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SCAMANDER MINING CORPORATION N.L.

PRELIMINARY REPORT ON EXPLORATION LICENCE AT

BEULAH, NORTHWEST TASMANIA

MICROFILMED

AMG REFERENCE POINTS ADDED

HALL, RELPH AND ASSOCIATES PTY. LIMITED

June, 1970

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8th June, 1970.

SCAMANDER MINING CORPORATION N.L.

PRELIMINARY REPORT ON EXPLORATION LICENCE

AT BEULAH, NORTHWEST TASMANIA

I. INTRODUCTION

1. General

This report summarises the following:

- (1) The reasons for selection of this Exploration Licence (E.L.).
- (2) The available geological data on the E.L.
- (3) The planned method of exploration.

2. Location

The E.L. has been granted over an area of 90 square miles in the Beulah-Sheffield-Railton district. It is located approximately 55 miles west of Launceston (see Figure 1). Access to, and within the E.L. is good and timber and water are readily available.

3. Tenure

The main area of interest within the E.L. is covered by Crown Land, however, most of the farm country is held as purchased lots, and permission to enter may be required before drilling and detailed investigation could be undertaken.

4. Topography

The area has a maximum relief of 3,500 feet with Mount Roland (4,039 feet) forming the southwest corner of the E.L. On the southern margin the hills rise to 2,300 feet along the Gog Range; however most of the area consists of undulating farm country with occasional hills rising to 1,200 feet.

Three important drainages pass through the area; the Mersey River along the south and east margin and the Dasher and Minnow rivers which flow eastward through the E.L. before merging and flowing into the Mersey.

Much of the vegetation has been cleared for cultivation and pine plantation. The main area of interest consists of open forest with thick rain forest developed along some drainages.

Rock exposure is generally poor in the farm country and some areas have a thin Pleistocene glacial cover. The forest country has better exposure especially along the Gog Range and its western extension, Mount Roland.

II. GEOLOGY

1. General

The E.L. was selected on the basis that:

(1) Lead-zinc-silver mineralization occurs in a number of prospects. These prospects have been mined for barite and no attempt was made to explore and develop the lead-zinc.

(2) The mineralization is similar to, and is located in a tuff-slate-volcanic sequence of the same age

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and lithology as the areas of Mount Read-Roseberry and Mount Farrel-Tullah, where significant economic mineralization occurs. Barite is a gangue mineral at the Roseberry mine.

(3) Numerous gossan outcrops occur in the volcanic sequence to the north of the Gog Range and although some of these are probably derived from pyrite there is justification for examining the areas for lead-zinc-silver and copper.

2. Regional Geology (See Figure 2)

CAMBRIAN

The main area of interest within the E.L. consists of a sequence of Cambrian volcanics which are similar in age and lithology to the Mount Read volcanics associated with the lead-zinc lodes at Roseberry, Hercules and Mount Farrel mines. The volcanic sequence is located on a major arcuate structure which passes to the west and swings south through Roseberry-the Dundas;Deloraine anticlinorium. The southern portion of the E.L. was an active Cambrian volcanic province and there is evidence of old volcanic centres outcropping in the Beulah area. Volcanism is commonly associated with mineralization on the Tasmanian west coast and parts of southeastern Australia.

In the Beulah-Gog Range area the sequence consists of the:

Beulah Formation

This is the oldest Cambrian formation and is thought to represent the more basic core of the volcanic pile in this area. The formation consists of basaltic lavas, tuffs, agglomerates and some greywackes. Alteration of the volcanics is common.

Gog Range Greywacke

This is typically 2,000 feet thick and consists of argillites, greywackes, siltstones, slates, conglomerates,

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bands of volcanic material and keratophyric lavas. It grades into the Minnow Keratophyre.

Minnow Keratophyre

Consists of several thousand feet of acid lavas, soda rhyolite and keratophyres with some greywacke bands. The Cambrian volcanics were folded, faulted and intruded by high level sub-volcanic? granites and syenite porphyries during the Upper Cambrian Jukesian orogeny. These intrusives outcrop as a number of small stocks at Beulah.

ORDOVICIAN

Following the Jukesian orogeny the Owen Conglomerate was deposited in miogeosynclinal conditions and unconformably overlies the Cambrian at Beulah and west of Railton. Overlying this unit is the Moina Sandstone and the two formations outcrop prominently at Beulah forming the spectacular Mount Roland. Following the Ordovician were at least two stages of orogeny with alternate phases of sedimentation and faulting, folding, uplift, intrusion and erosion. None of the products of this period, from Upper Ordovician to Upper Carboniferous occur in this area.

PERMIAN

Outliers of the Permian Basal Beds occur along the eastern margins of the E.L. and consist mainly of mudstones and shales.

JURASSIC

Outliers? of dolerite occur along the eastern and northern margins of the E.L.

TERTIARY

Basaltic sheets with overlying gravels crop out extensively in the Sheffield-Railton area.

QUATERNARY

Talus deposits are well developed on the slopes of Mount Roland and the Gog Range. Residual gravels and

recent alluvium occur along the Minnow, Dasher and Mersey rivers. Pleistocene glacial deposits carry minor alluvial tin and gold, however, the sources are unknown.

3. Detail Geology and Mineralization

There is little detailed information available on the geology and mineralization in the Beulah district. The area of main interest occurs around the margin of the Beulah Formation and in the greywacke slate and keratophyre sequences along the front of the Gog Range and Mount Roland.

(1) MINERAL OCCURRENCE

Lead, Zinc, Silver. There are numerous reports (some unconfirmed) of lead, zinc, silver lodes in the area. Gossanous outcrops and barite have been observed in a number of areas. Three barite prospects are reported in the Paradise Range area on the northern foothills of Mount Roland; and Thureau (1881) refers to "...galena mines on the northern slopes of Mount Roland". A large gossan blow is reported (unconfirmed) at the eastern end of Mount Roland near the head of the Minnow River. There is an unconfirmed report (from A. Rowe) of an impressive area of lead-zinc at the eastern end of the E.L. in the vicinity of the Mersey River. The best known occurrence of barite-lead-zinc is at Lower Beulah within the McLarm Prospecting Syndicate's S.P.L. and is the subject of another report.

Copper. There are unconfirmed reports of copper in the area and pyrite is reported in creeks immediately north of the Gog Range.

*Confirmed
at Lower
Beulah
blows*

Gold. Alluvial gold and cassiterite is recorded in old glacial deposits in the Gog Range area. The main gold occurrence is at the Star of the West mine which was never a continuous producer due to low grades. The gold is associated with pyrite in a quartz porphyry dyke and is fine and evenly disseminated. Grades are reported to vary from 1/2 dwt to 7 dwt per long ton. The mine was opened by a number of adits on the porphyry which is a dyke 12-30 feet wide and intrudes greywackes, slates and keratophyres.

The dyke has good lateral extent and crops out on the Minnow River, 100 yards north of the mine. It has possibilities for a large low grade gold deposit suitable for open cut mining.

Tin. Tin has been produced by sluicing from alluvial workings around Gog Range and is also recorded in the Dasher River.

(2) ORIGIN OF MINERALIZATION

The barite and lead-zinc-silver occurs in veins in sheared slates and greywackes adjacent to the more massive basic volcanics of the Beulah Formation. It appears that the mineralization is genetically associated with volcanics although similar occurrences in the west coast district have been attributed to a granite origin.

(3) GEOPHYSICS (See Figure 3)

The area has been flown with high and low level aeromagnetic surveys. A gravity survey and interpretation has been carried out and the results are being obtained.

A number of significant aeromagnetic anomalies and trends are recorded within the area of Cambrian volcanics and will require ground examination as part of an integrated programme.

When all the available geophysical data is collected an interpretation of this data in relation to the geology and likely ore occurrence will be made by our geophysicist and presented as a separate report.

(4) GEOCHEMISTRY

An orientation geochemical survey has been carried out and the samples collected are being sieved prior to dispatch for assay. The samples were collected 1) downstream from a known mineral occurrence, and 2) at various stream branches around the main area of interest.

Two samples were collected at each of 50 locations; the samples collected being:

1. A panned sample of heavy minerals, and
2. A normal stream sample which was dried and sieved into four (4) fractions.

The panned sample will be retained for examination and possible analysis at a later stage. It is anticipated that the sieved samples will be assayed for the following elements:

1. Direct reading A.A.S.
Copper, lead, zinc, iron and cadmium.
2. Emmission spectrograph.
Tin, bismuth, silver, gold, and barium.

When assays are received the results will be interpreted to determine the suitability, or otherwise, of stream sediment geochemistry in the evaluation of the E.L. Further test sampling may be required before carrying out a systematic programme.

The following information is recorded at each sample site:

Location on a 1 inch = 40 chain map.
Sample number, colour and per cent organic.
Sample type and position collected.
Channel width, water width.
Flow rate and gradient.
Percentage silt, sand and gravel.
Remarks.

(5) PROPOSED EXPLORATION PROGRAMME

The area has been selected to explore primarily for lead-zinc-silver. The possibility of economic gold and copper requires investigation.

An orientation geochemical survey has been completed. When assays are available a recommendation on the suitability and cost of a full stream sampling programme will be presented.

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Approximate Costs:

	\$
Orientation survey - 50 samples Collection, sieving, assays and interpretation.	1,300
Systematic survey - 250 samples	5,000-6,000

Concurrent with work on systematic stream sampling it is proposed that the following be carried out:

Surface prospecting over most of the area.

Examination and evaluation of known mineral occurrences and likely extensions.

Geological mapping of selected areas.

This will complete "Phase 1", and when results from this work are compiled and interpreted, a decision can be made on whether to proceed further on the area. The results from "Phase 1" should give a clear indication of the future potential of the area.

Considering the information that will be obtained this exploration is relatively inexpensive, however, further phases of detailed exploration can involve very high expense. These phases may include detailed geochemical sampling, geological mapping, various geophysical investigations and drilling.

III. SUMMARY

1. Summary and Recommendations

The E.L. is considered to have a suitable

geological environment for the location of lead-zinc-silver ore. Some evidence of this mineralization is recorded and the gold-copper possibilities also warrant investigation.

It is recommended that:

(1) A systematic programme of stream sampling and prospecting as outlined in Section II (5) be carried out dependent on results from the orientation survey.

(2) When results from this work are compiled, an appraisal be made with a view to further detailed investigations.

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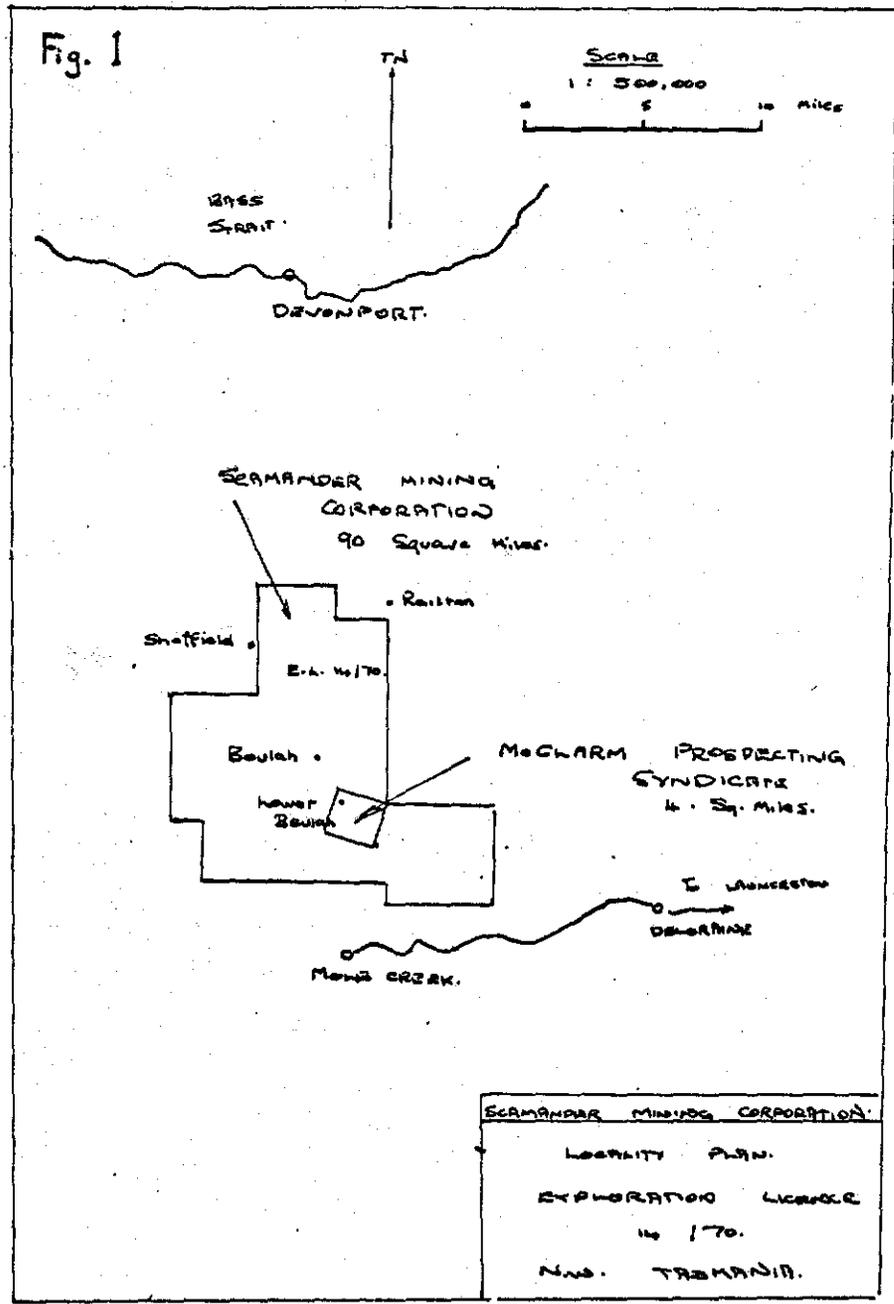
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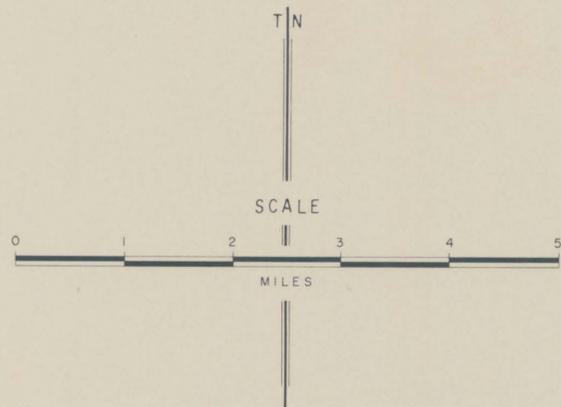
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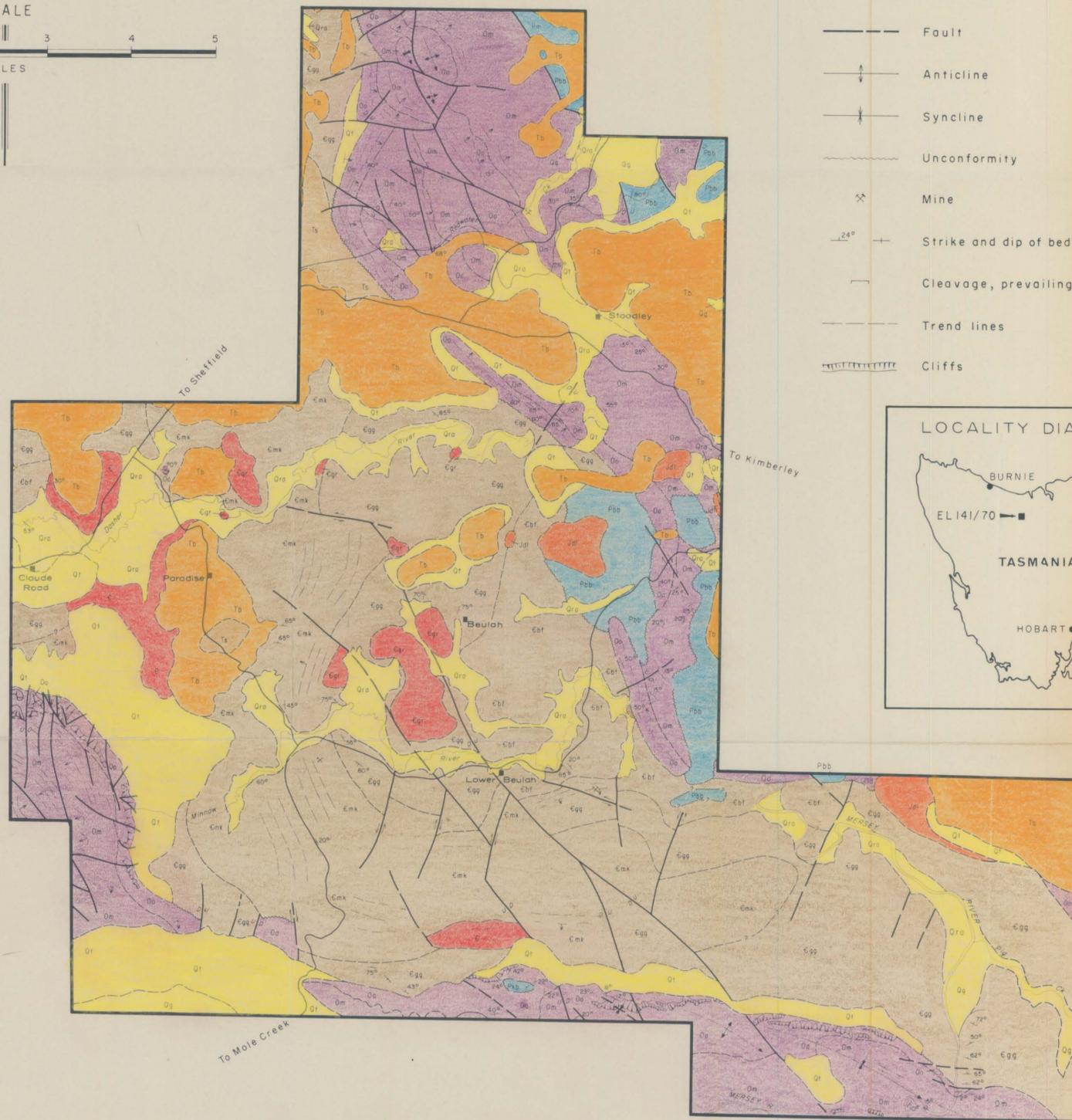
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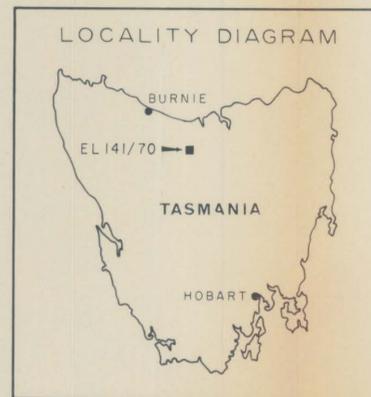


SCALE

MILES



- Geological boundary
- Fault
- ↑ Anticline
- ↓ Syncline
- ~ Unconformity
- ⊗ Mine
- 24°— Strike and dip of bedding. Measured, vertical
- Cleavage, prevailing
- Trend lines
- ▬ Cliffs



REFERENCE

Designation of units has been simplified

PERIOD	UNIT	DESCRIPTION	
			QUATERNARY
QUATERNARY	Qg	Marsh deposits and residual gravel	
	Qt	Talus - various derivations	
	Ts	Sands, clays and conglomerates	
TERTIARY	Ts	Sands, clays and conglomerates	
PERMIAN	Pm	Mersey Coal Measures	
	Pbb	Basal beds including Tasmanite Shale Member	
	Pxb	Kansas Creek Beds	
PALAEOZOIC	ORDOVICIAN	Om	Moina Sandstone including Caroline Creek Beds
		Oo	Owen Conglomerate
CAMBRIAN	CAMBRIAN	Cmk	Minnow Keratophyre
		Egg	Gog Range Greywacke
		Cbf	Beulah Formation
		C	Unassigned

IGNEOUS ROCKS

T	Tb	Tertiary basalt
J	Jdl	Jurassic dolerite
C	Egr	Cambrian. High level granite, syenite and syenite porphyry.

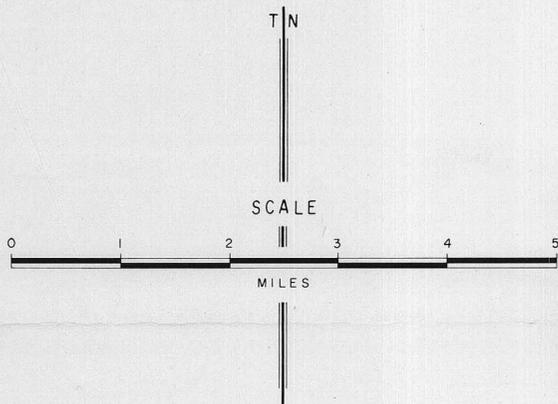
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EXPLORATION LICENCE 141/70
REGIONAL GEOLOGY
BEULAH, TASMANIA

SCALE : 1 inch to 1 mile

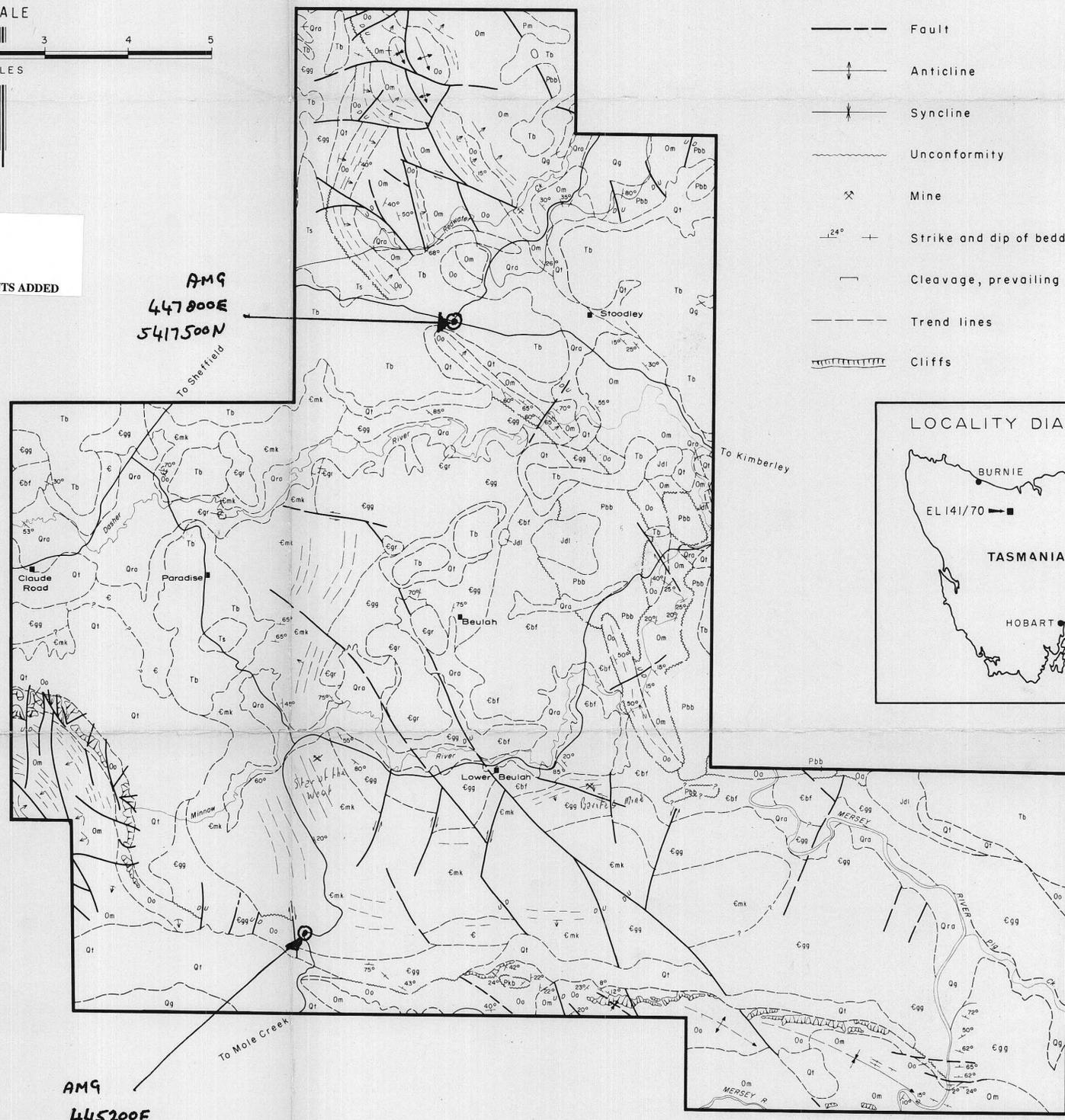
FIGURE 2

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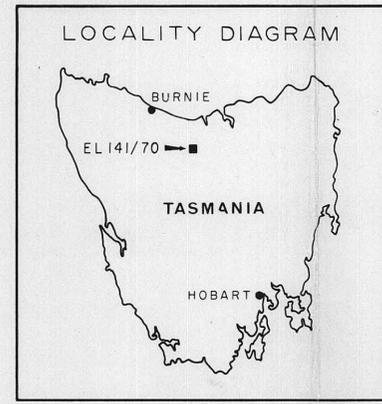
AMG REFERENCE POINTS ADDED

AM9
447800E
5417500N



AM9
445200E
5405300N

- Geological boundary
- - - Fault
- ↑ Anticline
- ↓ Syncline
- ~ Unconformity
- ⊗ Mine
- 24° + Strike and dip of bedding. Measured vertical
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- - - Trend lines
- ▬ Cliffs



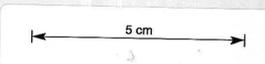
REFERENCE

Designation of units has been simplified

CAINOZOIC	QUATERNARY	Qra	Recent alluvium
		Qg	Marsh deposits and residual gravel
		Qt	Talus - various derivations
TERTIARY		Ts	Sands, clays and conglomerates
	PERMIAN	Pm	Mersey Coal Measures
		Pbb	Basal beds including Tasmanite Shale Member
Pkb		Kansas Creek Beds	
ORDOVICIAN		Om	Moina Sandstone including Caroline Creek Beds
		Oo	Owen Conglomerate
CAMBRIAN		Emk	Minnow Keratophyre
		Egg	Gog Range Greywacke
		Cbf	Beulah Formation
		€	Unassigned

IGNEOUS ROCKS

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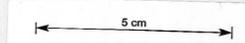
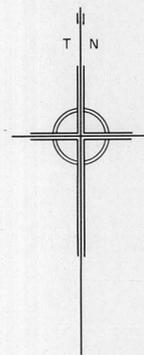
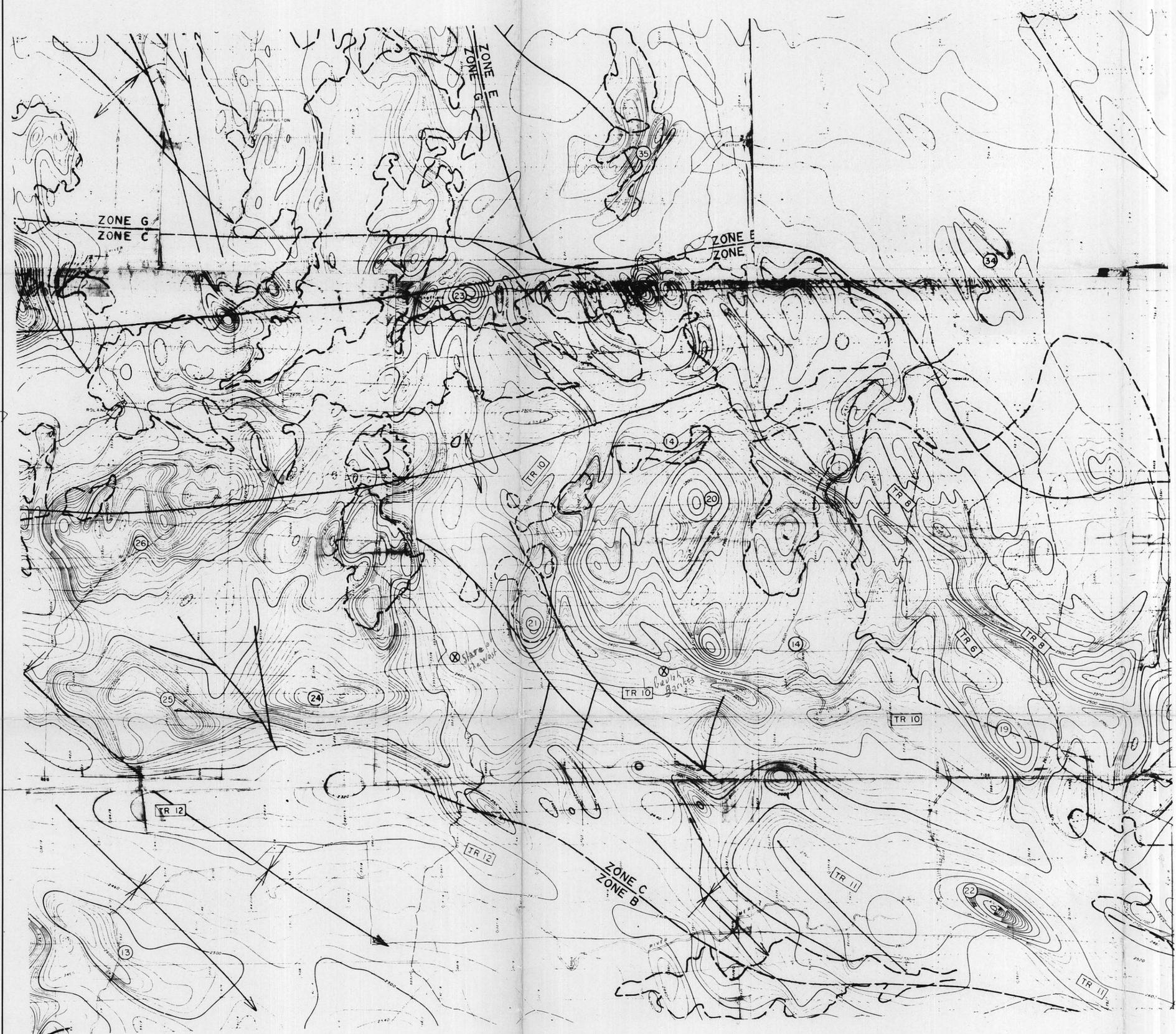
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EXPLORATION LICENCE 14/70
REGIONAL GEOLOGY
BEULAH, TASMANIA 012

SCALE : 1 inch to 1 mile FIGURE 2

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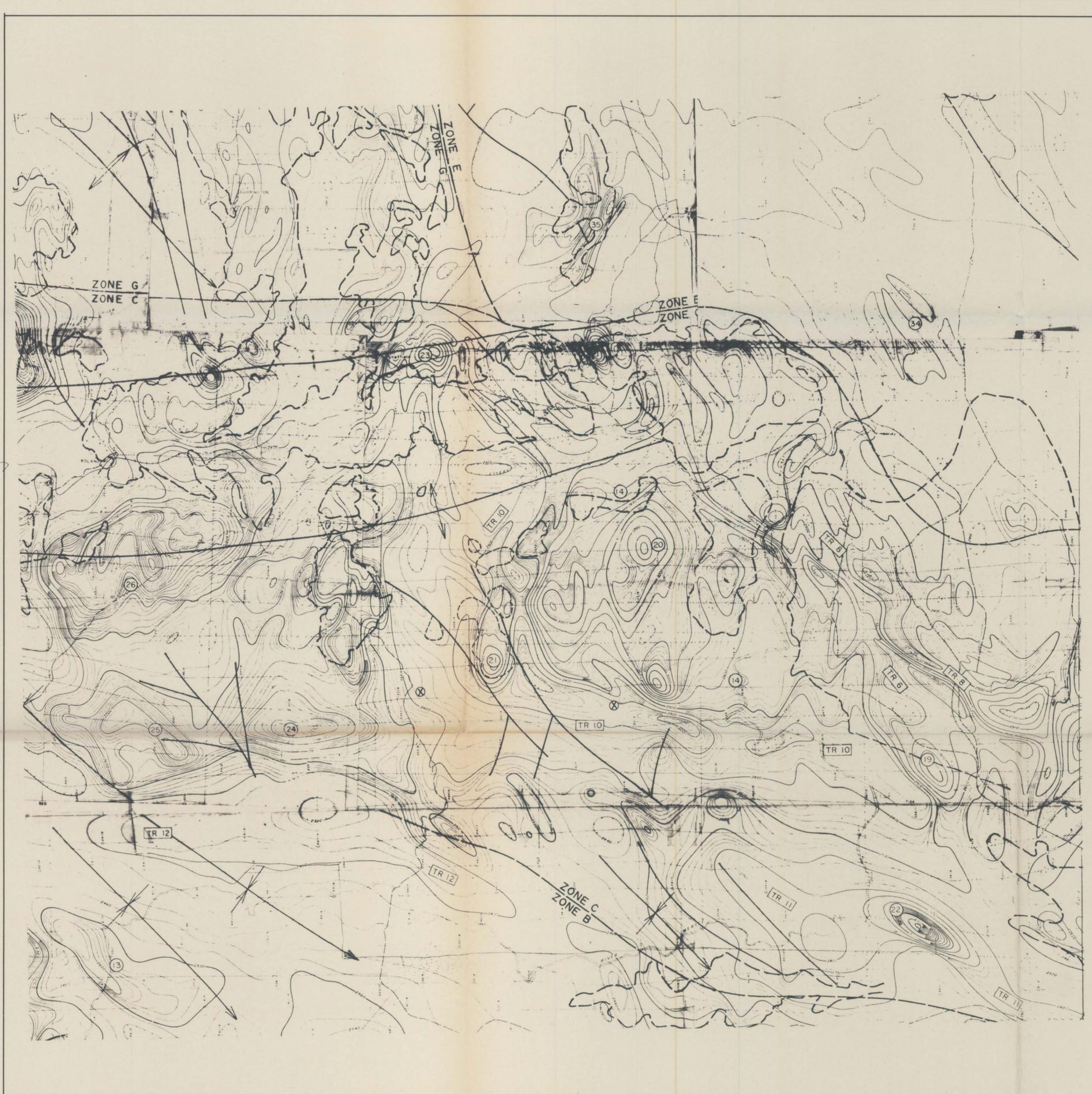
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TOTAL MAGNETIC INTENSITY
CONTOUR MAP.
BEULAH - SHEFFIELD -
RAILTON AREA 013

SCALE : 1 inch to 1 mile | FIGURE 3

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SCAMANDER MINING CORPORATION N. L.	
TOTAL MAGNETIC INTENSITY CONTOUR MAP. BEULAH - SHEFFIELD - RAILTON AREA	
SCALE : 1 inch to 1 mile	FIGURE 3
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