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EL 50

PANDURRA

REPORT ON THE MOUNT WHYALLA BARITE MINE

Submitted by
Mount Gunson Mines Pty Ltd
1974

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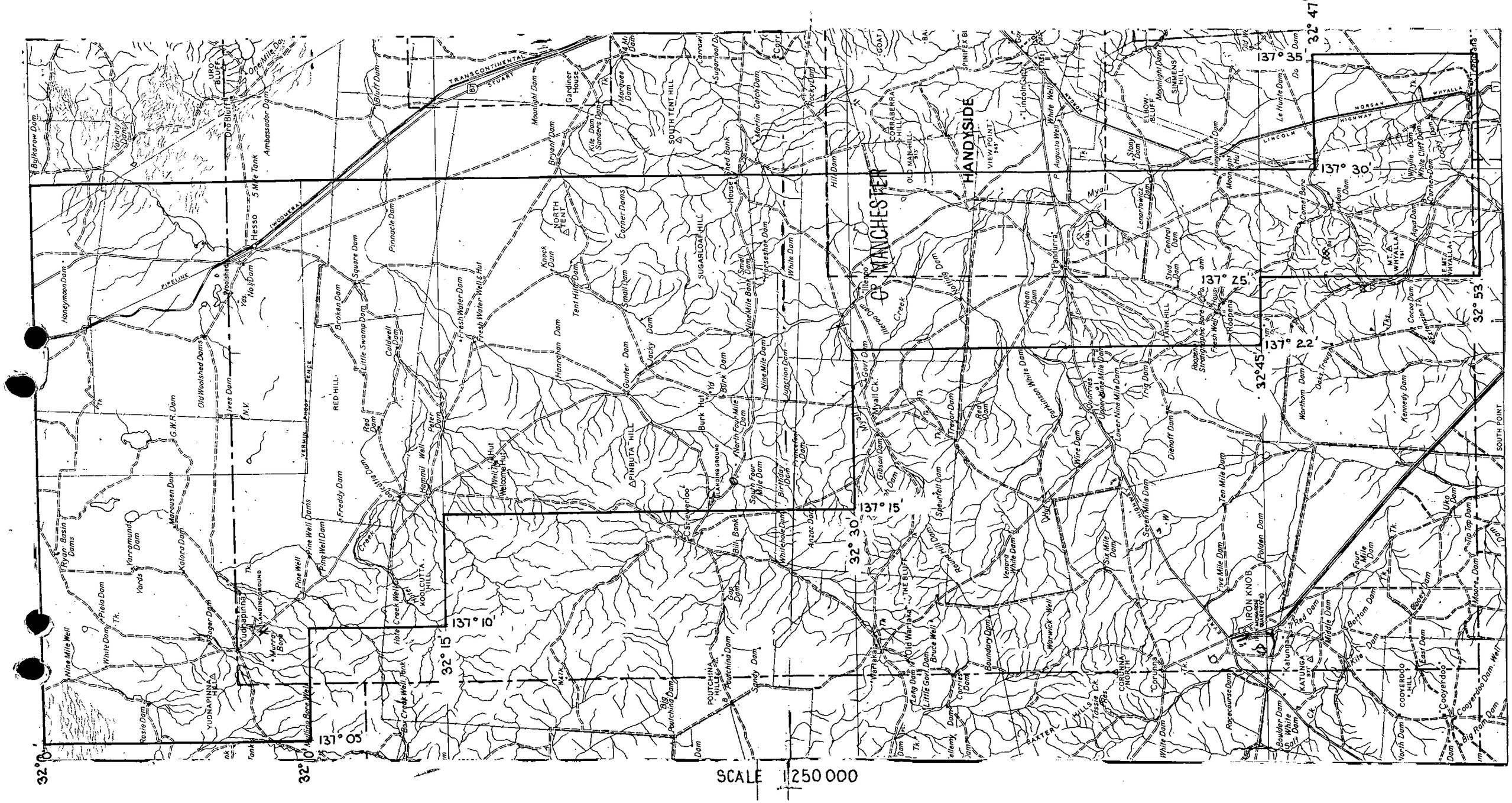
SCHEDULE A



MT. GUNSON MINES PTY. LIMITED

DOCKET DM 1261/72 AREA 2215 km²

1:250000 PLANS PORT AUGUSTA

LOCALITY PANDURRA — APPROX 20 km. E of IRON KNOB

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TENEMENT:

TENEMENT HOLDER: Mt. Gunson Mines Pty. Ltd.

PACMINEX PTY LIMITED

REPORT ON THE MT. WHYALLA BARITE MINE, PANDURRA AREA, S.A., E.L. 50

PMR 57/74

Sydney
May, 1974

D.G. Tonkin

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1. INTRODUCTION AND SUMMARY

Following a request from an outside prospector, for permission to peg a 50 acre block on the Mt. Whyalla barite mine, the writer was asked to submit a report.

This report contains a description of the deposit, a suggestion as to the genesis of both this and the Pernatty Lagoon deposit, and a recommendation that permission to peg be granted.

2. OCCURRENCE

The following description of this barite occurrence is an extract from Bulletin No. 33 of the Geological Survey of S.A., pages 167 and 168 (Miles, 1955).

"Mount Whyalla

At about 2½ miles due north of Mt. Whyalla trig and 2 miles west of the Port Augusta-Port Lincoln telegraph line are the abandoned workings of what was known as Turner's mine. Barite occurs here in a fissure lode formation which can be traced on a bearing of N.60°E. for a distance of about 800 yds. The lode occurs on the south-eastern slopes of a northeasterly trending gully in broken high land. It is accessible from the road following the telegraph line by means of 3 miles of winding track.

The country-rocks here consist of coarsely bedded sandstones and grits of the Corunna Conglomerate formation. They strike north and south and dip at 5-10°E. The lode formation has a maximum width of about 5 ft. and averages 2-3 ft. with lenses pinching to mere threads. It dips vertically or at a very steep angle either to the southeast or northwest. It has been tested over its full length by open cuts, shafts, pits and costeans.

The barite occurs as a number of discontinuous lenses, somewhat stained at the surface and locally associated with a little vein quartz. The deposit has been the subject of three Inspector of Mines reports, in the last of which it was stated that the deepest exploratory work was at No. 1 shaft to a total depth of 110 ft. Open cuts range from 20 ft. to 150 ft. in length and from 10 ft. to 50 ft. in depth. According to Cornelius at No. 1 shaft the lode was stoped to a depth of 40 ft. below the surface and for a length of 60-70 ft., but below 65 ft. to the bottom of the shaft the lode was apparently crushed and pinched down to a width of about 6 in. The mining here and at other points along the line of lode has apparently disclosed that ore zones are lenticular vertically as well as horizontally with constant pinching at depths ranging from 40 to 65 ft.

In the narrowest zones the barite is reported to have been discoloured. These features seem to have severely limited the economic life of the deposit which was abandoned in 1941-1942.

This mine comprising three leases (Mineral Leases 2741, 2742 and 2743) was held by Minerals Pty. Ltd. and C.H. Klem (1938-1941).

The ore was rough broken and hand picked, the proportion of first-grade material produced being about 50 per cent. The output was transported to Port Adelaide by motor truck and shipped from there to the company's works in Sydney. In 1939 it was reported that 10 men employed at the mine maintained a production rate of about 85 tons of ore per month though official records do not support this claim. The mine was worked again as Mineral Claim 888 in 1946. The full production figures for the deposit, according to departmental records, are as follows:

Table XXVII

Barite Production - Mount Whyalla

Year	Tons
1938	183
1939	696
1940	699
1941	80
1946	2
Total	1,660

At the northern end the lode appears to have gradually pinched out to a thin stringer which is of no economic significance but at the extreme southern end the barite appears to have cut out abruptly, and although efforts have been made to locate its continuation, this has not been found. There is evidence that the search has been extended around the adjacent hills for other barite lodes but apparently nothing of any importance has been discovered."

The rocks described as Corunna Conglomerate formation, in the above report, have since been identified as Pandurra Formation (Port Augusta 1:250,000 Geological Sheet). Truncation at the SW end has been shown to be by faulting (see map).

3. GENESIS

The surface of the Pandurra Formation about 1 km east of the workings, is covered in rounded quartz pebble scree, typical of the Elizabeth River type of conglomerate. This conglomerate occurs at the base of the Woocalla beds. Therefore it appears likely that the pre-Woocalla surface has been re-exposed in this locality.

Samples of "Woocalla Dolomite Member" from the Woocalla-Mt. Gunson area contained 1,600 to 3,500 ppm Ba (Johns, 1968). (This excludes a sample from the Pernatty Lagoon manganese workings, which contained 1.17% Ba). Hawkes and Webb (1962) give the range for barium in limestone as 20 to 200 ppm and in black shale as 450 to 700 ppm.

Hence it is suggested that the barite deposit at both Mt. Whyalla and Pernatty Lagoon were derived by solution from the Woocalla beds and deposition in favourable structural loci, by brines. Boyle (1972) cites such a mechanism for the formation of the barite, manganese and lead-zinc-copper-silver deposits of the Walton-Cheverie area in Nova Scotia.

4. RECOMMENDATION

A 50 acre barite claim would not be in conflict with our copper interests, according to our present knowledge. There is no reported association of heavy metals with the barite. Our only geochemical assay from the deposit contained background values for Cu, Pb and Zn.

5. REFERENCES

Boyle, R.W., 1972: The Geology, Geochemistry and Origin of the Barite, Manganese and Lead-Zinc-Copper-Silver Deposits of the Walton-Cheverie Area, Nova Scotia. Bull. Geol. Surv. Can. 166.

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