

CARPENTARIA EXPLORATION COMPANY PTY. LTD.

TECHNICAL REPORT

No. 1474

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TITLE EXPLORATION LICENCE No. 4920 "BARNEY CREEK"
NORTHERN TERRITORY
FIRST AND FINAL REPORT

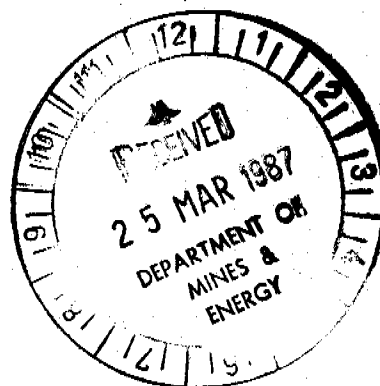
ISSUING
DEPARTMENT EXPLORATION

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SUBMITTED BY A. D. MONT

DATE MARCH 20, 1987



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EXPLORATION LICENCE No.4920 "BARNEY CREEK" NORTHERN TERRITORY

FIRST AND FINAL REPORT

1. INTRODUCTION

Exploration Licence No. 4920 "Barney Creek" is located about 700km southeast of Darwin and about 60km southwest of Borroloola, in the Northern Territory.

The licence was acquired to explore the Barney Creek sub-basin for stratiform lead-zinc-silver deposits, and to test the sub-basin and the "Berjaya" stratiform pyrite occurrence for precious metals.

After appraising the work by previous exploration companies, it was concluded that drilling to test the deepest part of the sub-basin could not be justified. Assaying of selected cores drilled at "Berjaya" and in the Barney Creek sub-basin showed only trace gold and no platinum group metals to be present.

Consequently, the Licence was surrendered, six months after granting.

2. LOCATION AND ACCESS

E.L.4920 was situated approximately 60km southwest of Borroloola in the McArthur River region of the Northern Territory. The Licence had a common boundary with Mining Reserve No.581, which encloses the large HYC lead-zinc-silver deposit to the east.

Road access to the Licence area is via the Carpentaria Highway which runs from Daly Waters on the Stuart Highway to Borroloola.

3. TENURE

E.L.4920, covering 142 sq.km., was applied for on November 25, 1985, and granted on June 17th, 1986. The expenditure commitment for the first year of tenure was set at \$10 000.

4. GEOLOGY

Detailed descriptions of the geology of the area and the McArthur region are readily available in reports by other companies and in Government publications.

Drawing No. 32635, included with this report, shows the outcrop geology.

Briefly, rocks belonging to the Carpentarian age McArthur Group are found throughout the Licence area. The Barney Creek formation, host to the HYG deposit to the east, occurs as poor outcrops in the central part of the E.L., roughly marking the central zone of the Barney Creek sub-basin. This is surrounded by areas of outcropping Emmerrugga Dolomite, except in the northern portion of the E.L., where the Lynott Formation unconformably overlies the Emmerrugga Dolomite. The "Berjaya" pyritic sequence lies within the lower Lynott shales and siltstones.

5. PREVIOUS EXPLORATION

Several exploration companies and the Bureau of Mineral Resources have at various times conducted investigations in and around the E.L.4920 area.

Carpentaria Exploration Company Pty Ltd geologically mapped the area in 1966 as part of a wider programme under Authority to Prospect No.1748. (NTGS Open File Reports CR68/14, CR69/12 A & B.)

The BMR studies which commenced in 1977 are reported in several BMR Records.

A.O. (Australia) Pty Limited, as one of a group of companies forming the "Bauhinia Joint Venture", carried out extensive exploration in the region under a number of Exploration Licences. This work commenced in 1977. One of the results was the discovery of the "Berjaya" stratiform pyrite occurrence in the lower Lynott Formation in E.L.1203. This mineralisation was detected by an INPUT airborne survey and later confirmed by four diamond drillholes, BJ-1 to BJ-4. The Shell Company of Australia Limited entered the Joint Venture in 1979 and continued exploring in the area up until 1981. (NTGS Open File Reports CR79/8 A & B; CR 80/19; CR83/18A.)

BHP Minerals Limited was granted E.L.4363 in September 1983 and surrendered it in April 1984. During this time BHP carried out a detailed aeromagnetic survey, two ground EM surveys and drilled five diamond holes.

Carpentaria's later E.L.4920 covered precisely the same area as BHP's former E.L.4363.

6. WORK BY CARPENTARIA EXPLORATION COMPANY PTY LTD

6.1. Barney Creek Sub-basin

BHP's aeromagnetic and drillhole data was examined, together with the log of Carpentaria's old diamond drillhole Barney Creek 3DD, drilled in 1976 and located 1km ENE from BHP's DDH McA-10.

The re-interpretation of hole 3DD suggested that the HYC horizon has been faulted out at that point, possibly by a basin margin fault striking ENE through the site of 3DD. The magnetics show a trend in this direction. From this, it appeared possible that DDH McA-10 also may not have been in a position to have drilled a full thickness of the Barney Creek Formation, and a tentative conclusion was reached that a more complete sequence might exist in what appeared to be the centre of the Barney Creek sub-basin, a short distance to the southwest of McA-10.

From the above and from the magnetics, the depth to the HYC horizon in the interpreted basin centre was thought likely to be in the order of a few hundred metres. Given this, together with the possibility that mineralisation, if present, might be of an extremely fine-grained nature, it was decided that further geophysics and/or drilling could not be justified on economic grounds.

6.2. Drill Core Assaying for Precious Metals

Cores from two of the four "Berjaya" prospect diamond drillholes, BJ-1 and BJ-3, are kept at the NTGS Core Library in Winnellie, Darwin. Quarter core samples of the intervals through the pyritic section of the lower Lynott Formation in these holes were obtained and assayed for gold and platinum, and also for arsenic as a gold indicator.

Samples from BHP's DDH McA-10, from the Barney Creek Formation intersection in the top part of the hole, were also assayed for the same three elements.

All the samples were washed free of core saw sludge before being sent for assay, to try and avoid any contamination. Fire assay was used for the gold and platinum determinations.

Gold levels were interesting, with several one-metre samples assaying at over a tenth of a gram per tonne, and the averages for the sections assayed in holes BJ-1, BJ-3 and McA-10 were 0.081, 0.076 and 0.076 g/t Au respectively.

All platinum assays were below the level of detection.

The assay results together with their drillhole depth intervals are given in the appendix to this report.

7. CONCLUDING COMMENT

Neither the tentative re-interpretation of the geology of the Barney Creek sub-basin nor the results of assaying for precious metals in the three drillholes within the Licence gave any encouragement for further exploration, and the Licence was surrendered.

APPENDIX

ASSAY RESULTS



AUSTRALIAN ASSAY LABORATORIES GROUP

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analysis report for

CARPENTARIA EXPLORATION CO. PTY. LTD.

CODE: PC 02611

DATE: 12/09/1986

Client reference: QP36381

Copies to: PETER SIMPSON

SAMPLES: received 22/08/1986

TYPE

PREPARATION CODE

ANALYSIS	Code	Quality Parameter	Detection Limit	Units
Au	FA50/D610	Acc. \pm 15%	0.01	ppm
Au(R)	---	---	0.01	ppm
Pt	FA100	Prec. \pm 10%	0.005	ppm
As	AAS/D100	Prec. \pm 10%	2	ppm

SENIOR CHEMIST: ALLEN SHARMAN



AUSTRALIAN ASSAY LABORATORIES GROUP

CODE: PC 02611

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Sample	Au	Au(R)	Pt	As	
QP 36381	0.16		<0.005	800	22-23m
QP 36382	0.08		<0.005	670	23-24m
QP 36383	0.13	0.08	<0.005	440	24-25m
QP 36384	0.09		<0.005	230	25-26m
QP 36385	0.06		<0.005	270	26-27m
QP 36386	0.07		<0.005	110	27-28m
QP 36387	0.10		<0.005	200	28-29m
QP 36388	0.03		<0.005	200	29-30m
QP 36389	0.04		<0.005	240	30-31m
QP 36390	0.05		<0.005	130	60-61m
QP 36391	0.08		<0.005	120	61-62m
QP 36392	0.08		<0.005	230	62-63m
QP 36393	0.11		<0.005	190	63-64m
QP 36394	0.06		<0.005	<2	64-65m
QP 36395					(CEC CHECK SAMPLE)
QP 36396	0.10	0.10	<0.005	150	43-44m
QP 36397	0.07		<0.005	120	44-45m
QP 36398	0.09		<0.005	290	45-46m
QP 36399	0.05		<0.005	<2	46-47m
QP 36400	0.11		<0.005	<2	47-48m
QP 36401	0.07		<0.005	140	48-49m
QP 36402	0.07		<0.005	150	49-50m
QP 36403	0.08		<0.005	210	60-61m
QP 36404	0.11		<0.005	290	61-62m
QP 36405	0.05		<0.005	250	62-63m

"BERJAYA"
BJ-1, DDH

"BERJAYA"
BJ-3, DDH

Data in ppm unless otherwise stated.



AUSTRALIAN ASSAY LABORATORIES GROUP

CODE: PC 02611

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Sample	Au	Au(R)	Pt	As	
QP 36406	0.09		<0.005	<2	63-64m
QP 36407	0.06		<0.005	140	64-65m
QP 36408	0.06		<0.005	110	65-66m
QP 36409	0.13		<0.005	210	66-67m
QP 36410					(CEC CHECK SAMPLE)
QP 36411	0.04	0.08	<0.005	260	26-27m
QP 36412	0.14	0.20	<0.005	310	29-30m
QP 36413	0.08		<0.005	220	31-32m
QP 36414	0.11		<0.005	360	33-34m
QP 36415	0.09		<0.005	140	34-35m
QP 36416	0.08		<0.005	100	35-36m
QP 36417	0.07		<0.005	130	36-37m
QP 36418	0.05		<0.005	<2	37-38m
QP 36419	0.11		<0.005	<2	38-39m
QP 36420	0.13		<0.005	<2	39-40m
QP 36421	0.02		<0.005	160	40-41m
QP 36422	0.10		<0.005	<2	41-42m
QP 36423	0.09		<0.005	<2	42-43m
QP 36424	0.08		<0.005	<2	43-44m
QP 36425					(CEC CHECK SAMPLE)

DDN BJ-3
"BERTAJA"

DDH MCA-10 (E24363)

BHP's

Data in ppm unless otherwise stated.

