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EL 8

ANGEPENA HILL

PROGRESS REPORT TO LICENCE EXPIRY/SURRENDER FOR THE PERIOD 21/9/1972 TO 20/9/1973

Submitted by
Wilban Pty Ltd
1972

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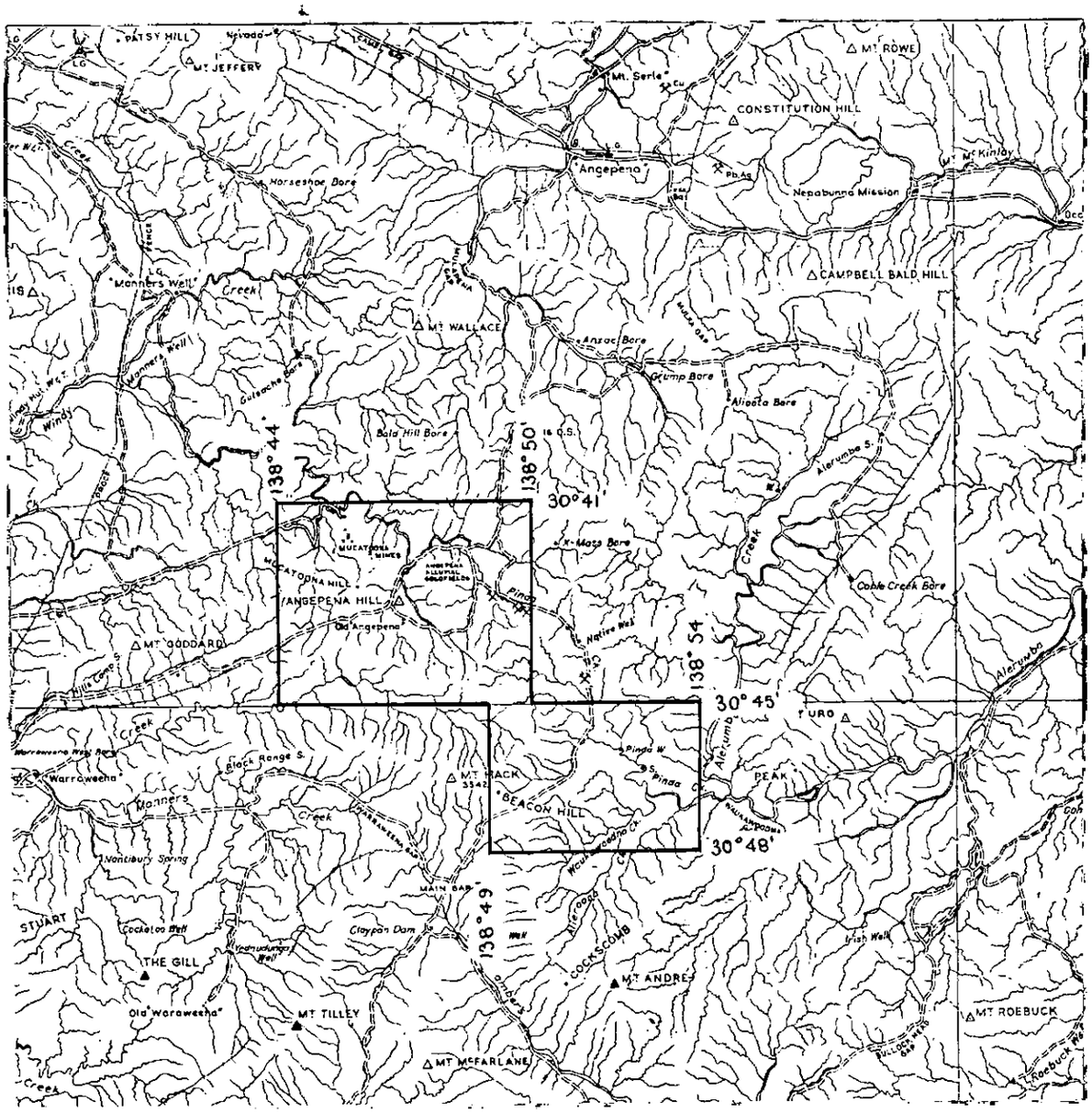
Government of South Australia
Primary Industries and Resources SA

SCHEDULE 'A'



SCALE 1:250000

WILBAN PTY. LTD.

DOCKET DM 748/72 AREA 115 km²

1:250000 PLANS COPLEY

LOCALITY ANGEPENA HILL – 40 km E.N.E. OF BELTANA

E.L. No. 8 EXPIRY DATE 20·9·73

WILBAN PTY. LTD.

REPORT ON GEOLOGICAL INVESTIGATION on EXPLORATION LICENCE 8 PINDA CREEK AREA FLINDERS RANGES SOUTH AUSTRALIA

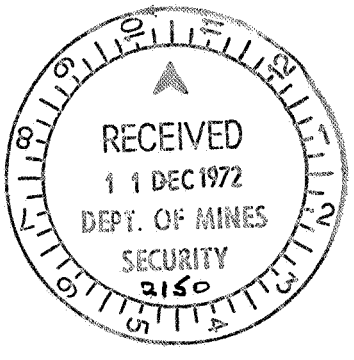
by

T.J. KENNEDY B.Sc.

of

MINOIL SERVICES PTY. LTD.

November, 1972.



CONTENTS

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SUMMARY

Ten days were spent in a geological appraisal of E.L. 8 in the northern Flinders Ranges.

No significant economic mineralization was located in the area of E.L. 8 but interesting mineralization occurs in areas held by private claim adjacent to E.L. 8.

1. INTRODUCTION.

This report covers geological work carried out for Wilban Pty. Ltd., on Exploration Licence (E.L.) 8.

E.L. 8 covers some 115 square kilometres in the Pinda Creek area of the northern Flinders Ranges.

Access to the area is reasonable, either via Beltana and Warraweena Homestead or via Copley and Angepena Homestead. The area covered by E.L. 8 is in mountainous terrain and tracks are mainly confined to the larger valleys.

2. PREVIOUS WORK.

Previous work has been carried out by Anaconda, Carpentaria Exploration, Electrolytic Zinc and Westgate Drilling Co. Pty. Ltd.

Anaconda carried out extensive rockchip sampling in the area. Carpentaria Exploration tested by I.P. and drilled the Angepena ironstone. Carpentaria also drilled the Mucatoona Copper Mine, this area now being excluded from E.L. 8 as it is held under private claims. Electrolytic Zinc carried out an aerial survey followed by soil sampling. Westgate Drilling conducted a stream sediment sampling programme in the Pinda Creek area and outlined two broad anomalous zones.

3. REGIONAL GEOLOGY.

The area consists of faulted and folded rocks of Adelaidean age in conformable contact with faulted and folded Cambrian sediments. In addition diapiric zones occur in the south central part of E.L. 8 and also in the northern part in the vicinity of the Mucatoona Copper Mines. All known copper occurrences occur within or on the edge of diapiric structures.

4. PRESENT INVESTIGATIONS

4.1. GEOCHEMICAL ANOMALIES

Particular attention was paid to the areas defined as anomalous in copper by the Westgate Drilling stream sediment survey.

The Westgate Anomaly A occurs entirely within the diapir. No copper mineralization was observed within this anomaly. Basic intrusive rocks were found to crop out in the eastern part of this anomaly. A higher copper background value in these intrusives would probably explain high stream sediment values. Calcite and quartz reefs striking 60° were observed in the northern part of this anomaly A. These reefs were ferruginous but otherwise unmineralized.

The Westgate Anomaly B occurs along the western edge of the diapir where it is in faulted contact with Adelaidean sediments. No copper mineralization was observed in this area. Highly folded dolomites and cherts were the main rock unit within the diapiric zone here whereas sandstones dipping W outcrop to the west. Much of the contact zone between the two rock units is obscured by scree from the Mt. Hack range which overlooks the area from the north west.

4.2. ANGEPENA GOLD FIELD

The Angepena Alluvial Gold Field lies down slope from the north-western end of the Angepena Ironstone Reef. Numerous shallow pits have been excavated, mainly on low ridges between small creeks down hill from the reef.

The reef is about 20 feet wide and dips north-east at a low angle, parallel to the bedding of Adelaidean sediments above and below. Hence the reef is probably the weathered equivalent of a bedded ironstone. It is continuous for a strike length of 14,000 feet but passes out of the eastern boundary of E.L. 8 only 1½ miles down strike from the alluvial gold field.

It had previously been suspected by Carpentaria Exploration that the reef was the source of the alluvial gold. Carpentaria sampled the reef over its entire length and tested it with 3 I.P. lines. In addition 3 holes were

drilled to intersect the reef at depth. No sulphide or gold was encountered, the deepest of these holes "Angepena 6", intersecting the ironstone at a vertical depth of 580'. The reef was found to have diminished from a surface width of 30 feet to two stringers only a few inches wide at this depth.

Several shafts have been sunk on the ironstone over a strike length of 2½ miles. No sulphides or other minerals are evident from the mine dumps. Gold was reported to have been won from a shaft near the eastern end of the reef (Angepena Treasure) but "salting" was suspected. (Brown, 1908).

An examination was made for surface expression of weak anomalies defined on Carpentaria I.P. lines 2 and 3. Nothing was found however.

4.3. OTHER PROSPECTS

4.3.1. Mucatoona Copper Mines.

A brief examination was made of the eastern part of the Mucatoona Mines. These mines are some 2½ miles N.N.W. of the Old Angepena Homestead. Copper occurs as secondary minerals and within a flat lying grey shale of the Marinoan Series (Upper Adelaidean).

Since the main area of the mines is held in private claims it is excluded from E.L. 8 and hence was not examined in detail. However the area is quite promising and should be examined, if an opportunity arises, as a potential source of low grade copper.

4.3.2. Waukawoonda Creek Silver-Lead.

Narrow reefs of galena in quartz were observed cutting through shale on a branch of Waukawoonda Creek 4 miles E.S.E. of Mt. Hack. These reefs have been opened up in a series of shallow trenches over a strike length of 600 feet. At the eastern end of the prospect two quartz veins 4 inches wide and a few inches apart with a strike of 130° and a vertical dip cut through shale which has a dip of 30° S.E. These quartz veins contain galena with some sphalerite and a little malachite. This area is held in private claims and is excluded from E.L. 8.

4.3.3. Pinda Creek Copper Deposits.

Two miles east of the Waukawoonda Creek silver lead deposits secondary copper was observed on a steep hill overlooking Pinda Creek. Small pods of malachite and azurite were seen in overturned folds which had a strike of 150°, and a dip of 45° E.N.E. and a plunge S.E. at 20°. The thickness of the lode was 3 feet. The wall rock was a green shale with siliceous pods. The area is held in private claims and hence was not examined in more detail since it is excluded from E.L. 8.

4.3.4. S.E. of Old Angepena Homestead.

Three diggings, comprising 2 shallow pits and a shallow shaft were observed 1½ miles S.E. of Old Angepena Homestead.

In the northernmost pit malachite was exposed in a vertical shaft 1 foot wide and striking S.E.

About 600 feet further south a slightly larger pit exposed a vertical lode, 2 feet wide striking N and also containing malachite.

No trace of copper was observed in a shallow shaft 150 feet south of the above. These workings are considered to have no potential for economic mineralization.

4.3.5. Wheal Besley.

This mine, reported to be ½ mile east of Angepena Hill was not located, but malachite floaters were found in a creek in the vicinity. Carpentaria Exploration reported the Wheal Besley as consisting of secondary veins, narrow and isolated and of no significance.

5. CONCLUSIONS AND RECOMMENDATIONS

Prospects within E.L. 8 showed little promise and no further work is recommended on them. Several traverses across the main rock units in the region failed to locate any further mineralization or areas with a suitable geological environment for mineralization.

Prospects held by private claim in the area, such as the Mucatoona and the Pinda Creek Copper Deposit are of some interest and should be examined in more detail if an opportunity arises.

T.J. KENNEDY,
Geologist,
MINOIL SERVICES PTY. LTD.

REFERENCES

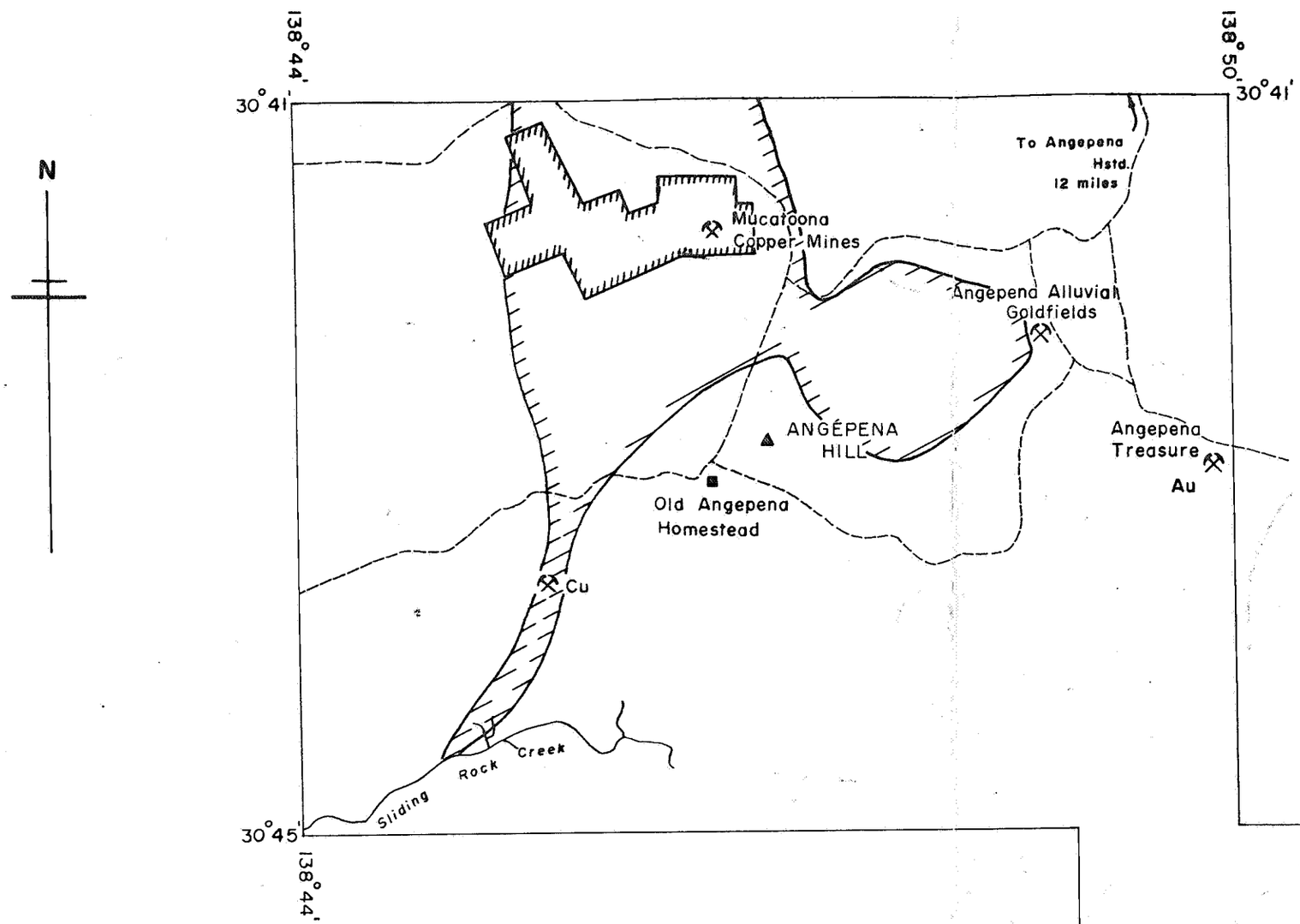
BROWN, H.Y.L.
1908
Record of the Mines of South Australia.

WHITEHEAD, S.
1966
Reports on S.M.L.'s 113, 136 and 142 - Mt. Hack Area. Anaconda.

SMITH, W.D.
1969
Technical Report No. 173 on S.M.L. 171 - Carpentaria Exploration Co. Pty. Ltd.

DONOVAN, P.R.
1971
(McPhar Geophysics Pty. Ltd.)
Detailed Stream Sediment Reconnaissance Survey, Mt. Hack Area, S.M.L. 519 for Westgate Drilling Co. Pty. Ltd.

DANDY, B.C.
1971
(McPhar Geophysics Pty. Ltd.)
Report on Reconnaissance Geological Investigations, Mt. Hack Area, S.M.L. 519 for Westgate Drilling Co. Pty. Ltd.

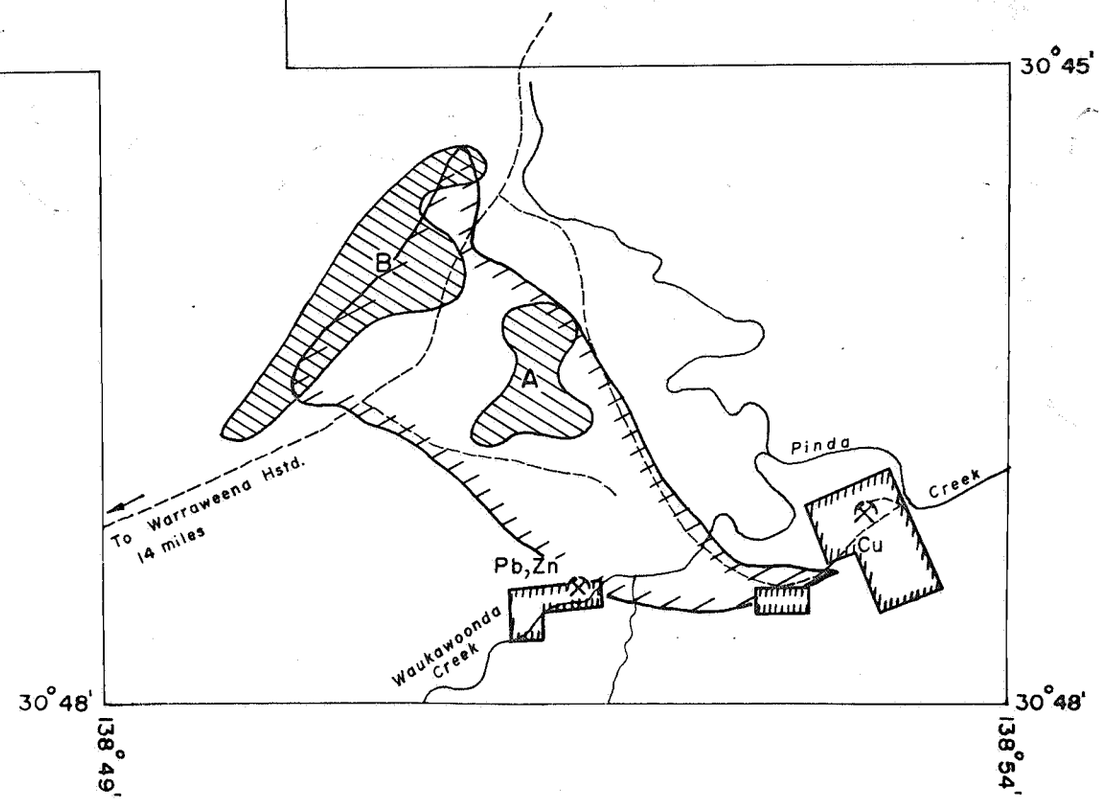


SCALE IN MILES

1 0 1 2 3

LEGEND

- Track
- Au — Gold prospect
- Cu — Copper prospect
- Pb,Zn — Lead - Zinc prospect
- Areas under claims and excluded from E.L.8
- Area of Westgate Geochemical Anomaly
- Diapiric zone



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NORTHERN FLINDERS RANGES		
E.L.8 PROSPECT LOCATIONS		
Geologist: T. J. KENNEDY	SOUTH AUSTRALIA	MINOIL SERVICES PTY. LTD. ADELAIDE S.A.
Date: NOVEMBER 1972		