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OPEN FILE

EXPLORATION LICENCE 7/89

MOINA DISTRICT

TASMANIA

CLIFF H. WHITEHEAD

FINAL/RELINQUISHMENT REPORT

90-3208

MINES	
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1. INTRODUCTION AND SUMMARY

E.L. 7/89 covers 2sqkms in the Moina District, N Tasmania, was originally granted to C.H. Whitehead on the 5th May 1989.

The exploration objectives of a work programme were primarily to evaluate the economic viability of tin and wolframite eluvial and alluvial ground immediately west and south of the Iris Mine covered by C.L. 44/87 also held and worked by the E.L. licence holder. Concurrently, the possible potential of the Moina Deep Lead Extension was to be considered, as likewise the hard rock mineral potential of the Bismuth Creek Fault Zone and "Dolcoath Hill Geophysical Anomaly".

Limited exploration work was completed over a 15 months period and included geologic mapping, soil sampling, power auger drilling and ground magnetics.

Geologic work provided a better understanding of mineralisation trends and permitted a more specific classification of the various mines, prospects and old workings. Sampling of eluvial and alluvial ground bordering the Iris Mine M.L. proved disappointing, and ground magnetics over the Bismuth Creek Fault Zone transgressing the E.L. proved inconclusive.

Due to the above results, lack of funds and other work commitments, the licence holder decided to surrender the E.L.

The current report summarises the nature and results of investigations completed within the E.L. 26/85.

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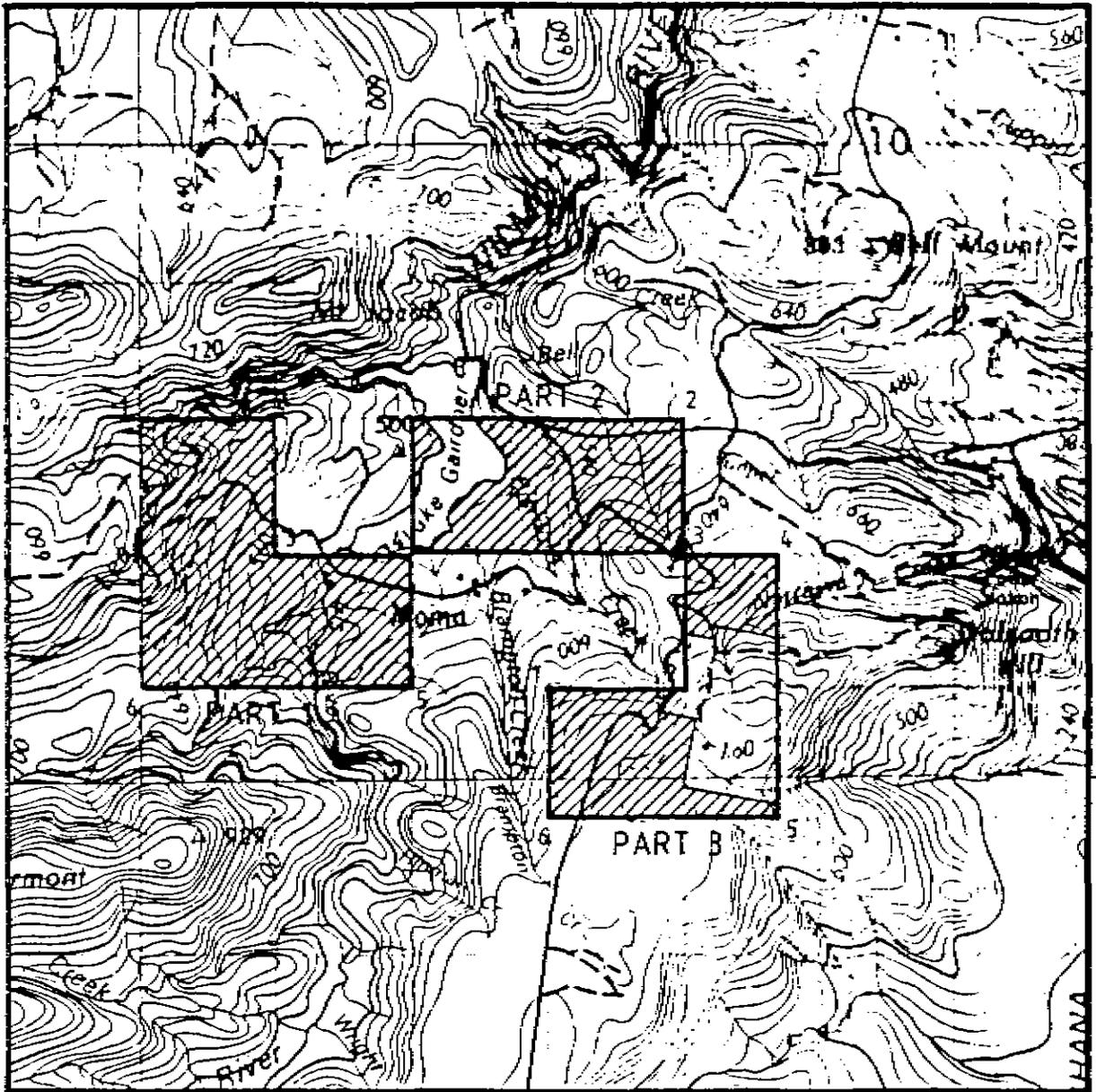
2. LOCATION AND LAND TENURE

E.L. 7/89 covers an area of 2sqkms in the Land District of Devon in the vicinity of MOINA - see Figure No 1.

The majority of the area occurs south and east of the Cradle Mountain - Cethana Road on the western side of Lake Cethana, and is easily accessible by road either from Sheffield or Wilmot.

The licence area encompasses and includes approximately 90 hectares of ground covered by mining leases (CL44M/87-C.H. Whitehead/G.A. Lavell, 17M/80 - J.H. Myers, 13M/85 - L.M. Graue and 46M/82 - K.A. Charleston). The area encompasses State Forest and no Private Land.

ETA 58

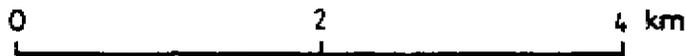


□ = EXPLORATION LICENCE 7/89.

MOINA ETA - 7 SKM

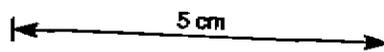
FORMERLY PART OF E.L. 7/74 (MINERALS)

Scale 1:50,000



DEPARTMENT OF MINES - TASMANIA

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A. Regional Geology

The licence area occurs immediately to the south and west of the Dolcoath Devonian Granite. This stock has intruded and altered a sequence of Cambrian and Ordovician rocks which include:-

- Cambrian volcanics - the "Bull Creek Formation" consisting of massive, light to dark coloured quartz feldspar tuffs, plus agglomerates, cherts and greywackes.
- Ordovician - "Roland Conglomerate", approximately 30m thick, consisting of siliceous conglomerates, quartzites and siltstones.
- "Moina Sandstone", consisting of white sandstones containing shale units, which are often pyritic.
- "Gordon Limestone", limestones in places completely replaced by fluorite/magnetite or sphalerite skarns.

Overlying the above sequence is an intermittent cover of Tertiary basalt and pyroclastics.

The licence area is traversed by a portion of the SE trending Bismuth Creek Fault Zone which to the NW has cut through the main Moina Skarn, and apparently held a controlling influence on mineralisation at that location.

B. Mineralisation

All mineralisation in the area is basically related to the Devonian Dolcoath granite emplacement, and its intrusive effects on the Mid-Upper Cambrian to Ordovician sequences. This has resulted in a variety of mineralised models affecting a range of metallic and non-metallic commodities - Au, Sn, WO_3 , Zn, Bi, Mo, fluorite, topaz and beryl.

Most common mineralised models are:-

- Quartz vein systems
- Skarn zones (magnetite and calc-silicate rock)
- Stockwork/Quartz stringer system
- Greisen zones
- Alluvial/eluvial deposits

C. Mineralisation

A number of small to medium sized mining operations/workings prevail in the district - the most notable within E.L. 7/89 are:-

- All Nations Mine, wolframite and molybdenite
- Iris Mine - Sn, WO_3 and Bi
- Pig and Whistle - WO_3
- Lawklemlaw - WO_3

The general Moina district, including the area currently covered by E.L. 7/89 has been extensively investigated and prospected in the past.

Mt Lyell Mining and Railway Co had a strong interest in the area during the period 1970-74, and from that time to as recently as 1988, the area was part of E.L. 7/74 formerly held by COMCALCO and various J.V.'s involving the Shell Co of Australia and CRA Exploration Pty Ltd.

Comcalco carried out detailed grid geological/geochemical work over the specific area of E.L. 7/89. Their work primarily centred around investigating possible extensions of the Moina Skarn, and included drilling two diamond drill holes along the Bismuth Creek fault zone in the vicinity of the Iris Mine (SM25 and SM26).

More recently (1988) CRA carried out during an extension period of E.L. 7/74 a detailed programme of gold exploration in and around the Moina Skarns including the area embraced by E.L. 7/89.

5A Exploration Objectives, Proposed Work

The prime objective of the proposed exploration work in the licence area was to prove up additional resources of eluvial/alluvial ground to supplement known reserves of cassiterite and wolframite currently being mined at the Iris Mine (ML No. 31M/83).

Specifically the exploration aims were:-

- To evaluate the tonnage and grades of known extensions of ELUVIAL material containing tin and tungsten mineralisation immediately west of the IRIS MINE
- To evaluate reserves/grade of Sn/WO₃ ALLUVIAL ground at 2 areas.
 - Extreme SE of the EL (SE of the Iris Mine)
 - North of the EL (N of All Nations)
- To investigate the possible Sn/WO₃ content of the Moina Deep Lead extensions from the Shepherd and Murphy Mine.
- To study the hard rock mineral potential of the Bismuth Creek Fault zone and the Dolcoath Hill Geophysics anomaly

More specific aims of exploration work within the E L were outlined in the E L Annual Report 1989/90 - Year 1

Work Completed during the first year of a proposed 2 years exploration programme has consisted of the following:-

1. Photogeological interpretation and detailed geological mapping of the licence area, plus enclosing mining leases 31M/83 and 22M/85, and incorporation of this data with results of previous mapping in adjacent E.L. 26/85 area (C.H. Whitehead).
2. Base map preparation of the E.L. 7/89 area and surrounding district.
3. Re-opening old exploration grid lines in the area (Comcalco, CRA and Shell).
4. Power auger drilling and soil sampling to evaluate the Sn, WO_3 and Bi potential of eluvial and alluvial material at the following areas:-
 - 4A - Immediately west of the Iris Mine (ML 31M/83)
 - 4B - Extreme SE section of EL area (SE of Iris Mine)
 - 4C - Moina Deep Lead
5. A grid ground magnetic survey has been initiated over the Bismuth Creek Fault Zone traversing the E.L. area.

Major Results

1. Geological work has provided a better understanding of mineralisation trends, and allows a more specific classification of the various mines, prospects and old workings.
2. Mapping/geochemical work has better delineated the extent of potential Sn and WO_3 eluvial/alluvial ground.

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3. Scout power auger drilling/soil sampling of eluvial ground west of the Iris Mine proved disappointing with regard WO_3 content; alluvial ground south east of ML31M/83 was limited in extent/tonnage; and, the section of the Moina Deep Lead investigated could not be penetrated/bottomed by the above conventional sampling method.
 4. The magnetic survey requires completion before overall results can be assessed.

More specific results of the work were reviewed in the E.L. 7/89 Annual Report for Year 1 (1989/90), plus a report entitled "Supplementary Results" - Year 1.

5C. Work Completed - Final Term

During the initial period of the 2 year tenancy of the E.L., two ground magnetic surveys were ran in the licence area.

The first was run systematically along grid lines established south of the Iris Mine, the objective of the work being to pick up any magnetic disturbance/anomalies along the Bismuth Creek Fault Zone. This survey consisted of taking readings at 5m intervals along established grid lines spread at 100m intervals, namely:-

Grid Line 2100E between 665S and 950S

Grid Line 2000E between 640S and 1030S

Grid Line 1900E between 570S and 1000S

Grid Line 1800E between 600S and 880S

Grid Line 1700E between 675S and 1045S

A second survey was ran along established tracks further to the north, but again over the Bismuth Creek Fault Zone.

Specific magnetic readings are appended with this report. As shown from results, no anomalism of any significant nature was detected.

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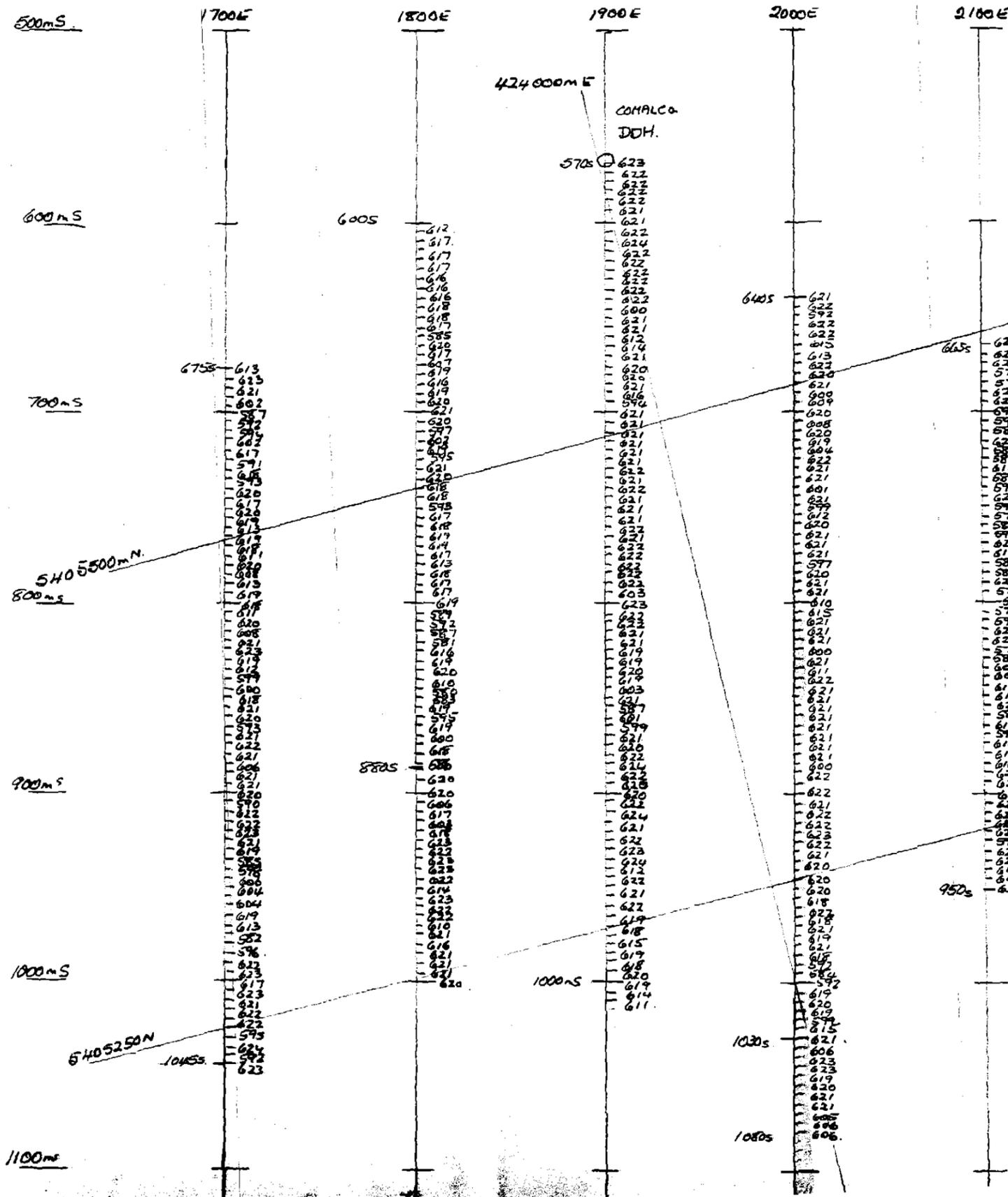
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EXPLORATION LICENCE 7/89
1990/91.

GROUND MAGNETIC SURVEY.

SOUTH OF IRIS MINE

(OLD CRA 1988 GRID)



016
90-3208.

416017

5 cm

EXPLORATION LICENCE 7/89

MOINA DISTRICT

CLIFF. H. WHITEHEAD

RAN N° 5/89

DATE FEB. 1990 SCALE 1:2500



LEGEND

	= TERTIARY BASIN		= MOINA DEEP LEAD (DIPPER PUSHER LOCATIONS)
	= OROCLIVIAN		= SW OF ML 311/83 (ALLUVIAL)
	= MOINA SANDSTONE		= SE OF ML 311/83 (ALLUVIAL)
	= ROLLAND CONGLOMERATE		= COMPLEXED SOIL SAMPLE GRID
	= QUARTZITE (PALEO-GRAY)		= IRIS MINE CH WHITEHEAD GROUND MAGNETIC SURVEY
	= QUARTZ BRECCIA (BRECCIA)		= EL 7/89
	= QUARTZ VITRIC TUFF		
	= POTENTIAL WELL/SH ALLUVIAL/ALLUVIAL GROUND		
	= IRIS ELUVIAL MINE (POWER ADJURED)		

EL 7/89 1989/90 EXPLORATION

Scale: 50 100 150 200 250m

I = 1st MAGNETIC SURVEY (FIGURE 1) 1990/91

I = 2nd MAGNETIC SURVEY (FIGURE 2).