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PLACER PROSPECTING PTY. LIMITED

Shell House,

SYDNEY

PROGRESS REPORT

to the

Director of Mines,

TASMANIAN MINES DEPARTMENT

by

A. B. CLARK

Special Prospectors Licences 12, 13 and 404.

**MICROFILMED**

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PLATES

<u>Number</u>	<u>Description</u>	<u>Scale</u>
1.	Oonah-Queen Hill Geological Plan	1" = 200 feet
2.	Manganese Hill Geological Plan	1" = 200 feet
3.	Oonah Mine Plan	1" = 50 feet
4	Profile Diamond Drill Holes 3, 4, 5.	1" = 100 feet
5	Profile Diamond Drill Hole 8	1" = 40 feet
6	Profile Diamond Drill Holes 9, 10.	1" = 40 feet

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- ① Preliminary Geological Map with structural Interpretation Oonah Tin Mine
- ② Locality Map - DDH's, General Sample Results
- ③ General plan of mines - Zeehan area.

## INTRODUCTION

### GENERAL

This report is a general summation of work completed on the land held under Special Prospectors Licences 12, 13 and 404. The three areas are located on the western town limits of Zeehan and for the purpose of this report the three areas will be considered as one unit of area of about 5292 acres.

Placer Prospecting Pty. Limited has realised that the success of mining exploration is dependent upon two factors:-

1. The necessity for an initial geological interpretation to be advanced by detail geological mapping prior to the commencement of an exploratory programme of drilling and mining investigations.
2. The necessity of investigating an area which has a mining history that has been generalised by previous investigators and never investigated in detail.

## WORK COMPLETED

### GEOLOGICAL MAPPING

Detail geological mapping has been completed over three-fifths of the area, Plates 1 and 2. The area as a whole has yet to be co-ordinated by survey, hence the area will be divided into two geological type areas. These two type areas significantly reflect the two environments for ore bodies. However, the writer will not define the overall controls until such time as his geological mapping is complete.

#### (a) Oonah - Queen Hill.

The general rock succession for this mineral environment is as follows:-

Massive micaceous and tuffaceous quartzites.  
Graphitic black shales and grey shales.  
Spillitic lavas and tuffaceous shale, grey shales, banded.

The above succession is from oldest to youngest rocks. The structure of the Oonah area is an anticline which is part of a major limb which extends to Comstock. The major limb is folded back from Comstock and forms an overturned anticline at Queen Hill. The full extent of the local structure is considerably masked by the overall size of the major structure.

The historic lead mineralisation is located within the spillitic rocks, and at the contact of the graphitic rocks and the pyroclastic rocks. There is ample evidence of the calcareous nature of some bands in the pyroclastic rocks.

The mineralisation currently sought, is at the contact of the massive quartzites and the graphitic rocks, and within the graphitic rocks. The overall interpretation of this area is evident on Plate 1.

The mineralisation is replacement in form and the observed faults are of a post mineral age.

The plan of the old Oonah Mine with the azimuth of diamond drill holes 3, 4 and 5, Plate 3 is a simple example of lode development through tight folds with allied zones of mineral types. The extension of the old workings downwards is confirmed by drill hole No. 2. Plate 4 illustrates the ideal section of a particular type of replacement lode to be found within the structural environs of the mine.

(b) Manganese Hill.

The investigations of this hill are in respect to a mineral environment within the spillitic formation. This formation includes spillitic lavas, pyroclastic shales and dolomitic rocks. The formation has thickened about the hill and as such is in direct contrast to the sequence found elsewhere in the area. The structure of the local area is dependent upon the Nicki-Spray Area which has to be mapped since the detail is as yet incomplete. Three dominant dolomitic lenses or bands form the mappable rock unit which is the origin of the major gossan of the hill. The gossan of Manganese Hill is due to the replacement of a dolomitic horizon which has been faulted. The main gossan will be bored from underground when a major adit is cleared for a drill site. There is ample evidence that dolomitic rocks do contain economic ore, if the major thickness of the dolomitic environment is thoroughly investigated. Plate 2 is a compilation of part of the Nicki-Spray/Manganese Area.

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3.

Several old adits under the main gossanous outcrop are to be thoroughly cleared to facilitate the programme of underground drill holes. Two diamond drill holes were completed by the Mines Department and the results of this drilling shall be applied to the current programme.

### DRILLING PROGRAMME

The following table summarises the results of the diamond drill holes completed on the area. The individual logs have been supplied to the Mines Department; hence personal plots of each hole are available for alternate interpretations. The total footage to date is +5611 feet. Plate 4 is the typical section desired and Holes 1, 2, 3, 6 and 7 are segments of the type profile. Hole 8, Plate 5, resulted in poor core recovery whilst the profile of Holes 9 and 10, Plate 6, is incomplete.

The programme has been severely handicapped by the failure of diamond drilling contractors to supervise crews and maintain equipment. In several instances, local men with families have waited up to 4 weeks for wages. In an effort to overcome the greatest hindrance to exploration, the company has decided to "tool up" and do their own drilling. In this manner this phase of the operations will receive the supervision the work requires.

<u>Hole No.</u>	<u>Location</u>		<u>Depth</u> (feet)	<u>Depression</u> (degrees)	<u>Comment</u>
	N-S	E-W			
1	920S	950W	456	60	Intersected low copper values
2	20N	450E	1086	80	Intersected Oonah extension below level 6.
3	310N	320W	687	65	Intersected Stannite.
4	310N	320W	419	35	Intersected low Sn Cu.
5	310N	320W	689	84	Intersected Stannite.
6	920S	940W	280	76½	Intersected low Sn.
7	820S	850W	747	80	Departed azimuth - graphitic
8	290S	3190E	281	45	Intersected Sn.
9	500S	1790E	346	40	Intersected Zinc Sn.
10	500S	1790E	610	57	Incomplete

### MINING PROGRAMME

An extensive programme of adit clearing has been undertaken from the Oonah Mine, Queen Hill, Nicki Mine, Spray Mine and Manganese Hill. In many cases the re-timbering has been extensive. The main purpose of the work has been twofold. In the first instance, the amount of detail geological information made available has been immense. It is a tragedy of the age that so little geological mapping was completed by the investigators of the 1900's. The second purpose of the work has been the investigation of the lodes by driving on lode formations so that bulk sample tests can be carried out on ore types. A type ore body is being explored under Queen Hill.

### GEOPHYSICAL INVESTIGATIONS

A programme of geophysical investigations has been carried out by officers of the Bureau of Mineral Resources and the results are known to the Mines Department. The writer considers that the presence of acid waters in the old mines tends to over-emphasize the size of the anomalies. It is, therefore, essential that great care must be given to the interpretation of these results.

### CONCLUSION

The location of an ore body is only possible through team work. This team must be integrated and technically trained for this specific purpose. It is to the credit of Placer Prospecting Pty. Limited that they have financially supported the project and gone to the trouble of assembling a trained crew.

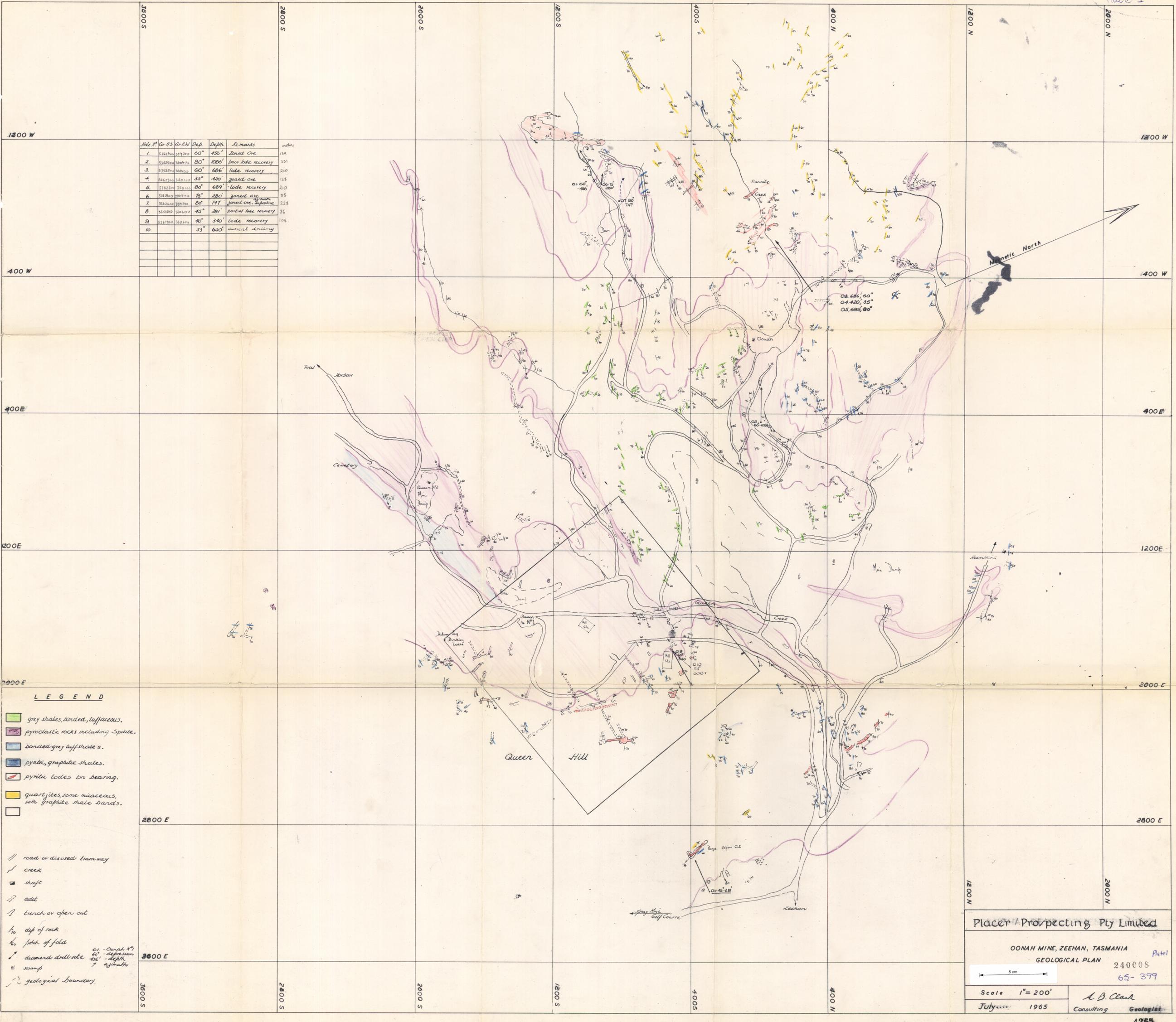
*A. B. Clark*

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A. B. CLARK  
Consulting Geologist

Sydney  
21st July, 1965.

Hole No.	Co-NS	Co-EN	Dep.	Depth	Remarks
1.	5262	3597	200	150'	zoned ore
2.	5262	3604	200	1000'	poor lode recovery
3.	5262	3601	200	686'	lode recovery
4.	5262	3601	200	120'	zoned ore
5.	5262	3601	200	689'	lode recovery
6.	5262	3597	200	280'	zoned ore
7.	5262	3597	200	717'	zoned ore, separate
8.	5262	3606	200	45'	partial lode recovery
9.	5262	3604	200	340'	lode recovery
10.				53'	current drilling



LEGEND

- grey shales, banded, luffaceous.
- pyroclastic rocks including Splice.
- banded grey luff shale s.
- pyritic, graphitic shales.
- pyritic lodes in bearing.
- quartzites, some micaceous, with graphitic shale bands.
- 
- road or disused tramway
- creek
- shaft
- adit
- trench or open cut
- dip of rock
- pitch of fold
- diamond drill site
- swamp
- geological boundary.

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OONAH MINE, ZEEHAN, TASMANIA

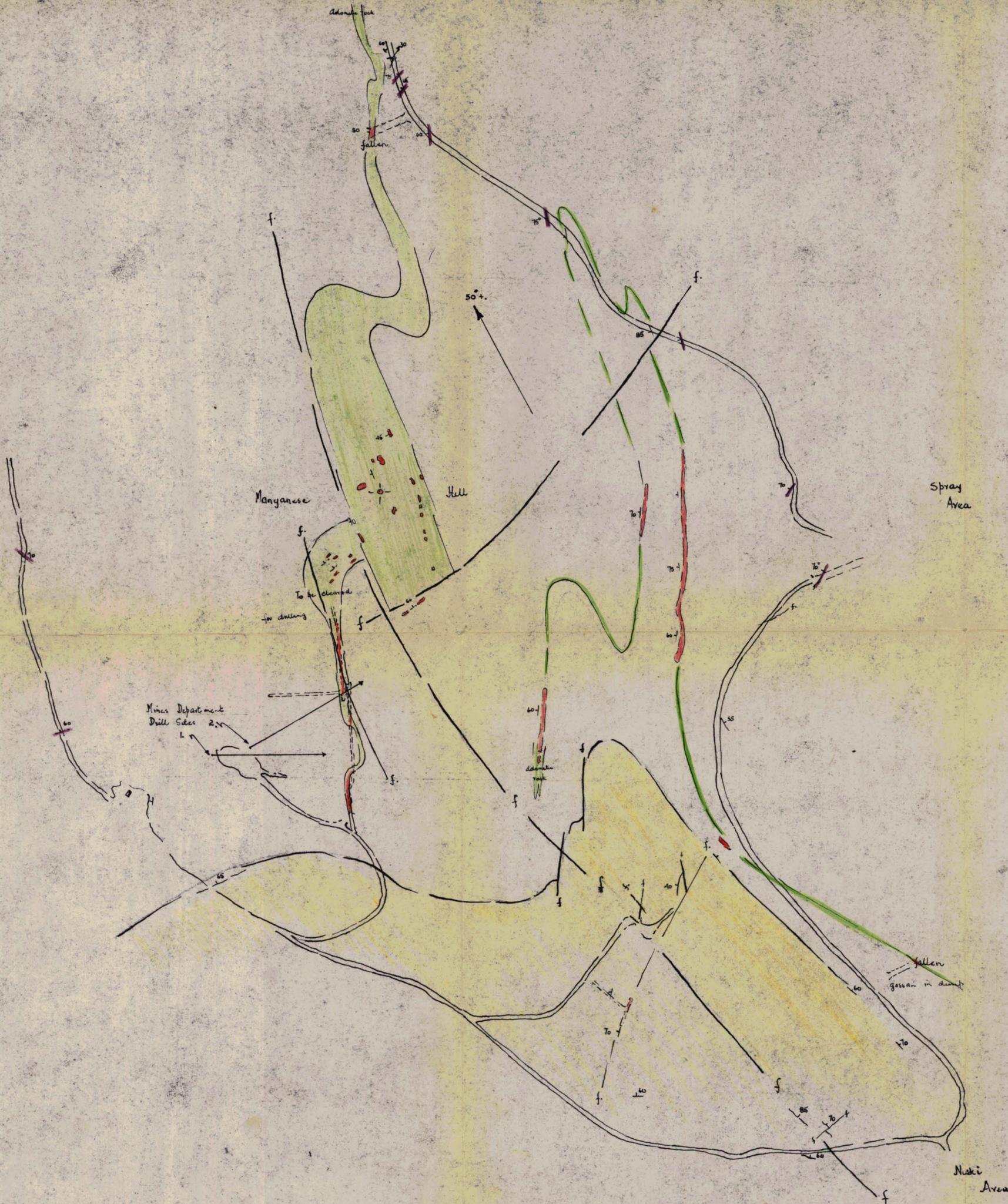
GEOLOGICAL PLAN 240008 Plate 1

Scale 1" = 200'

July 1965

A. B. Clark  
Consulting Geologist

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Reference

- road
- trench or adit
- fault

- Donah formation
- gossan
- gossan in dolomitic rocks
- spilitic rocks including shales

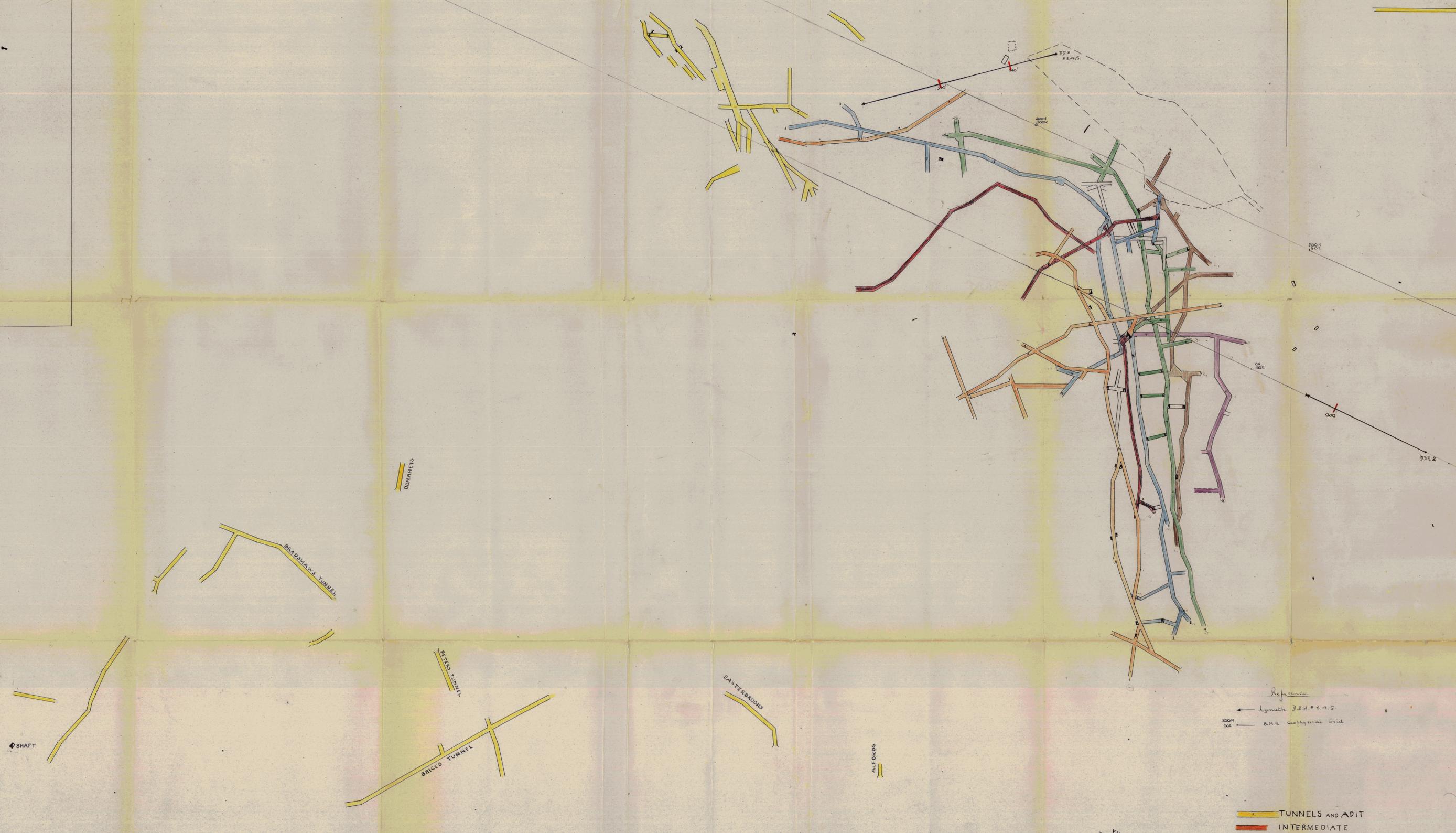
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Preliminary interpretation from geological mapping Manganese Hill



Date	Scale	Drawn by	Plate No
July 1965	1 inch = 200 feet	L.B. Clark	2



SHAFT

BRADSHAW'S TUNNEL

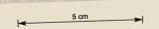
PEES TUNNEL

BRICES TUNNEL

EASTBROOK

ALFORDS

VINCENTS



Placer Prospecting Pty Limited

Trace original surveyors plan of the Donah Mine showing azimuth R.R.H.s # 3, 4, 5 with ore intersections vertically below in virgin ground.

Date	Drawn by	Scale	Plate No
July 1965	A.B. Clark	Inch - 50 feet	3

Reference  
 ← Lymath D.D.H. # 3, 4, 5  
 200M 500' B.M. Geophysical Grid

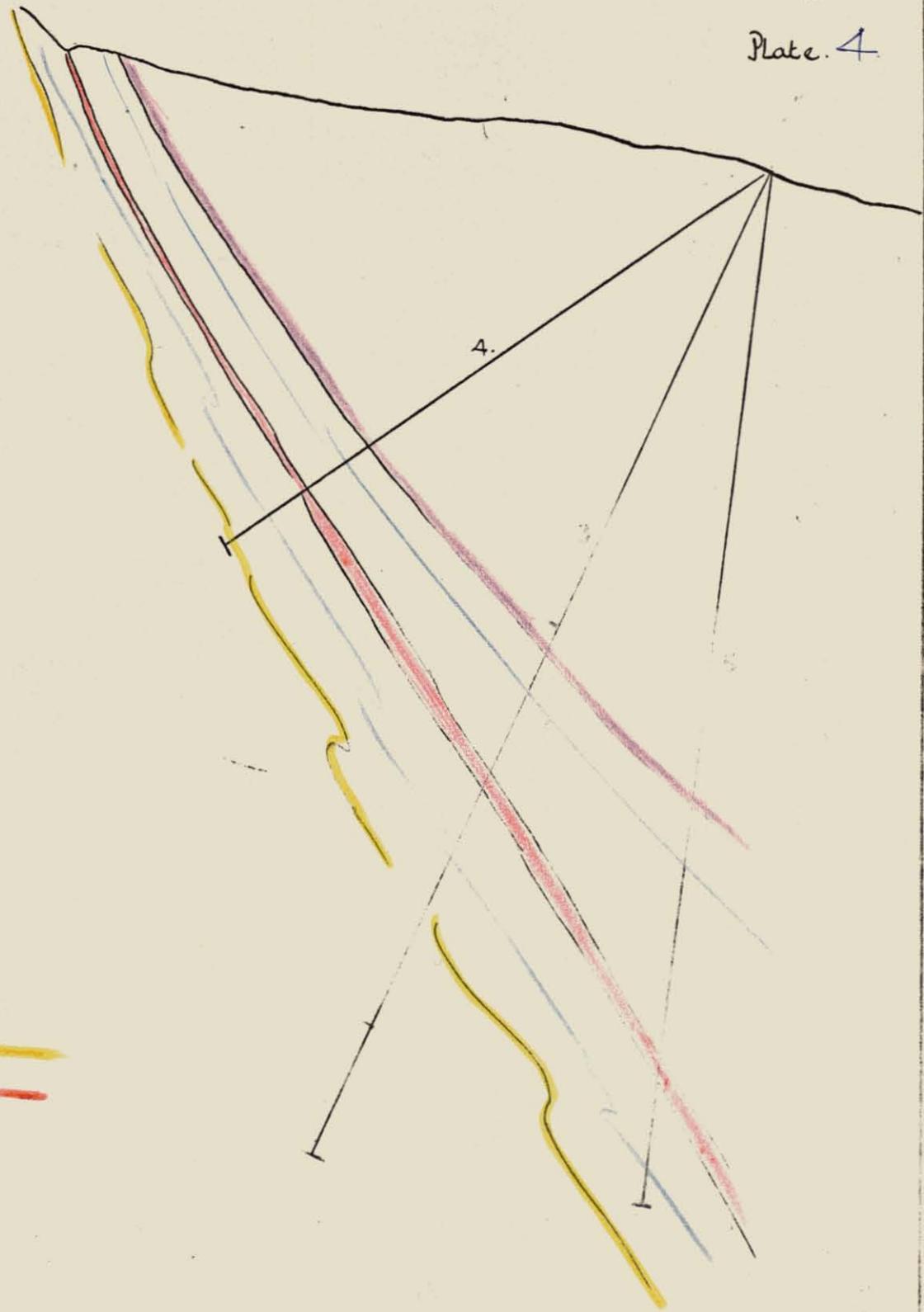
- TUNNELS AND ADIT
- INTERMEDIATE
- N°2 LEVEL 137 FT
- N°3 163 "
- N°4 250 "
- N°5 322 "
- N°6 424 "

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Plate. 4



Spilitic rocks  
 graphitic shale  
 quartzites  
 lode.



5 cm

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Placer Prospecting Pty Limited	
Profile D.D.H's 3.4.5	
Scale 1"=100 feet.	Date July 1965. ABCent

008

Plate. 5.

Open Cut  
15 feet 0.74% Sn

D.D.H. #8  
45° - 281 feet

Intersection 178' - 200'

pyritic lode 4 feet recovered - 0.89% Sn  
with cuttings - 22 feet - 30% core recovery

- pyroclastic rocks
- graphitic shales.
- lode horizon
- quartzites. shales

240012

5 cm

Placer Exploration Pty Limited		
Profile D.D.H. 8 - dep. 45° - 281 feet		
July 1965	1 inch = 40 feet	A. K. Clark

009

Plate 6

10' - 1.06% Sn  
11(a), 12' - 0.2% Sn  
(b) /

D.D.H. 9 - 40° - 346

6' - 0.5% Sn

6' 1.02% Sn  
103 Ag  
13% Zn

pyroclastic rocks  
graphitic shales  
lode horizon  
quartzite-shales



D.D.H. - 54° - departed at 300 ft to 48°

240013

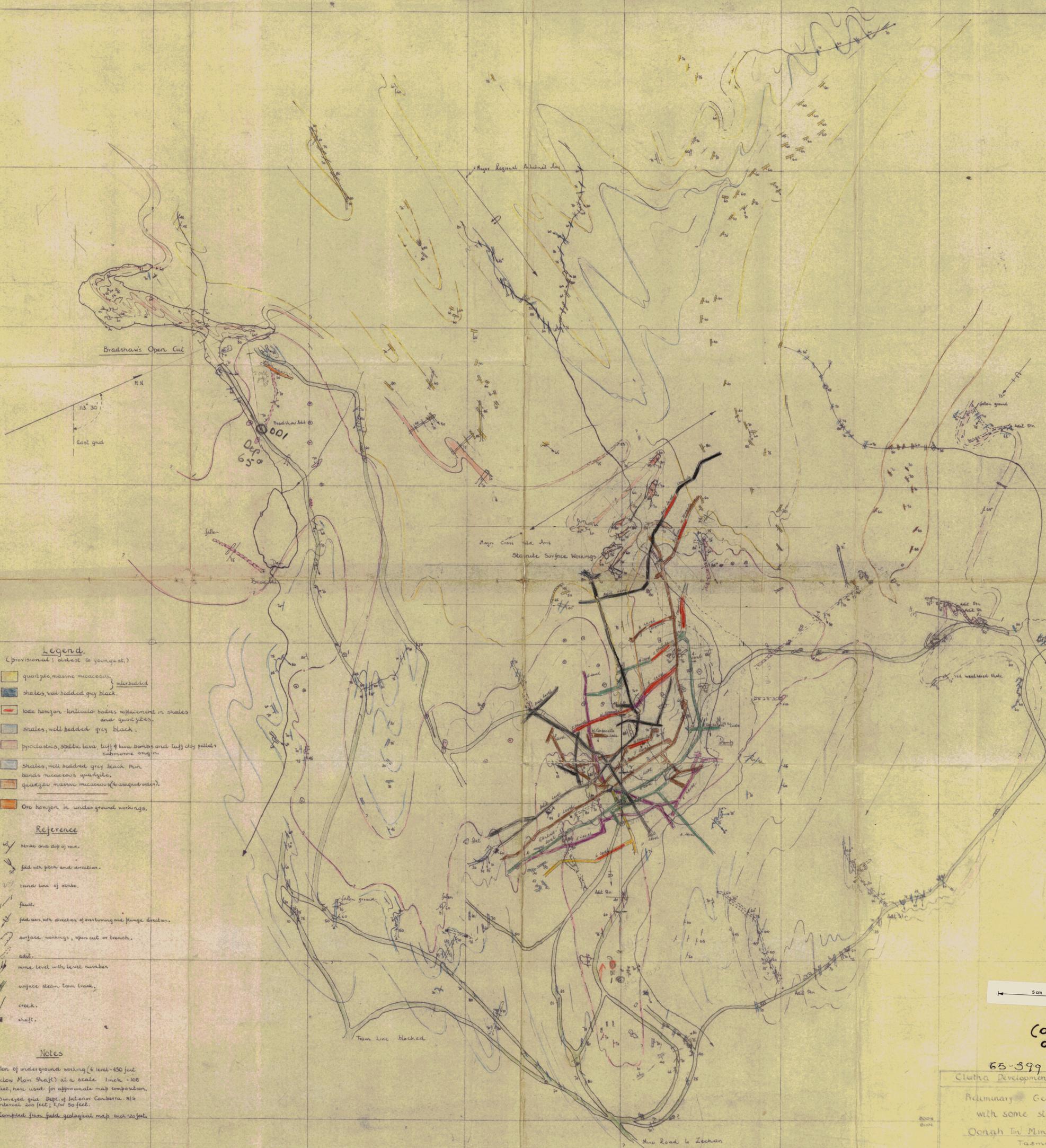
5 cm

Placer Prospecting Pty Limited

Profile D.D.H. 9 - 10 incomplete

July 1965 | 1 inch = 40 feet

AB Clark



- Legend**  
(provisional; oldest to youngest.)
- quartzite, massive micaceous } interbedded
  - shales, well bedded, grey black.
  - lode horizon - lenticular bodies replacement in shales and quartzites.
  - shales, well bedded, grey black.
  - pyroclastics, spilitic lava, tuff & lava bombs and tuff clay pellets submarine origin.
  - shales, well bedded, grey black, thin bands micaceous quartzite.
  - quartzite, massive micaceous (transgressed).
  - Ore horizon in underground workings.

- Reference**
- strike and dip of rock.
  - fold with pitch and direction.
  - trend line of strike.
  - fault.
  - fold axis with direction of overturning and plunge direction.
  - surface workings, open cut or bench.
  - adit.
  - mine level with level number.
  - surface stream from track.
  - creek.
  - shaft.

- Notes**
1. Plan of underground workings (6 level - 450 feet below Main Shaft) at a scale 1 inch = 100 feet, here used for approximate map composition.
  2. Surveyed grid Dept. of Interior Canberra. 115 interval 200 feet; E/W 50 feet.
  3. Compiled from field geological map 1 inch scale.

5 cm

(Old copy as original damaged) 253014

65-399 4268  
Clotha Development Pty. Limited

Preliminary Geological Map  
with some structural interpretation  
Oonah Tin Mine within Zeehan 156  
Tasmania

Plate No.	Map No.	Scale	Date	Geologist
1	701	1 inch = 100 feet	18/4/63	A.S. Cox



Note  
 field grab samples Series C.O. are related to general grab sample of pyritic outcrop taken by C. Cornish with invitation of Sample Assay Office Leechan area to be re-sampled. Samples to date 21/1/55 reflect application of Local Theory from practice → constitute bearing pyrite → to STANNITE loc.

Note  
 Series of Abits, cleared for geological mapping, sampling and survey. Positions approximate - Boon Hill to be re-surveyed for finite control. Green shade for approximate position.

- Brook ———
- Road ———
- Open Cut ———

5 cm

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Scale: 1 inch = 200 feet

Locality Map :- Diamond Drill Holes, General Sample Results Onah Area Leechan

1/3 Jan 20/50

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No. 171 2



MINES DRAWING OFFICE  
**FILE COPY**  
 PLEASE RETURN

5 cm

SCALE IN FEET  
 0 200 400

2654-50

**SHEET 3**

PLACER PROSPECTING PTY LTD

GENERAL PLAN of MINES

ZEEHAN AREA.

0 200 400

2654

65-399

SHEET 4 ADJOINS

3

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