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FINAL REPORT

TASMANIAN EXPLORATION LICENCE

NO. 1/71 AT CAPE SORELL

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FROM WORK BY: I.D. PICKEN
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JANUARY 1978

AMG REFERENCE POINTS ADDED

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SUMMARY

During 1970 Comalco commenced its search for silicon grade quartzite with the aim of smelting it to silicon metal to meet an apparently increasing demand both overseas and within Australia for this product.

In January 1971 Exploration Licence No. 1/71 at Cape Sorell near Strahan, Tasmania was granted to Comalco to carry out exploration for all minerals but in particular quartzite.

At Cape Sorell there are numerous outcrops of Pre-Cambrian quartzite with interbedded phyllites. The quartzite varies in quality, the more massive beds being generally of higher purity (SiO_2 > 98%), whereas the finely bedded quartzite usually has mica and clay minerals between the laminations reduing the silica content. Quartzite for production of silicon metal should preferably contain greater than 99.0% SiO_2.

A preliminary surface sampling programme was carried out during 1971 which indicated that the softer and finely bedded quartzite as well as the harder massively bedded quartzite were mostly of high SiO_2 content. In actual fact, only the massively bedded quartzite was of silicon grade at depth - leaching of alumina and iron from the soft and finely bedded quartzite has occurred at the surface making surface sampling unrepresentative of the quartzite at depth. This was demonstrated by the initial drilling programme.

During the 1974/75 field season an intensive, costean sampling by drilling and blasting, combined with topographical/geological mapping programme was carried out to infer an adequate tonnage of silicon grade quartzite so that plans could be made for a silicon smelter. The minimum inferred tonnage from "Mount Antill" "Mount Obvious" and the "North Escarpment Areas" is 2.78 million tonnes, having an average grade of:-

SiO_2: 99.13% Al_2O_3: 0.34%, Fe_2O_3: 0.05%

cont..

Ten (10) diamond drill holes, totalling 755 metres, were recommended from the costeaning and mapping to raise the status of the "inferred" quartzite to "measured" or "proven" quartzite ore reserves. In view of the massive quartzite outcrops the confidence level is high that silicon grade quartzite ore reserves of not less than 2.78 million tonnes could be proved.

For various economic reasons this essential drilling to prove the silicon grade quartzite ore reserves has not been carried out. Comalco plans to retain its Mineral Lease 16M/75 and awaits a more propitious time for drilling and further development at Cape Sorell.

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OBJECTIVE

E.L. 1/71 "Cape Sorell" was applied for so that Comalco could search for very high purity (silicon grade) quartzite with the ultimate objective of smelting the quartzite in Tasmania to produce silicon metal to alloy with aluminium.

EXPLORATION LICENCES AND MINERAL LEASES

Exploration Licence No. 1/71

Exploration Licence No. 1/71 at Cape Sorell near Strahan was granted to Comalco Limited on the 6th January, 1971 and was relinquished on the 5th January, 1978. E.L. 1/71 covered an area of 57 Km^2 (22 square miles) at the northern end of the Cape Sorell peninsula.

Exploration Licence No. 6/74

On 11th July, 1974, E.L. 6/74 was applied for and granted to cover an area of 233 Km^2 (90 square miles) immediately to the south of and adjoining E.L. 1/71. The area comprising E.L. 6/74 was amalgamated with E.L. 1/71 until this area only was relinquished on 5th January, 1976.

Mineral Leases No. 11M/75, 12M/75, 13M/75, 14M/75, and 16M/75

During January 1975 Comalco marked out and applied for four (4) 100 hectare Mineral Leases within the area of E.L. 1/71, they were numbered 11M/75, 12M/75, 13M/75 and 14M/75. On the 4th February, 1975 the four Mineral Leases were surrendered for the purpose of converting them to a Consolidated Lease 16M/75 of 400 hectares which was formally granted on the 1st March, 1975.

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GEOLOGY

Cape Sorell Area

The Precambrian sequence consists of massive crossbedded and finely laminated orthoquartzites interbedded with phyllites. Minor siliceous beach pebble conglomerates outcrop near the northern tip of the Cape. The rocks show at least three phases of deformation, the massive siliceous rocks behaving competantly to form broad truncated folds whereas the phyllites and thin laminated quartzites are contorted with boudinage structures. The regional strike is north to northeast.

Due to their resistance to weathering the massive quartzite beds form prominent outcrops and strike ridges. Quartzite scree often covers the softer eroded phyllites giving the false impression of the quartzite beds being thicker than they are in fact.

The quartzite varies in quality from pure (almost 100% SiO_2) to high clay and/or high iron where it is strongly crossbedded. The colour hardness and quality of the quartzite is dependant on the nature and thickness of the bedding, percentage of silica, iron and clay minerals present.

Away from the coast the phyllites have been eroded to form gullies where they can be observed in limited outcrop. In general the phyllites are covered with quartzite scree, button grass and swamp.

Recent sand dunes have been built up along the western coast of Cape Sorell peninsula and extend southwards from Tiddy's Beach to the entrance to Macquarie Harbour and along the southern shore of Pilot Bay.

Table Head area

Reconnaissance geological mapping was carried out in the area to the south from Table Head. Only small areas of massive high purity quartzite were located, it was considered insufficient for detailed sampling and analysis. Most of the area mapped was predominantly phyllite with minor quartz stringers in places. Other beds of massive quartzite had a honeycombed weathering surface implying impurities in the quartzite. Refer to the "Reconnaissance Geological Map of the Table Head area" by A.H. White and I.D. Picken TAS/TC/76/40 on a scale of 1:10,000 which records the geological mapping completed in that area.

SPECIFICATIONS FOR QUARTZITE AS A RAW MATERIAL FOR METALLIC SILICON PRODUCTION

(i) Analytical

The general and desirable requirements for quartzite for metallic silicon is as follows :-

SiO_2	99.50%	up
Fe_2O_3	0.20%	down
* Al_2O_3	0.15%	down

* Al_2O_3 can be greater than 0.15% if the silicon is to be alloyed with aluminium.

(ii) Size

For the reduction reaction to take place in the electric furnace the quartzite needs to be in lumps - the desirable size range being from 30 to 150 millimetres.

(iii) Thermal stability

Tests on the Cape Sorell quartzite by Elkem A/S Research Division in Norway, concluded that it :

- has high thermal stability
- very good mechanical strength
- is suitable for the production of silicon metal and ferro-silicon in an electric smelting furnace.

EK ELKEMA

Research Division, Fiskaa Verk

Date
2nd March, 1971

Report No.
F/FV 38/71

File
1773 C

LABORATORY TEST OF A QUARTZITE SAMPLE FOR COMALCO LIMITED

LABORATORY TEST OF A QUARTZITE SAMPLE FOR COMALCO LIMITED

Sample : 4.5 kg quartzite
Received : February 18th 1971
Our ref. No: 14/71

1. INTRODUCTION

The sample received consisted of pieces of grain size between 3/4 and 2 inches.

Visual examination showed mainly two types, one fine grained type, white or light grey in colour, and the other one a little more coarse grained and darker in colour. A few pieces were transitional to the two mentioned types.

The sample has been tested on thermal stability according to our normal method.

Chemical analyses have not been carried out.

2. CONCLUSION

The quartzite sample examined has a high thermal stability and a very good mechanical strength, and should from this point of view be well suitable for use as a raw material for production of ferro-silicon and silicon metal in electric smelting furnaces.

3. PROCEDURE

The thermal stability has been determined according to the method description No 21, given as appendix 1.

4. RESULTS

Sieve curves showing the disintegration after heat treatment and after further tumbling are given in appendix 2.

Thermal stability (+3/4" after heat treatment)	73%
Mechanical strength (+5 mm after heating and 100 revolutions in the drum)	95%

Kr.sand S, 2nd March, 1971

TA/mh

T. Anderssen

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Confirmation of

TELEX

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Elkem Oslo
Telex 18 229 Elkem N

ELKEM A/S

Head Office

Comalco Limited
95 Collins st.
GPO Box 2773 Y
MELBOURNE 3001
Australia

Your ref.

Our ref.
OCS/IO

Oslo,
March 17th, 1971

Tel-address

30108 (con rio)

We hereby confirm our message of today as follows

Att.: Mr. Moyle

CHEMICAL ANALYSIS OF QUARTZITE SAMPLE

We obtained the following values:

SiO_2	99,44 %
Fe_2O_3	0,056 "
TiO_2	0,015 "
Al_2O_3	0,24 "
P	0,0003 %
CaO	0,004 "
Loss of ignition	0,11 "

Apart from percentage of Al_2O_3, contents of impurities are low.
Regards

pr. ELKEM A/S

H.C. Andersen

Otto Sandberg
Otto Sandberg

cc: ELKEM A/S, Research Division, Fiskaa Verk

Telex-operator Sign.

10-66 Cicero a.s 2500

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PRELIMINARY SURFACE SAMPLING - 1971

The following information is extracted from a report by I.D. Picken entitled:

"Cape Sorell Quartzite Project Cape Sorell Peninsula-Western Tasmania, Geological Report"

August 1971.

Analysis of Quartzite Samples

Ninety-four (94) quartzite samples were taken on Cape Sorell. The samples have been marked 'CSP'. Duplicate samples of the initial seventeen samples (CSP 001 to CSP 017) were assayed by the Comalco and Griffith - Inteco Aust. Pty.Ltd. Laboratories, Melbourne. Contamination from the wearing faces of the crushers was apparent with each set of results. The Comalco Laboratory utilized an iron jaw crusher for primary crushing- this introduced significant iron contamination. The Griffith-Inteco Laboratory used cermaic lined crushers - this introduced significant alumina contamination. The reported assay results of the initial seventeen samples is a combination of both sets of results.

The remaining samples have been assayed by the A.C.I. Technical Centre Pty. Ltd., Waterloo, New South Wales. Samples CSP 027 to CSP 034 were not assayed due to their present uneconomic geographical position.

A bulk sample obtained from samples CSP 018 to CSP 90 was forwarded to Elkem A/S Research Divison in Norway. Thermal Stability tests and a bulk analysis were completed on this representative sample. The table below compares the overall A.C.I. and Elkem analyses.

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Element	Average of 69 Samples Analysed by A.C.I.	Bulk Sample Analysed by Elkem
SiO_2	99.40 %	99.44 %
Fe_2O_3	0.032 %	0.056 %
Al_2O_3	0.348 %	0.24 %
TiO_2	0.033 %	0.015 %
MgO	0.022 %	-
L.O.I.	0.148 %	0.11 %
Cr_2O_3	0.001 %	-
Na_2O	0.010 %	-
P	0.05 %	0.0003 %
CaO	0.010 %	0.004 %

It should be noted that the above analyses represent an average of all samples assayed.

ANALYSIS OF QUARTZITE SAMPLES

CAPE SORELL - WEST TASMANIA

Exploration Licence 1/71

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Sample	SiO_2	Fe_2O_3	Al_2O_3	TiO_2	CaO	MgO	Na_2O	Cr_2O_3	P	L.O.I.	Lab. Reports
CSP 001	99.51	0.06	0.27	0.03	18	110			NOT DETERMINED	0.12	Samples CSP001 to CSP017 were assayed by normal chemical methods at the Melbourne Laboratories of Comalco and Griffith -Inteco (Aust.) P/L. The two sets of results have been combined. The deficit in the total aggregate has been proportioned out amongst the individual assays for each sample.
" 002	99.21	0.04	0.55	0.04	ND	113				0.14	
" 003	99.06	0.10	0.70	0.04	4	140				0.08	
" 004	99.06	0.06	0.65	0.05	25	165				0.16	
" 005	99.06	0.04	0.66	0.04	35	123				0.18	
" 006	99.06	0.05	0.76	0.02	ND	105				0.10	
" 007	99.33	0.12	0.41	0.03	ND	125				0.09	
" 008	99.42	0.07	0.42	0.02	ND	120				0.05	
" 009	99.66	0.04	0.22	0.02	ND	85				0.05	
" 010	99.65	0.03	0.26	0.02	ND	110				0.03	
" 011	99.30	0.06	0.55	0.02	ND	125				0.04	
" 012	99.40	0.07	0.43	0.06	ND	115				0.02	Note:
" 013	98.42	0.14	1.17	0.04	ND	181				0.21	CSP017 is a test sample only - Taken near Queenstown at
" 014	99.39	0.13	0.40	0.02	ND	125				0.04	

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ANALYSIS CONT.

CAPE SORELL

Sample	SiO_2	Fe_2O_3	Al_2O_3	TiO_2	CaO	MgO	Na_2O	Cr_2O_3	P	L.O.I.	Lab. Remarks
CSP 015	99.27	0.20	0.41	0.01		115					grid reference 35390/81455.
CSP 016	99.77	0.02	0.41	0.01		80					
CSP 017	93.16	0.20	4.38	0.53		0.18					.
CSP 018	99.0	0.055	0.69	0.035	< .010	.020	< .01	0.001		.15	Samples CSP018 to CSP 026 and CSP 035 to CSP 094 have been assayed by A.C.I. laboratories, Sydney. Phosphorous and L.O.I. being determined by normal chemical methods. The remaining elements have been determined by Direct Reading Spectrograph.
CSP 019	97.5	0.095	> 1.5	0.11	< .010	.060	.04	0.001		.36	
CSP 020	98.7	0.052	0.95	0.086	.020	.032	.01	<.001		.19	
CSP 021	98.3	0.15	1.1	0.080	< .010	.068	.01	<.001	0.05	.27	
CSP 022	99.5	0.013	0.32	0.020	< .010	.013	< .01	<.001		.14	
CSP 023	99.8	0.017	0.06	0.017	< .010	< .010	< .01	<.001		.09	
CSP 024	99.7	0.021	0.27	0.016	< .010	.010	< .01	<.001		.11	
CSP 025	99.1	0.20	0.50	0.030	< .010	.014	< .01	<.001		.15	
CSP 026	98.8	0.036	0.80	0.050	.056	.041	< .01	0.001		.23	
CSP 027			N O T		A S S	A Y E	D	N O T	A S S A Y E D		
CSP 028											

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ANALYSIS CONT.

CAPE SORELL

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Sample	SiO_2	Fe_2O_3	Al_2O_3	TiO_2	CaO	MgO	Na_2O	Cr_2O_3	P	L.O.I.	Lab. Remarks
CSP 029											NOTE: 2
CSP 030											Samples CSP 027 to CSP 034 were taken at Table Head. They appear similar to the other samples' - i.e. high purity
CSP 031											
CSP 032	N O T A S S A Y E D				N O T	A S S A Y E D			NOTC ASS	AYED	
CSP 033											
CSP 034											The samples were not assayed due to the present uneconomic location of Table Head.
CSP 035	99.2	0.035	0.62	0.040	<.010	.013	<.01	<.001		0.12	
CSP 036	99.7	0.020	0.10	0.026	<.010	<.010	<.01	<.001		0.10	
CSP 037	99.6	0.013	0.20	0.034	<.010	.010	<.01	<.001		0.12	
CSP 038	99.7	0.015	0.15	0.018	<.010	<.010	<.01	<.001		0.13	
CSP 039	99.5	0.017	0.25	0.014	<.010	<.010	<.01	<.001	0.05	0.14	NOTE:
CSP 040	99.4	0.025	0.41	0.034	<.010	.015	<.01	<.001		0.13	Samples CSP 024 to CSP 035 were taken on Betsy Island and sample CSP 035 at Back Again Point..
CSP 041	99.7	0.018	0.10	0.024	<.010	<.010	<.01	<.001		0.17	

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ANALYSIS CONT.

CAPE SORELL

Sample	SiO_2	Fe_2O_3	Al_2O_3	TiO_2	CaO	MgO	Na_2O	Cr_2O_3	P	L.O.I.	Lab. Remarks
CSP 042	99.6	0.015	0.20	0.028	<.010	<.010	<.01	<.001		0.15	
CSP 043	99.8	0.012	0.08	0.008	<.010	<.010	<.01	<.001		0.11	
CSP 044	99.7	0.015	0.06	0.012	<.010	<.010	<.01	<.001		0.15	
CSP 045	99.6	0.050	0.17	0.036	<.010	.10	<.01	<.001		0.14	
CSP 046	99.4	0.022	0.17	0.018	<.010	.15	<.01	<.001		0.17	
CSP 047	99.1	0.018	0.60	0.038	.010	.030	<.01	<.001		0.18	
CSP 048	99.6	0.025	0.22	0.028	<.010	.020	<.01	<.001		0.09	
CSP 049	99.4	0.050	0.35	0.045	<.010	.060	<.01	<.001	0.05	0.12	
CSP 050	99.0	0.050	0.70	0.038	<.010	.050	<.01	<.001		0.13	
CSP 051	99.4	0.020	0.35	0.028	<.010	.012	<.01	<.001		0.13	
CSP 052	99.5	0.020	0.31	0.026	<.010	<.010	<.01	<.001		0.07	
CSP 053	99.6	0.019	0.27	0.022	<.010	.013	<.01	<.001		0.08	
CSP 054	99.7	0.025	0.15	0.034	<.010	<.010	<.01	<.001		0.11	
CSP 055	98.9	0.033	0.73	0.034	<.010	.024	<.01	<.001		0.23	

ANALYSIS CONT.

CAPE SORELL

Sample	SiO_2	Fe_2O_3	Al_2O_3	TiO_2	CaO	MgO	Na_2O	Cr_2O_3	P	L.O.I.	Lab.	Remarks
CSP 056	98.6	0.037	0.88	0.056	<.010	.026	<.01	<.001		0.39		
CSP 057	99.3	0.027	0.34	0.032	<.010	.015	<.01	<.001		0.23		
CSP 058	99.1	0.036	0.55	0.030	<.010	.015	<.01	<.001		0.28		
CSP 059	99.5	0.024	0.21	0.030	<.010	.013	<.01	<.001		0.16		
CSP 060	99.6	0.016	0.17	0.018	<.010	<.010	<.01	<.001		0.13		
CSP 061	99.7	0.019	0.14	0.008	<.010	<.010	<.01	<.001		0.13		
CSP 062	99.4	0.024	0.30	0.34	.010	.025	<.01	<.001		0.17		
CSP 063	99.7	0.016	0.12	0.024	.012	<.010	<.01	<.001		0.13		
CSP 064	99.6	0.014	0.18	0.024	<.010	<.010	<.01	<.001		0.13		
CSP 065	99.8	0.014	0.05	0.021	.015	<.010	<.01	<.001		0.09		
CSP 066	99.7	0.019	0.10	0.040	.015	<.010	<.01	<.001		0.10		
CSP 067	99.7	0.016	0.06	0.024	<.010	<.010	<.01	<.001		0.14		
CSP 068	99.8	0.017	0.04	0.20	<.010	<.010	<.01	<.001	0.05	0.12		

ANALYSIS CONT.

CAPE SORELL

Sample	SiO_2	Fe_2O_3	Al_2O_3	TiO_2	CaO	MgO	Na_2O	Cr_2O_3	P	L.O.I.	Lab. Remarks
CSP 069	99.7	0.018	0.13	0.020	< .010	< .010	< .01	< .001		0.14	
CSP 070	99.7	0.016	0.13	0.016	.018	< .010	< .01	< .001		0.10	
CSP 071	99.6	0.013	0.20	0.038	< .010	< .010	< .01	< .001		0.13	
CSP 072	99.8	0.015	0.08	0.022	< .010	< .010	< .01	< .001		0.09	
CSP 073	99.3	0.025	0.45	0.060	< .010	.015	< .01	< .001		0.15	
CSP 074	99.5	0.014	0.32	0.032	< .010	< .010	< .01	< .001		0.12	
CSP 075	99.6	0.013	0.25	0.028	< .010	< .010	< .01	< .001		0.11	
CSP 076	99.8	0.012	0.07	0.014	< .010	< .010	< .01	< .001		0.08	
CSP 077	99.8	0.013	0.07	0.028	< .010	< .010	< .01	< .001		0.07	
CSP 078	99.7	0.013	0.05	0.022	< .010	< .010	< .01	< .001	0.05	0.15	
CSP 079	99.8	0.015	0.05	0.010	< .010	< .010	< .01	< .001		0.07	
CSP 080	99.8	0.016	0.04	0.018	.010	< .010	< .01	< .001		0.09	
CSP 081	98.2	0.027	1.4	0.078	< .010	.031	< .01	< .001		0.25	

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ANALYSIS CONT.

CAPE SORELL

Sample	SiO_2	Fe_2O_3	Al_2O_3	TiO_2	CaO	MgO	Na_2O	Cr_2O_3	P	L.O.I.	Lab. Remarks
CSP 082	99.6	0.027	0.20	0.022	<.010	<.010	<.01	<.001		0.09	
CSP 083	99.6	0.014	0.26	0.025	.012	<.010	<.01	<.001		0.10	
CSP 084	99.5	0.016	0.29	0.028	<.010	<.010	<.01	<.001		0.14	
CSP 085	99.6	0.019	0.23	0.020	<.010	<.010	<.01	<.001		0.14	
CSP 086	98.8	0.018	0.90	0.036	<.010	.022	<.01	<.001		0.23	
CSP 087	99.5	0.015	0.28	0.025	<.010	.017	<.01	<.001		0.16	
CSP 088	99.5	0.024	0.23	0.018	<.010	<.010	<.01	<.001		0.19	
CSP 089	99.2	0.024	0.57	0.040	<.010	.010	<.01	<.001		0.18	
CSP 090	99.6	0.026	0.24	0.019	<.010	<.010	<.01	<.001		0.11	
CSP 091	99.8	0.015	0.07	0.020	<.010	<.010	<.01	<.001		0.10	
CSP 092	99.0	0.043	0.65	0.11	<.010	.020	.01	<.001		0.19	
CSP 093	99.4	0.022	0.31	0.061	<.010	<.010	<.01	<.001	0.05	0.17	
CSP 094	98.5	0.20	1.0	0.060	<.010	<.045	.01	<.001		0.22	

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PRELIMINARY DRILLING

Five (5) diamond drill holes were drilled by Associated Diamond Drillers at Cape Sorell during 1974 to test some of the quartzite outcrops at depth.

Hole No.	Depth Metres	Inclination of hole	Grid/Area refer drawing No Tas/CS/75/17
CS.DDH-1	18.60 m.	45°	328330/802270
CS.DDH-2	20.37 m.	45°	328350/802220
CS.DDH-3	24.69 m	45°	328440/801280
CS.DDH-4	20.00 m	45°	Grandfathers area
CS.DDH-4A	71.93 m	45°	Grandfathers area

Descriptive drill logs are included in this report. This preliminary drilling did not achieve the objective of "indicating" silicon grade quartzite reserves. Holes 1, 2 and 3 encountered only thin beds of quartzite with interbedded phyllite. Holes 4 and 4A at the Grandfathers area were drilled in quartzite, however analysis of samples demonstrated that the quartzite in this area was just below "silicon grade" requirements.

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DIAMOND DRILL LOG

PROJECT Cape Sorell EL 1/7 | AZIMUTH 270° M | HOLE NUMBER CS.DDH-1
SHEET 1 OF 2 | INCLINATION 45° M | COMMENCED 9/2/74
SCALE | LOCATION DRG NO. 2-01,32833/ | COMPLETED 14/2/74
LOGGED BY G. WESTE | DEPTH 1860 Cm 80227. | DRILL TYPE Mindrill F30 RT
COLLAR R L | DRILLERS A.D.D.

Lithology	cm	DESCRIPTION	Sample No	ASSAY %
		Peat		
		Sand		
	100 cms	Impure quartzite with 1 mm phyllite bands		
	200	grading		
		to		
	300	pale phyllite with silicecus band about 1 mm thick.		
	400			
		hard quartzite with		
	500	grey phyllite inclusions		
		quartzite with 2 mm phyllite bands		
	600	broken quartzite		
		quartzite with phyllite bands and quartz veins		
	700			
		soft dark grey phyllite vary compositional banding.		
	800			
	900	white quartzite with few 1 - 2 mm		
		clay and phyllite bands		
	1000			

5 cm

COMALCO LTD

DIAMOND DRILL LOG

PROJECT Cape Sorell E.L.1/71
SHEET 2 OF 2
SCALE
LOGGED BY G. WESTE

AZIMUTH 270°M
INCLINATION 45°
LOCATION DRG NO. 2-01,328339
DEPTH 1860 cm (80227₀
COLLAR R L

HOLE NUMBER CS.DDH-1
COMMENCED 9/2/74
COMPLETED 14/2/74
DRILL TYPE Mindrill F3ORT
DRILLERS A.D.D.

Lithology	DESCRIPTION	Sample No	ASSAY %
	1000		
	quartzite with bands of phyllite and clay		
	1100 hard quartzite with few phyllite band 1 mm thick.		
	1200 hard broken quartzite		
	pure white quartzite		
	quartzite with clayey bands		
	1300		
	impure quartzite with phyllite bands		
	1400		
	Hard quartzite with phyllite bands		
	1500 soft impure quartzite with phyllite bands becoming more perpendicular.		
	1600 quartzite with phyllite bands		
	grading to dark grey phyllite with quartz bands.		
	1700		
	parasitic F3 folds identified		
	phyllite content decreasing		
	1800		
	to impure quartzite with fine phyllite banding.		
	T.D. 1860 cm.		
	1900		

5 cm

COMALCO LTD

DIAMOND DRILL LOG

PROJECT Cape Sorell EL.1/71
SHEET 1 OF 2
SCALE
LOGGED BY G. WESTE

AZIMUTH 270°M
INCLINATION 45°
LOCATION DRG NO.2-01,328359
DEPTH 2037 cm. (80222
COLLAR R. L.

HOLE NUMBER CS.DDH-2
COMMENCED 15/2/74
COMPLETED 19/2/74
DRILL TYPE Mindrill F30RT
DRILLERS A.D.D.

Lithology	DESCRIPTION	Sample No.	ASSAY %
	peat		
	100		
	Unconsolidated sand		
	200		
	300		
	400 hard quartzite with re-cemented fractures. quartzite with phyllite inclusions and bands.		
	500 grey to black strongly contorted phyllite with minor carbon bands.		
	600 phyllite becoming very soft and weathered.		
	700 ocassional quartzite bands		
	800		
	900 white quartzite- pure appearance.		
	1000		

5 cm

COMALCO LTD

026

274027

DIAMOND DRILL LOG

PROJECT Cape Sorell EL.1/71 AZIMUTH 270° M
SHEET 2 OF 2 INCLINATION 45°
SCALE
LOGGED BY G. WESTE LOCATION DRG NO.2-01,32835/(80222
DEPTH 2037 cm.
COLLAR R L

HOLE NUMBER CS.DDH - 2
COMMENCED 15/2/74
COMPLETED 19/2/74
DRILL TYPE Mindrill F3ORT
DRILLERS A.D.D.

Lithology	DESCRIPTION	Sample No.	ASSAY %
	1000		
	Hard quartzite with clay impurities		
	1100		
	ocassional thin band of phyllite containing pyrite H_2S gas emanation.		
	Hard broken quartzite with quartz veins.		
	1200		
	Soft brown quartzite -impure		
	contorted, banded phyllite very soft.		
	1300		
	soft brown dirty quartzite		
	1400		
	hard white and grey quartzite with some patches soft and impure.		
	1500		
	phyllite bands very minor		
	1600		
	1700		
	impure soft quartzite		
	1800		
	1900 occasional phyllite bands and clayey joints.		
	2000		
	2040		

5 cm

COMALCO Ltd

027

274028

DIAMOND DRILL LOG

PROJECT Cape Sorell EL.1/71
SHEET 1 OF 3
SCALE
LOGGED BY G. WESTE

AZIMUTH 35°M
INCLINATION 45°
LOCATION DRG NO.2-01,32844?
DEPTH (80128°
COLLAR R. L.

HOLE NUMBER CS.DDH-3
COMMENCED 31/2/74
COMPLETED
DRILL TYPE MINDRILL F30RT
DRILLERS A.D.D.

Lithology	DESCRIPTION	Sample No.	ASSAY %
0			
	peat		
100	Boulders of weathered brown quartzite and phyllite in sand.		
200			
300			
400			
500	Sandy phyllite becoming finer banded and more soapy with depth.		
600			
700	occasional quartz and highly carbonaceous bands.		
800			
900			
1000			

5 cm

CONALCO LTD

028

274029

DIAMOND DRILL LOG

PROJECT Cape Sorell EL.1/71 | AZIMUTH 35° | HOLE NUMBER CS.DDH-3

SHEET 2 OF 3 | INCLINATION 45° | COMMENCED 21/2/74

SCALE | LOCATION DRG NO.2-01,32844/ | COMPLETED

LOGGED BY G. WESTE | DEPTH (80128 | DRILL TYPE Mindrill F30RT

COLLAR R. L. | DRILLERS A.D.D.

Lithology	DESCRIPTION	Sample No.	ASSAY %					
	1000							
	Finely banded contorted phyllite with minor impure quartzite							
	1100							
	1200							
	1300 dark grey to white phyllite sandy in place.							
	1400							
	1500							
	brown clay with fragments							
	1600 of quartzite and phyllite							
	1700							
	impure quartzite becoming							
	1800 purer and harder with							
	depth.							
	1900							
	5 cm							
	2000							

COMALCO LTD

029

274030

DIAMOND DRILL LOG

PROJECT Cape Sorell EL.1/71 AZIMUTH 35° HOLE NUMBER CS.DDH-3

SHEET 3 OF 3 INCLINATION 45° COMMENCED 21/2/74

SCALE LOCATION DRG NO.2-01,32844/ COMPLETED

LOGGED BY G. WESTE DEPTH (80128 DRILL TYPE MINDRILL F30RT

COLLAR R L DRILLERS A.D.D.

Lithology	DESCRIPTION	Sample No	ASSAY %
	2000		
Q	very hard quartzite		
	2100 pure appearance		
	minor quartz veining		
	2200		
	occasional thin, impure band		
	2300		
	2400 impure quartzite with phyllite bands		
	2500		
	2600		
	2700		
	2800		
	2900		
	3000		

5 cm

COMALCO LTD

030

274031

DIAMOND DRILL LOG

PROJECT Cape Sorell EL.1/71 AZIMUTH 90° M HOLE NUMBER CS.DDH-4

SHEET 1 OF 2 INCLINATION 45° COMMENCED

SCALE LOCATION "Grandfathers" COMPLETED

LOGGED BY G. WESTE DEPTH DRILL TYPE MINDRILL F30RT

COLLAR R. L DRILLERS A.D.D.

Lithology	DESCRIPTION	Sample No.	ASSAY %
	0 cm. Slightly weathered quartzite		
	100		
	200 Minor bands containing ilmenite and rutile		
	300		
	400 minor impure bands minor phyllitic bands		
	500		
	600		
	700 Quartzite with minor impure bands.		
	800		
	900		
	1000		

5 cm

TOMALCO LTD

DIAMOND DRILL LOG

PROJECT Cape Sorell EL.1/71 AZIMUTH 90° Magnetic HOLE NUMBER CS.DDH-4
SHEET 2 OF 2 INCLINATION 45° COMMENCED
SCALE LOCATION "Grandfathers" COMPLETED
LOGGED BY G. WESTE DEPTH DRILL TYPE Mindrill F30RT
COLLAR R L DRILLERS A.D.D.

Lithology	DESCRIPTION	Sample No	ASSAY %
	1000cm.		
	1100 leached Quartzite with occasional impure bands.		
	1200		
	1300 Impure Quartzite		
	1400		
	1500 Quartzite slightly weathered.		
	1600 Impure Quartzite.		
	1700		
	1800 Quartzite with impure banding increasing with depth.		

5 cm

COMALCO LTD

032

274033

DIAMOND DRILL LOG

PROJECT Cape Sorell EL.1/71
SHEET 1 OF 8
SCALE
LOGGED BY G. WESTE

AZIMUTH 90° Magnetic
INCLINATION 48°
LOCATION "Grandfathers"
DEPTH 7193 cm.
COLLAR R L

HOLE NUMBER CS.DDH-4A
COMMENCED
COMPLETED MINDRILL F30RT
DRILL TYPE A.D.D.
DRILLERS

Lithology	DESCRIPTION	Sample No.	ASSAY %
	0		
	Weathered Quartzite		
	100		
	200		
	Weathered Quartzite		
	300		
	Weathered Quartzite		
	400		
	minor phyllitic bands		
	500		
	600		
	Hard Quartzite with		
	700 minor impure bands		
	containing rutile		
	and ilmenite		
	800		
	900		
	1000		

5 cm

COMALCO LTD

DIAMOND DRILL LOG

PROJECT Cape Sorell EL.1/71 | AZIMUTH 90° | HOLE NUMBER CS.DDH-4A.
SHEET 2 OF 8 | INCLINATION 48° | COMMENCED
SCALE | LOCATION "Grandfathers" | COMPLETED
LOGGED BY G. WESTE | DEPTH 7193 cm. | DRILL TYPE MINDRILL F30RT
COLLAR R L | DRILLERS A.D.D.

Lithology	DESCRIPTION	Sample No.	ASSAY %
	1000 cm.		
	Hard Quartzite minor impure bands soft quartzite.		
	1100		
	soft broken impure quartzite becoming purer with depth		
	1200		
	1300		
	soft quartzite with minor phyllite bands and minor rutile and ilmenite.		
	1400		
	1500		
	hard quartzite		
	1600		
	1700		
	1800		
	soft quartzite		
	1900		
	Impure quartzite with banding at 12° containing rutile and ilmenite		
	2000		

5 cm

COMALCO LTD

DIAMOND DRILL LOG

PROJECT Cape Sorell EL.1/71 AZIMUTH 90° Magnetic HOLE NUMBER CS.DDH-4A
SHEET 3 OF 8 INCLINATION -48° COMMENCED
SCALE LOCATION "Grandfathers" COMPLETED
LOGGED BY G. WESTE DEPTH 7193 cm. DRILL TYPE MINDRIL F30RT
COLLAR R L DRILLERS A.D.D.

Lithology	DESCRIPTION	Sample No	ASSAY %
	2000 cm		
	Hard quartzite		
	2100		
	2200 hard quartzite with ilmenite & rutile along joints.		
	2300 impure quartzite containing phyllite		
	2400 quartzite with impure bands		
	impure quartzite		
	2500 hard quartzite with thin impure bands containing ilmenite and rutile.		
	2600		
	2700 impure quartzite		
	becoming more impure		
	2800 with depth.		
	core very soft and		
	2900 badly broken.		
	becoming dark grey and micaceous.		
	3000		

5 cm

COMALCO LTD

DIAMOND DRILL LOG

PROJECT Cape Sorell EL.1/71 | AZIMUTH 90° Magnetic | HOLE NUMBER CS.DDH-4A.

SHEET 4 OF 8 | INCLINATION 48° | COMMENCED

SCALE | LOCATION "Grandfathers" | COMPLETED

LOGGED BY G. WESTE | DEPTH 7193 cm. | DRILL TYPE MINDRILL F30RT.

COLLAR R L | DRILLERS A.D.D.

Lithology	DESCRIPTION	Sample No.	ASSAY %
	3000		
	grey to black micaceous quartzite high in ilmenite and rutile		
	3100		
	grey quartzite with impurities		
	3200		
	hard quartzite with faint banding of rutile		
	3300		
	ilmenite along joint planes		
	3400		
	3500		
	hard white and grey quartzite with minor impurities and minor quartz veining.		
	3600		
	3700		
	3800		
	3900		
	4000		

5 cm

036

274037

DIAMOND DRILL LOG

PROJECT Cape Sorell EL.1/71 AZIMUTH 90° Magnetic HOLE NUMBER CS.DDH-4A.

SHEET 5 OF 8 INCLINATION 48° COMMENCED

SCALE LOCATION "Grandfathers" COMPLETED

LOGGED BY G. WESTE DEPTH 7193 cm. DRILL TYPE MINDRILL F30RT

COLLAR R L DRILLERS A.D.D.

Lithology	DESCRIPTION	Sample No	ASSAY %
	4000 cm.		
	medium to hard quartzite with faint banding and minor quartz veins		
	4100		
	4200		
	impure quartzite with dark carbonaceous bands and quartz veining.		
	4300		
	4400		
	hard quartzite with minor impure bands.		
	4500		
	4600		
	quartzite with carbonaceous impurities along joint planes. minor impure bands containing ilmenite and rutile.		
	4700		
	4800		
	soft impure quartzite containing phyllitic bands.		
	4900		
	5000		

5 cm

COMALCO LTD

DIAMOND DRILL LOG

PROJECT Cape Sorell EL.1/71 | AZIMUTH 90° Magnetic | HOLE NUMBER CS.DDH-4A.
SHEET 6 OF 8 | INCLINATION 48° | COMMENCED
SCALE | LOCATION "Grandfathers" | COMPLETED
LOGGED BY G. WESTE | DEPTH 7193 cm. | DRILL TYPE MINDRILL F30RT
COLLAR R, L | DRILLERS A.D.D.

Lithology	DESCRIPTION	Sample No	ASSAY %
	5000 cm.		
	Soft impure quartzite with phyllite bands		
	5100		
	hard quartzite with minor impurities		
	5200 including ilmenite and rutile.		
	5300		
	5400		
	5500 hard quartzite with minor impurities.		
	5600		
	5700 hard quartzite with minor ilmenite and rutile.		
	5800		
	5900		
	6000		

5 cm

COMALCO LTD

DIAMOND DRILL LOG

PROJECT Cape Sorell EL.1/71 AZIMUTH 90° Magnetic HOLE NUMBER CS.DDH-4A.
SHEET 7 OF 8 INCLINATION 48° COMMENCED
SCALE LOCATION "Grandfathers" COMPLETED
LOGGED BY G. WESTE DEPTH 7193 cm. DRILL TYPE MINDRILL F30RT
COLLAR R L DRILLERS A.D.D.

Lithology	DESCRIPTION	Sample No.	ASSAY %
	6000 cm.		
	Hard white quartzite with minor impure bands		
	6100		
	quartzite with impure bands 40% of rock and containing ilmenite, rutile and clay minerals.		
	6200		
	6300		
	hard quartzite with minor impure bands		
	6400		
	6500		
	hard quartzite with minor bands of rutile, ilmenite and clay minerals.		
	6600		
	6700		
	6800		
	6900		
	7000		

5 cm

COMALCO LTD

DIAMOND DRILL LOG

PROJECT Cape Sorell EL.1/71 | AZIMUTH 90° Magnetic | HOLE NUMBER CS.DDH-4A.

SHEET 8 OF 8 | INCLINATION 48° | COMMENCED

SCALE | LOCATION "Grandfathers" | COMPLETED

LOGGED BY G. WESTE | DEPTH 7193 cm. | DRILL TYPE MINDRILL F30RT

COLLAR R. L. | DRILLERS A.D.D.

Lithology	DESCRIPTION	Core Recovery	ASSAY %
	7000 cm.		
	Grey quartzite with bands of ilmenite and rutile		
	7100		
	7193 END OF HOLE.		

5 cm

COMALCO LTD

040

274041

HOLE NO: CS. DDH-4A

CAPE SORELL DIAMOND DRILLING PROGRAMME

CORE SAMPLES FOR ANALYSIS

KEY

Qte	Quartzite	M	Minor Abundance
Rt	Rutite	Vm	Very Minor Abundance
Ilm	Ilmenitel	1	Very Pure
Zr	Zircon	2.	Minor Impurities
Tl	Tourmaline	3.	Impure
Cl	Clay Mineral	W	White
C	Carbon	G	Grey
Py	Pyrite	Dg	Dark Grey
Lx	Levcoxene	Br	Brown
W	Weathered	H	Very Hard
		M	Hard
		S	Soft
		Vs	Very Soft

Samples are discs cut from the drill core (weighing about 25 gm) every 30 cm. The discs have been paired so that 2-discs make up one sample for analysis and represent 60 cm. of core.

Description of discs from study under a low power (40x) binocular microscope.

Discs described as Very Pure are probably silicon grade. Those described as having minor impurities may reach silicon grade, but Impure (3) discs are probably too impure.

At finish of CS.DDH-4A

No. of apparently pure discs	=	50
No. having minor impurities	=	116
No. of discs with very significant impurities	=	48
TOTAL number of discs	=	214

274042

Dist. to next spacer cm. 041	spacer M	Dist. along core sample taken cm/10	Sample No.	Microscope Description	Purity	Hardness	Colour
0	0	3	01	W.Qte.	1	H	W
		6		W.Qte.	1	H	W
		9	02	W.Qte. + M.Rt.	2	M	G
		12		W.Qte. + M.Ilm	2	H	G
		15	03	W.Qte. + M.Rt.	2	S	G
		18		W.Qte. + M.Rt. + M.Ilm	2	S	W
		21	04	W.Qte. + M.Rt. + M.Ilm.	2	S	W
		24		W.Qte. + M.Rt. + M.Ilm.	2	S	W
		27	05	W.Qte. + M.Rt. + M.Ilm.	2	S	G
		30		W.Qte. + M.Rt. + M.Ilm.	2	S	G
		33	06	W.Qte. + M.Rt.	2	S	W
		36		W.Qte. + M.Rt. + M.Ilm.	2	S	W
		39	07	W.Qte. + M.Rt. + M.Ilm.	2	S	W
		42		W.Qte. + M.Rt.	2	S	W
		45	08	W.Qte. + Ilm. + Rt. + M.Py.	3	M	G
12	4.70	48	08	W.Qte. + M.Ilm. + M.Rt.	2	S	W
		51	09	W.Qte. + M.Rt. + Vm.Ilm.	2	H	G
		54		W.Qte. + Cl. + M.Rt.	3	M	G
		57	10	W.Qte. + M.Rt. + Vm.Ilm.	2	H	G
		60		W.Qte. + Vm.Ilm. + Vm.Rt.	1	H	W
11	6.40	63	11	W.Qte. + Cl. + Rt.	3	M	G
26	6.86	66		W.Qte. + Cl. + Rt.	3	M	G
		69	12	W.Qte. + M.Rt.	2	H	G
		72		W.Qte. + M.Rt. + Vm.Ilm. + Vm.Tl.	1	H	W
		75	13	W.Qte. + M.Rt. + M.Ilm.	2	H	G
		78		W.Qte. + M.Rt. + M.Ilm. + Vm.Tl.	2	H	W
3	7.95	81	14	W.Qte. + Rt. + Ilm.	3	M	G
		84		W.Qte. + Rt. + Ilm.	3	M	G
		87	15	W.Qte. + Vm.Rt.	1	H	W
		90		W.Qte. + Vm.Rt. + Vm.Ilm. + Vm.Tl.	1	H	G
		93	16	W.Qte. + M.Rt. + M.Ilm. + Vm.Tl.	2	M	G
		96		W.Qte. + M.Rt. + M.Ilm.	2	M	G

HOLE NO: CS.DDH-4A

		99	17	W.Qte. + M.Rt. + M.Ilm.	2	S	G
24	11.00	102		W.Qte. + M.Rt. + M.Ilm.	2	S	G
		105	18	W.Qte. + M.Rt. + M.Ilm.	2	S	G
		108		"			
		111	19	W.Qte. + M.Rt. + M.Ilm.	2	S	G
		114		"	2	S	G
3	13.33	117	20	W.Qte. + M.Rt. + M.Ilm.	2	S	G
		120		"	2	S	G
		123	21	W.Qte. + M.Rt. + M.Ilm.	2	S	W
		126		"	2	S	W
13	15.62	129	22	W. Qte. + M.Rt. + M.Ilm.	2	M	W
		132		"	2	S	W
		135	23	W.Qte. + M.Rt. + Vm.Ilm.	2	M	G
		138		"	2	M	G
		141	24	W.Qte. + M.Rt. + Vm.Ilm.	2	H	G
		144		"	3	S	G
		147	25	W.Qte. + Rt. + Ilm.	3	S	DG
		150		"	3	S	DG
10	18.24	153	26	W.Qte. + Phyllite + Rt. + C.	3	VS	DG
		156		"	3	VS	DG
8	18.80	159	27	W.Qte. + Phyllite + Rt. + C.	3	VS	DG
		162		W.Qte. + Rt. + Ilm.	3	S	G
		165	28	W. Qte. + Vm.Rt. + Vm.Ilm.	1	H	G
4	19.91	168		W.Qte. + Vm.Ilm.	1	H	G
		171	29	W.Qte. + Rt. + Ilm.	3	S	G
25	20.63	174		W.Qte. + Rt. + Ilm. + C.	3	S	DG
		177	30	W.Qte. + M.Rt. + M.Ilm.	2	H	G
		180		"	2	M	G
3	21.23	183	31	W.Qte. + M.Rt. + M.Ilm.	2	M	G
		186		"	2	M	G
		189	32	W.Qte. + M.Rt.	2	M	G
		192		"	2	M	G
		195	33	Qte. + Vm.Rt. + Vm.Ilm.	1	H	G
		198		Qte. + M.Ilm.			
		201	34	W.Qte.+ Ilm.+ Vm.Rt.+Vm.Zr.+Vm.Tl.	3	S	G
16	23.17	204		W.Qte.+Ilm.+Rt.+Vm.Rt.+Vm.Zr.+VmTl.	3	S	G

		207	35	W.Qte. + Ilm.+Vm.Rt.+ Vm.Tl.	3	S	G
		210		W.Qte. + Ilm.+ Rt. + Vm.Tl.	3	S	G
		213	36	W.Qte. + M.Rt. + M. Ilm.	2	M	G
14	24.38	216		"	2	M	G
		219	37	W.Qte. + M.Rt. + M. Ilm.	2	M	G
		222		"	2	M	G
		225	38	"	2	M	G
4	25.83	228		W. Qte. + Rt. + M.Ilm	3	S	G
		231	39	W.Qte. + Rt.	3	VS	BR
17	26.51	234		W.Qte. + Rt. + Ilm. + M.Tl.	3	M	G
		237	40	W.Qte. + M.Rt. + M.Ilm. +Vm.Tl.	2	M	G
		240		"	2	M	G
		243	41	"	2	M	G
		246		W.Qte. & M.Rt. + M.Ilm. +Vm.Zr.	2	M	G
5	28.04	249	42	W.Qte. + M.Rt. + M.Ilm.	2	M	W
		252		W.Qte. + Ilm. + Rt.	3	S	DG
		255	43	"	3	S	DG
11	29.26	258		"	3	S	DG
		261	44	"	3	S	DG
		264		"	3	S	DG
		267	45	"	3	S	DG
		270		"	3	VS	DG
		273	46	W.Qte. + M.Ilm. + M.Rt. +Vm.Zr.	2	S	G
		276		Qte. + M.Ilm. + M.Rt.	2	H	G
		279	47	Qte. + M.Rt.	2	H	G
17	32.00	282		"	2	H	G
		285	48	"	2	H	W
		288		Qte. + Vm. Rt. + Vm Ilm.	1	H	W
13	32.84	291	49	"	1	H	G
		294		"	1	H	G
		297	50	"	1	H	W
		300		"	1	H	W
		303	51	Qte. + Cl. + M.Rt.	3	S	W
		306		Qte. + M.Rt. + M.Ilm	2	M	W
		309	52	"	2	M	G
		312		"	2	M	G
27	35.66	315	53	"	2	M	G
		318		"	2	M	G

044

274045

HOLE NO: CS.DDH-4A

		321	54	Qte. + Rt. + Ilm. + Cl.	3	S	G
		324		Qte. + M.Rt. + M.Ilm	2	M	G
		327	55	"	2	M	G
		330		"	2	H	G
		333	56	Qte. + M.Rt. + M.Ilm. +Vm.Py.	2	M	G
		336		Qte. + M.Rt. + M.Ilm.	2	M	G
		339	57	Qte.+ M.Rt.+ M.Ilm.+ Vm.Zr.	2	H	W
		342		"	2	H	W
16	38.41	291	58	Qte. + M.Rt. + M.Ilm.	2	H	G
		294		Qte. + M.Rt. + M.Ilm. +Vm.Zr.	2	H	G
		297	59	Qte. + M.Rt. + M.Ilm.	2	H	G
		300		Qte. + Vm. Ilm.	1	H	W
		303	60	Qte. + M.Py. + Vm. Ilm.	2	H	G
		306		Qte. + M.Rt. + Vm. Ilm.	2	H	W
0	40.69	309	61	"	2	H	G
		312		Qte. + M.Rt. + Vm.Ilm. + Vm.Py.	2	H	G
		315	62	Qte. + Vm. Ilm.	1	H	W
20	41.45	318		"	1	H	G
		321	63	Qte. + M.Rt. + M.Ilm. + Vm.Tl.	2	M	G
		324		Qte. + M.Rt. + M.Ilm.	2	M	G
		327	64	Qte. + M.Rt. + M.Ilm. + M.Py.	2	M	G
		330		Qte. + Rt. + M.Ilm. + M.Py.	3	S	G
		333	65	Qte. + M.Rt. + M.Ilm.	2	M	G
		336		"	2	M	G
		339	66	Qte. + M.Rt. + M.Ilm. +Vm.Tl.	2	H	G
		342		Qte. + M.Rt. + M.Ilm.	2	M	G
19	44.50	345	67	"	2	H	G
		348		Qte. + Rt. + Ilm.	3	H	G
		351	68	Qte. + Rt. + Ilm. + M.Py.	3	M	G
		354		"	3	M	G
		357	69	Qte. + M.Rt. + M.Ilm.	2	M	G
		360		"	2	M	G
		363	70	Qte. + M.Rt. + M.Ilm. + M.Tl.	2	M	G
		366		Qte. + Rt. + M.Ilm. + M.Py.	3	S	G
		369	71	"	3	S	G
		372		Qte. + Rt. + M.Ilm.	3	S	G
17	47.55	375	72	Qte. + M.Rt.+ M.Ilm.+Vm.Tl.+Vm.Zr.	2	S	G
		378		Qte.+ Rt.+ Ilm. + Vm.Tl. + Vm.Zr.	3	S	G

HOLE NO: CS.DDH-4A

		381	73	Qte.+ Rt.+ Ilm.+ Vm.Tl.+ VmZr.	3	S	G
		384		"	3	S	G
		387	74	Qte. + Rt. + Ilm. + M.Cl.+ M.Tl.	3	S	G
		390		"	3	S	DG
		393	75	Qte.+ Rt.+ Ilm. + M.C. + M.Tl.	3	S	DG
4	50.60	396		Qte.+ Ilm. + Cl. + M.C.	3	H	W
		399	76	Qte. + M.Rt. + M.Ilm.	2	H	W
		402		Qte. + M.Rt. + M.Ilm. + M.C.	2	S	DG
		405	77	Qte.+ Vm.Rt.+ M.Ilm.+ Vm.Zr.	2	H	G
		408		Qte.+ M.Rt. + Vm.Ilm.	2	H	W
		411	78	Qte. + Vm.Rt. + Vm.Ilm.	1	H	W
17	53.65	414		"	1	H	W
		417	79	Qte. + Vm.Ilm.	1	H	W
		420		Qte. + Vm.Ilm. + VmRt.	1	H	W
		423	80	Qte. + Vm.Ilm. + Vm.Py.	1	H	W
		426		Qte. + Vm.Rt. +Vm.Ilm.	1	H	W
		429	81	Qte. + M.Rt. + Vm. Ilm.	2	H	W
		432		"	2	H	W
		435	82	Qte. + Vm.Ilm. + Vm. Cl.	1	H	W
		438		"	1	H	W
		441	83	"	1	H	W
8	56.69	444		Qte. + Vm.Ilm. + Vm.Rt.	1	H	W
		447	84	"	1	H	W
		450		"	1	H	W
		459	86	Qte. + phyllite + M.Rt. + M.Ilm	3	M	DG
		462		Qte. + M.Rt. + Vm.Ilm.	2	H	W
		465	87	Qte. + Vm.Rt. + Vm.Ilm.	1	H	W
		468		"	1	H	W
		471	88	Qte. + M.Rt. + Vm.Ilm.	2	H	G
		474		"	2	H	W
2	53.74	477	89	"	2	H	W
		480		"	2	H	W
		483	90	Qte. + M.Rt. + M.Ilm. + M.Py.	2	M	G
		486		"	2	M	G
		489	91	Qte. + Py. + M.Rt. + M.Ilm.	3	H	W
8	61.42	492		Qte. + M.Rt. + M.Cl. + Vm.Ilm.	2	H	G
					3	M	G

046

HOLE NO: CS.DDH-4A

274047

		495	92	Qte. + Rt. + M.Ilm.	3	M	G
		498		Qte. + M.Rt. + Vm.Ilm. + Vm.Tl.	2	H	W
		501	93	Qte. + Vm.Ilm. + Vm.Rt. + Vm.Zr.	1	H	G
25	62.79	504		Qte. + M.Py. + Vm.Rt.	2	H	G
		507	94	Qte. + M.Rt. + M.Ilm.	2	H	G
		510		"	2	H	G
		513	95	Qte. + M.Py. + Vm.Rt. + Vm.Ilm.	2	H	G
		516		Qte. + M.Rt. + Vm.Ilm	2	H	G
		519	96	Qte. + Vm.Py. + Vm.Ilm. + Vm.Zr.	1	H	G
		522		"	1	H	W
		525	97	Qte. + Vm.Ilm. + Vm.Rt.	1	H	W.
		528		"	1	H	W
		531	98	"	1	H	W
17	65.84	534		"	1	H	W
		537	99	"	1	H	W
		540		"	1	H	W
		543	100	Qte. + M.Rt. + Vm.Ilm.	2	H	G
		546		Qte. + M.Rt. + Vm.Ilm. + Vm.Py.	2	H	G
		549	101	Qte. + M.Cl. + Vm.Py.	2	H	G
		552		Qte. + M.Rt. + VM.Py.	2	H	G
		555	102	Qte. + Vm.Rt. + Vm.Ilm. + Vm.Zr.	1	H	W
		558		Qte. + Vm.Rt. + Vm.Ilm.	1	H	W
		561	103	Qte. + M.Rt. + Vm.Ilm. + Vm.Py.	2	H	W
15	68.89	564		"	2	H	W
		567	104	Qte. + Vm.Rt. + Vm.Ilm	1	H	W
		570		Qte. + M.Rt. + Vm.Ilm.	2	H	W
		573	105	Qte. + Vm.Rt. + Vm.Ilm. + Vm.Zr.	1	H	W
		576		"	1	H	W
		579	106	Qte. + Vm.Rt. + Vm.Ilm. + Vm.Py.	1	H	W
		582		"	1	H	W
		585	107	"	1	H	W
		588		"	1	H	W
		591	108	Qte. + Vm.Rt. + Vm.Ilm.	1	H	W
18	71.93	END OF HOLE CS.DDH - 4A.					

ENASKE AA31488
COMAL AA58508

COMALCO BELL BAY TO NZAS MELBOURNE
BBE167

FOR: MR G WESTE,
COMALCO EXPLORATION DEPT.,
45 EXHIBITION STREET,
MELBOURNE.

Each sample represents 60 cm of core
Each sample has been analysed twice

SILICA ROCK SAMPLES

Diamond Drill Hole CS DDH-4A Azimuth = 90° Magnetic
Inclination = 46°

SAMP NO.	Depth Metres	CAO	AL203	FE203	NA2O	TIO2	MGO	MNO	LOI
1	0·0	0.015	4.100	0.132	0.066	0.137	0.322	0.009	
1		0.014	4.101	0.130	0.057	0.133	0.327	0.008	0.48
2	1·20	0.021	1.311	0.509	0.155	0.058	0.313	0.009	
2		0.021	1.282	0.511	0.125	0.058	0.353	0.008	0.40
3		0.016	0.854	0.152	0.135	0.091	0.196	0.005	
3		0.016	0.838	0.150	0.131	0.090	0.194	0.003	0.46
4		0.022	1.824	0.471	0.299	0.367	0.498	0.007	
4		0.024	1.822	0.477	0.272	0.368	0.510	0.007	0.43
5		0.018	0.808	0.451	0.168	0.144	0.319	0.006	
5		0.020	0.797	0.455	0.168	0.147	0.292	0.007	0.24
6		0.014	0.379	0.171	0.078	0.087	0.117	0.005	
6		0.012	0.384	0.170	0.075	0.081	0.129	0.005	0.19
7		0.027	0.847	0.384	0.301	0.217	0.354	0.018	
7		0.030	0.880	0.388	0.281	0.222	0.356	0.019	0.34
8	4·70	0.016	1.551	0.308	0.119	0.116	0.223	0.007	
8		0.015	1.507	0.304	0.095	0.111	0.245	0.006	0.34
9		0.013	10.524	0.313	0.250	0.555	0.519	0.026	
9		0.015	10.553	0.313	0.244	0.561	0.542	0.029	1.45
10		0.012	3.510	0.180	0.101	0.199	0.380	0.008	
10		0.016	3.503	0.181	0.113	0.204	0.370	0.009	0.54

11	6 40	0.011	3.385	0.164	0.125	0.208	0.352	0.004	0.61
12		0.011	1.416	0.204	0.063	0.098	0.180	0.005	
12		0.011	1.433	0.203	0.105	0.097	0.178	0.005	0.16
13		0.017	0.825	0.174	0.015	0.079	0.217	0.005	
13		0.015	0.825	0.176	0.033	0.080	0.235	0.005	0.08
14		0.025	2.402	0.845	0.257	0.362	0.602	0.010	
14	7.95	0.024	2.384	0.848	0.265	0.359	0.576	0.010	0.43
15		0.010	0.517	0.038	0.038	0.044	0.073	0.003	
15		0.009	0.548	0.038	0.054	0.043	0.078	0.003	0.09
16		0.010	2.412	0.066	0.048	0.132	0.233	0.003	
16		0.011	2.400	0.067	0.087	0.134	0.238	0.003	0.39
17	11.00	0.014	2.559	0.101	0.286	0.259	0.253	0.003	
17		0.015	2.572	0.101	0.281	0.260	0.225	0.003	0.43
18		0.020	3.174	0.270	0.319	0.311	0.423	0.008	
18		0.016	3.139	0.266	0.311	0.308	0.438	0.006	0.58
19		0.024	2.290	0.568	0.191	0.126	0.730	0.007	
19		0.025	2.279	0.571	0.263	0.127	0.696	0.009	0.69
20	13.33	0.008	0.666	0.027	0.135	0.094	0.148	0.001	
20		0.013	0.670	0.030	0.138	0.100	0.160	0.002	0.24
21		0.011	0.423	0.029	0.021	0.035	0.156	0.002	
21		0.011	0.421	0.028	0.047	0.031	0.137	0.001	0.15
22	15.62	0.010	0.497	0.090	0.114	0.068	0.123	0.002	
22		0.012	0.484	0.090	0.099	0.068	0.101	0.003	0.17
23		0.009	0.478	0.014	0.044	0.042	0.082	0.002	
23		0.011	0.478	0.014	0.062	0.042	0.094	0.002	0.35
24		0.009	0.421	0.024	0.051	0.027	0.066	0.002	
24		0.008	0.423	0.020	0.045	0.023	0.062	0.001	0.38
25	17.84	0.022	1.969	0.572	0.278	0.148	0.715	0.006	
25		0.025	1.977	0.577	0.293	0.154	0.717	0.008	0.76
26	18.24	0.028	6.293	0.224	0.272	0.466	0.647	0.005	
26		0.027	6.344	0.226	0.278	0.467	0.725	0.006	2.37
27	18.80	0.017	2.546	0.103	0.129	0.199	0.384	0.003	
27		0.019	2.524	0.101	0.119	0.199	0.363	0.003	0.91
28	19.91	0.012	1.497	0.063	0.090	0.074	0.219	0.003	
28		0.013	1.532	0.061	0.069	0.073	0.233	0.003	0.33
29		0.016	1.367	0.152	0.090	0.099	0.265	0.003	
29		0.013	1.367	0.152	0.086	0.100	0.276	0.004	0.55
30	20.63	0.011	1.872	0.058	0.072	0.111	0.237	0.003	
30		0.012	1.879	0.059	0.092	0.113	0.257	0.003	
31	21 23	0.010	0.849	0.091	0.057	0.076	0.157	0.002	
31		0.010	0.830	0.089	0.047	0.073	0.156	0.002	
32		0.009	1.009	0.046	0.045	0.063	0.173	0.003	
32		0.010	0.992	0.046	0.059	0.064	0.166	0.003	
33	22 73	0.007	1.378	0.027	0.006	0.073	0.165	0.002	
33		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	

34	23·11	0.020	1.890	0.085	0.063	0.079	0.300	0.004
35	049	0.017	1.389	0.036	0.068	0.085	0.197	0.003
35		0.015	1.418	0.036	0.069	0.084	0.231	0.003
36		0.012	0.777	0.135	0.062	0.034	0.199	0.002
36	24·38	0.011	0.793	0.134	0.051	0.035	0.173	0.002
37		0.011	1.689	0.037	0.060	0.103	0.222	0.003
37		0.012	1.685	0.038	0.065	0.105	0.248	0.003
38		0.016	1.497	0.033	0.069	0.057	0.082	0.002
38	25·83	0.016	1.472	0.033	0.063	0.059	0.092	0.002
39		0.022	3.698	0.244	0.092	0.242	0.338	0.003
39		0.021	3.702	0.240	0.156	0.243	0.321	0.003
40		0.015	3.637	0.225	0.128	0.132	0.352	0.004
40	26·51	0.015	3.573	0.224	0.102	0.129	0.342	0.003
41		0.010	2.644	0.096	0.108	0.085	0.264	0.002
41		0.012	2.670	0.096	0.092	0.084	0.208	0.002
42		0.019	3.399	0.117	0.137	0.113	0.430	0.003
42		0.019	3.400	0.118	0.144	0.452	0.003	
43		0.026	1.450	0.271	0.241	0.206	0.629	0.003
43		0.022	1.430	0.270	0.227	0.207	0.600	0.003
44		0.023	1.403	0.033	0.059	0.051	0.190	0.002
44	29·26	0.021	1.383	0.033	0.043	0.053	0.188	0.002
45		0.050	2.223	0.137	0.255	0.100	0.404	0.004
45		0.048	2.214	0.133	0.220	0.096	0.402	0.003
46		0.017	1.471	0.027	0.052	0.051	0.127	0.002
46		0.017	1.502	0.027	0.087	0.055	0.136	0.002
47		0.013	1.177	0.060	0.074	0.068	0.185	0.003
47	32·00	0.014	1.200	0.060	0.083	0.067	0.205	0.003
48		0.013	1.685	0.168	0.060	0.088	0.321	0.004
48		0.011	1.662	0.168	0.046	0.089	0.333	0.004
49		0.011	1.434	0.129	0.053	0.074	0.288	0.003
49	32·84	0.011	1.440	0.135	0.081	0.080	0.296	0.003
50		0.009	1.760	0.041	0.083	0.049	0.172	0.002
50		0.010	1.740	0.039	0.076	0.050	0.159	0.002
51		0.014	6.452	0.225	0.143	0.496	0.448	0.004
51		0.010	6.468	0.223	0.172	0.494	0.424	0.004
52		0.016	1.189	0.474	0.146	0.090	0.400	0.006
52		0.014	1.163	0.479	0.143	0.089	0.421	0.006
53		0.012	0.900	0.045	0.008	0.047	0.186	0.002
53	35·66	0.008	0.943	0.044	0.055	0.050	0.190	0.002
54		0.011	1.126	0.164	0.130	0.037	0.298	0.003
54		0.010	1.058	0.163	0.106	0.035	0.284	0.003
55		0.007	0.999	0.162	0.062	0.041	0.199	0.003
55		0.007	1.029	0.159	0.078	0.039	0.214	0.003
56		0.011	1.272	0.046	0.001	0.073	0.164	0.002

57	050	0.008	2.397	0.204	0.122	0.129	0.320	0.004
58	38·41	0.011	5.363	0.610	0.158	0.256	0.352	0.003
58		0.013	5.345	0.616	0.207	0.263	0.354	0.004
59		0.012	2.703	0.072	0.062	0.100	0.270	0.003
59		0.011	2.720	0.074	0.088	0.100	0.259	0.003
60		0.008	1.594	0.172	0.083	0.051	2.204	0.004
60		0.006	1.615	0.170	0.057	0.048	0.193	0.002
61		0.011	2.638	0.072	0.038	0.078	0.311	0.003
61	40·69	0.010	2.691	0.072	0.062	0.076	0.313	0.003
62		0.009	1.001	0.033	0.018	0.042	0.111	0.002
62		0.008	1.029	0.031	0.031	0.038	0.121	0.002
63		0.010	1.532	0.038	0.018	0.051	0.260	0.002
63	41·45	0.011	1.553	0.040	0.043	0.054	0.282	0.003
64		0.015	1.387	0.128	0.158	0.060	0.274	0.003
64		0.012	1.362	0.128	0.150	0.062	0.270	0.003
65		0.008	1.021	0.035	0.094	0.050	0.190	0.003
65		0.008	1.044	0.033	0.104	0.047	0.180	0.002
66		0.009	1.906	0.090	0.041	0.083	0.363	0.004
66		0.008	1.900	0.088	0.060	0.080	0.409	0.003
67		0.013	1.771	0.473	0.167	0.075	0.472	0.007
67	44·50	0.011	1.756	0.471	0.148	0.071	0.565	0.006
68		0.010	0.785	0.074	0.067	0.069	0.247	0.002
68		0.010	0.828	0.075	0.076	0.073	0.240	0.003
69		0.008	0.785	0.020	0.080	0.039	0.240	0.002
69		0.010	0.801	0.019	0.031	0.041	0.281	0.003
70	46·19	0.013	1.711	0.029	0.071	0.084	0.263	0.003
70		0.011	1.691	0.029	0.066	0.084	0.232	0.003
71		0.016	2.502	0.486	0.190	0.212	0.588	0.006
71		0.019	2.553	0.493	0.225	0.212	0.615	0.008
72		0.019	1.604	0.105	0.160	0.080	0.324	0.004
72	47·55	0.017	1.594	0.104	0.132	0.080	0.316	0.004
73		0.009	2.085	0.153	0.101	0.091	0.322	0.004
73		0.009	2.104	0.149	0.095	0.089	0.295	0.003
74		0.008	3.562	0.093	0.136	0.065	0.177	0.002
74		0.008	3.578	0.094	0.090	0.066	0.188	0.001
75		0.013	4.096	0.066	0.185	0.132	0.251	0.002
75	50·60	0.014	4.149	0.069	0.211	0.139	0.229	0.003
76		0.007	1.491	0.044	0.057	87121	0.002	
76		0.009	1.487	0.046	0.055	0.048	0.128	0.003
77		0.009	1.771	0.205	0.068	0.070	0.259	0.004
77		0.008	1.791	0.206	0.083	0.072	0.299	0.004
78		0.006	1.224	0.028	0.046	0.060	0.107	0.003
78	53·65	0.004	1.233	0.026	0.032	0.055	0.083	0.001

79		0.003	2.660	0.063	0.106	0.075	0.188	0.002
80		0.006	1.839	0.268	0.025	0.082	1.106	0.007
80	051	0.005	1.800	0.266	0.062	0.081	1.107	0.007
81		0.009	2.525	0.168	0.088	0.195	0.302	0.003
81		0.012	2.617	0.168	0.102	0.197	0.320	0.003
82		0.008	5.909	0.252	0.197	0.350	0.698	0.006
82		0.010	5.895	0.252	0.167	0.347	0.702	0.006
83		0.010	1.709	0.391	0.076	0.074	1.663	0.009
83	56·69	0.010	1.635	0.392	0.041	0.075	1.723	0.011
84		0.034	1.711	0.581	0.015	0.064	2.202	0.011
84		0.030	1.730	0.577	L.01	0.060	2.202	0.012
86		0.013	2.590	0.314	0.085	0.134	1.292	0.008
86		0.016	2.640	0.314	0.123	0.134	1.238	0.008
87		0.007	1.650	0.099	L.01	0.115	0.337	0.004
87		0.005	1.654	0.098	0.013	0.113	0.320	0.003
88		0.006	1.635	0.111	0.052	0.069	0.235	0.003
88		0.008	1.627	0.114	0.048	0.075	0.243	0.004
89		0.007	0.668	0.093	0.034	0.030	0.320	0.003
89	53·74	0.007	0.645	0.095	0.031	0.033	0.347	0.004
90		0.009	0.744	0.071	0.048	0.048	0.141	0.003
90		0.006	0.738	0.070	0.022	0.044	0.144	0.002
91		0.008	12.782	0.863	0.262	0.600	0.779	0.017
91	61·42	0.007	12.856	0.858	0.235	0.597	0.765	0.015
92		0.024	2.527	0.354	0.706	0.126	0.850	0.008
92		0.023	2.502	0.351	0.671	0.121	0.831	0.006
93		0.023	4.077	0.742	0.769	0.285	2.202	0.011
93		0.027	4.088	0.747	0.814	0.287	2.202	0.012
94		0.049	7.819	0.707	0.835	0.478	0.577	0.007
94	62·79	0.046	7.861	0.708	0.811	0.481	0.592	0.006
95		0.045	2.943	0.288	0.846	0.085	0.417	0.006
95		0.047	2.970	0.287	0.860	0.082	0.417	0.006
96		0.021	4.981	0.191	0.603	0.141	0.327	0.006
96		0.021	4.993	0.190	0.662	0.143	0.357	0.006
97		0.023	0.990	0.323	0.632	0.039	1.061	0.008
97		0.024	0.966	0.323	0.568	0.039	1.036	0.007
98		0.016	2.153	0.579	0.473	0.059	2.023	0.011
98	65·84	0.016	2.163	0.575	0.482	0.057	2.030	0.010
99		0.013	2.136	0.422	0.396	0.060	1.374	0.008
99		0.014	2.136	0.421	0.363	0.057	1.344	0.007
100		0.013	1.522	0.388	0.325	0.057	0.725	0.004
100		0.013	1.524	0.384	0.325	0.055	0.724	0.004
101		0.011	4.139	0.263	0.236	0.221	0.786	0.005
101		0.013	4.194	0.266	0.295	0.227	0.758	0.007
102		0.009	1.619	0.190	0.239	0.089	0.616	0.003
102		0.011	1.613	0.195	0.256	0.093	0.686	0.005

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103		0.012	1.397	0.061	0.237	0.055	0.121	0.002
103	68-89	0.012	1.469	0.062	0.218	0.057	0.115	0.003
104		0.012	4.656	0.160	0.263	0.130	0.497	0.004
104		0.011	4.642	0.161	0.284	0.130	0.497	0.004
105		0.012	1.227	0.171	0.190	0.043	0.634	0.005
105		0.011	1.233	0.171	0.232	0.042	0.654	0.005
106		0.011	4.283	0.144	0.267	0.161	0.413	0.004
106		0.012	4.293	0.142	0.281	0.160	0.400	0.004
107		0.010	2.547	0.159	0.204	0.239	0.527	0.004
107		0.010	2.543	0.159	0.213	0.240	0.504	0.003
108		0.012	1.947	0.268	0.165	0.097	0.986	0.006
108	71-93	0.011	1.929	0.268	0.192	0.101	1.000	0.007

End of Hole

...D HARRISON

6/6/74JP/LHL

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TIME SENT 2.05PMB

ENASKE AA31488

COMAL AA58508V

PROPOSALS FOR DRILLING QUARTZITE INFERRED BY COSTEANING AND MAPPING OF OUTCROPS

The information in this section is based on a report by: I.D. Picken entitled :-

"Proposals and Inferred Quartzite"
Cape Sorell, Western Tasmania."

24 April, 1975.

Summary and Proposals

1. Summary and Recommendations

(i) Detailed plane table geological mapping and surface costean sample results have enabled the calculation of tonnage and grade of "Inferred" quartzite at Cape Sorell.

(ii) Two, one (1) tonne quartzite samples of different grades have been selected for experimental smelting.

(iii) Ten diamond drill holes totalling 755 metres are recommended to test surface outcrop information.

2. "Inferred" Quartzite

The grades and tonnages stated are based on limited surface information only. It will be necessary to test this limited surface information at depth with an extensive diamond drilling programme. Only drilling can "prove" quartzite ore reserves,

3. Tonnage and Grade

By combining and weighting the average grades in the Mount Antill, Mount Obvious and North Escarpment Areas, there is inferred to be 2.78 million tonnes with an average grade of :-

Al_2O_3	0.34 %	TiO_2	0.02%
Fe_2O_3	0.05 %	K_2O n'	0.08%
CaO	< 0.01%	L.O.I.	0.18%
MgO	0.10%	P_2O_5	28 PPM
SiO_2	99.13 % (by difference)		

The individual areas considered for "Inferred" Quartzite are-

(i) Mount Antill Area - 1.72 million tonnes (based on five ore blocks, each to a maximum of 30 metres below sea level) Refer to drawing number TAS/CS/75/12.

Average Grade:

Al_2O_3	0.46%	TiO_2	0.02%
Fe_2O_3	0.07%	K_2O	0.09%
CaO	< 0.01%	L.O.I.	0.17%
MgO	0.14	P_2O_5	30 PPM
SiO_2	98.92% (by difference)		

(ii) North Escarpment Area - 0.80 million tonnes (based on three ore blocks - to a maximum of 30 metres below sea level where applicable).
Refer to drawing number TAS/CS/75/14

Average Grade:

Al_2O_3	0.07%	TiO_2	0.01%
Fe_2O_3	0.01%	K_2O	0.02%
CaO	< 0.01%	L.O.I.	0.20%
MgO	0.02%	P_2O_5	23 PPM
SiO_2	99.60% (by difference)		

(iii) Mount Obvious Area - 0.26 million tonnes (based on one ore block, to a maximum of 30 metres below sea level). Refer to drawing number TAS/CS/75/13.

Average Grade:

Al_2O_3	0.52%	TiO_2	0.02
Fe_2O_3	0.05%	K_2O	0.16
CaO	< 0.01%	L.O.I.	0.18
MgO	0.13%	P_2O_5	33 PPM
SiO_2	98.92% (by difference)		

(iv) Grandfathers Area

Analysis of surface costean samples in the Grandfathers area shows that the grade of the "inferred" quartzite is not well suited for smelting into silicon metal - this quartzite may be suitable for the manufacture of Ferro-Silicon.

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West Grandfathers: Average 85 samples

Al_2O_3 1.13%

Fe_2O_3 0.12%

East Grandfathers: Average 66 samples

Al_2O_3 1.63%

Fe_2O_3 0.23%

Total tonnage Indicated: 2.71 million tonnes in Gradfathers area only.

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TRIAL SMELTING SAMPLES

Two one (1) tonne quartzite samples have been collected and were despatched to Comalco Japan KK, where arrangements for trial smelting into silicon metal were made.

Sample No. 1

Derived from the North Escarpment Area near costean B1 (Formal testing of what is believed to be suitable silicon grade quartzite ore).

Average Analysis:				
	Al_2O_3	0.22%	TiO_2	0.02%
	Fe_2O_3	0.04%	K_2O	0.01%
	CaO	< 0.01%	L.O.I.	0.17%
	MgO	0.04%	P_2O_5	36 PPM
	SiO_2	99.44% (by difference)		

Sample No. 2

Derived from the Grandfathers Area - near costean C3. (Testing of high alumina quartzite - for possible high aluminium - silicon metal alloy or ferro-silicon.)

Average Analysis:				
	Al_2O_3	1.67%	TiO_2	0.11%
	Fe_2O_3	0.15%	K_2O	0.24%
	CaO	< 0.01%	L.O.I.	0.30%
	MgO	0.16%	P_2O_5	42 PPM
	SiO_2	97.34% (by difference)		

Proposed Diamond Drilling

To raise the status of the 'inferred" quartzite at Cape Sorell it will be necessary to test surface outcrop information at depth by diamond drilling.

It was recommended that a minimum of ten (10) diamond drill holes, estimated to total 755 metres of drilling, be completed in the four principal areas mapped in detail by plane table. At the date of writing this report this diamond drilling has not been carried out.

Inferred Quartzite Ore Calculations

Assume Specific Gravity = 2.5 gm/cc

MOUNT ANTILL AREA:-

(contoured hill)

A. Western Mount Antill - Block No. 1

Contour Interval	Area 1 m^2	Area 2 m^2	Average Area m^2	Tonnage Available: Average Area X Thickness X S.G
60 - 55m	232.9	782.3	507.6	6,345 tonnes
55 - 50	782.3	1,394.9	1,088.6	13,608 "
50 - 45	1,394.9	1,924.1	1,659.5	20,744 "
45 - 40	1,924.1	2,554.4	2,239.2	27,990 "
40 - 35	2,554.4	3,086.1	2,820.3	35,254 "
35 - SL	3,086.1	3,346.8	3,216.5	281,444 "
SL - -30m	(Average 35m contour & outcrop area)			241,238 "

TOTAL: 626,623 tonnes

B. Central Mount Antill - Block No. 2

(contoured hill)

Contour Interval	Area 1 m^2	Area 2 m^2	Average Area m^2	Tonnage Available Average Area X Thickness X S.G
58 - 55m	55.7	438.0	246.8	1,851 tonnes
55 - 50	438.0	1,334.2	886.1	11,076 "
50 - 45	1,334.2	1,840.5	1,587.3	19,842 "
45 - 40	1,840.5	2,397.5	2,119.0	26,487 "
40 - 35	2,397.5	3,225.3	2,811.4	35,142 "
35 - SL	3,225.3	3,460.8	3,343.1	292,521 "
SL - -30m	(average 35m contour & outcrop area)			250,733 "

TOTAL: 637,651 tonnes

C. Eastern Mount Antill - Block No. 3

(contoured hill)

Contour Interval	Area 1 m^2	Area 2 m^2	Average Area m^2	Tonnage Available Average Area X Thickness X S.G
50 - 45m	513.9	761.3	637.7	7,970 tonnes
45 - 40	761.3	1,275.2	1,018.2	12,728 "
40 - SL	1,275.2	1,355.9	1,315.6	131,560 "
SL - -30m	(average 40m contour & outcrop area)			98,670 "
			TOTAL:	250,928 tonnes

D. Mount Antill - Block No. 4

(contoured hill)

Contour Interval	Area 1 m^2	Area 2 m^2	Average Area m^2	Tonnage Available Average Area X Thickness X S.G
25 - 20m	524.1	891.1	707.6	8,845 tonnes
20 - SL	891.1	926.6	908.9	45,445 "
SL - -30m	(average 20m contour & outcrop area)			68,167 "
			TOTAL:	122,457 tonnes

E. Mount Antill - Block No. 5

(contoured hill)

Contour Interval	Area 1 m^2	Area 2 m^2	Average Area m^2	Tonnage Available Average Area X Thickness X S.G.
25 - 20m	37.5	546.1	291.6	3,645 tonnes
20 - SL	546.1	705.6	625.8	31,290 "
SL - -30m	(average 20m contour & outcrop area)			46,935 "
			TOTAL:	81,870 tonnes

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F. Mount Obvious Area - Block No. 1

(contoured hill)

Contour Interval	Area 1 m^2	Area 2 m^2	Average Area m^2	Tonnage Available Average Area X Thickness X S.G
35 - 30m	382.3	893.7	638.5	7,981 tonnes
30 - 25m	893.7	1,321.5	1,107.3	13,842 "
25 - 20m	1,321.5	1,668.4	1,494.4	18,680 "
20 - SL	1,668.4	1,769.6	1,719.0	85,949 "
SL - -30m	(average 20m contour & outcrop area)			128,924 "

TOTAL 255,376 tonnes

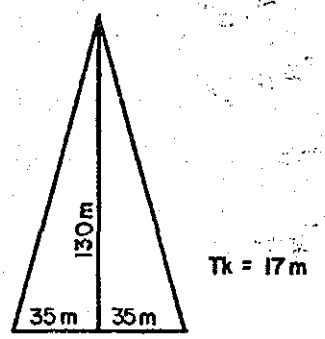
G. North Escarpment Area - Block No. 1

Body: Pitching Syncline:-

Strike length: 130m

Thickness: 17m

Limb length: 35m each



Thus tonnage of ore:-

130 X (35 + 35) X 17 X 2.5 ÷ 2

= 193,375 tonnes

H. North Escarpment Area - Block No. 2

Body: Pitching block

Strike length: 20m

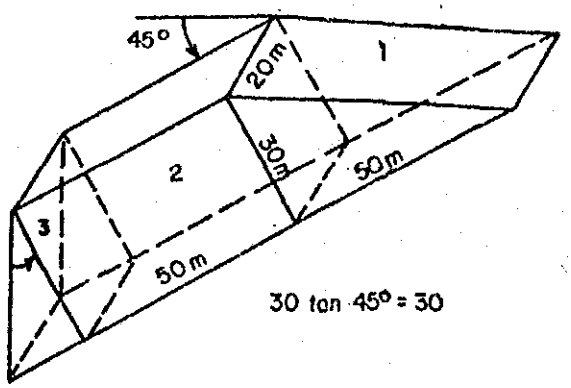
Thickness: 30m

Dip length: 100m

Part (1)

Tonnage = 50 X 30 X 20 X 2.5 ÷ 2

= 37,500 tonnes



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Part (2)

Tonnage = 50 X 30 X 20 X 2.5

= 75,000 tonnes

Part (3)

Tonnage = 30 X 30 X 20 X 2.5 ÷ 2

= 22,500 tonnes

TOTAL ORE: 135,000 tonnes

I. North Escarpment Area - Block No. 3

Body: Pitching block

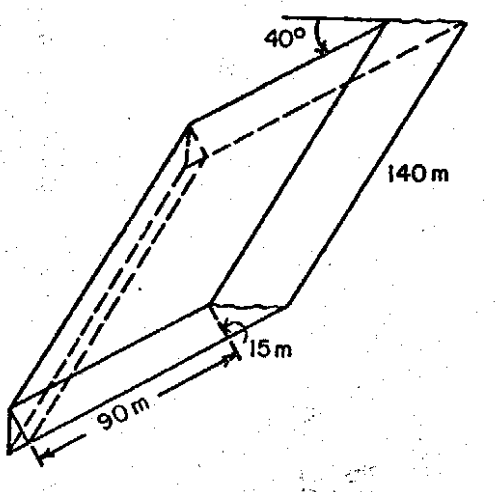
Strike length: 140m

Thickness: 15m

Dip length: 90m (say)

Tonnage of Ore = 140 X 90 X 15 X 2.5

= 472,500 tonnes



J. Grandfathers Area - Block No. 1

Drawing No. TAS/CS/75/15

Western Grandfathers:-

Body: Inclined block

Width: 40 metres

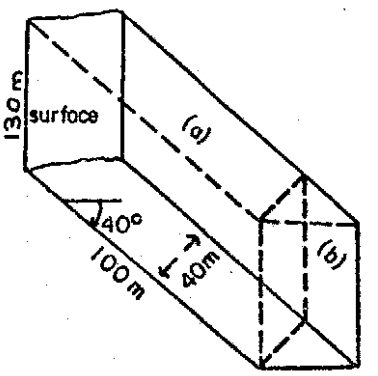
Dip length: 100m (to say - 30 metres)

Strike: 130 metres

Tonnage = (a) 100 X 130 X 40 X 2.5 = 1,300,000 tonnes

(b) 47.67 X 130 X 40 X 2.5 ÷ 2 = 309,855 tonnes
(40 ÷ Tan 40)

TOTAL: 1,609,855 tonnes



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K. Grandfathers Area - Block No. 2 - Eastern Grandfathers -

Body: Inclined block

Width: 15 metres

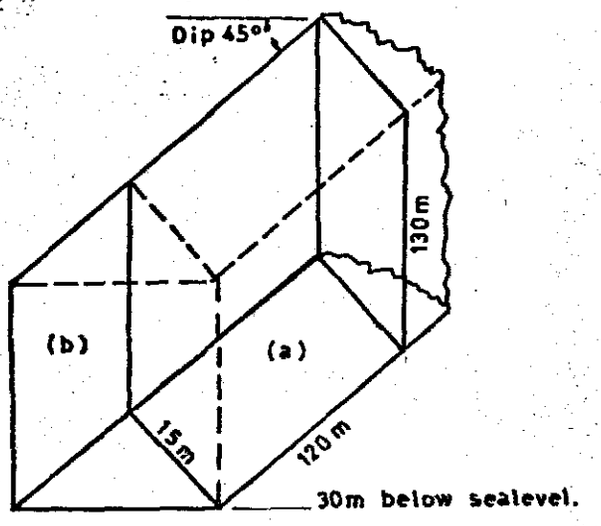
Dip Length: 120 metres (to say -30 metres)

Strike: 130 metres

Tonnage:- (a) 130 X 120 X 15 X 2.5 = 585,000 tonnes

(b) 15 X 130 X 15 X 2.5 ÷ 2 = 36,562 tonnes

TOTAL: 621,562 tonnes



L. Grandfathers Area - Block No. 3 - West Grandfathers - south

Body: Inclined block

Width: 15m

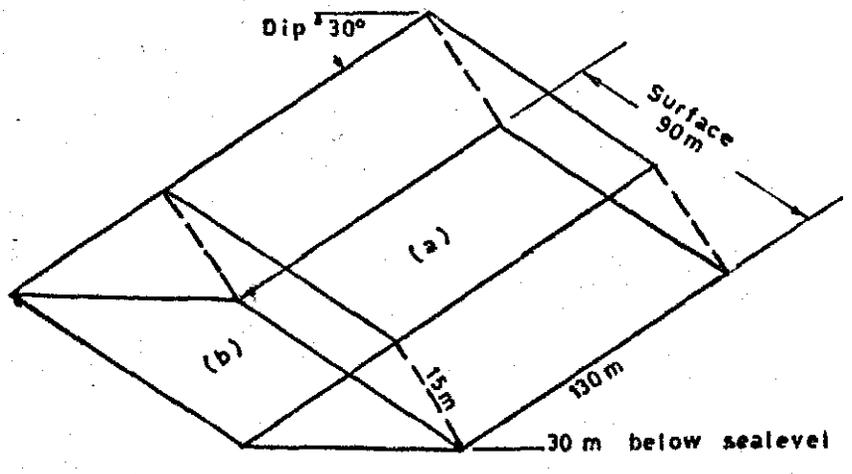
Dip length: 130 metres (say to -30m)

Strike: - 90 metres

Tonnage:- (a) 130 X 90 X 15 X 2.5 = 438,750 tonnes

(b) 90 X 15 X (15 ÷ Tan 30) X 2.5 ÷ 2 = 43,842 tonnes

TOTAL: 482,592 tonnes

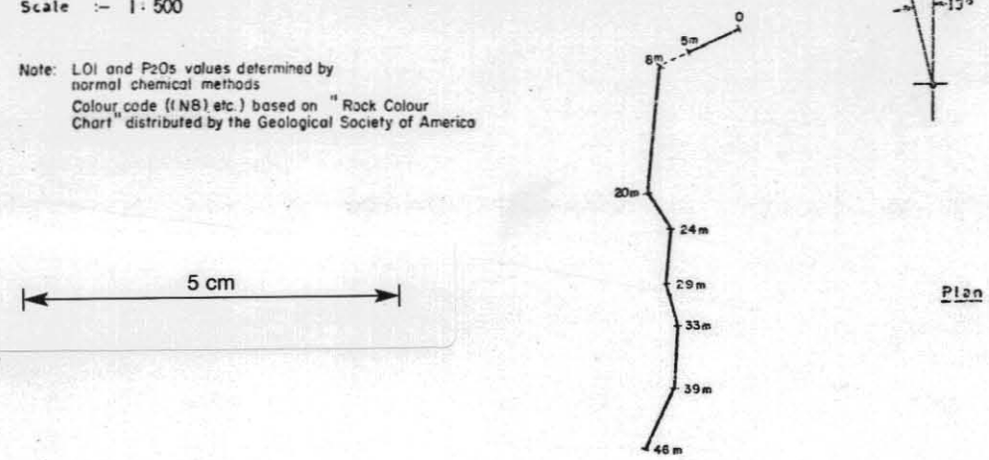


062

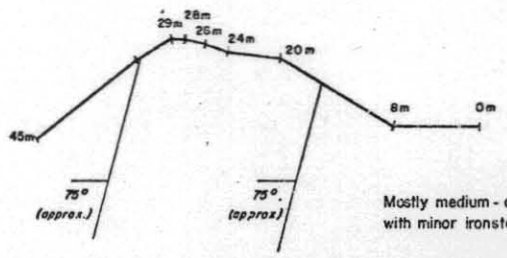
CAPE SORELL—SILICA . TASMANIA. 274063

Costean:- A1
Area :- Mt. Antill
Scale :- 1:500

Note: LOI and P_2O_5 values determined by normal chemical methods
Colour code (f N8) etc.) based on "Rock Colour Chart" distributed by the Geological Society of America



Section with apparent dips indicated along ℄ of each Costean



Mostly medium - coarse grained, very light grey (N8) with minor ironstaining moderate brown (5YR 5/6)

Analysis of Quartzite samples by XRF at Comalco Bell Bay. Samples marked 'a' are duplicated samples analysed by A.C.I. Sydney. by XRF. Samples marked b were analysed by AMDEL Frewville, S.A.

Interval	CaO	Al_2O_3	Fe_2O_3	MgO	Na_2O	T_1O_2	P_2O_5	K_2O	LOI	S_1O_2 (By difference)	Cr_2O_3
Limit of Detection	0·005	0·013	0·005	0·011		0·007		0·01			
0 - 1	0·009	0·365	0·019	0·011	0·214	0·006		0·092			
0 - 1 a	<·010	0·310	0·024	<·010	<·010	0·018	0·0023	0·070	·18	99·40	<·001
0 - 1 b		0·140	0·042								
1 - 2	<·005	0·470	0·017	0·010	0·217	<·005		0·106			
2 - 3	<·005	0·246	0·012	0·048	0·178	0·009		0·054			
3 - 4	<·005	0·164	0·019	0·032	0·199	<·005		0·032			
4 - 5	<·005	0·272	0·014	0·016	0·153	<·005		0·071			
4 - 5 c	<·010	0·260	0·022	<·010	<·010	0·012	0·0028	0·050	·14	99·51	<·001
4 - 5 b		0·130	0·054								
5 - 6		NO		SAMPLE							
6 - 7		NO		SAMPLE							
7 - 8		NO		SAMPLE							
8 - 9	<·005	0·253	0·026	0·024	0·168	<·005		0·056			
9 - 10	<·005	0·616	0·040	0·032	0·187	0·011		0·140			
9 - 10 a	<·010	0·380	0·058	<·010	<·010	0·024	0·0026	0·100	·20	99·24	<·001
9 - 10 b		0·170	0·054								
10 - 11	<·005	0·631	0·015	0·037	0·187	0·009		0·137			
11 - 12	<·005	0·320	0·037	0·049	<·005	<·005		0·071			
12 - 13	<·005	0·459	0·099	0·109	<·005	0·006		0·043			
13 - 14	0·008	0·394	0·056	0·039	0·154	0·009		0·083			
14 - 15	<·005	0·152	0·022	0·030	0·183	<·005		0·035			
14 - 15 a	<·010	0·280	0·023	<·010	<·010	0·018	0·0019	0·050	·17	99·48	<·001
14 - 15 b		0·110	0·059								
15 - 16	<·005	0·282	0·032	0·049	0·197	0·016		0·052			
16 - 17	<·005	0·437	0·037	0·097	0·198	0·013		0·072			
17 - 18	<·005	0·506	0·023	0·032	0·183	0·008		0·031			
18 - 19	<·005	0·320	0·023	0·043	0·173	0·006		0·079			
19 - 20	<·005	0·248	0·021	0·036	0·167	<·005		0·062			
19 - 20 a	<·010	0·220	0·220	<·010	<·010	0·025	0·0047	0·040	·37	99·32	<·001
19 - 20 b		0·100	0·057								
20 - 21	<·005	0·155	0·010	0·017	0·184	<·005		0·035			
21 - 22	<·005	0·499	0·023	0·019	0·179	<·005		0·047			
22 - 23	<·005	0·100	0·025	0·036	0·181	<·005		0·021			
23 - 24	<·005	0·124	0·025	0·038	0·181	<·005		0·026			
24 - 25	<·005	0·093	0·016	0·020	0·139	<·005		0·044			
24 - 25 a	<·010	0·190	0·016	<·010	<·010	0·010	0·0041	0·030	·13	99·62	<·001
24 - 25 b		0·070	0·041								
25 - 26	<·005	0·784	0·016	0·007	0·152	<·005		0·097			
26 - 27	<·005	0·150	0·010	0·005	0·178	<·005		0·039			
27 - 28	<·005	0·207	0·016	0·015	0·175	0·006		0·056			
28 - 29	<·005	0·133	0·020	<·005	0·150	<·005		0·042			
29 - 30	<·005	0·392	0·018	0·019	0·120	<·005		0·124			
29 - 30 a	<·010	0·300	0·019	<·010	<·010	0·015	0·0062	0·070	·12	99·48	<·001
29 - 30 b		0·140	0·041								
30 - 31	<·005	0·389	0·037	0·032	0·172	<·005		0·090			
31 - 32	<·005	0·308	0·023	0·026	0·163	<·005		0·066			
32 - 33	<·005	0·547	0·016	0·027	0·160	<·005		0·119			
33 - 34	<·005	0·360	0·024	0·030	0·180	<·005		0·081			
34 - 35	<·005	0·533	0·024	0·042	0·165	<·005		0·126			
34 - 35 a	<·010	0·220	0·028	<·010	<·010	0·013	0·0028	0·040	·12	99·58	<·001
34 - 35 b		0·110	0·039								
35 - 36	<·005	0·348	0·030	0·022	0·135	<·005		0·088			
36 - 37	<·005	0·411	0·123	0·025	0·173	<·005		0·092			
37 - 38	<·005	0·401	0·025	0·005	0·107	<·005		0·049			
38 - 39	<·005	0·725	0·047	0·029	0·159	<·005		0·106			
39 - 40	<·005	0·298	0·026	0·024	0·165	<·005		0·076			
39 - 40 a	<·010	0·370	0·029	<·010	<·010	0·025	0·0056	0·100	·15	99·33	<·001
39 - 40 b		0·160	0·062								
40 - 41		NO		SAMPLE							
41 - 42	<·005	0·282	0·042	0·075	0·194	<·005		0·033			
42 - 43	<·005	0·246	0·020	0·031	0·193	<·005		0·072			
43 - 44	0·005	0·411	0·016	0·023	0·171	<·005		0·099			
44 - 45	<·005	0·805	0·024	0·025	0·178	<·005		0·211			
44 - 45 a	<·010	0·570	0·035	0·030	<·010	0·034	0·0035	0·140	·20	99·00	<·001
44 - 45 b		0·140	0·043								

274064

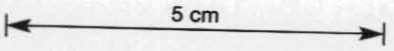
063

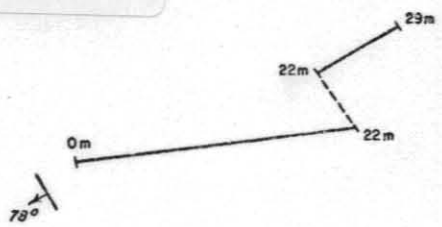
CAPE SORELL — SILICA . TASMANIA.

Costean:- A-2
Area :- Mt. Antill
Scale :- 1:500

T.N M.N
13°

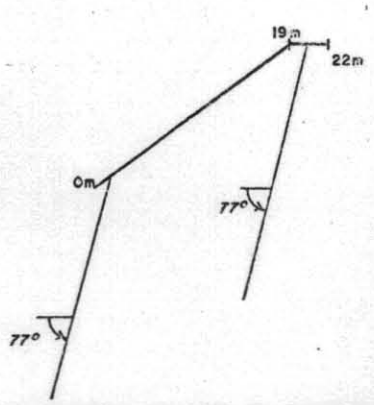
Note: LOI and P_2O_5 values determined by normal chemical methods
Colour code (N8) etc.) based on "Rock Colour Chart" distributed by the Geological Society of America

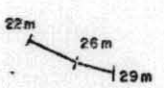




Plan

Section with apparent dips indicated along ℄ of each Costean





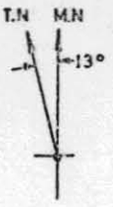
Fine - coarse grained, thin to thickly bedded quartzite. Minor thin silty sections, generally very light grey (N8) with patches of dark greenish grey (5 GY 4/1). Light to moderate brown (5 YR 4/4 - 5 YR 5/6) iron staining in blobs. Very minor rutile on joint planes. Some gossanous cavities - leached pyrite ?

Analysis of Quartzite samples by XRF at Comalco Bell Bay. Samples marked 'a' are duplicated samples analysed by A.C.I. Sydney. by XRF. Samples marked b were analysed by AMDEL Frewville, S.A.

Interval	CaO	Al_2O_3	Fe_2O_3	MgO	Na_2O	TiO_2	P_2O_5	K_2O	LOI	SiO_2	Cr_2O_3
Limit of Detection	0·005	0·013	0·005	0·011		0·007		0·01	By difference		
0 - 1	<·005		0·026	0·036	0·176	0·009		0·165			
0 - 1 a	<·010	0·360	0·022	<·010	<·010	0·016	0·0034	0·110	·16	99·31	<·001
0 - 1 b		0·160	0·044								
1 - 2	<·005		0·036	0·063	0·192	0·072		0·426			
2 - 3	<·005		0·019	0·039	0·175	<·005		0·127			
3 - 4	<·005		0·030	0·036	0·189	0·009		0·142			
4 - 5	<·005		0·036	0·098	0·186	0·027		0·491			
4 - 5 a	<·010	0·850	0·026	0·030	<·010	0·035	0·0030	0·250	·27	98·54	<·001
4 - 5 b		0·300	0·036								
5 - 6	<·005		0·072	0·133	0·190	0·228		0·712			
6 - 7	<·005	0·734	0·050	0·031	0·162	<·005		0·162			
7 - 8	<·005	0·344	0·016	0·043	0·165	<·005		0·088			
8 - 9	<·005	0·291	0·021	0·040	0·167	<·005		0·066			
9 - 10	<·005	0·229	0·054	0·023	0·140	<·005		0·075			
9 - 10 a	<·010	0·360	0·120	0·010	<·010	0·015	0·0041	0·090	·20	99·28	<·001
9 - 10 b		0·110	0·073								
10 - 11	<·005	0·420	0·016	0·026	0·151	<·005		0·111			
11 - 12	<·005	0·339	0·020	0·033	0·136	<·005		0·105			
12 - 13	<·005	0·313	0·017	0·045	0·158	<·005		0·068			
13 - 14	<·005	0·293	0·045	0·035	0·144	<·005		0·068			
14 - 15	<·005	0·181	0·037	0·026	0·169	0·023		0·056			
14 - 15 a	<·010	0·210	0·022	<·010	<·010	0·010	0·0024	0·040	·20	99·20	<·001
14 - 15 b		0·090	0·043								
15 - 16	<·005	0·262	0·026	0·056	0·160	<·005		0·072			
16 - 17	<·005	0·236	0·012	0·040	0·168	<·005		0·066			
17 - 18	<·005	0·353	0·017	0·045	0·159	<·005		0·110			
18 - 19	<·005	0·604	0·043	0·031	0·158	<·005		0·125			
19 - 20	0·007	0·497	0·433	0·120	0·140	<·005		0·114			
19 - 20 a	<·010	0·360	0·150	0·040	<·010	0·018	0·0026	0·080	·26	99·09	<·001
19 - 20 b		0·160	0·143								
20 - 21	<·005	0·310	0·022	0·042	0·171	<·005		0·069			
21 - 22	<·005	0·246	0·016	0·043	0·165	<·005		0·059			
22 - 23	0·008	0·315	1·382	0·415	0·176	<·005		0·067			
23 - 24	0·005	0·640	0·214	0·092	0·176	0·030		0·141			
24 - 25	<·005	0·167	0·204	0·048	0·145	<·005		0·054			
24 - 25 a	<·010	0·350	0·740	0·250	<·010	0·022	0·0023	0·070	·59	98·00	<·001
24 - 25 b		0·150	0·305								
25 - 26	<·005	0·485	0·429	0·149	0·178	<·005		0·120			
26 - 27	<·005	0·671	0·043	0·037	0·178	0·011		0·173			
27 - 28	0·009	0·643	0·059	0·027	0·116	0·018		0·186			
28 - 29	<·005	0·772	0·299	0·098	0·148	0·013		0·194			

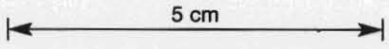
CAPE SORELL — SILICA . TASMANIA.

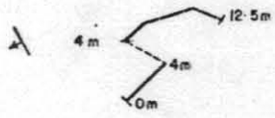
Costean:- A.3
Area :- Mt. Antill
Scale :- 1 : 500



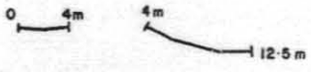
Note: LOI and P_2O_5 values determined by normal chemical methods

Colour code (N8) etc.) based on "Rock Colour chart" distributed by the Geological Society of America





Plan



Section with apparent dips indicated along ℄ of each Costean

Fine - medium, very light grey (N8) with moderate brown (5YR 5/6) iron staining in places leaching into quartzite. Minor, fine grained, very dark grey quartzite and secondary quartz veining

Analysis of Quartzite samples by XRF at Comalco Bell Bay. Samples marked 'a' are duplicated samples analysed by A.C.I. Sydney. by XRF. Samples marked b were analysed by AMDEL, Frewville, S.A.

Interval	CaO	Al_2O_3	Fe_2O_3	MgO	Na_2O	Ti_1O_2	P_2O_5	K_2O	LOI	SiO_2	Cr_2O_3	[By difference]
Limit of Detection	0·005	0·013	0·005	0·011		0·007		0·01				
0 - 1	‹·005	0·470	0·223	0·153	0·153	0·011		0·063				
0 - 1a	‹·010	0·360	0·120	0·080	‹·010	0·022	0·0035	0·050	·20	99·15	‹·001	
0 - 1b		0·120	0·133									
1 - 2	‹·005	0·738	0·913	0·437	0·157	0·020		0·025				
2 - 3	‹·005	0·382	0·470	0·236	0·167	‹·005		0·006				
3 - 4	‹·005	0·401	0·097	0·043	0·140	‹·005		0·069				
4 - 5	‹·005	0·284	0·173	0·116	0·159	‹·005		0·042				
4 - 5a	‹·010	0·280	0·250	0·080	‹·010	0·012	0·0056	0·030	·21	99·14	‹·001	
4 - 5b		0·130	0·092									
5 - 6	‹·005	0·600	0·571	0·457	0·146	0·011		0·043				
6 - 7	‹·005	0·449	0·915	0·486	0·176	0·009		0·061				
7 - 8	‹·005	0·425	0·564	0·341	0·153	0·006		0·058				
8 - 9	0·007	0·468	0·363	0·290	0·144	0·006		0·049				
9 - 10	0·030	0·413	0·551	0·438	0·157	‹·005		‹·005				
9 - 10a	‹·010	0·250	0·740	0·390	‹·010	0·018	0·0013	‹·010	·58	98·00	‹·001	
9 - 10b		0·160	0·323									
10 - 11	‹·005	0·437	0·035	0·044	0·153	‹·005		0·094				
11 - 12	‹·005	0·162	0·024	0·020	0·144	‹·005		0·042				
12 - 13	‹·005	0·102	0·064	0·022	0·124	‹·005		0·014				

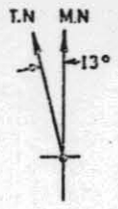
274066

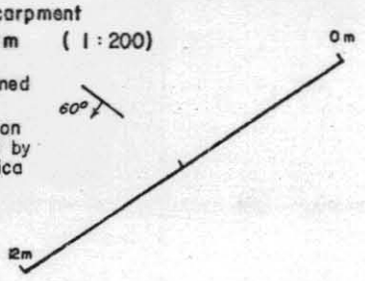
CAPE SORELL — SILICA . TASMANIA.

065

Costean:- B1
Area :- North Escarpment
Scale :- 1 cm = 2 m (1:200)

Note: LOI and P_2O_5 values determined by normal chemical methods
Colour code (N8) etc.) based on "Rock Colour Chart" distributed by the Geological Society of America

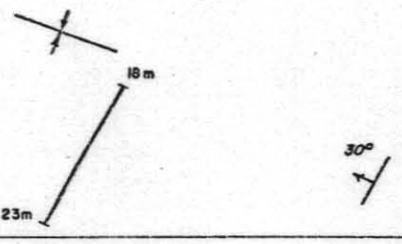




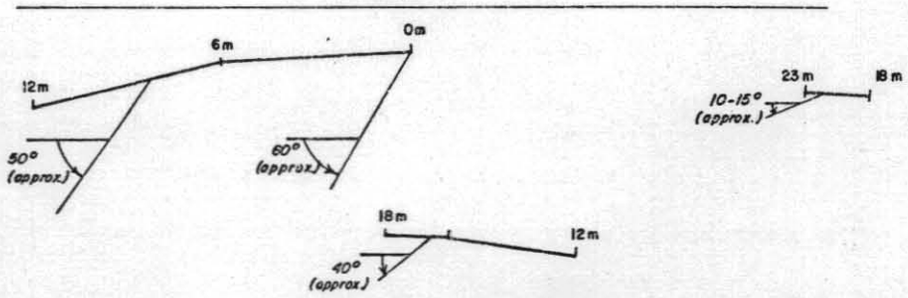
Plan

5 cm

Medium to fine grained, very light grey (N8) quartzite - blocky, smooth surface appearance. Limb of synclinal structure.



Section with apparent dips indicated along ℄ of each Costean



Analysis of Quartzite samples by XRF at Comalco Bell Bay. Samples marked 'a' are duplicated samples analysed by A.C.I. Sydney. by XRF. Samples marked b were analysed by AMDEL, Frewville S.A.

Interval	CaO	Al_2O_3	Fe_2O_3	MgO	Na_2O	T_1O_2	P_2O_5	K_2O	LOI	SiO_2 (By difference)	Cr_2O_3	
Limit of Detection	0·005	0·013	0·005	0·011		0·007		0·01				
0 - 1	‹·005	0·019	‹·005	‹·005	‹·005	0·008		0·014				
0 - 1a	‹·010	0·030	0·009	‹·010	‹·015	0·015	·0019	0·010	0·07	99·86	‹·001	
0 - 1b	100 ppm	500 ppm	300 ppm	300 ppm								
1 - 2	‹·005	0·015	‹·005	‹·005	‹·005	‹·005		0·021				
2 - 3	‹·005	0·086	0·005	‹·005	‹·005	0·010	·0025	0·051	0·12			
3 - 4	‹·005	0·008	‹·005	‹·005	‹·005	‹·005		0·024				
4 - 5	‹·005	0·099	0·043	0·206	‹·005	‹·005		0·008				
4 - 5a	‹·010	0·030	0·009	‹·010	‹·010	0·015	·0023	‹·010	0·12	99·42	‹·001	
4 - 5b	-	350 ppm	300 ppm	500 ppm								
5 - 6	‹·005	0·008	‹·005	0·008	‹·005	‹·005		0·018				
6 - 7	‹·005	0·042	‹·005	‹·005	‹·005	‹·005		0·018				
7 - 8	‹·005	0·035	‹·005	0·005	‹·005	‹·005	·002	0·027	0·10			
8 - 9	‹·005	‹·005	0·005	‹·005	‹·005	‹·005		0·094				
9 - 10	‹·005	‹·005	‹·005	0·009	‹·005	‹·005		0·090				
9 - 10a	‹·010	0·010	0·011	‹·010	‹·010	0·027	·0022	‹·010	0·06	99·89	‹·001	
9 - 10b	-	250 ppm	300 ppm	200 ppm								
10 - 11	‹·005	‹·005	0·006	‹·005	‹·005	‹·005		0·082				
11 - 12	‹·005	‹·005	‹·005	‹·005	‹·005	‹·005		0·111				
12 - 13	‹·005	0·173	0·009	0·006	‹·005	‹·005	·0025	0·107	0·14			
13 - 14	‹·005	0·008	‹·005	‹·005	‹·005	‹·005		0·030				
14 - 15	‹·005	0·151	‹·005	0·017	‹·005	0·006		0·075				
14 - 15a	‹·010	0·120	0·018	‹·010	‹·010	0·015	·0017	0·020	0·20	99·61	‹·001	
14 - 15b	-	800 ppm	300 ppm	250 ppm								
15 - 16	‹·005	‹·005	‹·005	0·011	‹·005	0·008		0·025				
16 - 17	‹·005	0·042	0·019	0·069	‹·005	0·008		0·030				
17 - 18	‹·005	0·017	‹·005	‹·005	‹·005	‹·005	·002	0·030	0·16			
18 - 19	‹·005	‹·005	‹·005	0·007	‹·005	‹·005		0·012				
19 - 20	‹·005	‹·005	‹·005	0·005	‹·005	‹·005		0·006				
19 - 20a	‹·010	0·020	0·010	‹·010	‹·010	0·011	·0061	‹·01	0·14	99·81	‹·001	
19 - 20b	100 ppm	200 ppm	300 ppm	200 ppm								
20 - 21	‹·005	‹·005	‹·005	‹·005	‹·005	‹·005		0·019				
21 - 22	‹·005	0·088	‹·005	‹·005	‹·005	‹·005		0·020				
22 - 23	‹·005	‹·005	‹·005	0·013	‹·005	0·008	‹·001	0·012	0·15			

066

274067

CAPE SORELL—SILICA . TASMANIA.

Costean:- B2
Area :- North Escarpment
Scale :- 1cm = 2m (1:200)

T.N M.N
13°

Note: LOI and P_2O_5 values were determined by normal chemical methods
Colour code based on "Rock Colour Chart" distributed by the Geological Society of America

5 cm

7m
3m
0m

Plan

Section with apparent dips indicated along ℄ of each Costean

0m 3m 7m

Strike and dip uncertain

Fine to medium grained very light grey (N8) quartzite. Fractured - bedding not clear.
Suspect faulted axes of anticlinal structure

Analysis of Quartzite samples by XRF at Comalco Bell Bay. Samples marked 'a' are duplicated samples analysed by A.C.I. Sydney. by XRF. Samples marked b were analysed by AMDEL, Frewville S.A.

Interval	CaO	Al_2O_3	Fe_2O_3	MgO	Na_2O	TiO_2	P_2O_5	K_2O	LOI	SiO_2 (By difference)	Cr_2O_3
Limit of Detection	0·005	0·013	0·005	0·011		0·007		0·01			
0 - 1	‹·005	‹·005	‹·005	0·007	‹·005	0·013		0·013			
0 - 1a	‹·010	0·010	0·010	‹·010	‹·010	0·022	0·0011	‹·010	·7	99·79	‹·001
0 - 1b	-	100 ppm	300 ppm	200 ppm							
1 - 2			NO	SAMPLE							
2 - 3	‹·005	0·151	0·031	0·073	‹·005	0·019		0·061			
3 - 4	‹·005	0·269	0·012	0·090	‹·005	0·010		0·062			
4 - 5	‹·005	0·153	0·012	0·047	‹·005	‹·005		0·036			
4 - 5a	‹·010	0·230	0·016	0·040	‹·010	0·013	0·0009	0·010	·23	99·46	‹·001
4 - 5b	100 ppm	800 ppm	300 ppm	300 ppm							
5 - 6	‹·005	0·017	‹·005	0·027	‹·005	0·028		0·020			
6 - 7	‹·005	0·033	0·008	0·027	‹·005	0·028		0·009			

274068

CAPE SORELL — SILICA . TASMANIA.

067

Costean:- B3
Area :- Nth. Escarpment
Scale :- 1 : 500

T.N M.N
13°

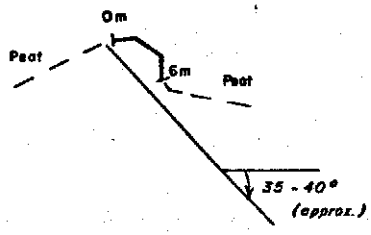
Note: LOI and P_2O_5 values determined by normal chemical methods
Colour code ((N8) etc.) based on "Rock Colour Chart" distributed by the Geological Society of America

5 cm

6m
0m
Plan

45°

Section with apparent dips indicated along ℄ of each Costean



Generally very light grey, (N8), fine grained with dark yellowish orange (10YR 6/6) iron staining

Analysis of Quartzite samples by XRF at Comalco Bell Bay. Samples marked 'a' are duplicated samples analysed by A.C.I. Sydney. by XRF. Samples marked b were analysed by AMDEL, Frewville, S.A. By difference

Interval	CaO	Al_2O_3	Fe_2O_3	MgO	Na_2O	TiO_2	P_2O_5	K_2O	LOI	SiO_2	Cr_2O_3
Limit of Detection	0·005	0·013	0·005	0·011		0·007		0·01			
0 - 1	‹·005	0·415	0·132	0·698	0·176	‹·005		‹·005			
1 - 2	‹·005	0·435	0·179	0·900	0·136	‹·005		‹·005			
1 - 2 a	‹·010	0·270	0·110	0·480	‹·010	0·013	0·0021	‹·010	·21	98·92	‹·001
1 - 2 b		0·150	0·103								
2 - 3	‹·005	0·643	0·262	1·137	0·130	0·018		‹·005			
3 - 4	‹·005	0·404	0·144	0·722	0·154	‹·005		0·009			
3 - 4 a	‹·010	0·340	0·140	0·620	‹·010	0·013	0·0024	‹·010	·26	98·63	‹·001
		0·160	0·110								
4 - 5	‹·005	0·463	0·196	0·848	0·132	‹·005		‹·005			

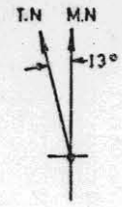
274069

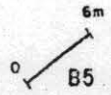
068

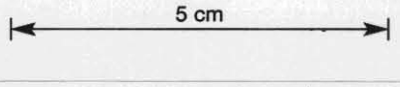
CAPE SORELL—SILICA . TASMANIA.

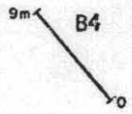
Costean:- B4 - B5
Area :- Nth. Escarpment
Scale :- 1 : 500

Note: LOI and P_2O_5 values determined by normal chemical methods
Colour code ((N8) etc.) based on "Rock Colour Chart" distributed by the Geological Society of America

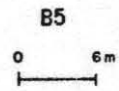


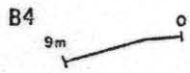






Plan





Section with apparent dips indicated along ℄ of each Costean

B4: Medium - coarse grained, very light grey (N8) quartzite. In some places - friable. Minor yellowish grey (5Y 7/2) joint staining.

B5: Fine - medium grained, very light grey (N8) quartzite with moderate yellowish brown (10YR 5/4) staining on joints

Analysis of Quartzite samples by XRF at Comalco Bell Bay. Samples marked 'a' are duplicated samples analysed by A.C.I. Sydney. by XRF. Samples marked b were analysed AMDEL Frewville, S.A.

Interval	Ca.O	Al_2O_3	Fe_2O_3	Mg O	Na_2O	T_1O_2	P_2O_5	K_2O	LOI (By difference)	SiO_2	Cr_2O_3	
Limit of Detection	0·005	0·013	0·005	0·011		0·007	0·02	0·01	-			
B4												
0 - 1	‹·005	‹·005	0·008	0·049	0·151	0·011		‹·005				
0 - 1a	‹·010	0·010	0·013	‹·010	‹·010	0·019	0·0019	‹·010	·13	99·83	‹·001	
0 - 1b		0·020	0·030									
1 - 2	‹·005	0·006	0·017	0·021	0·125	0·011		‹·005				
2 - 3	‹·005	0·052	0·016	0·015	0·133	0·006		‹·005				
3 - 4	‹·005	0·068	0·015	0·025	0·145	‹·005		0·006				
4 - 5	‹·005	‹·005	0·014	0·007	0·144	‹·005		‹·005				
4 - 5 a	‹·010	0·040	0·008	‹·010	‹·010	0·010	0·0025	‹·010	·16	99·78	‹·001	
4 - 5 b		0·025	0·049									
5 - 6	‹·005	0·052	0·007	0·007	0·168	‹·005		‹·005				
6 - 7	‹·005	0·014	0·023	0·008	0·137	‹·005		‹·005				
7 - 8	‹·005	0·035	0·016	0·087	0·157	‹·005		0·011				
7 - 8 a	‹·010	0·040	0·012	‹·010	‹·010	0·015	0·0023	‹·010	·11	99·82	‹·001	
7 - 8 b		0·025	0·071									
8 - 9	‹·005	0·045	0·017	0·006	0·142	‹·005		‹·005				
B5												
0 - 1	‹·005	0·145	0·012	0·021	0·170	0·006		0·010				
0 - 1a	‹·010	0·100	0·020	‹·010	‹·010	0·040	0·0026	‹·010	·08	99·75	‹·001	
0 - 1b		0·030	0·034									
1 - 2	‹·005	0·162	0·009	0·015	0·125	0·009		0·008				
2 - 3	‹·005	0·308	0·011	0·024	0·125	‹·005		0·043				
3 - 4	‹·005	0·023	0·012	‹·005	0·148	‹·005		0·005				
4 - 5	‹·005	‹·005	0·012	‹·005	0·135	‹·005		‹·005				
4 - 5 a	‹·010	‹·010	0·014	‹·010	‹·010	0·016	0·0011	‹·010	·10	99·87	‹·001	
4 - 5 b		0·015	0·038									
5 - 6	‹·005	‹·005	0·008	0·019	0·145	‹·005		‹·005				

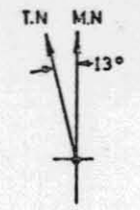
069

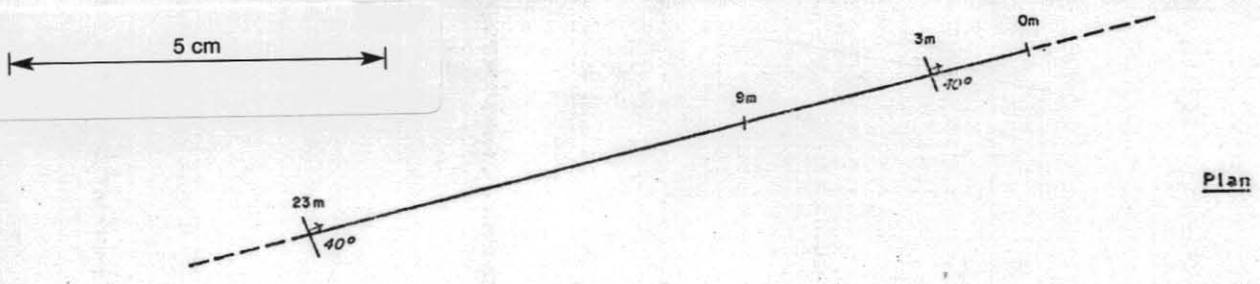
274070

CAPE SORELL--SILICA . TASMANIA.

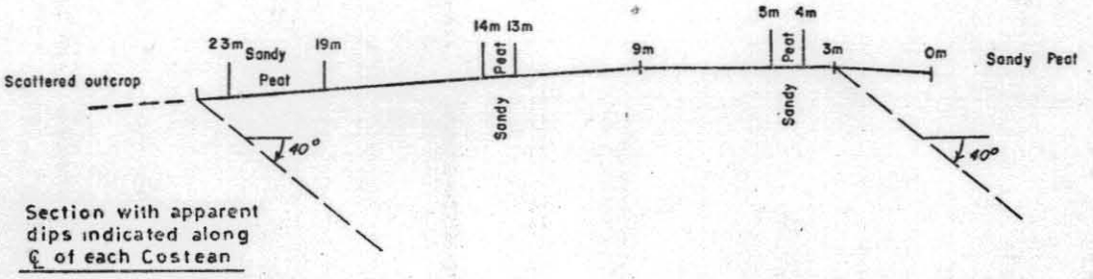
Costean:- C1
Area :- West Grandfathers
Scale :- 1 cm = 2m (1:200)

Note: LOI and P_2O_5 values determined by normal chemical methods
Colour code ((N8) etc.) based on "Rock Colour Chart" distributed by the Geological Society of America





Plan



Section with apparent dips indicated along ℄ of each Costean

Medium grained, light grey (N7) to pinkish grey (5YR8/1) quartzite with the rock being friable from 7 - 9 metres. Minor crossbadding.

Analysis of Quartzite samples by XRF at Comalco Bell Bay. Samples marked 'a' are duplicated samples analysed by A.C.I. Sydney. by XRF.

Interval	CaO	Al_2O_3	Fe_2O_3	MgO	Na_2O	T_1O_2	P_2O_5	K_2O	LOI (By difference)	SiO_2	Cr_2O_3	
Limit of Detection	0·005	0·013	0·005	0·011		0·007		0·01				
0 - 1	0·016	0·265	0·042	0·071		0·137		0·023				
0 - 1a	<·010	0·230	0·023	0·060	<·010	0·140		0·010				
1 - 2	0·079	0·478	0·025	0·070		0·038		0·127				
2 - 3	0·002	0·389	0·044	0·079		0·049		0·083				
3 - 4	0·001	0·593	0·027	0·065		0·091		0·165				
4 - 5			NOT		SAMPLED							
5 - 6	<·001	0·456	0·019	0·029		0·074		0·171				
6 - 7	<·001	0·432	0·038	0·037		0·049		0·146				
7 - 8	<·001	2·390	0·055	0·102		0·081		0·821				
8 - 9	<·001	1·491	0·059	0·095		0·047		0·429				
9 - 10	<·001	0·903	0·080	0·088		0·048	0·0045	0·251	·13			
9 - 10a	<·010	1·150	0·036	0·090	<·010	0·054		0·240				
10 - 11	0·001	0·858	0·022	0·055		0·068		0·254				
11 - 12	0·039	1·156	0·055	0·131		0·034		0·324				
12 - 13	<·001	0·738	0·032	0·085		0·075		0·217				
13 - 14			NOT		SAMPLED							
14 - 15	<·001	0·114	0·037	0·036		0·037	0·004	0·041	·11			
14 - 15a	<·010	0·340	0·038	0·066	<·010	0·039		0·040				
15 - 16	<·001	0·409	0·097	0·098		0·079		0·064				
16 - 17	0·002	0·383	0·022	0·035		0·055		0·105				
17 - 19	<·001	0·440	0·029	0·043		0·074		0·135				
18 - 19	<·001	0·518	0·023	0·043		0·041		0·156				
19 - 20												
20 - 21			NOT		SAMPLED							
21 - 22												
22 - 23	<·001	0·886	0·025	0·042		0·044		0·268				

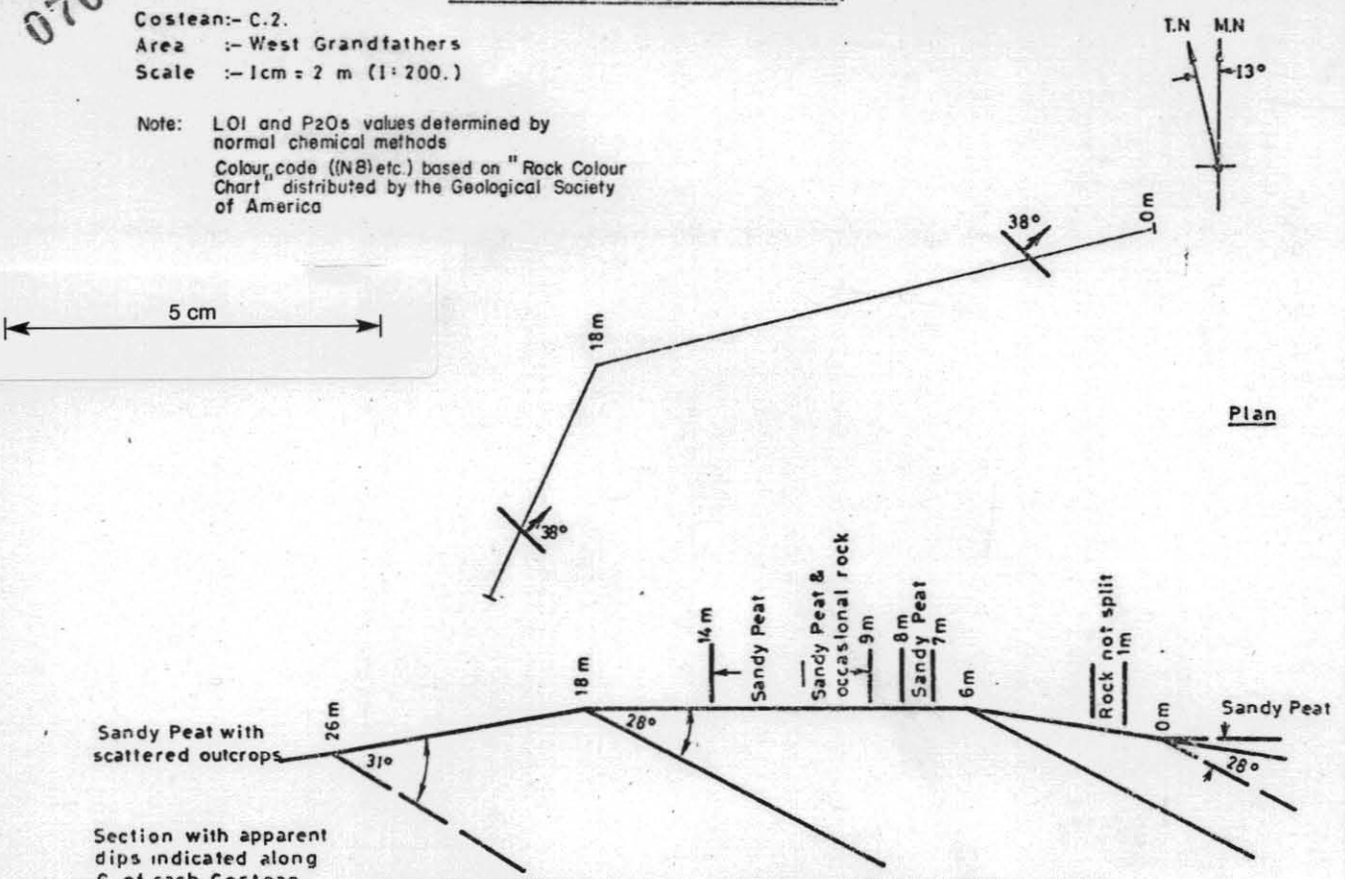
274071

070

CAPE SORELL — SILICA . TASMANIA.

Costean:- C.2.
Area :- West Grandfathers
Scale :- 1cm = 2 m (1:200.)

Note: LOI and P_2O_5 values determined by normal chemical methods
Colour code ((N8) etc.) based on "Rock Colour Chart" distributed by the Geological Society of America



Generally medium grained very light grey (N8) to light grey (N7) Quartzite with minor pinkish grey (5YR 8/1) and crossbedding glassy and hard 18 - 26 m

Analysis of Quartzite samples by XRF at Comalco Bell Bay. Samples marked 'a' are duplicated samples analysed by A.C.I. Sydney. by XRF.

Interval	Ca.O	Al_2O_3	Fe_2O_3	MgO	Na_2O	T_1O_2	P_2O_5	K_2O	LOI	SiO_2 (By difference)		
Limit of Detection	0·005	0·013	0·005	0·011		0·007		0·01				
0-1	0·002	0·816	0·113	0·131		0·070		0·201				
0-1 'a'	<0·01	0·78	0·077	0·14	<0·01	0·032		0·14				
1-2			NOT	SAMPLED								
2-3	0·001	0·459	0·041	0·089		0·057		0·114				
3-4	<0·001	0·275	0·021	0·060		0·029		0·056				
4-5	0·002	0·769	0·203	0·184		0·083	0·003	0·112	0·11			
4-5 'a'	<0·01	1·120	0·047	0·13	<0·01	0·05		0·18				
5-6	0·001	1·129	0·060	0·123		0·168		0·305				
6-7	<0·001	0·430	0·041	0·068		0·043		0·140				
7-8			NOT	SAMPLED								
8-9	<0·001	0·144	0·021	0·038		0·063		0·035				
9-10												
10-11												
11-12			NOT	SAMPLED								
12-13												
13-14												
14-15	<0·001	0·561	0·013	0·038		0·046	0·003	0·142	0·10			
14-15 'a'	<0·01	0·550	0·038	0·06	<0·01	0·039		0·04				
15-16	<0·001	0·494	0·026	0·035		0·072		0·176				
16-17	<0·001	0·935	0·039	0·134		0·060		0·162				
17-18	0·008	1·805	0·188	0·491		0·098		0·350				
18-19	<0·001	0·601	0·028	0·105		0·107		0·136				
19-20	<0·001	0·662	0·024	0·090		0·060	0·003	0·195	0·18			
19-20 'a'	<0·01	1·300	0·029	0·21	<0·01	0·088		0·29				
20-21	<0·001	0·932	0·074	0·072		0·044		0·278				
21-22	<0·001	0·813	0·019	0·061		0·027		0·253				
22-23	0·001	0·899	0·162	0·158		0·109		0·178				
23-24	0·002	1·634	0·041	0·278		0·064		0·444				
24-25	<0·001	3·106	0·050	0·172		0·051	0·0035	0·916	0·37			
25-26	<0·001	0·852	0·052	0·117		0·031		0·216				
25-26 'a'	<0·01	1·24	0·059	0·19	<0·01	0·075		0·25				

274072

071

CAPE SORELL—SILICA . TASMANIA.

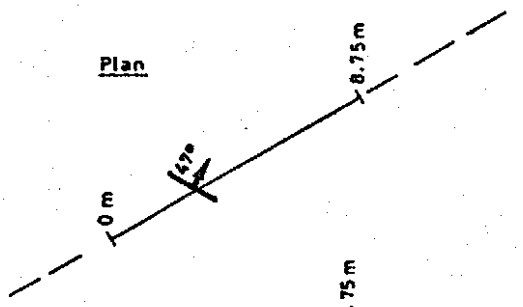
Costean:- C3.
Area :-West Grandfathers.
Scale :- 1cm = 2m (1:200)

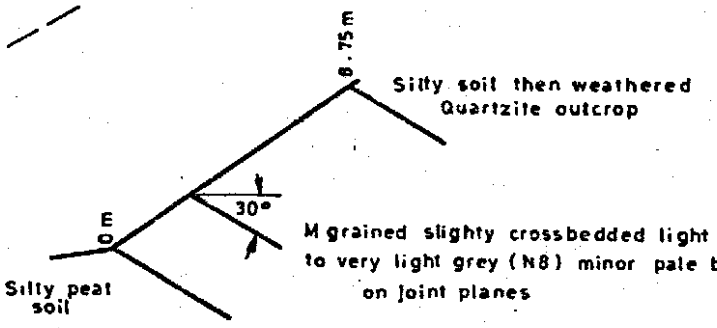
T.N M.N
13°

Note: LOI and P_2O_5 values determined by normal chemical methods
Colour code (N8) etc.) based on "Rock Colour Chart" distributed by the Geological Society of America

5 cm

Plan





Section with apparent dips indicated along ℄ of each Costean

M grained slighty crossbedded light grey (N7) to very light grey (N8) minor pale brown (5YR 5/2) on joint planes

Analysis of Quartzite samples by XRF at Comalco Bell Bay. Samples marked 'a' are duplicated samples analysed by A.C.I. Sydney. by XRF.

Interval	Ca O	Al_2O_3	Fe_2O_3	Mg O	Na_2O	T_1O_2	P_2O_5	K_2O	LO$_1$ (By difference)	S_1O_2		
Limit of Detection	0·005	0·013	0·005	0·011		0·007		0·01				
0 1	<0·001	1·416	0·047	0·102		0·100		0·383				
0 1 'a'	<0·01	2·3	0·040	0·16	<0·01	0·11		0·51				
1 2	0·001	1·797	0·106	0·189		0·085		0·532				
2 3	0·003	1·149	0·045	0·126		0·059		0·329				
3 4	0·001	1·135	0·087	0·107		0·058		0·403				
3 4 'a'	<0·01	1·1	0·042	0·13	<0·01	0·036		0·25				
4 5	0·001	1·979	0·063	0·168		0·064	0·008	0·728	0·29			
5 6	0·011	1·586	0·461	0·440		0·067		0·200				
6 7	0·027	3·763	0·332	0·490		0·175		1·081				
7 8	0·009	0·933	0·545	0·270		0·116		0·171				
8 9	0·004	2·003	0·196	0·243		0·098		0·451				
8 9 'a'	<0·01	1·90	0·26	0·26	<0·01	0·88	0·005	0·17	0·27			

274073

072

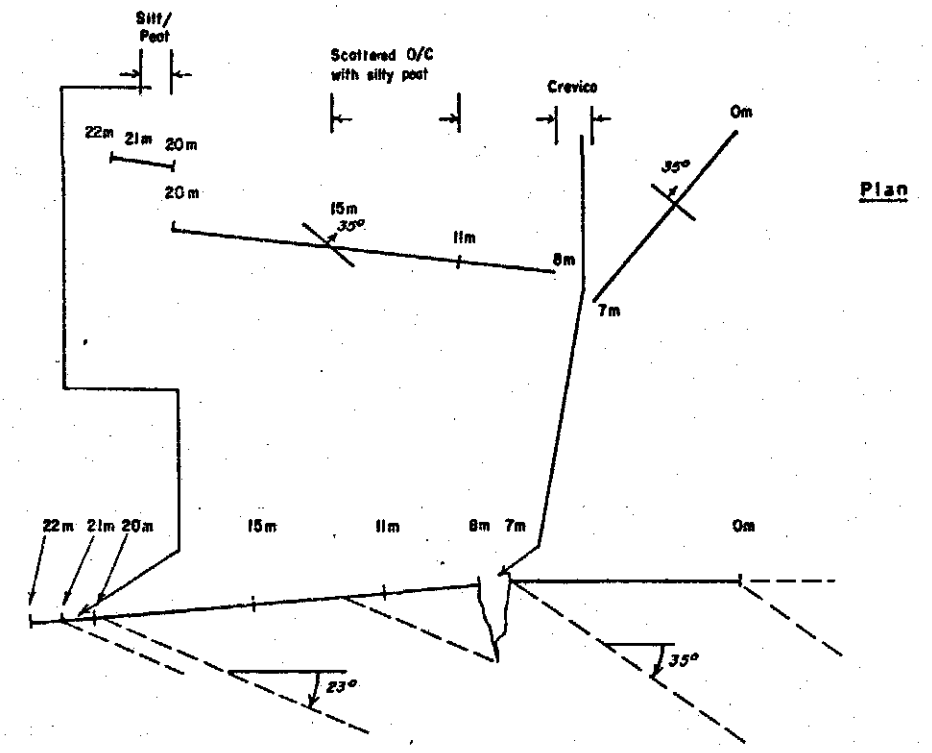
CAPE SORELL—SILICA . TASMANIA.

Costean:- C 4
Area :- West Grandfathers
Scale :- 1 cm = 2 m (1:200)

T.N M.N
13°

Note: LOI and P_2O_5 values determined by normal chemical methods
Colour code (N8) etc.) based on "Rock Colour Chart" distributed by the Geological Society of America

5 cm



Section with apparent dips indicated along ℄ of each Costean

Light grey (N7) and pinkish grey (5yr 8/1) medium grained quartzite with crossbedding and minor rutile on cross beds

Analysis of Quartzite samples by XRF at Comalco Bell Bay. Samples marked 'a' are duplicated samples analysed by A.C.I. Sydney. by XRF.

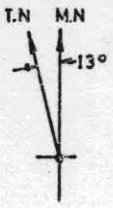
Interval	CaO	Al_2O_3	Fe_2O_3	MgO	Na_2O	TiO_2	P_2O_5	K_2O	LOI (By difference)	SiO_2		
Limit of Detection	0·005	0·013	0·005	0·011		0·007		0·01				
0 - 1	<·001	1·106	0·028	0·134		0·072		0·317				
0 - 1a	<·010	1·120	0·097	0·200	<·010	0·066		0·200				
1 - 2	<·001	0·817	0·073	0·111		0·051		0·131				
2 - 3	0·002	0·955	0·164	0·241		0·077		0·134				
3 - 4	<·001	0·881	0·085	0·120		0·052		0·110				
4 - 5	0·004	0·878	0·228	0·232		0·049	0·002	0·118	·19			
4 - 5a	<·010	1·300	0·340	0·390	<·010	0·081		0·090				
5 - 6	<·001	1·015	0·032	0·105		0·047		0·305				
6 - 7	<·001	0·527	0·146	0·166		0·030		0·074				
7 - 8			NOT	SAMPLED								
8 - 9	0·002	1·124	0·217	0·191		0·119		0·207				
9 - 10	0·001	0·847	0·215	0·171		0·066	0·003	0·081	·20			
9 - 10a	<·010	0·500	0·094	0·120	<·010	0·080		0·070				
10 - 11	<·001	1·218	0·145	0·128		0·083		0·084				
11 - 12												
12 - 13			NOT	SAMPLED								
13 - 14												
14 - 15												
15 - 16	<·001	1·443	0·064	0·096		0·036		0·097				
16 - 17	0·003	1·182	0·065	0·159		0·103		0·315				
17 - 18	<·001	1·200	0·036	0·157		0·079		0·301				
18 - 19	0·004	1·401	0·187	0·232		0·109		0·288				
19 - 20	0·001	0·850	0·157	0·145		0·052		0·223	·21			
19 - 20a	<·010	1·260	0·180	0·250	<·010	0·050		0·170				
20 - 21			NOT	SAMPLED								
21 - 22	0·001	1·051	0·079	0·176		0·053		0·276				

274074

073

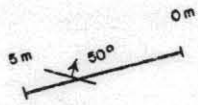
CAPE SORELL — SILICA . TASMANIA.

Costean:- C5-1,2&3
Area :- W. Grandfathers
Scale :- 1cm = 2m (or 1:200)



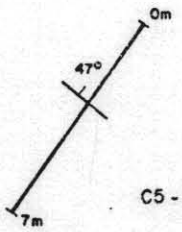
C5 - 1

Note: LOI and P_2O_5 values determined by normal chemical methods
Colour code ((N8) etc.) based on "Rock Colour Chart" distributed by the Geological Society of America



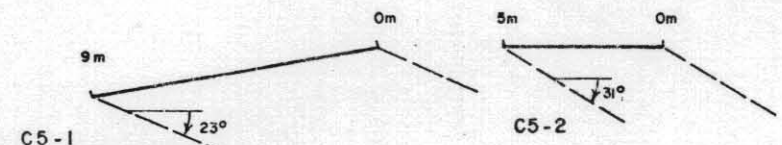
5 cm

C5 - 2



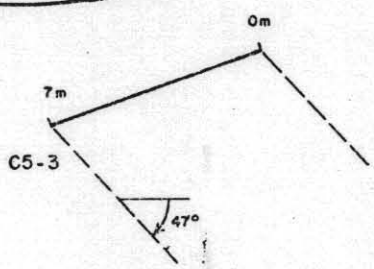
Plan

C5 - 3



C5 - 1

C5 - 2



C5 - 3

Section with apparent dips indicated along ℄ of each Costean

C5 - 1 Medium grained, very light grey (N8) to light grey (N7) quartzite with minor rutile on some crossbeds

C5 - 2&3 Medium to coarse grained, light grey (N7) with some pinkish grey (5 yr 8/1) quartzite. Crossbedded

Analysis of Quartzite samples by XRF at Comalco Bell Bay.

Interval	CaO	Al_2O_3	Fe_2O_3	MgO	Na_2O	TiO_2	P_2O_5	K_2O	LOI (By difference)	SiO_2		
Limit of Detection	0·005	0·013	0·005	0·011		0·007		0·01				
C5-1												
0 - 1	0·015	0·974	0·326	0·373	0·088	0·090		0·069				
1 - 2	0·006	0·948	0·193	0·281	0·020	0·026		0·219				
2 - 3	0·011	0·923	0·275	0·334	0·105	0·160	0·004	0·478	·20			
3 - 4	0·012	0·875	0·077	0·146	0·052	0·041		0·261				
4 - 5	0·013	0·717	0·061	0·150	0·034	0·037		0·209				
5 - 6	0·012	1·725	0·132	0·238	0·071	0·070		0·574				
6 - 7	0·007	0·706	0·204	0·214	0·028	0·030		0·110				
7 - 8	0·012	1·217	0·266	0·150	0·029	0·068		0·105				
8 - 9	0·005	1·228	0·279	0·253	0·080	0·072		0·153	·12			
C5-2												
0 - 1	0·009	1·884	0·163	0·241	0·021	0·092		0·684				
1 - 2	0·003	1·701	0·131	0·228	0·014	0·068		0·620				
2 - 3	0·009	0·871	0·161	0·141	‹ 001	0·074		0·221				
3 - 4	0·008	3·410	0·302	0·422	0·072	0·094		1·104				
4 - 5	0·004	1·318	0·108	0·162	0·038	0·039	0·0045	0·333	·13			
C5-3												
0 - 1	0·011	2·082	0·799	0·497	0·092	0·101		0·337				
1 - 2	0·001	3·245	0·198	0·541	0·034	0·273		1·152				
2 - 3	0·004	2·331	0·176	0·589	0·029	0·086		0·782				
3 - 4	0·005	2·639	0·303	1·399	0·083	0·118		0·775				
4 - 5	0·002	2·355	0·237	1·011	0·066	0·094	0·0055	0·740	·34			
5 - 6	0·007	2·448	0·426	0·550	0·130	0·138		0·276				
6 - 7	0·008	1·765	0·219	0·260	0·051	0·081		0·186				

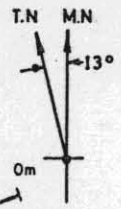
274075

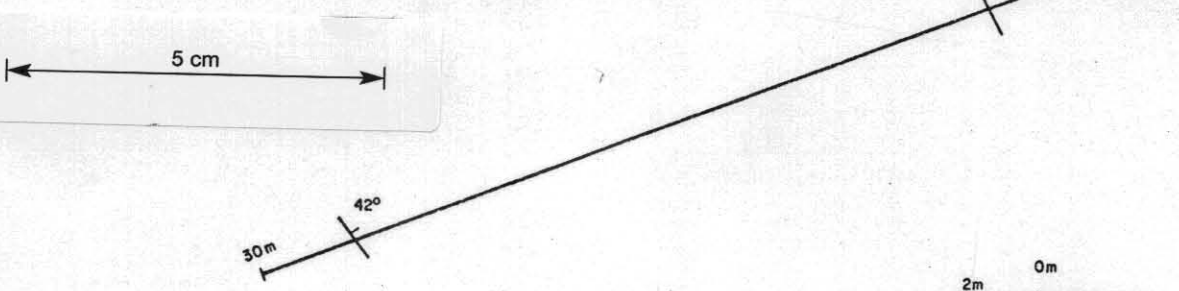
074

CAPE SORELL — SILICA . TASMANIA.

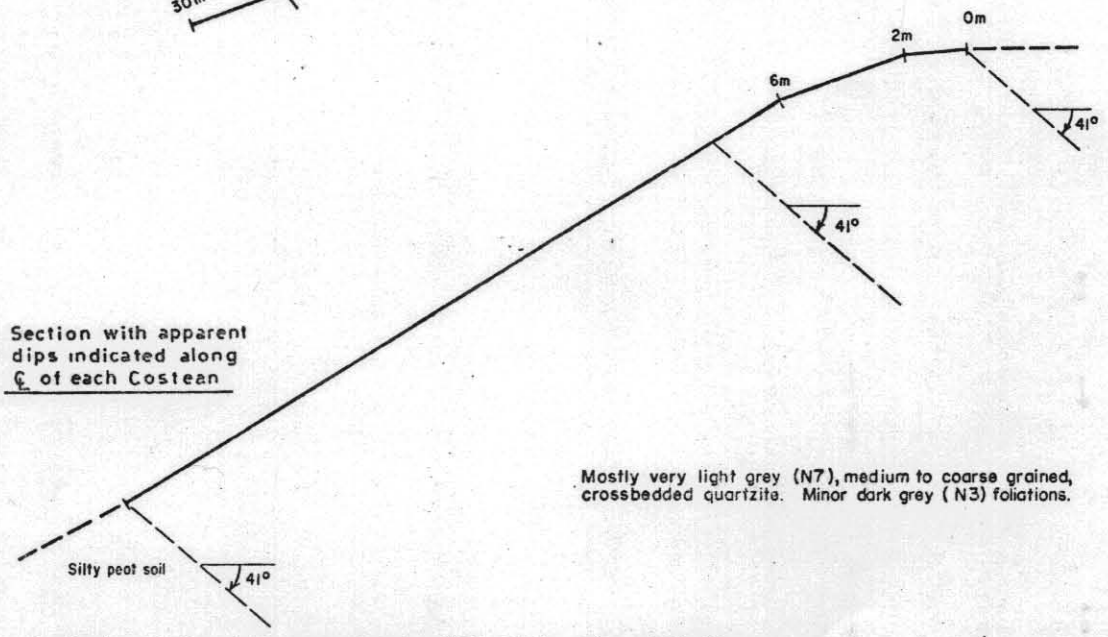
Costean:- C6 - 1
Area :- East Grandfathers
Scale :- 1 cm = 2m (1 : 200)

Note: LOI and P_2O_5 values determined by normal chemical methods
Colour code ((N8) etc.) based on "Rock Colour Chart" distribufed by the Geological Society of America





Plan



Section with apparent dips indicated along ℄ of each Costean

Mostly very light grey (N7), medium to coarse grained, crossbedded quartzite. Minor dark grey (N3) foliations.

Analysis of Quartzite samples by XRF at Comalco Bell Bay.

Interval	$Ca.O$	Al_2O_3	Fe_2O_3	MgO	Na_2O	T_1O_2	P_2O_5	K_2O	By difference LO_1	By difference S_1O_2		
Limit of Detection	0·005	0·013	0·005	0·011		0·007		0·01				
0 - 1	0·004	1·461	0·150	0·184	‹·001	0·107		0·408				
1 - 2	0·002	0·873	0·207	0·259	‹·001	0·028		0·135				
2 - 3	0·003	0·763	0·209	0·205	‹·001	0·063		0·127				
3 - 4	0·006	1·214	0·316	0·257	‹·001	0·103		0·268	·22			
4 - 5	0·003	1·890	0·320	0·345	0·068	0·094		0·083				
5 - 6	0·002	1·908	0·320	0·292	0·083	0·143		0·063				
6 - 7	0·003	1·551	0·255	0·217	0·025	0·081		0·042				
7 - 8	0·002	0·684	0·126	0·106	‹·001	0·065		0·067				
8 - 9	‹·001	1·760	0·065	0·139	‹·001	0·052	0·007	0·546	·15			
9 - 10	0·004	1·245	0·101	0·113	‹·001	0·046		0·447				
10 - 11	‹·001	0·917	0·068	0·119	‹·001	0·030		0·279				
11 - 12	‹·001	0·860	0·096	0·103	‹·001	0·035		0·261				
12 - 13	‹·001	0·864	0·034	0·069	‹·001	0·021		0·260				
13 - 14	‹·001	1·349	0·103	0·169	‹·001	0·052		0·348				
14 - 15	‹·001	0·924	0·083	0·141	‹·001	0·030		0·281	·12			
15 - 16	‹·001	1·289	0·044	0·116	‹·001	0·083	0·005	0·447	·12			
16 - 17	0·004	2·362	0·174	0·254	‹·001	0·041		0·659				
17 - 18	‹·001	1·146	0·062	0·126	‹·001	0·052		0·248				
18 - 19	0·002	1·457	0·297	0·233	‹·001	0·147		0·408				
19 - 20	‹·001	2·824	0·127	0·353	‹·001	0·090		0·834				
20 - 21	0·009	1·199	0·341	0·356	‹·001	0·081	0·0045	0·183	·19	·13		
21 - 22	0·003	1·357	0·127	0·241	‹·001	0·074		0·482				
22 - 23	0·005	2·192	0·221	0·479	0·048	0·076		0·535				
23 - 24	0·002	3·813	0·165	0·479	0·012	0·134		1·183				
24 - 25	0·004	1·976	0·171	0·326	0·029	0·099		0·501				
25 - 26	0·003	1·175	0·131	0·145	‹·001	0·079		0·355				
26 - 27	0·005	2·459	0·281	0·374	0·031	0·151	0·005	0·570	·28	·16		
27 - 28	0·002	1·113	0·198	0·215	‹·001	0·065		0·282				
28 - 29	0·006	1·327	0·329	0·232	‹·001	0·165		0·159				
29 - 30	0·001	1·745	0·235	0·272	0·006	0·118	0·004	0·354	·17			

075

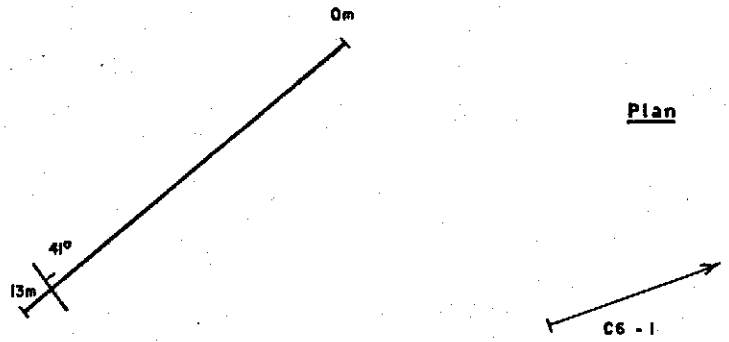
CAPE SORELL—SILICA . TASMANIA.

Costean:- C6 - 2
Area :- East Grandfathers
Scale :- 1 cm = 2 m (1 : 200)

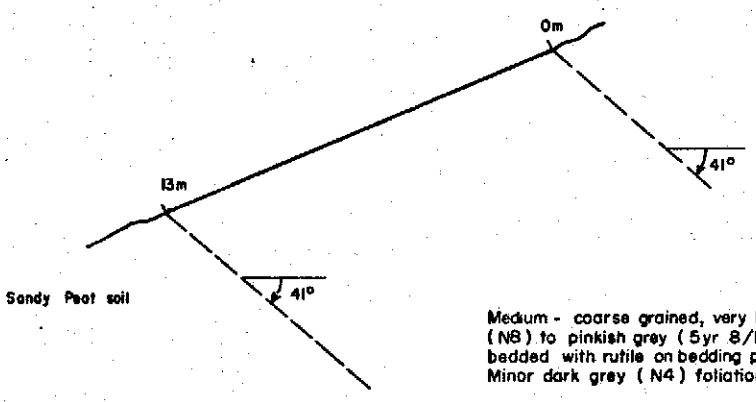
T.N M.N
13°

Note: LOI and P_2O_5 values determined by normal chemical methods
Colour code (N8) etc.) based on "Rock Colour Chart" distributed by the Geological Society of America

5 cm



Plan



Section with apparent dips indicated along ℄ of each Costean

Medium - coarse grained, very light grey (N8) to pinkish grey (5yr 8/1). Cross bedded with rutile on bedding planes. Minor dark grey (N4) foliations.

Analysis of Quartzite samples by XRF at Comalco Bell Bay.

Interval	CaO	Al_2O_3	Fe_2O_3	MgO	Na_2O	T_1O_2	P_2O_5	K_2O	LOI	By difference S_1O_2		
Limit of Detection	0·005	0·013	0·005	0·011		0·007		0·01				
0 - 1	0·003	1·974	0·223	0·180	<·001	0·156	0·005	0·367	·17			
1 - 2	0·001	0·919	0·159	0·100	<·001	0·032		0·042				
2 - 3	<·001	1·095	0·284	0·221	0·005	0·035		0·031				
3 - 4	<·001	0·648	0·160	0·156	<·001	0·026		0·140				
4 - 5	<·001	2·067	0·142	0·202	<·001	0·125		0·724				
5 - 6			NO	SAMPLE								
6 - 7	0·006	1·545	0·441	0·431	0·035	0·132	0·006	0·252	·22			
7 - 8	<·001	1·078	0·126	0·216	<·001	0·024		0·336				
8 - 9			NO	SAMPLE								
9 - 10			NO	SAMPLE								
10 - 11			NO	SAMPLE								
11 - 12	0·004	0·728	0·197	0·159	0·001	0·039		0·114				
12 - 13	<·001	1·631	0·134	0·246	<·001	0·048		0·436				

274077

076

CAPE SORELL—SILICA . TASMANIA.

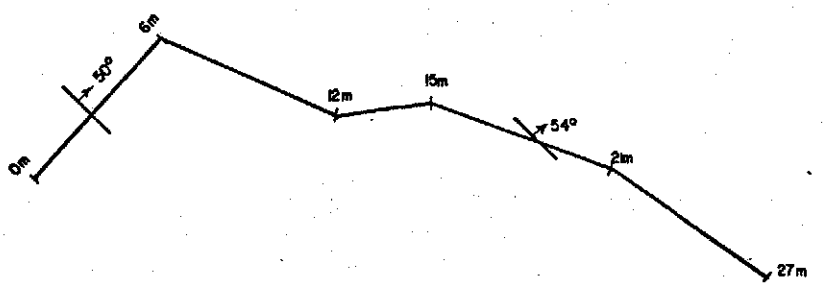
Costean:- C7
Area :- East Grandfathers
Scale :- 1 cm = 2 m (1 : 200)

Note: LOI and P_2O_5 values determined by normal chemical methods

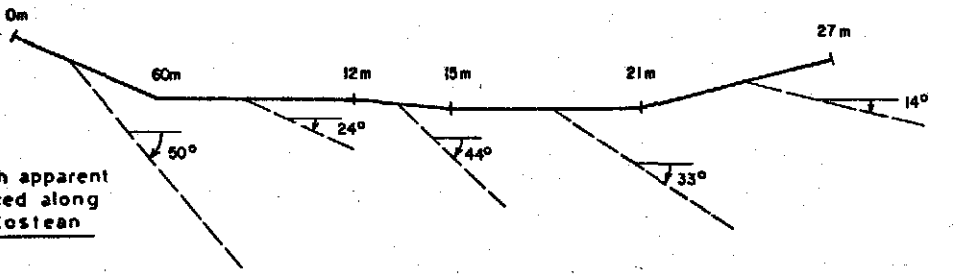
Colour code (N8) etc.) based on "Rock Colour Chart" distributed by the *Geological Society of America*.

T.N M.N 13°

5 cm



Plan



Section with apparent dips indicated along ℄ of each Costean

Medium to coarse grained light grey (N7) to pinkish grey (5yr 8/1) quartzite with crossbedding. Light brown (5yr 5/6) on some joint planes

Analysis of Quartzite samples by XRF at Comalco Bell Bay.

Interval	CaO	Al_2O_3	Fe_2O_3	MgO	Na_2O	T_1O_2	P_2O_5	K_2O	LOI	S_1O_2	By difference
Limit of Detection	0·005	0·013	0·005	0·011		0·007		0·01			
0 - 1	0·003	1·987	0·258	0·237	< ·001	0·079	0·011	0·615	·24		
1 - 2	0·002	2·172	0·228	0·390	0·006	0·072		0·668			
2 - 3	0·002	0·921	0·384	0·163	< ·001	0·035		0·155			
3 - 4	< ·001	1·415	0·265	0·134	< ·001	0·081		0·341			
4 - 5	0·001	2·047	0·351	0·276	0·015	0·090		0·706			
5 - 6	< ·001	2·137	0·222	0·309	< ·001	0·114		0·668			
6 - 7	0·003	6·960	0·498	0·321	0·049	0·306	0·014	2·435	·71		
7 - 8	0·001	2·646	0·228	0·162	0·042	0·176		0·853			
8 - 9	0·002	1·584	0·145	0·125	< ·001	0·090		0·483			
9 - 10	< ·001	3·273	0·143	0·206	< ·001	0·092		1·237			
10 - 11	0·004	2·758	0·132	0·299	0·100	0·070	0·0032	0·747	·22		
11 - 12	0·007	1·758	0·162	0·119	0·069	0·085		0·384			
12 - 13	0·001	3·668	0·321	0·563	0·065	0·187		0·720			
13 - 14	0·004	1·457	0·309	0·221	0·026	0·092	0·0075	0·661	·35		
14 - 15	0·002	2·104	0·148	0·331	0·032	0·132		0·565			
15 - 16	0·009	1·087	0·425	0·240	< ·001	0·136		0·189			
16 - 17	0·002	1·642	0·206	0·204	0·005	0·125		0·472			
17 - 18	0·006	1·172	0·436	0·177	0·025	0·061		0·234			
18 - 19	0·004	0·888	0·243	0·159	< ·001	0·057		0·109			
19 - 20	0·001	1·168	0·351	0·227	< ·001	0·128		0·156			
20 - 21	< ·001	0·739	0·340	0·145	< ·001	0·019	0·0074	0·071	·13		
21 - 22	< ·001	0·695	0·573	0·092	< ·001	0·046		0·084			
22 - 23	0·002	0·904	0·452	0·180	0·009	0·059		0·112			
23 - 24	0·004	1·047	0·354	0·173	< ·001	0·079		0·113			
24 - 25	< ·001	1·175	0·336	0·144	< ·001	0·037		0·263			
25 - 26	0·001	1·545	0·389	0·190	< ·001	0·110		0·168			
26 - 27	0·004	1·135	0·478	0·160	< ·001	0·061	0·007	0·102	·16		

2740?8

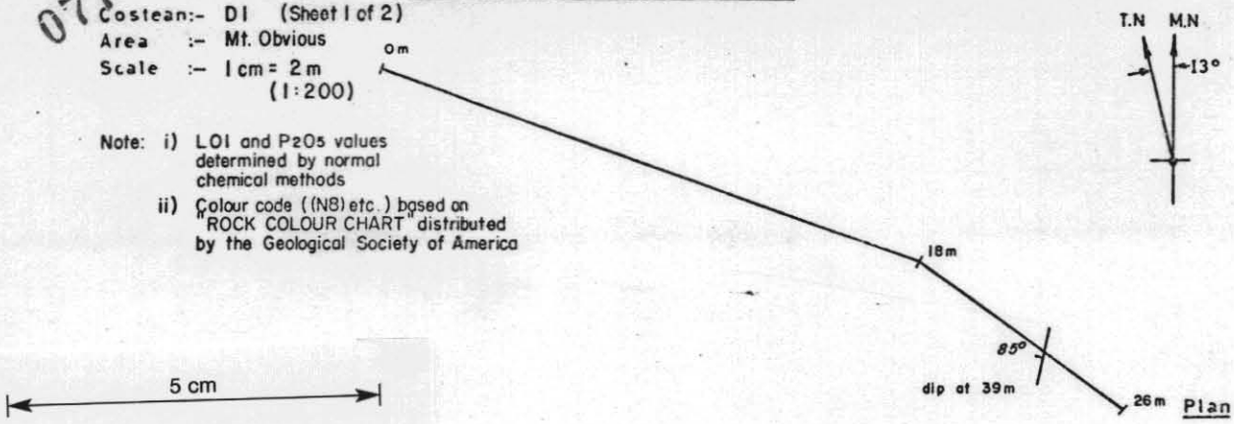
077

CAPE SORELL — SILICA . TASMANIA.

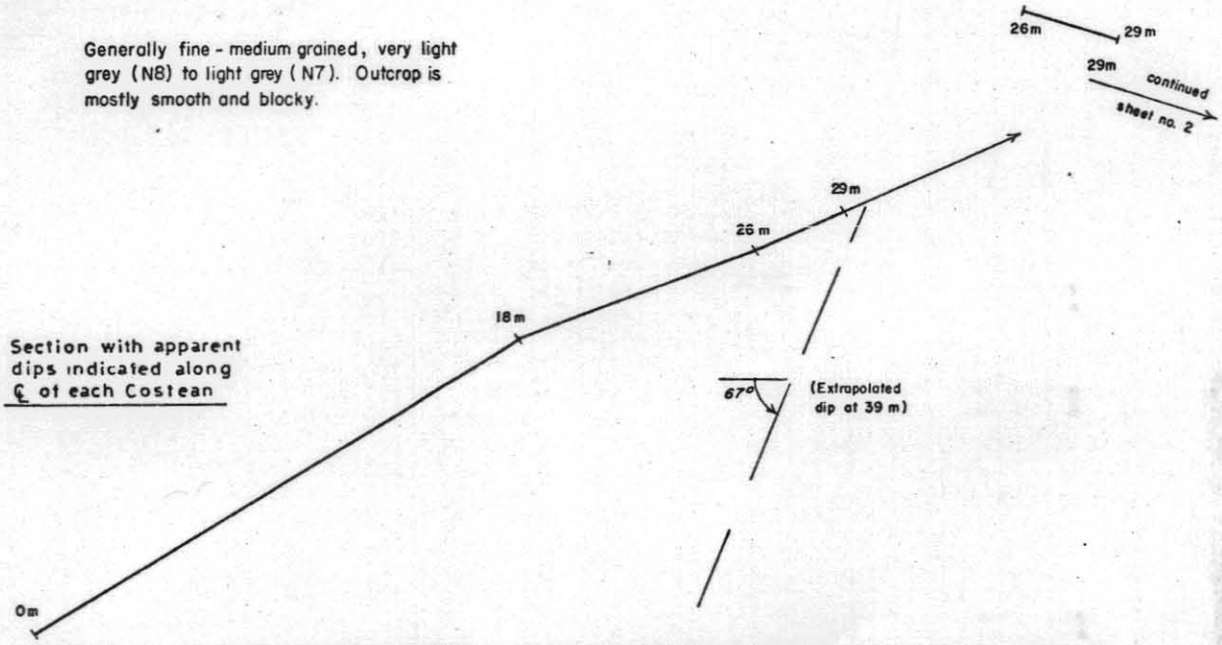
Costean:- D1 (Sheet 1 of 2)
Area :- Mt. Obvious
Scale :- 1 cm = 2 m (1:200)

Note: i) LOI and P_2O_5 values determined by normal chemical methods

ii) Colour code ((N8) etc.) based on "ROCK COLOUR CHART" distributed by the Geological Society of America



Generally fine - medium grained, very light grey (N8) to light grey (N7). Outcrop is mostly smooth and blocky.



Section with apparent dips indicated along ℄ of each Costean

Analysis of Quartzite samples by XRF at Comalco Bell Bay. Samples marked 'a' are duplicated samples analysed by A.C.I. Sydney. by XRF. Samples marked b were analysed by AMDEL Frewville, S.A.

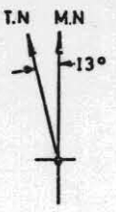
Interval	CaO	Al_2O_3	Fe_2O_3	MgO	Na_2O	Ti_2O	P_2O_5	K_2O	LOI (By difference)	SiO_2	Cr_2O_3
Limit of Detection	0·005	0·013	0·005	0·011		0·007		0·01			
0 - 1	‹·005	0·128	0·029	0·127	‹·005	0·008		0·011			
0 - 1a	‹·010	0·080	0·014	‹·010	‹·010	0·027	0·0021	‹·010	·12	99·76	‹·001
0 - 1b	-	800 ppm	300 ppm	500 ppm							
1 - 2	‹·005	0·260	0·059	0·214	‹·005	0·006		0·008			
2 - 3	‹·005	0·300	0·042	0·141	‹·005	0·017		0·030			
3 - 4	‹·005	0·202	0·040	0·154	‹·005	0·015	0·002	0·021	·11		
4 - 5	‹·005	0·195	0·035	0·245	‹·005	0·015		0·096			
4 - 5a	‹·010	0·210	0·023	0·110	‹·010	0·027	0·0026	0·010	·16	99·46	‹·001
4 - 5b	-	1000ppm	500ppm	800ppm							
5 - 6	‹·005	0·146	0·049	0·245	‹·005	‹·005		0·113			
6 - 7	‹·005	0·249	0·007	0·037	‹·005	0·010		0·099			
7 - 8	‹·005	0·331	0·066	0·407	‹·005	0·010	0·0025	0·099	·14		
8 - 9	‹·005	0·329	0·052	0·248	‹·005	0·015		0·081			
9 - 10	‹·005	0·202	0·057	0·239	‹·005	0·005		0·043			
9 - 10a	‹·010	0·290	0·060	0·310	‹·010	0·022	0·0026	0·010	·14	99·16	‹·001
9 - 10b	-	600 ppm	300 ppm	500 ppm							
10 - 11	‹·005	0·222	0·041	0·041	‹·005	‹·005		0·020			
11 - 12	‹·005	0·208	0·026	0·089	‹·005	0·017	0·0027	0·063	·07		
12 - 13	‹·005	0·113	0·009	0·026	‹·005	0·013		0·037			
13 - 14	‹·005	0·235	0·034	0·124	‹·005	‹·005		0·058			
14 - 15	‹·005	0·173	0·009	‹·005	‹·005	0·013	0·0035	0·053	·29		
14 - 15a	‹·010	0·130	0·015	0·020	‹·010	0·024	0·0019	0·020	·16	99·63	‹·001
14 - 15b	-	700 ppm	300 ppm	500 ppm							
15 - 16	‹·005	0·070	0·025	0·057	‹·005	0·008		0·029			
16 - 17	‹·005	0·175	0·011	0·025	‹·005	‹·005		0·065			
17 - 18	‹·005	0·057	‹·005	‹·005	‹·005	‹·005		0·035			
18 - 19	‹·005	0·026	‹·005	0·007	‹·005	‹·005		0·025			
19 - 20	‹·005	0·075	‹·005	‹·005	‹·005	‹·005		0·045			
19 - 20a	‹·010	0·094	0·012	‹·010	‹·010	0·014	0·0023	0·020	·11	99·75	‹·001
19 - 20b	-	300 ppm	300 ppm	200 ppm							
20 - 21	‹·005	0·302	0·063	0·183	‹·005	‹·005		0·082			
21 - 22	‹·005	0·277	0·012	0·016	‹·005	0·006	0·005	0·092	·09		
22 - 23	‹·005	0·772	0·019	0·038	‹·005	0·026		0·262			
23 - 24	‹·005	0·605	0·021	0·029	‹·005	0·019		0·221			
24 - 25	‹·005	1·026	0·028	0·046	‹·005	0·026		0·383			
24 - 25a	‹·010	0·950	0·068	0·270	‹·010	0·038	0·0037	0·240	·21	98·20	‹·001
24 - 25b	-	3000ppm	500 ppm	1000 ppm							
25 - 26	‹·005	0·988	0·027	0·041	‹·005	0·035		0·342			
26 - 27	‹·005	0·854	0·019	0·018	‹·005	0·013		0·212			
27 - 28	‹·005	0·997	0·033	0·053	‹·005	0·028		0·323			
28 - 29	‹·005	0·647	0·026	0·021	‹·005	‹·005		0·230			

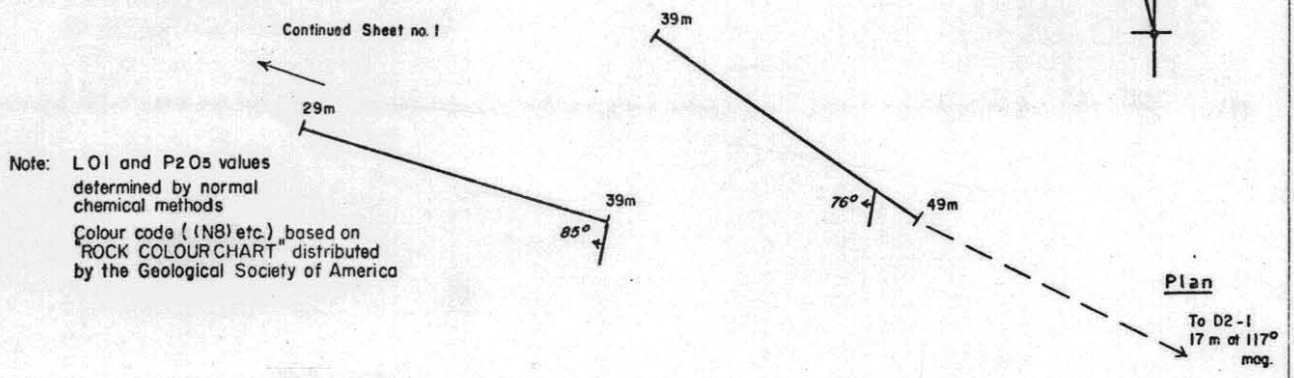
073

274079

CAPE SORELL—SILICA . TASMANIA.

Costean:- D 1 (Sheet 2 of 2)
Area :- Mt. Obvious
Scale :- 1 cm = 2m (1:200)





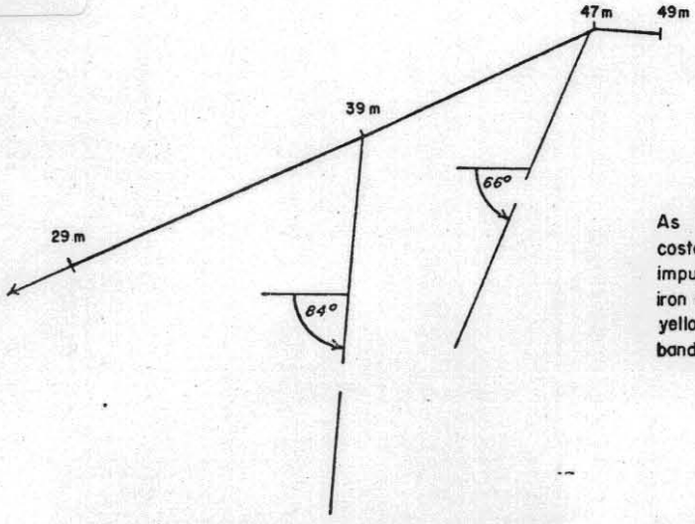
Plan

To D2-1
17 m at 117° mag.

Note: LOI and P_2O_5 values determined by normal chemical methods

Colour code ((N8) etc.) based on "ROCK COLOUR CHART" distributed by the Geological Society of America

5 cm



Section with apparent dips indicated along ℄ of each Costean

As with the lower part of costean, (sheet 1), but becoming impure from 35 metres. Minor iron staining and pale greenish yellow (10YR 8/2) chloritic bands.

Analysis of Quartzite samples by XRF at Comalco Bell Bay. Samples marked 'a' are duplicated samples analysed by A.C.I. Sydney. by XRF. Samples marked b were analysed by AMDEL Frewville, S.A.

Interval	CaO	Al_2O_3	Fe_2O_3	MgO	Na_2O	TiO_2	P_2O_5	K_2O	LOI	SiO_2 By difference	Cr_2O_3
Limit of Detection	0·005	0·013	0·005	0·011		0·007		0·01			
29 - 30	‹·005	1·188	0·037	0·046	‹·005	0·030	0·005	0·418	·13		
29 - 30a	‹·010	0·940	0·033	0·030	‹·010	0·038	0·0036	0·260	·21	98·50	‹·001
29 - 30b	200 ppm	3000 ppm	500 ppm	300 ppm							
30 - 31	‹·005	0·856	0·023	0·024	‹·005	0·010		0·315			
31 - 32	‹·005	1·079	0·030	0·047	‹·005	0·015		0·378			
32 - 33	‹·005	0·972	0·041	0·106	‹·005	0·008		0·314			
33 - 34	‹·005	1·464	0·018	0·055	‹·005	0·008		0·451			
34 - 35	‹·005	1·108	0·025	0·057	‹·005	0·026	0·004	‹·005	·18		
34 - 35a	‹·010	0·840	0·020	0·040	0·010	0·033	0·0036	0·230	·19	98·60	0·001
34 - 35b	100 ppm	3000 ppm	300 ppm	300 ppm							
35 - 36	‹·005	0·963	0·067	0·218	‹·005	0·021		0·305			
36 - 37	‹·005	1·248	0·199	1·019	‹·005	0·026		0·273			
37 - 38	‹·005	1·117	0·148	0·636	0·037	0·017		0·264			
38 - 39	‹·005	2·513	0·320	1·283	0·039	0·070		0·739			
39 - 40	‹·005	1·037	0·239	1·033	0·024	0·028	0·002	0·191	·35		
39 - 40a	‹·010	0·890	0·190	0·870	0·010	0·010	0·0027	0·150	·21	97·60	0·001
39 - 40b	100 ppm	3000 ppm	1000 ppm	2000 ppm							
40 - 41	‹·005	1·159	0·257	1·130	0·032	0·028	‹·001	0·231			
41 - 42	‹·005	1·702	0·215	0·777	0·012	0·035		0·411			
42 - 43	‹·005	1·584	0·311	1·311	0·015	0·063		0·326			
43 - 44	‹·0	2·116	0·277	1·052	‹·005	0·057		0·502			
44 - 45	‹·005	1·395	0·265	0·827	0·026	0·039	0·002	0·363	·33		
44 - 45a	‹·010	1·000	0·170	0·620	0·010	0·036	0·0048	0·210	·35	97·60	‹·001
44 - 45b	-	3000 ppm	800 ppm	1000 ppm							
45 - 46	‹·005	1·424	0·152	0·444	0·044	0·024		0·437			
46 - 47	‹·005	0·843	0·232	0·793	0·034	0·006		0·177			
47 - 48	‹·005	2·455	0·488	1·475	0·021	0·074		0·544			
48 - 49	‹·005	2·007	0·439	1·377	0·026	0·043	0·002	0·437	·90		

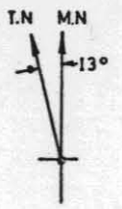
274080

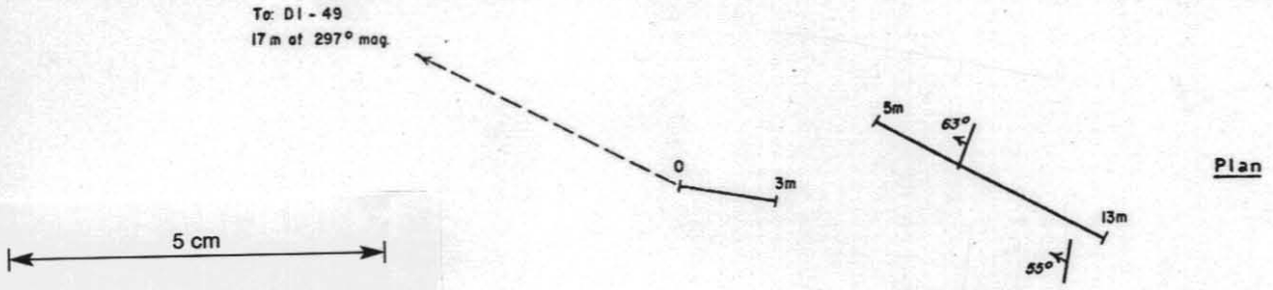
079

CAPE SORELL—SILICA . TASMANIA.

Costean:- D2
Area :- Mt. Obvious
Scale :- 1cm = 2m (1:200)

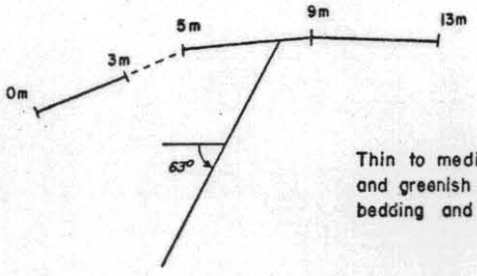
Note: LOI and P_2O_5 values determined by normal chemical methods
Colour code based on "Rock Colour Chart" distributed by the Geological Society of America





Plan

Section with apparent dips indicated along ℄ of each Costean



Thin to medium bedded, very light grey (5YR 8/1) and greenish grey (5 GY 6/1) quartzite cross - bedding and some chloritic bands

Analysis of Quartzite samples by XRF at Comalco Bell Bay. Samples marked 'a' are duplicated samples analysed by A.C.I. Sydney. by XRF. Samples marked b were analysed by AMDEL, Frewville S.A. By difference

Interval	CaO	Al_2O_3	Fe_2O_3	MgO	Na_2O	T_1O_2	P_2O_5	K_2O	LOI	SiO_2	Cr_2O_3	
Limit of Detection	0·005	0·013	0·005	0·011		0·007		0·01				
0 - 1	‹·005	3·265	0·166	0·306	‹·005	0·147		1·106				
0 - 1 a	‹·010	2·900	0·240	0·420	0·010	0·120	0·0062	0·850	·53	95·00	0·001	
0 - 1 b	-	10,000 ppm	800 ppm	800 ppm								
1 - 2	‹·005	0·582	0·694	1·009	‹·005	0·021		0·073				
2 - 3	‹·005	1·408	0·078	0·121	‹·005	0·068		0·481				
3 - 4			NO		SAMPLE							
4 - 5			NO		SAMPLE							
5 - 6	‹·005	0·983	0·034	0·073	‹·005	0·030	‹·001	0·348	·14			
6 - 7	‹·005	1·745	0·056	0·117	‹·005	0·041		0·637				
7 - 8	‹·005	1·894	0·051	0·112	‹·005	0·039		0·621				
8 - 9	‹·005	0·707	0·021	0·032	‹·005	0·017		0·198				
9 - 10	‹·005	1·152	0·038	0·049	‹·005	0·046		0·437				
9 - 10 a	‹·010	0·820	0·029	0·040	‹·005	0·036	0·0019	0·220	·17	98·70	‹·001	
9 - 10 b	-	0·250	0·030	0·030								
10 - 11	‹·005	1·698	0·059	0·082	‹·005	0·063	‹·001	0·619	·22			
11 - 12	‹·005	1·774	0·055	0·093	‹·005	0·041		0·579				
11 - 12 a	‹·010	1·500	0·055	0·080	0·010	0·074	0·0074	0·400	·34	97·50	‹·001	
11 - 12 b	-	0·300	0·050	0·050								
12 - 13	‹·005	0·770	0·026	0·045	‹·005	0·017		0·210				

080

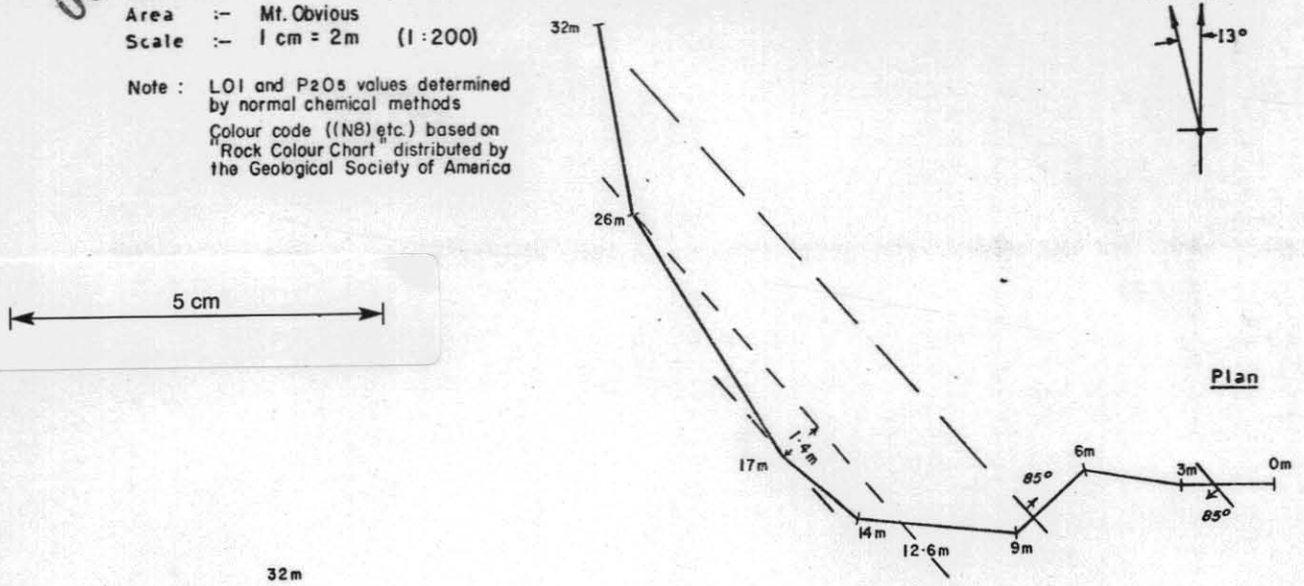
CAPE SORELL—SILICA . TASMANIA.

274081

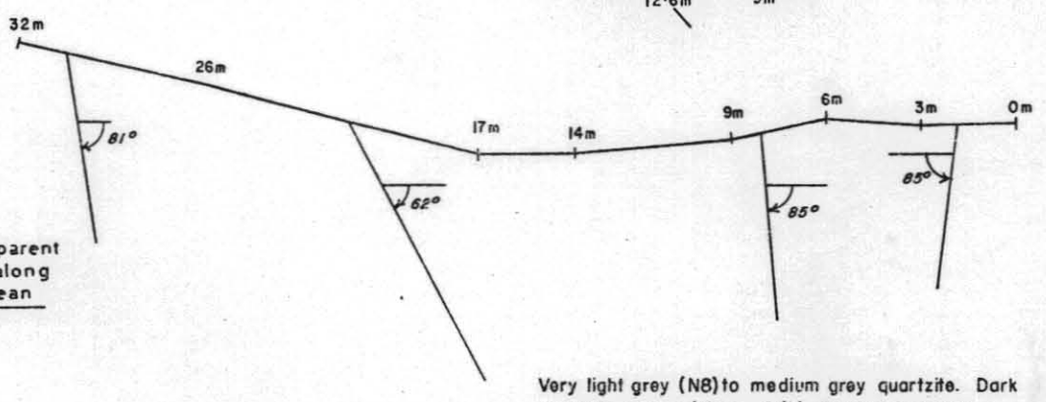
Costean:- D 3
Area :- Mt. Obvious
Scale :- 1 cm = 2m (1:200)

Note : LOI and P_2O_5 values determined by normal chemical methods

Colour code ((N8) etc.) based on "Rock Colour Chart" distributed by the Geological Society of America



Plan



Section with apparent dips indicated along ℄ of each Costean

Very light grey (N8) to medium grey quartzite. Dark yellowish orange (10YR 6/6) staining on joints.

Analysis of Quartzite samples by XRF at Comalco Bell Bay. Samples marked 'a' are duplicated samples analysed by A.C.I. Sydney. by XRF. Samples marked b were analysed by AMDEL, Frewville. S.A.

Interval	CaO	Al_2O_3	Fe_2O_3	MgO	Na_2O	T_1O_2	P_2O_5	K_2O	LOI	SiO_2	Cr_2O_3
Limit of Detection	0·005	0·013	0·005	0·011		0·007		0·01	By difference		
0 - 1	‹·005	1·669	0·110	0·447	‹·005	0·068		0·498			
0 - 1a	‹·010	0·770	0·033	0·130	‹·010	0·040	0·0029	0·170	·28	98·60	‹·001
0 - 1b	-	0·800	0·050	0·100							
1 - 2	‹·005	1·391	0·501	1·850	‹·005	0·026		0·232			
2 - 3	‹·005	2·337	0·168	0·720	‹·005	0·076	0·002	0·426	·39		
3 - 4	‹·005	1·711	0·110	0·527	‹·005	0·017		0·358			
4 - 5	‹·005	1·366	0·086	0·346	‹·005	0·059		0·414			
4 - 5a	‹·010	1·200	0·085	0·320	‹·010	0·038	0·0029	0·300	·28	97·70	‹·001
4 - 5b	-	0·300	0·050	0·100							
5 - 6	‹·005	2·101	0·091	0·276	‹·005	0·054		0·718			
6 - 7	‹·005	1·308	0·024	0·091	‹·005	0·048	‹·001	0·454			
7 - 8	‹·005	1·720	0·026	0·097	‹·005	0·030		0·526			
8 - 9	‹·005	2·297	0·030	0·123	‹·005	0·024		0·732			
9 - 10	‹·005	0·801	0·040	0·058	‹·005	‹·005		0·283			
9 - 10a	‹·010	1·100	0·044	0·060	‹·010	0·033	0·0041	0·280	·23	98·20	‹·001
9 - 10b	-	0·250	0·050	0·030							
10 - 11	‹·005	1·050	0·060	0·082	‹·005	0·028		0·344			
11 - 12	‹·005	1·600	0·107	0·088	‹·005	0·087		0·486			
12 - 13	‹·005	1·996	0·055	0·128	‹·005	0·039	0·005	0·607	·23		
13 - 14	‹·005	1·054	0·021	0·069	‹·005	0·046		0·401			
14 - 15	‹·005	0·794	0·074	0·248	‹·005	0·032		0·216			
14 - 15a	‹·010	0·810	0·070	0·210	0·010	0·090	0·0032	0·200	·26	98·30	0·001
14 - 15b	-	0·300	0·030	0·080							
15 - 16	‹·005	0·360	0·122	0·503	‹·005	0·006		0·056			
16 - 17	‹·005	0·309	0·163	0·684	‹·005	‹·005		0·029			
17 - 18	‹·005	0·344	0·257	0·825	‹·005	‹·005	0·035	0·016	·24		
18 - 19	0·009	0·781	0·222	0·655	‹·005	‹·005		0·018			
19 - 20	‹·005	0·224	0·171	0·541	‹·005	0·017		0·017			
19 - 20a	‹·010	0·280	0·120	0·420	‹·010	0·028	0·0026	0·010	·20	98·90	‹·001
19 - 20b	-	0·050	0·050	0·100							
20 - 21	‹·005	0·048	0·053	0·173	‹·005	0·006		0·018			
21 - 22	‹·005	0·358	0·075	0·231	‹·005	‹·005	0·003	0·010			
22 - 23	‹·005	0·113	0·027	0·090	‹·005	0·006	0·0035	0·027			
23 - 24	‹·005	0·264	0·009	0·019	‹·005	‹·005		0·067			
24 - 25	‹·005	0·122	0·006	0·010	‹·005	0·006		0·058			
24 - 25a	‹·010	0·200	0·012	‹·010	‹·010	0·016	0·0022	0·030	·14	99·60	‹·001
24 - 25b	-	0·030	0·050	0·010							
25 - 26	‹·005	0·151	0·078	0·214	‹·005	‹·005		0·036			
26 - 27	‹·005	0·302	0·019	0·077	‹·005	‹·005		0·103			
27 - 28	‹·005	0·182	0·060	0·270	‹·005	‹·005		0·029			
28 - 29	‹·005	0·155	0·033	0·126	‹·005	0·006		0·028			
29 - 30	‹·005	0·010	0·006	0·021	‹·005	‹·005		0·017			
29 - 30a	‹·010	0·050	0·013	‹·010	‹·010	0·016	0·0018	0·010	·15	99·76	‹·001
29 - 30b	-	0·020	0·020	0·020							
30 - 31	‹·005	0·135	0·029	0·102	‹·005	‹·005		0·024			
31 - 32	‹·005	0·086	0·006	0·007	‹·005	‹·005		0·045			

081

FARMHOUSE

MT. ANTILL

SOUTHERN OCEAN

EAST

GENERAL VIEW AT CAPE SORELL TO THE SOUTH

WEST

JANUARY, 1978

2740082

082

DETAILED VIEW TO THE SOUTH AT CAPE SORELL

274083

JANUARY, 1978.

AMG
348500E.
5326600N.

Cape Sorell

Lucas Point

Watts Hill

Prater Rock

West Breakwater

PILOT BAY

SOUTHERN OCEAN

TIDDY'S BEACH

Lagoon

Lagoon

Mt Antill

OUTER BAY

HELLS GATES

Entrance Island

EAST

MID.

WEST

OCEAN BEACH

Braddon Point

BACK CHANNEL

FRASER FLATS

KELLY CHANNEL

Bonnet Island

The Cap

BONNET BAY

Training Wall

Wellington Head 249'

AMG
353500E.
5323100N

Training Wall

Camp Point

CHANNEL BAY

Channel Hill 261'

105 LOWER
104 TOP
102-103 TOP

LEGEND

QUARTZITE SAMPLE
SAND SAMPLE
TRACK
LIGHTHOUSE
HOUSES

AMG REFERENCE POINTS ADDED

274084

5 cm

COMALCO LIMITED		78-1252R
CAPE SORELL. E.L. 1/71		6423
SAMPLE LOCATIONS.		Revision 2
COMPILED. I.D.P & B.F.B.	DRAWN BY M.M.W.	EXPLORATION DEP'T.
DATE. 11 – 5 – 1971	SCALE. 1 INCH = 830 FEET.	Nº TAS/C.S/71/2

TRAYS HELD IN LIBRARY 71-787

Cape Sorell
Watts Hill
Lucas Point
Prater Rock
West Breakwater
PILOT BAY
OUTER BAY
HELLS GATES
Entrance Island
TIDDY'S BEACH
SOUTHERN OCEAN
Lagoon
Lagoon
Mt Antill
OCEAN BEACH
Braddon Point
BACK CHANNEL
FRASER FLATS
Bonnet Island
The Cap
Training Wall
BONNET BAY
Wellington Head 249'
Training Wall
KELLY CHANNEL
Camp Point
CHANNEL BAY
Channel Hill 261'
Q

32 5000 E
26 06 11'
21
12'
28
29
13'
07
33 0000 E
14'
33 1000
80 7000 N
42°10'
06
80 5000 N
11'
04
12'
03
32 5000 E
02
13'
01
33 2000 E
04
12'
03
80 0000 N
14'
09
09
12'
28
29
13'
33 0000 E
14'
80 0000 N
31
33 2000 E
145°15'
33
80 5000 N
11'
02
13'
80 1000 N
326000 E
11'
21

LEGEND

GEOLOGICAL TREND LINE
DIP AND STRIKE ..... 50°
FAULT
" INFERRED
TRACK
LIGHTHOUSE
HOUSE

LEGEND

RECENT — Sand
PRE - CAMBRIAN — Q — Quartzite outcrops with interbedded phyllite
Phyllite outcrops

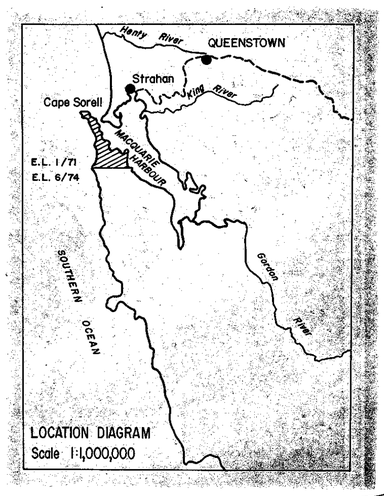
274085

5 cm

COMALCO LIMITED

CAPE SORELL E.L.1/71
PRELIMINARY GEOLOGICAL MAP
6424

COMPILED. I.D.P. & B.F.B.	DRAWN BY B. F. BRADY.	EXPLORATION DEP'T.
DATE. 11-6-1971	SCALE. 1 INCH = 830 FT	N° TAS/C.S/71/3



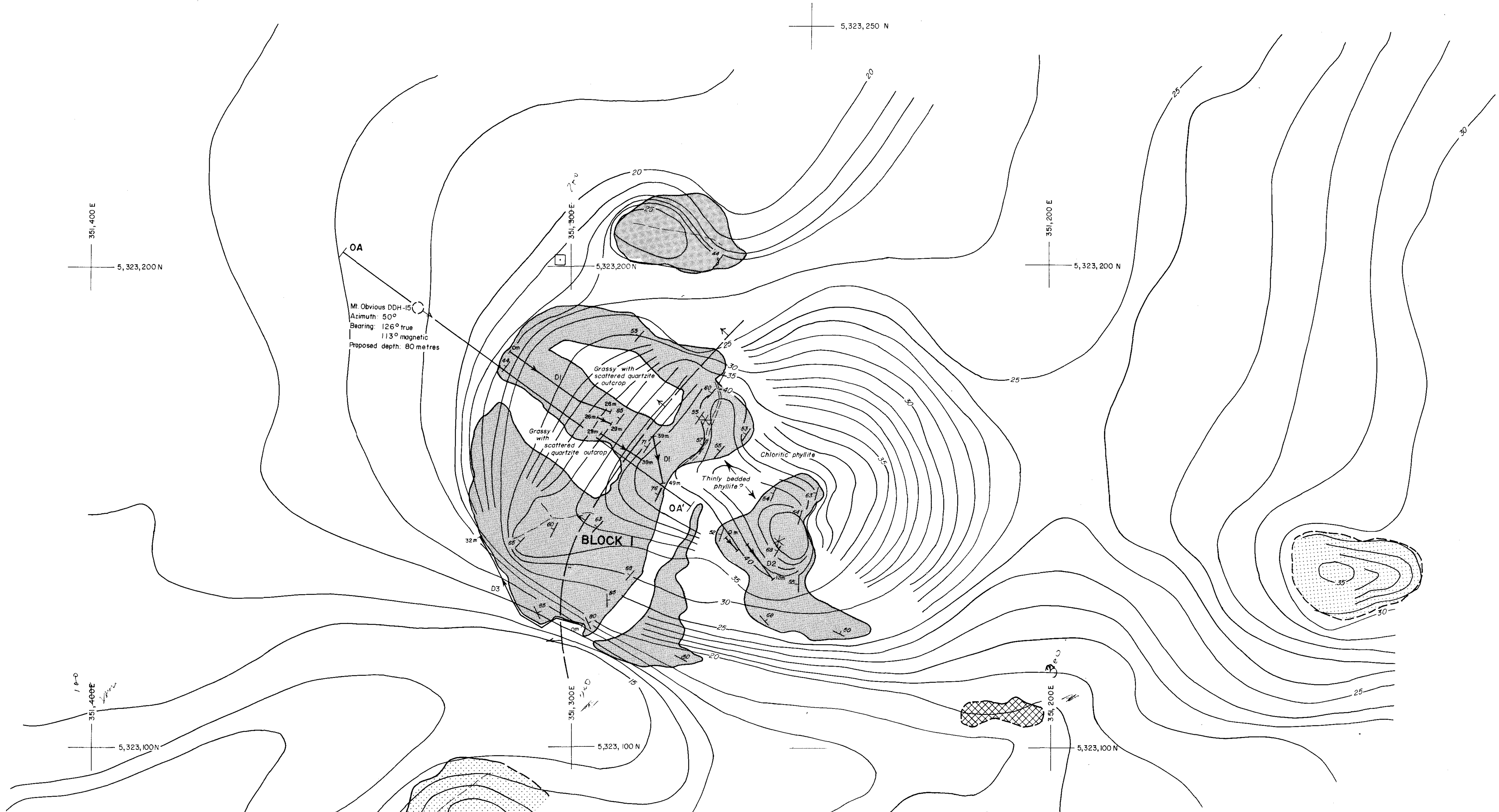
351,250 E
5,324,500 N
351,100E
3,324,500 N
BLOCK 5
BLOCK 4
351,250E
3,324,400 N
351,100E
3,324,400 N
BLOCK 1
BLOCK 2
BLOCK 3
UPPER CLIFF Edge
AA'
AB
A'B'
A1
A2
A3
A4
A5
A6
A7
Mt. Antill - DDH 6
Azimuth: 55°
Bearing: 079° True
066° Magnetic
Proposed depth: 90 metres
Mt. Antill - DDH 7
Azimuth: 60°
Bearing: 086° True
073° Magnetic
Proposed depth: 90 metres
Aerial marker
Grid North
Magnetic North
13°
351,250 E
5,324,250 N
351,100E
5,324,250 N
5 cm
10 0 10 20 30 40 50 60 70 metres

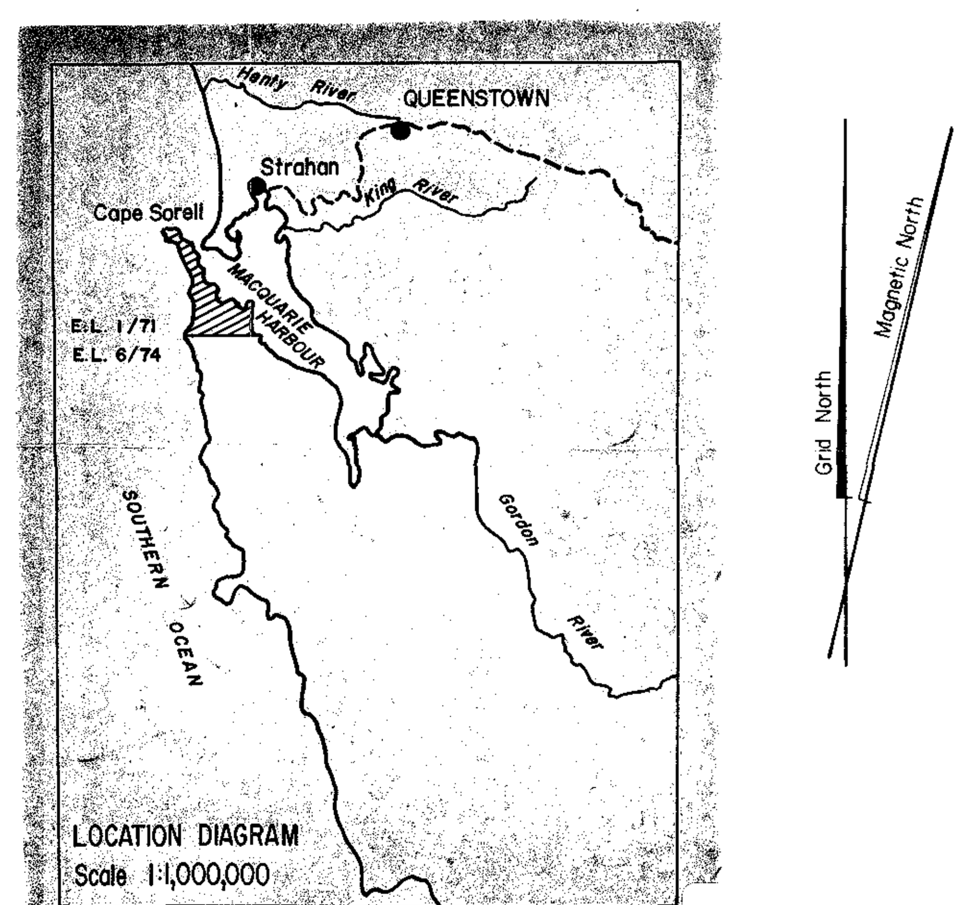
Geological boundary definite, inferred
Inclined
Vertical
Horizontal
Strike and dip of strata
Anticlinal axis, showing plunge direction
Synclinal axis, showing plunge direction
Geological cross section
Fault, position accurate
Fault, position inferred
Fault breccia
Surface sample costean, sample direction and number indicated
Peak, Trig. station
Ridge
Proposed diamond drill hole
Completed diamond drill hole
National metric grid co ordinate - true
Aerial survey marker
Field grid peg - actual
Contours, interval 1 metre
BLOCK 1 Quartzite bodies considered for tonnage calculations

TERTIARY — Dune sand and peat, covering undifferentiated Pre-Cambrian basement
PRE-CAMBRIAN (Unmetamorphosed)
Orthoquartzite - generally massive with a smooth and blocky weathered surface, coloured very light grey (analysis generally > 98·5 SiO2)
Orthoquartzite - generally medium to thinly bedded with cross-bedding. Honey-combed, sugary weathered surface, coloured light grey to pinkish grey. (analysis generally 95% - 98·5 % SiO2)
Orthoquartzite - generally thinly bedded with a honey-combed - sugary weathered surface, often highly contorted, coloured light grey to light brownish grey. Usually interbedded with phyllite. (analysis generally < 95% SiO2)
Phyllite - generally thinly bedded, contorted, siliceous and coloured very dark grey.

COMALCO LIMITED		78-1252 R
CAPE SORELL PLANE TABLE GEOLOGICAL MAP MT. ANTILL AREA		274086 6425
Compiled: I. D. Picken	Revised:	Drawn: S.Hutchison
Date: January, 1975	Scale: 1:500	Drg. No. TAS/CS/75/12

TRANS HEND IN LIBRARY 75-1083.





5 cm

10 0 10 20 30 40 50 60 70 metres

Symbol	Explanation
— — —	Geological boundary, definite, inferred
Inclined / Vertical / Horizontal	Strike and dip of strata
	Anticlinal axis, showing plunge direction
	Synclinal axis, showing plunge direction
DA — DA'	Geological cross section
F — F	Fault, position accurate
— ? — ? —	Fault, position inferred
	Fault breccia
0m A2 29m	Surface sample costean, sample direction and number indicated
AT 1	Peak, Trig. station
- - - -	Ridge
	Proposed diamond drill hole
	Proposed diamond drill hole
5,324,250N 351,250E	National metric grid coordinate - true
	Aerial survey marker
	Field grid peg - actual
25 30	Contour, interval 1 metre
BLOCK I	Quartzite bodies considered for tonnage calculations

Symbol	Age	Description
	TERTIARY	Dune sand and peat, covering undifferentiated Pre - Cambrian basement
	PRE - CAMBRIAN (Unmetamorphosed)	Orthoquartzite - generally massive with a smooth and blocky, weathered surface, coloured very light grey (analysis generally > 98·5 SiO_2)
		Orthoquartzite - generally medium to thinly bedded, with cross-bedding. Honey-combed, sugary, weathered surface, coloured light grey to pinkish grey. (analysis generally 95% - 98·5 % SiO_2)
		Orthoquartzite - generally thinly bedded with a honey-combed - sugary, weathered surface, often highly contorted, coloured light grey to light brownish grey. Usually interbedded with phyllite. (analysis generally < 95% SiO_2)
		Phyllite - generally thinly bedded, contorted, siliceous and coloured very dark grey.

274087

COMALCO LIMITED		78-1252 R
CAPE SORELL PLANE TABLE GEOLOGICAL MAP MT. OBVIOUS AREA		6426
Compiled: I.D. Picken	Revised:	Drawn: S.Hutchison
Date: January, 1975	Scale: 1:500	Drg. No. TAS / CS / 75 / 13

TRANS HELD IN LIBRARY 75-1083

6427

EE

Nth. Escarpment DDH 10
Azimuth: 60°
Bearing: 158° mag.
171° true
Proposed depth: 50 metres

EE'

Nth. Escarpment - DDH 9
Azimuth: 60°
Bearing: 103° mag.
116° true
Proposed depth: 60 metres

ED

ED'

Nth. Escarpment - DDH 8
Azimuth: 60°
Bearing: 125° mag.
138° true
Proposed depth: 50 metres

EC

EC'

EB

EB'

EA

EA'

BLOCK 1

BLOCK 2

BLOCK 3

351,500 E

351,600 E

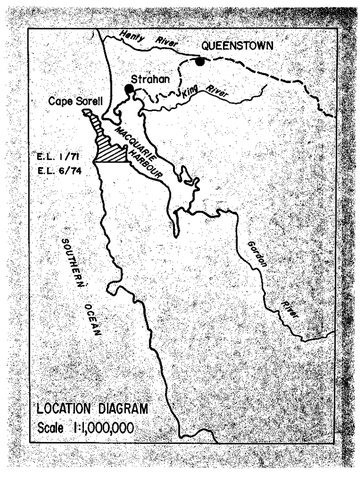
351,700 E

5,323,500 N

5,323,400 N

5,323,300 N

5,323,200 N



Geological boundary definite, inferred

Inclined — Strike and dip of strata

Vertical

Horizontal

Anticlinal axis, showing plunge direction

Synclinal axis, showing plunge direction

EA — EA' Geological cross section

Fault, position accurate

Fault, position inferred

Fault breccia

0m B1 29m Surface sample costean, sample direction and number indicated

Peak, Trig. station

Ridge

Proposed diamond drill hole

Complete diamond drill hole

351,250 E — 5,324,250 N National metric grid co ordinate - true

Aerial survey marker

Field grid peg - actual

Contour, interval 1 metre

BLOCK 1 Quartzite bodies considered for tonnage calculations

TERTIARY — Dune sand and peat, covering undifferentiated Pre-Cambrian basement

PRE - CAMBRIAN (Unmetamorphosed)

Orthoquartzite - generally massive with a smooth and blocky weathered surface, coloured very light grey (analysis generally > 98·5 SiO_2)

Orthoquartzite - generally medium to thinly bedded, with cross-bedding. Honey-combed, sugary, weathered surface, coloured light grey to pinkish grey. (analysis generally 95% - 98·5 % SiO_2)

Orthoquartzite - generally thinly bedded with a honey-combed - sugary weathered surface, often highly contorted, coloured light grey to light brownish grey. Usually interbedded with phyllite. (analysis generally < 95% SiO_2)

Phyllite - generally thinly bedded, contorted, siliceous and coloured very dark grey.

Grid North — 13° — Magnetic North

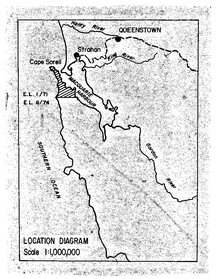
2" = 100'

5 cm

10 0 10 20 30 40 50 60 70 metres

COMALCO LIMITED			78-1252 R
CAPE SORELL PLANE TABLE GEOLOGICAL MAP NTH. ESCARPMENT AREA			
Compiled: I. D. Picken	Revised:	Drawn: S. Hutchison	
Date: January, 1975	Scale: 1:500	Drg. No: TAS / CS / 75 / 14	

TRANS HELD IN LIBRARY 75-1083



3,322,500 N

TERTIARY — Dune sand and peat, covering undifferentiated Pre-Cambrian basement

PRE-CAMBRIAN (Unmetamorphosed)

- Orthoquartzite - generally massive with a smooth and blocky weathered surface, coloured very light grey. (analysis generally > 98% SiO_2)
- Orthoquartzite - generally medium to thinly bedded with cross-bedding, honey-combed, rugged, weathered surface, coloured light to medium grey. (analysis generally 95% - 98% SiO_2)
- Orthoquartzite - generally thinly bedded with a honey-combed - sugary weathered surface, often highly contorted, coloured light grey to white. (analysis generally interbedded with shales). (analysis generally < 95% SiO_2)
- Phyllite - generally thinly bedded, contorted, siliceous and coloured very dark grey.

Geological boundary, definite, inferred

Strike and dip of strata: Inclined (50) · Vertical · Horizontal

Anticlinal axis, showing plunge direction

Synclinal axis, showing plunge direction

AA — AA' Geological cross section

Fault, position accurate

Fault, position inferred

Fault breccia

Surface sample costean, sample direction and number indicated (On, A2, 25 m)

Peak, Trig stn (A7.1)

Ridge

Proposed diamond drill hole

Completed diamond drill hole

9,324,250 N — 324,250 E — National metric grid co-ordinate - true

Aerial survey marker

Field grid peg - actual

Contours, interval 1 metre

BLOCK 1 — Quartzite bodies considered for tonnage calculations

3,322,600 N — 350,700 E

3,322,600 N — 350,800 E

3,322,600 N — 350,900 E

3,322,600 N — 351,000 E

3,322,600 N — 351,100 E

3,322,600 N — 351,200 E

3,322,500 N

BLOCK 1

BLOCK 2

BLOCK 3

WEST GRANDFATHERS

EAST GRANDFATHERS

Scattered quartzite outcrop

Quartzite outcrop

Grid North

Magnetic North

Grandfathers area - DDH 11
Azimuth: 50°
Bearing: True - 242°
Mag - 229°
Proposed depth: 70m

Grandfathers area - DDH 12
Azimuth: 60°
Bearing: True - 252°
Mag - 239°
Proposed depth: 100 metres

Grandfathers area - DDH 13
Azimuth: 60°
Bearing: True - 258°
Mag - 245°
Proposed depth: 85 metres

Grandfathers area - DDH 14
Azimuth: 50°
Bearing: True - 247°
Mag - 234°
Proposed depth: 80 metres

DDH 4/4A
17.3m @ 45° - 47.9m @ 48° - 44

DDH 5
17.8m @ 45°

5 cm

10 0 10 20 30 40 50 60 70 metres

274089

COMALCO LIMITED

CAPE SORELL

PLANE TABLE GEOLOGICAL MAP
GRANDFATHERS AREA

6428

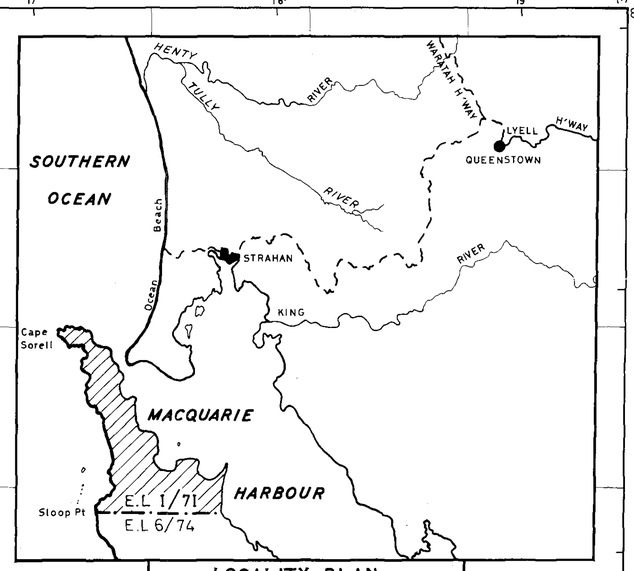
Compiled: I.D. Picken	Revised:	Drawn: S. Hutchison	
Date: March, 1975	Scale: 1:500	Drg. No: TAS / CS / 75 / 15	

TRANS HEAD IN LIBRARY TS 1053

6429

Cape Sorell
Watts Hill
Lucas Point
Prater Rock
PILOT BAY
West Breakwater
OUTER BAY
HELLS GATES
Entrance Island
TIDDY'S BEACH
Macquarie Heads
Mount Antill
Nth Escarpment
Mt Obvious
Grandfathers East
Grandfathers West
OCEAN BEACH
Braddon Point
BACK CHANNEL
Bonnet Island
The Cap
BONNET BAY
Training Wall
Wellington Head 249'
Camp Point
FRASER FLATS
KELLY
Training Wall
CHANNEL
Channel Hill 261'
CHANNEL BAY
Spur Point
Round Hill 311'
Round Head
MACQUARIE HARBOUR
SOUTHERN OCEAN
Backagain Point
Betsy Island
Liberty Point
Table Head 639'
DUNNES CREEK
Sloop Point
E.L 1/71
E.L. 6/74

LOCALITY PLAN
1:250 000.



LEGEND

- E.L 1/71 BOUNDARY
- VEHICULAR TRACK
- WATER COURSE
- LIGHTHOUSE
- SAND FLATS
- ORIGINAL M.L'S
- CONSOLIDATED M.L. 16M/75

5 cm

78-1252/R

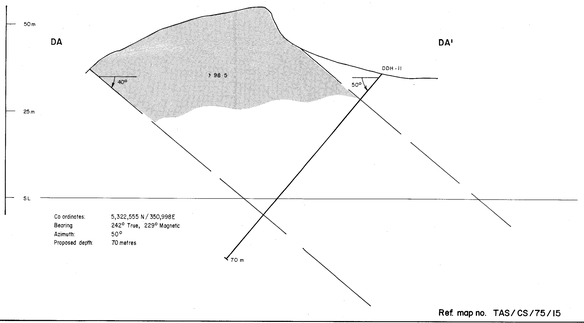
274090

COMALCO LIMITED		
CAPE SORELL PENINSULA ... WEST TASMANIA E.L.1/71 & M.L.16/75.		
COMPILED BY B.F.B	DRAWN BY B.F.B.	EXPLORATION DEPARTMENT
DATE. 31·4·1975	SCALE 1:20,000	Nº TAS/C S /75/17.

TRANS HELD IN LIBRARY 75-1033

6430

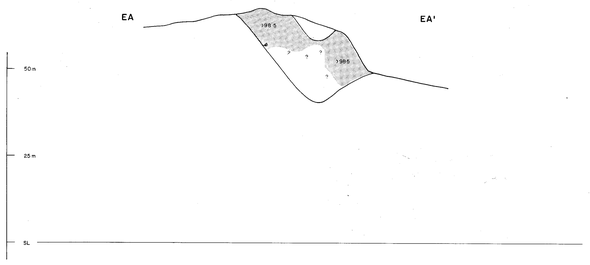
GRANDFATHERS AREA DDH-11



Co ordinates: 5,322,555 N / 350,998E
Bearing: 242° True, 229° Magnetic
Azimuth: 50°
Proposed depth: 70 metres

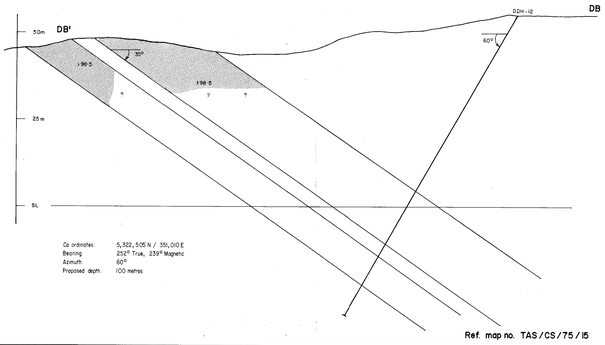
Ref. map no. TAS/CS/75/15

NTH. ESCARPMENT (Main)



Ref. map no. TAS/CS/75/14

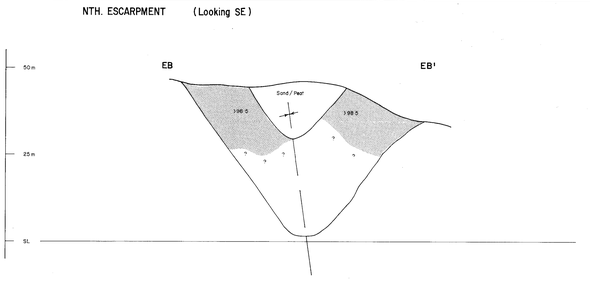
GRANDFATHERS AREA DDH-12



Co ordinates: 5,322,505 N / 351,010 E
Bearing: 252° True, 239° Magnetic
Azimuth: 60°
Proposed depth: 100 metres

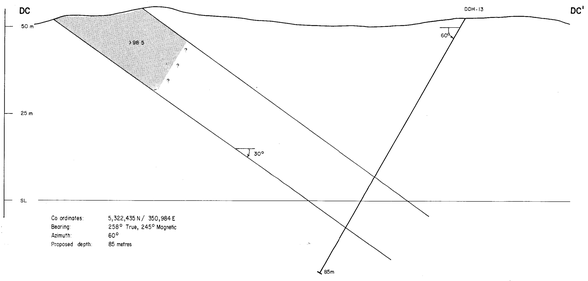
Ref. map no. TAS/CS/75/15

NTH. ESCARPMENT (Looking SE)



Ref. map no. TAS/CS/75/14

GRANDFATHERS AREA DDH 13

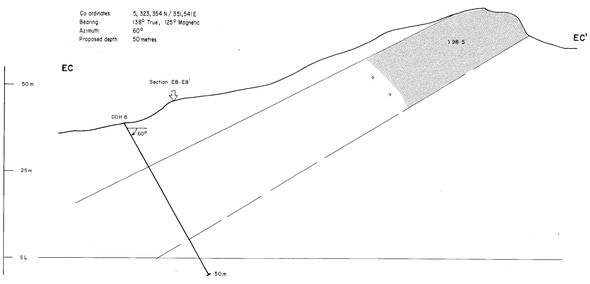


Co ordinates: 5,322,435 N / 350,984 E
Bearing: 258° True, 245° Magnetic
Azimuth: 60°
Proposed depth: 85 metres

Ref. map no. TAS/CS/75/15

NTH. ESCARPMENT (Looking NE) DDH 8

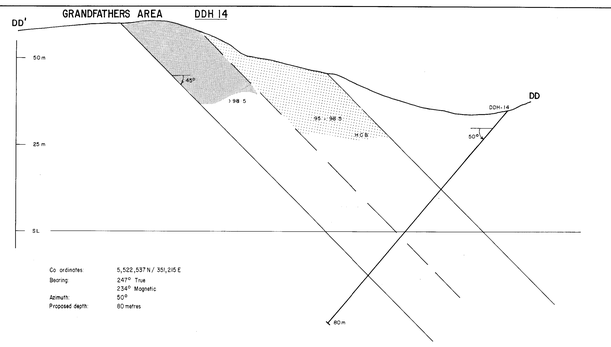
Co ordinates: 5, 323, 354 N / 351, 541 E
Bearing: 158° True, 125° Magnetic
Azimuth: 60°
Proposed depth: 50 metres



To test: i) whether synclinal structure in thick quartzite continues beneath soil cover
ii) quality of quartzite is present

Ref. map no. TAS/CS/75/14

GRANDFATHERS AREA DDH 14

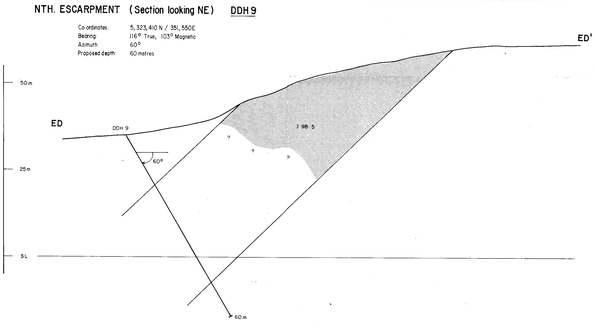


Co ordinates: 5,322,537 N / 351,215 E
Bearing: 247° True
234° Magnetic
Azimuth: 50°
Proposed depth: 80 metres

Ref. map no. TAS/CS/75/15

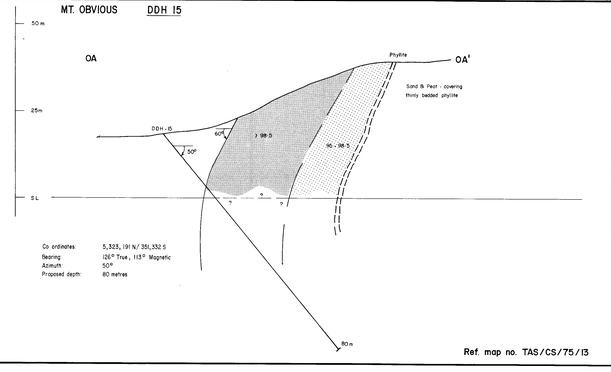
NTH. ESCARPMENT (Section looking NE) DDH 9

Co ordinates: 5,323,410 N / 351, 550E
Bearing: 116° True, 103° Magnetic
Azimuth: 60°
Proposed depth: 60 metres



Ref. map no. TAS/CS/75/14

MT. OBVIOUS DDH 15

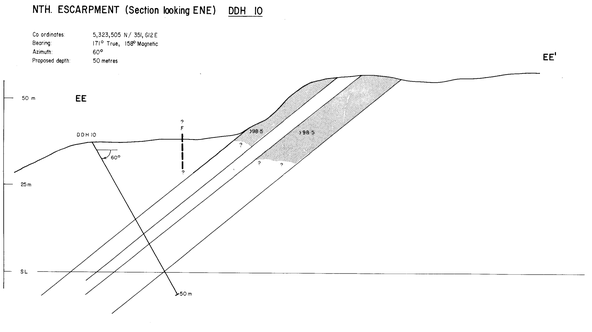


Co ordinates: 5,323, 191 N / 351,332 S
Bearing: 126° True, 113° Magnetic
Azimuth: 50°
Proposed depth: 80 metres

Ref. map no. TAS/CS/75/13

NTH. ESCARPMENT (Section looking ENE) DDH 10

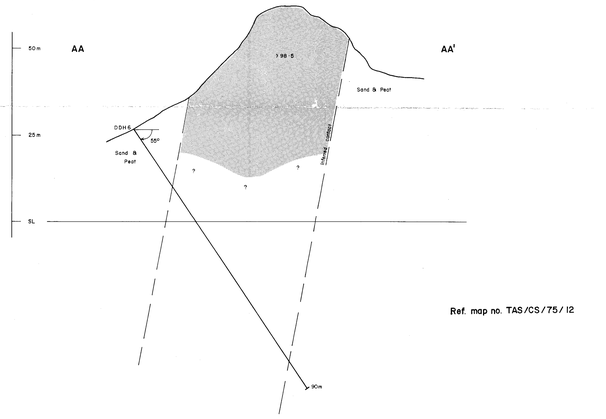
Co ordinates: 5,323,505 N / 351, 012 E
Bearing: 171° True, 158° Magnetic
Azimuth: 60°
Proposed depth: 50 metres



Ref. map no. TAS/CS/75/14

MT. ANTILL (West)
DDH 6

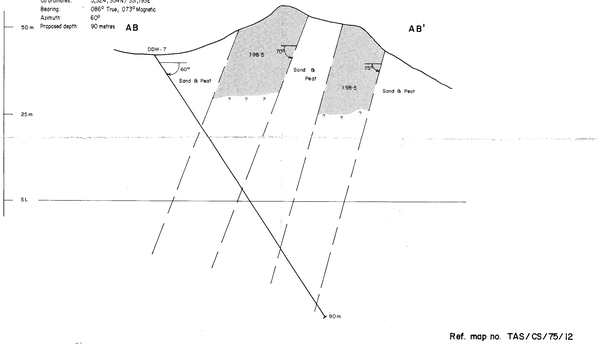
Co ordinates: 5,324,340 N / 351,275E
Bearing: 079° True 068° Magnetic
Azimuth: 55°
Proposed depth: 90 metres



Ref. map no. TAS/CS/75/12

MT. ANTILL (Central & East)
DDH-7

Co ordinates: 5,324, 354N / 351,193E
Bearing: 086° True, 073° Magnetic
Azimuth: 60°
Proposed depth: 90 metres



Ref. map no. TAS/CS/75/12

274091

5 cm

78-1202 R

COMALCO LIMITED		
CROSS SECTIONS AS MARKED ON GEOLOGICAL PLANE TABLE MAPS TAS/CS/75/12 to 15 INCLUSIVE		6430
Compiled: I.D. Picken	Revised:	Drawn: S. Hutchison
Date: April, 1975	Scale: 1:500	Drg. No. Tas / CS / 75 / 18

TRANS. MERC. IN MERCATOR 75-1005

TABLE CAPE

N

Escarpment

Fault zone

Phyllite with thin interbeds of quartzite

Interbedded ortho quartzite and impure quartzite.

Interbedded quartzite and phyllite

Interbedded, m. bd., quartzite and impure quartzite

Interbedded quartzite and phyllite

Shattered sm. quartzite

hcb quartzite

hcb quartzite

hcb quartzite

Sheared, pale red - purple quartzite and phyllite

Peat and occassional beds of pale red - purple quartzite

Phyllite and tn. bd. quartzite

Phyllite

Massive quartzite o/c. sl. iron stained

Quartzite layers

Peat and scree and occasional thin beds honeycombed quartzite

hcb. quartzite, thin bedded and phyllite

Tn bedded hcb quartzite

Phyllite

Interbedded hcb. quartzite and phyllite

Massive quartzite or predominately quartzite with honeycombed weathering surface, implying impurities in the quartzite

Massive quartzite with smooth weathering surface and assumed to be worth testing for reduction plant feed

Predominately phyllite with minor quartzite stringers in places

Fault inferred or established

Hyperthetical Cross - section

W E

274092

5 cm

COMALCO LIMITED

78-1252R

RECONNAISSANCE GEOLOGICAL MAP OF TABLE HEAD AREA TASMANIA

	Memo: A.H.W. / A.H.B. 25/7/1974	A.H.W. & I.D.P.
Drg. No: Tas/ TC / 76 / 40	Scale: Approx. 1:10,000	Date: July, 1974 6431

TRANS. HELD IN LIBRARY 78-1252