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RELINQUISHMENT REPORT ON EXPLORATION LICENCE 4/61 SAVAGE RIVER, TASMANIA

FEBRUARY, 1988

BY

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16-2-1988

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Relinquishment Report on E.L. 4/61

1.0 Introduction

This document attempts to provide a "key diagram" to the work carried out by Savage Resources and its predecessor Industrial and Mining Investigations over the life of E.L. 4/61 to date, in the form of a historical overview and commentary, including the partition of project areas among the various categories into which the original E.L. 4/61 has been dismembered over the years: Savage River Mines lease, Hydro-Electric Commission reserve, the 1985 reduction, boundary strips to be assigned to neighbouring E.L.'s, and ground to be assigned to retention areas and continuing exploration licence tenure. The portion to be retained as continuing tenure areas has now been finalized with the department.

2.0 Early phase: Iron ore projects

Up till c.1978 I.M.I. was active in the exploration of iron ore deposits almost to the exclusion of other concepts. Most of the work is reputed to have been in the areas of the central and northern deposits that were subsequently sold off, in two stages, to the Savage River Mines consortium. The second stage expanded the S.R.M. lease both north and south of the area previously sold so that it covered most of the Golden Ridge goldfield and part of the Specimen Reef goldfield, as defined by old lease boundaries. This area has been excluded from E.L. 4/61 since 1981.

Other iron ore deposits in the region that were investigated by drilling were the Long Plains South and Rocky River Deposits which remain in E.L. 4/61 at the time of writing. These were reported on earlier by Rio Tinto Australian Exploration, an outfit responsible for a magnetic survey on which both deposits showed up and who put down one drillhole on the Long Plains South. They examined other deposits further south (Atkinson, 1960, ref. 32) and concluded they were of no value. I.M.I. drilled 6 more holes on the Long Plains South deposit which permitted the outlining of roughly 30mt of "ore" grading 28% Fe to 500' depth (Ridgeway, 1969, ref. 1). Investigation was halted at this stage as "major discoveries elsewhere in Australia displaced it from the economic category". This deposit remains with Savage Resources under retention licence.

The Rocky River deposit was also drilled, with two holes in the magnetic anomaly over the eastern magnetite bearing zone. Contemporary records are confused but it appears that azimuths are referred to the magnetometer survey grid in the case of Rocky River No. 1 but to magnetic bearings for No. 2. No 1 is drilled E to W whereas No 2 is drilled W to E. The mineralization is very low grade and mostly disseminated with some thin beds of magnetite rock with resource reserve of some 4 mt. with a grade of 10-15% acid soluble Fe (Ridgeway, 1969 ref. 2). The western magnetite body was not

tested by drilling. The weathered exposure indicates magnetite rock but only a small body, as does the magnetics.

The drill core is stored at the Mines Dept. core library.

This deposit and the smaller iron ore deposits southwards from Rocky River are to be relinquished.

2.1 Exploration philosophy for the iron mineralization

Initially exploration followed the direct lead provided by magnetics. The origin of the deposits as suggested by Urquhart, 1966, p90, ref.(37) was not questioned at first; (the iron ore and the enclosing amphibolite were both considered Cambrian intrusives related to the Bald Hills ultramafic complex.) Once better exposures became available at the Savage River mine it became obvious that definite intrusions were demonstrably post-ore or ambiguous, while the "amphibolite" host was bedded and conformable with the surrounding sediments. So an exhalative origin and Precambrian age was then favoured. This concept did not lead to any new iron ore deposits but did open the possibility that other magnetic belts might host base metal mineralization. (See refs. 1, 2, 32, 33, 34, 35, 37, 40).

The central pit has a few paradoxes such as an abundance of dykes, faults confined to the ore sequence, and dykes ending abruptly at the margin of the "mine sequence" for which the writer considers a tobogganning slab model.

3.0 Early phase: Magnesite drilling

The first two drillholes were intended to confirm the impression gained from the adjacent creek section, of an essentially stratiform body likely to persist along strike to include the Bowry Creek outcrops. In this they were successful but problems with iron in solid solution and other contaminants were revealed in the assays and these have been worked on ever since. See ref. 3, 4.

The magnesite mineralization is to be held under retention licence.

4.0 Stringer Creek project

Starting from a magnetic anomaly target a stream silt sampling program was carried out looking for anomalous Cu, Pb, Zn. All values were low and the area was soon afterwards taken over by the Hydro. (Edyvean, 1978, ref. 5).

5.0 Early phase: Diamond exploration

An attempt was made to follow up early reports of diamonds at Harvey Creek in particular, taking the map in Reid (1921) "Osmiridium in

Tasmania", (Reid, 1921, ref. 36) at face value and using a simple pan examination (Edyvean, 1979, ref. 6). This approach was later considered an inadequate one (Penny et al, 1984, ref.21). The investigation was repeated according to modern proceedure (see below).

A portion of the target area was relinquished previously, the remainder goes this time.

6.0 Specimen Reef: Early phase

Grid sampling of Specimen Reef included soil and stream sediment sampling with a follow up geophysics program predicated on the idea that a geophysical signature could be relevant (refs. 7, 8, 12, 13, 14). Drill sites were selected on this basis, and subsequently drilled (ref. 17). The area is to be held on a temporary basis as a continuation of EL 4/61.

7.0 Brown Plain tin project

On the basis of an old report of cassiterite in the local creek systems a hand auger grid sampling of a portion of the area was conducted. At the time no attempt was made to distinguish the in situ Tertiary gravel deposit from the slopewash gravels but it appears from later work that the better grades were in the slopewash in which a secondary concentration of the heavy minerals has occured. Grades were at best marginal and were in the thinner parts of the gravel cover (refs. 9, 10, 11).

The area affected is to be held under retention licence on different grounds.

8.0 Northern area (Little Donaldson) magnetic trend

A grid was established along grid line 49 and in the broad spaced grid lines elevated copper values were found, with some support in zinc but low lead, although an isolated very high lead value was found further east (ref. 15). Infill sampling showed values generally lower than the previous peak values and the isolated lead value did not repeat (ref. 18). N-S trends can be detected but it is considered that no proper target exists in the broad anomalous area.

The area is mostly within the area to be relinquished although a portion was relinquished previously.

9.0 Regional base metal exploration

It was concluded that the reliance on support from magnetic features was not justified and a program based on the concept applied at Que River, of a systematic stream sediment survey of the whole area should determine target areas supplemented by several scout lines. Early stream sediment work was done by simple silt bank mud collection and subsequent sieving(refs. 18, 21). Later a more sophisticaed proceedure was used in which fines extracted from gravels were used in conjuction with heavy mineral sampling (refs. 21, 24). It was found that moderately elevated copper values are reasonably commen. One substantial lead/zinc anomaly was later gridded at "Batty's Bend" (not the locality of the 1:100,000 map) which has some soil sampling response (ref. 24).

The scout line approach turned up the Timbs Creek silver/lead anomaly which like other such lead anomalies did not develop once tested with a detail grid (ref. 21).

Most of the area with little response was dropped previously and some areas of moderately elevated values are now included in the area to be relinquished. The Batty's Bend area disappears next door once new areas are proclaimed on AMG grid squares. Apart from this prospect it is considered that there is no worthwhile base metal prospect in the area.

Some areas of arsenic anomaly were also examined in the hope they would prove to be associated with gold. The major arsenic anomaly was east of the Rocky River magnetic anomaly (refs.21, 24, 27). A grid was set out and sampled but the anticipated connection with gold has not been established. There appears to be no useful gold/arsenic connection (23, 25). Induced polarization traverses do show indications of a target but it is suspected that the geochemistry positives come from green tuffs whereas the geophysical response comes from pyritic graphitic phyllite.

10.0 Heavy Mineral projects (including diamonds).

The heavy mineral examination proved that most drainages contained a component of heavy minerals which were not explicable from the catchment rock and in was explained by the Tertiary gravel component in which distinctive Meredith Granite and Bald Hills Serpentinite contributions can occur together in creeks which drain from neither of these sources. The paradox is explained by survival in modern creeks of a mixed heavy mineral suite from Tertiary gravels, but it means that the rationale of modern diamond sampling in which one microdiamond is significant breaks down because the link between a positive result and the catchment is not valid (ref. 21). Some possibly important tin responses in the Rocky River area also showed connection with Tertiary gravels rather than explicit bedrock sources.

11.0 Gold Projects

More recently most work has been gold oriented with an extensive grid sampling of the Davis Creek area in which repeatable gold responses were found in the creeks (21, 23, 24, 25, 27, 28). Sampling was based on the assumption that the only indicator of gold was gold and some anomalous values were found but of low order and/or small size.

Similarly a channel sampling project on the Rocky River track also produced resoundingly negative results.

A portion of the Davis Creek grid is retained under temporary extension of EL 4/61, along with Specimen Reef.

11.1 Specimen Reef: Later program

A re-assessment of the Specimen Reef data (ref. 24) had the effect of demonstrating that most of the previous drilling was irrelavent in terms of the drilling target implied by the mine history. A target zone was defined which has been reduced in size with follow up drilling.

The grid coverage at 100m spacing between Specimen Reef and the Davis Creek workings was the major program of the previous seasons with recent and rather disappointing drilling results (refs. 24, 27, 28, 29). Much of the ground is to be relinquished.

11.2 Golden Ridge.

A detailed grid over the Cox's Face area showed up one point high which did not repeat. The local gully provided gold on a repeatable basis. A minor drilling program did not produce a gold intersection. (See refs. 39, 24)

The area investigated is to be relinquished but the greater part of the original field is in SRM ground.

12.0 General Exploration philosophy

The Savage River style of iron ore replaces rather than supplements the potential for base metal sulphides. Other vaguely volcanic units (few textures are explicit and rocks termed pyroclastic may be metasediments of volcanic derivation) contain minor disseminated magnetite and pyrite, again instead of rather than with base metal mineralization.

The gold oriented work of the last three years has been modeled on Canadian patterns of association of gold in carbonate facies of an iron formation.

The gold mineralization of the whole area can be explained as repeats of Specimen Reef style which appear as narrow, rather flat lying veins with carbonate/magnetite/gold mineralogy and very little quartz, as represented by the SPC 1 gold intersection (ref. 22). Wall rock character appears to be important with the thin sparse veins being (richly?) mineralized only if contained within favourable wall rocks. Some pale weathering, originally green tuffs with extensive disseminated carbonate and minor chalcopyrite seem to be right. Grey phyllite with ptygmatic quartz veins, and the commen pink to purple weathering tuffs of the Bowry Formation appear to be wrong.

13.0 Brown Plain clay project

The western extension of the Brown Plain clay locality was investigated with auger drillholes. Clay was present in several of them but apparentlly not in large continuous bodies except possibly in the far west but in this case the initial sampling runs (C.R. series samples) showed that the critically important white firing property was not present. Most of the area in ground to be relinquished appears to have just gravel in the Brown Plains Formation. The samples from the auger program have not yet been processed.

A retention licence of 1 square km. is to be granted over the core of the prospect. It is considered likely that some extension of the deposit occurs beyond the boundaries of this area.

Logs of holes in the relinquished ground are shown below

Table 1

Brown Plains Prospect: Logs of auger holes in relinquishment area. Logs by R.W. Annett dictated to A. McWhinney, rig provided by Stacpoole's, Driller F. Christiansen?

Brown Plains 46, at 47159120, RL 252.75, drilled 25/7/87

0.0-1.3 precollar

1.3-2.4 buff sands and gravels grading to peaty brown sands

2.4-3.0 light brown 5YR6/4 sandy clay, grading to very pale orange 10YR8/2

3.0-3.9 grey and buff sands and gravels, slight clay (binder?)

3.9-4.5 brown and buff, foliated, mica-rich bedrock.

Brown Plains 47, at 47159125, RL. 253.4, drilled 26/7/87

0.0-1.1 precollar hardpan

1.1-1.5 peaty brown sands with clay component

1.5-2.4 dark yellowish grey 5Y7/2 clay with some sands, smaller component dark yellowish brown 10YR2/2 clay

2.4-3.0 not much sample but at base pale yellowish brown 10YR6/2 clay

3.0-3.9 top buff clayey sands, at depth grades to buff sands

3.9-4.5 brown buff black sands gravels and clay, varying composition, occasional large quartz pebble

4.5-5.4 brown sand, then light grey sand, then at base peaty brown sand; some clay component apart from light grey sands

5.4 6.0 moderate brown 5YR3/4 sand, clay component

6.0-6.9 small return of sample, peaty brown stained quartz gravels, very small clay component

6.9-7.5 hard peaty brown stained sand and gravel

7.5-8.4 peaty brown sand, very slightly clayey, crumbly

8.4-9.0 as above

9.0-9.9 " "

9.9-10.5 top as above, at very base moderate yellowish brown 10YR5/4 clay

10.5-11.0 buff, grey and brown sand and gravel with some large pebbles; at top interval of moderate yellowish brown clay

11.0-11.5 light brown micaceous clay, schistose, greasy; bedrock.

Brown Plains 48, at 47159135, RL 292.8, drilled 26/7/87

0.0-1.5 precollar, hardpan

1.5-2.4 at top fine grained peaty sand, grades downward into fawn clayey sand, crumbly

2.4-3.0 fawn coloured clayey sand (bedrock?)

3.0-3.9 as above, bedrock

3.9-4.5 as above, foliated, quartz stringers, talcose?

Brown Plains 49, at 47109140, RL 252.5, drilled 26-7-87

0.0-1.3 precollar hardpan

1.3-1.5 buff, foliated, schistose, talcose? bedrock.

Brown Plains 50, at 47409140, RL 255.6

0.0-1.6 precollar hardpan

1.6-2.4 brown gravel

2.2-3.0 top peaty brown gravel through to bright orange and yellow gravels

3.0-3.9 pale orange,yellow and white, Talcose? probably bedrock

3.9-4.5 very pale grey, mica-rich bedrock.

Brown Plains 51, at 47309140 RL 255.4, drilled 26/7/87

0.0-1.2 precollar

1.2-1.5 little return sample, peaty brown sands and gravels

1.5-2.4 moderate brown clay with white speckles, foliated, micaceous, probably bedrock

2.4-3.0 as above, bedrock

Brown Plains 52, at 47209150, RL 255.2, drilled 26/7/87

0.0-0.8 precollar

0.8-1.5 charcoal black, peaty, brown sand

1.5-2.4 beige sand with "nuggets" of greyish brown 5YR3/2 clay, at very bottom completely clay 5YR3/2

2.4-3.0 top interval greyish brown 5YR3/2 clay, towards bottom grey/green sand increases

3.0-3.9 greyish brown 5YR3/2 clay, crumbly

3.9-5.4 at very top, as above; then mixture of light olive grey 5Y6/1 and dark yellowish orange clays grading to grey sands with clasts to 3mm

5.4-6.9 white to buff sands and gravel grading to peaty brown and black sands at base

6.9-8.4 buff coloured sand

8.4-9.1 grey, buff and brown sands

9.1-9.9 peaty brown sand and gravel.

Brown Plains 62, at 48529208, RL 260 approx, drilled 28/7/87

0.0-1.6 precollar hardpan

1.6-2.4 no sample

2.4-3.0 grey sand and gravel

3.0-3.9 as above grading halfway to peaty brown sand and gravel, traces of greyish brown 5YR3/2 clay particles at bottom

3.9-4.5 greyish brown coloured sands and gravels, fair clay component

4.5-5.4 as above

5.4-6.0 greyish brown 5YR3/2 sand and gravel with greatly increased clay component

6.0-6.9 as above but less clay, sandy

6.9-7.5 top half as above, then beige clayey sand with quartz pebbles

7.5-8.4 beige clayey sand, probably bedrock, not very "talcose".

Brown Plains 64, at grid ref 46929152, RL. 244m, drilled 28/7/87, near stumps of abandoned golf course building.

0.0-1.3 precollar hardpan

1.3-2.4 grey sands and gravels

2.4-3.0 as above

3.0-3.9 " "

3.9-4.5 " "

4.5-5.4 " "

5.4-6.0 grey sands and gravels grading to peaty brown sands and gravels

6.0-6.9 micaceous, talcose? silvery grey bedrock.

Brown Plains 65, grid ref (approx) 46829158, RL. 244, drilled 29/7/87, on the Corinna road

0.0-1.5 precollar, hardpan

1.5-2.4 grey sands and gravels

2.4-3.0 as above with minor orange at base

3.0-3.9 buff and grey sands and gravels

3.9-4.5 as above

4.5-5.4 " "

5.4-6.0 grey sand and gravel grading to peaty brown sand and gravel; slight clay component

6.0-6.9 peaty brown sand and gravel

6.9-7.5 peaty brown sand grading to silvery grey foliated, talcose? bedrock.

Brown Plain 66, approx grid ref 46589130, RL. 244, drilled 29/7/87, on unmapped forestry track.

0.0-1.5 precollar

1.5-2.4 grey sand and gravel

2.4-3.0 as above

3.0-3.9 grey sand and gravel, slightly more granular

3.9-4.5 as above with trace of peaty brown sand at base

4.5-5.4 buff/grey micaceous, talcose? bedrock.

Brown Plains 67, approx grid ref 46429100, RL. 238, drilled 29/7/87, on unmapped forestry track.

0.0-1.1 precollar, hardpan

1.1-1.4 grey-green schist, bedrock.

Brown Plains 68, approx grid ref 46249130, RL. 236, drilled 29/7/87, on r.h.s. Corinna road.

0.0-0.8 precollar

0.8-1.5 road disturbance

1.5-2.4 grey sand and gravel grading to peaty brown sand at depth

2.4-3.0 peaty brown sand and gravel, fair clay component; last few cm. light moderate brown clay 5YR3/4

3.0-3.9 brown sand with clay matrix

3.9-4.5 as above

4.5-5.4 top as above grading to light brown with white quartz gravel, then bedrock, foliated, talcose?

Brown Plains 69, approx grid ref 45429112, RL. 236, drilled 29/7/87, on l.h/s. Corinna road.

0.0-1.0 top 10 cm brown sand and gravel, then dark yellowish brown 10YR4/2 slightly sandy clay

1.0-1.5 clay, as above

1.5-2.4 as above

2.4-3.0 " "

3.3-3.9 top clay as above, bottom few cmorange and light grey sands

3.9-4.5 light greyish brown 5YR3/2 clay

4.5-5.4 top as above, then grading to dark olive grey 5Y4/1 clay

5.4-6.0 yellowish orange sand

6.0-6.9 orange sand grading to dark grey sand.

14.0 Whyte-Rocky River prospect

Exploration for gold in the more accessible portion of the area has been unsuccessful with the least unpromising results being from the Fiddlesticks prospect area (ref 25). The apparently alkaline nature of the felsite associated with the old Rocky River Mining Co. workings prompted a last minute attempt to check its rare earths potential,mostly by further assays of reserved pulps plus a few new samples. The new sample descriptions are included, along with the assay results in appendix 1. For older sample descriptions refer to refs. (25, 26). It is considered that the albite rich rocks are enhanced in rare earth content but not to any commercially significant level.

The area is to be relinquished

15.0 Roads constructed in the relinquishment area are as follows

15.1 Northern Area access road

This road follows the Savage/Donaldson divide with branch tracks to two campsites. It is at present closed by fallen tres. The road was constructed with the principal of multiple drainage points in view but with a bulldozer only so that many of the drain holes do not work. It is anticipated that this road would be of importance to future exploration projects and is intended to last.

Two points require attention, (a) the hairpin bend at 512133 where a landslip has disrupted the drainage works. Fortunately the track below this point is on hard formation, (b) at 498124 where, owing to the failure of an attempt toget round the slope with the dozer a steep pinch had to be approached directly. If an excavator were available it would be possible to get through on the line originally proposed, otherwise an erosion hazard will remain.

15.2 Cox's Face access

A short access to Cox's Face was constucted for the drilling. A plan for the area has been dicussed but is yet to be implemented.

15.3 Batty's Bend access track

Most of this track was upgraded from an underdone forestry track and has since been made into an overdone forestry track, with remarkable impracticality and insensitivity on the part of the sawmill contractors. The further part of the track remains in reasonable state according to recreational users although the unavoidable steep pinch at 452068 has eroded to the point of inconvenience.

15.4 Rocky River drillholes track extension

This track provided access to the open heathlands east of the Whyte River and was being used by recreation vehicles in wet conditions on the peat country. Altough in general Savage Resources has regarded its track work as open to recreational users this was considered an abuse and for this reason the track has been left blocked with fallen trees.

15.5 Brown Plains grid

There are portions of the dozed lines which have now been shown to cover ground beyond the deposit and these portions can now be covered over.

16.0 BIBLIOGRAPHY

Part 1, Chronological list of I.M.I. and Savage Resources reports on field projects.

70-627 1. J.E. Ridgeway, Long Plains iron ore deposit, Tasmania, consulting geologist's report to I.M.I., (1969)

2. J.E. Ridgeway, Rocky River iron ore deposit, Tasmania, consulting geologist's report to I.M.I., (1969)

3. M.D. Edyvean, Report on the Main Creek magnesite deposit, - EL 4/61 Tasmania. Industrial and Mining Investigations Pty.Ltd. unpub. rep. (1972).

4. M. Edyvean, Report on the Magnesite Deposits of Main Creek and Long Plains areas - EL 4/61 Tasmania. Industrial and Mining Investigations Pty.Ltd. unpub. rep. (1977).

78-1268 5. M.D. Edyvean, Report on Field Investigation of the South West Section of EL 4/61 Tasmania. Industrial and Mining Investigations Pty.Ltd. unpub. rep. (1978).

79-1352 6. M.D. Edyvean, Report on Field Investigation of the Harvey Creek - Little Savage River area EL 4/61 Tasmania. Industrial and Mining Investigations Pty.Ltd. unpub. rep. (1979).

80-1442 7. M.D. Edyvean, Report on Field Investigations, Hall Creek - Specimen Creek area EL 4/61 Tasmania, June 1980. Industrial and Mining Investigations Pty.Ltd. unpub. rep. (1980).

80-1442 appx B 8. M.D. Edyvean, Supplementary Report on the Field Investigation of the Hall Creek - Specimen Creek area EL 4/61 Tasmania, Gold analyses. Industrial and Mining Investigations Pty.Ltd. unpub. rep. (1980).

80-1443 9. M.D. Edyvean, Report on the tin occurrence at Brown Plains, Rocky River District EL 4/61 Tasmania, May 1980. Industrial and Mining Investigations Pty.Ltd. unpub. rep. (1980).

80-1456 10. M.D. Edyvean, Supplementary Report on the tin occurrence at Brown Plains, Rocky River District EL 4/61 Tasmania, July 1980. Industrial and Mining Investigations Pty.Ltd. unpub. rep. (1980).

80-1455 11. M.D. Edyvean, Report on the tin and chromite occurrence at Little Plains, Rocky River District EL 4/61 Tasmania. Industrial and Mining Investigations Pty.Ltd. unpub. rep. (1980).

12. M.D. Edyvean, Six-Monthly Progress Report on field investigations within E.L. 4/61 for the period ended 24th February 1981. Industrial and Mining Investigations Pty.Ltd. unpub. rep. (1981).

81-1552

13. A.W. Howland-Rose, Comments on gradient reconnaissance and dipole-dipole electrical induced polarization surveys, Specimen Reef area, EL 4/61 near Savage River, Tasmania, on behalf of Industrial and Mining Investigations Pty. Ltd. February, 1981. Scintrex Pty. Ltd. unpublished report. (1981).

81-1552B
OPEN B

14. M.D. Edyvean, Quarterly Report for the period ended 24th November 1981. E.L. 4/61, West Coast, Tasmania. Industrial and Mining Investigations Pty.Ltd. unpub. rep. (1981).

81-1659

15. C.H.C. Shannon, Report on Field Investigations within EL 4/61, West Coast, Tasmania; Summer field season, 1981-82. Part I: Geochemical program, Northern EL 4/61, Industrial and Mining Investigations Pty. Ltd. unpub. rep. (1982).

82-1781

16. M.D. Edyvean, Report on Field Investigations within EL 4/61, West Coast, Tasmania: Summer field season, 1981-82. Part II: Davis Creek - Specimen Creek geochemical surveys, Industrial and Mining Investigations Pty. Ltd. unpub. rep. (1982).

82-1782

17. J.Woodman, H. Shannon and M. Edyvean, Report on Field Investigations within EL 4/61, West Coast, Tasmania - Summer field season, 1981-82; Part III, Specimen Reef and Main Creek drilling programmes, Industrial and Mining Investigations Pty. Ltd. unpub. rep. (1982).

82-1783

18. C.H.C. Shannon and L. Vanzino, Report on Field Investigations within EL 4/61, West Coast, Tasmania: Summer field season, 1982-83, Industrial and Mining Investigations Pty. Ltd. unpub. rep. (1983).

83-2027

19. C.H.C. Shannon and L. Vanzino, Quarterly Resume' 25/5/83 to 22/8/83, Exploration Licence 4/61 West Coast, Tasmania, (1st. supplementary volume to) C.H.C. Shannon and L. Vanzino, Report on Field Investigations within EL 4/61, West Coast, Tasmania: Summer field season, 1982-83, Industrial and Mining Investigations Pty. Ltd. unpub. rep. (1983).

83-2037

20. C.H.C. Shannon and L. Vanzino, Quarterly Resume' 23/8/83 to 22/11/83, Exploration Licence 4/61 West Coast, Tasmania, (2nd. supplementary volume to) C.H.C. Shannon and L. Vanzino, Report on Field Investigations within EL 4/61, West Coast, Tasmania: Summer field season, 1982-83, Industrial and Mining Investigations Pty. Ltd. unpub. rep. (1983).

84-2082

21. B.G. Penny, C.H.C. Shannon, and L. Vanzino, Report on Field Investigations within EL 4/61, West Coast, Tasmania. Summer field season, 1983-1984, Industrial and Mining Investigations Pty. Ltd. unpub. report. (1984). 84-2262

22. B.G. Penny, C.H.C. Shannon and L. Vanzino, Quarterly Resume' 23/8/84 to 22/11/84, *Exploration Licence 4/61* West Coast, Tasmania, (supplementary volume to) B.G. Penny, C.H.C. Shannon and L. Vanzino, Report on Field Investigations within EL 4/61, West Coast, Tasmania: Summer field season, 1983-84, Industrial and Mining Investigations Pty. Ltd. unpub. rep. (1984). 85-2380A

23. L. Vanzino, Additional report on the soils geochemistry of the northern area of *Exploration Licence 4/61*, West Coast, Tasmania. Summer field season, 1983-1984, Savage Resources Ltd. unpub. report. (1984). 85-2343

24. C.H.C. Shannon, R.W. Annett, F. Enzmann and L. Vanzino, Report on Field Investigations within EL 4/61, West Coast, Tasmania: 23 Feb 1985 - 22 May 1985, Industrial and Mining Investigations Pty. Ltd. unpub. rep. (1985). 85-2502

25. R.W. Annett, Report on Field Investigations within Exploration Licence 4/61, West Coast, Tasmania: Low level gold determinations, September, 1985, Industrial and Mining Investigations Pty. Ltd. unpub. rep. (1985).

26. C.H.C. Shannon (ed.) Relinquishment report on areas released from exploration licence 4/61, West Coast, Tasmania, Industrial and Mining Investigations Pty. Ltd. unpub. rep. (1985). 85-2332

27. R.W. Annett, C.H.C. Shannon and L. Vanzino, Report on Field Investigations within EL 4/61, West Coast, Tasmania, August 1986, Savage Resources Ltd. unpub. report. (1986). 86-2591

28. R.W. Annett and C.H.C. Shannon, Annual Report on Field Investigations within EL 4/61, West Coast, Tasmania, Vols 1 and 2, September 1986 to June 1987, Savage Resources Ltd. unpub. report. (1987). 87-2683

29. R.W. Annett and C.H.C. Shannon, Annual Report on Field Investigations within EL 4/61, West Coast, Tasmania, Vol 3, June to December 1987, Savage Resources Ltd. unpub. report. (1987). 88-2771

30. C.H.C. Shannon, *Continuing* tenure application area, exploration licence 4/61, 1. Status of the magnesite project, Main Creek and Bowry Creek deposits. Savage Resources Ltd. unpub. report. (1988). 88-2775

31. C.H.C. Shannon, Continuing tenure application area, exploration licence 4/61, 2. Report on the ochre/talc/silica sand project, the Long Plains magnetite, the Brown Plains clay, the white rocks project and Specimen Reef, Savage Resources Ltd. unpub. report. (1988).

88-2776

Part 2, Some other geological references to the Savage River area, (alphabetical).

32. W.J. Atkinson, Report on the Rocky River Area Iron Deposits, N.W. Tasmania. Rio Tinto Australian Exploration Pty. Limited unpublished report, (1960).

33. E.N. Eadie, Savage River Geophysical Surveys, Tasmania 1960-61, Bureau of Mineral Resources, Geology and Geophysics Record 1962/116, (1962)

34. E.N. Eadie, Long Plains Magnetic Survey, Tasmania 1961-62, Bureau of Mineral Resources, Geology and Geophysics Record 1963/52, (1963)

35. H-W.F. Matzat, Mineralogical, Petrological and Geochemical Features of the Ore Formation of Savage River, Tasmania (Australia) (including a comparison with the Kiruna - Iron Mtn. Type of Iron Ore Deposits. Inaugural dissertation etc (Ph.D. thesis) Ruprecht - Karls - Universitat, Heidelberg, (1984).

36. A.M. Reid, Osmiridium in Tasmania, Bull. Geol. Surv. Tas. No 32, (1921)

37. A.R. Spiller, The petrology of the Savage River iron ore deposit, Tasmania, unpub. hons. thesis, Macquarie University, Sydney.

38. W.H. Twelvetrees, Report on the mineral fields between Waratah and Corinna, Ann. Rep. Sec. Mines. Tas. for 1899-1900 (1900).

39. W.H. Twelvetrees, Report on the mineral fields between Waratah and Long Plains, Publ. Dept. Mines Tas. (1903)

40. G. Urquhart, Magnetite deposits of the Savage River - Rocky River region, Tasmania Department of Mines, Geological Survey Bulletin No. 48, (1966).

APPENDIX 1

Whyte/Rocky River Prospect: Update of sampling information

SUPPLEMENTARY SAMPLE DESCRIPTIONS
February 1988 samples: for earlier samples see refs. 28 and 29, Annett and Shannon (1987).

SAMPLE NUMBER	AREA	LOCATION grid ref.	Outcrop float, etc	DESCRIPTION
88/0003	R.R. track	49148990	o/cp.	weathered felsite
88/0004	Rocky River	49308900	o/cp.	fresh felsite
88/0005	Hay's track	49088999	o/cp.	blocky weathered felsite
88/0006	Hay's track	49108999	o'cp.	thin beds pink sandstone

811023

022

ANALABS TASMANIA
A Division of Macdonald Hamilton & Co. Pty. Ltd.

Phn: (004) 31 6837 14 Thirkell Street, Cooee, Tasmania, 7320. FAX: 004 31 8890

PRELIMINARY ANALYTICAL REPORT No. 236.1.03.05069

INVOICE TO:

Savage Resources
Level 12,MLC Centre,
Martin Place
Sydney N.S.W. 2000

ORDER No.: 18205

PROJECT:

DATE RECEIVED: 14/01/88

RESULTS REQUIRED: ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
10	11/02/88	3	29

SAMPLE NUMBERS	SAMPLE DESCRIPTION & PREPARATION	ELEMENT/METHOD
Various	PU	Li,Na,Mg,Al,P,K,Ca,Sc,Ti,Mn,Fe,Y,Zr,Sn,Ba,La,Ce
87 1513/17/2	PU	Exam/199
Various	PU	Al2O3,SiO2,TiO2,Fe2O3,MnO,CaO,K2O,MgO/4OG,P2O5/

RESULTS TO:

R. Annett
Savage Resources
P.O. Box 178
Savage River
Tasmania 7321

H. Shannon
Savage Resources
319 Brisbane St.
West Launceston
Tasmania 7250

REMARKS:

AUTHORISED OFFICER .....

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PRELIMINARY ANALYTICAL DATA

SAMPLE	REPORT NUMBER 236.1.08.05069	REPORT DATE 11/02/88	CLIENT ORDER No. 18205	PAGE 1 OF 10

	Li	Na	Mg	Al	P	K	Ca	Sc	Ti
88 0001	–	–	–	–	–	–	–	–	–
88 0002	–	–	–	–	–	–	–	–	–
88 0003	3	11100	1280	8.41	128	<500	189	16	6420
88 0004	4	46500	1330	4.68	<100	1220	398	3	2990
88 0005	16	1730	5240	4.50	<100	41100	50	13	5850
88 0006	10	1910	2850	1.99	<100	8860	60	10	2010
88 0007	–	–	–	–	–	–	–	–	–
88 0008	–	–	–	–	–	–	–	–	–
87 0180	2	20900	634	2.43	431	2060	229	2	856
87 0181	2	51100	1690	4.48	448	1950	518	9	1170
87 0220	16	1630	5490	6.36	652	2650	159	28	7860
87 0221	11	1420	4330	8.61	588	763	179	45	9690
87 0222	21	3760	2220	9.24	483	706	149	40	8620
87 0223	9	671	3190	9.62	515	2940	149	42	9180
87 0224	13	690	5480	8.75	623	5380	119	40	4820
87 0225	10	1620	4580	7.85	270	2210	129	15	3630
87 0226	9	516	5620	7.16	925	<500	189	37	4660
87 0227	15	951	3990	9.73	733	1660	139	76	13300
87 0228	11	787	4100	7.55	762	573	119	79	14200
87 0229	21	5250	12300	4.82	870	1130	139	38	8940
87 0230	19	13100	15800	4.98	1220	1240	667	38	4200
87 0231	8	7390	18600	7.07	226	<500	349	26	4220
87 0232	12	8080	21400	6.64	242	<500	119	24	4770
87 0233	12	17300	21800	8.09	369	<500	219	29	4200
87 0234	15	39300	10500	6.77	186	1620	558	20	6330

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024

ANALABS TASMANIA

PRELIMINARY ANALYTICAL DATA

SAMPLE	REPORT NUMBER 236.1.08.05069	REPORT DATE 11/02/88	CLIENT ORDER No. 18205	PAGE 2 OF 10

	Li	Na	Mg	Al	P	K	Ca	Sc	Ti
WR500	4	41200	16900	7.27	132	611	1840	17	4010
87 1513	–	–	–	–	–	–	–	–	–
87 1515	–	–	–	–	–	–	–	–	–
87 1517	–	–	–	–	–	–	–	–	–
DETECTION	2	50	15	0.01	100	500	50	1	10
UNITS	PPM	PPM	PPM	%	PPM	PPM	PPM	PPM	PPM
METHOD	201	201	201	201	201	201	201	201	201

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625

ANALABS TASMANIA

PRELIMINARY ANALYTICAL DATA

SAMPLE	REPORT NUMBER 236.1.88.05069	REPORT DATE 11/02/88	CLIENT ORDER No. 18205	PAGE 3 OF 10

	Mn	Fe	Y	Zr	Sn	Ba	La	Ce	Pr
88 0001	--	--	--	--	--	--	--	--	--
88 0002	--	--	--	--	--	--	--	--	--
88 0003	88	5.140	2	51	6	51	<5	<15	<20
88 0004	85	0.806	17	95	<5	24	18	45	<20
88 0005	<15	0.733	9	209	<5	425	42	94	<20
88 0006	53	0.727	8	89	<5	172	15	31	<20
88 0007	--	--	--	--	--	--	--	--	--
88 0008	--	--	--	--	--	--	--	--	--
87 0180	323	1.710	6	100	<5	26	66	134	<20
87 0181	419	7.560	10	154	<5	27	39	80	<20
87 0220	401	12.700	5	52	<5	35	<5	<15	<20
87 0221	411	12.200	7	40	<5	23	<5	30	<20
87 0222	1860	11.300	5	32	<5	51	<5	71	<20
87 0223	916	10.100	6	54	<5	94	<5	21	<20
87 0224	550	8.740	7	78	13	108	13	40	<20
87 0225	127	7.450	3	113	52	24	6	16	<20
87 0226	391	10.100	9	75	<5	55	24	57	<20
87 0227	1120	16.700	5	18	<5	30	<5	17	<20
87 0228	739	14.800	4	56	<5	20	<5	34	<20
87 0229	313	6.360	6	135	<5	25	5	27	<20
87 0230	191	4.420	15	85	<5	23	9	44	<20
87 0231	76	3.800	4	140	<5	19	<5	29	<20
87 0232	99	5.480	4	116	9	20	5	57	<20
87 0233	155	7.330	3	86	<5	18	5	65	<20
87 0234	162	5.280	14	101	8	35	14	38	<20

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PRELIMINARY ANALYTICAL DATA

SAMPLE	REPORT NUMBER 236.1.08.05069	REPORT DATE 11/02/88	CLIENT ORDER No. 18205	PAGE 4 OF 10

	Mn	Fe	Y	Zr	Sn	Ba	La	Ce	Pr
WR500	170	2.390	18	127	<5	26	14	36	<20
87 1513	–	–	–	–	–	–	–	–	–
87 1515	–	–	–	–	–	–	–	–	–
87 1517	–	–	–	–	–	–	–	–	–
DETECTION	15	0.001	1	5	5	5	5	15	20
UNITS	PPM	%	PPM	PPM	PPM	PPM	PPM	PPM	PPM
METHOD	201	201	201	201	201	201	201	201	201

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811028

PRELIMINARY ANALYTICAL DATA

SAMPLE	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	236.1.08.05069	11/02/88	18205	5 OF 10

	Nd	Sm	Eu	Gd	Dy	Ho	Er	Tm	Hf
88 0001	-	-	-	-	-	-	-	-	-
88 0002	-	-	-	-	-	-	-	-	-
88 0003	<20	<5	<1	<10	<5	<20	<2	<2	<10
88 0004	27	8	1	<10	<5	<20	<2	<2	<10
88 0005	37	7	1	<10	<5	<20	<2	<2	<10
88 0006	<20	6	<1	<10	<5	<20	<2	<2	<10
88 0007	-	-	-	-	-	-	-	-	-
88 0008	-	-	-	-	-	-	-	-	-
87 0180	56	9	1	<10	<5	<20	<2	<2	<10
87 0181	35	6	1	<10	<5	<20	<2	<2	<10
87 0220	<20	<5	<1	<10	<5	<20	<2	<2	<10
87 0221	<20	<5	<1	<10	<5	<20	<2	<2	<10
87 0222	<20	<5	<1	<10	<5	<20	<2	<2	<10
87 0223	<20	<5	<1	<10	<5	<20	<2	<2	<10
87 0224	<20	<5	1	<10	<5	<20	<2	<2	<10
87 0225	<20	<5	<1	<10	<5	<20	<2	<2	<10
87 0226	26	<5	1	<10	<5	<20	<2	<2	<10
87 0227	<20	<5	<1	<10	<5	<20	<2	<2	<10
87 0228	<20	<5	<1	<10	<5	<20	<2	<2	<10
87 0229	<20	<5	<1	<10	<5	<20	<2	<2	<10
87 0230	<20	5	1	<10	<5	<20	<2	<2	<10
87 0231	<20	<5	<1	<10	<5	<20	<2	<2	<10
87 0232	<20	<5	<1	<10	<5	<20	<2	<2	<10
87 0233	<20	<5	<1	<10	<5	<20	<2	<2	<10
87 0234	<20	<5	1	<10	<5	<20	<2	<2	<10

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811029

PRELIMINARY ANALYTICAL DATA

SAMPLE	REPORT NUMBER 236.1.88.05069	REPORT DATE 11/02/88	CLIENT ORDER No. 18205	PAGE 6 OF 10

	Nd	Sm	Eu	Gd	Dy	Ho	Er	Tm	Hf
WR500	<20	<5	1	<10	<5	<20	<2	<2	<10
87 1513	--	--	--	--	--	--	--	--	--
87 1515	--	--	--	--	--	--	--	--	--
87 1517	--	--	--	--	--	--	--	--	--
DETECTION	20	5	1	10	5	20	2	2	10
UNITS	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM
METHOD	201	201	201	201	201	201	201	201	201

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ANALABS TASMANIA

PRELIMINARY ANALYTICAL DATA

SAMPLE	REPORT NUMBER 236.1.88.05069	REPORT DATE 11/02/88	CLIENT ORDER No. 18205	PAGE 7 OF 10

	Ta	Re	Pb	Th	Mg(2)	Na(2)	Yd	P2O5	Al2O3
88 0001	–	–	–						
88 0002	–	–	–						
88 0003	13	<10	<200	13	2000	10000	<2	0.039	19.40
88 0004	<10	<10	651	10	1300	52500	<2	0.021	11.30
88 0005	<10	<10	<200	<10	6500	1600	<2	0.011	17.90
88 0006	<10	<10	<200	<10	2800	1900	<2	0.039	3.95
87 0180	<10	<10	<200	<10	–	–	<2	–	–
87 0181	<10	<10	<200	<10	–	–	<2	–	–
87 0220	<10	<10	<200	<10	–	–	2	–	–
87 0221	<10	<10	<200	<10	–	–	2	–	–
87 0222	<10	<10	<200	<10	–	–	2	–	–
87 0223	12	<10	<200	<10	–	–	2	–	–
87 0224	11	<10	<200	<10	–	–	2	–	–
87 0225	<10	<10	<200	14	–	–	<2	–	–
87 0226	<10	<10	<200	15	–	–	<2	–	–
87 0227	<10	<10	<200	<10	–	–	2	–	–
87 0228	12	<10	<200	<10	–	–	2	–	–
87 0229	12	<10	<200	10	–	–	<2	–	–
87 0230	16	<10	<200	15	–	–	2	–	–
87 0231	<10	<10	<200	10	–	–	<2	–	–
87 0232	13	<10	<200	14	–	–	<2	–	–
87 0233	11	<10	<200	11	–	–	<2	–	–
87 0234	<10	<10	<200	12	–	–	2	–	–

AUTHORISED OFFICER _____

020

ANALABS TASMANIA 811031

PRELIMINARY ANALYTICAL DATA

SAMPLE	REPORT NUMBER 236.1.08.05069	REPORT DATE 11/02/88	CLIENT ORDER No. 18205	PAGE 8 OF 10

	Ta	Re	Pb	Th	Mg(2)	Na(2)	Yd	P2O5	Al2O3
MRSOO	<10	<10	<200	18	–	–	2	–	–
87 1513	–	–	–	–	–	–	–	–	–
87 1515	–	–	–	–	–	–	–	–	–
87 1517	–	–	–	–	–	–	–	–	–
DETECTION	10	10	200	10	25	25	2	0.007	0.05
UNITS	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%	%
METHOD	201	201	201	201	104	104	201	401	408

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ANALABS TASMANIA

811032

PRELIMINARY ANALYTICAL DATA

SAMPLE	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	236.1.08.05069	11/02/88	18205	9 OF 10

SAMPLE	CaO	Fe2O3	K2O	MgO	MnO	SiO2	TiO2	LOI
88 0003	0.01	7.70	0.05	–	0.01	61.30	1.02	8.54
88 0004	0.04	1.15	0.16	–	0.01	78.70	0.53	0.79
88 0005	<0.01	1.30	5.10	–	<0.01	68.90	1.16	3.77
88 0006	<0.01	1.05	1.10	–	0.01	91.30	0.33	1.20
87 0181	–	–	–	–	–	–	–	–
87 0220	–	–	–	–	–	–	–	–
87 0221	–	–	–	–	–	–	–	–
87 0222	–	–	–	–	–	–	–	–
87 0223	–	–	–	–	–	–	–	–
87 0224	–	–	–	–	–	–	–	–
87 0225	–	–	–	–	–	–	–	–
87 0226	–	–	–	–	–	–	–	–
87 0227	–	–	–	–	–	–	–	–
87 0228	–	–	–	–	–	–	–	–
87 0229	–	–	–	–	–	–	–	–
87 0230	–	–	–	–	–	–	–	–
87 0231	–	–	–	–	–	–	–	–
87 0232	–	–	–	–	–	–	–	–
87 0233	–	–	–	–	–	–	–	–
87 0234	–	–	–	–	–	–	–	–

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811033

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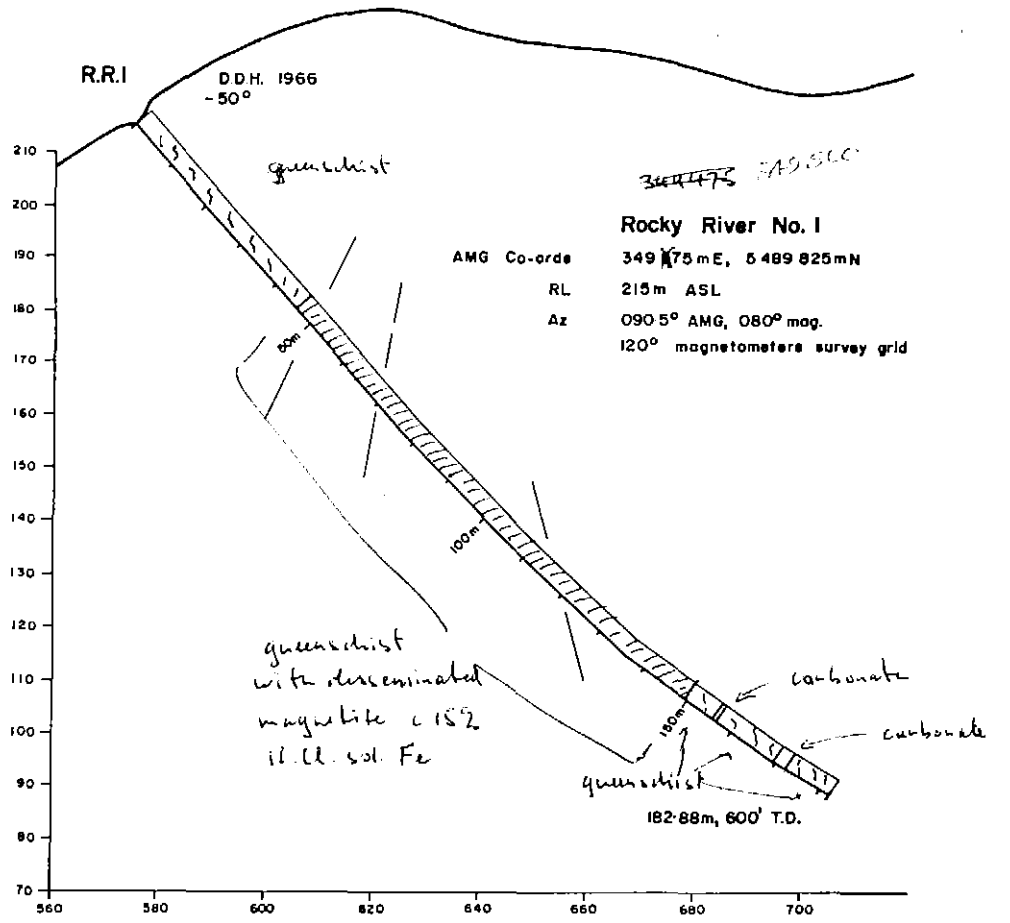
PRELIMINARY ANALYTICAL DATA

	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
SAMPLE	236.1.08.05069	11/02/88	18205	10 OF 10

	CaO	Fe2O3	K2O	MgO	MnO	SiO2	TiO2	LOI
WR500	--	--	--	--	--	--	--	--
87 1513	--	--	--	--	--	--	--	--
87 1515	--	--	--	--	--	--	--	--
87 1517	--	--	--	--	--	--	--	--
DETECTION	0.01	0.01	0.01	0.1	0.01	0.05	0.01	0.01
UNITS	%	%	%	%	%	%	%	%
METHOD	408	408	408	408	408	408	408	615

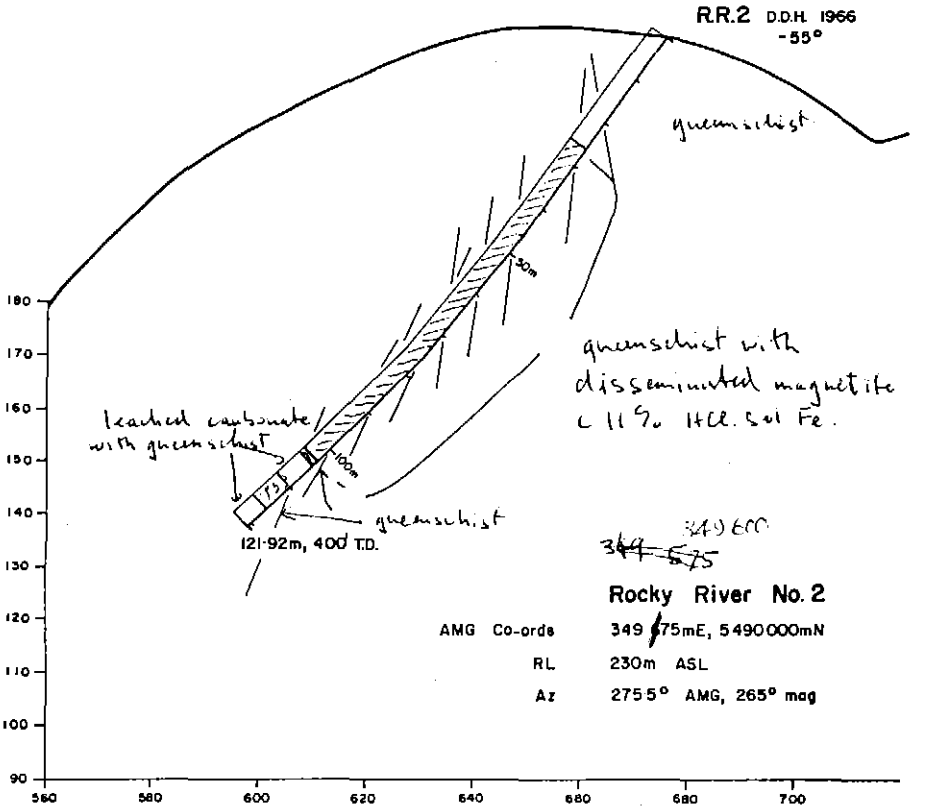
AUTHORISED OFFICER _____

811034



Rocky River No. 1

AMG Co-ords 349 175mE, 5 489 825mN
RL 215m ASL
Az 090·5° AMG, 080° mag.
120° magnetometers survey grid



Rocky River No. 2

AMG Co-ords 349 675mE, 5490000mN
RL 230m ASL
Az 275·5° AMG, 265° mag

5 cm

INDUSTRIAL AND MINING INVESTIGATIONS PTY. LIMITED	
E.L. 4/61 - SAVAGE RIVER ROCKY RIVER IRON DEPOSIT AREA DRILLHOLE PROFILES R.R.1 & R.R2	DRAWN BY : HS DRAFTSMAN : T.B.A.S DATE : 1 Aug '66 REVISIONS : FILE NO
SCALE 1:2500	FIG.

811035

034

ROCKY RIVER

IRON ORE DEPOSIT

TASMANIA

The main anomaly is some 1,400 feet in length giving a + 15,000 gammas reading.

Judging by the two diamond drillholes put down by Industrial & Mining Investigations Pty. Ltd. this reading appears to be equivalent to about 15% Fe.

The drillholes show the following average values under the + 15,000 gammas zone:

		Intersection Width	True Width	Value
IMI No. 1	153' - 489'	336'	240'	15.4%
IMI No. 2	90' - 340'	250'	160'	17.5%

Based on the + 15,000 gammas anomaly the length - 1,200 feet. Average width based on the two drillholes = 200 feet. Average value 16%.

Tonnage: 1200' x 200' = 240,000 square feet

Based on 11 cubic feet to 1 ton = 22,000 tons per vertical foot

To a depth of 200 feet = 4,400,000 tons of an average value of 16%

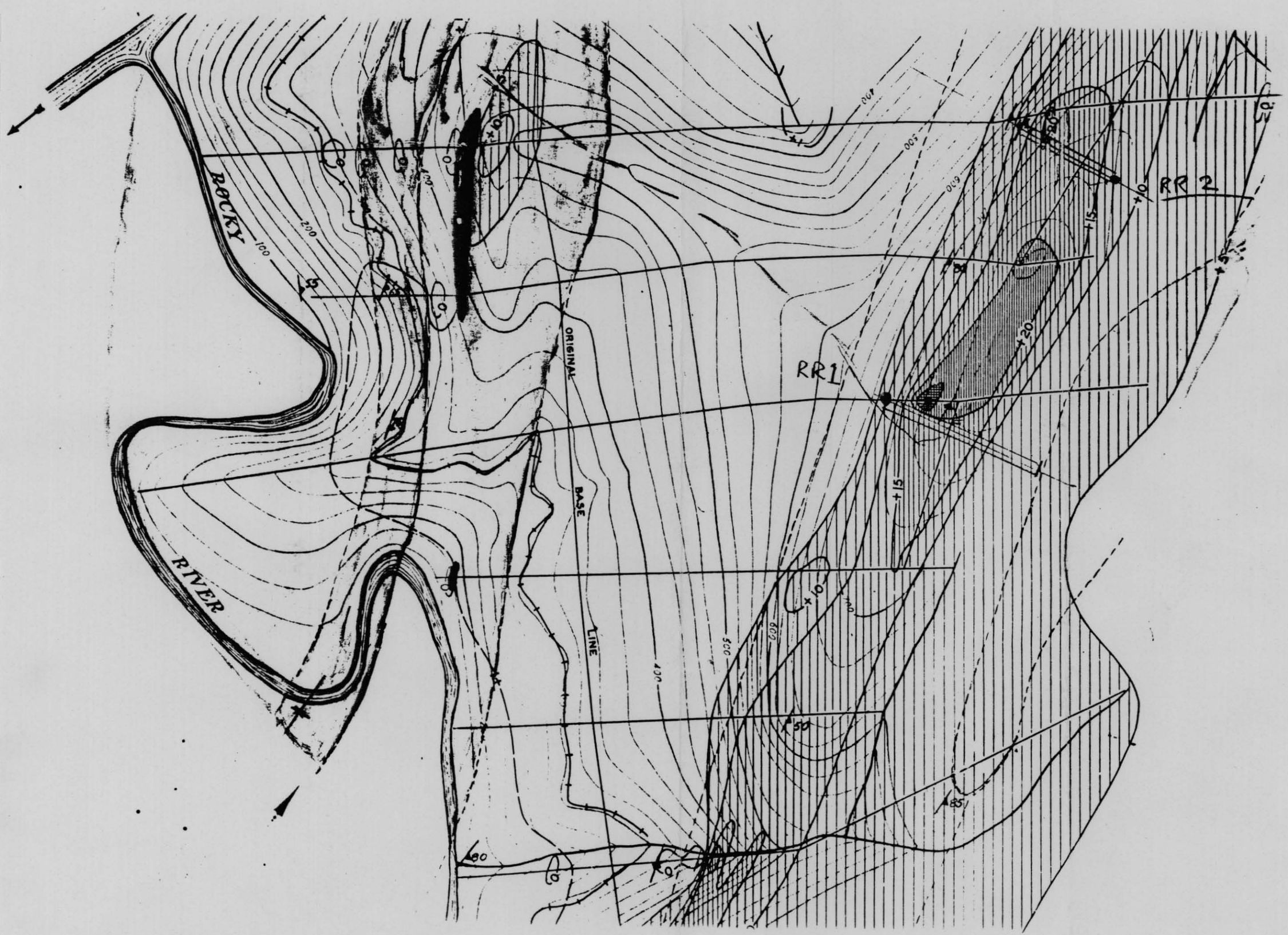
J. E. Ridgway

(J. E. Ridgway)
CONSULTING GEOLOGIST

(c.f. Long Plain report dated 13-5-69

average value 16.5% HCl sol. Fe = 12 cubic feet to 1 ton
= 20,000 tons/vt. foot over 240,000 sq. ft.
= 4,000,000 tons at 16.5% Fe.

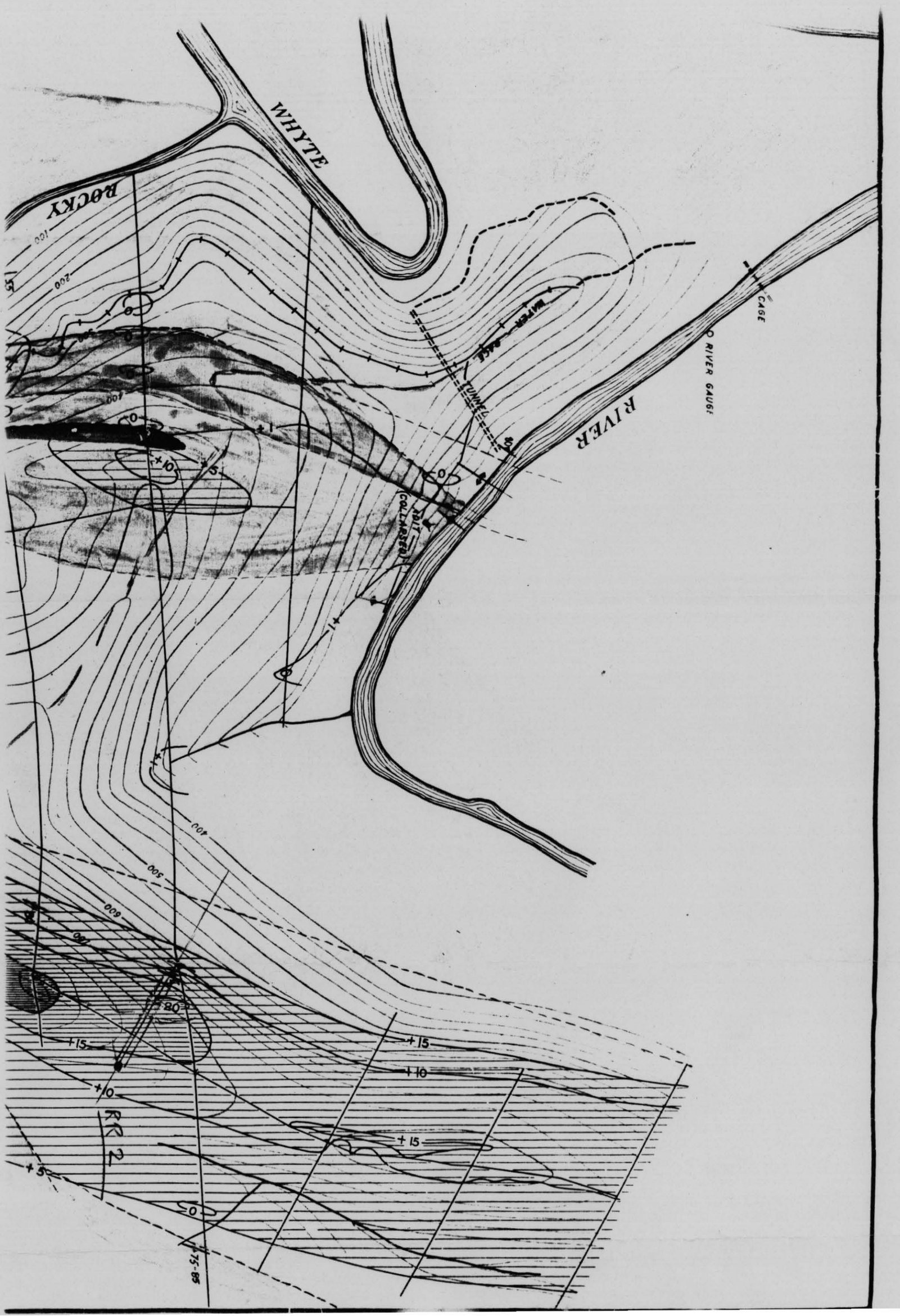
M. Edgoose.


ROCKY
RIVER
ORIGINAL
BASE
LINE
RR1
RR 2
+15
+20
+15
100
200
300
400
500
600
700
800
900
50
85
60

811036

036

811037


WHYTE
ROCKY
RIVER
RIVER GAUGE
CAGE
TUNNEL
PIPE
PIT
COLLAPSED
RR 2
100
200
400
500
600
700
800
+15
+10
+5
0
-10
-20
75-85

N

MAG

RECENT GRAVELS

CAMBRIAN ? MASSIVE OR FOLIATED AMPHIBOLITE.

SHEARED, METASOMATIC QUARTZ - FELSPAR SCHIST AND AMPHIBOLITE SCHIST.

PORPHYROBLASTIC, METASOMATIC SCHIST.

QUARTZITE, QUARTZ FELSPAR GNEISS OR ALTERED GABBRO.

UPPER PRECAMBRIAN SERICITE & QUARTZ SERICITE SCHIST.

IRON LODE.

STRIKE AND DIP OF SCHISTOSITY.

LEGEND

GREATER THAN 30,000 GAMMAS

25,000 – 30,000 GAMMAS

20,000 – 25,000 GAMMAS

15,000 – 20,000 GAMMAS

10,000 – 15,000 GAMMAS

5,000 – 10,000 GAMMAS

LESS THAN 5,000 GAMMAS

----- TRACK

LEVEL DATUM : APPROX. RIVER LEVEL AT GAUGE (100 FT.)

DEPARTMENT OF MINES TASMANIA

MAGNETOMETER SURVEY

ROCKY RIVER IRON DEPOSIT

0 200 400 600 800 FT.

CONTOUR INTERVAL 25 FEET

5 cm

T. D. HUGHES
CHIEF GEOLOGIST
(SURVEY BY B. KNOX)
1964

ROCKY RIVER - TASMANIA

COMMENTS ON GROUND MAGNETIC SURVEY CARRIED OUT BY THE TASMANIAN DEPARTMENT OF MINES IN 1964

This work is a resurvey of traverses initially surveyed by Rio Tinto Australian Exploration Pty. Ltd., in 1960. Most of the traverses cut by Rio-Tinto were repegged and topographically surveyed by the Tasmanian Department of Mines in 1964. The basic traverse plan surveyed by the Mines Department is considered more accurate than that of Rio Tinto because the latter was only a tape and compass survey. The orientation of the traverse layout shown on the Department of Mines Drawing 2402-43 differs considerably from that shown on the Rio Tinto plans. Neither plan would show the strike of the superimposed airborne magnetic anomaly in complete agreement with the B.M.R. aeromagnetic map G288-2. Further check on the orientation of the traverse layout appears desirable to establish which orientation is correct.

Recently completed geological mapping by the Department of Mines generally agrees with that of Rio Tinto (1960). No report on the Mines Department 1964 geological investigation is available.

According to Atkinson (1960) two distinctly different iron mineralisations occur in the area covered by the Mines Department magnetic survey. These are:-

1. Talcose-magnetite-amphibolite localised along narrow shears in massive gabbro-amphibolite said to form the main Rocky River deposits. Atkinson states that these deposits are "Similar in all respects to the Savage River Deposits." This mineralisation occurs in the western part of the area.

2. Chlorite-quartz-magnetite banded schists. These form a broad zone in the eastern portion of the surveyed area. The iron rich magnetite schists approach ore grade at several locations. Haematite is a common near surface alteration product in this zone.

Magnetic results obtained by the Mines Department's geophysical survey agree quite well with those obtained by Rio Tinto, and those obtained by the B.M.R. geophysical party on traverses 4N, 16S and 20S, in 1960.

Two anomalous zones are indicated by the magnetic contours presented

on Drawing 2402-43, both of which are aligned parallel to the regional geological trend and appear to be associated with the above mentioned iron rich mineralisations.

The magnetic anomaly corresponding to the Savage River Type mineralisation in the west is rather small and of very limited extent. This anomaly exceeds 10,000 and on the Centre Line Traverse but hardly shows up on the adjacent traverse 4S and 4N. The apex of the magnetic anomaly on the Centre Line Traverse is situated slightly east of the pyritic magnetite lode outcrops suggesting an easterly dip. The lack of magnetic anomalies over the whole length of the lenticular lode outcrops mentioned by Atkinson in this area indicates that only the lens between 4S and 2S is sufficiently large to cause a magnetic anomaly. The average width of the lode in this lens is estimated (Atkinson) to be 18 feet.

Susceptibility measurements on two samples forwarded by Mr. T. Hughes showed magnetic susceptibilities similar to those obtained on Savage River specimens. The exact location of samples was not given, but it can be assumed that they came from the Savage River Type mineralisation. One drill hole is recommended to check this zone at the point of strongest anomaly.

A much stronger anomalous zone occurs over the chlorite quartz-magnetite banded schists in the east. This zone shows a continuous anomaly exceeding 10,000 and for the entire length of the area surveyed. Maxima are reached on traverse 4S at 1650E, on 8S at 1475E, and on traverse 20S and 225E where values up to 30,000 and were measured. These anomalies are quite significant and should be further investigated.

Atkinson considers anomalies as being caused by banded magnetite formations of little economic importance, but that requires confirmation. Geological and mineragraphic investigations of these banded iron formations as well as a thorough investigation of their physical properties is strongly recommended. Three drill holes are recommended.

Should these investigations suggest the possibility of ore grade mineralisation, then further investigation by drilling would be desirable.

The following drilling targets are recommended for a preliminary investigation:

DDH No.	TRAVERSE	POSITION	ANGLE OF DEPRESSION	ORIENTATION	LENGTH
1	8S	1700E	50°	West, preferably at right angle to strike.	450 ft.
2	4S	1820E	55°	"	400 ft.
3	20S	500E	60°	"	450 ft.
4	Centre Line	600E	60°	"	350 ft.

Atkinson, W.J. (1960) Report on the Rock River Iron Deposits, N.W. Tasmania. Report to Rio Tinto Australian Exploration Pty. Ltd. (Unpublished).

81042

C.1

DIAMOND DRILL CORE RECORD

Hole No. [illegible] RIVER No. 2

Drilled by [illegible] DIAMOND DRILLERS

Core Recovery 90.5

Geological Logging by—
T. L. HUGHES

Area of Operation SAVAGE RIVER

Location of Site 200' on bearing of 156° from corner of centre line and Top Core Line.

Date Commenced 4-4-1966

Date Completed 2-5-1966

Reduced Level of Site 740'

Bearing of Hole 265°

Dip of Hole 5'-55°, 100'-55°, 200'-50°, 300'-45°, 400'-43°,

Bore Depth 400'

DRILL RECORD

Date	From	To	Core Recov.
4.4.66	0	26	14
5	26	41	7
6	41	78	35
18	78	91	12
19	91	113	22
20	113	144	29
21	144	186	40
22	186	214	28
23	214	242	26
25	242	282	40
26	282	322	38
27	322	354	29
29	354	392	30

GEOLOGICAL LOG

From	To	Description
0	80	Banded weathered felspar -chlorite schist (F.C.S.) with irregular bunches of quartz - Angle of Schist planes 45°
80	90	F.C.S. less weathered - sample pyrite angle 30°
90	104	F.C.S. weathering sporadic pyrite some magnetite. Angle 30°.
104	113	" -quartz 112'-112'9"
		End of BX Core
113	130	F.C.S. Isolated weathering angle 30°
		3" quartz at 117'
130	150	F.C.S. Angle 30°
150	170	F.C.S. Angle 45-30° 163'-164'
		Very weathered, pyrite oxidised granular
170	190	F.C.S. minor quartz impregnations. Angle 30°
190	210	"
210	230	F.C.S. Angle 10°-30' Felspar in irregular masses as well as banding - Minor quartz.
230	250	F.C.S. Angle 20°- 30° Minor quartz.
250	270	"
270	290	"
290	310	" Angle 10°-20°
310	330	" Angle 10°
330	340	"
340	400	Similar but little magnetite (non magnetic)

GEOLOGICAL SECTION

Core Sample

ASSAY RESULTS

Sample No.	From	To	HCl Sol. Fe
662466	90'	104'	10.2
467	104	113	11.5
468	113	130	14.9
469	130	150	15.8
470	150	170	16.6
471	170	190	19.2
472	190	210	18.6
473	210	230	20.6
474	230	250	22.2
475	250	270	18.8
476	270	290	15.3
477	290	310	18.4
478	310	330	19.2
479	330	340	19.2

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DIAMOND DRILL CORE RECORD

Hole No. [illegible] River No. 2

Drilled by [illegible] Diamond Drillers

Core Recovery 90%

Geological Logging by—
T. L. Hughes

Area of Operation SAVAGE RIVER

Location of Site 200' on bearing of 158° from corner of centre line and Top Base Line.

Date Commenced 4-4-1966

Date Completed 2-5-1966

Reduced Level of Site 745°

Bearing of Hole 265°

Dip of Hole 5'-55°, 100'-55°, 200'-50°, 300'-45°, 400'-43°,

Bore Depth 400'

DRILL RECORD

Date	From	To	Core Recov.
4.4.66	0	26	14
5	26	41	7
6	41	78	35
18	78	91	12
19	91	113	22
20	113	144	29
21	144	186	40
22	186	214	28
23	214	242	26
25	242	282	40
26	282	322	38
27	322	354	29
29	354	392	30

GEOLOGICAL LOG

From	To	Description
0	80	Banded weathered felspar -chlorite schist (F.C.S.) with irregular bunches of quartz - Angle of Schist planes 45°
80	90	F.C.S. less weathered - sample pyrite angle 30°
90	104	F.C.S. weathering sporadic pyrite some magnetite. Angle 30°.
104	113	" -quartz 112'-112'9"
		End of NX Core
113	130	F.C.S. Isolated weathering angle 30° 3" quartz at 117'
130	150	F.C.S. Angle 30°
150	170	F.C.S. Angle 45-30° 163'-164' Very weathered, pyrite oxidised granular
170	190	F.C.S. minor quartz impregnations. Angle 30°
190	210	"
210	230	F.C.S. Angle 10°-30' Felspar in irregular masses as well as banding - Minor quartz.
230	250	F.C.S. Angle 20°- 30° Minor quartz.
250	270	"
270	290	"
290	310	" Angle 10°-20°
310	330	" Angle 10°
330	340	"
340	400	Similar but little magnetite (non magnetic)

GEOLOGICAL SECTION

Core	Sample

ASSAY RESULTS

Sample No.	From	To	HCl Sol. Fe
662466	90'	104'	10.2
467	104	113	11.5
468	113	130	14.9
469	130	150	15.8
470	150	170	16.6
471	170	190	19.2
472	190	210	18.6
473	210	230	20.6
474	230	250	22.2
475	250	270	18.6
476	270	290	15.3
477	290	310	18.4
478	310	330	19.2
479	330	340	19.2

643

811044

Tasmania

Department of Mines,
Launceston Offices,
287 Wellington Street,
South Launceston 19th April, 1966.

22.28.365

TELEPHONES:
Metallurgical Research Laboratory, Mines Inspection, Explosives and Inflammable Liquids } 12151 - 2 (2 Lines.)
Registrar of Mines ... 22457

P.C. Mr. Conway
Mr. Ridgway

c.c. to- Mr. T.D. Hughes,
5 Lambert Avenue,
Sandy Bay,
HOBART, Tas.

Industrial & Mining Investigations Pty. Ltd.,
2 Castlereagh Street,
SYDNEY, N.S.W.

Dear Sirs,

Rocky River, Savage River District, Tas.

Herewith results of analyses of samples received from you on 1st April, 1966.

Regn. No.	Footage etc.	Per Cent HCl. Sol. Fe
661519.	Bore 1. 153'-169'	13.6
661520.	169'-189'	14.7
661521.	189'-209'	16.7
661522.	209'-229'	15.4
661523.	229'-249'	15.3
661524.	249'-269'	20.4
661525.	269'-289'	20.8
661526.	289'-309'	15.8
661527.	309'-329'	15.9
661528.	329'-349'	14.7
661529.	349'-369'	13.3
661530.	369'-389'	13.2
661531.	389'-409'	13.4
661532.	409'-429'	13.3
661533.	429'-449'	15.2
661534.	449'-469'	13.8
661535.	*469'-489'	16.4

Analyses by R.J. Anderson.

Yours faithfully,

H.K. Wellington

Chief Chemist & Metallurgist.

Fees: £17.00

* Footage shown on bag 469'-489'

644

811045

Tasmania

Department of Mines,
Launceston Offices,
287 Wellington Street,
South Launceston 31st May, 1966.

TELEPHONES:

Metallurgical Research Laboratory ... 42481-2
Mines Inspection ... Explosives and Inflammable Liquids ... 2 Lines.
Registrar of Mines ... 22457

c.c. to-
Mr. T.D. Hughes,
5 Lambert Avenue,
Sandy Bay,
Hobart, Tas.

Industrial & Mining Investigations Pty. Ltd.,
2 Castlereagh Street,
Sydney, N.S.W.

Dear Sirs,

Rocky River, Savage River District. No. 2 Bore.

Herewith results of analyses of samples received from you on 20th May, 1966.

Reg. No.	Footage	Per Cent HCl. Sol. Fe
662466.	90'-104'	10.2
662467.	104'-113'	11.5
662468.	113'-130'	14.9
662469.	130'-150'	15.8
662470.	150'-170'	16.6
662471.	170'-190'	19.2
662472.	190'-210'	18.6
662473.	210'-230'	20.6
662474.	230'-250'	22.2
662475.	250'-270'	18.8
662476.	270'-290'	15.3
662477.	290'-310'	18.4
662478.	310'-330'	19.2
662479.	330'-340'	19.2

	TO	Initials
[illegible]	✓	
[illegible]		
[illegible]		
Secretary		
Accountant		
PHOTO COPY FOR FILE		

Analyses by P. Brumby
per HC

Yours faithfully,

H.K. Williams

Chief Chemist & Metallurgist.

Fees. $41.00

645 81502

811046

Department of Mines, Tasmania

TELEPHONES
METALLURGICAL RESEARCH LABORATORY ..... 42431-2 (2 LINES)
MINES INSPECTION ..... 42431-2 (2 LINES)
EXPLOSIVES AND INFLAMMABLE LIQUIDS ..... 42431-2 (2 LINES)
REGISTRAR OF MINES 22457

LAUNCESTON OFFICES,
287 WELLINGTON STREET,
SOUTH LAUNCESTON 9th June, 1966.

c.c. to-
Mr. T.D. Hughes,
5 Lambert Avenue,
Sandy Bay,
Hobart, Tas.

Industrial & Mining Investigations Pty. Ltd.,
2 Castlereagh Street,
Sydney, N.S.W.

Dear Sirs,

Rocky River, Savage River District, Tas.

Herewith results of analyses of composite samples from the following bores.

Reg. No.	Footage etc.		Per Cent Ni	Ti	P	S
662480.	Bore No.2.	90'-113'	0.04	1.38	0.13	4.13
662481.		113'-250'	0.04	1.19	0.12	1.03
662482.		250'-340'	0.05	0.89	0.10	1.07
662483.	Bore No.1.	153'-249'	0.04	1.42	0.10	0.71
662484.		249'-329'	0.05	1.05	0.06	1.56
662485.		329'489'	0.04	1.18	0.16	0.93

Analyses by [signature]

Yours faithfully,

[signature]
Chief Chemist & Metallurgist.

Fees: $24.00

ROUTE	TO	Initials
Managing Director		
Technical Mgr.		
Manager		
Secretary		

PHOTOCOPY FOR J RIDGWAY
FILE

C46

811047

P.O. Box 36,
SAVAGE RIVER 7321

29/6/72

The Managing Director,
Industrial & Mining Investigations Pty. Ltd.,
Suite 3709, Australia Square 2000

Dear Mr. Hudson,

Please find enclosed the completed log of bore Main Creek No. 2

The average analysis from this borehole (including assays for the small dolomite sections) is very similar to that of M.C. No. 1, which was drilled 600 feet to the north, e.g.

	MC#1	MC#2
CaO	8.3%	5.7%
MgO	38.1%	38.9%
Al_2O_3	Trace	Trace

Excluding the dolomite assays, gives the following comparison

	MC#1	MC#2
CaO	4.6%	3.0%
MgO	41.5%	39.3%
Al_2O_3	Trace	Trace

This results in an average grade of

CaO = 3,8%
MgO = 40.4%
Al_2O_3 = Trace for bores MC#1 and #2, over a tonnage of approximately 20 to 22 million tons.

Yours sincerely,

M. Edyvean

REMARKS:- 647

SURVEY DATA

DEPTH feet	Bearing mag.	Incln. degs.

ASSAY DATA

SAMPLE No.	FROM ft. ins.	TO ft. ins.	RECOVERY ft. ins.	RECOVERY %	ASSAY RESULTS % CaO	MgO	Al_2O_3	SiO_2
711071	10	20	10	100	29.0	21.0	Trace	2.3
711072	20	30	10	100	26.0	23.0	"	1.6
711073	30	40	10	100	28.0	22.0	"	1.4
711074	40	50	10	100	27.0	22.0	"	2.7
711075	50	60	10	100	25.0	24.0	"	1.3
711076	60	70	10	100	8.0	33.0	"	8.9
711077	70	80	10	100	22.0	27.0	Nil	1.8
711078	80	90	10	100	25.0	24.0	Nil	3.2
711079	90	100	10	100	25.0	23.0	Nil	3.8
711080	100	110	10	100	35.0	29.0	Nil	1.0

GEOLOGICAL LOG — Logged by:—

FROM ft. ins.	TO ft. ins.	RECOVERY ft. ins.	RECOVERY %	DESCRIPTION	SECTION Core	SECTION Sample
0	113	103	91.2	Mottled grey and white dolomite with green and white		
113	116	3	100	talc zones. Pyrite occurs in both cargonate & talc.		
116	126	10	100	Grey-green chloritic schist with minor pyrite		
126	134.6	8.6	100	Grey-white Magnesite with some brown clay (Magnesium rich Dolomite?)		
134.6	145	Nil	0			
145	166	1	9.1	Grey-green chloritic schist.		
166	176	1	10	Whitish Magnesite (stained yellow-orange) with talc.		
176	186	.6	5	Coarse grained flesh coloured Magnesite. Fragments of green schist (decomposed to form brown clay)		
186	196	2.6	25	Whitish Magnesite with flesh coloured staining. Silica present.		
196	215	8	42.1	Fine grained whitish Magnesite with flesh coloured staining.		

Continued over:—

FROM ft. ins.	TO ft. ins.	RECOVERY ft. ins.	RECOVERY %	DESCRIPTION	Core	Sample
215	230	8	53.3	As above with some large crystals present		
230	240	Nil	0	Water indicates green schist		
240	250	2	20	Green chloritic schist.		
250	258	.2	2.1	Core present was whitish Magnesite.		
258	281	20	100	Greyish white Magnesite, fine grained, with occasional flesh coloured staining. Grey colouring - inc. in CaO content.		
281	397	113	97.4	As above. 321' to 322' - Talc. Minor core losses most probably due to washing away of decomposed chloritic schist. Grey colouring - increase in CaO content.		
397	399.6	2.6	100	Transition zone of Magnesite and green chloritic schist.		
399.6	409.3	9.9	100	Green chloritic schist with pyrite and minor carbonate veinlets.		
409.3	410	.9	100	Transition zone of green schist and Magnetite veins		
410	426.6	16.6	100	Greyish-white Magnesite, calcium rich. More silica present from 417'6'		
426.6	472	46.6	100	Mottled grey and white carbonate - Dolomite, with occasional blebs of white Magnesite. Silica rich		
472	473	1	100	Transition from grey carbonate to whitish Magnesite.		
473	548	73	97.3	Whitish Magnesite with occasional grey colourings (indicates increased calcium content)		
548	549	1	100	Sheared dark green schist		

Continued over

INDUSTRIAL & MINING INVESTIGATIONS PTY. LIMITED

DIAMOND DRILL CORE RECORD

HOLE No.:—	MAP SHEET No.	DISTRICT	LOCATION OF SITE:—
I		SAVAGE RIVER	MAIN CREEK

811048

R.L. OF SITE:— Approx. 350 ft.	SITE SURVEY ON MAP No.:—	CORE SIZE:—
BEARING OF HOLE:— West along traverse	AIR PHOTO No.:—	COMMENCED:— 5th Feb. 1971
INCLINATION OF HOLE:— 0-60° - [redacted]	DRILL:— Diamond [redacted]	COMPLETED:— 1st April 1971
[redacted]	DRILLER [redacted]	FINAL DEPTH [redacted]

ASSAY DATA

SAMPLE No.	FROM ft. ins.	TO ft. ins.	RECOVERY ft. ins.	RECOVERY %	ASSAY RESULTS % CaO	MgO	Al_2O_3	SiO_2
711081	110	120	10	100	13	27	4.0	9.8
711082	120	130	10	100	12	23	5.6	18.7
711083	130	134.6	4.6	100	15	33	Nil	2.3
711084	186	196	2.6	25	4	36	Trace	16.7
711085	196	210	8	57.1	4	40	"	5.3
711086	210	221	4	36.3	3	44	Nil	0.5
711087	221	230	4	44.4	4	43	Trace	0.3
711088	258	270	12	100	3	41	Nil	5.0
711089	270	282	12	100	8	39	Trace	1.5
[redacted]	282	[redacted]	[redacted]	100	[redacted]	[redacted]	Nil	6

FROM ft.	ins.	TO ft.	ins.	RECOVERY ft.	ins.	%	DESCRIPTION	SECTION Core	Sample
9		650.9		101.9		100	Whitish Magnesite with occasional grey colourings (calcium increase). Minor Talc zones. Coarse crystals between 598'6" and 604'6". Green schist veinlets between 603' and 604'. Occasional pyrite grains.		
50.9		652		1.3		100	Transition from Magnesite to grey-black carbonaceous? schist.		
52		656.9		4.9		100	Grey-black carbonaceous? schist with minor carbonate veinlets and pyrite grains.		
56.9		659.6		2.9		100	Green schist with minor carbonate and pyrite - mottled effect.		
59.6		674		14.6		100			
59.6		669.6		10		100	Dark grey to black carbonaceous? schist with minor carbonate veins.		
69.6		674		4.6		100	Green chloritic schist with carbonate - mottled appearance		
74		685.6		10		87	Whitish Magnesite becoming greyer in colouring (more calcium) with depth e.g. from 682'6"-685'6", considerably more calcium. Occasional black schist stringers e.g.676'6"-676'9"		
5.6		686.6		1		100	Transition from Magnesite to black schist.		
6.6		688.6		1.6		75	Greasy grey-black carbonaceous? talc schist containing pyrite		
8.6		689.9		1.3		100	Whitish Magnesite with grey schist stringers		
9.9		705.6		5.9		37.5	Whitish Magnesite with minor grey schist stringers, decreasing with depth.		

Continued over

FROM ft.	ins.	TO ft.	ins.	RECOVERY ft.	ins.	%	DESCRIPTION	SECTION Core	Sample
705.6		766.9		61.3		100	Greyish-white Magnesite with lenses of white coarsely crystalline Magnesite e.g. 719'3" - 719'6" 717'6" - 718'3"		
							Grey schist stringers present e.g. 739'6" - 749'6"		
766.9		769.6		2.9		100	Green chloritic schist with occasional pyrite.		
769.6		811		41.6		100	Whitish Magnesite with occasional grey schist stringers. Schistose zone 771 - 771'3". Occasional pyrite within the carbonate.		
811		936		125		100	White and grey-white Magnesite.		
936		937		1		100	Grey schist with talc, especially in last three inches of core.		
937		999.3		62.3		100	White and grey-white Magnesite with occasional pyrite. 970' - 971'3" - large crystals 937' - 947' - more grey colouring i.e. more calcium present		
999.3		1023.6		24.3		100	Green chloritic schist with only occasional carbonate, e.g. 1020'2" - 1020'5". Some small carbonate veinlets appear to contain haematite crystals. Last 1'6" of core contains more silica - transition zone.		
1023.6		1031		7.6		100	White and greyish white (last 2'6") Magnesite		
							HOLE ABANDONED WHEN BARREL SPUN OFF AND RECOVERY ATTEMPTS FAILED.		

Continued over

ASSAY DATA

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ASSAY DATA

1·2

SAMPLE No.	FROM ft.	ins.	TO ft.	ins.	RECOVERY ft.	ins.	%	ASSAY RESULTS % CaO	MgO	Al_2O_3	SiO_2
11091	292		304.6		12.6		100	2	42	Trace	7.9
11092	304.6		314		9.6		100	3	40	Nil	7.4
11093	314		323		9		100	4	40	"	5.6
11094	323		333		10		100	4	42	"	2.2
11095	333		343		10		100	3	41	"	8.3
11096	343		353		10		100	3	42	"	3.8
11097	353		363		10		100	3	42	"	3.8
11098	363		373		10		100	3	40	"	7.0
11099			383		[redacted]		[redacted]	2	[redacted]	[redacted]	2.

SAMPLE No.	FROM ft.	ins.	TO ft.	ins.	RECOVERY ft.	ins.	%	ASSAY RESULTS % CaO	MgO	Al_2O_3	SiO_2
711101	393.6		399.6		3		50	7	36	0.2	4.5
711102	410		420		10		100	7	40	Trace	0.7
711103	420		430		10		100	20	24	Nil	13.6
711104	430		440		10		100	25	18	"	15.5
711105	440		450		10		100	23	24	"	6.5
711106	450		460		10		100	23	21	"	14.7
711107	460		470		10		100	19	25	"	13.6
711108	470		480		10		100	16	30	"	7.7
711109	480		490		10		100	7	40	"	2.0
711[redacted]	[redacted]90		[redacted]		10		[redacted]0	[redacted]	41[redacted]	[redacted]	[redacted]

FROM ins.	TO ft. ins.	RECOVERY ft. ins.	%	649 DESCRIPTION	SECTION Core	Samp.

Continued over

FROM ft. ins.	TO ft. ins.	RECOVERY ft. ins.	%	DESCRIPTION	SECTION Core	Samp.

Continued over

ASSAY DATA

SAMPLE No	FROM ft. ins.	TO ft. ins.	RECOVERY ft. ins.	%	ASSAY RESULTS CaO	MgO	Al_2O_3	SiO_2
111	500	511	11	100	4	43	Nil	1.2
112	511	521	10	100	3	44	"	0.2
113	521	531	10	100	5	43	"	0.1
1114	531	541	10	100	3	43	"	1.9
1 15	541	551	8	80	5	39	1:4	4.2
16	551	561	10	100	4.	43	Nil	1.0
1117	561	571	10	100	3	44	"	1.0
1118	571	581	10	100	3	44	"	0.5
19	581	591	10	100	3	[illegible]	"	0.[illegible]
120	591	601	10	100	10	37	"	3 0

811050

ASSAY DATA

1·3

SAMPLE No.	FROM ft. ins.	TO ft. ins.	RECOVERY ft. ins.	%	ASSAY RESULTS CaO	MgO	Al_2O_3	SiO_2
711121	601	611	10	100	12	37	Nil	1.0
711122	611	623	12	100	2	45	"	0.8
711123	623	634	11	100	2	45	"	1.3
711124	634	646	12	100	4	41	"	4.3
711125	646	651	5	100	10	34	0.3	7.8
711126	674	685'6	10	87	6	39	0.3	5.1
711127	688.6	699.6	10.6	95.5	4	41	Nil	4.6
711128	699.6	709.6	5.9	60	4	43	"	2.5
711[illegible]	[illegible]	[illegible]	10	[illegible]	[illegible]	35	"	0.[illegible]
					2	47	"	0 1

ft.	ins.	ft.	ins.	%	DESCRIPTION	Core	Sample

Continued over

FROM ft.	ins.	TO ft.	ins.	RECOVERY ft.	ins.	%	DESCRIPTION	Core	Sample

Continued over

811051

ASSAY DATA

SAMPLE No.	FROM ft.	ins.	TO ft.	ins.	RECOVERY ft.	ins.	%	ASSAY RESULTS CaO	MgO	Al_2O_3	SiO_2
131	729.6		739.6		10		100	3	44	Nil	0.2
1132	739.6		749.6		10		100	3	44	"	0.8
1133	749.6		758		8.6		100	4	43	"	0.6
1134	758		766.9		8.9		100	4	43	"	1.6
1135	769.6		780		10.6		100	4	40	0.2	5.1
1136	780		790		10		100	6	42	Nil	2.9
1137	790		800		10		100	3	43	"	2.2
1138	810		820		10		100	5	42	"	2.6
1139	820		830		10		100	5	44	"	1.3
1140	830		840		10		100	5	42	"	1.7

ASSAY DATA

1.4

SAMPLE No.	FROM ft.	ins.	TO ft.	ins.	RECOVERY ft.	ins.	%	ASSAY RESULTS CaO	MgO	Al_2O_3	SiO_2
11141	840		850		10		100	4	44	Nil	1.4
11142	850		860		10		100	2	46	"	1.5
11143	860		870		10		100	4	43	"	1.2
11144	870		880		10		100	4	45	Trace	0.4
11145	880		890		10		100	5	43	"	0.4
11146	890		900		10		100	4	44	"	0.1
11147	900		910		10		100	4	46	"	0.3
11148	910		920		10		100	4	45	"	0.1
11149	920		930		10		100	4	44	Nil.	0.2
[illegible]	930		[illegible]		[illegible]		100	[illegible]	[illegible]	Trac	.9

651 811052

FROM ft.	FROM ins.	TO ft.	TO ins.	RECOVERY ft.	RECOVERY ins.	RECOVERY %	DESCRIPTION	SECTION Core	SECTION Sample

Continued over

1·5

ASSAY DATA

SAMPLE No.	FROM ft.	FROM ins.	TO ft.	TO ins.	RECOVERY ft.	RECOVERY ins.	RECOVERY %	ASSAY RESULTS CaO	MgO	Al_2O_3	SiO_2
51	937		947		10		100	9	40	Nil	1.6
52	947		957		10		100	9	40	"	0.6
53	957		967		10		100	5	43	Trace	0.5
54	967		977		10		100	3	43	Nil	3.8
55	977		987		10		100	3	43	"	3.6
56	987		999.3		12.3		100	3	44	"	1.6
57	800		810		10		100	3	44	"	2.9

INDUSTRIAL & MINING INVESTIGATIONS PTY. LIMITED

DIAMOND DRILL CORE RECORD

HOLE No.:— DDH 2	MAP SHEET No.	DISTRICT	LOCATION OF SITE:— Main Creek, Savage River, TAS.
			811053
R.L. OF SITE:— As for M.C. No. 1	SITE SURVEY ON MAP No.:—		CORE SIZE:—
BEARING OF HOLE:—	AIR PHOTO No.:—		COMMENCED:— 29.2.1972
INCLINATION OF HOLE:— 100'=42° 200'=39½ 300'=40 400'=37 500'=34° 600'=32° 700'=28° 800'=27° 900'=25	DRILL:— Diamond		COMPLETED:— 30.3.1972
COORDS. OF SITE:— [redacted]	DRILLER:— A. [redacted]		[redacted]

SURVEY DATA

DEPTH (on hole)	Bearing mag.	Inclin. degs.

ASSAY DATA

SAMPLE No.	FROM ft. ins.	TO ft. ins.	RECOVERY ft. ins.	RECOVERY %	MgO	CaO	Fe_2O_3	Al_2O_3	SiO_2
721748	26	32			34.6	10.2	1.4	<0.05	3.4
749	32	40			21.0	28.2	2.0	<0.05	4.1
721750	40	48			22.3	26.0	3.0	<0.05	2.2
751	61'3"	69			39.0	2.0	4.6	0.09	8.9
752	69	78			42.9	3.1	3.5	<0.05	0.8
753	78	86			40.2	5.2	2.6	<0.05	2.5
754	86	94			43.2	2.9	2.7	<0.05	1.3
755	94	102.6"			43.7	1.6	6.2	<0.05	0.4
756	102'6"	111			44.1	2.0	3.2	<0.05	0.6

GEOLOGICAL LOG

Logged by:—

FROM ft. ins.	TO ft. ins.	RECOVERY ft. ins.	RECOVERY %	DESCRIPTION	SECTION Core	SECTION Sample
0	15	----		Water return indicated a Talcose-Carbonate schist		
15	16	6	50	Talcose carbonate greenschist		
16	16 6	Nil		Transition Zone?		
16 6	18 6	6	25	Dolomite? with pyrite aggregates up to 10mm diameter		
18 6	20	Nil				
20	50	30	100	Greenish-white carbonate with occasional Pyrite e.g. 43'-44' Dolomite		
50	61 3	11 3	100	Grey-green Talcose-Carbonate-Schist with pyrite		
61 3	110 6	49 3	100	Grey-white Carbonate - fine grained MAGNESITE		
110 6	112' 9	2 3	100	Similar to above but whiter in appearance - crystals?		
112 9	152	49 3	100	Grey to white carbonate - fine grained - with minor crystalline sections. Solution channels occur between 133 and 141 ft. - MAGNESITE		
152	181	29	100	Fine grained predominantly white Carbonate crystals - 170'6" to 170'9" - MAGNESITE		

Continued over:—

ft. ins.	ft. ins.	ft. ins.	RECOVERY %	DESCRIPTION
181	191	10	100	Core similar but greyer than above and more fragmentary - MAGNESITE.
191	203 6	12 6	100	Fine grained grey-white Carbonate. Crystals from 202'6"-203'6" - MAGNESITE
203 6	254	50 6	100	MAGNESITE: Core more grey than above. Solution channels at 209', 219', 219'6" and 227'6"
254	262 6	8 6	100	Predominantly white carbonate - crystals from 258' - 258'9" - MAGNESITE
262 6	278	15 6	100	Greyish-white, fine grained Ca-Mg Carbonate, high SiO_2 content
278	280	2	100	Light to dark grey Ca-Mg Carbonate - high SiO_2 content
280	289' 6	9 6	100	Grey-white Carbonate - fine grained - becoming whiter with depth - high SiO_2 content
289 6	301 3	21 9	100	Predominantly white Ca-Mg Carbonate with some talcose sections
301 3	358	56 9	100	Similar to 280-289'6" - greyer with depth. 345'6"-352' crystals and talc present. Ca-Mg CARBONATE with high SiO_2 content
358	360 6	2 6	100	Grey-white Carb onate-fine grained - schist stringer(1/8") at 359'6"
360 6	363	2 6	100	Fine grained grey carbonate with minor white carbonate occurrences - crystalline - high SiO_2 content.
363	363 9	9	100	Dark grey carbonate schist
363 9	364	3	100	Talcose Carbonate - white
364	387 6	23 6	100	Light grey Carbonate with minor white crystalline zones and talcose zones, e.g. 387'3"-387'6". Pyrite crystals between 375' and 385'. at 372'9" - 1/8" black schist (Calcium-rich Magnesite with high SiO_2 content)

Continued over

2.1

ASSAY DATA

SAMPLE No.	FROM ft. ins.	TO ft. ins.	RECOVERY ft. ins.	RECOVERY %	MgO	CaO	Fe_2O_3	Al_2O_3	SiO_2
721757	111	119			34.6	12.4	2.6	<0.05	0.9
758	119	127			39.4	7.2	2.9	<0.05	1.3
759	122	136 6			44.8	1.2	3.3	<0.05	1.0
760	136 6	145			44.6	1.5	3.2	<0.05	0.9
761	145	153			42.1	1.7	3.2	<0.05	5.7
762	153	161			42.9	2.6	2.9	<0.05	0.3
763	161	169			42.9	1.8	3.0	<0.05	3.2
764	169	177			43.4	1.7	3.2	<0.05	2.7
765	177	185			44.5	1.8	2.9	<0.05	1.0
766	185	193			[redacted]				

FROM ft. ins.	TO ft. ins.	RECOVERY ft. ins.	%	DESCRIPTION	SECTION Core	Sample
387 6	415 3	27 9	100	Grey-green Amphibolite schist with minor carbonate veins (½") and Haematite veinlets (1-2 mm). Schistosity is only slight. Core is greyer towards the carbonate contacts.		
415 3	452 6	37 3	100	Predominantly white Carbonate (grey tint) with minor crystalline occurrences - Magnesite		
452 6	476 9	24 3	100	White Carbonate with clear crystalline stringers - MAGNESITE		
476 9	477 3	6	100	Grey-green talcose - carbonate schist		
477 3	486 3	9	100	White Carbonate with minor grey stringers - Magnesite		
486 3	499	12 9	100	Sheared grey-green Amphibolite? with minor carbonate veinlets. Last 3" of core is grey and talcose.		
499	500	1	100	Grey-white carbonate. 500'-501' - core talcose and containing pyrite crystals. CALCIUM rich MAGNESITE		
500	587	87	100	White to greyish white MAGNESITE with minor talcose zones (greenish white in colour) e.g. 500'-508'6" with pyrite crystals and also 511'-513'. Occasional grey-green ~~greenschist, e.g. 523'6"-524'3", 526'9"-525', 549'3"-550'9"~~ (Silica content is high for this core section)		
587	609	22	100	Light grey and white Calcium rich Magnesite. Silica content higher than usual. Ocassional talcose and coarse grained sections.		
609	610 9	1 9	100	Grey-green chloritic schist		
610 9	631	20 3	100	Fine grained greyish white caldum rich MAGNESITE. Occasional crystals.		
631	672 9	41 9	100	White-grey MAGNESITE with minor grey-green schist zones up to 6" wide e.g. 641'-651'		
672 9	740 6	67 9	100	Light grey-white MAGNESITE. Core shattered between 691' and 705'6"		
740 6	753	24 9	100	Whitish MAGNESITE with numerous ¼-1/8" grey-green schistose stringers (buggy in part)		

Continued over

FROM ft. ins.	TO ft. ins.	RECOVERY ft. ins.	%	DESCRIPTION	SECTION Core	Sample
53	782	29	100	Light grey-white MAGNESITE. Occasional vughs. Parallel jointing between 772 and 782'		
82	787 6	5 6	100	Green Chloritic Schist with occasional carbonate, haematite veinlets and Pyrite Schist becomes more talcose towards Magnesite contact.		
'87 6	843	55 6	100	Greyish-white to white MAGNESITE. Talcose towards contact with chloritic schist. Greenschist stringers common e.g. 803'4"-803'6" - with pyrite. Crystalline section 818'-821'. Pyrite in carbonate 823'-824'. Parallel jointing (resulting in discs of ½" to ½" depth) between 787'6"-801', 827'9"-839'9"		
343	843'6"	6	100	AMPHIBOLITE with minor carbonate. Occasional Pyrite and shearing.		
843'6"	861'3"	18	100	AMPHIBOLITE - predominantly massive and fine grained. Minor carbonate, Pyrite and Haematite. The last 3" of core is sheared.		
861 3	865	3 9	100	Grey-white calcium rich MAGNESITE with a grey carbonate zone from 861'5"-862' containing Pyrite and Chalco-pyrite?		
865	876'9	11 9	100	AMPHIBOLITE - (as for 843'6"-861'3")		
876 9	877 6	9	100	Transition zone from Amphibolite to Carbonate		
877 6	879	1 6	100	Grey-green-white Talcose Carbonate zone		
879	896	17	100	Grey-white MAGNESITE with talc and occasional schist stringers		
896	898	2	100	Grey CARBONATE SCHIST grading into slightly sheared Amphibolite.		
898	903 6	5 6	100	AMPHIBOLITE - minor carbonate and pyrite		
903 6	904 9	1 3	100	Transition zone from Amphibolite to Carbonate		
904 9	978	73 3	100	Light grey to white MAGNESITE. Core talcose with one foot of amphibolite contacts and also from 904'9" - 906'9" and 944'-978'. Minor schist zones, C.J.		

/over

Continued over

811054

ASSAY DATA

SAMPLE No.	FROM ft. ins.	TO ft. ins.	RECOVERY ft. ins.	%	ASSAY RESULTS MgO	CaO	Fe_2O_3	Al_2O_3	SiO_2	Acid	Insol
721767	193	201			44.9	1.5	2.9	<0.05	0.5		
722297	201	208			44.1	1.8	3.5	"			0.94
298	209	217			43.6	1.6	4.0	"			0.36
299	217	225			43.8	1.7	3.8	"			0.42
22300	225	233			44.0	1.9	3.2	"			0.42
301	233	240			44.1	1.3	3.6	"			0.54
302	240	248			43.7	1.9	3.5	"			0.56
303	248	256			42.3	1.6	3.0	"			5.4
304	256	264			44.1	1.3	3.0	"			1.2
305	[illegible]	27			3	2 5	0				17 3

ASSAY DATA

2.2

SAMPLE No.	FROM ft. ins.	TO ft. ins.	RECOVERY ft. ins.	%	ASSAY RESULTS MgO	CaO	Fe203	Al203	Acid	Insol
722306	272	280			28.3	12.3	1.3	<0.05		17.4
307	280	288			33.3	4.5	2.0	"		19.3
308	288	300			27.1	18.8	0.53	"		9.4
309	300	310			34.8	10.4	0.46	"		8.9
310	310	320			37.8	6.6	0.53	"		9.0
311	320	330			35.9	10.4	0.53	"		6.2
312	330	340			38.1	6.6	0.61	"		9.1
313	340	350			27.3	16.0	0.69	"		14.0
314	350	360			26.1	17.4	1.5	"		12.4
[illegible]	360	[illegible]			[illegible] 1 2		1 [illegible] 76			16.

GEOLOGICAL LOG — Page 5

FROM ft. ins.	TO ft. ins.	RECOVERY ft. ins.	RECOVERY %	DESCRIPTION	SECTION Core	SECTION Sample
				927'6"-928'. Parallel jointing-discs, between 907'-911', 932'-944'		
978	980 9	2 9	100	Green sheared AMPHIBOLITE with minor carbonate		
980'9"-993		12 3	100	Grey-white MAGNESITE		
993	997'9"	4 9	100	Sheared grey-green AMPHIBOLITE with minor carbonate + pyrite.		
997 9	1003	5 3	100	Grey-white MAGNESITE		
				HOLE TERMINATED		

Continued over

FROM ft. ins.	TO ft. ins.	RECOVERY ft. ins.	RECOVERY %	DESCRIPTION	CHIPS Core	CHIPS Sample

Continued over

ASSAY DATA — 811055

SAMPLE No.	FROM ft. ins.	TO ft. ins.	RECOVERY ft. ins.	RECOVERY %	ASSAY RESULTS MgO	CaO	Fe_2O_3	Al_2O_3	Acid	Insol
22316	370	380			32.5	10.4	1.3	≤0.05		11.3
317	380	387 6			27.0	15.0	1.3	"		15.2
318	415 3	425			42.5	5.0	3.0	"		0.40
319	425	436			44.2	2.5	3.0	"		0.30
320	436	447			43.4	3.3	3.0	"		0.30
321	447	458			43.9	3.1	2.9	"		0.30
322	458	468			44.0	2.2	2.9	0.05		1.8
323	467	476 9			43.9	2.2	3.0	<0.05		1.6
32[illegible]	[illegible] 3	4[illegible]	[illegible]	[illegible]	4[illegible]	3.[illegible]0	[illegible]	[illegible]	[illegible]	[illegible]
22325	5[illegible]	[illegible]5			[illegible]	[illegible]	[illegible]	"		

ASSAY DATA — 2·3

SAMPLE No.	FROM ft. ins.	TO ft. ins.	RECOVERY ft. ins.	RECOVERY %	ASSAY RESULTS MgO	CaO	Fe_2O_3	Al_2O_3	Acid	Insol
722326	511	523 6			37.8	3.3	2.4	<0.05		11.8
327	528	540			37.5	2.2	2.6	"		13.8
328	540	549 3			35.6	3.9	2.0	"		16.6
329	550 9	563			41.3	3.3	1.8	"		5.8
330	563	575			37.3	2.2	1.3	"		15.7
331	575	587			39.9	3.9	1.1	"		8.1
332	587	599			35.8	10.0	1.3	"		6.0
333	599	609			30.2	14.5	1.3	"		10.1
334	610 9	621			38.2	7.5	1.5	"		4.7
[illegible]	621	[illegible]	[illegible]	[illegible]	35 6	[illegible]	[illegible]	"		

GEO OGICAL LOG

Page 7

FROM ft.	FROM ins.	TO ft.	TO ins.	RECOVERY ft.	RECOVERY ins.	RECOVERY %	DESCRIPTION	SECTION Core	SECTION Sample

Continued over

FROM ft.	FROM ins.	TO ft.	TO ins.	RECOVERY ft.	RECOVERY ins.	RECOVERY %	DESCRIPTION	SECTION Core	SECTION Samp

Continued over

811056

ASSAY DATA

SAMPLE No.	FROM ft.	FROM ins.	TO ft.	TO ins.	RECOVERY ft.	RECOVERY ins.	RECOVERY %	ASSAY RESULTS MgO	CaO	Fe2O3	Al2O3	Acid	Insol
722336	631		641					41.6	2.0	1.3	<0.05		8.5
337	641		651					39.8	1.8	1.1	"		12.5
338	651		662					41.2	3.6	1.2	"		6.5
339	662		671					36.6	5.2	1.8	0.91		12.1
340	671		681					42.2	4.9	1.5	<0.05		1.5
341	681		691					44.1	2.8	0.92	"		3.6
342	691		701					44.4	2.8	0.92	"		1.0
343	701		711					39.8	8.4	0.92	"		1.1
[redacted]	711		[redacted]		[redacted]			[redacted]	[redacted]	0.8[redacted]	"	[redacted]	0[redacted]

2·4

ASSAY DATA

SAMPLE No.	FROM ft.	FROM ins.	TO ft.	TO ins.	RECOVERY ft.	RECOVERY ins.	RECOVERY %	ASSAY RESULTS MgO	CaO	Fe2O3	Al2O3	Acid	Insol
722346	731		741					41.6	6.1	1.0	<0.05		0.6
347	741		751					37.5	10.6	1.5	"		1.5
348	751		761					41.5	7.0	1.3	"		0.4
349	761		771					45.9	2.5	1.1	"		0.2
350	771		782					45.8	2.8	1.2	"		0.2
351	787	6	798					45.3	3.3	1.3	"		0.6
352	798		809					44.4	2.8	1.4	"		1.0
353	809		820					45.3	2.5	1.3	"		0.4
354	820		831					45.6	2.2	1.0	"		0.5
[redacted]	831		843					[redacted] 1	3 6	1 1	"	[redacted]	2 7

656 811057

O.H. ins.	TO ft.	TO ins.	RECOVERY ft.	RECOVERY ins.	RECOVERY %	DESCRIPTION	SEC Core	SEC Sample

Continued over

ASSAY DATA

2.5

SAMPLE No.	FROM ft.	FROM ins.	TO ft.	TO ins.	RECOVERY ft.	RECOVERY ins.	RECOVERY %	ASSAY RESULTS CaO	MgO	Al_2O_3	SiO_2
11151	937		947		10		100	9	40	Nil	1.6
11152	947		957		10		100	9	40	"	0.6
11153	957		967		10		100	5	43	Trace	0.5
11154	967		977		10		100	3	43	Nil	3.8
11155	977		987		10		100	3	43	"	3.6
11156	987		999.3		12.3		100	3	44	"	1.6
11157	800		810		10		100	3	44	"	2.9

SECTION A.. MAGNESITE CARBONATE DEPOSIT.
MAIN CREEK, SAVAGE RIVER AREA,
TASMANIA.. E.L.4/61

811058 Section 2 right hand side 252

Approximate Contour Only

MC.2.

DOLOMITIC ZONE I

DOLOMITIC ZONE II

DOLOMITIC ZONE III

HIGH SiO2 (Qtz.)

90'

24'

36'

5 cm

TOTAL CARBONATE MINUS DOLOMITIC AND SILICEOUS ZONES)

07 %
59 %
.1 %
6 %

787'6"-843'(55'6") MgO: 44.71%
CaO: 2.95%
SiO2: 1.07%
Fe: 0.85%

TOTAL ORE INTERSECTION : 61'3" TO 978' (916'9")

TOTAL CARBONATE INTERSECTION = 819'9"

CARBONATE AREA APPROXIMATE = 715w x 560d ≙ 400,000 SQ. FT.

SCALE 1" TO 50 FT.

811059

Section 2 looking South West

KEY

- MAGNESIUM-RICH DOLOMITE
- CALCIUM-RICH MAGNESITE
- LOW CALCIUM MAGNESITE
- GREEN SCHIST + META-BASICS? + SERPENTINE?

MgO, 44.71%
CaO: 1.95%
SiO2: 1.07%
Fe: 0.85%

MgO, 39.78%
CaO: 3.37%
SiO2: 0.87%

MgO: 43.08%
CaO: 2.32%
SiO2: 2.76%
Fe: 0.61%

MgO, 41.65%
CaO: 4.33%
SiO2: 4.04%
Fe: 0.83%

MgO: 35.0
CaO: 10.77%
SiO2: 6.29%
Fe: 0.09%

1.22 = 2.49

1.25

1.28

0.886

.40

AVERAGE GRADE OVER 646'6" (TOTAL CARBONATE

MgO: 42.07%
CaO: 3.39%
SiO_2: 3.61%
Fe: 1.46%

HIGHEST GRADE INTERSECTED → 787'6" - 843' (5

661

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REPORT ON THE MAGNESITE (Magnesium-rich Carbonate) DEPOSITS

OF MAIN CREEK AND LONG PLAINS AREAS

E.L. 4/61 TASMANIA

1. MAIN CREEK

A. GENERAL:

Magnesite was first recorded from Main Creek by Rowe (1962). In 1964, Urquhart and Groves, geologists from the Dept. of Mines, located a large carbonate deposit in the bed of Main Creek between traverses 18000N and 19000N (fig.3). A subsequent survey of Main Creek south of traverse 18000N indicated lenses and bands of magnesium carbonate outcropping in the channel as far as traverse 17000N.

The carbonate is mainly cryptocrystalline; with occasional coarse crystalline zones a fresh surface is white, grey-white or grey in colour and a weathered surface pink or flesh coloured. Texture of the carbonate varies from conglomerate to a heterogeneous mineral of white and grey medium grained carbonate in pink crytocrystalline Magnesite. pink magnesite xtals in a fine grained white magnesite. The mineral is dense, compact, brittle and breaks with a hackly sub-conchoidal fracture. Light green-white talc zones and sheared chloritic schist (serpentine) stringers occur sporadically throughout the carbonate. Pyrite occurs within the talcose zones. Silica is also present.

Surface sampling and the drilling of two bores in 1971 and 1972 outlined a carbonate body with a great variation in mineralogy from magnesite through to dolomite, the dolomite being confined in the main, to a zone along the eastern margin of the deposit. There should be little difficulty in outlining and disregarding this major dolomite zone during a mining operation.

B. STRUCTURE:

The carbonate body dips at approximately 85°ENE, the same as the green chloritic schist to the east and the mica schists to the west of the Main Creek area. This suggests that the deposit is conformable in a horizon at or near the transition from mica-quartz schist and quartzite into chloritic schist.

C. ORIGIN OF MAGNESITE (Magnesium-rich Carbonate)

It is probable that the Magnesite and talc were formed by an alteration of dolomite by hydro-thermal magnesia solutions. These solutions may have been derived from basis magmas which formed the meta-basic extrusive rocks of the area (i.e. the amphibolites of Urquhart 1966). If the theory of Spiller (1974) is accepted for the origin of the Savage River iron ore sequence approximately five miles to the north, the dolomite was formed by the volcanic exhalation of magnesium-rich carbonate silica material. The stringers of green schist-serpentine and metabasics within the carbonate body are common to occurrences within the Savage River sequence, the serpentine possibly a result of metamorphism of a siliceous dolomite rock.

662

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D. DRILLING:

Only two bores have been drilled at Main Creek to date. There bores were drilled 600 feet apart and both intersected close to 1,000 feet of carbonate, predominantly magnesium-rich. The dolomite zones intersected on the eastern margin of the deposit were omitted from grade and tonnage calculations (see sections 1 and 2).

Bore No.	Depth	Width	
M.C#1	707'	588')	Ore Zone
M.C#2	560'	715')	

Information from these two bores alone suggests the possible presence of in excess of 20 million tons* of magnesium rich carbonate over a strike length of approximately 600 feet (see figure 3). Drilling between Section 2 and traverse 18,000N could possible increase the reserve figure for the Main Creek deposit by a further 10 million tons.

* Urquhart 1966 - for an area of 600' stike by 600' width estimated the presence of 30,000 tons/vertical foot. This equals some 18 million tons to a depth of 600 ft.

E. QUALITY OF MAGNESIUM-RICH CARBONATE

Mines Dept. analyses of bores drilled give the following average results:

	CaO	MgO	Al_2O_3	Fe	SiO_2
M.C.#1	4.27	41.84	Tr	1.31	1.76
M.C.#2	3.59	42.07	Tr	1.46	3.61

(Pure Magnesite = 47.63 MgO)

Core samples were forwarded to the General Refractories Company European Group of Austria. The chemical analysis of these samples is,

	CaO	Al_2O_3	Fe_2O_3	SiO_2
M.C.#1	4.3	0.03	1.8	1.8
M.C.#2	4.0	0.03	1.5	1.4

Thus it can be seen that the carbonate from Main Creek has a high lime and silica content, which probably can be reduced by beneficiation. The real problem, however, is the high iron content which is far above the standard specifications of 0.25% in crude condition.

F. SUMMARY OF DRILLING PROGRAMME:

Two holes have been drilled in the carbonate deposit of Main Creek. Intersections from these bores suggest the presence of approximately 20 million tons of magnesium-rich carbonate at an average grade of,

CaO	MgO	Al_2O_3	Fe	SiO_2
3.84%	41.96%	Tr	1.38%	3.17%

Further drilling is necessary in order to,

(i) confirm the tonnage outlined by bores M.C.#1 and M.C.#2 by cross-drilling at intermediate localities;

(ii) outline the southern extension of the deposit beyond Section No.2 (i.e. M.C.#2).

It is possible that drilling would reveal 30 million tons of carbonate

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Section 1 Eastern end

MAIN CREEK

M.C.1.

MgO: 44·7%
CaO: 25·0%
SiO2: 2·8%
Fe: 1·44%
2·12

10'

DOLOMITIC ZONE
I

110'

134' 6"

95'

144'

186'

166'-186' - DECOMPOSED MAGNESITE? AND GREEN SCHIST

230'

MgO: 40·7%
CaO: 3·75%
SiO2: 5·67%
Fe: 2·31%
3·40

258'

MgO: 40·36%
CaO: 4·14%
SiO2: 4·75%
Fe: 1·72%
2·82

399' 6"

410'

420'

·367%

DOLOMITIC ZONE
II

42'

MgO: 40·0%
CaO: 7·0%
SiO2: 0·7%
Fe: 2·0%
2·94

KEY

- MAGNESIUM RICH DOLOMITE
- CALCIUM RICH MAGNESITE
- LOW CALCIUM MAGNESITE
- GREY-BLACK CARBONACEOUS SCHIST
- GREEN CHLORITIC SCHIST + META-BASICS + SERPENTINE

5 cm

E II)

TOTAL ORE INTERSECTION 186' TO 999 FT (813 FT)

TOTAL CARBONATE INTERSECTION = 744' 6"

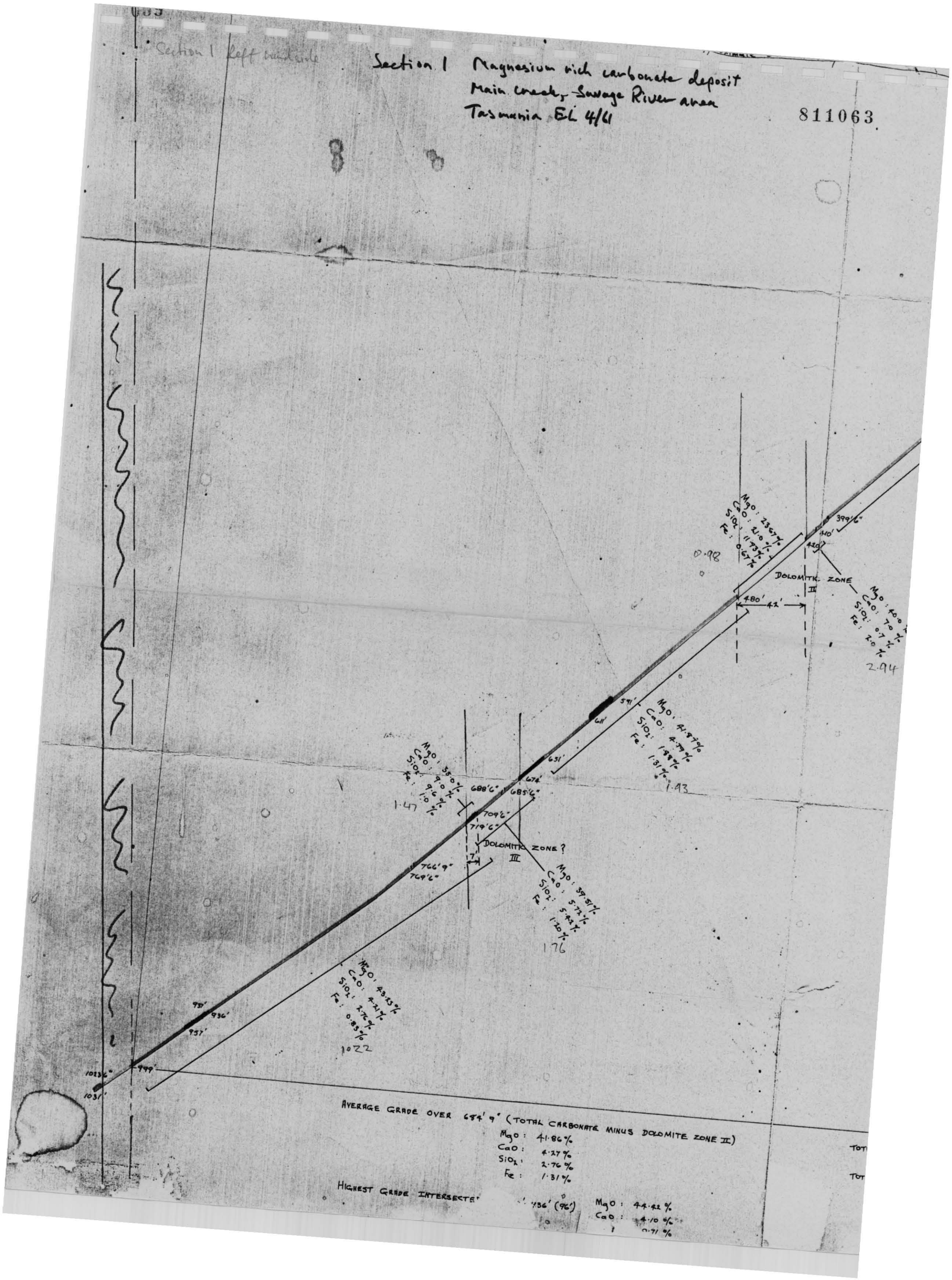
CARBONATE AREA APPROXIMATE = 588'w x 707'd ≏ 416,000 SQ. FT.

SCALE 1" TO 50 FT.

Section 1 Left underlie

Section 1 Magnesium rich carbonate deposit
Main Creek, Savage River area
Tasmania EL 4/81

811063



AVERAGE GRADE OVER 684'9" (TOTAL CARBONATE MINUS DOLOMITE ZONE II)

MgO :	41.86%
CaO :	4.27%
SiO_2 :	2.76%
Fe :	1.31%

HIGHEST GRADE INTERSECTE' '136' (96')

MgO :	44.42 %
CaO :	4.10 %
	0.71 %

2. LONG PLAINS

Four bores, numbers RTAE No. 1, DDH46, DDH28 & DDH29, drilled on the Long Plains Iron Ore deposit some 8-10,000 feet south of Main Creek (see figures 1, 2 & 4) terminated in significant zones of magnesium-rich carbonate, DDH30, some 4,000 feet further south again, contained some carbonate in the last 16 feet of core, but not in sufficient quantity to be used in tonnage estimates.

A. RTAE No. 1 was drilled by Rio Tinto in 1959 on traverse 11,085 N 345'E. Carbonate was intersected between 606' and 639', where it succeeded magnetite bearing meta-basics. Mines Dept. analyses are as follows:

	CaO	MgO	Al_2O_3	Fe_2O_3	SiO_2
606'-620'	9.29	32.16	0.20	4.86	7.45
624'-639'	14.35	27.79	0.04	4.00	7.26

This carbonate could be termed a calcium-rich silica magnesite (Magnesium Dolomite).

B. DDH 46 was drilled by I.M.I. on Traverse 11,250N 320'E. A carbonate lode with minor green-schist-meta-basic stringers was intersected between 550' and 761', the hole being terminated at 767'. An average analysis of the carbonate content is as follows:

CaO	MgO	Al_2O_3	Fe_2O_3	SiO_2
4.92	37.96	0.43	2.69	6.92

This carbonate could be termed a low calcium silica magnesite.

C. DDH 29 was drilled by I.M.I. on Traverse 10,250N, 250'E. Carbonate was intersected between 481' and 485'4")
503' and 510'5")
520' and 545') Assays attached.
546' and 600')

This carbonate could be termed a low calcium silica magnesite.

D. DDH 28 was drilled by I.M.I. on Traverse 9,250N 200'E. Carbonate was intersected between 499' and 509') Assays attached.
518' and 547')

This carbonate could be termed a low calcium magnesite.

E. BOWRY CREEK (See figure 1)

A small carbonate outcrop was located on Bowry Creek between 12,000N and 12,500N by Urquhart in 1964. Mines Dept. analysis is as follows:

CaO	MgO	Al_2O_3	Fe_2O_3	SiO_2
1.94	42.9	Tr	2.17	0.51

This carbonate is a relatively high grade magnesite.

3. SUMMARY

Significant magnesium rich carbonate occurrences are present over a strike distance of nearly 10,000 feet between traverses 9,250N (DDH 28) and 19,000N (M.C.#1).

Urquhart (1966) estimated a possible magnesite reserve of 300,000 tons/ verticle foot if the width of magnesite bodies revealed in creek sections and Long Plains drilling is maintained along the strike distance of approx. 10,000 feet. This would represent some 180 million tons at a verticle depth of 600 feet.

Drilling at Main Creek to date has outlined a possible 20 million tons of low calcium magnesite over a strike length of 600 feet with a possible 30 million tons over a strike length of 1,000 feet.

Drilling at Main Creek (bores M.C.#1 and M.C.#2) and at Long Plains (bores RTAE No. 1, DDH 46, DDH 28, DDH 29) revealed a magnesium-rich carbonate ore body at depth, with considerable chemical variation (Mines Dept. analyses and tests by the General Refractories Company European Group - Appendix A). The high lime and silica values common to this carbonate would probably be reduced to acceptable levels by beneficiation. However, for this carbonate to be suitable for use in a B.O.F. vessel, a suitable chemical extraction method for iron oxide would have to be devised. A sample of magnesite drill core has been forwarded to the C.S.I.R.O. to investigate the nature of the iron occurrence, and a method for its extraction. Until such a method is available and full beneficiation trials and firing tests have been determined on drill core material at hand, further drilling of the deposit would not be warranted.

M. EDYVEAN
30/6/77.

Reference - Tas. Mines Dept. Bulletin No. 48 - Urquhart (1966) "Magnetite Deposits of the Savage River - Rocky River Region".

Nth Copper anomaly. 350 000 E
54. 13750 N

LEGEND

QUATERNARY:

Qa — Alluvium

TERTIARY:

"BROWN PLAIN FORMATION"

Tus — Poorly rounded oligomictic pebble to cobble gravel and sand.

Tvb — Basalt

"BULLOCKS HEAD FORMATION"

Tmg — Well rounded polymictic cobble gravel and sand.

PERMO–CARBONIFEROUS:

WYNYARD TILLITE

C-Pwt — Tillite, mudstone with ice–rafted clasts, sandstone and varved mudstone.

DEVONIAN:

MEREDITH GRANITE

Dmg — Porphyritic granite, porphyritic microgranite, greisen and quartz tourmaline rock.

PRECAMBRIAN:

"WHYTE GROUP"
OONAH FORMATION

Pos 2 — Upper – greywacke and mudstone.
Pos 1 — Lower – schistose quartzwacke and associated mica–chlorite pelites with some graphite schist; abundant quartz veins and minor green tuff

"BOWRY FORMATION"

Pbg 4 — Greenschist, amphibolite and sandstone. Magnesite (indicated by horizontal bars). Magnetite (indicated by diagonal bars).

"TIMBS FORMATION"
Grey and green basal mudstone, lilabe sandstone, phyllite, greenschist, amphibolite, turbidite sandstone, minor carbonates and magnetite near top. Divisions indicated:–

Pbg 3 — Greenschist, turbidite sandstone, amphibolite and minor carbonate. thinbedded sandstone at top.

Pbg 2 — Quartz rich greenschist.

Pbg 1 — Greenschist, grey and green phyllite and amphibolite.

Pbs — Green and grey mudstone and minor turbidite sandstone.

"LONGBACK SUBGROUP"
Slate; dolomite; fragmental and massive volcanics. Divisions indicated:–

Plv 2 — Tunnelrace Volcanics; mudstone, phyllite, green tuff with flattened pumice clasts, amphibolite and volcanic breccia.

Pld 2 — Doodle Dolomite and Corinna Slate; dolomite commen in the south only. Quartz veins and distinctive laminated texture commen in dolomite; minor chert.

Plv 1 — Bernafai Volcanics; mudstone–like tuffs, breccia, massive volcanics (ignimbrite ?), grey tuff with flattened pumice clasts (in north).

Pld 1 — Savage Dolomite; slate expands at the expense of dolomite in the north. Distinctive dolomite textures include stromatolitic and brecciated stromatolitic dololutite and oolitic dolarenite; chert.

"MOUNT DONALDSON FORMATION"

Pdp / Pds — Black phyllite and sandstone/conglomerate; resistant sandstone beds indicated.

ROCKY CAPE GROUP

Prp / Prs — Slate and sandstone; prominent sandstone beds indicated.

CONTINUING TENURE AREAS

GRID CONVERGENCE 1·2° — TN GN MN — GRID MAGNETIC ANGLE 11·2°

811066

5 cm

SAVAGE RESOURCES LIMITED

E.L. 4/61 - SAVAGE RIVER

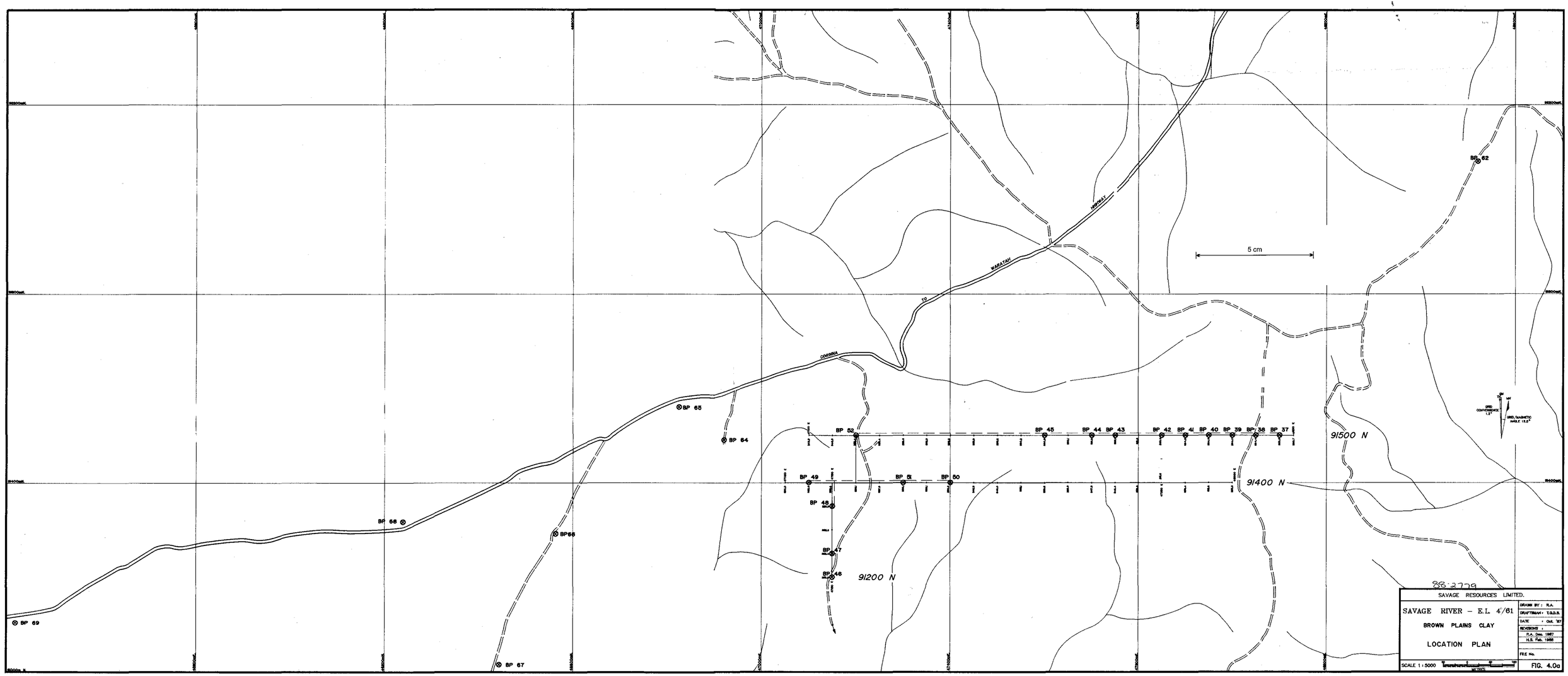
88-2779

GEOLOGY INTERPRETATION AND CONTINUING TENURE AREAS

SCALE 1: 50,000 — 1000 0 1000 2000 METRES

DRAWN BY	H.S.
DRAFTSMAN	T.G.D.S.
DATE	Aug '88
REVISIONS	
H.S.	July 1987
H.S.	December 1987
H.S.	February 1988
FILE NO.	
FIG.	1·0

7724



88 3779

SAVAGE RESOURCES LIMITED.

SAVAGE RIVER – E.L. 4/81

BROWN PLAINS CLAY

LOCATION PLAN

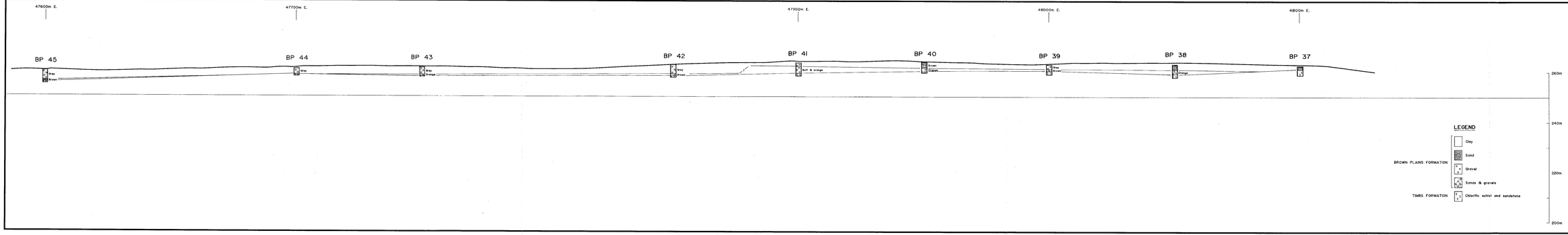
DRAWN BY : R.A.
DRAFTSMAN : T.O.D.S.
DATE : Oct. '87
REVISIONS :
R.A. Dec. 1987
H.S. Feb. 1988
FILE No.

SCALE 1 : 5000

FIG. 4.0a

811067 7726

7727



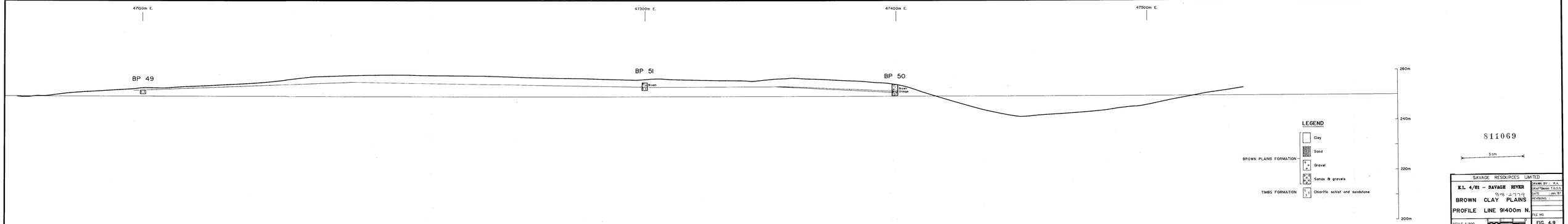
81106S

5 cm

SAVAGE RESOURCES LIMITED	
E.L. 4/81 – SAVAGE RIVER	SCALE: 1" = R.A.
TO TS: A 7147	DRAFTSMAN: T.G.D.S.
BROWN CLAY PLAINS	DATE: Jan '87
PROFILE LINE 91500m N.	REVISIONS: -
	FILE NO.
SCALE 1:500 METRES	FIG. 4.8

7727

7728



811069

5 cm

SAVAGE RESOURCES LIMITED

K.L 4/81 – SAVAGE RIVER

BROWN CLAY PLAINS

PROFILE LINE 9140Om N.

SCALE 1:500

METRES

DRAWN BY: R.A.

DRAFTSMANS T.C.D.S.

DATE Jan.'81

REVISIONS

FILE NO.

FIG. 4.9

7728

349000mE.
349500mE.
5390000mN.
5389500mN.
5389000mN.
5388500mN.

FORD
FLYING FOX
87/0318
87/0319
87/0320
87/0322
87/0321
Shaft
87/0323
Diversion Tunnel
ROCKY RIVER MINING COMPANY (Whyte River Mine)
88/0006
87/0250 – 87/0275
87/1514
87/1513
88/0005
87/1515
Shaft 42m
87/0249 – 87/0235
87/0224 – 87/0203
88/0003
87/1516, 87/1517
To Fiddlesticks and the Rocky River Arsenic Prospects
Rocky River No. 2
Top of Bowry Fm.
Rocky River No 1
WR 00
WR 20
WR 40
WR 60
WR 80
WR 100
WR 120
WR 140
WR 160
WR 180
WR 200
WR 220
WR 240
WR 260
270
WR 280
290
WR 300
310
WR 320
330
WR 340
350
370
WR 380
WR 360
390
WR 400
410
WR 420
WR 440
430
450
WR 460
470
WR 480
490
WR 500
WR 520
WR 540
WR 560
WR 580
WR 600
20
10
40
30
50
60
70
80
90
100
110
120
130
140
150
160
170
180
WR 620
WR 640
WR 660
WR 680
WR 700
WR 720
WR 740
WR 760
WR 780
WR 800
WR 820
WR 840
WR 860
WR 880
WR 900
WR 920
WR 940
WR 960
WR 980
WR 1000
WR 1020
WR 1040
WR 1060
WR 1080
WR 1100
WR 1120
WR 1140
87/1512
'White Rock' abundant in soil samples
Magnetite
ROCKY
ROCKY RIVER M. CO. LEASE
WATER
ROCKY RIVER MINING CO. NO. 3 TUNNEL
Lower Sawpit Lode
Adit not found, probable entrance works and 'excavations' located.
ROCKY RIVER M. CO. LEASE
50,1,X
296
5,X,.01
295
WRSP SERIES
298
70,1,X
297
10,X,.01
294
5,X,X
ROCKY RIVER M. CO. LEASE
87/0308
X,X/XX
87/0307
X,X,.06
87/0306
87/0305
10,X,.01
87/0303
15,X,.02
87/0301
15,X,.01
87/0304
10,X,.01
87/0302 5,X,.01
55,X,X
87/0299
293
15,X,X/.01
87/0292
35,X,X
87/0300
15,X,X
87/0290
40,2,.01
87/0291 15,X,X
87/0289
50,X,X
87/0288
95,2,.02
Shaft
ALLUVIAL WORKINGS
Cataract Creek
87/0287
80,1,.02
87/0286
60,3,.01/.03
87/0309
30,X,X
87/0310
20,X,.02
87/0311
55,X,.02
87/0312
45,X,X/.01
87/0313
40,2,X
87/0314
15,1,X
87/0315
X,1,.01
87/0316
X,X,X
87/0317
15,X,X
87/0324 – 0332
Noland Ck
ASSOCIATED ROCKY RIVER EASTERN COPPER LODE
ROCKY RIVER ASSOCIATED MINE, position doubtful, (adit not found) Shaft presumed to be air shaft servicing adit.
TIMBS FORMATION
BOWRY FORMATION
ROCK
ZONE OF WHITE
Approximates "cataclasite unit" of Urquart (1966)
HORIZON
MAGNETITE
RIVER
Felsite outcrop
EZ Cut Line
ASSOCIATED ROCKY RIVER M. CO. LEASES
Shifted to abut against Rocky River M. Co. leases – not as shown by Twelvetrees.
ASSOCIATED ROCKY RIVER M. CO. LEASE
Disseminated magnetite in blocky greenschist
87/0334
30,2,X
87/0333 25,3,X
87/0335
15,3,X
5,1,X
87/0337
87/0336 20,X,X
87/0338
5,1,X
Breakneck Creek
Coundon Creek

	Cu	Pb	Zn	Mn	As	Ag	Au
324	470	10	85	4000	X	X	.04/.06
325	265	15	180	1850	1	X	.03
326	65	10	285	7050	3	X	X
327	155	10	265	2300	3	X	X
328	120	15	205	2050	4	X	X
329	150	15	145	4950	3	X	X
330	260	10	175	3000	4	X	X
331	85	15	260	1750	4	X	X
332	45	25	365	2950	27	X	X

KEY

- DETAILED SURVEY OF RIVER
- RIVER NOT SURVEYED IN DETAIL
- VEHICLE TRACK
- WALKING TRACK
- 87/0318 ROCKCHIP SAMPLE
- WR 540 SOIL OR ROCKCHIP SAMPLE
- Cu,As,Au SAMPLE RESULTS
- x BELOW LIMIT OF DETECTION
- \- NOT ASSAYED
- X87/1511 ROCKCHIP SAMPLE
- OUTCROP

811070

5 cm

GRID CONVERGENCE 1.2°
GN
TN
MN
GRID/MAGNETIC ANGLE 12.5°

SAVAGE RESOURCES LIMITED

SAVAGE RIVER E.L. 4 / 61
WHYTE – ROCKY RIVER PROSPECT
88-2779
WHITE ROCK PROJECT
GEOLOGY, SAMPLE LOCATIONS AND RESULTS

DRAWN BY : R.A.
DRAFTSMAN : T.G.D.S.
DATE : June '87
REVISIONS :
H.S. Dec. 1987
H.S. Feb '88
FILE No.

SCALE 1 : 2500
25 0 50 100 METRES
FIG. 2.4

7725