0.21—8.3	2.9	N	10
	b) Near-shore, continental shelf sediments					
Sand and silt	California coast	61	<0.1—390	9.6[b]	A	16
Marine-terrace sands	Oregon coast	6	165—1100	410[b]	A	6
Beach sand	Oregon coast	1	49—56[b]	—	A	6
Near-shore clay-silt	Canadian Arctic	9	1.6—4.2	2.7	N	7

[a] See footnotes to Table 79-K-3 for references.
[b] Analysis of heavy mineral concentrates recalculated to whole sample.

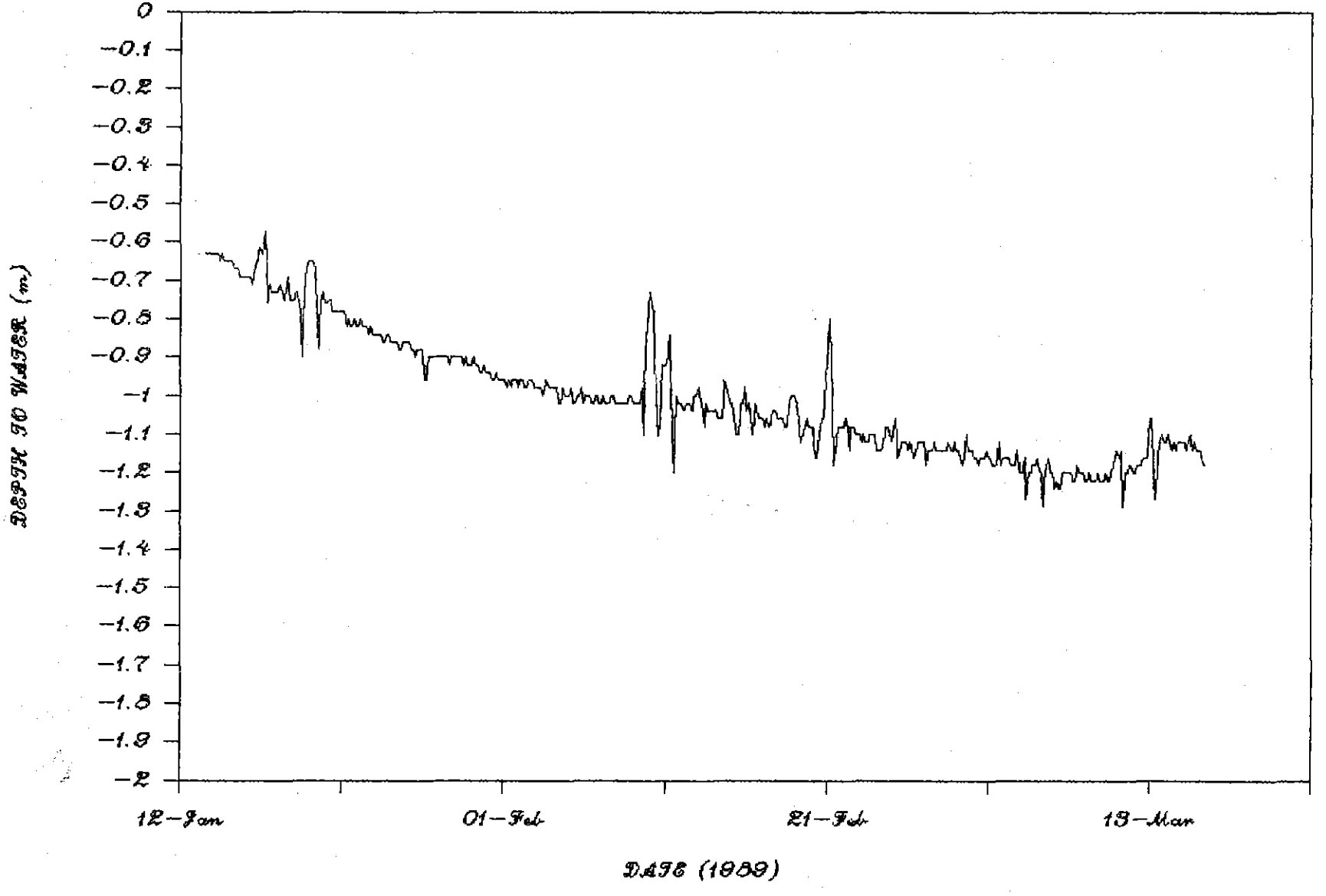
APPENDIX 3

Groundwater Monitoring

014

GROUNDWATER MONITORING STATION

IROWUTTA RD, SMITHTON (5596240973G)



624315

Scheme SMITH - Smithton water monitoring, Data from 12:00 13/01/89 to 15:00 31/01/89

Time		Depth m	Therm Deg C
12:00	13/01/89	4.37	-8.9
15:00	13/01/89	4.37	-8.9
18:00	13/01/89	4.37	-8.9
21:00	13/01/89	4.37	-8.9
00:00	14/01/89	4.37	-8.9
03:00	14/01/89	4.37	-8.9
06:00	14/01/89	4.37	-8.9
09:00	14/01/89	4.35	-8.9
12:00	14/01/89	4.37	-8.9
15:00	14/01/89	4.35	-8.9
18:00	14/01/89	4.35	-8.9
21:00	14/01/89	4.35	-8.9
00:00	15/01/89	4.35	-8.9
03:00	15/01/89	4.35	-8.9
06:00	15/01/89	4.33	-8.9
09:00	15/01/89	4.33	-8.9
12:00	15/01/89	4.33	-8.9
15:00	15/01/89	4.31	-8.9
18:00	15/01/89	4.31	-8.9
21:00	15/01/89	4.31	-8.9
00:00	16/01/89	4.31	-8.9
03:00	16/01/89	4.31	-8.9
06:00	16/01/89	4.31	-8.9
09:00	16/01/89	4.29	-8.9
12:00	16/01/89	4.31	-8.9
15:00	16/01/89	4.35	-8.9
18:00	16/01/89	4.35	-8.9
21:00	16/01/89	4.39	-8.9
00:00	17/01/89	4.37	-8.9
03:00	17/01/89	4.39	-8.9
06:00	17/01/89	4.43	-8.9
09:00	17/01/89	4.24	-8.9
12:00	17/01/89	4.29	-8.9
15:00	17/01/89	4.27	-8.9
18:00	17/01/89	4.27	-8.9
21:00	17/01/89	4.27	-8.9
00:00	18/01/89	4.27	-8.9
03:00	18/01/89	4.29	-8.9
06:00	18/01/89	4.27	-8.9
09:00	18/01/89	4.25	-8.9
12:00	18/01/89	4.27	-8.9
15:00	18/01/89	4.31	-8.9
18:00	18/01/89	4.25	-8.9
21:00	18/01/89	4.25	-8.9
00:00	19/01/89	4.25	-8.9
03:00	19/01/89	4.27	-8.9
06:00	19/01/89	4.25	-8.9
09:00	19/01/89	4.22	-8.9
12:00	19/01/89	4.10	-8.9
15:00	19/01/89	4.27	-8.9
18:00	19/01/89	4.33	-8.9
21:00	19/01/89	4.35	-8.9
00:00	20/01/89	4.35	-8.9
03:00	20/01/89	4.35	-8.9

Scheme SMITH - Smithton water monitoring. Data from 12:00 13/01/89 to 15:00 31/01/89

Time	Depth m	Therm Deg C
06:00 20/01/89	4.33	-8.9
09:00 20/01/89	4.24	-8.9
12:00 20/01/89	4.12	-8.9
15:00 20/01/89	4.24	-8.9
18:00 20/01/89	4.27	-8.9
21:00 20/01/89	4.24	-8.9
00:00 21/01/89	4.24	-8.9
03:00 21/01/89	4.25	-8.9
06:00 21/01/89	4.25	-8.9
09:00 21/01/89	4.22	-8.9
12:00 21/01/89	4.22	-8.9
15:00 21/01/89	4.22	-8.9
18:00 21/01/89	4.22	-8.9
21:00 21/01/89	4.22	-8.9
00:00 22/01/89	4.22	-8.9
03:00 22/01/89	4.22	-8.9
06:00 22/01/89	4.18	-8.9
09:00 22/01/89	4.20	-8.9
12:00 22/01/89	4.18	-8.9
15:00 22/01/89	4.18	-8.9
18:00 22/01/89	4.20	-8.9
21:00 22/01/89	4.18	-8.9
00:00 23/01/89	4.18	-8.9
03:00 23/01/89	4.20	-8.9
06:00 23/01/89	4.18	-8.9
09:00 23/01/89	4.18	-8.9
12:00 23/01/89	4.18	-8.9
15:00 23/01/89	4.16	-8.9
18:00 23/01/89	4.18	-8.9
21:00 23/01/89	4.16	-8.9
00:00 24/01/89	4.16	-8.9
03:00 24/01/89	4.16	-8.9
06:00 24/01/89	4.16	-8.9
09:00 24/01/89	4.16	-8.9
12:00 24/01/89	4.14	-8.9
15:00 24/01/89	4.14	-8.9
18:00 24/01/89	4.16	-8.9
21:00 24/01/89	4.16	-8.9
00:00 25/01/89	4.14	-8.9
03:00 25/01/89	4.14	-8.9
06:00 25/01/89	4.14	-8.9
09:00 25/01/89	4.14	-8.9
12:00 25/01/89	4.12	-8.9
15:00 25/01/89	4.12	-8.9
18:00 25/01/89	4.14	-8.9
21:00 25/01/89	4.14	-8.9
00:00 26/01/89	4.14	-8.9
03:00 26/01/89	4.14	-8.9
06:00 26/01/89	4.12	-8.9
09:00 26/01/89	4.12	-8.9
12:00 26/01/89	4.10	-8.9
15:00 26/01/89	4.12	-8.9
18:00 26/01/89	4.12	-8.9
21:00 26/01/89	4.12	-8.8

Scheme SMITH - Smithton water monitoring. Data from 12:00 13/01/89 to 15:00 31/01/89

Time		Depth m	Therm Deg C
00:00	27/01/89	4.12	-8.5
03:00	27/01/89	4.04	-8.8
06:00	27/01/89	4.04	-8.8
09:00	27/01/89	4.10	-8.9
12:00	27/01/89	4.10	-8.9
15:00	27/01/89	4.10	-8.9
18:00	27/01/89	4.10	-8.8
21:00	27/01/89	4.10	-8.6
00:00	28/01/89	4.10	-8.6
03:00	28/01/89	4.10	-8.6
06:00	28/01/89	4.10	-8.6
09:00	28/01/89	4.10	-8.9
12:00	28/01/89	4.10	-8.9
15:00	28/01/89	4.08	-8.9
18:00	28/01/89	4.10	-8.6
21:00	28/01/89	4.10	-8.5
00:00	29/01/89	4.10	-8.5
03:00	29/01/89	4.10	-8.5
06:00	29/01/89	4.10	-8.6
09:00	29/01/89	4.10	-8.9
12:00	29/01/89	4.08	-8.8
15:00	29/01/89	4.10	-8.8
18:00	29/01/89	4.08	-8.5
21:00	29/01/89	4.08	-8.3
00:00	30/01/89	4.08	-8.2
03:00	30/01/89	4.10	-8.2
06:00	30/01/89	4.08	-8.0
09:00	30/01/89	4.08	-8.6
12:00	30/01/89	4.06	-8.9
15:00	30/01/89	4.06	-8.8
18:00	30/01/89	4.08	-8.3
21:00	30/01/89	4.06	-8.3
00:00	31/01/89	4.06	-8.0
03:00	31/01/89	4.06	-7.4
06:00	31/01/89	4.04	-6.8
09:00	31/01/89	4.04	-8.6
12:00	31/01/89	4.06	-8.8

Scheme SMITH - Smithton water monitoring, Data from 15:00 31/01/89 to 15:00 08/03/89

Time	Depth m	Therm Deg C
15:00 31/01/89	4.04	-8.6
18:00 31/01/89	4.04	-8.3
21:00 31/01/89	4.04	-7.7
00:00 01/02/89	4.04	-6.5
03:00 01/02/89	4.02	-7.7
06:00 01/02/89	4.04	-7.9
09:00 01/02/89	4.02	-8.2
12:00 01/02/89	4.04	-8.5
15:00 01/02/89	4.04	-8.3
18:00 01/02/89	4.04	-8.3
21:00 01/02/89	4.02	-7.7
00:00 02/02/89	4.04	-7.3
03:00 02/02/89	4.04	-6.1
06:00 02/02/89	4.02	-6.1
09:00 02/02/89	4.02	-8.3
12:00 02/02/89	4.04	-8.5
15:00 02/02/89	4.04	-8.5
18:00 02/02/89	4.04	-8.2
21:00 02/02/89	4.02	-7.4
00:00 03/02/89	4.02	-6.5
03:00 03/02/89	4.02	-6.2
06:00 03/02/89	4.02	-6.5
09:00 03/02/89	4.00	-8.0
12:00 03/02/89	4.02	-8.3
15:00 03/02/89	4.04	-8.3
18:00 03/02/89	4.02	-8.2
21:00 03/02/89	4.02	-7.6
00:00 04/02/89	4.02	-7.3
03:00 04/02/89	4.02	-6.7
06:00 04/02/89	4.02	-7.1
09:00 04/02/89	3.98	-8.0
12:00 04/02/89	3.98	-8.2
15:00 04/02/89	4.02	-8.3
18:00 04/02/89	4.00	-7.9
21:00 04/02/89	4.00	-7.4
00:00 05/02/89	4.00	-6.2
03:00 05/02/89	4.02	-6.4
06:00 05/02/89	3.98	-6.1
09:00 05/02/89	3.98	-8.2
12:00 05/02/89	4.00	-8.2
15:00 05/02/89	4.00	-8.3
18:00 05/02/89	4.02	-7.9
21:00 05/02/89	3.98	-7.0
00:00 06/02/89	4.00	-7.4
03:00 06/02/89	4.00	-7.3
06:00 06/02/89	4.00	-7.1
09:00 06/02/89	3.98	-7.9
12:00 06/02/89	3.98	-8.2
15:00 06/02/89	4.00	-8.2
18:00 06/02/89	4.00	-8.0
21:00 06/02/89	3.98	-7.3
00:00 07/02/89	3.98	-7.4
03:00 07/02/89	4.00	-7.6
06:00 07/02/89	3.98	-7.3

Scheme SMITH - Smithton water monitoring, Data from 15:00 31/01/89 to 15:00 08/0
8/89

Time		Depth m	Therm Deg C
09:00	07/02/89	3.98	-8.0
12:00	07/02/89	3.98	-8.3
15:00	07/02/89	4.00	-8.2
18:00	07/02/89	4.00	-7.7
21:00	07/02/89	3.98	-7.6
00:00	08/02/89	3.98	-7.6
03:00	08/02/89	3.98	-7.6
06:00	08/02/89	3.98	-7.6
09:00	08/02/89	3.98	-8.0
12:00	08/02/89	3.98	-8.2
15:00	08/02/89	3.98	-7.9
18:00	08/02/89	4.00	-7.9
21:00	08/02/89	4.00	-7.7
00:00	09/02/89	3.98	-7.7
03:00	09/02/89	3.98	-7.6
06:00	09/02/89	3.98	-6.7
09:00	09/02/89	3.98	-7.9
12:00	09/02/89	4.02	-7.7
15:00	09/02/89	3.90	-7.9
18:00	09/02/89	4.12	-7.6
21:00	09/02/89	4.18	-8.8
00:00	10/02/89	4.27	-8.9
03:00	10/02/89	4.24	-8.9
06:00	10/02/89	4.22	-8.9
09:00	10/02/89	4.00	-8.0
12:00	10/02/89	3.90	-8.2
15:00	10/02/89	3.92	-8.2
18:00	10/02/89	4.08	-8.6
21:00	10/02/89	4.08	-8.5
00:00	11/02/89	4.08	-8.6
03:00	11/02/89	4.10	-8.6
06:00	11/02/89	4.16	-8.8
09:00	11/02/89	3.90	-8.5
12:00	11/02/89	3.80	-8.3
15:00	11/02/89	4.00	-8.6
18:00	11/02/89	3.98	-8.6
21:00	11/02/89	3.98	-8.6
00:00	12/02/89	3.98	-8.6
03:00	12/02/89	3.96	-8.6
06:00	12/02/89	3.98	-8.8
09:00	12/02/89	3.98	-8.9
12:00	12/02/89	3.98	-8.9
15:00	12/02/89	3.96	-8.9
18:00	12/02/89	4.00	-8.9
21:00	12/02/89	4.00	-8.9
00:00	13/02/89	4.02	-8.9
03:00	13/02/89	4.00	-8.9
06:00	13/02/89	3.98	-8.9
09:00	13/02/89	3.92	-8.8
12:00	13/02/89	3.98	-8.9
15:00	13/02/89	3.96	-8.9
18:00	13/02/89	3.96	-8.8
21:00	13/02/89	3.96	-8.6
00:00	14/02/89	3.96	-8.8

020

624021

Scheme SMITH - Smithton water monitoring, Data from 15:00 31/01/89 to 15:00 08/03/89

Time	Depth m	Therm Deg C
03:00 14/02/89	3.96	-8.9
06:00 14/02/89	3.94	-8.9
09:00 14/02/89	3.94	-8.9
12:00 14/02/89	3.94	-8.9
15:00 14/02/89	4.04	-8.9
18:00 14/02/89	4.02	-8.9
21:00 14/02/89	4.00	-8.9
00:00 15/02/89	3.98	-8.9
03:00 15/02/89	3.98	-8.9
06:00 15/02/89	3.94	-8.9
09:00 15/02/89	3.90	-8.9
12:00 15/02/89	3.90	-8.9
15:00 15/02/89	3.98	-8.9
18:00 15/02/89	3.98	-8.9
21:00 15/02/89	4.02	-8.9
00:00 16/02/89	3.96	-8.9
03:00 16/02/89	3.98	-8.9
06:00 16/02/89	3.94	-8.9
09:00 16/02/89	3.90	-8.9
12:00 16/02/89	3.98	-8.9
15:00 16/02/89	3.96	-8.9
18:00 16/02/89	3.94	-8.9
21:00 16/02/89	3.94	-8.8
00:00 17/02/89	3.94	-8.9
03:00 17/02/89	3.92	-8.9
06:00 17/02/89	3.94	-8.9
09:00 17/02/89	3.92	-8.9
12:00 17/02/89	3.94	-8.9
15:00 17/02/89	3.96	-8.9
18:00 17/02/89	3.96	-8.8
21:00 17/02/89	3.94	-8.8
00:00 18/02/89	3.94	-8.9
03:00 18/02/89	3.94	-8.9
06:00 18/02/89	3.94	-8.9
09:00 18/02/89	3.92	-8.9
12:00 18/02/89	3.92	-8.9
15:00 18/02/89	3.98	-8.9
18:00 18/02/89	4.00	-8.9
21:00 18/02/89	4.00	-8.9
00:00 19/02/89	4.00	-8.9
03:00 19/02/89	3.98	-8.8
06:00 19/02/89	3.94	-8.6
09:00 19/02/89	3.98	-8.9
12:00 19/02/89	3.90	-8.9
15:00 19/02/89	3.92	-8.9
18:00 19/02/89	3.94	-8.6
21:00 19/02/89	3.92	-8.3
00:00 20/02/89	3.92	-8.3
03:00 20/02/89	3.92	-8.3
06:00 20/02/89	3.84	-8.5
09:00 20/02/89	3.84	-8.8
12:00 20/02/89	3.90	-8.9
15:00 20/02/89	3.94	-8.9
18:00 20/02/89	3.94	-8.8

Scheme SMITH - Smithton water monitoring, Data from 15:00 31/01/89 to 15:00 08/0
3/89

Time		Depth m	Therm Deg C
21:00	20/02/89	4.04	-8.9
00:00	21/02/89	4.08	-8.9
03:00	21/02/89	4.20	-8.9
06:00	21/02/89	4.12	-8.9
09:00	21/02/89	3.82	-8.9
12:00	21/02/89	3.86	-8.9
15:00	21/02/89	3.92	-8.9
18:00	21/02/89	3.92	-8.9
21:00	21/02/89	3.92	-8.6
00:00	22/02/89	3.92	-8.5
03:00	22/02/89	3.94	-8.6
06:00	22/02/89	3.92	-8.6
09:00	22/02/89	3.86	-8.8
12:00	22/02/89	3.92	-8.8
15:00	22/02/89	3.92	-8.9
18:00	22/02/89	3.90	-8.9
21:00	22/02/89	3.90	-8.8
00:00	23/02/89	3.90	-8.9
03:00	23/02/89	3.88	-8.9
06:00	23/02/89	3.90	-8.9
09:00	23/02/89	3.88	-8.9
12:00	23/02/89	3.88	-8.9
15:00	23/02/89	3.90	-8.9
18:00	23/02/89	3.90	-8.8
21:00	23/02/89	3.90	-8.5
00:00	24/02/89	3.88	-8.5
03:00	24/02/89	3.86	-8.6
06:00	24/02/89	3.86	-8.8
09:00	24/02/89	3.86	-8.9
12:00	24/02/89	3.88	-8.9
15:00	24/02/89	3.92	-8.9
18:00	24/02/89	3.92	-8.8
21:00	24/02/89	3.90	-8.8
00:00	25/02/89	3.88	-8.8
03:00	25/02/89	3.92	-8.9
06:00	25/02/89	3.94	-8.9
09:00	25/02/89	3.84	-8.9
12:00	25/02/89	3.86	-8.9
15:00	25/02/89	3.88	-8.9
18:00	25/02/89	3.88	-8.6
21:00	25/02/89	3.88	-8.5
00:00	26/02/89	3.86	-8.3
03:00	26/02/89	3.88	-8.5
06:00	26/02/89	3.86	-8.5
09:00	26/02/89	3.84	-8.8
12:00	26/02/89	3.86	-8.9
15:00	26/02/89	3.88	-8.9
18:00	26/02/89	3.88	-8.5
21:00	26/02/89	3.88	-8.2
00:00	27/02/89	3.88	-8.2
03:00	27/02/89	3.82	-8.5
06:00	27/02/89	3.86	-8.5
09:00	27/02/89	3.86	-8.9
12:00	27/02/89	3.86	-8.9

624023

Scheme SMITH - Smithton water monitoring, Data from 15:00 31/01/89 to 15:00 08/0
3/89

Time		Depth m	Therm Deg C
15:00	27/02/89	3.88	-8.9
18:00	27/02/89	3.86	-8.9
21:00	27/02/89	3.86	-8.9
00:00	28/02/89	3.86	-8.9
03:00	28/02/89	3.86	-8.9
06:00	28/02/89	3.86	-8.9
09:00	28/02/89	3.86	-8.9
12:00	28/02/89	3.88	-8.9
15:00	28/02/89	3.86	-8.9
18:00	28/02/89	3.86	-8.6
21:00	28/02/89	3.88	-8.3
00:00	01/03/89	3.86	-8.5
03:00	01/03/89	3.86	-8.5
06:00	01/03/89	3.84	-8.6
09:00	01/03/89	3.82	-8.8
12:00	01/03/89	3.84	-8.9
15:00	01/03/89	3.90	-8.9
18:00	01/03/89	3.86	-8.6
21:00	01/03/89	3.86	-8.5
00:00	02/03/89	3.86	-8.5
03:00	02/03/89	3.84	-8.5
06:00	02/03/89	3.84	-8.6
09:00	02/03/89	3.82	-8.8
12:00	02/03/89	3.84	-8.9
15:00	02/03/89	3.84	-8.9
18:00	02/03/89	3.84	-8.6
21:00	02/03/89	3.86	-8.5
00:00	03/03/89	3.84	-8.5
03:00	03/03/89	3.84	-8.5
06:00	03/03/89	3.82	-8.6
09:00	03/03/89	3.82	-8.8
12:00	03/03/89	3.82	-8.9
15:00	03/03/89	3.88	-8.9
18:00	03/03/89	3.82	-8.8
21:00	03/03/89	3.84	-8.5
00:00	04/03/89	3.84	-8.5
03:00	04/03/89	3.84	-8.5
06:00	04/03/89	3.84	-8.6
09:00	04/03/89	3.82	-8.8
12:00	04/03/89	3.82	-8.9
15:00	04/03/89	3.82	-8.9
18:00	04/03/89	3.86	-8.6
21:00	04/03/89	3.82	-8.3
00:00	05/03/89	3.80	-8.2
03:00	05/03/89	3.80	-8.3
06:00	05/03/89	3.84	-8.3
09:00	05/03/89	3.73	-8.5
12:00	05/03/89	3.80	-8.9
15:00	05/03/89	3.80	-8.8
18:00	05/03/89	3.82	-8.6
21:00	05/03/89	3.82	-8.2
00:00	06/03/89	3.94	-8.2
03:00	06/03/89	3.82	-8.2
06:00	06/03/89	3.00	-8.0

Scheme SMITH - Smithton water monitoring, Data from 15:00 31/01/89 to 15:00 08/0
5/89

Time		Depth m	Therm Deg C
19:00	06/03/89	3.71	-8.5
12:00	06/03/89	3.78	-8.0
15:00	06/03/89	3.82	-8.9
18:00	06/03/89	3.84	-8.5
21:00	06/03/89	3.80	-8.2
10:00	07/03/89	3.80	-8.2
13:00	07/03/89	3.76	-8.2
16:00	07/03/89	3.78	-8.3
19:00	07/03/89	3.76	-8.2
2:00	07/03/89	3.76	-8.6
15:00	07/03/89	3.80	-8.9
18:00	07/03/89	3.80	-8.5
21:00	07/03/89	3.80	-8.5
10:00	08/03/89	3.80	-8.3
13:00	08/03/89	3.80	-8.3
16:00	08/03/89	3.78	-8.5
19:00	08/03/89	3.79	-8.5
2:00	08/03/89	3.82	-8.6

Scheme SMITH - Smithton water monitoring, Data from 15:00 08/03/89 to 12:00 16/05/89

Time		Depth m	Therm Deg C
15:00	08/03/89	3.00	-7.6
18:00	08/03/89	3.80	-7.4
21:00	08/03/89	3.80	-7.0
10:00	09/03/89	3.78	-5.9
13:00	09/03/89	3.78	-5.2
16:00	09/03/89	3.80	-5.0
19:00	09/03/89	3.78	-7.4
22:00	09/03/89	3.78	-7.4
15:00	09/03/89	3.78	-7.7
18:00	09/03/89	3.80	-7.4
21:00	09/03/89	3.78	-7.3
00:00	10/03/89	3.78	-7.1
03:00	10/03/89	3.78	-7.0
06:00	10/03/89	3.80	-7.1
09:00	10/03/89	3.78	-7.0
12:00	10/03/89	3.78	-7.3
15:00	10/03/89	3.80	-7.1
18:00	10/03/89	3.82	-7.3
21:00	10/03/89	3.86	-7.1
00:00	11/03/89	3.86	-6.8
03:00	11/03/89	3.84	-6.8
06:00	11/03/89	3.86	-7.1
09:00	11/03/89	3.71	-7.4
12:00	11/03/89	3.80	-7.9
15:00	11/03/89	3.80	-7.9
18:00	11/03/89	3.82	-7.6
21:00	11/03/89	3.82	-7.6
00:00	12/03/89	3.80	-7.6
03:00	12/03/89	3.80	-7.4
06:00	12/03/89	3.82	-7.6
09:00	12/03/89	3.82	-7.6
12:00	12/03/89	3.82	-7.6
15:00	12/03/89	3.84	-7.6
18:00	12/03/89	3.84	-7.7
21:00	12/03/89	3.84	-7.6
00:00	13/03/89	3.94	-7.6
03:00	13/03/89	3.94	-7.1
06:00	13/03/89	3.84	-7.6
09:00	13/03/89	3.73	-7.7
12:00	13/03/89	3.80	-7.7
15:00	13/03/89	3.88	-7.9
18:00	13/03/89	3.90	-7.9
21:00	13/03/89	3.98	-7.9
00:00	14/03/89	3.88	-7.9
03:00	14/03/89	3.90	-7.9
06:00	14/03/89	3.88	-7.7
09:00	14/03/89	3.86	-8.0
12:00	14/03/89	3.88	-8.0
15:00	14/03/89	3.86	-8.0
18:00	14/03/89	3.88	-7.7
21:00	14/03/89	3.88	-7.4
00:00	15/03/89	3.88	-6.8
03:00	15/03/89	3.88	-5.8
06:00	15/03/89	3.86	-6.7

025

Scheme SMITH - Smithton water monitoring, Data from 15:00 08/03/89 to 12:00 16/0
3/89

Time		Depth m	Therm Deg C
09:00	15/03/89	3.88	-8.0
12:00	15/03/89	3.90	-8.0
15:00	15/03/89	3.86	-7.9
18:00	15/03/89	3.88	-7.6
21:00	15/03/89	3.86	-7.7
00:00	16/03/89	3.86	-7.4
03:00	16/03/89	3.86	-7.0
06:00	16/03/89	3.84	-7.0
09:00	16/03/89	3.82	-8.0

624027

DEPARTMENT OF MINES

TASMANIA

Head Office:
Gordons Hill Road,
P.O. Box 56,
ROSNY PARK 7018

Enquiries: B. Weldon
Phone: 30 8325
Your ref.:
Our file: EL 29/80
BW(4):JH

29 MAR 1989

Mr V.M. Threader,
43 Kingston Heights,
KINGSTON BEACH
Tasmania 7050

Dear Vic,

GROUNDWATER MONITORING, SMITHTON

Please find enclosed a print-out of the data collected from the groundwater monitoring station installed at your request off the Trowutta Road at map reference 55GCQ409736.

A plot of the data is also included.

You should note that the raw data as presented records the head of water above the transducer which has been set at 5 m below ground level. The plot shows the depth to water below ground level. The transducer has the capacity to record water temperature. This information is provided in the print-out. However, as the thermal probe has not been calibrated, the temperature readings are not meaningful and should be disregarded.

Should you have any enquiries concerning the data or the installation please contact Mr B. Weldon direct on (002) 30 8325.

Yours sincerely,

BWeldon

Hugh Murchie
DIRECTOR OF MINES

APPENDIX 4

Underground Water Records

in Vicinity of Monitoring Borehole

Extract of entries from D.o.M. Underground Water Records of Boreholes in Vicinity of Underground Water Monitoring Hole

Year Drilled	No.	A.M.G.	Depth	Yield G.P.H.	Log
1946	35	405735	22.6	300	1.8m sand 1.8–22.6 dolomite
1946	36	403735	5.5	nil	Sand on dolomite
1955	93	405737	21.3	300 (at 15.3m)	0–0.6 soil 0.6–1.5 clay 1.5–2.7 gravel 2.7–21.3 broken dolomite and dolomite
1955	123	411736	18.3	300 (at 18.3)	0–3.4 sand and clay 3.4–18.3 dolomite

The yields are not pump test results but only bailer estimates.

Recent drilling on the Mella Road – Mowbray Swamp had pump tests giving 6000, 8000, and 10 000 g.p.h.

Water yields in dolomite are highly variable, some are dry but broken rock or solution cavity ground yield well.

APPENDIX 5

Borehole Logs

Percussion Drill Holes

Hole No.	Depth (m)	Thickness (m)	Sample No.	Penetration (minutes)	Remarks
BB 1	0–4	4	1	6½	
	4–6	2			
	6–7	1			
	7–10	3	2	7	
	10–13	3	3	7	
	13–15	2	4	8½	
	15–16	1	5		
	16–18	2	NS		
BB 2	0–1	1	NS	5	
	1–4	3			
	4–7	3	1	7	
	7–10	3	2	7	
	10–13	3	3	7	
	13–16	3	4	7½	Water struck at 15m
	16–19	3	5	10½	
	19–22	3	6	11	
	22–24	3	7	8½	
	24–27	3	8	11	
	27–31	3	9	12¼	
BB 3	0–4	3	1	25	
	4–7	3	2	47	Water struck at 3m
	7–10	3	3	55	Very hard – wore out bit

Hole No.	Depth (m)	Thickness (m)	Sample No.	Penetration (minutes)	Remarks
BB 4	0–3	2	1	12	
	3–5	2	2	10	
	5–9	4	3		
	9–10	1	NS	11½	
BB 5	0–4	3	1	18	Very soft at 2–3m
	4–6	2	2	15	Water struck at 3m
	6–7	1	NS		
BB 6	0–3	3	1	19½	Water struck at 3m
	3–6	3	2	15	Flow decreases at 7m
	6–9	3	3		Change of ground at 9m
	9–10	1	4	15	
BB 7	0–4	4	1	21½	
	4–7	3	2	23	Water struck at 3m
	7–10	3	3	26	
	10–13	3	4	22	
	14–16	3	5	21½	
JB 1	0–3	3	1	31	
	3–6	3	2	19½	

Hole No.	Depth (m)	Thickness (m)	Sample No.	Penetration (minutes)	Remarks
	6-10	4	3	17	
	10-13	3	4	12	
	13-16	3	NS	13	
JB 2	0-3	3	NS	12½	
	3-5	2	1	8	
	5-6	1	NS		
	6-8	2	1	26	Drilling too hard to continue
	8-14	2	NS		
JB 3	0-3	3	NS	7½	Water struck at 3m
	3-6	3	NS	13	
	6-9	3	NS	11	
JB 4	0-3	3	NS	7	
	3-6	3	NS		Very soft ground
	6-9	3	NS		

B.H. No.	Depth (m)	Al_2O_3	Fe_2O_3	SiO_2	LOI	Remarks
BB.3	0-10	0.23	0.04	98.76	0.94	LOI=1.52 4-7m
4	0-3	0.20	0.08	98.94	0.31	
	0-5	0.62	0.24	98.42	0.39	
5	0-6	0.26	0.22	99.11	0.36	
6	0-3	0.30	0.05	98.32	1.12	
7	0-10	0.49	0.08	99.13	0.32	
JB.1	0-6	0.34	0.07	99.14	0.27	

Notes on analyses

The results confirm the already known pattern of surface silicification which has converted an impure ortho-quartzite into high grade silica. The CaO and MgO content is very low and the L.O.I. would appear to be the result of organic contamination. It is expected therefore that the effective SiO_2 content is higher than stated by around 0.3%. In the case of the sample from B.H. BB.3 4-7m which occurred at the Water Table the SiO_2 is expected to be improved by >1% by removal of organics.

The above results are sufficiently encouraging to justify a further drilling programme particularly in the crown land to the north where the outcrop area is broader and the quality appears to be higher.

This area of around 25 ha has the potential to produce around 0.5M tonnes/m depth and is targeted for evaluation in the coming exploration year.

Hole No.	Depth (m)	Thickness (m)	Sample No.	Penetration (Minutes)	Al_2O_3	Fe_2O_3	K_2O	CaO	MgO	MnO	Na_2O	P_2O_5	SiO_2	TiO_2	LOI
BB 1	0-4	4	1	$6\frac{1}{2}$	5.19	0.46	1.37	0.0035	0.24	0.0005	0.015	0.016	91.19	0.125	1.39
	4-6	2			6.38	0.41	1.39	0.0035	0.21	0.0010	0.016	0.023	89.9	0.25	1.43
	6-7	1			8.97	1.23	3.58	0.0040	0.515	0.0020	0.032	0.041	82.14	0.665	2.82
	7-10	3	2	7	12.80	2.73	5.06	0.0035	0.79	0.0020	0.045	0.045	74.34	1.000	3.19
	10-13	3	3	7	14.20	1.47	4.94	0.0035	0.76	0.0020	0.047	0.048	74.10	0.835	3.60
	13-15	2	4	$8\frac{1}{2}$											
	15-16	1	5												
	16-18	2	NS												
BB 2	0-1	1	NS	5	1.32	0.09	0.29	0.0025	0.05	0.0005	0.005	0.014	97.01	0.215	1.01
	1-4	3													
	4-7	3	1	7	1.85	0.08	0.39	0.0025	0.08	0.0005	0.006	0.010	96.64	0.070	0.87
	7-10	3	2	7	3.55	0.16	0.76	0.0035	0.14	0.0005	0.010	0.019	94.10	0.100	1.18
	10-13	3	3	7	3.55	0.15	0.70	0.0035	0.12	0.0005	0.009	0.017	94.40	0.095	0.95

Hole No.	Depth (m)	Thickness (m)	Sample No.	Penetration (Minutes)	Al_2O_3	Fe_2O_3	K_2O	CaO	MgO	MnO	Na_2O	P_2O_5	SiO_2	TiO_2	LOI
	13-16	3	4	7½*	2.64	0.18	0.57	0.0035	0.10	0.0005	0.008	0.023	95.47	0.145	0.87
	16-19	3	5	10½	4.72	0.43	1.27	0.0035	0.18	0.0010	0.013	0.028	91.36	0.215	1.78
	19-22	3	6	11	8.97	1.27	4.02	0.0035	0.60	0.0020	0.030	0.053	81.54	0.665	2.85
	22-24	3	7	8½	12.80	1.47	4.66	0.0035	0.70	0.0020	0.036	0.057	76.26	0.765	3.25
	24-27	3	8	11	13.2	1.07	4.80	0.0070	0.70	0.0025	0.044	0.07	76.06	0.870	3.15
	27-31	3	9	12¼	12.80	2.89	4.83	0.028	0.90	0.0160	0.039	0.100	73.45	0.535	4.41
BB 3	0-4	3	1	25	0.19	0.03	0.64	0.0055	0.01	<0.0002	0.002	0.005	99.22	0.09	0.41
	4-7	3	2	47#	0.22	0.05	0.055	0.0075	0.02	0.0005	0.003	0.005	98.01	0.08	1.52
	7-10	3	3	55+	0.28	0.05	0.06	0.0070	0.02	0.0005	0.003	0.005	99.05	0.03	0.48
BB 4	0-3	2	1	12	0.34	0.20	0.08	0.004	0.02	0.0005	0.003	0.007	98.94	0.09	0.31
	3-5	2	2	10	0.90	0.29	0.28	0.002	0.04	0.0005	0.004	0.016	97.90	0.10	0.47
	5-9	4	3		0.99	1.54	0.26	0.005	0.05	0.0010	0.005	0.005	96.24	0.06	0.83
	9-10	1	NS	11½											

*Water struck at 15m

#Water struck at 3m

+Very hard - wore out bit

Hole No.	Depth (m)	Thickness (m)	Sample No.	Penetration (Minutes)	Al_2O_3	Fe_2O_3	K_2O	CaO	MgO	MnO	Na_2O	P_2O_5	SiO_2	TiO_2	LOI
BB 5	0-4	3	1	18*	0.19	0.05	0.035	0.0055	0.011	0.0005	0.005	0.007	99.18	0.13	0.38
	4-6	2	2	15+	0.36	0.039	0.14	0.0030	0.020	0.0005	0.005	0.005	99.04	0.04	0.35
	6-7	1	NS		2.23	0.31	0.51	0.0035	0.075	0.0005	0.010	0.029	95.08	0.11	1.63
BB 6	0-3	3	1	19½#	0.30	0.05	0.05	0.013	0.015	0.0050	0.005	0.005	98.32	0.115	1.12
	3-6	3	2	15	1.13	0.11	0.25	0.006	0.038	0.001	0.007	0.008	97.69	0.06	0.69
	6-9	3	3		5.44	0.97	1.92	0.005	0.24	0.001	0.021	0.018	89.04	0.12	2.22
	9-10	1	4	15	14.90	1.76	5.42	0.003	0.8	0.002	0.05	0.05	73.10	0.60	3.31
BB 7	0-4	4	1	21½	0.06	0.02	0.01	0.004	0.005	0.0005	0.002	0.002	99.62	0.06	0.22
	4-7	3	2	23+	0.49	0.07	0.12	0.005	0.03	0.0005	0.005	0.005	98.88	0.04	0.34
	7-10	3	3	26	0.43	0.11	0.11	0.005	0.03	0.0005	0.005	0.005	98.86	0.05	0.39
	10-13	3	4	22	1.47	0.16	0.42	0.005	0.08	0.0010	0.008	0.007	97.25	0.05	0.54
	13-16	3	5	21½	1.04	0.07	0.26	0.003	0.05	0.0005	0.006	0.006	96.32	0.06	2.17

*Very soft at 2-3m +Water struck at 3m #Water struck at 3m. Flow decreases at 7m. Change of ground at 9m

Hole No.	Depth (m)	Thickness (m)	Sample No.	Penetration (Minutes)	Al_2O_3	Fe_2O_3	K_2O	CaO	MgO	MnO	Na_2O	P_2O_5	SiO_2	TiO_2	LOI
JB 1	0-3	3	1	31	0.40	0.10	0.11	0.004	0.02	0.0005	0.003	0.004	99.00	0.03	0.33
	3-6	3	2	19½	0.28	0.05	0.07	0.004	0.01	0.0005	0.005	0.002	99.29	0.03	0.25
	6-10	4	3	17	2.36	0.18	0.51	0.003	0.07	0.0005	0.01	0.007	96.14	0.06	0.65
	10-13	3	4	12	2.51	0.33	0.72	0.002	0.10	0.0005	0.01	0.009	95.26	0.10	0.95
	13-16	3	NS	13											
JB 2	0-3	3	NS	12½											
	3-5	2	1	8											
	5-6	1	NS												
	6-8	2	1	26*											
	8-14	2	NS												

* Drilling too hard to continue

APPENDIX 6

Statement of Expenditure

1988-1989

Statement of Expenditure in E.L.29/80 for 1988-89

	$
Underground water monitoring borehole	1 800.00
Analysis (chemical and gold assays) of 10 samples	500.00
Monitoring equipment	2 000.00
Percussion drilling	5 500.00
Chemical analyses 41 @ $30	1 230.00
Field assistant wages	1 000.00
Geological consultant	5 000.00
Travelling expenses	800.00
Exploration licence fees	675.00
Administrative overheads	2 000.00
Total:	$ 20 505.00

APPENDIX 7

Summary of Previous Exploration

041

Summary of Exploration in E.L. 29/80 by Licencee

TCR No.	Title	Author	Date	Content
81-1641	Drilling Programme Dolomite Prespect	Longworth & McKenzie	Sept 1981	Sample and borehole location map (B.H.P.1 drilled by B.H.P. (1945) in previous exploration - see 87-2708) Percussion drill holes: PH 1-5 and surface samples in Duck River Nos.1 and 2 plus chemical analyses from PH.1
82-1669	Information on: (Various commodities)	P.B. Nye	Dec 1981	Ochre at Smithton Clay at Mawbanna Quartzite at Deep Creek (Beacom Hills); Hellyer: Black River: Grays Creek Dolomite at Black River: South River Lignite at Detention River
83-1977	Quartzite quarry within EL 29/80 Smithton	M.D. Ware (& Amdel)	4.10.82	8 Airtrak holes were drilled (DH 1-8) Chemical analyses from DH.1 & DH.4 Chemical and petrographic analyses of chip samples
83-2011	EL 10/79 Smithton Exploration Report for the period of 30th June 1982-83	C.R.A.	1983	9 Percussion holes, 5 of which intersescted Smithton dolomite within 30m of surface. Average grade 30% CaO 20% MgO. The major contaminant was SiO_2 which ranged from 0.8 to 19.2%
85-2409	EL 29/80 Annual Report 1983/84	N.M. Thomas	June 1985	Borehole Location Map of series: BP 1 to 36 in DMR Ballast Reserve DH 1-8 previously reported TP 1-9 Chemical analyses from DH.1 & DH.4 previously reported and Al_2O_3 content in holes TP.1 and TP.9 at 1m intervals Logs of holes TP.1-9 by M.D. Ware

624042

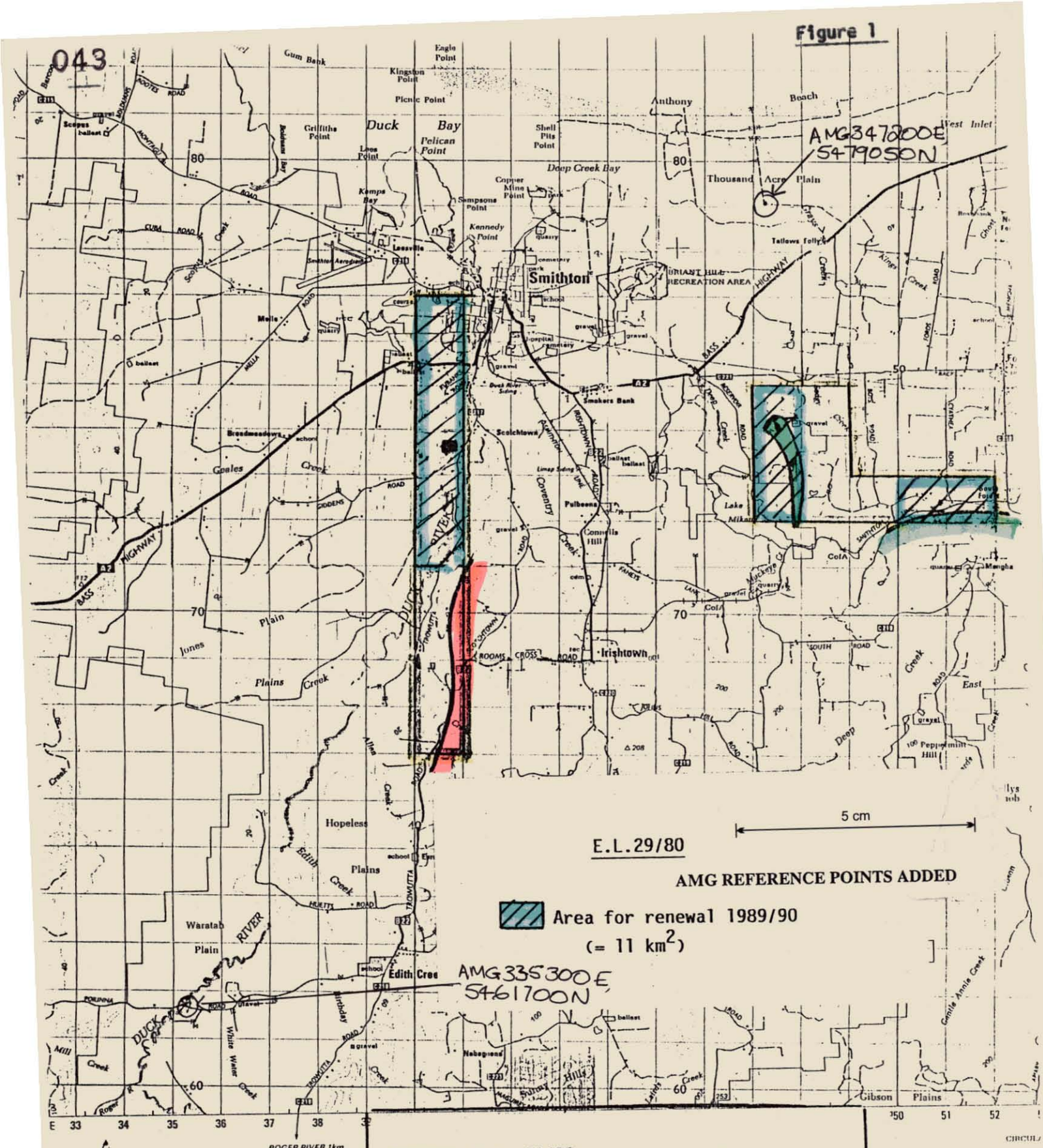
042

Summary of Exploration in E.L. 29/80 by Licencee Contd.

TCR No.	Title	Author	Date	Content
85-2431	Final Report on EL 10/79	M.H.A.	1984	(1) Chip sampling and drillhole location map (2) Assay results for Au and Pt
86-2560	Preliminary inspection of EL 43/84	D. McKenna and Partners (for Pan-Australian Mining	1986	A study of previously recorded anomalous gold values from 2 dolomite samples. The anomaly was not detected but stream sediment sampling was recommended to confirm this
87-2708	Annual Report EL 43/84	Vic Threader	Sept 1987	Summary of previous exploration including diamond drilling by B.H.P. (1944) - prior to present tenure but not previously reported in full Geochemical and ground magnetic survey by C. Whitehead during current year Consultants' report (Hudson Lees Assoc.) on status of Mineral Deposits of M.H.A. Miscellaneous test data relating to quality of Smithton Dolomite.
88-2843	Annual Report EL.29/80	Vic Threader	July 1988	Sampling programme East of Lake Mikhany at 1) the Timber Reserve and 2) Mengha. These areas were targeted for further investigation.

Figure 1

043



E.L. 29/80

Cambrian Volcanics

Quartzite

~~1,2,3,4 C.R.A. Boreholes~~

Groundwater monitoring borehole

~~I-III Proposed percussion holes in dolomite~~

~~IV-VII " " " " Quartzite~~

Scale 1 : 100 000

621044

publication

PRODUCTION: Mapping Division, Lands Department, Hobart, 1985.
ACCURACY: Horizontal: 90% of topographic detail is within 50 metres of true position. Vertical:90% of elevations are within 10 metres. These accuracies may not be achieved in areas of dense vegetation.
RELIABILITY: Topographic detail compiled from aerial photography flown 1984 with field verification 1985.
NOMENCLATURE: Topographic names have been approved by the Nomenclature Board of Tasmania.
PUBLIC RIGHT OF WAY: Roads and tracks on this map do not necessarily indicate a public right of way.

PROJECTION: Universal Transverse Mercator (UTM).
HORIZONTAL DATUM: Australian Geodetic Datum 1966
VERTICAL DATUM: Australian Height Datum (Tasmania) excepting offshore islands whose datum is mean sea level.
GRID: 1000 metre intervals of the Universal Transverse Mercator Grid, Zone 55 (Australian Map Grid), Australian National Spheroid. Grid values

UNIVERSAL GRID REFERENCE

SCALE 1:

1 centimetre repres

sealed unsealed

Minor road within congested area

Roads of restricted use or access

Other roads: Bridle

Figure 2

Previous E.L. 29/80 (eastern portion)

Renewal Application (on 1 km grid)

Proposed ½ km grid application area

Percussion Borehole

624045

5 cm

CIRCULAR HEAD 44

SCALE 1:25 000

1 millimetre on this map represents 25 metres on the ground

Residential area; Commercial buildings

Primary road with route number

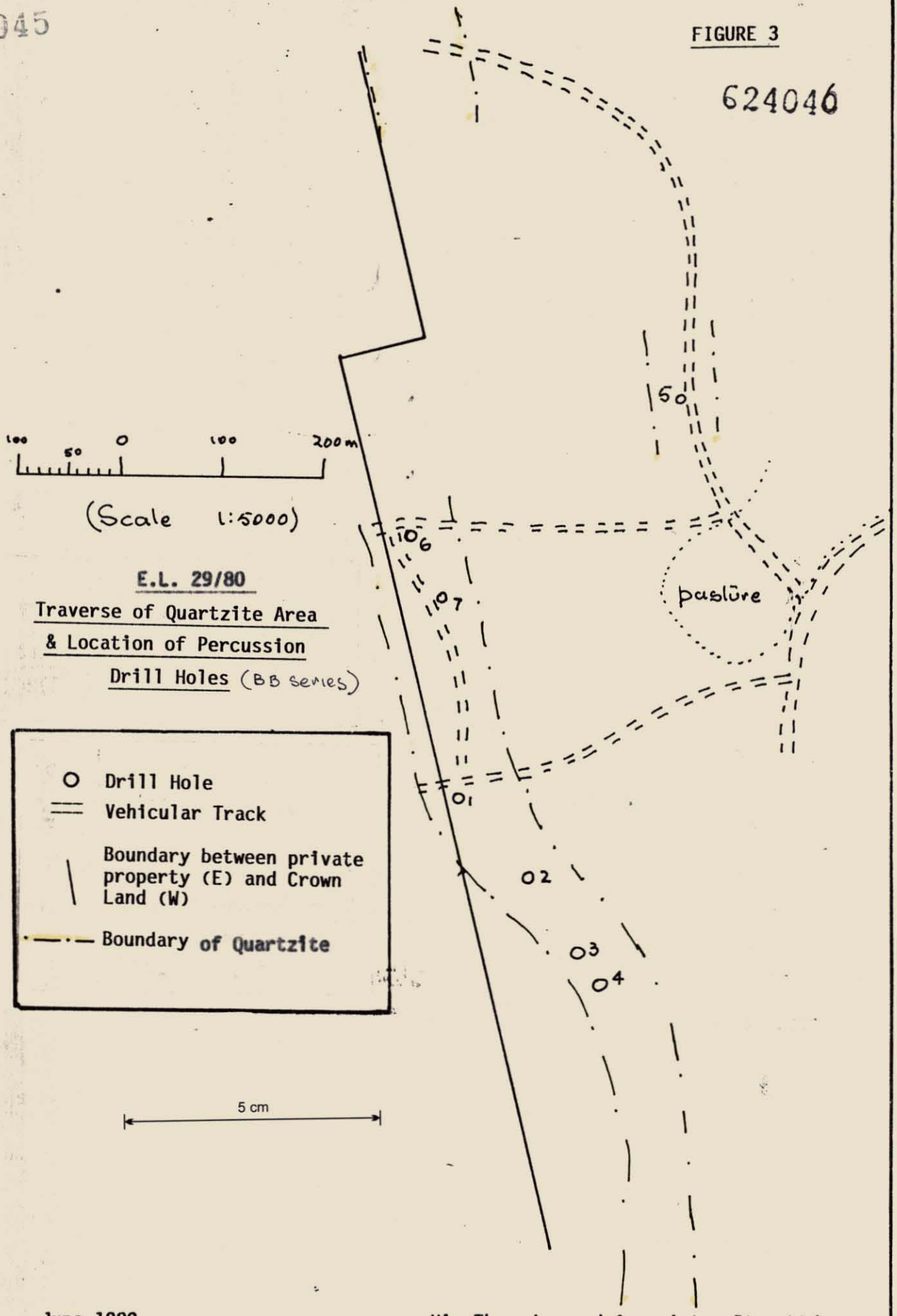
Secondary road with route number

sealed unsealed

045

FIGURE 3

624046



June 1989

Vic Threader and Associates Pty. Ltd.