C.R.A. EXPLORATION PTY. LIMITED

FINAL REPORT ON PA 3230 AND PA 3239

HOBBLECHAIN CREEK, N.T.

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Date: 8th December, 1972.

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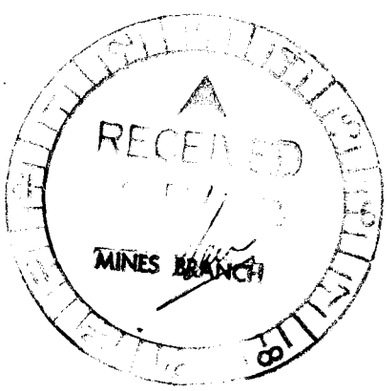

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1. SUMMARY

Ground inspection and geochemical sampling of photo-interpreted features have been carried out. It is concluded the features are the expression of natural variations in topography and vegetation, unconnected with mineralized breccias.

2. INTRODUCTION

Photogeological interpretation of large scale aerial photography of PA 3230 and PA 3239 indicated 34 features which might have represented breccias. Features were identified on the basis of:-

(a) negative topographic expression;

(b) soil colour anomaly; and

(c) vegetation anomaly.

This work was carried out early in 1972 and is described in the report titled "PA 3230 and PA 3239, Hobblechain Creek N.T. - Photogeological Interpretation" by W.H. Johnston and dated March, 1972.

That report recommended field investigation of a selection of the interpreted features. The present report describes the results of the field investigation during which a selection of features representative of the various types was visited. Geochemical soil samples were collected where appropriate.

Sample localities and copper assays are plotted on Plan NTd 178.

3. DESCRIPTION OF FEATURES

3.1. Features of Negative Topographic Expression

Feature No. 16

This depression is an area of natural grassland in heavily timbered savannah. Grasses grow on sandy loam infilling a window in ferruginous laterite. Soil sample 81877 assayed 5 ppm Cu.

Feature No. 4

The depression is a clearing in heavily timbered ti-tree swamp. No outcrop is visible. Soil sample 82075 assayed 12 ppm Cu.

3.2. Features of Anomalous Soil Colour

Features Nos. 3, 6 and 7

These features are swamps. At the time of photography the swamps were dry and the black organic muds deposited in them provide a sharp colour contrast with the surrounding vegetation. Scattered boulders of micaceous fine grained sandstone around the margins of the swamps show no evidence of brecciation or mineralization. Soil samples 81875 and 81876 assayed 80 ppm Cu and 12 ppm Cu respectively.

Feature No. 28

The anomaly results from the colour contrast between reeds and marsh grasses and the surrounding trees. Scattered boulders of medium grained ferruginous sandstone exhibit no brecciation or copper mineralization. Soil sample 82076 assayed 56 ppm Cu.

3.3. Features of Anomalous Vegetation

Feature No. 15

This feature is poorly defined as a slight difference in canopy height of an otherwise uniform floral assemblage. No topographic anomaly occurs.

Feature No. 31

The feature is an area of spinifex surrounded by eucalyptus savannah. The spinifex is confined to the extent of outcropping ferruginous laterite. Soil sample 82071 assayed 45 ppm Cu.

4. CONCLUSIONS

All the photo-interpreted features inspected in the field are directly related to natural phenomena such as erosional effects or variations in floral assemblage with soil type or outcrop lithology.

The lack of visual evidence of brecciation or copper mineralization is supported by soil geochemistry which returned assays in the range 2 - 80 ppm Cu.

5. RECOMMENDATIONS

It is recommended no further work be undertaken.

It is recommended the joint venture be terminated.

W.H. Johnston

WHJ:jm

Attachment: Geochemical Soil Sampling Ledger - one sheet.

REFERENCE

Johnston, W.H. 1972: PA 3230 and PA 3239 Hobblechain Creek, N.T. - Photogeological Interpretation. C.R.A.E. Report (unpublished).

KEYWORDS

Copper, Breccia, Photogeology, Geochem - soil.

Locality: Robinson River 1:250,000 SE/53/4

PLAN

Plan No.	Title	Scale
NTd 178	Hobblechain Creek PA 3230 and PA 3239 Investigations of Photo-interpreted Features.	1:50,000 (approx.)

SOS 7/70

C. R. A. E. 31.

5 OFF

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GEOCHEMICAL SOIL SAMPLING LEDGER

AREA HOBBLECHAIN CREEK PA's 3230 & 3239 SAMPLE Nos. 82071, 82075-82076; 81875-81877 COLLECTED BY W.H.J.

MAP OR PHOTO REFERENCE NTd 178 ANALYSED BY Z.C.

Grid Co-ordinate	Sample No.	Soil composition					Soil horizon	Sample			Bedrock			Metal content, p. p. m.										Geological observations
		Rock %	Laterite %	Sand %	Silt %	Clay %		Depth (inches)	Colour (Munsell) Chart No.	pH	Outcrop	Concealed	Est. Depth to	Pb	Zn	Cu	Ni	Co	Cr	Mn	Ag	Mo	As	
																								0-3
	81875			20	60	20	B	36					?	52	41	80				660	1			Grey clayey soil with small ferruginous nodules.
	81876			20	60	20	B	36					?	16	31	12				280	1			Grey clayey soil with small ferruginous nodules.
	81877	10		60	30		B	12					?	7	1	5				610	1			Light brown sandy soil developed on Ferricrete
	82071	20		40	20		B	30						20	13	45				1120	1			Sandy lightly ferruginous soil on laterite.
	82075			20	20	60	B	24						13	9	12				570	1			Grey sandy clay.
	82076			20	10	80	B	30						16	11	56				580	1			Mottled red-white clay soil

N

P.A. Boundary (Approx)

PA 3230

PA 3239

PRIORITY 3 — No 1 Depression

PRIORITY 3 — No 2 Depression

Mountain Ck

PRIORITY 3 — No 3 Soil Swamp ?

Soil Cover Anomalies No 6 81875 / 80

PRIORITY 2 — No 4 81876 / 12

Swamps
Some boulders of micaceous fine-grained sandstone probably Pungalina Member

PRIORITY 2 — No 10 — Anomalous Soil Colour in Shallow Depression

PRIORITY 2 — No 9

No 11 Depression

Prominent Outcrop Vegetation Anomaly

Concentric Trend Lines

Ill-defined variations in canopy height. No obvious mineralisation or brecciation.

ML 33C

No 24 82075 / 12

Anomaly is a natural clearing in paperbark swamp.

No 13 Swamp

PRIORITY 2 — No 14 Vegetation Anomaly

PRIORITY 1 — No 15 Vegetation Anomaly

Anomaly is ill-defined as a slight change in the height of canopy.
No obvious topographic change. A few scattered Lateritic boulders.

Running Ck

PRIORITY 2 — No 16 Shallow Depression — 81877 / 5

Area of natural grassland with scattered outcrops of Fe. laterite.

No 18 — PRIORITY 3 — Shallow Depressions Probably Swamps — No 17

Hobblechain Ck

PRIORITY 1 — Window within Rhyolite No 19

PRIORITY 1 — No 20 Pronounced Depression

Vegetation Anomaly No 22

Colour Ck

PRIORITY 2 — No 23 Vegetation Anomaly ? Swamp

PRIORITY 1 — Windows within Rhyolite — No 24 — No 25 — No 26

Cooper Ck

PRIORITY 2 — Soil Colour Anomaly in Outcrop

PHOTO GAP

South of this Line Area of Dominant Dune Extensive Variations in Soil Colour

No 20 Pronounced Depression

PRIORITY 1 — No 30 Pronounced Depression

No 27

PRIORITY 2 — No 28 — 82076 / 56 — Shallow Depressions Vague Colour Anomalies

Low-swampy area with a few scattered boulders of sandstone.
No Volcanics or Breccia.
Colour Anomaly is area of natural grasses.

Riffle Ck

Prominent Outcrop

No 32 Shallow Depression

PRIORITY 2 — No 33 Vegetation Anomaly

No 31 — 82071 / 45 — PRIORITY 2

Shallow Depression with Vegetation Anomaly. Probably a swamp
Vegetation Anomaly. Spinifex developed on Ferruginous Laterite.
No Breccia or Cu. mineralisation.

Gul' Ck

No 34 — PRIORITY 3 — Anomalous Soil Colour

P.A. Boundary (Approx)

SCALE 1:50,000

1 0 1 2 3 4 miles

1 0 1 2 3 4 5 kilometres

LEGEND

QUATERNARY

Czs/Qa — Alluvium, soil, sand, ferruginous cemented detritus

LOWER PROTEROZOIC

- Masterton Formation — Ptm — Red, medium grained quartz sandstone, locally feldspathic, with polymictic conglomerate, white massive medium-grained feldspathic sandstone
- Pungalina Member — Ptp — Red-brown flaggy fine grained sandstone and siltstone
- Hobblechain Rhyolite Member — Pth — Porphyritic rhyolite
- Gold Creek Volcanic Member — Ptg — Basalt, dolomitic lithic sandstone, tuffaceous siltstone, volcanic agglomerate and siltstone

Igneous Rocks Precambrian

Packsaddle Microgranite — Pgr — Porphyritic microgranite

- Drainage
- Geological Boundary
- Strike and Dip
- Trend of Jointing
- Fault
- Syncline Axis
- Track
- No 23 — Feature of Interest
- 82075 X / 5 — Geochemical Soil Sample number and location with Cu. assay value in p.p.m.

Darwin

18°00' 132°00'

LOCATION PLAN

CR 72/77

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HOBBLECHAIN CREEK P.A. 3230 & P.A. 3239 INVESTIGATIONS OF PHOTO INTERPRETED FEATURES

Drawn rh Oct 72 | Scale 1:50,000 Approx | Plan No NTd 178