GEOTECH

Geotech International Pty Ltd

Annual Report

for RL10/1988 Moina

for the Period 22 October 2016 to 21 October 2017

Date: October 2017

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OutSide InSight

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ABSTRACT

This report describes the investigations and activities completed within RL10/1988 during the period 22 October 2016 to 21 October 2017.

The Tenement is located 56km SSW by road from Devonport.

The Tenement covers major occurrences of fluorite rich skarn, a smaller altered zinc and gold rich skarn, and includes the old Shepherd and Murphy mine.

Work done by Geotech International Pty Ltd during the period consisted of

- Assemble and organise past data.
- Locate previous diamond drill core.
- Monitor progress on FAME metallurgical research.
- Continue a review of Exploration Potential.

KEYWORDS

N Tasmania
Geology
Mineralisation
Skarn
Fluorite
Tin
Tungsten
Retention Licence

SUMMARY OF ACTIVITIES for RL10/1988 Moina
for the Period 22 October 2016 to 21 October 2017

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CO-ORDINATES

All lat/long co-ordinates in this report refer to the GDA94 Datum, unless stated otherwise.
All AMG co-ordinates in this report refer to the GDA94 - Zone55, unless stated otherwise.

FILE SUMMARY LIST

File name	Format	Contents
RL10-1988_2017_report.pdf	pdf	Annual Report

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FIGURES

1.0 INTRODUCTION

This report describes the investigations and activities completed within RL10/1988 during the period 22 October 2016 to 21 October 2017.

The Tenement is located 56km SSW by road from Devonport, in north-central Tasmania, Fig 1.

Table 1 - Tenement Details

Tenement	Holder	Date Granted	For	Size
RL10/1988 Moina	Geotech International Pty Ltd 100%	21 October 1988	All Minerals	2km^2

Crown Land for Forestry use covers most of the known mineralisation with only some of the northern and western mineralised areas within Private Land. There are no restrictive Reserves in the mineralised area.

The project lies within the Tasmania 1:25,000 map sheets of Cethana.

Access is via sealed roads, formed local roads and other rough tracks.

The Tenement covers major occurrences of fluorite rich skarn, a smaller altered zinc and gold rich skarn, and includes the old Shepherd and Murphy mine.

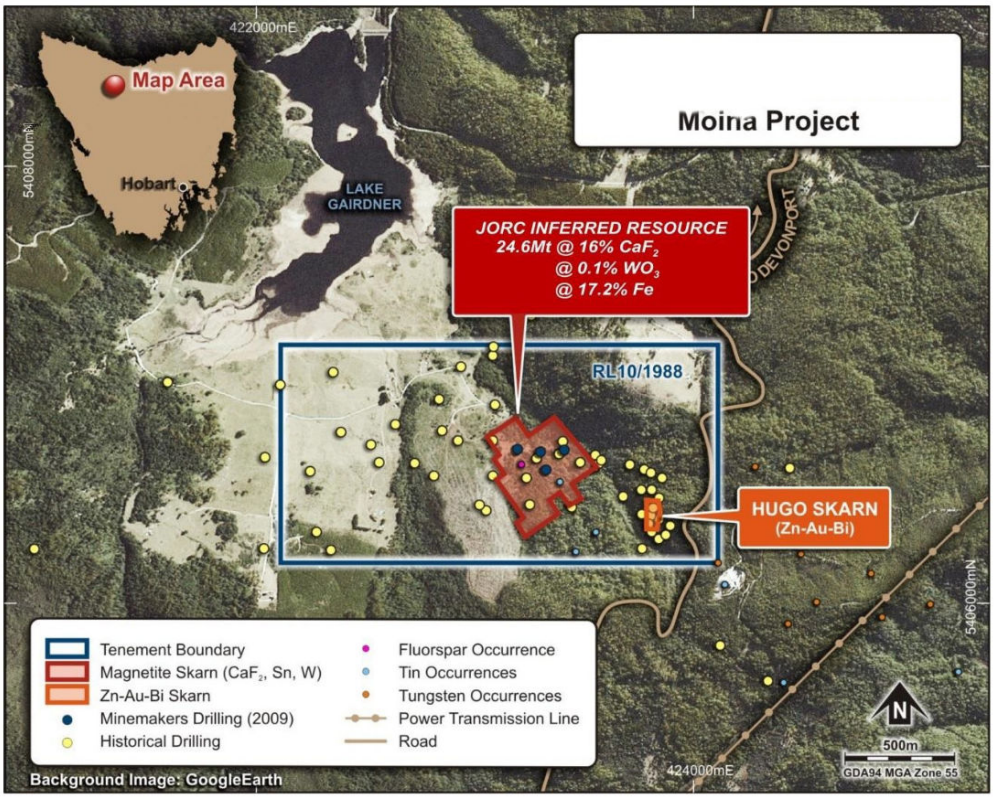

Fig. 1 Tenement Location, Drill holes, Resource areas

2.0 GEOLOGICAL SETTING and MINERALISATION

The licence contains skarns, which have variably replaced Ordovician limestone and silty limestone. A set of tin and tungsten bearing sheeted quartz veins cuts the skarns and underlying sandstone. The hydrothermal fluids responsible for this mineralisation emanated from a Devonian granite which lies at about 200m below the surface. There has been structural preparation and control of the mineralisation by a NW trending fault system, the main fault being the Bismuth Creek Fault. A large portion of the area is covered by Tertiary basalt which locally has at its base Tertiary unconsolidated sediments.

The Ordovician sedimentary package is a graded sequence with Roland Conglomerate at the base, overlain by medium to coarse grained Moina Sandstone, in turn overlain by Gordon Limestone. These three formations are conformable, gradational, and relatively thin, typically being in the range 50m to 150m thick. The sedimentary package generally dips gently north with local perturbations near the faults. The Ordovician rocks are underlain by a Cambrian acid volcanic package.

The skarns are dominated by a characteristic finely banded, contorted, fine grained fluorite-magnetite-vesuvianite rock known as wrigglite. It carries trace to percent levels of several elements, especially tin and tungsten. A JORC compliant Inferred Mineral Resource of 24.6Mt at 1380ppm Sn, 1040ppm WO_3, 16% CaF_2 and 17% Fe was estimated by McKeown (2012).

The Devonian granite, the Dolcoath Granite, has been intersected in drilling and has been altered to greisen at its contact with sandstone.

The abandoned Shepherd and Murphy mine occurs in the southern edge of the wrigglite resource. The ore consisted of a set of about 20cm wide quartz veins usually trending E-W carrying cassiterite and wolframite, hosted by both sandstone and skarn. The mine produced at least 480t Sn, 340t WO_3, 69t Bi and some gold from intermittent production between 1893 and 1957.

Structurally the area has some complexity. The Bismuth Creek Fault, trending north-west, appears to have had several phases of movement. The Ordovician rocks adjacent to the fault have been folded, fractured and subjected to reverse fault thrusting. To the east of the Bismuth Creek fault, the Hugo's Fault is a reverse thrust delivering sandstone above the skarn. Some further discussion of the structural complexity is in Section 4.4 of this report.

3.0 REVIEW OF PREVIOUS WORK

Prospecting around 1878 discovered the Shepherd and Murphy vein system. Especially in the 1950s several reports were completed by the Department of Mines on mineralisation in the Moina area, concentrating on the Shepherd and Murphy mine. An estimate of possible plus probable remaining reserves of 77 000t @0.2% Sn 0.4% WO_3 was made by Robinson (1957).

The first recorded modern company exploration was by the Mt Lyell Mining and Railway Company Limited ("Mt Lyell") in the early 1970s. Mt Lyell completed three diamond drill holes, exploring for vein type mineralisation. Two holes intersected wrigglite skarn but Mt Lyell did not recognize its potential.

The Tasmanian Department of Mines drilled three holes in 1972-3. One hole was located in the far west part of the Tenement, the others outside the Tenement.

In the mid to late 1970s, the Commonwealth Aluminium Corporation Limited ("Comalco") explored the area, seeking a source of fluorite for use in their aluminium smelter at Bell Bay in Northern Tasmania. Comalco undertook significant exploration, completed 15 diamond drill holes, undertook preliminary metallurgical investigations, and estimated the tonnage and grade of the Moina wrigglite resource to be 26.5Mt at 18% fluorite, 0.1% tin, 0.1% tungsten, (Askins, 1978, 1979).

From 1980 to 1985, The Shell Company of Australia Ltd (Shell), in joint venture with Comalco, completed several holes in an around the main skarn area.

In 1985 CRA Exploration (CRA) joined the joint venture and continued exploration, with emphasis on the retrograde zinc and gold bearing Hugo Skarn which occurs east of the Bismuth Creek fault.

In 1988 the current Retention Licence (then known as RL8810) was granted to Shell and CRA.

In 1993 a joint venture with Goldstream Mining NL (Goldstream) and Titan Resources NL (Titan) commenced over that portion of RL 8810 lying east of the Bismuth Creek Fault. Goldstream and Titan also held EL20/94 which surrounded RL 8810.

From 1993 until 1997 the Goldstream - Titan work was focussed on the zinc and gold potential of the Hugo Skarn, and 11 diamond drill holes were completed. A small resource of about 250,000t at approximately 0.8g/t gold, 5% zinc, and 0.07% bismuth was delineated.

In 1994 Shell's interest in RL 8810 was sold to Acacia Resources Ltd (Acacia), who managed the licence.

In 1999 Anglogold Australasia Ltd (Anglogold), acquired 100% ownership of Acacia, including all existing Joint Venture properties.

In 2000 Anglogold decided to withdraw as manager of the Moina Joint Venture and through to 2003 no work was done on the licence.

In 2004 the property was acquired 100% by Geotech, but with a residual right for Anglogold and RTZ to be paid a total of $250 000 upon commencement of mining ("Mining Payment Entitlement").

In 2005 an option to purchase from Geotech 80% of the Moina licence was entered into with Minemakers NL, which intended to list on the ASX.

In late 2010 Minemakers assigned its rights in the licence to TNT Mines Ltd (TNT), as part of a demerger process where TNT was to seek separate listing on ASX.

In 2013, after unsuccessful attempts to list, TNT was acquired by the listed company Niuminco Group Ltd.

From 2006 to 2015 Minemakers and TNT's work included a mining heritage survey, a maiden JORC resource estimate- (estimating 24.6Mt at 1380ppm Sn, 1040ppm WO_3, 16% CaF_2 and 17% Fe- for the main skarn, excluding Hugo's skarn), a mining scoping study, drilling of four PQ/HQ-sized cored holes to recover wrigglite for further metallurgical studies, and various metallurgical studies including QEMSCAM analysis and Davis Tube recovery work.

In 2014 Anglogold assigned its share ($125 000) of the Mining Payment Entitlement to Franco-Nevada Australia Pty Ltd.

In 2015 TNT withdrew from the option-to-purchase agreement so Geotech now has 100% ownership of the project, with the Mining Payment Entitlement to RTZ and Franco-Nevada still extanct.

In 2016 Geotech retrieved diamond drill core and metallurgical samples, assembled past data, despatched a skarn bulk sample to Europe for metallurgical testing, and commenced a review of exploration potential.

4.0 EXPLORATION COMPLETED DURING THE REPORT PERIOD

4.1 Assemble and Organize Past Data.

All available digital data supplied by TNT has been assembled and organised. Missing are datasets used to calculate the most recent JORC compliant resource statements.

4.2 Locate past diamond drill core.

Apparently some Minemakers drill core is still stored in the former TNT office at Avoca. A field trip will be necessary to check its status and relocate it.

4.3 Monitor progress on FAME metallurgical research.

The promised work on the Moina wrigglite skarn has not commenced and there has been no communication by FAME staff on the matter.

Nevertheless monitoring is being done of metallurgical studies by FAME on European skarn deposits; there has been an emphasis by FAME in trying to recover valuable by-product trace elements such as indium, and some progress is being made in innovative communition by laser induced fragmentation, which may prove invaluable as a method to better liberate the finely intergrown minerals at Moina.

4.4 Review of Exploration Potential.

This review is continuing. It aims to establish controls on the various styles of mineralisation, zoning of the deposit, and whether each of the mineralisation styles has seen sufficient (drill) exploration. Also commenced is a review of the potentially valuable minor and trace elements in the area. These include lithium, indium, beryllium and rare earths.

<u>Structural setting.</u>

This is the first study of the review, because structural preparation is of prime importance for the localisation of mineralisation styles.

I had a hypothesis that the mineralisation at Moina was controlled by a set of sinistral faults parallel to the Bismuth Creek Fault, and that the fracture system delivering metasomatic fluids to the limestone and the later sheeted mineralised quartz veins (the Shepherd and Murphy veins) were sited in a tensional Riedel array, in the style of that illustrated on Fig 2.

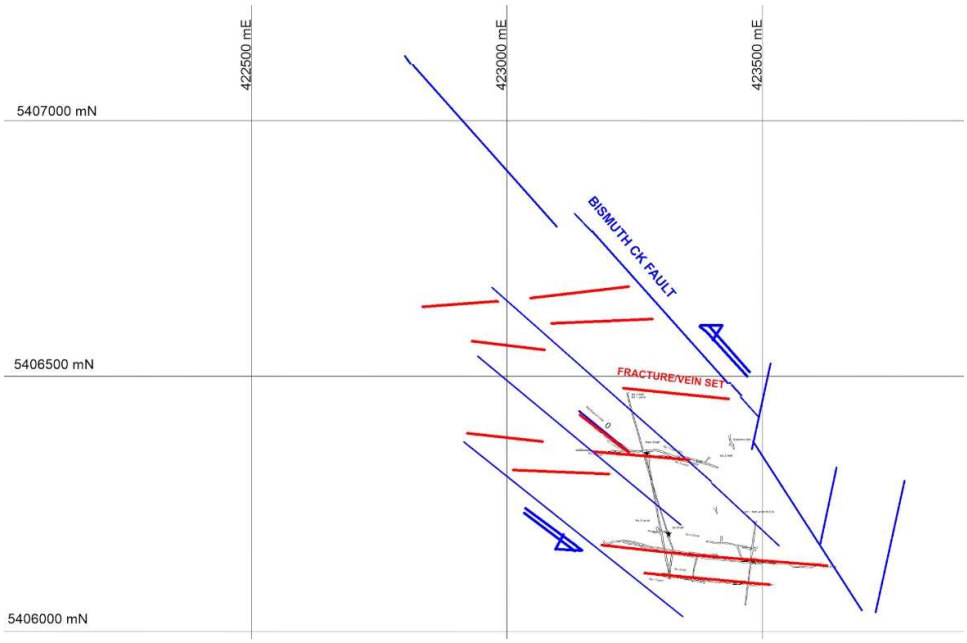

Fig 2 Hypothetical Structures

I had previously drawn multiple folds in the bedding, as shown in Askins (1979), reproduced here as Fig 3. This new hypothesis would have dispensed with folding and instead produced the known relatively complex bedding architecture with a set of faults.

The hypothesis is I believe partially true, because sinistral movement on the Bismuth Creek Fault neatly accounts for the known sheeted quartz veins, however there is little evidence for this extensive fault set, and evidence for folding of the bedding certainly exists.

The one known fault sub-parallel to the Bismuth Creek Fault is one hosting the NW Branch Lode, mapped by Robinson (1957).

The folding in bedding is apparent in the mapping by Robinson, and re-plotting of structure contours on the base of the skarn confirms such folding, Fig 4.

My replotting of structure contours was done with the aid of several holes drilled since my 1979 diagram was prepared, and I utilised the TNT digital database, however the accuracy of the contours is compromised to some extent by (a) uncertain collar locations and hence RLs of pre GPS pre 1979 drill holes, (for example the TNT digital database almost certainly has the position of SMD6 plotted incorrectly), and (b) varied core log interpretations of the position of the contact, because there is a gradational contact of skarns and sandstones.

To date only structure contours west of the Bismuth Creek Fault have been prepared; yet to be done are the areas of the Hugo skarn east of the fault.

To guide the placement of contours I also used the previously neglected proton precession ground magnetic survey from Askins 1979, reproduced here in Fig 5.

The style of the folding, which seems to occur only within about 50m of the fault, combined with the reverse Hugo's Fault, suggests that it was caused by dextral movement on the Bismuth Creek Fault accompanied by southward directed thrusting.

This dextral compressional movement prepared the ground with faults and folds, and later continual sinistral tensional movement on the same faults enabled access of mineralising fluids to form the skarns. Still later, post skarn formation, with further sinistral movement, the sheeted quartz veins were emplaced; this was also possibly the timing of the retrograde alteration of skarns in the Hugo's area.

Mineralisation Styles.

Several known styles of mineralisation are recognised. They include

(a) Wrigglite, being a replacement of pure limestone. (Fluorite, magnetite, tin, scheelite),
(b) Calc-silicate Skarns, being a replacement of silty limestone (Tin, scheelite).
(c) Retrograde skarns (Cassiterite, gold, zinc),
(d) Orthoclase veinlets in wrigglite (Scheelite),
(e) Sheeted quartz veins (Cassiterite, wolframite, scheelite),
(f) Greisen veins (Cassiterite),
(g) Deep Lead Alluvial deposits (Cassiterite, wolframite).

Potential mineralised styles include mineralised joints fractures and bedding in sandstone carrying clean cassiterite as occurs at Great Pyramid in eastern Tasmania, and lithium micas in greisen zones.

Major elements of potential value are fluorite, magnetite, tin and tungsten. Because all components of the wrigglite are finely intergrown it poses a difficult metallurgical problem to cost-effectively separate them. Also much of the tin is tied up within silicates such as garnet. A potential solution to this impediment to mining is to generate zones of metallurgically friendly mineralisation to enable a mining operation to commence, whilst metallurgical investigations progress.

Each of the mineralisation styles will be studied looking for higher grade zones and potentially mineable resources.

Minor and Trace Elements.

Elements identified warranting further study include lithium, indium, beryllium and rare earths. To commence this study extraction from past reports of all relevant analyses is underway.

5.0 PROPOSED FUTURE WORK

This proposed to be

- Retrieve missing Minemakers past drill core.
- Monitor progress on FAME related research.
- Continue review on exploration potential, to develop exploration targets. To include
  - Structure of Hugo Skarn area
  - Assess all mineralisation styles for higher grade zones and/or potentially mineable resources
  - Identify and quantify potentially valuable minor and trace elements.

6.0 EXPENDITURE

Expenditures have been reported via MRT Quarterly Returns.

7.0 REFERENCES

Askins, P.W. 1978. EL7/74 Moina. Areas covered by Moina sheets 1, 2, and 3. Report on all investigations to September 1978. Comalco Limited Exploration Department. MRT open file report 78-1305.

Askins, P.W. 1979. EL7/74 Moina. Areas covered by Moina sheets 1, 2, and 3. 1979 update and Moina Sheet A. Report on all investigations to August, 1979. Comalco Ltd.

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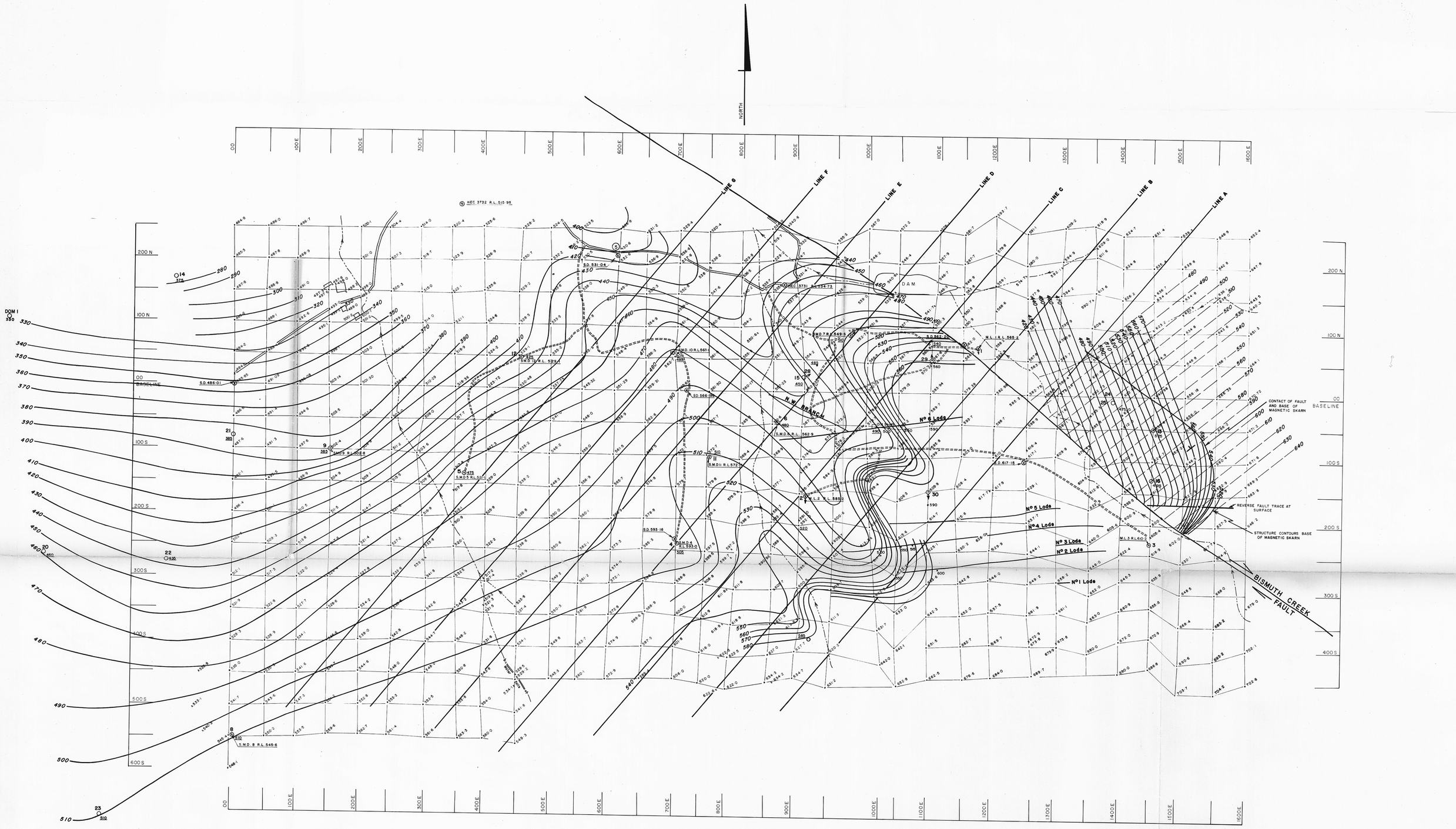


NOTE:
All R.L.s at ground points are ground level except Base Line where levels are on 100mm x 50mm. pegs up to 1250 then on top of 25mm x 25mm stakes to 1500.

ML 1, SMD 12, – Diamond Drill Hole Collars.
SD. – Star Dropper Reference Point.

L E G E N D

- Drill hole
- 485 R.L. of base of Limestone or wrigglite
- 510 R.L. of base of calc silicate rock from Blake 1955
- Line D Section Line
- 620 Structure contours on reverse fault (Hugo's Fault)

5 cm

Revision: Contours south of Baseline 1250 – 1350 amended 15/6/77

FIG 3

Datum for Levels: HEC Bench marks 3731 & 3732

49-1389

COMALCO

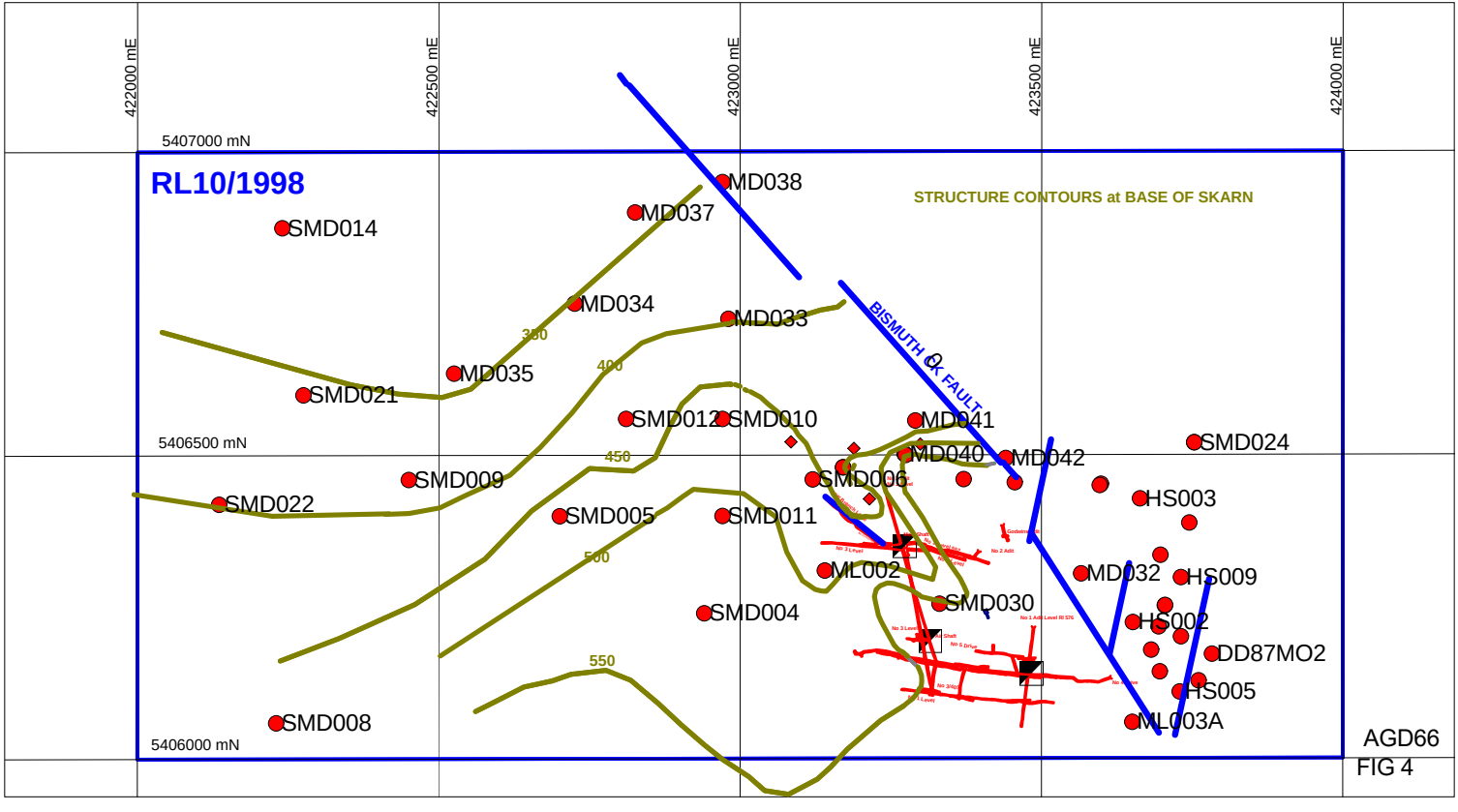
E.L 7/74 TASMANIA
MOINA SHEET 1
SHEPHERD & MURPHY AREA

133191

STRUCTURE CONTOURS ON BASE OF LIMESTONE OR WRIGGLITE
(Plus structure contours on Hugo's Fault)

2161

Compiled: P.W.A.	Revised:	Drawn: M. Attwell
Date: Sept, 1979	Scale: 1:2,500	Drg N° TAS-79-376


422000 mE
422500 mE
423000 mE
423500 mE
424000 mE
5407000 mN
5406500 mN
5406000 mN
RL10/1998
STRUCTURE CONTOURS at BASE OF SKARN
BISMUTH OK FAULT
SMD038
SMD037
SMD014
SMD034
SMD033
SMD035
SMD021
SMD012
SMD010
MD041
SMD024
MD040
MD042
SMD009
SMD006
SMD022
SMD005
SMD011
HS003
ML002
MD032
HS009
SMD030
SMD004
HS002
DD87MO2
HS005
SMD008
ML003A
350
400
450
500
550
AGD66
FIG 4

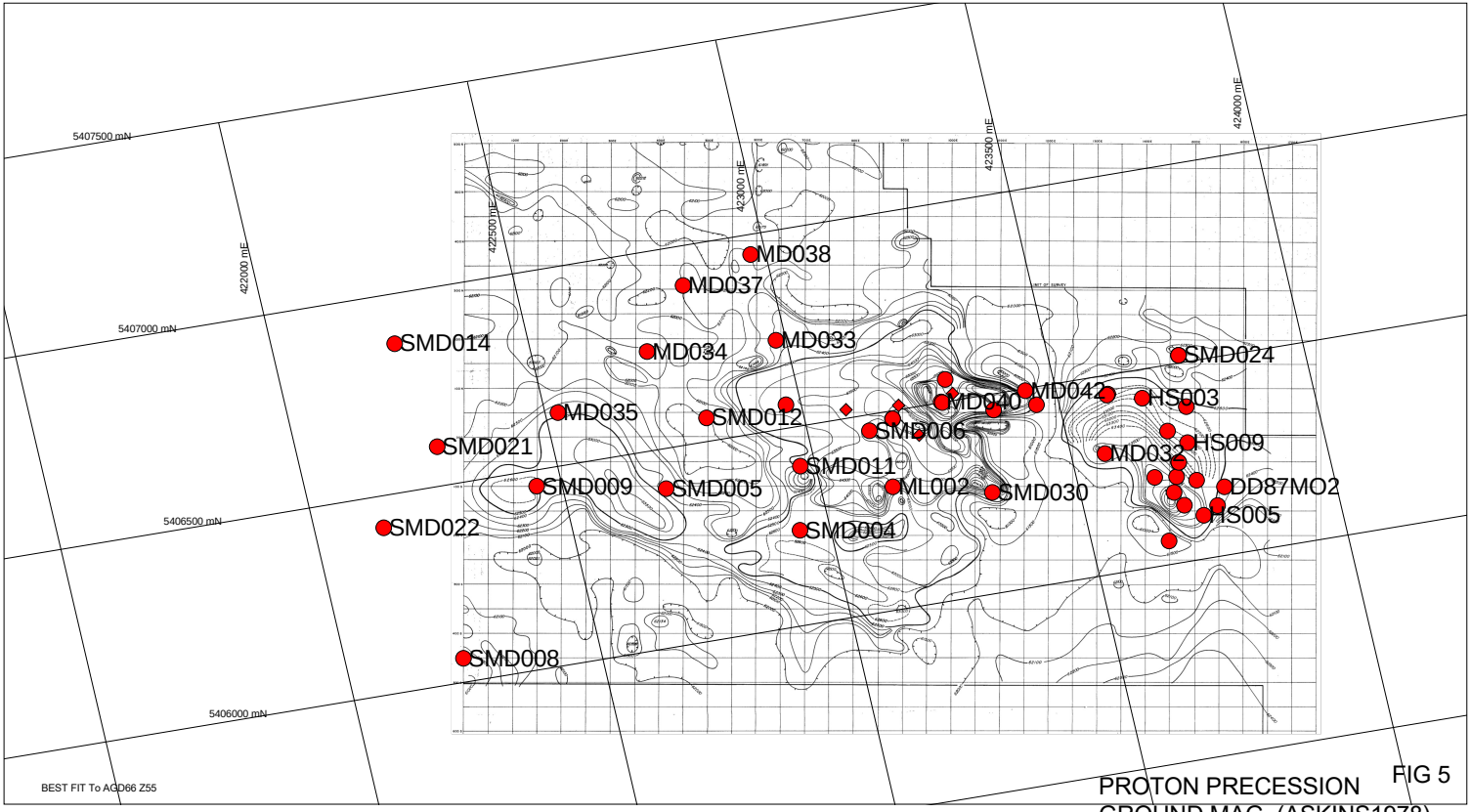


FIG 5

PROTON PRECESSION
GROUND MAG. (ASKINS1978)