



**CONTENTS**

- 1. SUMMARY**
- 2. LAND TENURE**
- 3. GEOLOGY**
- 4. EXPLORATION PHILOSOPHY**
- 5. EXPLORATION COMPLETED 1998-1999**
- 6. WORK PLANNED**

**MAPS:**

- 1. 1 : 50,000 Geological Map**
- 2. 1 : 10,000 Geological Map**
- 3. Aeromagnetic TMI Data**
- 4. Aeromagnetic 1st Vertical Derivative**

## 1. SUMMARY

EL 2/96 of eight square kilometres is regarded as prospective for both Avebury nickel sulfide and Stonehenge zinc sulfide styles of deposits.

During the year, a high resolution aeromagnetic survey was completed over the Licence, which was subsequently reduced from 21 sq km to 8 sq km.

Future work on the licence will be strongly influenced by the results of drilling programs scheduled for completion during 1999 on the adjacent EL 28/88, on the Avebury and Stonehenge prospects.

## 2. LAND TENURE

EL 2/96 of eight square kilometres lies to the immediate north-west of Zeehan. It is currently explored under a joint venture agreement between Allegiance Mining NL, (operators) and Rio Tinto Exploration Pty Limited.

In August 1998 the Licence area was reduced from 21 sq km to 8 sq km. Contained within EL 2/96 is Retention Licence 9705 which covers part of the Queen Hill polymetallic deposit and a group of Mining Leases covering the Comstock Mine.

Land classification as recommended under the recent Regional Forest Agreement is a mixture of Multiple Use State Forest and Other Public Lands.

### 3. GEOLOGY

The district and local geology are shown on Figs 1 and 2. Fig 1 is a direct reproduction of section of the State Zeehan 1:50,000 sheet.

The area is underlain by a sequence of Cambrian sediment and volcanics. A package of younger Cambrian mafic and ultramafic units has been thrust (?) into these older Cambrian formations in the west of the Licence area.

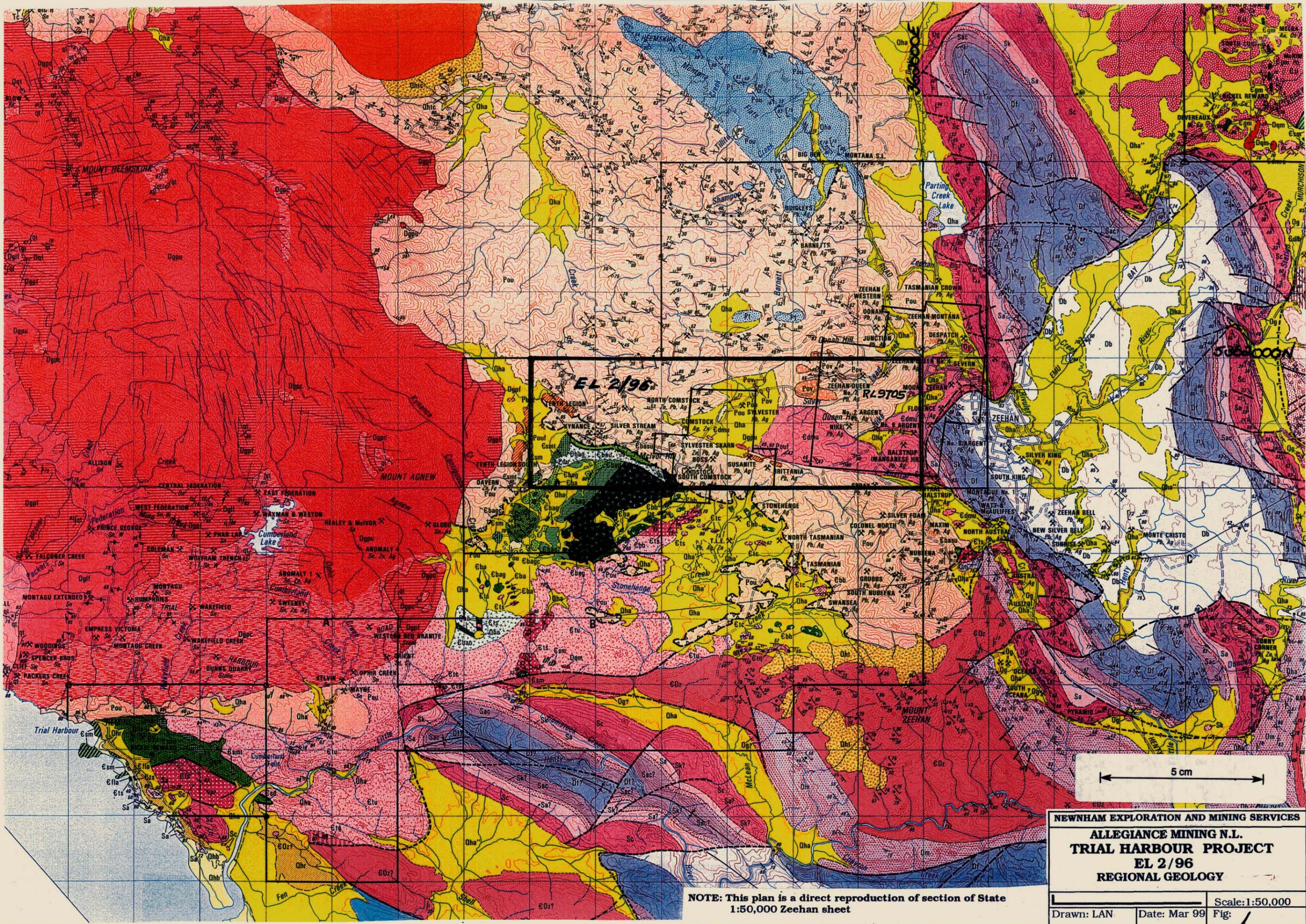
A syncline of Silurian-Devonian sediments onlaps the Cambrian formations on the eastern end of the Licence area.

Precambrian sedimentary formations have been thrust over the top of the Cambrian formations along the shallow dipping Tenth Legion Fault. Because of its shallow dip, the outcrop of the Tenth Legion Fault is tortuous in this moderately rugged topography.

The Devonian-Carboniferous Heemskirk Granite outcrops to the immediate west of the Licence.

Structurally, the area is complex. Mapping and aeromagnetic data suggest the stratigraphy has been tightly folded along a series of steep dipping WNW trending axes. Two major faults, the Sylvester and Balstrup Faults broadly parallel this fold direction. A second set of north-east trending faults disrupts the stratigraphy in the Stonehenge area.

Mineralisation is both extensive and varied. Stratabound, vein and fault-hosted tin and base metal mineralisation has been extensively mined in the Queen Hill area. Base metal mineralisation is widespread in veins and replacing calcareous formations at Comstock. Iron rich mineralisation, accompanied by base metals, is widespread in replacement deposits in the Tenth Legion area.



NOTE: This plan is a direct reproduction of section of State 1:50,000 Zeehan sheet

NEWNHAM EXPLORATION AND MINING SERVICES  
**ALLEGIANCE MINING N.L.**  
**TRIAL HARBOUR PROJECT**  
**EL 2/96**  
**REGIONAL GEOLOGY**

Drawn: LAN	Date: Mar 99	Fig: /
		Scale: 1:50,000

#### 4. EXPLORATION PHILOSOPHY

Exploration of EL 2/96 is currently directed at two target deposit styles:

- (i) nickel sulfide deposits of the Avebury type, hosted by the marginal zones of altered ultramafic bodies and accompanied by substantial amounts of magnetite
- (ii) zinc sulfide deposits of the Stonehenge type, hosted by Proterozoic sedimentary formations

The direction of exploration for these two deposit styles will be greatly influenced by current drilling programs at the Avebury prospect to the immediate south of the western end of EL 2/96, and a planned drilling program at Stonehenge to the south of the eastern end of the Licence.

## 5. EXPLORATION COMPLETED 1998-1999

In April 1998 a high resolution aeromagnetic survey was completed over EL 2/96. The purpose of this survey was twofold: firstly to assist with the definition of district geological structure and, secondly, to define magnetic anomalies of the type associated with the Avebury deposit.

Results of the survey are presented as Figs 3 and 4.

Arguably, the most interesting outcome of this survey was the definition of a large magnetic low on the south-west corner of the Licence, flanked to the north and east by a series of "folded" highs. This is interpreted as a cupola of the Heemskirk Granite within a sequence of mafic and ultramafic rocks, resulting in the mobilisation and concentration of magnetite within these units; ie, an Avebury type analogue.

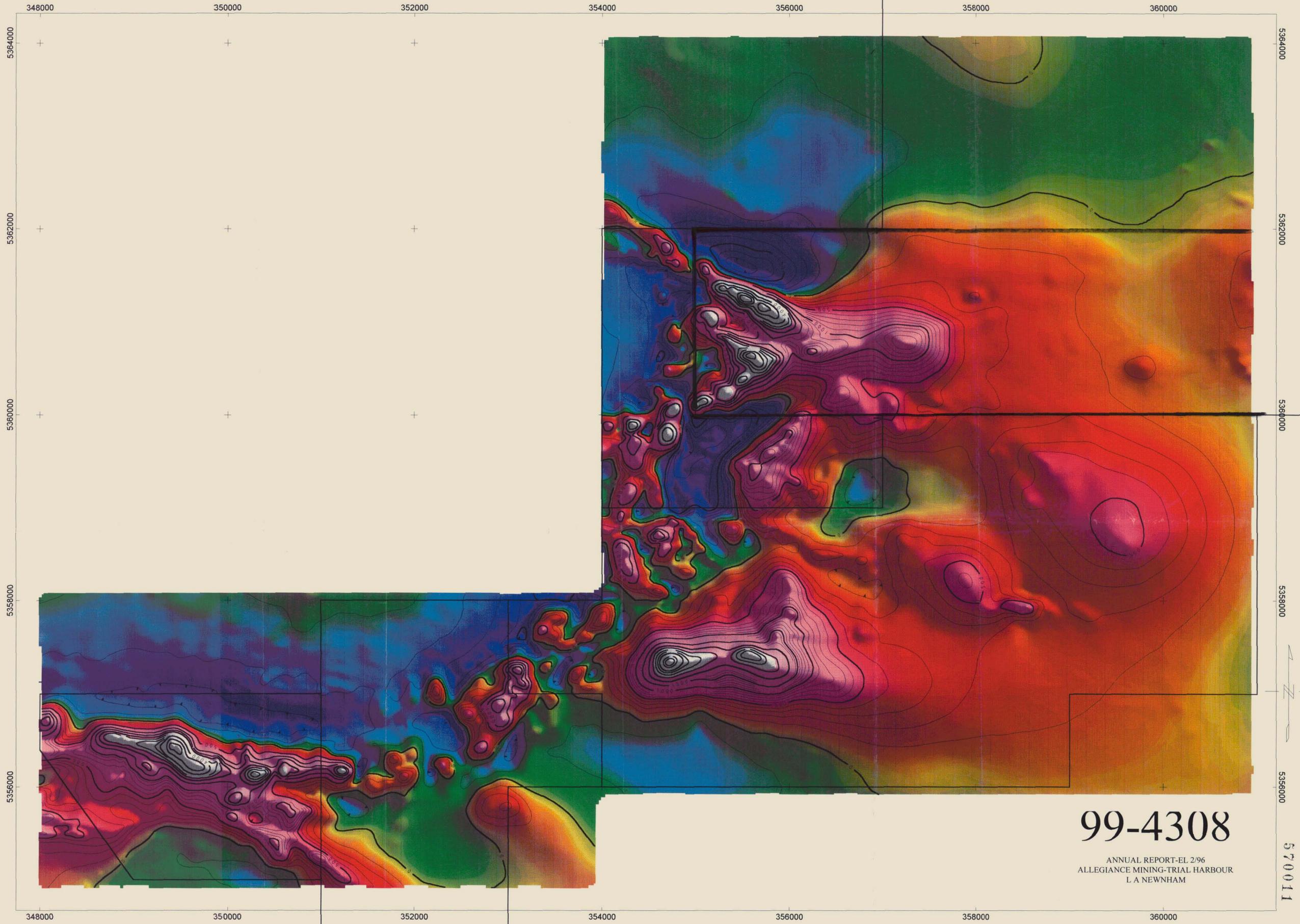
## 6. WORK PLANNED

During 1999-2000 it is planned to complete the following work on EL 2/96:

- (a) collation of all detailed previous work from the general Tenth Legion area
- (b) mapping and detailed sampling of the aeromagnetic anomalies on the western end of the Licence area
- (c) possible extension of geophysical and geochemical surveys from the Avebury area in the Tenth Legion area
- (d) possible drilling if results from the above surveys are encouraging

.....

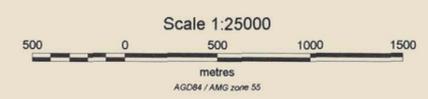




**99-4308**

ANNUAL REPORT-EL 2/96  
 ALLEGIANCE MINING-TRIAL HARBOUR  
 L A NEWNHAM

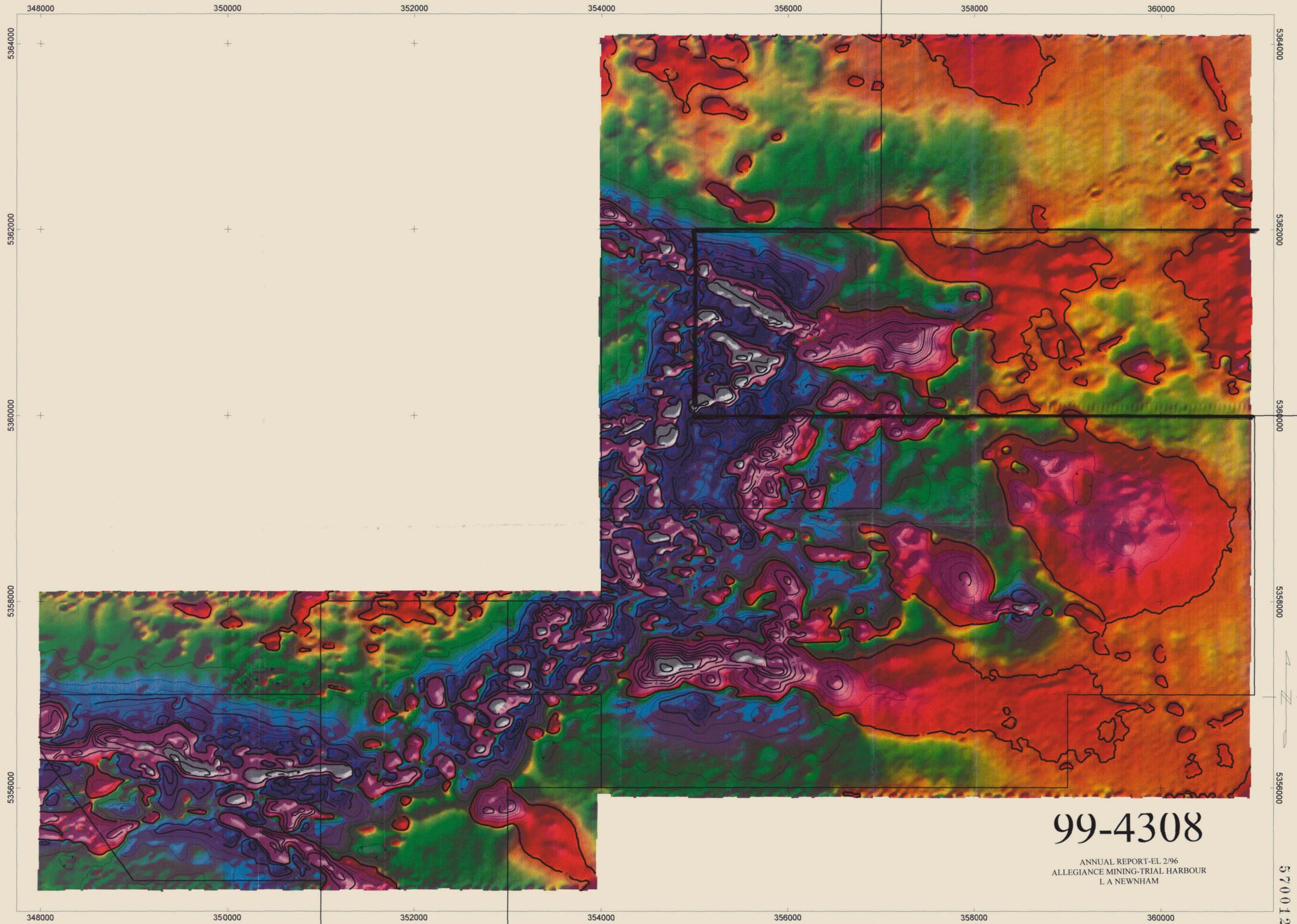
5 cm



<b>ALLEGIANCE MINING NL</b>
<b>TRIAL HARBOUR, SW TASMANIA</b> <b>UTS AEROMAGNETIC SURVEY, 1998</b>
TOTAL FIELD, REDUCED TO POLE SUN FROM SOUTH-EAST LINE SPACING=50m, LINE DIRECTION:0-180
<b>FLAGSTAFF GEO-CONSULTANTS (NH); 12/98</b>



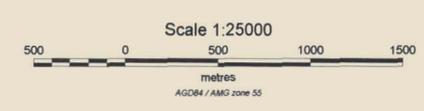
Fig 3.



**99-4308**

ANNUAL REPORT-EL 2/96  
 ALLEGIANCE MINING-TRIAL HARBOUR  
 L A NEWNHAM

5 cm



ALLEGIANCE MINING NL
TRIAL HARBOUR, SW TASMANIA UTS AEROMAGNETIC SURVEY, 1998
1ST VERTICAL DERIVATIVE, REDUCED TO POLE SUN FROM SOUTH-EAST LINE SPACING=50m, LINE DIRECTION:0-180
FLAGSTAFF GEO-CONSULTANTS (NH); 12/98



Fig. 4.