182001

ANNUAL REPORT

FOR

RETENTION LICENCE 8802

AND

CONSOLIDATED MINING LEASE 46M/90

AT

MAIN CREEK, SAVAGE RIVER, TASMANIA

for the period
01 October 1993 to 23 May 1994

BY

R. W. ANNETT

September 1994

SAVAGE RESOURCES LIMITED

Incorporated in Tasmania

SUMMARY

The reporting period has been one of project consolidation; following the successful application for a licence to operate a scheduled premises, the grant of Consolidated Mining Lease 46M/90 (CML 46M/90) and continued project approval by the Board of Savage Resources Limited (SRL).

Over the summer months the ochre and umber resources were costeaned. Geological mapping defined areas of near surface high iron pigments. Mining constraints have been applied to these areas and pigment volumes determined. Preliminary reserve estimates are not yet available as pigment recovery factors, in-situ SG, etc, have yet to be accurately determined.

Eighteen pigment horizons were excavated and material stockpiled, in order that a ready supply of material was available for on-going physical and chemical analysis. Some sample material was bulked to provide much larger quantities for both market trials and pilot scale test work.

Laboratory test work was undertaken by SRL, research organisations and equipment manufacturers both in Australia and overseas. Research into the production of the four basic pigment colours of brown, red, black and yellow, as well as the blended shades such as marigold, desert sand, driftwood, etc, is continuing.

A trial marketing campaign using pigments produced by the test work continues, both in Australia and overseas (principally in the UK, Japan and USA). This will determine the quality of our pigment and provide feedback as to the optimisation of the pigment processing route.

PREVIOUS EXPLORATION

SRL has over the last 6 years continued to assess the applications and markets for the magnesite, from Main Creek, and magnetite, from Long Plains, and the properties and production of the ochre and umber pigments (other coloured pigments are known to occur but these have yet to be assessed).

Since 1988 a number of bulk samples of the magnesite have been sent to various organisations for certain proprietary test work. None has led to anything substantial although SRL continues to follow-up any avenue where Main Creek quality magnesite may be used. Investigations into the use of crushed and powdered magnesite as a neutralising agent in certain chemical processes is being evaluated.

For many years the Long Plains magnetite has had little direct investigation, although certain recent events at the Savage River Mine operation (SRM) has led to a reassessment of its true potential by way of the 1960/1970 data set.

Principal attention has focussed on the pigment and recent exploration has seen the following:

1986-1987 - regional exploration for pigment occurrences,

1988-1990 - delineation of the geological resource of low and high iron ochres at the HT Site,

- the laboratory analysis of the physical and chemical properties of the ochre samples from the auger drilling and umber samples from the Bowry Creek cutting,

1991-1993 - preliminary investigations of the process route and the instigation of market acceptance of these pigments,

- bulk sample collection and overseas beneficiation including the production of pigments both natural and blended,

- test trials of the ochre and umber pigment at concrete brick and tile manufacturers and,

- submission of the Development Proposal and Environmental Management Plan (DP&EMP), and application for CML 46M/90.

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1. INTRODUCTION

The mining and exploration tenements are located approximately 6 km south-west of the Savage River Township.

Access to the ochre deposit is south along an exploration track from the SRM iron ore operation, a distance of some 5 km. The umber site is located 4 km to the south of the ochre deposit and 13 km by road from SRM; access is gained via a track that runs off the Waratah to Corinna road (Figure 1).

The topography consists of an elevated plateau with incised creeks. The landscape is rugged by not severe. The two deposits lie on or marginal to steeply sloping hill sides. The entire area is covered by a large belt of mixed forest (rainforest and eucalypt).

2. TENURE

The tenements lie within State Forest - Multiple use Forest Land (previously designated Unallocated Crown Land). There is no land use within the immediate area other than mining and forestry practices.

Tenure is held under Retention Licence 8802 (RL 8802) and CML 46M/90 with the former being largely superseded by the latter (Figure 1).

2.1 Retention Licence 8802

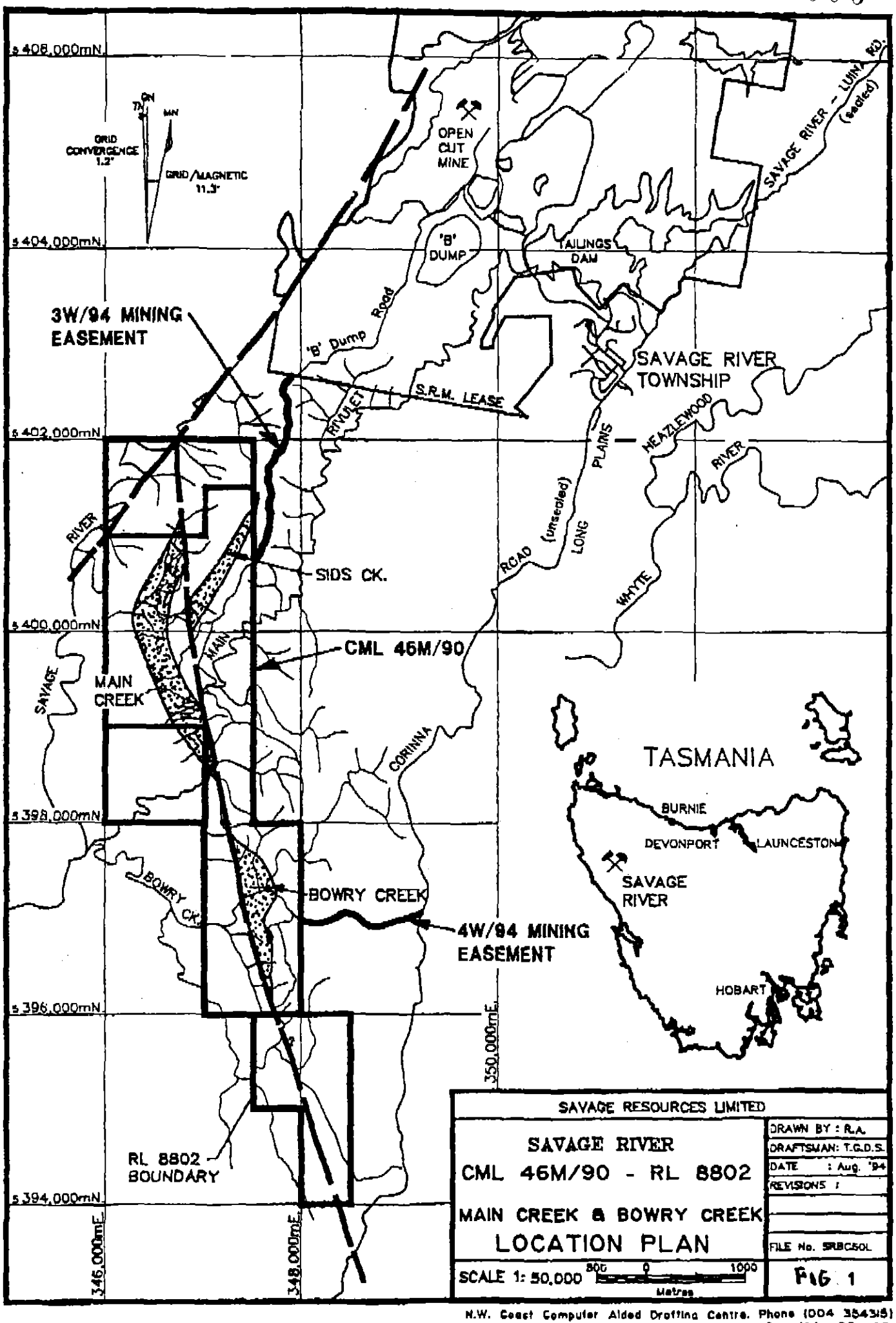
RL 8802 was granted on 23 May 1988 over an area of 9.5 sq.km, for an initial period of two years. Two subsequent extensions have been given and the licence is due to expire on the 23 May 1995. The licence is renewable subject to performance.

The area of RL 8802 has been reduced to 3.75 sq.km as a consequence of the grant of CML 46M/90 over the central part of RL 8802. The three remnant parts of RL 8802 will be retained in order to maintain tenure of the strike extensions to the Main Creek magnesite and Long Plains magnetite (Figure 1).

2.2 Consolidated Mining Lease 46M/90

CML 46M/90 was granted to SRL on 16 August 1993 for a period of 10 years to expire on the 31 July 2003. The lease permits SRL to extract as much of the economic minerals or stone in the leased land as is practical consistent with safety.

182006



SAVAGE RESOURCES LIMITED

SAVAGE RIVER
CML 46M/90 - RL 8802
MAIN CREEK & BOWRY CREEK
LOCATION PLAN

SCALE 1: 50,000 (800 0 1600 Metres)

DRAWN BY : R.A.
DRAFTSMAN: T.G.D.S.
DATE : Aug. '94
REVISIONS :
FILE No. SRBC50L

FIG 1

N.W. Coast Computer Aided Drafting Centre. Phone (004 354315)
Fax. (004 354495)

5 cm

There is no designated work plan although the governing authority issued the lease after reviewing the *Development Proposal and Environmental Plan to Operate a Mine and Beneficiation Plants for the Production of Pigment at Savage River and on the North West Coast, March 1993* (DP&EMP). This document has been lodged with Mines Division.

2.3 Other Approvals

A Licence to Operate a Scheduled Premises, Licence Number 5831, was granted on the 7 September 1993 under Section 25 of the Environment Protection Act 1973, to operate scheduled premises located at Savage River for the purposes of a mine and beneficiation plant.

On the 12 January 1993 the Council of the Shire of Waratah issued SRL with all planning approvals necessary to undertake the extraction and processing of material for pigment production.

All authorities to commence mining have been gained.

3. EXPLORATION AND DEVELOPMENT - PIGMENTS

3.1 Geological Overview

The ochre and umber deposits overlie a steeply dipping magnesite unit within the Proterozoic Arthur Lineament. The unit occurs at the base of the Bowry Formation and is characterised by a succession of interbedded magnesite, dolomite and greenschist.

The magnesite unit subcrops over a strike distance of 2.5 km in the Main Creek area and 2 km at Bowry Creek and, including the greenschist, is up to 350 m wide (Figure 1).

The ochre and umber appear to overlie predominantly magnesite rich parts of the succession. These occur in the paleo-weathering profile and are a product of in-situ leaching, mass movement and surface erosion. This has led to a complex but not indistinguishable mixture of pigment and non-pigment products.

3.2 Summary of Exploration and Development

Geochemical analyses, both physical and chemical, have been performed by the Brisbane laboratories of Australian Laboratory Services (ALS) on the four primary pigment colours (black, red, yellow and brown) and blends thereof, and the magnesite.

The first stage of the costean trenching of part of

the HT Ochre Site and the Bowry Creek Umber Site has been completed.

Bulk sampling of the excavated material from the trenching program has occurred with the sample material used for laboratory and pilot scale test work and physical and chemical analysis.

Research has commenced (and continues) into the production of calcined, or "burnt", colours from the yellow and black pigments. Investigations into the selection of equipment and the process in general continue.

Pigment has continued to be produced at the Savage River laboratory for on-going market trials in Australia and overseas.

3.3 Geochemical Analyses

Principal studies have involved the analyses of the four basic colours.

The **yellow ochre** from the HT Ochre Site has been sampled and analysed. Samples designated HT 101 to 118 (ALS ST9026, Appendix 1) are individual samples of minus 150 µm ochre from 18 sondage points within a number of ochre horizons (Figure 2). A composite of these 18 samples has been prepared and analysed (ST8667, Appendix 1). Samples 104 to 106 have been either screened and the minus 150 µm analysed as sample 14 (ST7660, Appendix 1) or taken raw (i.e. as mined) and blended to make Savox Yellow Ochre 3/2255/1 or 3/0155/1P (ST7290, Appendix 1).

Analyses of the **brown umber** from the western and eastern umber deposits at Bowry Creek are reported in ST8257, ST7660, ST8667, ST7290 and Savox Brown. Only one of these, ST8667, is material from the eastern umber site.

Magnetite from SRM (ST7505, ST7207, ST7660) and Kara (ST7290) have been investigated as a **black pigment**.

A single analysis of a calcined magnetite (converted to hematite), or **brown** pigment, is given in ST8257.

3.4 Costean Exploration HT Ochre Site

The principal area of interest lies between the HZ and HC sections (Figure 2). Costean excavations were made along sections HA and HB together with infill trenching between HZ and HA, to the north, and HB and HC to the south.

Costean excavation involved the removal of the top

346 550mE. 346 600mE. 346 650mE.

5400 400mN.

HZ 4
1.5–21m clay–ochre

660

HZ 3
2.5–9m clay–ochre
9–10.5m g/s

HZ 2
0–8.5m ochre
8.5–14.5 g/s

0–15m clay–ochre
15–20m g/s
HZ 1

SECTION 1

4 – 6 inc.

2 & 3

HA 6
HA 7
HA 8
0–8.5m clay–ochre
2–28m clay–ochre

5400 350mN.

2.5–8 clay–ochre
8–12m g/s
12–31m ochre

HA 1
0–20m clay–ochre

HA 2
0–7.5m clay–ochre

10

HA 3

HA 4
1.5–19.5m clay–ochre
19.5–22.5m g/s
0–21m clay–ochre

HA 5
0–21m clay–ochre

9

SECTION 2

7 & 8

BULK SAMPLE UK

HB 1
0–20.5m ochre

5400 300mN.

0–12m ochre
12–15m g/s.
15–20m ochre

11 & 12

HB 2

13 14

15

0–21m ochre

HB 3

SECTION 3

18

17

16

5400 250mN.

HC 4
5.5–9m ochre

HC 5
13–22m ochre

HC 1
0–21m clay–ochre

HC 2
0–18m clay–ochre

SECTION 4

HC 3
0–9m clay–ochre

SIDS CREEK

GN
TN
MN
GRID CONVERGENCE 1.23°
GRID/MAGNETIC 9.27°

LEGEND

Ochre Band

Measured Contact (355° AMG)

Inferred Contact

5 cm

SAVAGE RESOURCES LIMITED

HT OCHRE SITE (PART OF)

GEOLOGY

DRAWN BY : R.A
DRAFTSMAN: T.G.D.S
DATE : May '94
REVISIONS :

FILE No. SRMCKF3

SCALE 1 : 500

8 4 0 4 8 12 16
METRES

FIG. 2

182009

N.W. Coast Computer Aided Drafting Centre. Phone (004 354315
Fax. (004 3844

1.5 m of surface material. Ochre horizons were mapped and positioned relative to AHD and AMG. Eighteen sondages to depths not exceeding 5 m were dug into a number of the horizons.

The ochre horizons are essentially an intimate and variable mix of goethite (pigment), alumina-silicates (chlorite, gibbsite, kaolinite, talc) and quartz.

The interbedded greenschist is highly weathered and principally composed of clay minerals and silica after chlorite and quartz respectively.

The ochre and weathered greenschist are somewhat alike at first glance although with practice they are readily distinguishable by the differences in colour, chroma, dispersibility and porosity.

3.5 Costean Exploration Bowry Creek Umber Site

The umber was discovered in a costean some 50 m west of Bowry Creek during the first phase of regional investigation for ochre/umber in 1987. The deposit overlies part of the extreme western side of the Bowry Creek magnesite deposit.

Further exploration has exposed umber to the west of the discovery site by 30 m and to the east of Bowry Creek where it occurs as a well defined body some 100 m north-south by 40 m east-west (Figure 3).

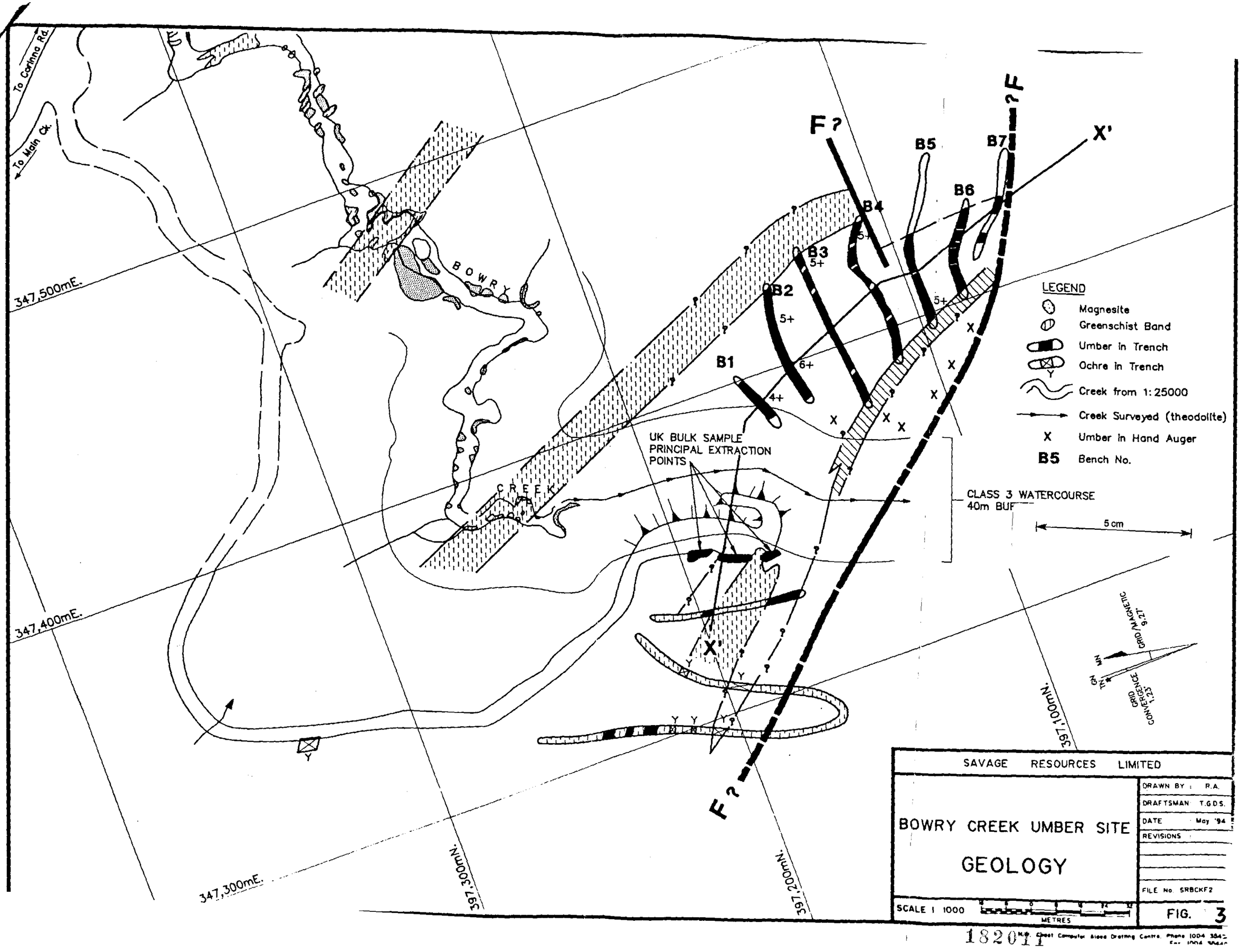
The eastern umber deposit lies between two competent and relatively fresh greenschist units; the western greenschist is ridge forming and steeply east dipping. A number of thin and highly weathered greenschist beds lie within the umber. To the south the sequence is believed to pinch out against a major north-east to south-west trending fault.

The interbedded greenschists do not appear to be continuous and correlation is poor between benches. Exposed umber is readily discernible from the greenschist.

The genesis of the umber is believed to be similar to that of the ochre; the only major difference being the high levels of manganese which imparts the dark brown colouration.

3.6 Research Activities and On-Going Studies

Work this reporting period has involved the progression of the pigment project from exploration to development, project design and implementation. Considerable dialogue has taken place with numerous


To Carhina Rd.
To Main Ck.
347,500mE.
347,400mE.
347,300mE.
397,300mN.
397,200mN.
397,100mN.
BOWRY
CREEK
F?
?F
X'
B1
B2
B3
B4
B5
B6
B7
5+
6+
4+
UK BULK SAMPLE
PRINCIPAL EXTRACTION
POINTS
CLASS 3 WATERCOURSE
40m BUF
5 cm
LEGEND
Magnesite
Greenschist Band
Umber in Trench
Ochre in Trench
Creek from 1:25000
Creek Surveyed (theodolite)
X Umber in Hand Auger
B5 Bench No.
GRID/MAGNETIC
9.27°
CONVERGENCE
1.23°
SAVAGE RESOURCES LIMITED
BOWRY CREEK UMBER SITE
GEOLOGY
DRAWN BY : R.A.
DRAFTSMAN T.G.D.S.
DATE May '94
REVISIONS
FILE No. SRBCKF2
SCALE 1 1000
METRES
FIG. 3

18201

Australian and overseas research organisations and companies. Research and laboratory/pilot scale process test work and design is currently taking place on the following issues:

Physical separation	-	dispersion, sizing, cycloning, flotation and screening,
Milling	-	fine milling either wet (vertical and horizontal) or dry,
Filtration	-	pressure filtration using various methods,
Drying	-	rotary, suspension, fluid and spin type applications,
Calcining	-	suspension and rotary and,
Colour blending	-	computer software and implementation.

3.7 Proposed Future Exploration and Development

Further costean work is proposed for the HT Ochre site to better:

- delineate the resource between the HZ and HC sections and,
- investigate the ochre potential in the vicinity of the HE and HD sections.

Costean and auger drilling is proposed for the eastern side of the Bowry Creek Umber site.

Process design and development will continue possibly leading to the implementation of an Engineering, Procurement and Construction Management study.

Market trials will continue.

4. EXPLORATION - LONG PLAINS MAGNETITE

4.1 Introduction

The Long Plains South magnetite lens is the largest single magnetite occurrence (in the Bowry Formation) outside of the SRM lease area. It was first investigated in the early 1960's by the BMR during their regional magnetic studies of the Savage River area. Subsequent exploration by Rio Tinto Australia

Exploration (RTAE), Industrial and Mining Investigations Pty. Limited (IMI) and SRL has outlined a considerable strike length of magnetite.

4.2 Geological Literature Review

In view of the changing circumstances at SRM a literature review of the data was undertaken. This has been reproduced in full in Appendix 2.

4.3 Proposed Future Exploration

The current data set is of insufficient detail to provide reliable resource information. A ground magnetometer survey (proton and fluxgate) and a modest drilling program of approximately 600 m is proposed.

5. EXPLORATION - MAGNESITE

There has been no direct exploration of the magnesite. During the investigation of the umber resource, approximately 300 m north of the Bowry Creek section, certain magnesite outcrops have been observed. These have been located and added to the database.

The sample material used in the various investigations into the use of crushed and powdered magnesite is from a single site located in the southern half of the Main Creek magnesite body (346800 mE 5398950 mN). This area has been extensively sampled (refer Annual Report 1988-1989).

A typical chemical composition of the magnesite is reported by Analabs (Appendix 1, 112715.60.09872).

APPENDIX 1.

GEOCHEMICAL ANALYSES

ALS	
ST7207	Magnetite (black)
ST7290	Yellow, brown and black
ST7505	Magnetite (black)
ST7660	Magnetite (black), yellow and brown
ST8257	Red and brown
ST8192	Yellow and black
ST8667	Yellow and brown
ST9026	Yellow
	Savox yellow
	Savox Brown
Analabs	
112715.60.09872	Magnesite

ST7207

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182016

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ANALYTICAL REPORT

CLIENT: SAVAGE RESOURCES LIMITED
ADDRESS: P O BOX 1179
BALLARAT MAIL CENTRE
VICTORIA 3354

rec'd 1/11/93

CONTACT: MR B ANNETT

LABORATORY: AMENDED
BATCH NUMBER: AM7207-0

No. of SAMPLES: 4
DATE RECEIVED: 10/11/93
DATE COMPLETED: 29/11/93

ORDER No: AL9010657 SAMPLE TYPE: IRON PIGMENTS PROJECT No:

SAMPLE NUMBER	ELEMENT UNIT METHOD	SiO2 % M275	Al2O3 % M275	Fe % M275	CaO % M275	MgO % M275
reside 1hr + dbk.	CONS 123/T	0.97	0.13	68.60	0.12	1.20
" 8hr "	CONS 123/1	0.90	0.12	68.70	0.10	1.15
(as rec'd) 8hr + dbk	CONS 123/2	0.97	0.11	68.80	0.12	1.18
1hr "	CONS 123/3	1.05	0.13	68.80	0.12	1.19
DETECTION LIMIT:		0.01	0.01	0.01	0.01	0.01

COMMENTS:

Townsville Laboratory
Phone: (077) 79 9155 Fax: (077) 79 9729
Mareeba Towers Laboratory
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Mareeba Laboratory
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Emerald Laboratory
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Perth Laboratory
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Kalgoorlie Laboratory
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Alice Springs Laboratory
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All pages of this report have been checked and approved for release.

Signed

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182017

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LABORATORY: AMENDED
BATCH NUMBER: AM7207-0

No. of SAMPLES: 4
DATE RECEIVED: 10/11/93
DATE COMPLETED: 29/11/93

RDER No: ALS010657 SAMPLE TYPE: IRON PIGMENTS PROJECT No:

SAMPLE NUMBER	ELEMENT UNIT METHOD	TiO2 % M275	Na2O % M275	K2O % M275	P2O5 % M275	MnO % M275
CONS 123/T		0.89	<0.01	<0.01	0.04	0.08
CONS 123/1		0.90	<0.01	<0.01	0.04	0.04
CONS 123/2		0.90	<0.01	<0.01	0.05	0.08
CONS 123/3		0.91	<0.01	<0.01	0.05	0.08
E CTION LIMIT:		0.01	0.01	0.01	0.01	0.01

OMMENTS:

e Laboratory
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arters Towers Laboratory
one (077) 87 4155 Fax: (077) 87 4220
s Laboratory
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Laboratory
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Perth Laboratory
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Kalgoorlie Laboratory
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LABORATORY: AMENDED
BATCH NUMBER: AM7207-0

No. of SAMPLES: 4
DATE RECEIVED: 10/11/93
DATE COMPLETED: 29/11/93

ORDER No: AL5010657 SAMPLE TYPE: IRON PIGMENTS PROJECT No:

SAMPLE NUMBER	ELEMENT UNIT METHOD	SrO % M275	ZrO2 % M275	LOI % M275	Cu ppm IC586	Pb ppm IC586
CONS 123/T		<0.01	<0.01	-2.40	60	13
CONS 123/1		<0.01	<0.01	-2.41	60	11
CONS 123/2		<0.01	<0.01	-2.41	57	10
CONS 123/3		<0.01	<0.01	-2.42	60	11
DETECTION LIMIT:		0.01	0.01		5	5

COMMENTS:

Townsville Laboratory
Phone: (077) 79 9155 Fax: (077) 79 9729
Charters Towers Laboratory
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Mt Isa Laboratory
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Tennant Creek Laboratory
Phone: (064) 62 1390 Fax: (064) 62 1389
Perth Laboratory
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LABORATORY: AMENDED
BATCH NUMBER: AM7207-0

No. of SAMPLES: 4
DATE RECEIVED: 10/11/93
DATE COMPLETED: 29/11/93

ORDER No: ALS010657 SAMPLE TYPE: IRON PIGMENTS PROJECT No:

SAMPLE NUMBER	ELEMENT UNIT METHOD	Zn ppm IC586	As ppm IC586	Fe % IC586	Cd ppm IC586	Co ppm IC586
CONS 123/T		42	7	49.38	<1	23
CONS 123/1		43	8	46.40	<1	23
CONS 123/2		38	7	42.85	<1	22
CONS 123/3		43	7	46.45	<1	23
DETECTION LIMIT:		5	1	0.01	1	5

COMMENTS:

Townsville Laboratory
Phone: (077) 79 9155 Fax: (077) 79 9729
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Phone: (077) 87 4155 Fax: (077) 87 4220
Mackay Laboratory
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Perth Laboratory
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CONTACT: MR B ANNETT

LABORATORY: AMENDED
BATCH NUMBER: AM7207-0

No. of SAMPLES: 4
DATE RECEIVED: 10/11/93
DATE COMPLETED: 29/11/93

ORDER No: AL S010657 SAMPLE TYPE: IRON PIGMENTS PROJECT No:

SAMPLE NUMBER	ELEMENT UNIT METHOD	Cr ppm IC586	Mo ppm IC586	Ni ppm IC586	S ppm IC586	Sb ppm IC586
CONS 123/T		27	<5	321	1860	<5
CONS 123/1		25	<5	324	2000	<5
CONS 123/2		24	<5	310	1880	<5
CONS 123/3		25	<5	317	1900	<5
DETECTION LIMIT:		10	5	5	10	5

COMMENTS:

Perth Laboratory
Phone: (09) 249 2988 Fax: (09) 249 2942
Kalgoorlie Laboratory
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Alice Springs Laboratory
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CONTACT: MR B ANNETT

LABORATORY: AMENDED
BATCH NUMBER: AM7207-0

No. of SAMPLES: 4
DATE RECEIVED: 10/11/93
DATE COMPLETED: 29/11/93

ORDER No: ALS010057 SAMPLE TYPE: IRON PIGMENTS PROJECT No:

SAMPLE NUMBER	ELEMENT UNIT METHOD	V ppm IC586	Zr ppm IC586	Cl % A17-1		
CONS 123/T		3290	37	-----		
CONS 123/1		3350	39	0.025		
CONS 123/2		3200	37	-----		
CONS 123/3		3250	39	-----		
DETECTION LIMIT:		10	10	0.001		

COMMENTS:

Townsville Laboratory
Phone (077) 79 9155 Fax: (077) 79 9729
Mareeba Towers Laboratory
Phone (077) 87 4155 Fax: (077) 87 4220
Mackay Laboratory
Phone (063) 63 1722 Fax: (063) 63 1189
Mareeba Laboratory
Phone (054) 48 1390 Fax: (054) 46 1389
Perth Laboratory
Phone: (09) 249 2988 Fax: (09) 249 2942
Kalgoorlie Laboratory
Phone (090) 21 1457 Fax: (090) 21 6253
Alice Springs Laboratory
Phone (089) 52 6020 Fax: (089) 52 6028
Mt Isa Laboratory
Phone (077) 49 5545 Fax: (077) 48 5546

ST7290

AUSTRALIAN LABORATORY SERVICES P/L
A.C.N. 009 936 029

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Brisbane Head Office and Laboratory
32 Shand Street, Stafford, Q. 4053
P.O. Box 66, Everton Park, Q. 4053
Telephone: (07) 352 5577
Facsimile: (07) 352 5109

ANALYTICAL REPORT

CLIENT: SAVAGE RESOURCES LIMITED
ADDRESS: P O BOX 1179
BALLARAT MAIL CENTRE
VICTORIA 3354

CONTACT: MR B ANNETT

LABORATORY: STAFFORD
BATCH NUMBER: ST7290-0

No. of SAMPLES: 4
DATE RECEIVED: 09/11/93
DATE COMPLETED: 29/11/93

ORDER No: ALS010658 SAMPLE TYPE: PULP PROJECT No:

SAMPLE NUMBER	ELEMENT UNIT METHOD	Cu ppm IC586	Pb ppm IC586	Zn ppm IC586	As ppm IC586	Fe % IC586
3/2255/1 SAVOX YELLOW		185	14	246	35	45.08
3/0155/1P SAVOX YELLOW		273	39	295	25	37.10
3/0158/2P SAVOX BROWN		214	16	338	21	34.49
KARA 01 Cool wash		44	10	635	5	60.40
DETECTION LIMIT:		5	5	5	1	0.01

COMMENTS: Fe2O3 is Total Iron, expressed as Fe2O3.
The negative LOI for Kara is due to the gain in weight when the Fe two component is oxidised to Fe three during calcination.

...ngfield Laboratory
...077) 79 9155 Fax: (077) 79 9729
...n Towers Laboratory
...077) 67 4155 Fax: (077) 67 4220
...ngle Laboratory
...one: (063) 63 1722 Fax: (063) 63 1189
...ndigo Laboratory
...(054) 46 1380 Fax: (054) 46 1389

Perth Laboratory
Phone: (09) 249 2988 Fax: (09) 249 2942
Kalgoorlie Laboratory
Phone: (090) 21 1457 Fax: (090) 21 6253
Alice Springs Laboratory
Phone: (089) 52 6020 Fax: (089) 52 6029
Mt Isa Laboratory
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Signed

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ANALYTICAL REPORT

CLIENT: SAVAGE RESOURCES LIMITED
ADDRESS: P O BOX 1179
BALLARAT MAIL CENTRE
VICTORIA 3354

CONTACT: MR B ANNETT

LABORATORY: STAFFORD
BATCH NUMBER: ST7290-0

No. of SAMPLES: 4
DATE RECEIVED: 09/11/93
DATE COMPLETED: 29/11/93

DER No: ALS010658 SAMPLE TYPE: PULP PROJECT No:

SAMPLE NUMBER	ELEMENT UNIT METHOD	Cd ppm IC586	Co ppm IC586	Cr ppm IC586	Mo ppm IC586	Ni ppm IC586
3/2255/1 SAVOX YELLOW		<1	48	418	29	43
3/0155/1P SAVOX YELLOW		<1	90	56	10	64
3/0158/2P SAVOX BROWN		<1	44	66	9	73
KARA 01		<1	34	23	21	12
TECTION LIMIT:		1	5	10	5	5

COMMENTS:

Laboratory
ne (077) 79 9155 Fax: (077) 79 9729
Rivers Laboratory
ne (077) 87 4155 Fax: (077) 87 4220
ge Laboratory
ne (063) 63 1722 Fax: (063) 63 1189
Laboratory
ne (054) 46 1390 Fax: (054) 46 1389

Perth Laboratory
Phone: (09) 249 2988 Fax: (09) 249 2942
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ANALYTICAL REPORT

CLIENT: SAVAGE RESOURCES LIMITED
ADDRESS: P O BOX 1179
BALLARAT MAIL CENTRE
VICTORIA 3354

CONTACT: MR B ANNETT

LABORATORY: STAFFORD
BATCH NUMBER: ST7290-0

No. of SAMPLES: 4
DATE RECEIVED: 09/11/93
DATE COMPLETED: 29/11/93

R No: ALS010658 SAMPLE TYPE: PULP PROJECT No:

SAMPLE NUMBER	ELEMENT / UNIT / METHOD	S ppm IC586	Sb ppm IC586	V ppm IC586	Zr ppm IC586	SiO2 % M275
3/8255/1 SAVOX YELLOW		8630	<5	110	28	13.90
3/0155/1P SAVOX YELLOW		1.56%	<5	221	34	27.90
3/0158/2P SAVOX BROWN		8280	<5	101	30	12.10
KARA 01		152	<5	30	15	0.51
ETECTION LIMIT:		10	5	10	10	0.01

OMMENTS:

Perth Laboratory
Phone: (09) 249 2988 Fax: (09) 249 2942
Kalgoorlie Laboratory
Phone: (090) 21 1457 Fax: (090) 21 8253
Alice Springs Laboratory
Phone: (089) 52 6020 Fax: (089) 52 6028
Mt Isa Laboratory
Phone: (077) 49 5545 Fax: (077) 48 6646

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ANALYTICAL REPORT

CLIENT: SAVAGE RESOURCES LIMITED
ADDRESS: P O BOX 1179
BALLARAT MAIL CENTRE
VICTORIA 3354

CONTACT: MR B ANNETT

LABORATORY: STAFFORD
BATCH NUMBER: ST7290-0

No. of SAMPLES: 4
DATE RECEIVED: 09/11/93
DATE COMPLETED: 29/11/93

R No: ALS010658 SAMPLE TYPE: PULP PROJECT No:

SAMPLE NUMBER	ELEMENT UNIT METHOD	Al2O3 % M275	Fe2O3 % M275	CaO % M275	MgO % M275	TiO2 % M275
3/2255/1 SAVOX YELLOW		2.14	70.10	0.10	0.28	0.16
3/0155/1P SAVOX YELLOW		4.21	52.20	0.06	0.54	0.30
3/0158/2P SAVOX BROWN		5.60	53.30	0.05	1.30	0.23
KARA 01		0.88	99.60	0.12	0.21	0.14
ETECTION LIMIT:		0.01	0.01	0.01	0.01	0.01

OMMENTS:

ornsville Laboratory
one (077) 79 9155 Fax: (077) 79 9729
wart Towers Laboratory
one (077) 87 4155 Fax: (077) 87 4220
ory Laboratory
one (063) 63 1722 Fax: (063) 63 1189
ndigo Laboratory
one (054) 46 1390 Fax: (054) 46 1389

Perth Laboratory
Phone: (09) 249 2988 Fax: (09) 249 2942
Kalgoorlie Laboratory
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Alice Springs Laboratory
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ANALYTICAL REPORT

CLIENT: SAVAGE RESOURCES LIMITED
ADDRESS: P O BOX 1179
BALLARAT MAIL CENTRE
VICTORIA 3354

CONTACT: MR B ANNETT

LABORATORY: STAFFORD
BATCH NUMBER: ST7290-0

No. of SAMPLES: 4
DATE RECEIVED: 09/11/93
DATE COMPLETED: 29/11/93

REPORT No: ALS010658 SAMPLE TYPE: PULP PROJECT No:

SAMPLE NUMBER	ELEMENT UNIT METHOD	Na2O % M275	K2O % M275	P2O5 % M275	MnO % M275	SrO % M275
3/2255/1 SAVOX YELLOW		0.03	0.09	0.09	0.20	<0.01
3/0155/1P SAVOX YELLOW		0.02	0.16	0.14	0.39	0.01
3/0158/2P SAVOX BROWN		<0.01	0.08	0.15	10.90	<0.01
KARA 01		<0.01	<0.01	0.01	0.69	<0.01
DETECTION LIMIT:		0.01	0.01	0.01	0.01	0.01

COMMENTS:

[redacted] Laboratory
Phone: (077) 79 9155 Fax: (077) 79 9729
[redacted] Towers Laboratory
Phone: (077) 87 4155 Fax: (077) 87 4220
[redacted]ngge Laboratory
Phone: (063) 83 1722 Fax: (063) 83 1189
[redacted] Laboratory
Phone: (054) 46 1390 Fax: (054) 46 1389

Perth Laboratory
Phone: (09) 249 2988 Fax: (09) 249 2942
Kalgoorlie Laboratory
Phone: (090) 21 1457 Fax: (090) 21 8253
Alice Springs Laboratory
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ANALYTICAL REPORT

CLIENT: SAVAGE RESOURCES LIMITED
ADDRESS: P O BOX 1179
BALLARAT MAIL CENTRE
VICTORIA 3354

CONTACT: MR B ANNETT

LABORATORY: STAFFORD
BATCH NUMBER: ST7290-0

No. of SAMPLES: 4
DATE RECEIVED: 09/11/93
DATE COMPLETED: 29/11/93

ORDER No: AL5010658 SAMPLE TYPE: PULP PROJECT No:

SAMPLE NUMBER	ELEMENT UNIT METHOD	ZrO2 % M875	LOI % M875	S % A16-1		
3/2255/1 SAVOX YELLOW		<0.01	11.30	0.87		
3/0155/1P SAVOX YELLOW		0.01	11.50	1.67		
3/0158/2P SAVOX BROWN		<0.01	14.30	0.85		
KARA 01		<0.01	-2.18	<0.01		
DETECTION LIMIT:		0.01	0.01	0.01		

COMMENTS:

[redacted] Laboratory
Phone: (077) 79 9155 Fax: (077) 79 9729
[redacted] Towers Laboratory
Phone: (077) 87 4155 Fax: (077) 87 4220
[redacted] Laboratory
Phone: (063) 63 1722 Fax: (063) 63 1189
[redacted] Laboratory
Phone: (054) 46 1390 Fax: (054) 46 1389
Perth Laboratory
Phone: (09) 249 2988 Fax: (09) 249 2942
Kalgoorlie Laboratory
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Alice Springs Laboratory
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Mt Isa Laboratory
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ANALYTICAL REPORT

CLIENT: SAVAGE RESOURCES LIMITED
ADDRESS: P O BOX 1179
BALLARAT MAIL CENTRE
VICTORIA 3354

CONTACT: MR B ANNETT

LABORATORY: STAFFORD
BATCH NUMBER: ST7505-0

No. of SAMPLES: 5
DATE RECEIVED: 08/12/93
DATE COMPLETED: 16/12/93

ORDER No: ALS010660 SAMPLE TYPE: CONCENTRATE PROJECT No:

SAMPLE NUMBER	ELEMENT / UNIT / METHOD	SiO2 % M275	Al2O3 % M275	Fe2O3 % M275	CaO % M275	MgO % M275
✓SRM COARSE RAW		1.61	0.21	97.50	0.09	1.30
✓SRM SIROFLA RAW		1.78	0.27	96.50	0.15	1.67
✓SRM COARSE/ELIVATED F/TL		9.74	1.23	77.40	0.25	3.23
✓SRM SIROFLA/FLOAT-TAILX2		5.29	0.85	87.30	0.31	4.18
✓SRM SIROFLA/EL'VTD-F/TX2		8.00	1.28	80.50	0.46	6.10
DETECTION LIMIT:		0.01	0.01	0.01	0.01	0.01

COMMENTS: Column 3 is total iron, expressed as Fe2O3.

Perth Laboratory
Phone: (09) 249 2988 Fax: (09) 249 2942
Kalgoorlie Laboratory
Phone: (090) 21 1457 Fax: (090) 21 6253
Alice Springs Laboratory
Phone: (089) 52 8020 Fax: (089) 52 8028
Mt Isa Laboratory
Phone: (077) 49 5545 Fax: (077) 48 5546

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ANALYTICAL REPORT

CLIENT: SAVAGE RESOURCES LIMITED
ADDRESS: P O BOX 1179
BALLARAT MAIL CENTRE
VICTORIA 3354

CONTACT: MR B ANNETT

LABORATORY: STAFFORD
BATCH NUMBER: ST7505-0

No. of SAMPLES: 5
DATE RECEIVED: 08/12/93
DATE COMPLETED: 16/12/93

ORDER No: ALS010660 SAMPLE TYPE: CONCENTRATE PROJECT No:

SAMPLE NUMBER	ELEMENT UNIT METHOD	TiO2 % M275	Na2O % M275	K2O % M275	P2O5 % M275	MnO % M275
SRM COARSE RAW		1.03	<0.01	<0.01	0.04	0.07
SRM SIROFLA RAW		0.78	<0.01	<0.01	0.11	0.09
SRM COARSE/ELIVATED F/TL		1.25	0.06	0.09	0.12	0.09
SRM SIROFLA/FLOAT-TAILX2		1.17	0.01	0.01	0.25	0.13
SRM SIROFLA/EL'VTD-F/TX2		1.35	0.02	<0.01	0.33	0.15
DETECTION LIMIT:		0.01	0.01	0.01	0.01	0.01

COMMENTS:

Townsville Laboratory
Phone (077) 79 9155 Fax: (077) 79 9729
Charters Towers Laboratory
Phone (077) 87 4155 Fax: (077) 87 4220
Mareeba Laboratory
Phone (063) 63 1722 Fax: (063) 63 1169
Cairns Laboratory
Phone (054) 46 1380 Fax: (054) 46 1380
Perth Laboratory
Phone (09) 249 2988 Fax: (09) 249 2942
Kalgoorlie Laboratory
Phone (090) 21 1457 Fax: (090) 21 6253
Alice Springs Laboratory
Phone (089) 52 8020 Fax: (089) 52 8026
Mt Isa Laboratory
Phone: (077) 49 5545 Fax: (077) 49 5546

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ANALYTICAL REPORT

CLIENT: SAVAGE RESOURCES LIMITED
ADDRESS: P O BOX 1179
BALLARAT MAIL CENTRE
VICTORIA 3354

CONTACT: MR B ANNETT

LABORATORY: STAFFORD
BATCH NUMBER: ST7505-0

No. of SAMPLES: 5
DATE RECEIVED: 08/12/93
DATE COMPLETED: 16/12/93

R ER No: ALS010660 SAMPLE TYPE: CONCENTRATE PROJECT No:

SAMPLE NUMBER	ELEMENT UNIT METHOD	SrO % M275	ZrO2 % M275	LOI % M275	S % A16-1
SRM COARSE RAW		<0.01	<0.01	-2.54	0.13
SRM SIROFLA RAW		<0.01	<0.01	-2.09	0.07
SRM COARSE/ELIVATED F/TL		<0.01	<0.01	5.83	0.48
SRM SIROFLA/FLOAT-TAILX2		<0.01	<0.01	-0.20	0.17
SRM SIROFLA/EL'VTD-F/TX2		<0.01	<0.01	1.06	0.42
ETECTION LIMIT:		0.01	0.01	0.01	0.01

O MENTS:

ville Laboratory
077) 79 9155 Fax: (077) 79 9729
Towers Laboratory
077) 87 4155 Fax: (077) 87 4220
Laboratory
(063) 63 1722 Fax: (063) 63 1189
ga Laboratory
(054) 46 1390 Fax: (054) 46 1389

Perth Laboratory
Phone: (09) 249 2988 Fax: (09) 249 2942
Kalgoorlie Laboratory
Phone: (090) 21 1457 Fax: (090) 21 6253
Alice Springs Laboratory
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ANALYTICAL REPORT

CLIENT: SAVAGE RESOURCES LIMITED
ADDRESS: P O BOX 1179
BALLARAT MAIL CENTRE
VICTORIA 3354

CONTACT: MR B ANNETT

LABORATORY: STAFFORD
BATCH NUMBER: ST7660-0

No. of SAMPLES: 15
DATE RECEIVED: 10/01/94
DATE COMPLETED: 20/01/94

ORDER No: ALS010661 SAMPLE TYPE: IRON OXIDES PROJECT No:

SAMPLE NUMBER	ELEMENT UNIT METHOD	SiO2 % M275	Al2O3 % M275	Fe2O3 % M275	CaO % M275	MgO % M275
	01	7.97	1.68	86.60	2.80	1.48
	02	0.98	0.64	99.30	0.34	0.23
	03	1.37	0.13	97.10	0.09	1.32
	04	1.61	0.21	97.20	0.15	1.68
	05	1.21	0.14	98.40	0.08	1.22
	06	15.70	0.93	65.80	0.35	9.06
	07	1.30	0.15	98.30	0.09	1.30
	08	23.00	1.15	59.20	0.39	12.67
	09	12.60	0.90	69.20	0.36	7.60
	10	1.18	0.13	98.70	0.08	1.21
	11	18.10	0.95	60.10	0.33	10.20
	12	1.54	0.22	97.70	0.13	1.66
	13	11.80	1.19	65.30	0.76	7.96
ochre -300µm.	14	7.51	3.96	73.30	0.01	0.50
	15	7.67	4.17	58.00	0.02	0.78
DETECTION LIMIT:		0.01	0.01	0.01	0.01	0.01

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COMMENTS:

Thornville Laboratory
Phone (077) 79 9155 Fax: (077) 79 9729
Townsville Towers Laboratory
Phone (077) 87 4155 Fax: (077) 87 4220
Mount Isa Laboratory
Phone (063) 43 1722 Fax: (063) 43 1189
Bendigo Laboratory
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Perth Laboratory
Phone (09) 249 2988 Fax: (09) 249 2942
Kalgoorlie Laboratory
Phone (090) 21 1457 Fax: (090) 21 8253
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ANALYTICAL REPORT

CLIENT: SAVAGE RESOURCES LIMITED
ADDRESS: P O BOX 1179
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VICTORIA 3354

CONTACT: MR B ANNETT

LABORATORY: STAFFORD
BATCH NUMBER: ST7660-0

No. of SAMPLES: 15
DATE RECEIVED: 10/01/94
DATE COMPLETED: 20/01/94

RDER No: ALS010661 SAMPLE TYPE: IRON OXIDES PROJECT No:

SAMPLE NUMBER	ELEMENT UNIT METHOD	TiO2 % M275	Na2O % M275	K2O % M275	P2O5 % M275	MnO % M275
	01	0.13	0.13	0.15	0.03	0.32
	02	0.12	<0.01	<0.01	0.01	0.37
	03	1.04	<0.01	<0.01	0.04	0.07
	04	0.78	<0.01	<0.01	0.11	0.10
	05	1.03	<0.01	<0.01	0.03	0.08
	06	2.37	0.06	<0.01	0.13	0.09
	07	1.03	<0.01	<0.01	0.04	0.07
	08	2.90	0.07	<0.01	0.15	0.10
	09	2.28	0.11	0.02	0.14	0.09
	10	1.03	<0.01	<0.01	0.03	0.07
	11	2.36	0.06	<0.01	0.12	0.08
	12	0.79	<0.01	<0.01	0.11	0.10
	13	1.41	0.32	<0.01	0.33	0.14
	14	0.12	<0.01	<0.01	0.19	0.45
	15	0.16	<0.01	0.06	0.19	13.60
ETECTION LIMIT:		0.01	0.01	0.01	0.01	0.01

OMMENTS:

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ANALYTICAL REPORT

CLIENT: SAVAGE RESOURCES LIMITED
ADDRESS: P O BOX 1179
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VICTORIA 3354

CONTACT: MR B ANNETT

LABORATORY: STAFFORD
BATCH NUMBER: ST7660-0

No. of SAMPLES: 15
DATE RECEIVED: 10/01/94
DATE COMPLETED: 20/01/94

RDER No: ALS010661 SAMPLE TYPE: IRON OXIDES PROJECT No:

SAMPLE NUMBER	ELEMENT UNIT METHOD	SrO % M275	ZrO2 % M275	LOI(800'C) % M275	S % A16-1	
	01	<0.01	<0.01	-1.85	0.100	
	02	<0.01	<0.01	-2.51	0.020	
	03	<0.01	<0.01	-2.76	0.140	
	04	<0.01	<0.01	-2.52	0.090	
	05	<0.01	<0.01	-2.81	0.070	
	06	<0.01	<0.01	0.97	6.23	
	07	<0.01	<0.01	-2.76	0.080	
	08	<0.01	<0.01	-0.24	0.180	
	09	<0.01	<0.01	1.73	7.82	
	10	<0.01	<0.01	-2.80	0.050	
	11	<0.01	<0.01	2.59	9.19	
	12	<0.01	<0.01	-2.57	0.050	
	13	<0.01	<0.01	2.09	8.43	
	14	<0.01	<0.01	13.20	0.270	
	15	<0.01	<0.01	13.70	0.550	
ETECTION LIMIT:		0.01	0.01	0.01	0.005	

OMMENTS:

...ville Laboratory
...one: (077) 79 9155 Fax: (077) 79 9729
...arters Towers Laboratory
...one: (077) 87 4155 Fax: (077) 87 4220
...Laboratory
...063) 63 1722 Fax: (063) 63 1189
...Laboratory
...054) 48 1380 Fax: (054) 48 1389

Perth Laboratory
Phone: (09) 249 2988 Fax: (09) 249 2942
Kalgoorlie Laboratory
Phone: (090) 21 1457 Fax: (090) 21 6253
Alice Springs Laboratory
Phone: (089) 52 6020 Fax: (089) 52 6028
Mt Isa Laboratory
Phone: (077) 49 5545 Fax: (077) 48 5546

182037

AUSTRALIAN
LABORATORY
SERVICES P/L
A.C.N. 009 936 029

32 Shand Street
STAFFORD QLD 4053
Tel: 61-7-352 5577
Fax: 61-7-352 5109

19 January 1994

Savage Resources Limited
PO Box 1179
BALLARAT MAIL CENTRE VIC 3354

ATTENTION: Mr R Annett

IRON OXIDE

		14	15
Density at 25°C	kg/m_3	3250	3140
Water Soluble Matter	%	0.16	0.32
pH of aqueous extract		4.0	4.2
Matter Volatile at 105°C	%	1.26	3.64
Acid Insolubles (conc. HCl)	%	8.25	8.11
Loose Bulk Density	kg/m_3	550	390

ST8257

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18209 [redacted]

Brisbane Head Office and Laboratory
32 Shand Street, Stafford, Q. 4053
P.O. Box 66, Everton Park, Q. 4053
Telephone: (07) 352 5577
Facsimile: (07) 352 5109

ANALYTICAL REPORT

CLIENT: SAVAGE RESOURCES LIMITED
ADDRESS: P O BOX 1179
BALLARAT MAIL CENTRE
VICTORIA 3354

CONTACT: MR R ANNETT

LABORATORY: STAFFORD
BATCH NUMBER: ST8257-0

No. of SAMPLES: 2
DATE RECEIVED: 30/03/94
DATE COMPLETED: 19/04/94

ORDER No: FAX SAMPLE TYPE: PIGMENT PROJECT No:

SAMPLE NUMBER	ELEMENT / UNIT / METHOD	SiO2 % M275	Al2O3 % M275	Fe2O3 % M275	CaO % M275	MgO % M275
RED		1.82	0.36	94.80	0.16	1.78
BROWN		6.20	3.55	59.70	0.03	0.37
DETECTION LIMIT:		0.01	0.01	0.01	0.01	0.01

See memo for origin of material.

from calcined siderite.

COMMENTS: L.O.I. undertaken at 800oC.

Perth Laboratory
Phone: (09) 249 2988 Fax: (09) 249 2942
Kalgoorlie Laboratory
Phone: (090) 21 1457 Fax: (090) 21 6253
Alice Springs Laboratory
Phone: (089) 52 8020 Fax: (089) 52 8028
Mt Isa Laboratory
Phone: (077) 49 5545 Fax: (077) 48 5646

All pages of this report have been checked and approved for release.

AUSTRALIAN LABORATORY SERVICES P/L
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182096

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Brisbane Head Office and Laboratory
32 Shand Street, Stafford, Q. 4053
P.O. Box 66, Everton Park, Q. 4053
Telephone: (07) 352 5577
Facsimile: (07) 352 5109

ANALYTICAL REPORT

CLIENT: SAVAGE RESOURCES LIMITED
ADDRESS: P O BOX 1179
BALLARAT MAIL CENTRE
VICTORIA 3354

CONTACT: MR R ANNETT

LABORATORY: STAFFORD
BATCH NUMBER: ST8257-0

No. of SAMPLES: 2
DATE RECEIVED: 30/03/94
DATE COMPLETED: 19/04/94

ORDER No: FAX SAMPLE TYPE: PIGMENT PROJECT No:

SAMPLE NUMBER	ELEMENT / UNIT / METHOD	TiO2 % M275	Na2O % M275	K2O % M275	P2O5 % M275	MnO % M275
	RED	0.78	0.01	<0.01	0.10	0.09
	BROWN	0.04	0.53	0.10	2.50	13.50
DETECTION LIMIT:		0.01	0.01	0.01	0.01	0.01

COMMENTS:

Newcastle Laboratory
Phone: (077) 79 9155 Fax: (077) 79 9729
Mt Isa Towers Laboratory
Phone: (077) 87 4155 Fax: (077) 87 4220
Townsville Laboratory
Phone: (063) 63 1722 Fax: (063) 63 1189
Wodonga Laboratory
Phone: (060) 24 1390 Fax: (060) 24 1389
Perth Laboratory
Phone: (09) 249 2988 Fax: (09) 249 2942
Kalgoorlie Laboratory
Phone: (090) 21 1457 Fax: (090) 21 6253
Alice Springs Laboratory
Phone: (089) 52 8020 Fax: (089) 52 8028
Mt Isa Laboratory
Phone: (077) 49 5545 Fax: (077) 48 5546

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182041

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Brisbane Head Office and Laboratory
32 Shand Street, Stafford, Q. 4053
P.O. Box 66, Everton Park, Q. 4053
Telephone: (07) 352 5577
Facsimile: (07) 352 6109

ANALYTICAL REPORT

CLIENT: SAVAGE RESOURCES LIMITED
ADDRESS: P O BOX 1179
BALLARAT MAIL CENTRE
VICTORIA 3354

CONTACT: MR R ANNETT

LABORATORY: STAFFORD
BATCH NUMBER: ST8257-0

No. of SAMPLES: 2
DATE RECEIVED: 30/03/94
DATE COMPLETED: 19/04/94

ORDER No: FAX SAMPLE TYPE: PIGMENT PROJECT No:

SAMPLE NUMBER	ELEMENT / UNIT / METHOD	SrO % M275	ZrO2 % M275	LOI % M275	Pb ppm IC586	Zn ppm IC586
	RED	<0.01	<0.01	-0.35	11	<5
	BROWN	<0.01	0.31	12.20	-----	-----
DETECTION LIMIT:		0.01	0.01	0.01	5	5

COMMENTS:

Laboratory
(077) 79 9155 Fax: (077) 79 9729
Towers Laboratory
(077) 87 4155 Fax: (077) 87 4220
nge Laboratory
(063) 63 1722 Fax: (063) 63 1189
Laboratory
(054) 46 1390 Fax: (054) 46 1389

Perth Laboratory
Phone: (09) 249 2988 Fax: (09) 249 2942
Kalgoorlie Laboratory
Phone: (090) 21 1457 Fax: (090) 21 6253
Alice Springs Laboratory
Phone: (089) 52 8020 Fax: (089) 52 8028
Mt Isa Laboratory
Phone: (077) 49 5545 Fax: (077) 48 5546

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182042 [redacted]

Brisbane Head Office and Laboratory
32 Shand Street, Stafford, Q. 4053
P.O. Box 66, Everton Park, Q. 4053
Telephone: (07) 352 5577
Facsimile: (07) 352 5109

ANALYTICAL REPORT

CLIENT: SAVAGE RESOURCES LIMITED
ADDRESS: P O BOX 1179
BALLARAT MAIL CENTRE
VICTORIA 3354

CONTACT: MR R ANNETT

LABORATORY: STAFFORD
BATCH NUMBER: ST8257-0

No. of SAMPLES: 2
DATE RECEIVED: 30/03/94
DATE COMPLETED: 19/04/94

ORDER No: FAX SAMPLE TYPE: PIGMENT PROJECT No:

SAMPLE NUMBER	ELEMENT UNIT METHOD	Ag ✓ ppm IC586	Cd ✓ ppm IC586	Mn ppm IC586	Ni ✓ ppm IC586	Ca % IC586
	RED BROWN	<1 -----	16 -----	540 -----	260 -----	0.17 ----- 1700 ppm
DETECTION LIMIT:		1	1	10	5	0.01

COMMENTS:

Townsville Laboratory
Phone: (077) 79 9155 Fax: (077) 79 9729
Mt Isa Towers Laboratory
Phone: (077) 87 4155 Fax: (077) 87 4220
Alice Springs Laboratory
Phone: (063) 63 1722 Fax: (063) 63 1189
Bendigo Laboratory
Phone: (054) 46 1390 Fax: (054) 46 1389
Perth Laboratory
Phone: (09) 249 2988 Fax: (09) 249 2942
Kalgoorlie Laboratory
Phone: (090) 21 1457 Fax: (090) 21 6253
Alice Springs Laboratory
Phone: (089) 52 8020 Fax: (089) 52 8028
Mt Isa Laboratory
Phone: (077) 49 5545 Fax: (077) 48 5546

AUSTRALIAN LABORATORY SERVICES P/L
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182043

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Brisbane Head Office and Laboratory
32 Shand Street, Stafford, Q. 4053
P.O. Box 86, Everton Park, Q. 4053
Telephone: (07) 352 5577
Facsimile: (07) 352 5109

ANALYTICAL REPORT

CLIENT: SAVAGE RESOURCES LIMITED
ADDRESS: P O BOX 1179
BALLARAT MAIL CENTRE
VICTORIA 3354

CONTACT: MR R ANNETT

LABORATORY: STAFFORD
BATCH NUMBER: ST8257-0

No. of SAMPLES: 2
DATE RECEIVED: 30/03/94
DATE COMPLETED: 19/04/94

ORDER No: FAX SAMPLE TYPE: PIGMENT PROJECT No:

SAMPLE NUMBER	ELEMENT / UNIT / METHOD	Mg % IC586	Hg ppm G008	H2O sl/slt % ALS	pH % ALS	Acid Inso % ALS
	RED	0.94	<0.05	0.39	7.28	3.22
	BROWN	----- 9400 ppm	-----	1.10	6.32	8.55
DETECTION LIMIT:		0.01	0.05	0.01	0.01	0.01

COMMENTS:

Perth Laboratory
Phone: (09) 249 2988 Fax: (09) 249 2942
Kalgoorlie Laboratory
Phone: (090) 21 1457 Fax: (090) 21 6253
Alice Springs Laboratory
Phone: (089) 52 6020 Fax: (089) 52 6028
Mt Isa Laboratory
Phone: (077) 49 5545 Fax: (077) 48 5546

AUSTRALIAN LABORATORY SERVICES P/L
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182044

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Brisbane Head Office and Laboratory
32 Shand Street, Stafford, Q. 4053
P.O. Box 86, Everton Park, Q. 4053
Telephone: (07) 352 5577
Facsimile: (07) 352 5109

ANALYTICAL REPORT

CLIENT: SAVAGE RESOURCES LIMITED
ADDRESS: P O BOX 1179
BALLARAT MAIL CENTRE
VICTORIA 3354

CONTACT: MR R ANNETT

LABORATORY: STAFFORD
BATCH NUMBER: ST8257-0

No. of SAMPLES: 2
DATE RECEIVED: 30/03/94
DATE COMPLETED: 19/04/94

R[illegible]ER No: FAX SAMPLE TYPE: PIGMENT PROJECT No:

SAMPLE NUMBER	ELEMENT UNIT METHOD	Loose Dens g/mL ALS	S.G. M957	S % A16-1		
	RED	1.525	4.680 4.97	~~0.11~~		
	BROWN	0.375	3.420 3.67	0.23		
DETECTION LIMIT:		0.001	0	0.01		

COMMENTS:

Townsville Laboratory
Phone: (077) 79 9155 Fax: (077) 79 9729
Mt Isa Towers Laboratory
Phone: (077) 87 4155 Fax: (077) 87 4220
Mudgee Laboratory
Phone: (063) 63 1722 Fax: (063) 63 1189
Bendigo Laboratory
Phone: (054) 46 1390 Fax: (054) 46 1389
Perth Laboratory
Phone: (09) 249 2988 Fax: (09) 249 2942
Kalgoorlie Laboratory
Phone: (090) 21 1457 Fax: (090) 21 6253
Alice Springs Laboratory
Phone: (089) 52 8020 Fax: (089) 52 8029
Mt Isa Laboratory
Phone: (077) 49 5545 Fax: (077) 48 5546

ST8192

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32 Shand Street, Stafford, Q. 4053
P.O. Box 66, Everton Park, Q. 4053
Telephone: (07) 352 5577
Facsimile: (07) 352 5109

182046

ANALYTICAL REPORT

CLIENT: SAVAGE RESOURCES LIMITED
ADDRESS: P O BOX 1179
BALLARAT MAIL CENTRE
VICTORIA 3354

CONTACT: MR R ANNETT

LABORATORY: STAFFORD
BATCH NUMBER: STB192-0

No. of SAMPLES: 2
DATE RECEIVED: 23/03/94
DATE COMPLETED: 19/04/94

ORDER No: LETTER SAMPLE TYPE: SOLID PROJECT No:

SAMPLE NUMBER	ELEMENT UNIT METHOD	SiO2 % M275	Al2O3 % M275	Fe2O3 % M275	CaO % M275	MgO % M275
YELLOW BLACK		9.91 -----	9.43 -----	63.50 -----	0.03 -----	1.02 -----
DETECTION LIMIT:		0.01	0.01	0.01	0.01	0.01

see memo for sig's of sat.

within vicinity of sample sites 104-6 $115.

COMMENTS: L.O.I. undertaken at 800oC.

Somerville Laboratory
Phone (077) 79 9155 Fax: (077) 79 9729
Western Towers Laboratory
Phone (077) 87 4155 Fax: (077) 87 4220
Mildura Laboratory
Phone (063) 63 1722 Fax: (063) 63 1189
Bendigo Laboratory
Phone (054) 46 1390 Fax: (054) 48 1389
Perth Laboratory
Phone: (09) 249 2988 Fax: (09) 249 2942
Kalgoorlie Laboratory
Phone: (090) 21 1457 Fax: (090) 21 8253
Alice Springs Laboratory
Phone (089) 52 6020 Fax: (089) 52 6028
Mt Isa Laboratory
Phone: (077) 49 5545 Fax: (077) 48 5546

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A.C.N. 009 936 029

192647

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Brisbane Head Office and Laboratory
32 Shand Street, Stafford, Q. 4053
P.O. Box 66, Everton Park, Q. 4053
Telephone: (07) 352 5577
Facsimile: (07) 352 5109

ANALYTICAL REPORT

CLIENT: SAVAGE RESOURCES LIMITED
ADDRESS: P O BOX 1179
BALLARAT MAIL CENTRE
VICTORIA 3354

CONTACT: MR R ANNETT

LABORATORY: STAFFORD
BATCH NUMBER: ST8192-0

No. of SAMPLES: 2
DATE RECEIVED: 23/03/94
DATE COMPLETED: 19/04/94

ORDER No: LETTER SAMPLE TYPE: SOLID PROJECT No:

SAMPLE NUMBER	ELEMENT / UNIT / METHOD	TiO2 % M275	Na2O % M275	K2O % M275	P2O5 % M275	MnO % M275
YELLOW		0.35	0.21	0.31	1.10	0.61
BLACK		-----	-----	-----	-----	-----
DETECTION LIMIT:		0.01	0.01	0.01	0.01	0.01

COMMENTS:

AUSTRALIAN LABORATORY SERVICES P/L
A.C.N. 009 936 029

182048 [redacted]

Brisbane Head Office and Laboratory
32 Shand Street, Stafford, Q. 4053
P.O. Box 66, Everton Park, Q. 4053
Telephone: (07) 352 5577
Facsimile: (07) 352 5109

ANALYTICAL REPORT

CLIENT: SAVAGE RESOURCES LIMITED
ADDRESS: P O BOX 1179
BALLARAT MAIL CENTRE
VICTORIA 3354

CONTACT: MR R ANNETT

LABORATORY: STAFFORD
BATCH NUMBER: ST8192-0

No. of SAMPLES: 2
DATE RECEIVED: 23/03/94
DATE COMPLETED: 19/04/94

ORDER No: LETTER SAMPLE TYPE: SOLID PROJECT No:

SAMPLE NUMBER	ELEMENT / UNIT / METHOD	SrO % M275	ZrO2 % M275	LOI % M275	H2O sl/slt % ALS	pH ALS
	YELLOW	0.01	0.24	13.00	0.58	6.55
	BLACK	-----	-----	-----	0.31	7.80
DETECTION LIMIT:		0.01	0.01	0.01	0.01	0.01

COMMENTS:

AUSTRALIAN LABORATORY SERVICES P/L

A.C.N. 009 936 029

182649

[redacted]

Brisbane Head Office and Laboratory
32 Shand Street, Stafford, Q. 4053
P.O. Box 66, Everton Park, Q. 4053
Telephone: (07) 352 5577
Facsimile: (07) 352 5109

ANALYTICAL REPORT

CLIENT: SAVAGE RESOURCES LIMITED
ADDRESS: P O BOX 1179
BALLARAT MAIL CENTRE
VICTORIA 3354

CONTACT: MR R ANNETT

LABORATORY: STAFFORD
BATCH NUMBER: ST8192-0

No. of SAMPLES: 2
DATE RECEIVED: 23/03/94
DATE COMPLETED: 19/04/94

REPORT No: LETTER SAMPLE TYPE: SOLID PROJECT No:

SAMPLE NUMBER	ELEMENT / UNIT / METHOD	Acid Insol % ALS	Loose Dens g/mL ALS	S.G. M957	S % ALS
YELLOW		13.80	0.744	3.5	0.13
BLACK		2.87	1.323	4.6	~~0.07~~
DETECTION LIMIT:		0.01	0.001	0.1	0.01

COMMENTS:

Laboratory
Phone: (077) 79 9155 Fax: (077) 79 9729
Towers Laboratory
Phone: (077) 87 4155 Fax: (077) 87 4220
Laboratory
Phone: (063) 63 1722 Fax: (063) 63 1189
Laboratory
Phone: (054) 46 1390 Fax: (054) 46 1389
Perth Laboratory
Phone: (09) 249 2988 Fax: (09) 249 2942
Kalgoorlie Laboratory
Phone: (090) 21 1457 Fax: (090) 21 8253
Alice Springs Laboratory
Phone: (089) 52 6020 Fax: (089) 52 6028
Mt Isa Laboratory
Phone: (077) 49 5545 Fax: (077) 48 5546

ST8667

AUSTRALIAN
LABORATORY
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182051 [redacted]

ANALYTICAL REPORT

CLIENT: SAVAGE RESOURCES LIMITED
ADDRESS: P O BOX 1179
BALLARAT MAIL CENTRE
VICTORIA 3354

CONTACT: MR R ANNETT

LABORATORY: STAFFORD
BATCH NUMBER: ST8667-0

No. of SAMPLES: 2
DATE RECEIVED: 12/05/94
DATE COMPLETED: 16/05/94

ORDER No: ALS 010664 SAMPLE TYPE: PULP PROJECT No:

SAMPLE NUMBER	ELEMENT UNIT METHOD	S % A16-1	SiO2 % M275	Al2O3 % M275	Fe2O3 % M275	CaO % M275
YELLOW COMPOSITE NT SITE		0.11	28.50	5.80	53.40	0.02
UMBER (EAST) COMPOSITE		0.14	39.30	6.57	34.50	0.02
DETECTION LIMIT:		0.01	0.01	0.01	0.01	0.01

COMMENTS: L.O.I. determined at 800oC.
Fe2O3 is Total Fe expressed as Fe2O3.

All pages of this report have been checked and approved for release.

...ringe Laboratory
...ne (089) 52 6020 Fax: (089) 52 6028
...ndigo Laboratory
...ne (054) 46 1390 Fax: (054) 46 1389
...sbane Laboratory
...ne (07) 352 5577 Fax: (07) 352 5109
...ar... Towers Laboratory
...ne (077) 87 4155 Fax (077) 87 4220
Cloncurry Laboratory
Phone: (077) 42 1323 Fax: (077) 42 1685
Kalgoorlie Laboratory
Phone: (090) 21 1457 Fax: (090) 21 6253
Mt Isa Laboratory
Phone: (077) 49 5545 Fax: (077) 48 5546
Orange Laboratory
Phone: (063) 63 1722 Fax: (063) 63 1189
Perth Laboratory
Phone: (09) 249 2988 Fax: (09) 249 2942
Townsville Laboratory
Phone: (077) 79 9155 Fax: (077) 79 9729

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18205[redacted]

ANALYTICAL REPORT

CLIENT: SAVAGE RESOURCES LIMITED
ADDRESS: P O BOX 1179
BALLARAT MAIL CENTRE
VICTORIA 3354

CONTACT: MR R ANNETT

LABORATORY: STAFFORD
BATCH NUMBER: ST8667-0

No. of SAMPLES: 2
DATE RECEIVED: 12/05/94
DATE COMPLETED: 16/05/94

ORDER No: ALS 010664 SAMPLE TYPE: PULP PROJECT No:

SAMPLE NUMBER	ELEMENT UNIT METHOD	MgO % M275	TiO2 % M275	Na2O % M275	K2O % M275	P2O5 % M275
YELLOW COMPOSITE HT SITE		0.40	0.32	0.02	0.13	0.15
UMBER (EAST) COMPOSITE		0.98	0.56	0.08	0.57	0.10
DETECTION LIMIT:		0.01	0.01	0.01	0.01	0.01

COMMENTS:

AUSTRALIAN LABORATORY SERVICES P/L
A.C.N. 009 936 029

152053

[redacted]

ANALYTICAL REPORT

CLIENT: SAVAGE RESOURCES LIMITED
ADDRESS: P O BOX 1179
BALLARAT MAIL CENTRE
VICTORIA 3354

CONTACT: MR R ANNETT

LABORATORY: STAFFORD
BATCH NUMBER: ST8667-0

No. of SAMPLES: 2
DATE RECEIVED: 12/05/94
DATE COMPLETED: 16/05/94

ORDER No: ALS 010664 SAMPLE TYPE: PULP PROJECT No:

SAMPLE NUMBER	ELEMENT UNIT METHOD	MnO % M275	SrO % M275	ZrO2 % M275	LOI(800oC) % M275
YELLOW COMPOSITE HT SITE		0.25	0.01	0.01	10.80
UMBER (EAST) COMPOSITE		7.40	<0.01	0.01	9.03
DETECTION LIMIT:		0.01	0.01	0.01	0.01

COMMENTS:

Alice Springs Laboratory
Phone: (089) 52 6020 Fax: (089) 52 6028
Albury Laboratory
Phone: (054) 46 1390 Fax: (054) 46 1389
Brisbane Laboratory
Phone: (07) 352 5577 Fax: (07) 352 5109
Charters Towers Laboratory
Phone: (077) 87 4155 Fax (077) 87 4220
Cloncurry Laboratory
Phone: (077) 42 1323 Fax: (077) 42 1685
Kalgoorlie Laboratory
Phone: (090) 21 1457 Fax: (090) 21 6253
Mt Isa Laboratory
Phone: (077) 49 5545 Fax: (077) 48 5546
Orange Laboratory
Phone: (063) 63 1722 Fax: (063) 63 1189
Perth Laboratory
Phone: (09) 249 2988 Fax: (09) 249 2942
Townsville Laboratory
Phone: (077) 79 9155 Fax: (077) 79 9729

182054

ST9026

AUSTRALIAN
LABORATORY
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1S2055

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ANALYTICAL REPORT

CLIENT: SAVAGE RESOURCES LIMITED
ADDRESS: P O BOX 1179
BALLARAT MAIL CENTRE
VICTORIA 3354

CONTACT: MR R ANNETT

LABORATORY: STAFFORD
BATCH NUMBER: ST9026-0

No. of SAMPLES: 29
DATE RECEIVED: 21/06/94
DATE COMPLETED: 28/06/94

ORDER No: ALS010668 SAMPLE TYPE: SOLID PROJECT No:

SAMPLE NUMBER	ELEMENT UNIT METHOD	SiO2 % M275	Al2O3 % M275	Fe2O3 % M275	CaO % M275	MgO % M275
OCHRE 101		43.30	3.03	44.40	<0.01	0.24
OCHRE 102		58.90	2.16	31.80	0.01	0.21
OCHRE 103		38.90	2.39	49.00	0.02	0.38
OCHRE 104-106		25.30	3.78	58.90	0.01	0.37
OCHRE 107		38.00	5.51	46.00	0.03	0.37
OCHRE 108		15.00	8.47	62.20	0.01	0.41
OCHRE 109		23.80	5.83	58.10	0.01	0.44
OCHRE 110		21.00	4.54	62.20	0.01	0.35
OCHRE 111		18.00	9.88	57.10	0.01	0.52
OCHRE 112		17.70	12.80	53.60	0.01	0.44
OCHRE 113		10.90	7.71	66.20	<0.01	0.55
OCHRE 117		24.50	9.22	51.40	<0.01	0.50
OCHRE 115 0 116#		12.00	6.22	66.30	<0.01	0.69
OCHRE 118		23.00	6.90	55.50	<0.01	0.58

152656

ANALYTICAL REPORT

CLIENT: SAVAGE RESOURCES LIMITED
ADDRESS: P O BOX 1179
BALLARAT MAIL CENTRE
VICTORIA 3354

CONTACT: MR R ANNETT

LABORATORY: STAFFORD
BATCH NUMBER: ST9026-0

No. of SAMPLES: 29
DATE RECEIVED: 21/06/94
DATE COMPLETED: 28/06/94

ORDER No: ALS010668 SAMPLE TYPE: SOLID PROJECT No:

SAMPLE NUMBER	ELEMENT UNIT METHOD	TiO2 % M275	Na2O % M275	K2O % M275	P2O5 % M275	MnO % M275
OCHRE 101		0.10	<0.01	0.01	0.10	0.23
OCHRE 102		0.08	<0.01	0.03	0.26	0.12
OCHRE 103		0.10	0.01	0.03	0.20	0.21
OCHRE 104-106		0.20	<0.01	0.02	0.13	0.17
OCHRE 107		0.26	0.02	0.08	0.22	0.15
OCHRE 108		0.41	0.05	0.23	0.25	0.21
OCHRE 109		0.25	0.05	0.28	0.24	0.14
OCHRE 110		0.13	0.01	0.07	0.14	0.23
OCHRE 111		0.45	0.01	0.13	0.11	0.37
OCHRE 112		0.54	0.03	0.16	0.09	0.17
OCHRE 113		0.32	<0.01	0.09	0.07	0.46
OCHRE 117		0.66	<0.01	0.26	0.06	0.26
OCHRE 115 0 116#		0.39	<0.01	0.11	0.07	0.57
OCHRE 118		0.95	0.03	0.38	0.09	0.24

AUSTRALIAN LABORATORY SERVICES P/L
A.C.N. 009 936 029

132657

[redacted]

ANALYTICAL REPORT

CLIENT: SAVAGE RESOURCES LIMITED
ADDRESS: P O BOX 1179
BALLARAT MAIL CENTRE
VICTORIA 3354

CONTACT: MR R ANNETT

LABORATORY: STAFFORD
BATCH NUMBER: ST9026-0

No. of SAMPLES: 29
DATE RECEIVED: 21/06/94
DATE COMPLETED: 28/06/94

ER No: ALS010668 SAMPLE TYPE: SOLID PROJECT No:

SAMPLE NUMBER	ELEMENT UNIT METHOD	SrO % M275	ZrO2 % M275	LOI @ 800c % M275		
OCHRE 101		<0.01	0.01	7.71		
OCHRE 102		0.02	0.01	5.60		
OCHRE 103		0.01	0.01	8.06		
OCHRE 104-106		0.01	0.01	10.50		
OCHRE 107		0.01	0.02	8.86		
OCHRE 108		0.02	0.01	12.30		
OCHRE 109		0.02	0.01	10.50		
OCHRE 110		0.01	0.02	10.90		
OCHRE 111		<0.01	0.01	13.00		
OCHRE 112		<0.01	0.01	14.00		
OCHRE 113		0.01	<0.01	13.40		
OCHRE 117		<0.01	<0.01	12.60		
OCHRE 115 0 116#		<0.01	<0.01	13.30		
OCHRE 118		0.01	<0.01	11.60		
~~OCHRE HT 06~~		~~0.01~~	~~0.01~~	~~13.90~~		

SAVOX

Product		
SAVOX YELLOW OCHRE		
Description Natural yellow ochre.		issue 15-01- 310
Typical chemical analysis	**Units**	**Value**
Total iron as Fe_2O_3	%	51.1
Matter volatile @ 105°C	%	1.8
Acid insoluble matter	%	33.5
Loss on ignition	%	13.2
Water soluble salts	%	0.1
Typical physical properties		
Loose bulk density	kg/litre	0.7
Compressed bulk density	kg/litre	1.0
Oil absorption	mls/100g	18
Specific gravity	-	3.4
pH of a 5% aqueous suspension	-	5 to 7
Residue on a 75 micron sieve	%	0.1
Residue on a 45 micron sieve	%	0.8
Maximum stable temperature	°C	160
Light resistance*	-	5
Alkali resistance*	-	5

*On a scale of 1 to 5 (1 = poor , 5 = excellent).

BS 5750 Part 2: 1987

ISO 9002 1987

EN 29002 : 1987

Certificate No. FM 10951

182066

Product		
SAVOX BROWN		
Description Burnt Umber.		issue 15-13-310B
Typical chemical analysis	**Units**	**Value**
Total iron as Fe_2O_3	%	49.1
Matter volatile @ 105°C	%	3.4
Acid insoluble Matter	%	18.4
Loss on ignition	%	17.6
Water soluble salts	%	0.1
Manganese dioxide MnO_2 = 7.533% Mn or 9.75% MnO	%	12.0
Typical physical properties		
Oil absorption	mls/100g	30
Specific Gravity	-	3.3
pH of a 5% aqueous suspension	-	4 to 6
Residue on a 75 micron sieve	%	0.1
Residue on a 45 micron sieve	%	1.7
Maximum stable temperature	°C	350
Light resistance*	-	5
Alkali resistance*	-	5

*On a scale of 1 to 5 (1 = poor , 5 = excellent).

BS 5750 Part 2: 1987

ISO 9002 - 1987

EN 29002 - 1987

Certificate No. FM 10961

112715.60.09872

182062

ANALABS

A Division of Indchape Testing Services (Australia) Pty Ltd
A.C.N. 004 591 864

ANALYTICAL DATA

Phone (004) 316837 | 14 Thirkell St, CODEE TAS 7320 | B ANNETT | Fax (004) 318890

ANALYTICAL REPORT No. 112715.60.09872

THIS REPORT MUST BE READ IN CONJUNCTION WITH THE ACCOMPANYING ANALYTICAL DATA

INVOICE TO:

Savage Resources Limited
Level 14, Norwich House
6/10 O'Connell Street
SYDNEY NSW 2000

ORDER No.	PROJECT
B ANNETT	

DATE RECEIVED	RESULTS REQUIRED
23/11/93	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
2	31/12/93	1	1

SAMPLE NUMBERS	SAMPLE DESCRIPTION	ELEMENT/METHOD
MAGNESITE	RO Prep : GP033 (PART CHROME FREE)	Cu,Pb,Ni/GA101 S/OM613 As,Cr/GX401 Whole Rock/DI204 B/GI202, LOI/OM615

RESULTS TO:

Mr Bob Annett
Savage Resources Limited
P.O. Box 1179
BALLARAT MAIL CENTRE VIC 3354

REMARKS

Amended Report

RESULTS TO:

RESULTS TO:

AUTHORISED OFFICER

ANALABS

A Division of Intertek Testing Services (Australia) Pty. Ltd.
A.C.N. 004 691 664

182063

ANALYTICAL DATA

SAMPLE PREFIX	REPORT No.	REPORT DATE	CLIENT ORDER No.	PAGE
	112715.60.09872	31/12/93	B ANNETT	1 OF 2

TUBE No.	SAMPLE No.	Cu	Pb	Ni	S	As	Cr	Al2O3	SiO2	TiO2
1	MAGNESITE	<4	<5	<5	0.040	<2	<5	0.07	1.76	<0.005
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23	DETECTION	4	5	5	0.005	2	5	0.05	0.20	0.005
24	UNITS	ppm	ppm	ppm	%	ppm	ppm	%	%	%
25	METHOD	GA101	GA101	GA101	OM613	GX401	GX401	OI204	OI204	OI204

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
- = element not determined

AUTHORISED OFFICER

ANALABS

A Division of Intertek Testing Services (Australia) Pty. Ltd.
A.C.N. 004 591 864

152064

ANALYTICAL DATA

SAMPLE PREFIX	REPORT No.	REPORT DATE	CLIENT ORDER No.	PAGE
	112715.60.09872	31/12/93	B ANNETT	2 OF 2

TUBE No.	SAMPLE No.	Fe2O3	MnO	CaO	K2O	MgO	P2O5	Na2O	B	LOI
1	MAGNESITE	0.71	0.109	3.220	<0.06	42.660	<0.02	<0.006	34	50.32
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23	DETECTION	0.05	0.003	0.006	0.06	0.005	0.02	0.006	10	0.01
24	UNITS	%	%	%	%	%	%	%	ppm	%
25	METHOD	OI204	OI204	OI204	OI204	OI204	OI204	OI204	OI202	OM615

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
– = element not determined

AUTHORISED OFFICER

APPENDIX 2

LONG PLAINS SOUTH MAGNETITE REVIEW

LONG PLAINS SOUTH MAGNETITE

SAVAGE RIVER TASMANIA

INTRODUCTION

The Long Plains South magnetite (LPS magnetite) lens is the largest single magnetite occurrence outside of the Savage River Mine lease area. It was first investigated in the early 1960's by the BMR during their regional magnetic studies of the Savage River area. Subsequent exploration by Rio Tinto Australia Exploration (RTAE), Industrial and Mining Investigations Pty. Limited (IMI) and Savage Resources Limited (Savage) has outlined a considerable strike length of magnetite.

LOCATION

The northern most part of the LPS magnetite lens is located approximately 14 km from the SRM mill site (Fig 1); via the mine access road (3km), the unsealed Corinna Road (7km) and a bush 4WD track (2km).

Any heavy traffic (mine cartage LPS to SRM) using these roads would need to address the following:

- the mine access road passes through the centre of the township,
- the Corinna road is a single lane of light construction with infrequent passing bays and,
- the bush track is only passable to 4WD.

For the most part the road gradients are relatively gentle (340m - 390m RL) and only steepen within the vicinity of the magnetite lens.

PHYSICAL FEATURES

The LPS magnetite lies within the area burnt by the 1982 bush fires.

The northern half contains stands of large Eucalypts (dead) with considerable regrowth of emergent rainforest. Surface hematite rubble is evident along a north south trending ridge which drops steeply away both to the north and west.

The southern half is also broadly ridge forming.

STATUS

The entire length of the LPS magnetite lies within Savage's Retention Licence 8802 and granted CML 46M/90.

GEOLOGY

The LPS magnetite lens lies within the Bowry Formation and, along with the other Savage River magnetite deposits, is suggested to be an exhalative deposit.

It is stratigraphically higher than the magnesite beds, while the SRM orebodies are lower, and is divided into three iron ore zones separated by the locally termed amphibolite rock (Figs 2 and 3).

Zones 1 (Eastern) and 2 (Western) are traceable through all the drill holes. Zone 3 is locally developed and merges with zone 2. Zone 1 is divided into an upper and lower split by a low grade interval. The intervening amphibolites are, on occasion, ore bearing adjacent to the richer areas of zone 1 and 2.

The ore zones are believed to be sub vertical to strongly east dipping. On the west the magnetite is bounded by greenschist and magnesite beds, the contact is marked by intense deep weathering. On the east the magnetite grades to a micaceous greenschist which, a short distance further to the east, is host to an unexamined chain of magnetic anomalies.

Oxidation levels extend anywhere between 40 and 160 feet (13 to 50m), rarely to 236 feet (70m), beneath ground surface.

The magnetite zones appear to reach their richest development towards the north end of the deposit (Fig 2).

DRILLING

Drilling by the Mines Department on behalf of RTAE commenced in 1959 although the vast majority of the drilling was independently undertaken by IMI between 1964 and 1969.

Simple modelling (?) of the ground magnetometer data was used in the location of the drill holes and the target in each case was the intersection of the ore zones lying beneath areas of high magnetic amplitude (40,000 gamma).

However the degree of magnetic coupling between zones, both in a lateral and vertical sense, has influenced the surface magnetic responses to such a degree that the drilling targets have turned out to be more random than biased toward higher magnetite grade.

The drilling was characterised by poor reporting, inadequate assay procedures and extensive core loss, particularly within the ore zones.

ORE RESERVE ESTIMATES

The data issuing from the drilling of seven diamond drill holes (eight including the RTAE1 hole from 1959), over a strike length of some 3 km of intermittent magnetite, does not offer any chance of a reliable estimate of tonnage and grade.

Basic assumptions were made by Ridgway (1969) and Edyvean (1981), while Shannon (1991) concurred with Ridgway's tonnage calculations but not the grade believing them to be too low. Selected extracts from these reports are given below:

Ridgway (1969)

Total Body - to depth of drillholes **11 million tons @ 28% Fe**

- to depth of 500 ft **30 million tons @ 28% Fe**

Conclusions - .. On our present knowledge it appears that the major portion would have to be recovered by underground mining operations owing to the narrow widths of the individual lenses...

Edyvean (1981)

Northern Body lying within the vicinity of DDH46 and RTAE1 (Fig 2) including oxidised ore:

Eastern Zone 1 - (DDH46) depth 100 ft, width 105 ft, length 100ft
105,000 tonnes

Western Zone 2 - (DDH46 & RTAE1)
depth 250 ft, width 90 ft, length 400 ft
900,000 tonnes

Grand Total **1,000,000 tonnes @ 30% Fe**

Conclusions - .. This figure is approximate. A pit to remove this tonnage would probably have an overburden to ore ratio of approx. 4 to 1 ? (at odds with his sections reproduced in Fig 2). Depth of oxidation around 80 ft although this may vary considerably throughout the lenses...

Shannon

.... The available data is so defective in recovery, assay coverage and recording that a definite resource estimate lacks credibility...

.... Grade is not sufficiently known but on the whole the deposit should prove richer than was previously thought, particularly in the most promising area, the northern section between IMI 28 and 46.... for this area overall grades marginally lower than those from the present SRM operation are most likely...

CONCLUSIONS

The defects in the drilling are too severe to provide an accurate estimate of grade and tonnage but the following aspects of the magnetite lens are unequivocal:

1. The total LPS magnetite lens pinches and swells over a total strike length of some 3 kilometres.

2. Many high magnetic amplitude areas (greater than 40,000 gammas) similar to those found in the northern area have yet to be examined.

3. The richest development both in grade and ore thickness is in the north between drill holes IMI 28 and IMI 46/35 over a strike length of some 600 metres and a width in excess of 75 metres.

4. The high grade ore zones (greater than 30% Fe) are well defined and on occasion up to 20 metres thick.

5. Narrow high grade ore zones more often lie within lower grade intervals and bulk to provide "mining widths" of grades in excess of 20% Fe.

RECOMMENDATIONS

The northern section of the LPS magnetite is the most promising area. The definition of the resource to a depth of 100 metres between IMI 46/35 and 29 (strike length 300 metres) is strongly recommended.

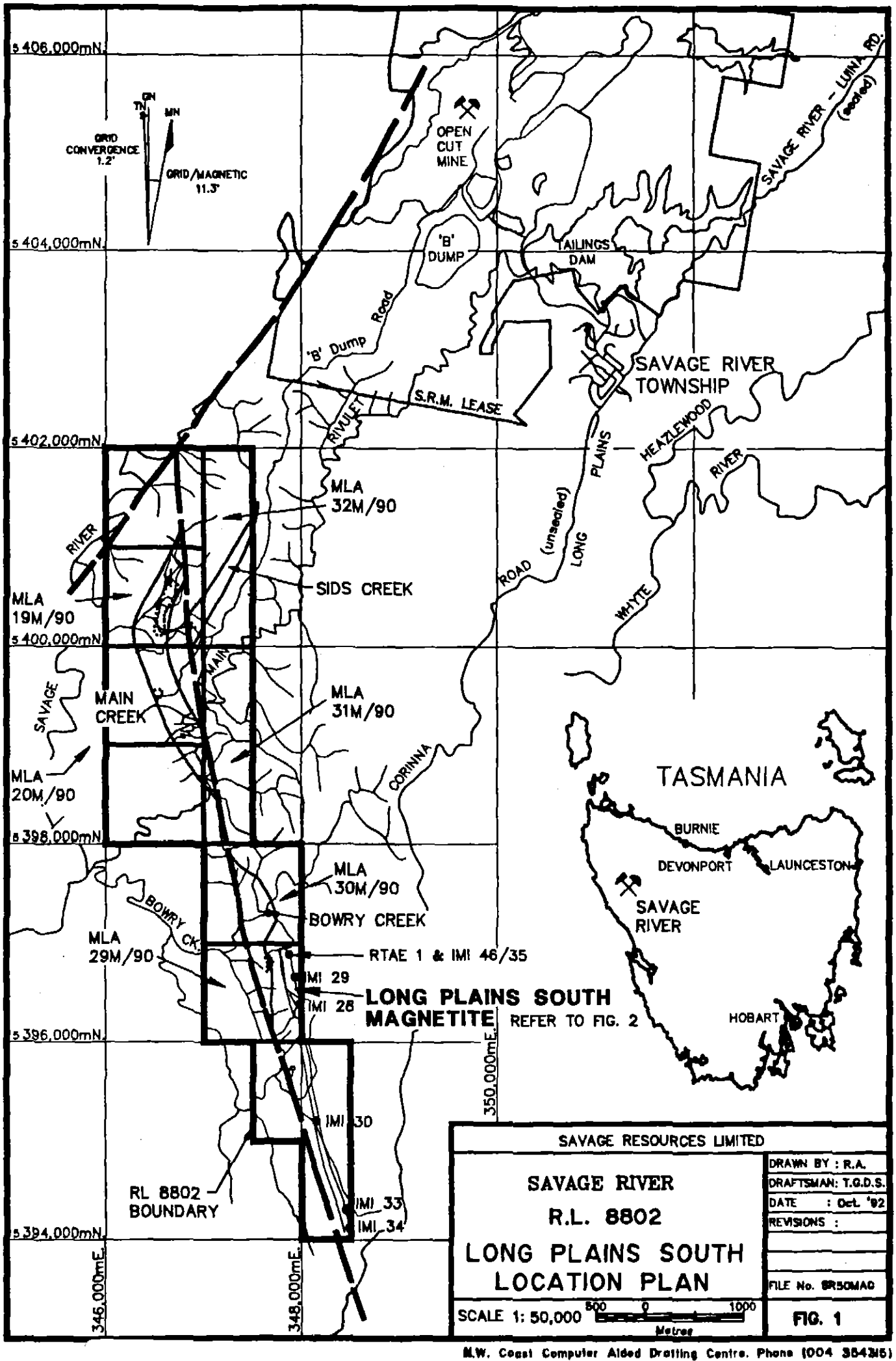
Subject to encouragement further definition is recommended between IMI 29 and 28 (strike length 300 metres).

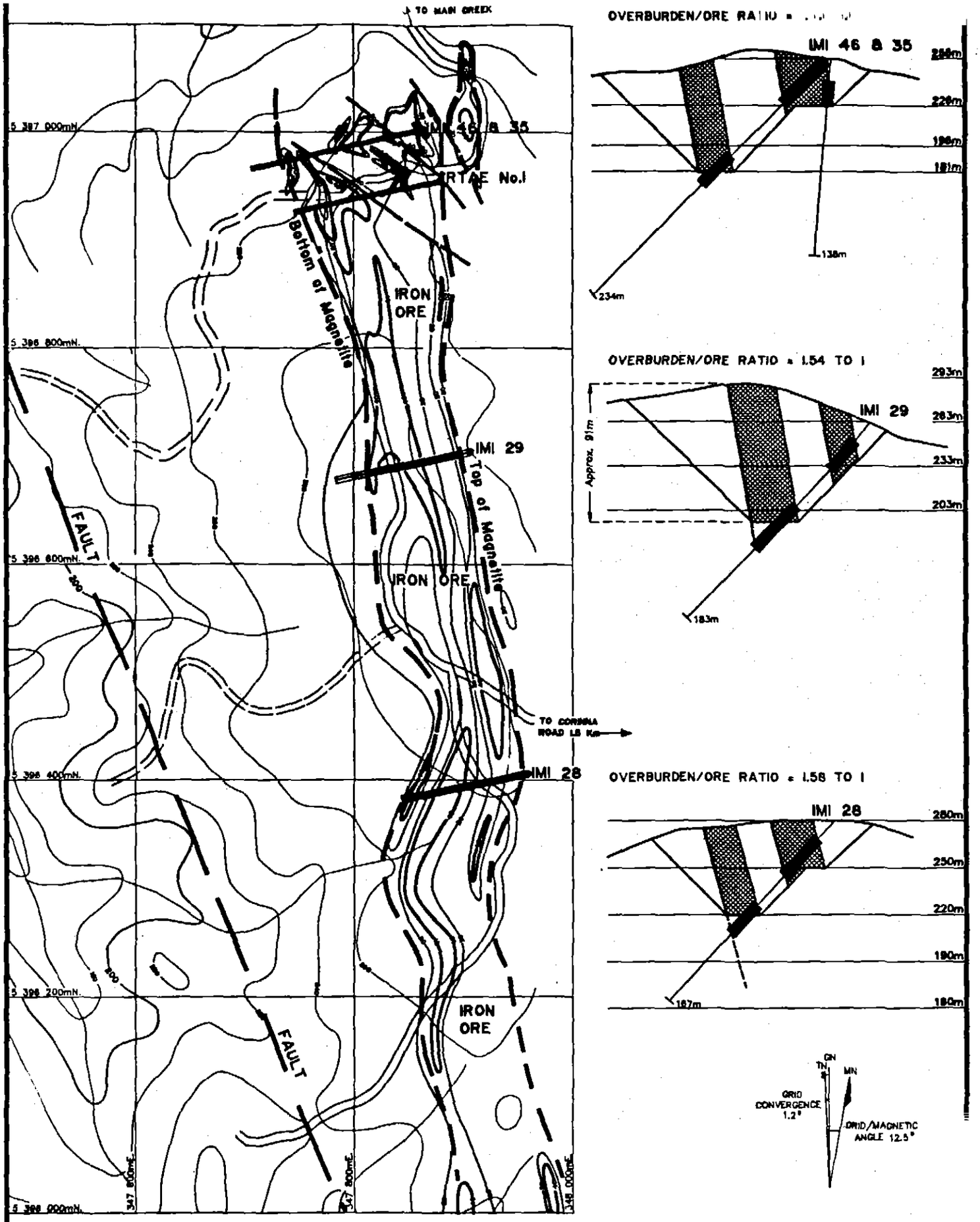
1. Ground magnetic coverage is recommended but probably not essential.

2. Drilling to conform with the 50 metre profile spacing adopted by SRM in development drilling.

3. To avoid selective loss of high grade magnetite drilling must be by thin walled HQ bits (thick core), continuous and undertaken by one carefully instructed contractor (Fred Ortner, Sheffield).

An investigation of the northerly area will require a minimum of 4 drillholes to around 120 metres. Costs for such a program including geological supervision and assaying is estimated at $75,000.


5 406,000mN.
5 404,000mN.
5 402,000mN.
5 400,000mN.
5 398,000mN.
5 396,000mN.
5 394,000mN.
346,000mE.
348,000mE.
350,000mE.
TN
GN
MN
GRID CONVERGENCE 1.2°
GRID/MAGNETIC 11.3°
OPEN CUT MINE
'B' DUMP
TAILINGS DAM
SAVAGE RIVER – LUINA RD. (sealed)
'B' Dump Road
S.R.M. LEASE
SAVAGE RIVER TOWNSHIP
RIVULET
HEAZLEWOOD RIVER
LONG PLAINS ROAD (unsealed)
WHYTE
MLA 32M/90
MLA 19M/90
MLA 31M/90
MLA 20M/90
MLA 30M/90
MLA 29M/90
SIDS CREEK
MAIN CREEK
SAVAGE RIVER
CORINNA
BOWRY CREEK
BOWRY CK.
RTAE 1 & IMI 46/35
IMI 29
IMI 28
LONG PLAINS SOUTH MAGNETITE
REFER TO FIG. 2
IMI 30
IMI 33
IMI 34
RL 8802 BOUNDARY
TASMANIA
BURNIE
DEVONPORT
LAUNCESTON
SAVAGE RIVER
HOBART
SAVAGE RESOURCES LIMITED
SAVAGE RIVER
R.L. 8802
LONG PLAINS SOUTH
LOCATION PLAN
DRAWN BY : R.A.
DRAFTSMAN: T.G.D.S.
DATE : Oct. '92
REVISIONS :
FILE No. SR50MAG
SCALE 1: 50,000
500 0 1000
Metres
FIG. 1
5 cm
M.W. Coast Computer Aided Drafting Centre. Phone (004 384316)
Fax. (004 384495)
182070



SAVAGE RESOURCES LIMITED	
SAVAGE RIVER R.L. 8802 LONG PLAINS SOUTH NORTHERN AREA MAGNETITE	DRAWN BY : R.A. DRAFTSMAN : E.B.S. DATE : Oct '90 REVISIONS : R.A. Nov 1990 FILE No. SRLPSMAG
SCALE	FIG. 2

182071