Open File Envelope No. 2689

EL 219

CATHEDRAL ROCK

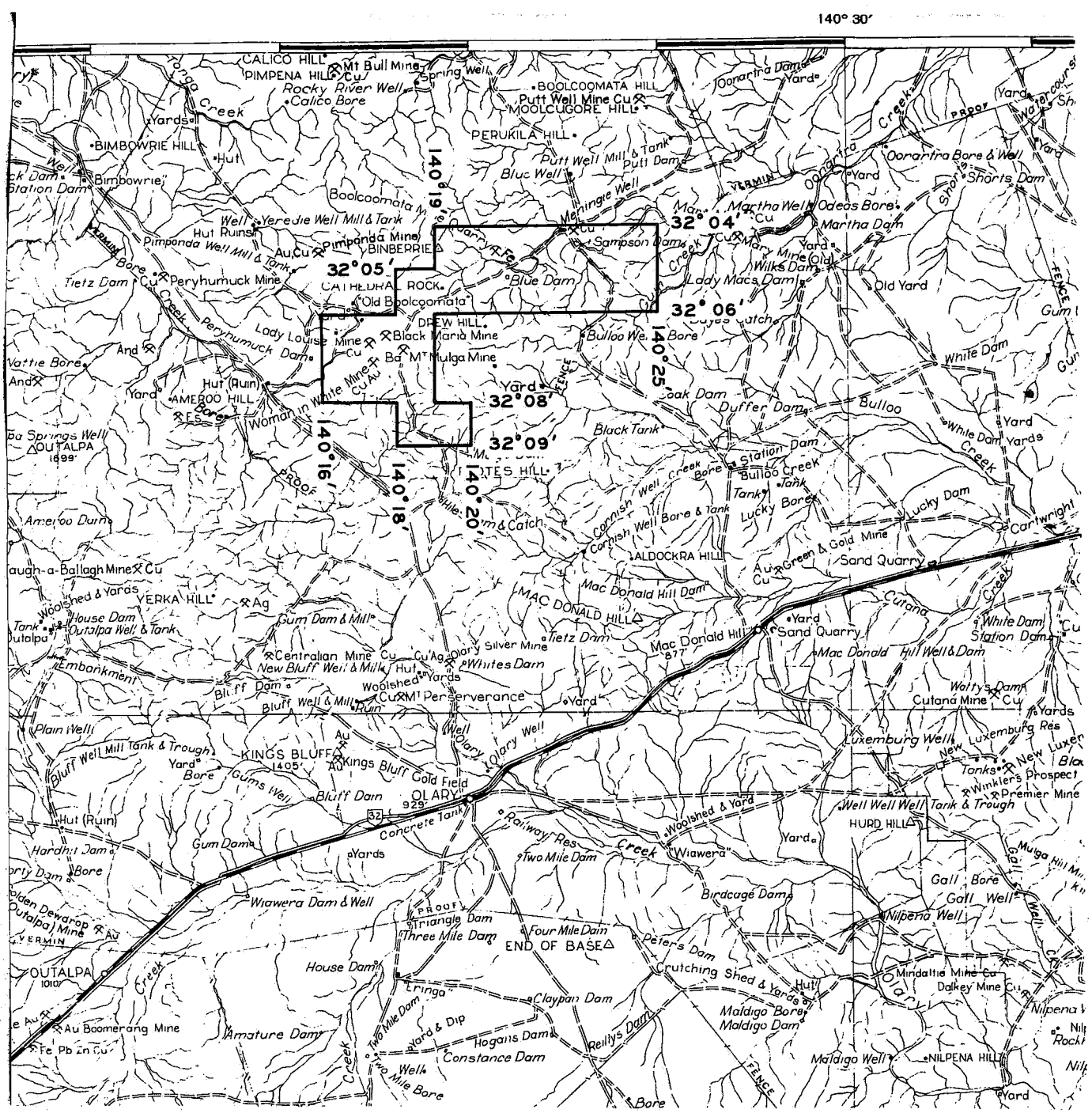
PROGRESS AND FINAL REPORTS TO LICENCE EXPIRY/SURRENDER FOR THE PERIOD 14/11/1975 TO 13/11/1976

Submitted by
Carpentaria Exploration Co. Pty Ltd
1976

Enquiries: Customer Services Branch
Minerals and Energy Resources
7th Floor
101 Grenfell Street, Adelaide 5000

Telephone: (08) 8463 3000
Facsimile: (08) 8204 1880

Government of South Australia
Primary Industries and Resources SA



SCALE 1:250,000

KILOMETRES 5 0 5 10 15 20 25 KILOMETRES

APPLICANT : CARPENTARIA EXPLORATION COMPANY PTY LTD

D.M. : 453/75 AREA : 61 Square Kilometres

1:250 000 PLANS : OLARY

LOCALITY : CATHEDRAL ROCK AREA. Approximately 20 kilometres north of Olary.

E.L. No. : 219 EXPIRY DATE : 13-11-76

219

P9A

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TENEMENT: EXPLORATION LICENCE No. 219

TENEMENT holder; CARPENTARIA EXPLORATION PTY. LTD

REPORT:

HOWE, A.W. 1976

Mining Tenement progress report.
No. 173, for quarter ended February 13th 1976.
Exploration Licence No. 219
"Cathedral Rock" (pgs. 1-3)
(No Plans)

REPORT:
HOWE, A.W. 1976

Exploration Licence No. 219
"Cathedral Rock" Progress report
for quarter ended May 13th 1976. (pgs. 5-6)
(No Plans)

LETTER:
HOWE, A.W. 1976

E.L. 219 Annual Report from Webb, B.D.
Director of Mines. (pg. 6)
Expenditure between last quarterly Financial statement forwarded and June 30th, 1976.
(No Plans)

REPORT:
HOWE, A.W. 1976

Quarterly report for E.L. 219, "Cathedral Rock".
Progress report for quarter ended August.
13th 1976. (No Plans) (pgs. 7-8)

REPORT:
CLARE, R.C. 1976

Final Report E.L. 219, "Cathedral Rock".
November 12th 1976.

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Plans:

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Drawing No. 15 487	Sketch Plan showing results of previous Exploration programmes.	(2689-5)
Drawing No. 15 486	Exploration Summary.	(2689-2)
Drawing No. 15 270	Ground magnetic traverse location.	(2689-1)
Drawing No. 15 314	Woman-in- white grid - geology.	(2689-4)

CARPENTARIA EXPLORATION COMPANY PTY. LTD.

MINING TENEMENT

PROGRESS REPORT

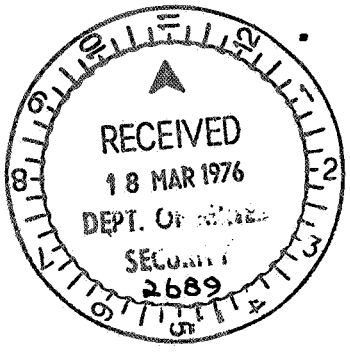
NO.173

FOR QUARTER ENDED FEBRUARY 13, 1976

EXPLORATION LICENCE NO.219 "CATHEDRAL ROCK"

DATE: *February 20, 1976*

COPY: *Department of Mines*



CARPENTARIA EXPLORATION COMPANY PTY. LTD.

EXPLORATION LICENCE NO.219 "CATHEDRAL ROCK"

PROGRESS REPORT FOR QUARTER ENDED FEBRUARY 13, 1976

1. TERMS AND CONDITIONS

Exploration Licence No.83 expired on July 20, 1975 and an application was made for the same area. This application was granted on November 14, 1975 under Exploration Licence No.219 for one year.

Schedule B of the Exploration Licence states that a minimum of $5000 is to be expended on geological and geochemical surveys during the year of tenure.

2. EXPLORATION

No field work has been carried out during the quarter.

The results from rock chip sampling, carried out previously, are being incorporated in a regional geochemical programme over Exploration Licence 132 "Kalabity" to the north. "Cathedral Rock" will be assessed in the light of results from this regional programme.

A.W. Howe

.....

A.W. Howe,
Administration Manager

CARPENTARIA EXPLORATION COMPANY PTY. LTD.

EXPLORATION LICENCE NO.219 "CATHEDRAL ROCK"

STATEMENT OF EXPENDITURE FOR QUARTER ENDED FEBRUARY 13, 1976

	$	$
Operating labour	58	
Total this period		58
Previously reported	Nil	
TOTAL EXPENDITURE TO DATE THIS LICENCE		$ 58

Exploration Licence No.83 - Total Expenditure	$ 22 198
Total Expenditure - "Cathedral Rock" Project	$ 22 256

.....
A.W. Howe,
Administration Manager

CARPENTARIA EXPLORATION COMPANY PTY. LTD.

EXPLORATION LICENCE NO.219 "CATHEDRAL ROCK"

PROGRESS REPORT FOR QUARTER ENDED MAY 13, 1976

TERMS AND CONDITIONS

Exploration Licence No.219 was granted on November 14, 1975 for one year.

Schedule B of the Exploration Licence states that a minimum of $5000 is to be expended on geological and geochemical surveys during the year of tenure.

EXPLORATION

No field work has been carried out during the quarter.

Regional geochemical investigations involving Exploration Licence 132 "Kalabity" are still being assessed and a decision as to whether to relinquish this Exploration Licence will be made during the next quarter.

.....
A.W. Howe,
Administration Manager

CARPENTARIA EXPLORATION COMPANY PTY. LTD.

EXPLORATION LICENCE NO.219 "CATHEDRAL ROCK"

STATEMENT OF EXPENDITURE FOR QUARTER ENDED MAY 13, 1976

	$
Expenditure this period	NIL
Previously reported	58
TOTAL EXPENDITURE TO DATE THIS LICENCE	$ 58

Exploration Licence No.83 - Total Expenditure	$22 198
Total Expenditure - "Cathedral Rock" Project	$22 256

A.W. Howe,
Administration Manager

Carpentaria Exploration Company Pty. Ltd.

INCORPORATED IN QUEENSLAND

REGISTERED OFFICE: M.I.M. BUILDING, 160 ANN STREET, BRISBANE, QUEENSLAND

TELEX ADDRESS:
"MIMHOLD AA 40160 BRISBANE"

TELEPHONE: 221 0044

TELEGRAPHIC CODE:
"MINESEARCH BRISBANE"

P.O. BOX 1042
BRISBANE, Q. 4001

AWH:IA: 17-637

July 8, 1976

The Director of Mines,
Department of Mines,
P.O. Box No. 151,
EASTWOOD. S.A. 5063

Dear Sir,

DEPARTMENT OF MINES, SOUTH AUSTRALIA - ANNUAL REPORT FROM B.D. WEBB, DIRECTOR OF MINES

I refer to your letter of June 29, 1976 in which you requested details of expenditure incurred on our current Exploration Licences between the last Quarterly Financial Statement forwarded, and June 30, 1976.

Carpentaria holds three current Exploration Licences EL's 132, 218 and 219. Expenditure on each area has been reported for the Quarter ending May 13 or 14, 1976. In the case of EL's additional expenditure to June 30 is as follows:

EL 132	"Kalabity"	$8 200
EL 218	"Mount Messenger"	Nil.
EL 219	"Cathedral Rock"	Nil.

The expenditure quoted above for EL 132 is an actual expenditure and not an estimate.

Yours faithfully,
CARPENTARIA EXPLORATION COMPANY PTY. LTD.

A.W. Howe
Administration Manager

CARPENTARIA EXPLORATION COMPANY PTY.LTD.

QUARTERLY REPORT FOR EXPLORATION LICENCE NO.219 "CATHEDRAL ROCK"

PROGRESS REPORT FOR QUARTER ENDED AUGUST 13, 1976

1. TERMS AND CONDITIONS

Exploration Licence No.219 was granted for one year from November 14, 1975, subject to an expenditure of $5000 on exploration.

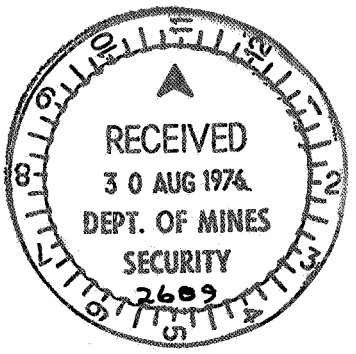
2. EXPLORATION

No field work has been carried out on this Exploration Licence. An application for relinquishment is being made.

3. EXPENDITURE

Details of Expenditure are attached.

A.W. HOWE,
ADMINISTRATION MANAGER



CARPENTARIA EXPLORATION COMPANY PTY.LTD.

QUARTERLY REPORT FOR EXPLORATION LICENCE NO.219 "CATHEDRAL ROCK"

STATEMENT OF EXPENDITURE FOR QUARTER ENDED AUGUST 13, 1976

	$	$
Operating Labour	61	
Total This Period		61
PREVIOUSLY REPORTED		
Quarter Ended May 15, 1976	-	
Quarter Ended February 15, 1976	58	58
TOTAL TO DATE CURRENT TERM		119
PREVIOUSLY REPORTED FOR EXPLORATION LICENCE NO.83		22 198
TOTAL EXPENDITURE TO DATE CATHEDRAL ROCK PROJECT		$22 317

A.W. HOWE,
ADMINISTRATION MANAGER

? against $5000 commitment

CARPENTARIA EXPLORATION COMPANY PTY. LTD.

TECHNICAL REPORT

NUMBER 666

FINAL REPORT

EXPLORATION LICENCE NO.219 "CATHEDRAL ROCK", SOUTH AUSTRALIA

Investigations Conducted By: Adelaide Staff

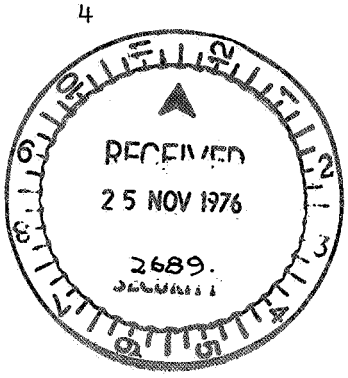
Submitted By: R.C. Clare

Typed By: S. Fleming

Author: P.A. Zarzavatjian

Date: November 12, 1976.

Copy No.: 4



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LIST OF DRAWINGS

DRAWING NO.	TITLE	SCALE
15 485	Exploration Licence Location Plan September 1976	1:500 000 -3
15 487	Sketch Plan showing Results of Previous Exploration Programmes	1: 20 000 -5
15 486	Exploration Summary	1: 50 000 -2
15 270	Ground Magnetic Traverse Location	1: 10 000 2680-1
15 314	Woman-in-White Grid - Geology	1: 2 000 -4

- oOo -

FINAL REPORT

EXPLORATION LICENCE NO.219 "CATHEDRAL ROCK" SOUTH AUSTRALIA

1. INTRODUCTION

The area contained in Exploration Licence No.219 has been held by Carpentaria Exploration Company Pty. Ltd. for slightly over 3 years, firstly as Exploration Licence No.83. During this time a total of $22 317 was spent on exploration activities.

Exploration consisted mainly of chip sample geochemical surveys on a detailed and regional basis. A limited amount of ground magnetometer surveying was also carried out.

The geology of a small gridded area surrounding the Woman-in-White mine was mapped in detail.

In view of the lack of encouraging results it was recommended that the area be relinquished.

2. LOCATION AND ACCESS

The Licence area is located in the Olary Province approximately 415 km by road north-east of Adelaide. The most direct way of reaching it from Adelaide is to drive 392 km over the sealed Highway 32 to the township of Olary, then turn north and drive another 23 km over unsealed road to Old Boolcoomata Homestead. The Licence area is located immediately north and east of the homestead (Drawing No.15 485).

3. TERMS AND CONDITIONS

Exploration Licence No.83, also known as Cathedral Rock, with an area of 61 km^2, was granted to Carpentaria Exploration Company Pty. Ltd. for one year from

3. TERMS AND CONDITIONS (CONT.)

July 20, 1973. Extension was granted for another year up to July 20, 1975. A second extension covered by Licence No.219 was granted for one year from November 14, 1975.

Total expenditure commitment was set at $15 000 during the term of the Licence. Actual expenditure up to the end of October 1976 totalled $22 317.

On October 27, 1976, Carpentaria Exploration Company Pty. Ltd. applied to the Department of Mines for the relinquishment of Exploration Licence No.219.

4. CLIMATE, VEGETATION AND LAND USE

The region is sparsely populated. Land is primarily used for sheep grazing.

The climate is semi-arid, experiencing low, unreliable rainfall averaging less than 250 mm per annum.

Relief is mature with large areas of outcrop and intervening wide stretches of flat, predominantly alluvium-covered country.

Vegetation consists of hardy trees and shrubs with mulga and saltbush being dominant but eucalypts grow along several of the creeks.

5. PREVIOUS MINING AND EXPLORATION

Mineral search in the area dates back to the late 1860's when intensive gold prospecting commenced in the general area. Numerous abandoned mines, mineral workings and quarries are present within the boundaries of the Exploration Licence. Apparently most of the pits have been placed to investigate copper stains on surface rocks.

5. PREVIOUS MINING AND EXPLORATION (CONT.)

Also several small deposits of feldspar, beryl, mica, apatite, fluorite, sillimanite, andalusite, kyanite and barite have been worked in the region. Beryl, feldspar, barytes and mica are still being mined intermittently.

An airborne magnetic and radiometric survey was conducted during 1953-1955 by the Bureau of Mineral Resources, Geology and Geophysics. The survey was flown at a height of 460 m above sea level along north-south lines spaced 1600 m apart.

In recent years exploration in the area has been carried out mainly by Electrolytic Zinc-Newmont Pty. Ltd., Mines Exploration Pty. Ltd. and Esso Australia Ltd. A summary of the geochemical and geophysical results obtained by these companies is presented in Drawing No.15 487.

6. EXPLORATION

6.1. Geochemistry

In the time during which the Licence was granted 3 geochemical surveys were carried out within the area. These surveys are discussed in chronological order below.

6.1-1. In the early stages of exploration chip sampling was carried out in the vicinity of abandoned copper mine workings. Using a sample interval of 20 m, a total of 163 samples was collected along 13 traverses. Drawing No.15 236 showing location and assay values of samples was included in the Quarterly Report for Exploration Licence No.83 for the period ended October 20, 1973. Sample locations are also shown on Drawing No.15 486 included with this report.

All the samples were assayed for copper. In addition, 33 (1 sample in 5 of the total of 163) samples were assayed also for lead, zinc and cobalt.

6. EXPLORATION (CONT.)

Most of the samples had copper values less than 100 p.p.m. About 15 samples distributed over 6 lines assayed between 100 p.p.m. and 500 p.p.m. Only 4 samples had anomalous values of 870 p.p.m., 2300 p.p.m. and 1690 p.p.m. on Line 12 and 1380 p.p.m. on Line 11. The 3 anomalous values on Line 12 can be directly related to the Woman-in-White mine, over which the traverse was located.

All the zinc, lead and cobalt values were less than 60 p.p.m.

6.1-2. The second geochemical survey was carried out to support detailed geological mapping in the vicinity of the Woman-in-White mine.

A total of 97 rock chip samples was collected from selected localities within a gridded area and analysed for copper. Most of the samples were collected over an average distance of 1.5 m, but in some cases it was as large as 30 m . Drawings No.15 319 showing sample numbers and No.15 317 showing assay values were included in the Quarterly Report for period ended October 20, 1974. The gridded area in relation to the rest of Exploration Licence No.219 is shown in Drawing No.15 486 included with this report.

Assay results were discouraging. All the values were less than 340 p.p.m. except for 2 samples from different lines which assayed 700 p.p.m. and 900 p.p.m. Both samples were located at or very near the northern contact of an amphibolite (?) intrusive and an albite rich sediment.

6.1-3. In the summer of 1974/75 a regional chip sampling programme of albite rich sediments was initiated in the Olary District, which covered mainly Exploration Licence No.219, Exploration Licence No.259 and the area between these 2 Exploration Licences.

6. EXPLORATION (CONT.)

The exercise resulted in 12 chip sample traverses within Exploration Licence No.219. Drawing No.15 339A showing locations of the sample lines was included in the Quarterly Report for period ended July 20, 1975. These lines also appear in Drawing No.15 486 included with this report.

A total of 140 samples was collected, each sample taken over 2 m intervals. Again the results did not give any encouragement for further work. The majority of the samples assayed less than 100 p.p.m. copper; 9 samples assayed between 100 p.p.m. and 600 p.p.m. copper. Only 3 samples produced reasonably high values of 980 p.p.m., 1280 p.p.m. and 3200 p.p.m. copper. These samples were collected over 2 different lines and represented narrow widths of 2 m .

The results of the analyses were tabulated in the Quarterly Report for period ended July 20, 1975. A summary of the geology along the chip sample lines was forwarded to the Department of Mines on September 11, 1975.

Isolated high copper values noted above are not unusual for albite rich sediments in the region.

6.2. Geophysics

After the first geochemical chip sampling programme was completed, a ground magnetometer survey was conducted over the same lines used for the geochemical survey. The main aim of the survey was to map the structure of the magnetite-albite rocks. Station spacing used in the survey was 10 m . Drawings Nos.15 260 to 15 263 showing the magnetic profiles were included in the Quarterly Report for Exploration Licence No.83 for the period ended April 20, 1974.

6. EXPLORATION (CONT.)

The magnetic pattern over nearly all the lines is complex, consisting of local and major anomalies with amplitudes up to 6000 nT above background. The pertinent information derived from the magnetic interpretation is shown in Drawing No.15 270.

6.3. Geology

Although the results of the first chip sampling programme were discouraging, it was felt the area in the vicinity of the Woman-in-White mine deserved further attention in view of the anomalous copper values. Consequently, a 100 m x 50 m grid was established over an area 1000 m x 500 m covering the abovementioned mine and adjacent workings.

The grid area and 400 m to the east and west was mapped in detail. In general terms, the Carpentarian rocks consist of amphibolite intruding the albite rich sediments. The sediments consist of two varieties - a fine grained laminated type containing minor amounts of disseminated magnetite-haematite and a calcsilicate rich type. A revised version of Drawing No.15 314 which was included in the report for Exploration Licence No.83 for the quarter ended October 20, 1974, is included in this report.

During and after the mapping 9 samples were collected for petrographical examination. Also 6 gossanous samples were submitted for mineragraphical study. Sample locations are shown on Drawings Nos.15 486 and 15 314 and their descriptions given in the Appendix.

6. EXPLORATION (CONT.)

6.4. Air Photography

Colour photographs were taken in 1975 as part of a regional aerial survey. They were flown at 3000 m and produced at a scale of 1:20 000. The photos were examined and interpreted but no maps were produced.

7. CONCLUSION

The results have not indicated any potential for base metal mineralization which would warrant further search.

8. RECOMMENDATION

It is recommended that Exploration Licence No.219 be relinquished.

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APPENDIX

- oOo -

QS14104 - *An albitolite similar to those described from the Waukaloo area. In this case incipient recrystallization has begun and the rock contains sub-parallel foliae of coarser grained albite accompanied by coarse grained hornblende and minor diopside. Sphene and apatite are significant accessories.*

QS14105 - *Insufficient material was sent to permit thin section preparation. The polished section shows chalcocite Cu_2S to be abundant. The chalcocite was formed by alteration of chalcopyrite. Small relict islands of chalcopyrite occur in the chalcocite. No other sulphides were found.*

QS14106 - *A slightly coarser grained but similar albitolite than QS14104 with minor hornblende only. Original bedding structure is just perceivable in hand specimen.*

QS14107 - *A comparatively coarse grained even sized quartz-bearing albitolite, average grain size is about 0.3 mm . Isolated veins of hornblende accompanied by biotite, apatite, sphene and magnetite transverse the rock.*

QS14108 - *As for QS14107 but even more coarse grained and averaging about 0.5 mm in size. Accessories include biotite, magnetite, apatite and zircon. The rock has a granitoid texture but this does not necessarily imply an igneous origin.*

QS14109 - *A fine to medium grained rock (<0.06 mm-0.3 mm) composed of the following minerals in decreasing order of abundance, viz. epidote, hornblende, quartz, albite, magnetite and sphene. The rock has a regularly mottled appearance caused by a patchwork of epidote and quartz areas. An origin cannot be assigned to this rock.*

QS14110 - *A medium grained amphibolite of average grain size about 0.3 to 0.5 mm . Hornblende comprizes about 70% of the rock with albite and lesser biotite forming the balance. Accessories include magnetite, epidote, quartz, apatite. It is possible this amphibolite is after a basic igneous rock.*

QS14111 - *Another amphibolite composed of abundant hornblende with lesser epidote and quartz. Accessories include magnetite, calcite, biotite, sphene and apatite. There are no relict textures indicative of an igneous origin.*

MOUNT ISA MINES LIMITED

MEMORANDUM

FROM : PETROLOGIST DATE : FEBRUARY 5 1975

TO : MILLING RESEARCH ENGINEER REFERENCE : TF-B/2.6/RES 1.15

ATTENTION : N. DUNCAN

SUBJECT : QS 14098 - 14103, GOSSANS FROM CATHEDRAL ROCK EL83

REPORT NO. 3584

INTRODUCTION

Six samples (QS 14098 - 14103) of gossan from EL83 were submitted for description. The available information on the samples was provided in a supporting memorandum.

SUMMARY OF RESULTS

QS 14098 - Martitized magnetite bearing lithology with minor pyrite
14099 - Massive-pyrite gossan
14100 - Massive-pyrite gossan
14101 - Massive-pyrite (+ chalcopyrite?) gossan
14102 - Exotic siliceous goethite enclosing minor pyrite relicts
14103 - Massive pyrite (+ pyrrhotite?) gossan

RESULTS

Sample QS 14098, P1-7404-7 is breccia composed of large quartz fragments set in a matrix of an altered magnetite rich lithology. All of the magnetite has suffered extreme martitization. Also enclosed by the magnetite bearing material are a number of small areas of coarse boxwork. The sinuous but subrectangular structure suggests that the primary phase may have been chalcopyrite. A small amount of pyrite was also present usually in close association with the chalcopyrite?

Sample QS 14099, P2-7404-7 is composed entirely of goethite replicas and boxworks formed by the weathering of coarse-grained well crystalline pyrite.

Sample QS 14100, P3-7404-7 is composed almost entirely of the most perfect example of pyrite boxwork I have seen. The cell walls are strongly zoned, evidence that leads me to suspect that weathering rates may not have been high.

Sample QS 14101, P4-7404-7 consists almost entirely of goethite boxwork and pseudomorphs after pyrite enclosing a few areas of what may be chalcopyrite boxwork and minor quartz grains.

Sample QS 14102, P5-7407-7. Except for minor patches of badly broken goethite boxwork probably following pyrite the sample is composed of irregular colloidal growths of siliceous goethite.

Sample QS 14103, P6-7404-7 is composed of mass of poorly preserved goethite boxwork and replicas after pyrite and possibly minor pyrrhotite.

T. Finlow-Bates

T. Finlow-Bates

cc.
Milling Resear Engineer Technical Services Manag
Manager, C.E.C. Pty Ltd, Brisbane
Research Geologist, C.E.C. Pty Ltd, Brisbane
District Geologist, C.E.C. Pty Ltd, South Australia
Attention: N. Duncan
Research Geology File (2)

C. E. C. - MEMORANDUM

Date: February 21, 1975.

To: DISTRICT GEOLOGIST - ADELAIDE

From: RESEARCH GEOLOGIST

File Ref: Tech. / Legal / Admin.
NJWC:SF

Subject: QS 14112

ATTENTION : N DUNCAN

REPORT NO.0975-030

OBJECTIVE

To identify geological specimen QS 14112 collected 300 m west and along strike from the Lady Louise copper mine (Cathedral Rock E.L.83, S.A.).

The rock was submitted by N. Duncan.

QS 14112

A medium grained, thickly layered metamorphic rock of the following estimated % volume composition, viz. -

	% volume
K-Feldspar	45
Albite	35
Hornblende	10
Quartz	5
Epidote	4
Accessories	1
	100

...2

ACTION AND/OR COMMENTS Date

QS 14112 is essentially a K-feldspar, albite rock in which the albite forms roughly equant, even size crystals averaging about 0.8 mm across. The accompanying K-feldspar forms a finer grained, equigranular groundmass in which the K-feldspar grains average about 0.2 mm in size. The albite is crowded with granular epidote. A few large epidote individuals are scattered through the slide. The hornblende is generally flakey and widespread, perhaps being preferentially associated with K-feldspar.

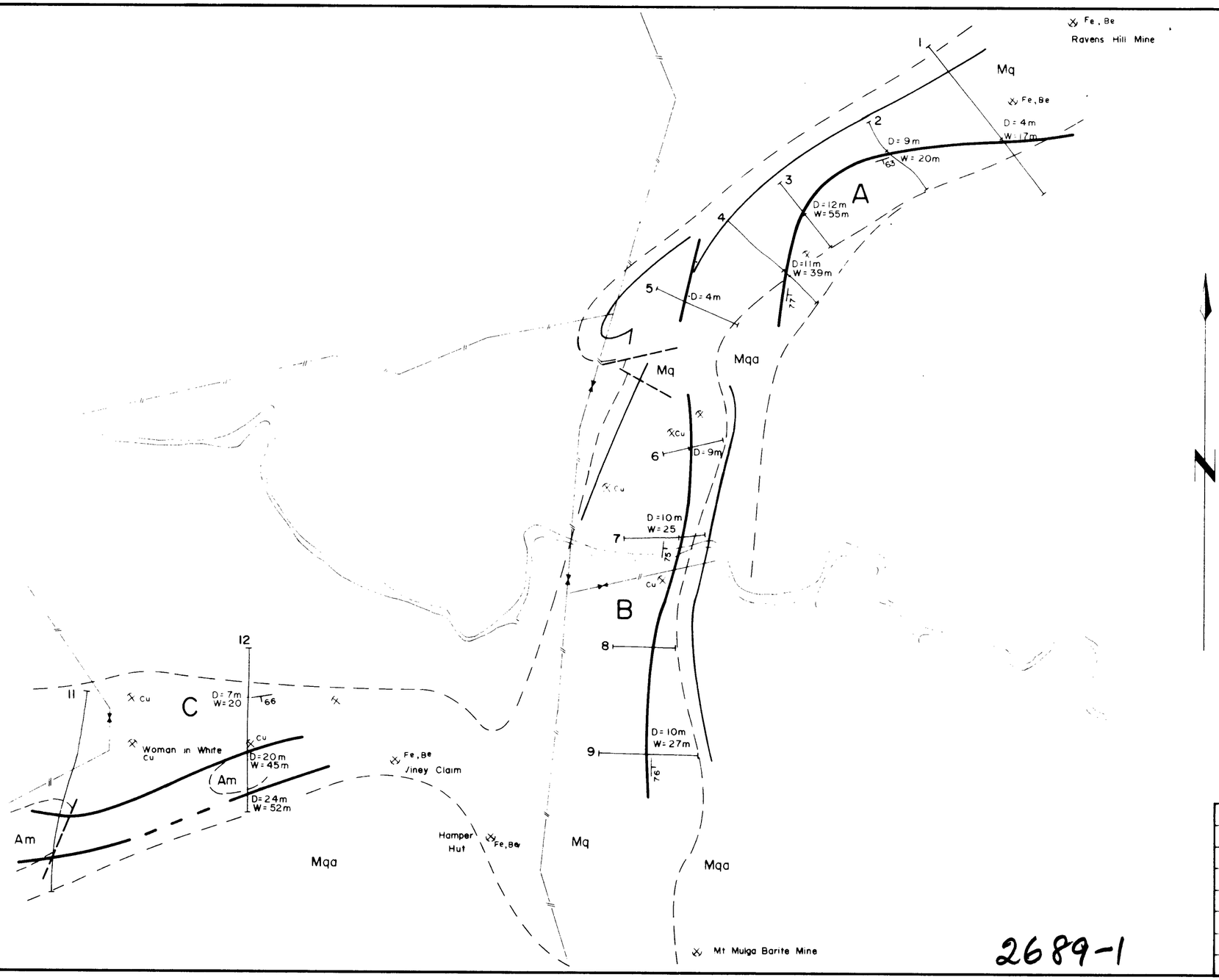
Accessory minerals are apatite, sphene and a grain of zoned limonite almost certainly after a pyrite crystal.

This is a metamorphic rock belonging to the Amphibolite Facies but unlike most of the amphibolites described from the Broken Hill Region this one contains considerable K-feldspar. The lack of high K_2O analyses for metamorphic rocks in the region suggests that K-feldspar rocks similar to QS 14112 or QS 10812 have been seldom encountered. QS 14112 contains little textural evidence to indicate its origin, except that a crude layering exists which I believe to be relict bedding. As the K-feldspar and albite tend to be layered, this suggests the rock was a composite K-feldspar/plagioclase rock rather than potash metasomatism of an albitolite having happened. In fact K-feldspar rich layers have already been found in some sediments from Kalabity.

N.J.W. Croxford

N.J.W. Croxford

c.c. Research Geologist
File

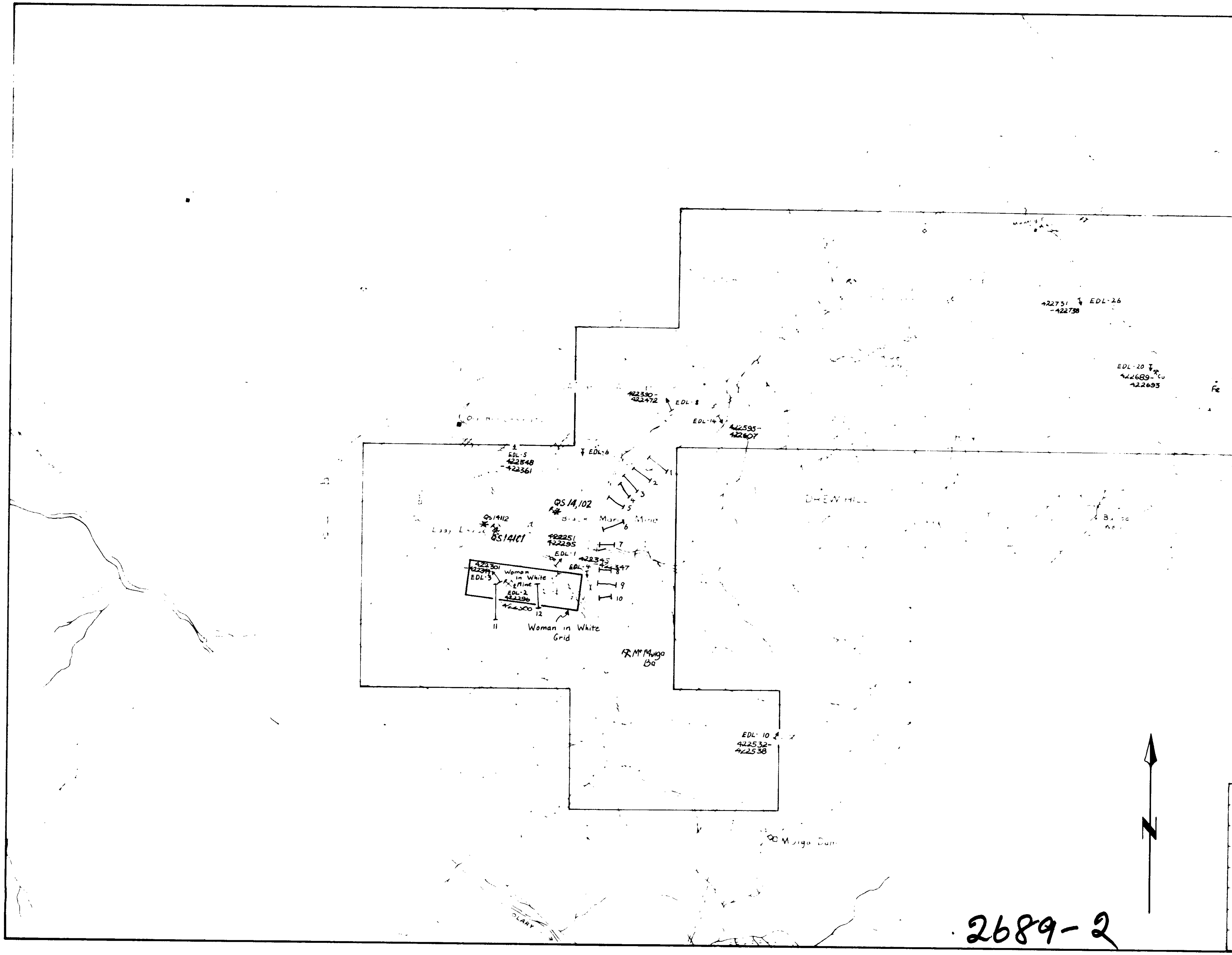


LEGEND

Metaquartzite	Mq
Quartz – feldspar – biotite gneiss	Mqa
Amphibolite	Am
Pegmatite	
Geological boundary	
Fault	
Magnetic trend	
Traverse line showing calculated depth, width and dip	D=10m W=25m 7 75
Fence with gate	
Mine, prospect and quarry	

2689-1

REVISION		SCALE: 10.000	CARPENTARIA EXPLORATION COMPANY PTY LTD
		GEO. V R E	E.L. 83 CATHEDRAL ROCK
		DRAWN. V R E	GROUND MAGNETIC
		CHECKED.	TRAVERSE LOCATION
		DATE. MAY '74	AND INTERPRETATION
		MICROFILMED.	
		ROLL N°.	
		MINING FIELD or DISTRICT: E L 83 CATHEDRAL ROCK	DRG. N° 15270



LEGEND

Geochem. and Magnetometer traverses

Woman in White Grid; mapped and containing geochem. rock chip lines.

✱QS 14113 *sample location - thin section or polished section*

Calcsilicate Quartzite geochem sampling lines -sample numbers

Samples taken in 2m intervals in direction indicated. See schedule accompanying E.L.83 Quarterly Report July 20, 1975 for copper results.

Nov. '76 PAZ	1:50 000	
	VRE	E.L. 219 CATHEDRAL ROCK
	SEPT '76	EXPLORATION SUMMARY
		CATHEDRAL ROCK S.A.
		15486

2689-2

LAKE FROME

E.L. 217

E.L. 227

E.L. 132

E.L. 238

S.A.
N.S.W.

Minad-Teton
appl^n.

E.L. 132

Waukatoo
Mine

Billeroo Hill

Koolka Hill

Mt Howden

Kalabity H.S.

Dome Rock Mine

Tonga Hill

Triangle Hill

Alcorrie Hill

Bimba Hill

Bootcoomatta H.S.

Plumbago H.S.

Bimbowrie H.S.

E.L.219

Esso appl^n.

Broken Hill

Cockburn

Mirgary

Cutana

E.L.208

Olary

E.L. 246

E.L. 255

Manunda Hill

Yunta

Paratoo

E.L. 173

139°30'
140°00'
140°30'
141°00'
141°30'
31°00'
31°30'
32°00'
32°30'
33°00'

TN MN
7.5°

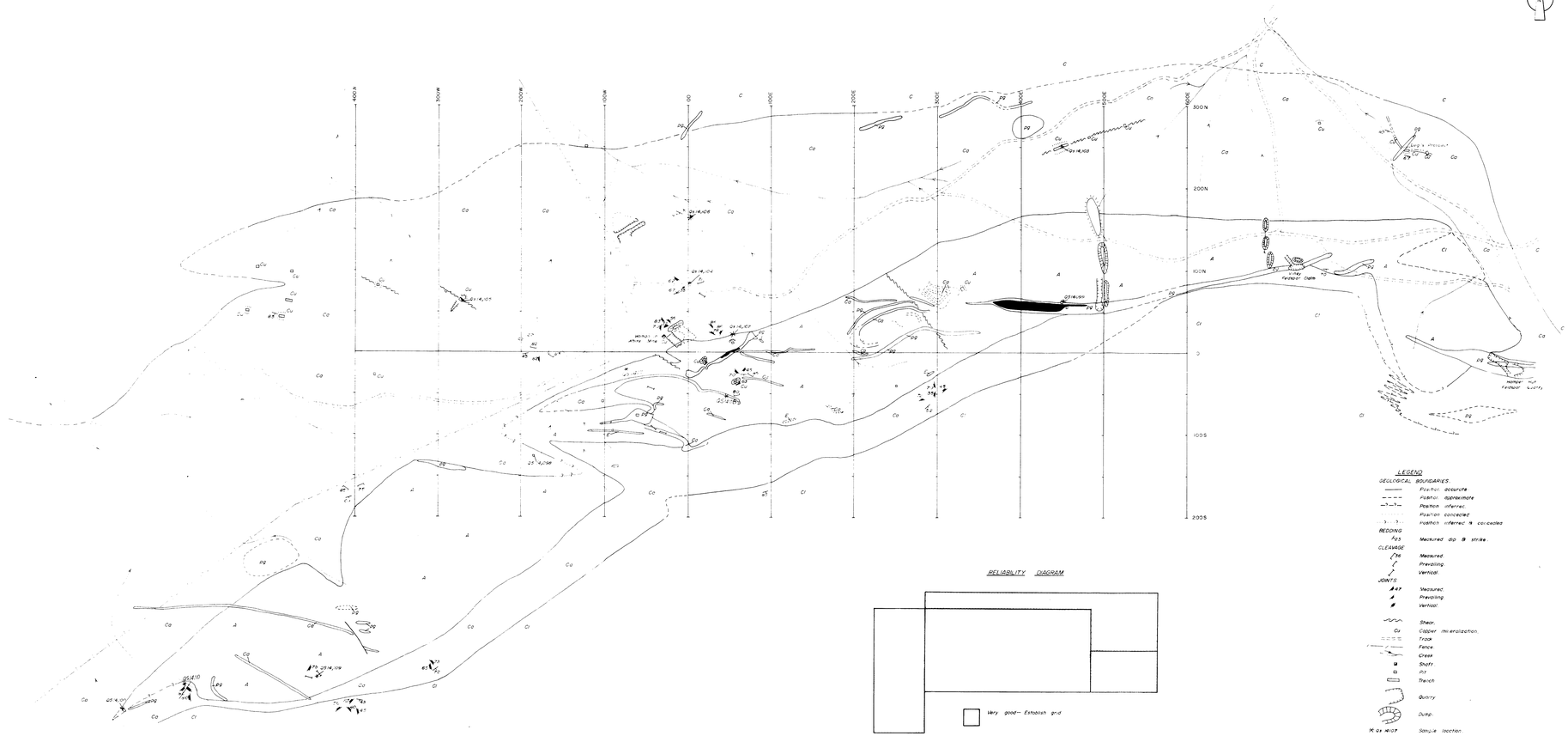
2689-3

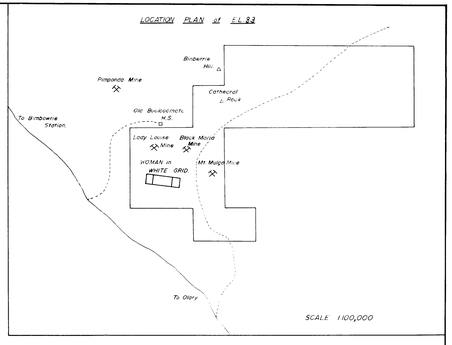
1 500 000
VRE
VRE
SEPT '76

E.L. LOCATION PLAN
– September, 1976

KALABITY

15485





LEGEND

GEOLOGICAL BOUNDARIES:
- Position accurate
- Position approximate
- Position inferred
- Position concealed
- Position inferred & concealed

BEDDING
- 025 Measured dip & strike.

CLEAVAGE
- Measured
- Prevailing
- Vertical

JOINTS
- Measured
- Prevailing
- Vertical

- Shear
- Cu Copper mineralization
- Track
- Fence
- Creek
- Shaft
- Pit
- Trench
- Quarry
- Dump
- Sample location

REFERENCE

Cl — Medium to coarse grained gneisses, schists and white medium grained quartzites

Co — Pale grey, fine to medium grained albitolites exhibiting bedding and carrying minor, fine, subedral to anhedral, disseminated magnetite and hematite
Variable quantities of medium to coarse crystalline, sub-subedral hornblende and/or actinolite and diopside frequently concentrated into rosette aggregates and veins at area of intrusion
Interbeds of white, medium grained, quartz bearing albitolite carrying fine to very fine anhedral to subedral disseminated magnetite and characterized by lack of calc-silicate minerals
This unit grades into unit Cl at top

C — Grey, fine grained, friable, micaceous, thinly laminated meta sandstones grading rapidly northwards into meta siltstones and quartz-mica schists

PG — Coarse grained feldspar-quartz-mica pegmatites occasionally carrying tourmaline and beryl
Massive white quartz

A / E — Cathedral Amphibolite, probable discordant basic intrusive, dark green generally medium grained, hornblende rich rock with most to all original textures obliterated.
Development of massive coarse crystalline epidote.

2689-4

REVISION	SCALE 1:2,000	NEWMARA EXPLORATION COMPANY PTY. LTD.
Nov '76 PMZ	DES. N.D.	E.L. 83 CATHEDRAL ROCK.
	DRAWN A.M.	WOMAN IN WHITE GRID
	DATE September '74	GEOLOGY
	MICROFILM No.	
	ROLL No.	
	MINING FIELD or DIST. CATHEDRAL ROCK.	DRG. No. 15314

E.L. 219

G.N.

LEGEND

LOCALITY MAP
1:800 000

EL 219

2689-5

REVISION		SCALE 20 000	CONSOLIDATED GOLDFIELDS AUSTRALIA COMPANY PTY. LTD.
		GEO VRE	
		DRAWN VRE	CATHEDRAL ROCK
		CHECKED	Sketch plan showing results of previous exploration programmes
		DATE SEPT 76	
		MICROFILMED	
		ROLL NO	
		MINING FIELD or DISTRICT WILLYAMA BLOCK	DRG NO 15487