Progress Report - HATFIELD RIVER
Exploration Licence 15/73
six months ending June 25, 1975.

75-1148

1. SUMMARY

Exploration Licence 15/73, Hatfield River, remains an attractive exploration area. Discovery of significant tonnages of massive base metal sulphide in immediately adjacent property coupled with successful reconnaissance results within this licence, demonstrate the need for continued gridding, soil geochemistry and surface geophysics in the coming summer season.

It is considered probable that drilling targets will be definable by late summer 1975/76, or sooner.

The northern half of the licence, whilst not immediately attractive for base metal exploration, is of interest as a possible future source of basalt for underground fill at the Que River prospect.

2. INTRODUCTION

A. History

In 1973 the Hatfield property was acquired to investigate this section of the favourable Mt. Read Volcanic suite. Exploration impetus was provided when base metal mineralisation was discovered at the Que River prospect, (near the western boundary of the adjacent Exploration Licence 2/70 held by Aberfoyle Tin N.L.) as a direct result of successful airborne geophysics supported by stream sediment geochemistry.

Verbal information suggests there may be a barytes prospect in the vicinity of Mt. Charter, but the precise location is not known. Barytes is an associate of Que River ores.

B. Ownership

Hatfield River Exploration Licence 15/73 is held by Cominco Exploration Pty. Ltd. on behalf of the Abex Joint Venture. Licence expiry date is 26/6/75 and the licence may be renewed at six monthly intervals.

EL 15/73 is partly over private land (owner: Associated Forest Holdings Pty. Ltd.). A.F.H. have a timber concession covering EL 15/73. Pulp and timber industries based in Burnie draw raw materials from ground within the licence area.

C. Location

145°40'E. 41°35'S (approximate centre of licence area)

The licence is located in the central north-west of Tasmania, and adjoins the western section of Mackintosh EL 2/70. It covers an area of 25 sq. miles.

Terrain is typically undulating and covered by dense rainforest. The Murchison Highway serves as the western boundary of the licence. Local access east of the highway is difficult, but is expected to improve as HEC powerline work proceeds.

E. Objectives

This property was acquired because of its attractive regional geological setting, within the Mt. Read volcanics.

The exploration objective is massive CuPbZn bodies of the Rosebery type.

3. FIELD PROGRAMME

1. Survey

Extensions from the Que River grid (EL 2-70) into the Hatfield licence (EL 15/73) on lines 6400N, 7400N and 8400N were hand cut by contracted labour and teams of vacation employees (students). Extensions on lines 6000N to 63000N inclusive, to 4200E were made and the 4200E base line established from 6400N south for approximately 2.5 km. Reconnaissance lines over Mt. Charter and adjacent to the Que River grid are complete. All extensions and regional lines, except the Que River line, were pegged at 50m intervals, with stadia control. Cutting of the eastern boundary of EL 15/73 for 1500m north and south of the Que River access road is complete.

2. Geology

Using 1:25,000 scale aerial photographs and grid lines, data have been compiled at 1:10,000 scale (Plates 5,6). The distribution of shales and volcanics is shown on the published 1 mile Mackintosh sheet. Detailed mapping is presently inadequate to supply a precise description of rock types and distribution. Andesitic or dacitic pyroclastics appear to dominate the volcanics. Traces of base metal sulphides have been observed.

3. Geochemistry

Both soil and stream sediment geochemistry were conducted. The -40# fraction was used and samples were prepared by dissolving 0.5g in perchloric acid for analysis by atomic absorption spectroscopy. The following detection limits are quoted:

Cu	2 ppm
Pb	20 ppm
Zn	2 ppm

A detailed stream sediment sampling programme was conducted, under supervision, by teams of student employees during the 1974/75 summer season. Sample interval was nominally 200m and emphasis was placed on the sampling of small creeks and minor tributaries.

Probable anomalous values for Cu Pb and Zn were discovered in upper tributaries of creeks draining from the western side of the Que River Grid (Plates HT 2, 3, 4).

Line extensions and regional cross lines (except the Que River line at 1200N) were all sampled at 10m intervals. A hand auger was used to obtain 'C' Horizon material. Two soil anomalies of >1000 ppm lead were found on the Mt. Charter reconnaissance line. One anomaly, a single sample of 1250 ppm Pb and 600 ppm Zn in a broad 200m zone of 200-400 ppm Zn values, is located 360m east of the Murchison Highway. This anomaly is tentatively related to volcanics adjacent to the Que River beds, (black shales). The second anomaly is dominated by lead values of >300 ppm. (maximum 1000 ppm), 1560m east of the highway. The geological setting is volcanic and stratigraphic position probably at the same level as the Que River ore lenses. This reconnaissance line successfully investigated an area of poor stream development.

On line 6400N, two lead-zinc soil anomalies were identified. One anomaly, 600m east of the highway (maximum 1450 ppm Pb) may correlate with the western anomaly on the Mt. Charter line. The other is close to the boundary with EL 2/70, and is regarded as a continuation of the Que River mineralisation. Detailed assessment of the above data has not yet been completed.

4. Geophysics

The geophysical activity in this licence was restricted to an airborne (helicopter) magnetic and electromagnetic survey. This survey was scheduled for late 1974. Equipment problems delayed the start of the survey for six months. The detailed flying, at one-tenth mile line spacing, was designed to detect conductive orebodies of the type found in the Mackintosh EL by an earlier helicopter EM survey. The previous survey did not include coverage of this licence.

The survey was flown in March 1975 and the results have only recently been received from the contractor. They have not yet been analysed in detail. A preliminary evaluation shows the presence of several EM anomalies of interest. Many of these are almost certainly due to particular lithologies and will assist in correlation of rock units into a better understanding of the stratigraphy. Similar useful correlations are likely from analysis of the magnetic data.

4. FINANCE

Expenditure for period ending June 30, 1975.

	$
Geology	2,309
Geophysics	9,315
Geochemistry	2,946
Survey	10,421
Miscellaneous	237
Tenure	2,936
	$28,164

5. PROPOSED WORK

As a result of reconnaissance stream sediment and soil sampling, airborne geophysical responses and attractive geology, detailed gridding will continue and accelerate during the coming summer season. Ten metre spaced soil sampling will be conducted, followed, where appropriate, by surface geophysics, dominated by IP. Geological mapping will support this work. Road building will be required in advance of major drilling programmes.

6. ATTACHMENTS

Plate HT 1 Stream sediment geochem sample location and numbers
HT 2 Stream sediment - Copper values in ppm
HT 3 Stream sediment - Lead
HT 4 Stream sediment - Zinc
HT 5 Surface Outcrop Geology "Sheet A"
HT 6 Surface Outcrop Geology "Sheet D"

Submitted E.H. Skey per

E.H. Skey
Project Geologist

Endorsed

L.V. Gentle
Cheif Geologist

387000 E | 388000 E | 389000 E | 390000 E | 391000 E | 392000 E | 393000 E | 394000 E | 395000 E

5395000 N

4000 N

3000 N

2000 N

1000 N

5390000 N

Bischoff River

Murchison Highway

GOLD HILL shaft

9000N

8400N

8000E

7000N

7400N

5300E

6000N

4200E

6400N

E.L 15/73

E.L 2/70

△ MT. CHARTER

158 656 | 158 655 | 158 652 | 158 653 | 158 654 | 158 651 | 158 657

158 666 | 158 667 | 158 668 | 158 669 | 158 670 | 158 671 | 158 672 | 158 673 | 158 674 | 158 675 | 158 676 | 158 677 | 158 678 | 158

387000 E | 388000 E | 389000 E | 390000 E | 391000 E | 392000 E | 393000 E | 394000 E | 395000 E

5395000 N

4000 N

3000 N

2000 N

1000 N

5390000 N

Ridgeroc River

Murchison Highway

GOLD HILL Shaft

△ MT. CHARTER

E.L. 15/73

E.L. 2/70

9000N
8400N
8000N
7400N
7000N
6400N
6000N
5300E
4300E

5 cm

474008

75-1148

- Main road
- Secondary road
- Track
- Railway
- Abandoned railway
- Power trasmission line
- Fence
- Mine
- Quarry or pit
- Trig. station
- River, creek
- Survey line
- Tenure boundary

STATE G.N. | M.N. | Cominco G.N.

13° 24' 26" | 8° 41' 00"

Magnetic north correct 1975 - annual change easterly by 0.4'

Sheet 4

Index to adjoining sheets

COMINCO EXPLORATION PTY. LTD.

Drawn by D.R.	Traced by E.D.	NORTH WEST TASMANIA
Checked by		HATFIELD E.L15/73
		STREAM SEDIMENT GEOCHEMISTRY
		Copper values in p.p.m.
Location code K55/6/44	Scale 1:10000	Date JUNE 1975 — Plate N.T. 2

474009

75-1148

COMINCO EXPLORATION PTY. LTD.

Drawn by G R	Traced by R J E	NORTH WEST TASMANIA 008 HATFIELD E.L.15/73 STREAM SEDIMENT GEOCHEMISTRY Pb values in p.p.m.
Checked by		
Location code K55/6/44	Scale 1:10000	Date June, 1975 — Plate HT 3

387000 E 388000 E 389000 E 390000 E 391000 E 392000 E 393000 E 394000 E 395000 E

5395000 N 4000 N 3000 N 2000 N 1000 N 5390000 N

Bobbobec River

Murchison Highway

GOLD HILL Shaft

9000 N 8000 N 6400 N 7000 N 7400 N 6000 N

5300 E 4700 E 5100 E

E.L. 2/70

E.L. 15/73

△ MT. CHARTER

Main road
Secondary road
Track
Railway
Abandoned railway
Power trasmission line
Fence
Mine
Quarry or pit
Trig. station
River, creek
Survey line
Tenure boundary

STATE G.N. MAN G.N. COMINCO G.N.
13° 24' 26" E 8° 41' 00" E
Magnetic north correct 1975
- annual change westerly by 04'

Sheet A

Index to adjoining sheets

5 cm

474010 75-1148

COMINCO EXPLORATION PTY. LTD.

Drawn by G.R.	Traced by R.K.Y.
Checked by	
Location code K55/6/44	

NORTH WEST TASMANIA
HATFIELD E.L.15/73 009
STREAM SEDIMENT GEOCHEMISTRY
Zinc values in p.p.m.

Scale 1:10000 | Date June 1975 | Plate H.T. 4

E.L. 15/73

E.L. 2/70

Mt. Charter

Bulldoor River

Murchison River

KIMBER TRENCH

5395000 N
4000 N
3000 N
2000 N
1000 N
5390000 N

387000 E
388000 E
389000 E
390000 E
391000 E
392000 E
393000 E
394000 E
395000 E

9000 N
8000 N
8400 N
7400 N
6400 N
5100 E
3300 E

FIELD MAPPING LEGEND

VOLCANICS

Fragment Size	Rock Composition	Fragment - Type	Descriptive/Genetic Name
<4 mm	Rhyolite (R), Rhyodacite (RD), Dacite (D), Andesite (A), Diorite (DI), Granodiorite (GDi), Dolerite (Do), Basalt (B)	ash, dust etc.	Tuff (t) Tuff - lava (t-lava)
>4mm <32mm (>20mm fragments, add prefix coarse - c)		lithic (l) pumice (p) (5% (or p component)	Tuff (t) Tuff - lava (t-lava)
vitric fragments, glass shards viz with hand lens.		vitric (v)	
(if >4mm add prefix coarse - c)		feldspar (fd) crystal (x) quartz (q) (5% crystal component)	
Fragments >4mm 5-50% fragments >32mm		Rounded fragments define agglomerate and tuff agglomerate	Tuff Agglomerate (tb) Tuff Breccia (tb)
Fragments >4mm 50% fragments >32mm (add prefix coarse (c) if fragments > 10 cm)		angular fragments define breccia and tuff breccia. No need for prefix 'l' but add 'p' if fragments are pumiceous	Agglomerate (a.) Breccia (b.)
No visible fragments			Pumice (p)
Uniform groundmass with phenos		specify phenos, fd, q, etc.	Porphyry (por)
			Massive structureless volcanic (indicate with composition name above)

INTRUSIONS

as above in volcanics — dyke, sill etc.

SEDIMENTS

Reworked Tuff (rwt)
Sandstone (ss)
Siltstone (sts)
Shale (sh)
Chert (ch)
Conglomerate (co)
Greywacke (gp)

Main road
Secondary road
Track
Railway
Abandoned railway
Power trasmission line
Fence
Mine

Quarry or pit
Trig. station
River, creek
Survey line
Tenure boundary

STATE G.N. M.N. COMINCO G.N.
13° 24' 26" E
8° 41' 00" E
Magnetic north correct 1975 - annual change easterly by 0.4

Sheet A

Index to adjoining sheets

5 cm

474011

751148

COMINCO EXPLORATION PTY. LTD.

Drawn by E.H.S. | Traced by R.J.E.
Checked by

NORTH WEST TASMANIA
HATFIELD E.L.15/73
010

SURFACE OUTCROP GEOLOGY
SHEET "A"

Location code K55/6/44 | Scale 1:10000 | Date July, 1975 | Plate H.T 5

387000 E 388000 E 389000 E 390000 E 391000 E 392000 E 393000 E 394000 E 395000 E

5390000 N

9000 N

8000 N

7000 N

6000 N

5385000 N

Rpt 141582 Rpvt

Bulgobos 141081

141170 Rvt Rs

Rft 141168

?Rvt 141171 (+141585)

fRfdxt 141583

Rtvt 141584

141585 Rvt

Rvt

E.L. 15/73

474012

75-1148

5 cm

Sheet A

Sheet D

Index to adjoining sheets

COMINCO EXPLORATION PTY. LTD.

Drawn by E.H.S. Traced by R.J.E.

Checked by

Location code K55/6/44

NORTH WEST TASMANIA 011

HATFIELD E.L.15/73

SURFACE OUTCROP GEOLOGY

SHEET "D"

Scale 1:10,000 Date July, 1975 Plate H.T. 6