

Rept. Bk. No. 54/158
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DEPARTMENT OF MINES SOUTH AUSTRALIA

GEOLOGICAL SURVEY
IRON EXPLORATION SECTION

Report on
HEAVY MINERAL PROSPECTS & MC's 3627/42
NORTH & NORTH WEST OF MINGARY
(C.F. Robertson et al.)

by
Graham Whitten
Senior Geologist

7th June, 1962

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MAP REFERENCES

No.	Title	Scale
S 3165	Prospects and Mineral Claims NW and N of Mingary	1" = 2 miles
S 3166	16 Mineral claims N of Mingary C.F. Robertson et al.	-

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HEAVY MINERAL PROSPECTS & M.C.'s 3627/42

NORTH E. NORTH WEST OF MINGARY

(C.F. Robertson et al.)

ABSTRACT

Three prospects (unpegged) and two prospects covered by 16 claims were inspected in company of the claimholder.

Small quantities of uneconomic mineralisation were found. Mr. Robertson's mineral collection was examined and two specimens described.

1. INTRODUCTION

Following a request from the Deputy Director of Mines for an inspection of mineral prospects found by Mr. C.F. Robertson of Cockburn the area was visited on 13/2/62.

After an inspection of numerous mineral samples in Mr. Robertson's collection, Mr. Robertson and his son guided the writer and Mr. W.R. Appleby, Geologist to the prospects. A number of areas were examined and specimens collected for office examination.

2. LOCATION, TITLE, ACCESS etc.

LOCATION

For Details see Plans attached.

The five areas examined lie NW and NNW of Mingary Post Office. Prospects 1, 1a and 2 lie approx. 6.3 miles NW in a creek. Prospect 3 lies about 8 miles NW on a spur and Prospects 4 and 5 lie approx. 10 miles NNW of Mingary and 2½ miles NW of Gun Dam.

These distances are approximate as a somewhat circuitous route was followed between prospects.

TITLE

Messrs. C.F., G.F., P.W., D.I. and H.D. Robertson have title to
MC's 3627/42 approx. 2½-3 miles NW of Cam Dam.

ACCESS

By Station Tracks.

3. REFERENCES

BAKER, G., 1959 "Tektites". Mem. 23 Nat. Mus. Viet., Pp. 267 and plates.

BARNES, V.E., 1961 "A World Wide Geological Investigation of Tektites",
Geotimes, Vol. VI, No. 2.

CAMPANA, B., & KING, D., 1958 "Regional Geology and Mineral Resources of
the Olary Province." Geol. Surv. S. Aust. Bull. 34.

4. GEOLOGY

Prospect 1

This prospect lies in a creek 6.3 miles from Mingary and ¼ mile
to the right of the road.

A jet black mineral with a red streak occurs as large crystals in
granitised metasediments striking 270° - 290° magnetic. It is concluded that
this is hematite with exsolution bodies of ilmenite.

Much non magnetic black sand with a black streak occurs in the
creek. This is considered to be ilmenite.

Prospect 2

Where the creek crosses the road somewhat similar material occurs
associated with a slightly different metasediment.

Prospect 3

This prospect occurs on a spur, the valuable mineral being large
crystals and aggregates of black mineral associated with buck quartz.

Martite occurs, having formed from magnetite but there is much
hematite apparently with exsolution bodies of ilmenite and possibly also rutile.

Prospects 4 & 5

These prospects occur on the area covered by the claims.

This area is shown on the Olary Province Geological Map (Campbell, 1958) as creek channel flood plain alluvium with undifferentiated granitic rocks and Archean metasediments occurring approx. 2½ miles SW.

During the visit small outcrops of pegmatite and buck quartz were seen with some small floaters (up to 3-4") of hematite ilmenite. It can be assumed that basement rocks occur at shallow depth over the whole area.

Time prevented a thorough search of all the claims and Mr. Robertson could not find the main outcrop in what was a somewhat featureless area.

5. ~~TEKTITES~~

Mr. Robertson had a number of specimens of Tektites, two of which he forwarded to the writer for comparison with standard references. Previously a small number had been submitted to the Technical Information Officer who had correctly identified them.

Tektites have been studied and discussed for 167 years. Following many years of discussion most writers now consider Tektites to be meteoritic in origin, even though it is still conjectural from just where in the universe they originated.

Of the two specimens submitted to the writer one is round, approx. ½" in diameter with a well marked rim and flaked equatorial zone. The anterior surface shows one large bubble crater and numerous bubble pits. The posterior surface shows numerous bubble pits and well developed flow lines. This specimen is similar to that shown by Baker in Figs. 37c, Plate XIX, 6, 8, 10, (from the Philippines), and Plate XV, 3c and 6 (from Victoria).

The boat shaped specimen is approx. 1½" x ¾". It has a less well marked rim, no flaked equatorial zone, a number of small irregular bubble craters and numerous bubble pits on both the anterior and posterior surfaces. This specimen is similar to that figured by Baker Plate I, F to H (from Victoria) Plate XV, 2 (from Victoria) and Plate XIX, 4 (from the Philippines).

There is no question that these are **TEKTITES** var. **Australites**.

Mr. Robertson also had a number of fragments of dense black hard material with metallic lustre. As these were fragments they showed no crystal or external structure. As they were not made available for examination no positive identification could be made but they may be fragments of mineral crystals or pseudo-tektites.

6. CONCLUSIONS, RECOMMENDATIONS

Mr. Robertson has discovered a number of interesting heavy mineral concentrations in basement rocks North and Northwest of Mingary.

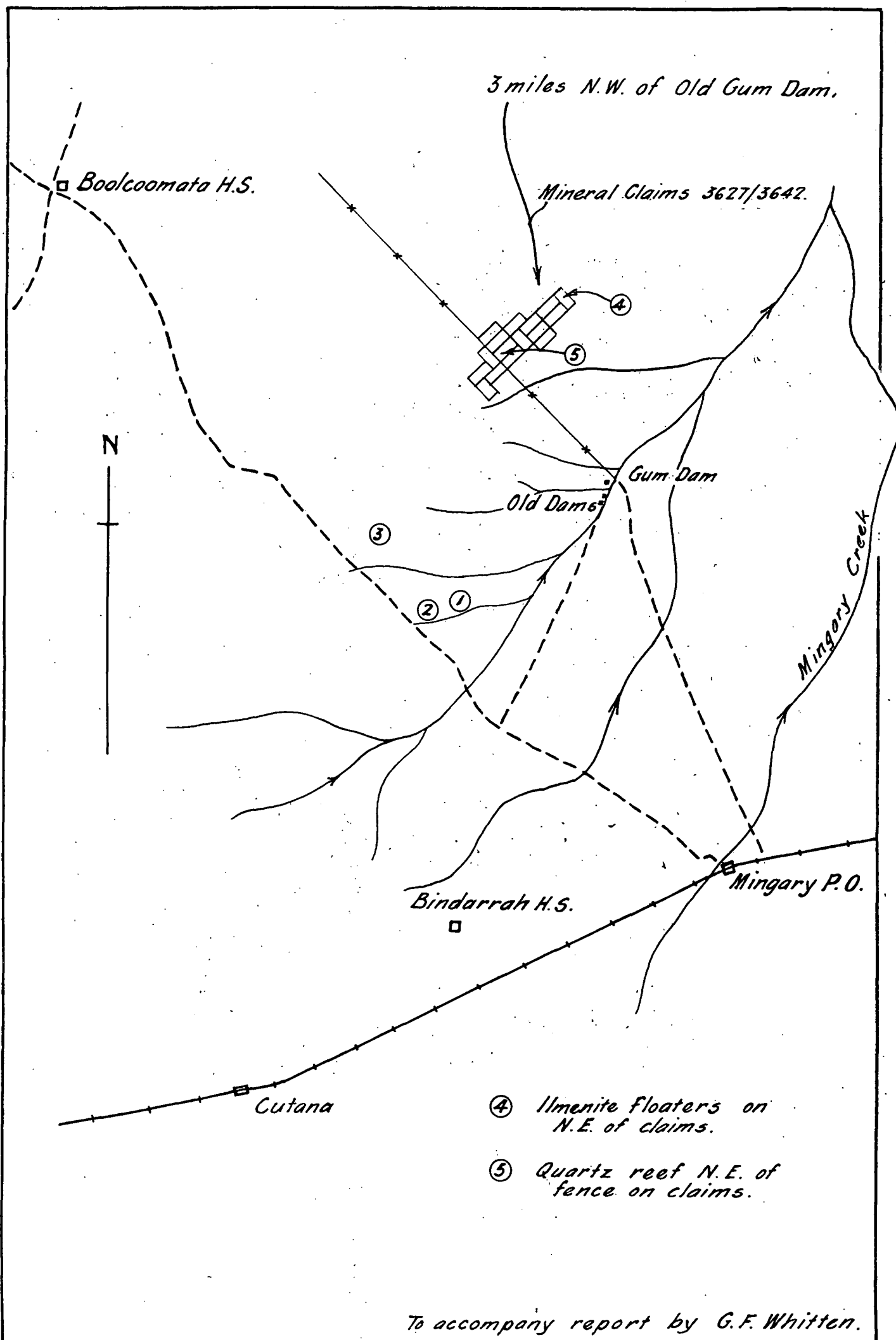
The minerals present are mainly magnetite (now altered to martite), ilmenite, hematite with or without exsolution bodies of ilmenite and possibly rutile. No elements other than iron and titanium have been identified in laboratory examination.

It is regretted that none of the prospects seen contain sufficiently large bodies to be economically exploitable.

The two specimens submitted from Mr. Robertson's collection were identified from standard works as Tektites (var. australites). Other material in his collection may be pseudo-tektite glass or mineral crystals. These could not be examined in detail.

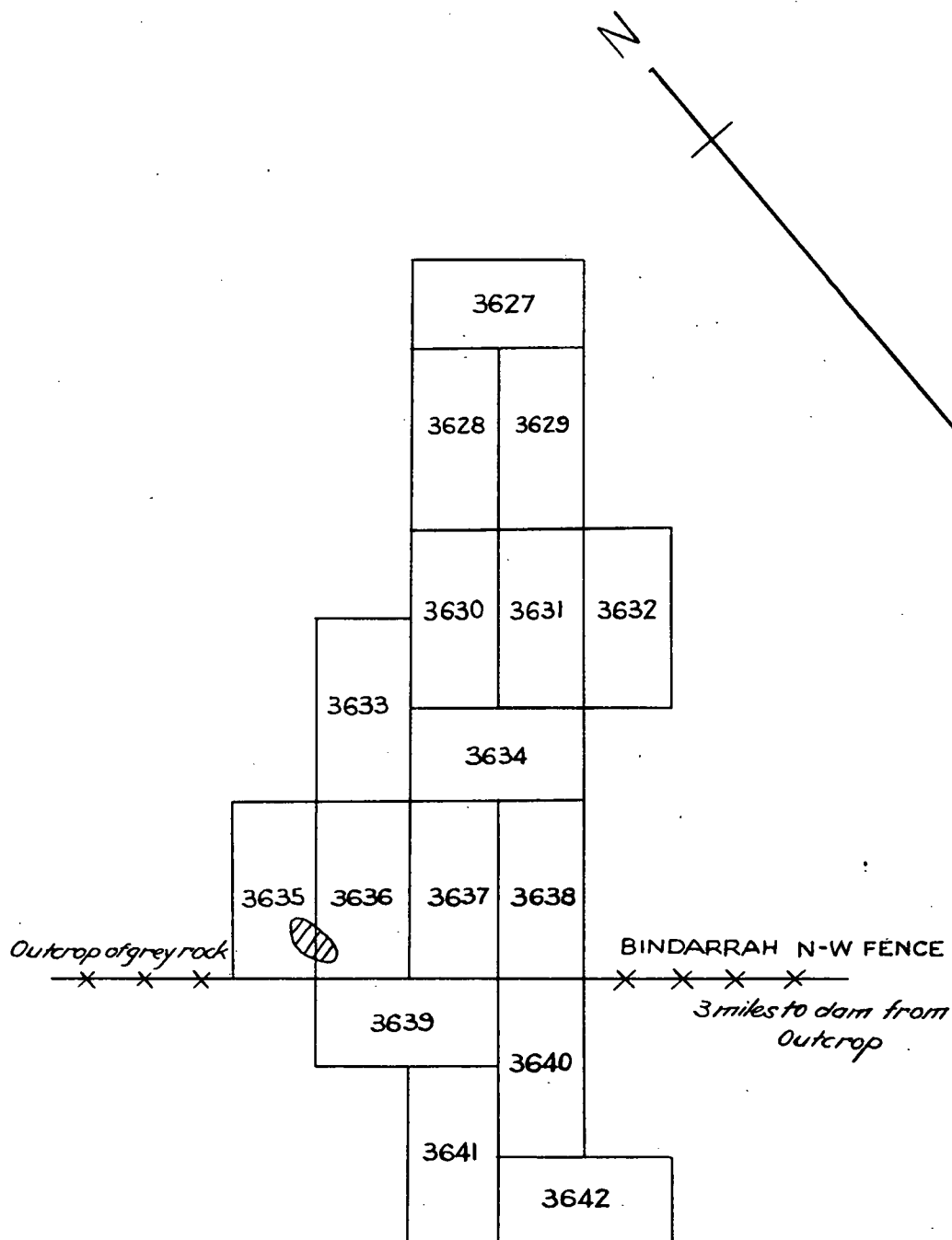
G. F. Whitten
Senior Geologist
IRON EXPLORATION SECTION

GFW:AGK
7/6/62



S.A. DEPARTMENT OF MINES

Approved	Passed	Drn. G.F.W.	PROSPECTS AND MINERAL CLAIMS N.W. & N. OF MINGARY C.F. ROBERTSON et al.	D.M.	Scale 2 Miles to 1 in.
		Tcd. R.R.		Req.	S 3165
		Ckd.			FI
Director		Exd.			Date 7-6-62



ALL MINERAL CLAIMS 28 X 14 CHAINS

To accompany report by G.F. Whittern.

S.A. DEPARTMENT OF MINES

Approved	Passed	Drn. G.F.W.	16 CLAIMS N. MINGARY C.F. ROBERTSON et al	D.M.	Scale
		Tcd. F.B.		Req.	S3166
		Ckd.			FI
Director		Exd.			Date 7-6-62