

000

D/50

840001

**MICROFILMED**

INTERIM REPORT ON INVESTIGATIONS  
IN THE  
AUSTRALIA MINE/SUMMIT MINE AREA  
N.E. TASMANIA - E.L.6/68

BY

I. MORTIMORE  
GEOLOGIST

AUGUST 1971

001

840002

TABLE OF CONTENTS

	PAGE
INTRODUCTION	1
LOCATION MAP	1a
PURPOSE OF PROGRAMME	3
GEOLOGY	3
PROGRAMME	9
RESULTS :	
COBRA DRILLING	10
ROCK SAMPLING	11
CONCLUSIONS AND RECOMMENDATIONS	12

APPENDIX A - GEOCHEMICAL DATA

ENCLOSURE : DRAWING 1/147 SHEETS : 2, 4, AND 6  
(IN POCKET)

INTERIM REPORT ON INVESTIGATIONS  
IN THE AUSTRALIA MINE / SUMMIT MINE AREA, BLUE TIER  
E.L.6/68 - N.E. TASMANIA

INTRODUCTION

The area considered in this preliminary geochemical and geological programme covers approximately 50 acres on the higher part of the Blue Tier, just south of the old township of Poimena. (See location map).

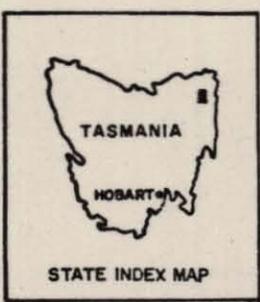
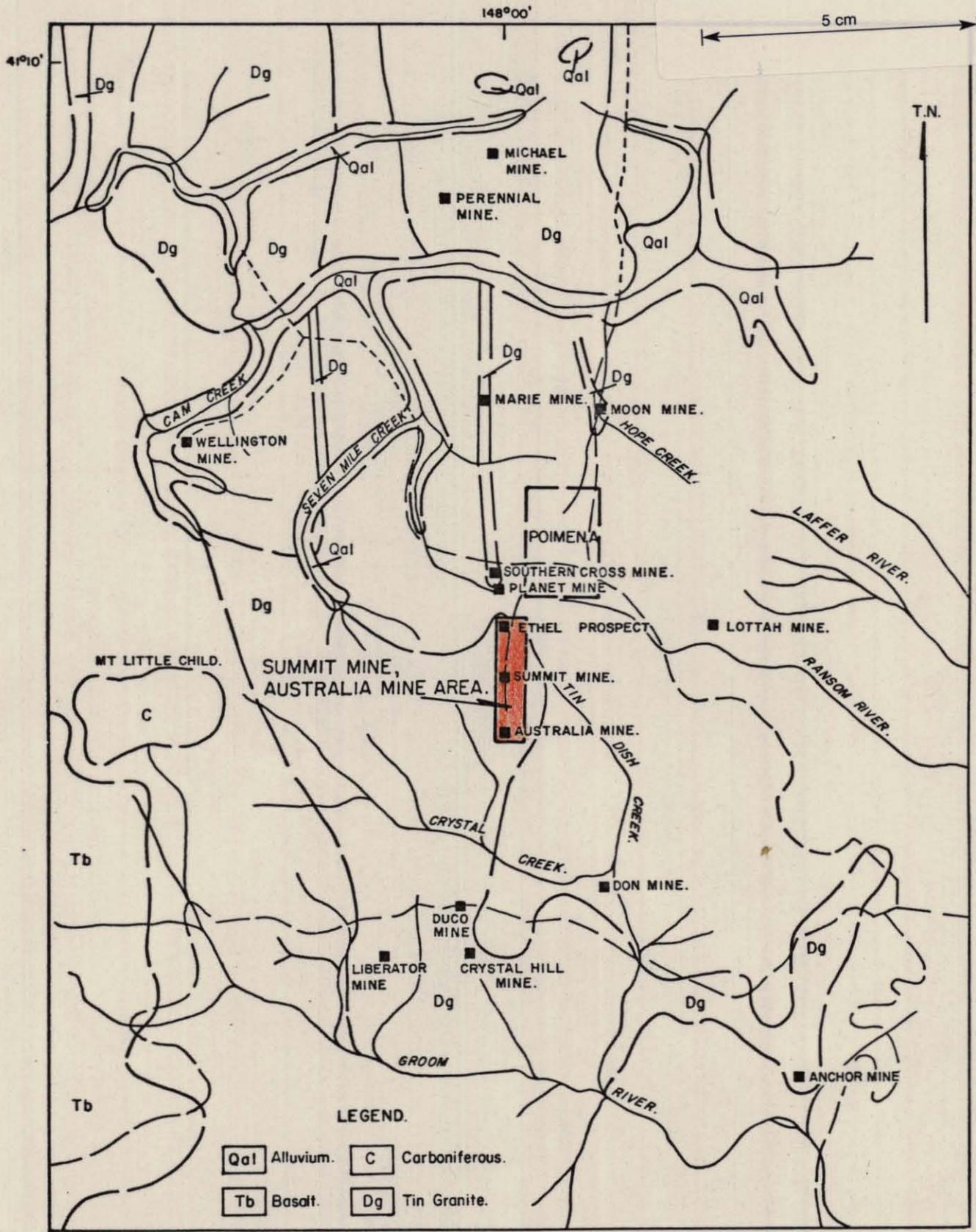
The area has been worked for tin both by sluicing and hard-rock mining.

Two old mining properties, the Australia Mine and the Summit Mine are included in this area.

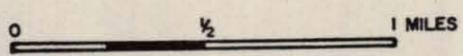
The Australia Mine was worked periodically from the late 19th Century through to the 1930's. In this time approximately 4,000 ton<sup>s</sup> of ore were crushed yielding 35 ton<sup>s</sup> of cassiterite.

Two open-cuts make up the mine workings, the more westerly being 300 feet long by 60 to 100 feet wide and reaching

003



E.L.6/68 NORTH EAST TASMANIA  
**SUMMIT MINE/AUSTRALIA MINE AREA.**  
**LOCATION MAP**



840004

004

a depth of 40 feet and the eastern open-cut 230 feet long by 60 to 80 feet wide and to 40 feet deep.

As indicated by the extent of the workings and the amount of ore crushed, the mining was selective with only rich ore-shoots being sent for processing.

Grades between 0.08% Sn and 0.8% Sn were general with patches yielding values up to 2% metallic tin.

The Summit Mine, 900 feet to the north, was worked at the turn of the Century.

The workings consist of a long narrow open-cut (140 feet) emerging into a quarry 70 feet by 50 feet and 30 feet deep.

No accurate records of the production and ore grade are known for this mine.

To the north-west of the Summit Mine lies the Ethel Prospect with a number of shallow trenches and a single shaft sunk to a depth of 60 feet.

PURPOSE OF THE PROGRAMME

It is considered that this area has not been adequately tested in exploration programmes carried out so far.

Mount Lyell Mining and Railway Company, in the 1900's and 1910's, carried out considerable work including extensive trenching and sampling with limited drilling.

However the way in which the programme was conducted, in regard to the geological data then on hand, appears to have not been done to the best advantage.

This programme of exploration was designed to give an indication of grades which may be expected over the whole area with the view to delineating restricted targets upon which later work could be concentrated.

GEOLOGY

Virtually the whole area is one of Devonian "tin" granite, basically a muscovite-biotite-granite, which is considered to have intruded into an older porphyritic biotite

adamellite as a sheet-like body up to 300 feet in thickness with either flat or undulating upper surface.

The porphyritic biotite adamellite is in evidence in the north-eastern corner of the area on the north side of Tin Dish Creek.

Large, well formed, orthoclase phenocrysts are conspicuous in a fine to medium grained matrix of quartz, potash feldspar, plagioclase and biotite. Some alignment of these phenocrysts is apparent.

A number of boulders of the porphyritic adamellite are visible in an arc around the north side of the area.

The contact between the two igneous phases is concealed by overlying recent alluvium, which itself has been extensively sluiced for cassiterite.

Pegmatitic material is also common in this area, suggesting the contact may be marked by a pegmatite seam, a common feature of the contact zones on the Blue Tier.

007

The "tin" granite is medium to coarse grained with a granular texture, generally composed of quartz, potash feldspar, plagioclase, biotite with secondary chlorite and muscovite. Topaz and fluorite are common as accessory minerals. Phenocrysts of anhedral quartz and subhedral potash feldspar are also apparent.

Although a general composition can be made for the "tin" granite, a number of variations are apparent at various locations. It is assumed that this heterogeneity is the result of pneumatolytic action during the late stages of crystallization, when the more volatile components of the granitic magma were mobilised and concentrated in the upper portions of the intrusive body.

Within the contact zone, in which the Ethel Prospect lies, the granites are often extensively greisenized being rich in biotite, muscovite and chlorite with other secondary products.

Silicified rock types, quartz greisens and chloritic quartz, are common with pegmatitic veins and pockets also apparent.

Cassiterite is visible in the greisenised zones as loosely disseminated grains. Coarser crystals of cassiterite,

together with sulphide mineralisation (galena, chalcopyrite, sphalerite, arsenopyrite and molybdenite), are associated with the more silicified rock types.

Away from the contact the extent of alteration decreases with only isolated pockets of greisen or pegmatitic material within the granites.

Wide tracts of a basic coarse grained biotite-muscovite-granite exist to the west and south of the Summit Mine, showing very little alteration, secondary products making up less than 2% of the composition.

In certain localities the composition approaches a leucocratic aplitic type with little or no ferromagnesian content.

The granite about the Summit Mine generally shows only limited alteration with chlorite and secondary micas present but greisenization restricted.

Joints in this vicinity strike  $213^{\circ}$  (dipping  $72^{\circ}$ E) and  $308^{\circ}$  (vertical) and the shape of the mine workings indicates

009

that rich ore shoots were exploited along these general lines.

To the north-east of the mine coarse grained granites are rich in biotite (10-15%) and their appearance resembles that of the porphyritic biotite adamellite and may in fact represent remnants of a long since removed capping of the older adamellites.

Further north-east again, towards the contact, the granites vary in texture and composition with aplitic and pegmatitic zones and a general increase in the degree of alteration.

To the south of the area a marked contrast occurs as the Australia Mine is approached.

To within feet of the working faces of the open-cuts the granite shows practically no alteration with only very small amounts of secondary chlorite and muscovite.

Within the open-cuts a complex variety of rock types is encountered.

A dominant set of joints, striking between  $065^{\circ}$  and  $075^{\circ}$  and dipping steeply north, have acted as mineralizing channels.

These paths are marked by greisen veins, often with a quartz or quartz-greisen core, and, the granites between these joints are greisenized to varying degrees. A second set of joints, less pronounced, striking in a similar direction but dipping between  $20^{\circ}$  and  $25^{\circ}$  to the south, are also greisenized or silicified often giving a step-like appearance of veins on certain working faces.

Feldspathised granites are also common.

The greisens carry visible cassiterite, as do the greisenized granites in which the grains are loosely disseminated.

Sulphide mineralization is apparent with chalcopyrite, sphalerite, pyrite and arsenopyrite associated with cassiterite particularly within the more silicified rock types, as in the case of the Ethel Prospect.

The overall effect is a mineralized lode, 35 to 40 feet wide, striking approximately  $072^{\circ}$  and dipping northwards close to vertical.

In the western open-cuts where prominent joints dipping to the south at a shallow angle have intersected the near vertical

sets, individual "floors" of limited lateral extent but higher grade have formed. The western open-cut is on two levels.

#### PROGRAMME

The exploratory work carried out during the final months of 1970 and the earlier part of 1971 included cobra rock drilling, rock-chip sampling of the mine workings and a geological appraisal of the area.

A total of 108 cobra drill holes were sunk to a depth of 5 feet with a drill dust sample being recovered, representative of the total depth.

Locations were dictated by the availability of outcrop and depth of overburden. As wide an area as possible was covered in this programme but large tracts of ground carried little or no outcrop restricting the use of the cobra drill. Further, many apparent outcrops, in fact, proved to be merely surface boulders.

To supplement the results of the drilling programme 102 rock chip samples were recovered from the mine workings.

All samples were analysed for tin with the rock-chip samples also analysed for copper, lead, zinc, silver, molybdenum, bismuth and tungsten.

## RESULTS

### Cobra Drilling

The cobra holes yielded generally low tin values. However certain areas, geologically predictable, gave consistent values.

The contact zone within the "tin" granites, adjacent to the porphyritic adamellites, yielded consistent, though low, values over an area approximately 500 feet by 900 feet with the higher values (to 0.25% metallic tin) about the Ethel Prospect.

The Summit Mine area failed to give even low values, again in keeping with the geological data. The granites away from the immediate vicinity of the mine appear only altered to a limited degree.

The Australia Mine carried higher values (to 0.44% metallic tin) but still the bulk of the values were low (sub-economic) indicating an ore grade of around 0.08% metallic tin.

#### Rock Sampling

Rock chip samples taken from the prospecting trenches and shaft of the Ethel Prospect gave values indicating a bulk ore grade of around 0.12% metallic tin. Associated with these values were marginal values for molybdenum (to 0.07%) and bismuth (to 0.076%).

The Summit Mine yielded "patchy" values (to 0.81% metallic tin) with the higher values being recovered from geologically suited locations such as veins associated with joint sets which have been worked as rich ore-shoots.

A bulk grade of 0.1% metallic tin is indicated.

Samples from the Australia Mine gave an overall grade of 0.08% metallic tin with values up to 0.41%. Samples

from the main ore channel gave a bulk grade of 0.11% metallic tin.

Associated with these tin values are a number of copper, zinc and silver values of interest (to 0.14% Cu, 0.13% and 6 ozs. Ag). These are confined to the eastern open-cut.

#### CONCLUSIONS AND RECOMMENDATIONS

In this preliminary investigation, the area as a whole has failed to realise the potential indicated by past records of exploration and mining.

There are wide tracts of tin bearing granites but the values carried are subeconomic with economic grade ore only indicated in localized environments.

The area about the Ethel Prospect and the Australia Mine appears to be the only prospective one upon which further work may be warranted.

The contact zone of greisenised granites about the

Ethel Prospect indicated a bulk grade of around 0.12% metallic tin with isolated but interesting associated molybdenum and bismuth values. The grades are still subeconomic but at the same time marginal enough to warrant, when the lateral extent of the zone is considered, further exploration.

The data on hand is insufficient to warrant the use, at this stage, of a percussion drill. Before such a step is taken, more information on the potential grades which can be expected, should be obtained through further ground work.

The preliminary programme chose obvious outcrop for the cobra drilling sites. This gave a scattered array of drill locations and one certainly not dense enough to give a complete picture.

Also the rock type most likely to remain unweathered and outcropping is that which has undergone the minimum of alteration to its mineral composition and texture. Consequently the more greisenized rock types do not crop out so frequently and any results from a cobra drilling programme can be reasonably assumed to give lower bulk grades than are actually present.

It is suggested that, should further work be decided upon, this should involve the dozing of a number of costeans to strip away any residual soils or decomposed granitic material and to then enable a more accurate cobra drilling programme to be done on a set spacing.

The Australia Mine, as in the case of the Ethel Prospect, requires further testing, if a basis is to be found upon which an ultimate drilling programme could be planned.

The tin values are again low with only isolated values approaching or exceeding the 0.2% metallic tin generally considered the cut-off level for a mining operation similar to that by which this mine has been exploited in the past.

Associated values for copper, zinc and silver are of interest but they are poorly distributed and generally too low to warrant any kind of processing plant to remove such sulphide mineralization.

However on the basis of previous mining records and from the geological view-point this still remains an area of potential.

It has never been fully tested to the N.N.E. and S.S.W. of the present workings to determine extensions of the mineralized lode. Lack of exposure limited the extent to which cobra rock drilling could be utilised in both these directions.

If the Ethel Prospect was to warrant further work along the line suggested above, then similar work could be carried out at the same time to investigate these possible extensions.

Such work on the Ethel Prospect and the Australia Mine can reasonably be expected to provide the additional data which would be necessarily to allow a more complete evaluation of the area before the possible use of more advanced techniques of exploration such as drilling.

RESPECTFULLY SUBMITTED

I. MORTIMORE  
Geologist.

APPENDIX A

Geochemical Data

# GEOCHEMICAL LABORATORY REPORT 840020

FIELD SHEET No. 001435 PROJECT No. EL. 6/68 - TEXINS - AUSTRALIA MINE/SUMMIT

MINE AREA

LAB. SHEET No. 545/1 SAMPLE TYPE: Drill Dust DATE: 3rd March, 1971.

SAMPLE No.	LAB. No.	Sn %					
ACOB 1	71-B-126	BLD					
ACOB 2	71-B-127	BLD					
ACOB 3	71-B-128	BLD					
ACOB 4	71-B-129	BLD					
ACOB 5	71-B-130	BLD					
ACOB 6	71-B-131	BLD					
ACOB 7	71-B-132	BLD					
ACOB 8	71-B-133	BLD					
ACOB 9	71-B-134	BLD					
ACOB 10	71-B-135	BLD					
ACOB 11	71-B-136	BLD					
ABOC 12	71-B-137	BLD					
ACOB 13	71-B-138	BLD					
ACOB 14	71-B-139	BLD					
ACOB 15	71-B-140	0.10					
ACOB 16	71-B-141	BLD					
ACOB 17	71-B-142	BLD					
ACOB 18	71-B-143	BLD					
ACOB 19	71-B-144	BLD					
ACOB 20	71-B-145	BLD					
ACOB 21	71-B-146	BLD					
ACOB 22	71-B-147	BLD					
ACOB 23	71-B-148	0.08					
ACOB 24	71-B-149	0.10					
ACOB 25	71-B-150	0.05					
ACOB 26	71-B-151	0.05					
ACOB 27	71-B-152	0.05					
ACOB 28	71-B-153	0.05					
ACOB 29	71-B-154	0.25					
ACOB 30	71-B-155	0.10					
ACOB 31	71-B-156	0.05					
ACOB 32	71-B-157	0.05					
ACOB 33	71-B-158	0.05					
ACOB 34	71-B-159	0.05					
ACOB 35	71-B-160	0.05					
ACOB 36	71-B-161	0.05					
ACOB 37	71-B-162	0.05					
ACOB 38	71-B-163	0.05					
ACOB 39	71-B-164	0.05					
ACOB 40	71-B-165	BLD					
ACOB 41	71-B-166	0.08					
ACOB 42	71-B-167	0.05					
ACOB 43	71-B-168	0.05					
ACOB 44	71-B-169	0.05					
ACOB 45	71-B-170	0.05					

**METHODS:**

This laboratory is registered by the National Association of Testing Authorities, Australia. The tests reported herein have been performed in accordance with its terms of registration.

Sn by G.R.C. No. 6A

B.L.D. = Below Limit of Detection



Chief Chemist *Ray W. G. G. G.*

019

020

# GEOCHEMICAL LABORATORY REPORT 840021

FIELD SHEET No.: 001435/6 PROJECT No.: EL. 6/68 - TEXINS - AUSTRALIA MINE/SUMM

LAB. SHEET No.: 545/2 SAMPLE TYPE: Drill Dust DATE: 3rd March, 1971.  
MINE AREA

SAMPLE No.	LAB. No.	Sn %							
ACOB 46	71-B-171	BLD							
ACOB 47	71-B-172	BLD							
ACOB 48	71-B-173	BLD							
ACOB 49	71-B-174	BLD							
ACOB 50	71-B-175	BLD							
ACOB 51	71-B-176	BLD							
ACOB 52	71-B-177	BLD							
ACOB 53	71-B-178	BLD							
ACOB 54	71-B-179	BLD							
ACOB 55	71-B-180	BLD							

### METHODS:



This laboratory is registered by the National Association of Testing Authorities, Australia. The tests reported herein have been performed in accordance with its terms of registration.

Chief Chemist

*Ray W. Gledhill*

021

## GEOCHEMICAL LABORATORY REPORT 840022

FIELD SHEET No.: 006407 PROJECT No.: EL.6/68 - Australia Summit Mine Area

Blue Tier

LAB. SHEET No.: 617/1 SAMPLE TYPE: DRILL DUST. DATE: 10th May, 1971.

SAMPLE No.	LAB. No.	Sn %						
ACOB 56	71-E-1	0.03						
ACOB 57	71-E-2	0.04						
ACOB 58	71-E-3	0.03						
ACOB 59	71-E-4	0.06						
ACOB 60	71-E-5	0.03						
ACOB 61	71-E-6	0.02						
ACOB 62	71-E-7	0.04						
ACOB 63	71-E-8	0.06						
ACOB 64	71-E-9	0.03						
ACOB 65	71-E-10	0.03						
ACOB 66	71-E-11	0.06						
ACOB 67	71-E-12	0.04						
ACOB 68	71-E-13	0.06						
ACOB 69	71-E-14	0.06						
ACOB 70	71-E-15	0.06						
ACOB 71	71-E-16	0.06						
ACOB 72	71-E-17	0.06						
ACOB 73	71-E-18	0.03						
ACOB 74	71-E-19	0.03						
ACOB 75	71-E-20	0.06						
ACOB 76	71-E-21	0.03						
ACOB 77	71-E-22	0.04						
ACOB 78	71-E-23	0.03						
ACOB 79	71-E-24	0.03						
ACOB 80	71-E-25	0.04						
ACOB 81	71-E-26	0.02						
ACOB 82	71-E-27	0.04						
ACOB 83	71-E-28	0.06						
ACOB 84	71-E-29	0.09						
ACOB 85	71-E-30	0.12						
ACOB 86	71-E-31	0.03						

## METHODS:

This laboratory is registered by the National Association of Testing Authorities, Australia. The tests reported herein have been performed in accordance with its terms of registration.

Sn by G.R.C. No. 5



Chief Chemist

A handwritten signature in cursive script, reading 'Ray W. Zerkow', is written over a large, hand-drawn oval. The signature is positioned in the bottom right corner of the page.

022

# GEOCHEMICAL LABORATORY REPORT 840023

FIELD SHEET No. 006408 PROJECT No. EL.6/68 - Australia Summit Mine Area

LAB. SHEET No. 617/2 SAMPLE TYPE: DRILL DUST. DATE: 10th May, 1971. Blue Tier

SAMPLE No.	LAB. No.	Sn %							
ACOB 87	71-E-32	0.03							
ACOB 88	71-E-33	0.06							
ACOB 89	71-E-34	0.03							
ACOB 90	71-E-35	0.44							
ACOB 91	71-E-36	0.09							
ACOB 92	71-E-37	0.06							
ACOB 93	71-E-38	0.04							
ACOB 94	71-E-39	0.08							
ACOB 95	71-E-40	0.06							
ACOB 96	71-E-41	0.08							
ACOB 97	71-E-42	0.03							
ACOB 98	71-E-43	0.12							
ACOB 99	71-E-44	0.02							
ACOB 100	71-E-45	0.10							
ACOB 101	71-E-46	0.03							
ACOB 102	71-E-47	0.03							
ACOB 103	71-E-48	0.04							
ACOB 104	71-E-49	0.04							
ACOB 105	71-E-50	0.04							
ACOB 106	71-E-51	0.06							
ACOB 107	71-E-52	0.04							
ACOB 108	71-E-53	0.06							

### METHODS:



This laboratory is registered by the National Association of Testing Authorities, Australia. The tests reported herein have been performed in accordance with its terms of registration.

Chief Chemist

*Ray W. Jenkins*

# GEOCHEMICAL LABORATORY REPORT 840024

FIELD SHEET No. 007509 PROJECT No. EL.6/68 - AUSTRALIA/SUMMIT MINE AREA -

LAB. SHEET No. 638/1 SAMPLE TYPE: ROCK BLUE TIER DATE: 26th May, 1971.

SAMPLE No.	LAB. No.	Cu ppm	Ni ppm	Co ppm	Pb ppm	Zn ppm	Ag ppm	Mo ppm	Bi ppm
S 1	71-E-54	10	10	BLD	55	30	1	BLD	10
S 2	71-E-55	15	5	BLD	35	40	1	BLD	60
S 3	71-E-56	5	5	BLD	20	30	BLD	BLD	60
S 4	71-E-57	BLD	5	BLD	20	20	BLD	BLD	30
S 5	71-E-58	5	5	BLD	30	40	BLD	BLD	20
S 6	71-E-59	5	BLD	BLD	30	75	BLD	50	55
S 7	71-E-60	10	5	BLD	25	60	BLD	20	100
S 8	71-E-61	10	10	BLD	20	50	BLD	BLD	140
S 9	71-E-62	5	5	BLD	10	30	1	20	80
S 10	71-E-63	15	BLD	BLD	15	45	BLD	10	40
S 11	71-E-64	15	5	BLD	15	65	BLD	20	480
S 12	71-E-65	15	BLD	BLD	10	60	BLD	15	85
S 13	71-E-66	10	BLD	BLD	15	85	BLD	15	95
S 14	71-E-67	BLD	BLD	BLD	10	45	BLD	BLD	70
S 15	71-E-68	5	BLD	BLD	10	55	BLD	10	40
S 16	71-E-69	BLD	BLD	BLD	15	50	BLD	BLD	60
S 17	71-E-70	20	BLD	BLD	10	25	2	BLD	20
S 18	71-E-71	55	BLD	BLD	35	30	3	20	85
S 19	71-E-72	30	BLD	BLD	15	50	BLD	65	75
E 1	71-E-73	BLD	BLD	BLD	10	45	BLD	BLD	35
E 2	71-E-74	BLD	5	BLD	10	30	BLD	10	160
E 3	71-E-75	BLD	BLD	BLD	10	40	BLD	BLD	50
E 4	71-E-76	BLD	5	BLD	10	120	BLD	BLD	15
E 5	71-E-77	5	BLD	BLD	15	50	BLD	20	130
E 6	71-E-78	30	10	BLD	10	120	1	20	100
E 7	71-E-79	10	5	BLD	15	110	1	40	140
E 8	71-E-80	5	10	BLD	20	175	1	50	130
E 9	71-E-81	15	BLD	BLD	20	145	3	20	40
E 10	71-E-82	10	10	BLD	30	130	1	20	135
E 11	71-E-83	5	BLD	BLD	10	15	BLD	BLD	40
E 12	71-E-84	160	10	BLD	175	275	31	130	330
E 13	71-E-85	15	5	BLD	505	25	3	715	430
E 14	71-E-86	75	BLD	BLD	40	120	2	30	130
E 15	71-E-87	20	5	BLD	30	65	BLD	15	70
E 16	71-E-88	45	BLD	BLD	30	90	2	20	50
E 17	71-E-89	25	BLD	BLD	10	70	1	BLD	180
E 18	71-E-90	BLD	5	BLD	20	35	1	20	40
E 19	71-E-91	25	BLD	BLD	10	40	BLD	BLD	760
E 20	71-E-92	BLD	BLD	BLD	10	10	BLD	BLD	20
A 1	71-E-93	15	BLD	BLD	15	25	BLD	20	90
A 2	71-E-94	20	5	BLD	35	45	BLD	20	70
A 3	71-E-95	10	5	BLD	10	25	1	15	20
A 4	71-E-96	10	BLD	BLD	10	50	BLD	20	20
A 5	71-E-97	BLD	BLD	BLD	10	10	BLD	20	70
A 6	71-E-98	20	5	BLD	10	90	BLD	40	150
A 7	71-E-99	75	5	BLD	30	40	1	20	210

**METHODS:**

This laboratory is registered by the National Association of Testing Authorities, Australia. The tests reported herein have been performed in accordance with its terms of registration.

Cu, Ni, Co, Pb, Zn, Ag by G.R.C. No. 1  
 Mo, Bi by G.R.C. No. 2  
 W by G.R.C. No. 4  
 Sn by G.R.C. No. 5



B.L.D. = Below Limit of detection

for Chief Chemist

*D. Langhorne*

U24

# GEOCHEMICAL LABORATORY REPORT 840025

FIELD SHEET No. 006409/10 PROJECT No. EL.6/68 - AUSTRALIA/SUMMIT MINE AREA

LAB. SHEET No. 638/2 SAMPLE TYPE: ROCK BLUD TIER DATE: 26th May, 1971.

SAMPLE No.	LAB. No.	Cu ppm	Ni ppm	Co ppm	Pb ppm	Zn ppm	Ag ppm	Mo ppm	Bi ppm
A 8	71-E-100	125	10	BLD	25	85	2	BLD	60
A 9	71-E-101	115	10	BLD	20	160	1	80	30
A 10	71-E-102	120	BLD	BLD	10	95	1	25	130
A 11	71-E-103	BLD	BLD	BLD	10	BLD	BLD	10	20
A 12	71-E-104	10	10	BLD	10	70	1	BLD	20
A 13	71-E-105	215	5	5	20	170	3	25	20
A 14	71-E-106	275	10	5	20	185	2	15	15
A 15	71-E-107	330	10	5	20	230	1	BLD	25
A 16	71-E-108	105	10	BLD	10	105	2	BLD	5
A 17	71-E-109	200	10	5	20	190	3	15	25
A 18	71-E-110	145	5	BLD	10	100	5	10	20
A 19	71-E-111	50	15	5	20	210	2	BLD	5
A 20	71-E-112	140	10	5	10	95	2	10	20
A 21	71-E-113	1375	15	BLD	30	900	21	10	90
A 22	71-E-114	500	10	5	10	180	7	BLD	10
A 23	71-E-115	160	10	BLD	10	125	2	BLD	10
A 24	71-E-116	185	10	BLD	20	95	2	10	45
A 25	71-E-117	350	10	5	40	605	115	25	150
A 26	71-E-118	390	10	10	60	1325	350	100	255
A 27	71-E-119	135	10	BLD	10	150	18	15	30
A 28	71-E-120	275	5	BLD	20	125	12	10	20
A 29	71-E-121	750	15	10	40	220	14	80	25
A 30	71-E-122	155	10	5	20	65	45	10	5
A 31	71-E-123	250	10	BLD	10	35	290	20	310
A 32	71-E-124	80	5	BLD	10	105	4	15	30
A 33	71-E-125	BLD	5	BLD	10	55	BLD	BLD	10
A 34	71-E-126	40	5	BLD	170	40	1	BLD	10
A 35	71-E-127	5	5	BLD	20	25	1	BLD	10
A 36	71-E-128	10	5	BLD	10	40	1	BLD	35
A 37	71-E-129	10	5	BLD	10	45	BLD	BLD	35
A 38	71-E-130	60	5	BLD	80	60	BLD	BLD	25
A 39	71-E-131	15	BLD	BLD	10	75	BLD	BLD	15
A 40	71-E-132	95	5	BLD	20	120	1	BLD	10
A 41	71-E-133	BLD	BLD	BLD	10	45	BLD	BLD	10
A 42	71-E-134	45	10	10	10	85	1	BLD	20
A 43	71-E-135	20	5	5	10	45	BLD	BLD	10
A 44	71-E-136	20	5	5	10	70	BLD	BLD	40
A 45	71-E-137	70	BLD	BLD	10	50	1	BLD	15
A 46	71-E-138	20	10	5	20	70	2	BLD	15
A 47	71-E-139	65	10	BLD	10	45	1	BLD	15
A 48	71-E-140	35	5	BLD	10	50	3	BLD	15
A 49	71-E-141	30	10	10	60	115	1	20	90
A 50	71-E-142	15	10	5	20	120	2	10	75
A 51	71-E-143	10	10	5	40	180	1	15	60
A 52	71-E-144	40	10	BLD	20	70	3	BLD	15
A 53	71-E-145	105	10	5	20	75	2	BLD	15

**METHODS:**



This laboratory is registered by the National Association of Testing Authorities, Australia. The tests reported herein have been performed in accordance with its terms of registration.

*E. Longley*  
for Chief Chemist

025

# GEOCHEMICAL LABORATORY REPORT 840026

FIELD SHEET No.: 006410/11 PROJECT No.: EL.6/68 - AUSTRALIA/SUMMIT MINE AREA - BLUE TIER  
 LAB. SHEET No.: 638/3 SAMPLE TYPE: ROCK DATE: 26th May, 1971.

SAMPLE No.	LAB. No.	Cu ppm	Ni ppm	Co ppm	Pb ppm	Zn ppm	Ag ppm	Mo ppm	Bi ppm
A 54	71-E-146	20	5	BLD	10	75	2	25	75
A 55	71-E-147	30	5	BLD	20	50	BLD	BLD	15
A 56	71-E-148	40	10	BLD	20	105	1	BLD	40
A 57	71-E-149	10	5	BLD	10	70	1	BLD	15
A 58	71-E-150	40	5	BLD	10	25	3	BLD	10
A 59	71-E-151	5	5	BLD	10	40	BLD	BLD	15
A 60	71-E-152	5	BLD	BLD	5	30	BLD	BLD	20
A 61	71-E-153	10	10	BLD	5	35	1	BLD	10
A 62	71-E-154	5	5	BLD	20	50	1	20	60
A 63	71-E-155	BLD	5	BLD	10	45	BLD	15	30

**METHODS:**



This laboratory is registered by the National Association of Testing Authorities, Australia. The tests reported herein have been performed in accordance with its terms of registration.

*D. Longhrey*  
for Chief Chemist

026

# GEOCHEMICAL LABORATORY REPORT 840027

FIELD SHEET No.: 006409 PROJECT No.: EL.6/68 - AUSTRALIA/SUMMIT MINE AREA -

LAB. SHEET No.: 638/4 SAMPLE TYPE: ROCK DATE: 26th May, 1971.

SAMPLE No.	LAB. No.	Sn %	W ppm					
S 1	71-E-54	0.03	BLD					
S 2	71-E-55	0.04	BLD					
S 3	71-E-56	0.06	BLD					
S 4	71-E-57	0.04	BLD					
S 5	71-E-58	0.81	BLD					
S 6	71-E-59	0.20	BLD					
S 7	71-E-60	0.04	BLD					
S 8	71-E-61	0.04	BLD					
S 9	71-E-62	0.08	BLD					
S 10	71-E-63	0.04	BLD					
S 11	71-E-64	0.06	BLD					
S 12	71-E-65	0.04	BLD					
S 13	71-E-66	0.06	BLD					
S 14	71-E-67	0.06	BLD					
S 15	71-E-68	0.06	BLD					
S 16	71-E-69	0.06	BLD					
S 17	71-E-70	0.06	BLD					
S 18	71-E-71	0.04	BLD					
S 19	71-E-72	0.12	BLD					
E 1	71-E-73	0.04	BLD					
E 2	71-E-74	0.10	BLD					
E 3	71-E-75	0.04	BLD					
E 4	71-E-76	1.29	BLD					
E 5	71-E-77	0.03	BLD					
E 6	71-E-78	0.08	BLD					
E 7	71-E-79	0.18	BLD					
E 8	71-E-80	0.10	BLD					
E 9	71-E-81	0.04	BLD					
E 10	71-E-82	0.06	BLD					
E 11	71-E-83	0.04	BLD					
E 12	71-E-84	0.03	BLD					
E 13	71-E-85	0.04	BLD					
E 14	71-E-86	0.06	BLD					
E 15	71-E-87	0.06	BLD					
E 16	71-E-88	0.08	BLD					
E 17	71-E-89	0.04	BLD					
E 18	71-E-90	0.04	BLD					
E 19	71-E-91	0.02	BLD					
E 20	71-E-92	0.03	BLD					
A 1	71-E-93	0.02	BLD					
A 2	71-E-94	0.08	BLD					
A 3	71-E-95	0.04	BLD					
A 4	71-E-96	0.09	BLD					
A 5	71-E-97	0.04	BLD					
A 6	71-E-98	0.06	BLD					
A 7	71-E-99	0.04	BLD					

**METHODS:**



This laboratory is registered by the National Association of Testing Authorities, Australia. The tests reported herein have been performed in accordance with its terms of registration.

*E. Langhrey*  
for Chief Chemist

027

# GEOCHEMICAL LABORATORY REPORT 840028

FIELD SHEET No. 006409/10 PROJECT No. EL.6/68 - AUSTRALIA/SUMMIT MINE AREA -

BLUE TIER

LAB. SHEET No. 638/5 SAMPLE TYPE: ROCK DATE: 26th May, 1971.

SAMPLE No.	LAB. No.	Sn %	W ppm				
A 8	71-E-100	0.04	BLD				
A 9	71-E-101	0.06	BLD				
A 10	71-E-102	0.06	BLD				
A 11	71-E-103	0.04	BLD				
A 12	71-E-104	0.08	BLD				
A 13	71-E-105	0.16	BLD				
A 14	71-E-106	0.08	BLD				
A 15	71-E-107	0.02	BLD				
A 16	71-E-108	0.18	BLD				
A 17	71-E-109	0.04	BLD				
A 18	71-E-110	0.06	BLD				
A 19	71-E-111	0.04	BLD				
A 20	71-E-112	0.10	BLD				
A 21	71-E-113	BLD	BLD				
A 22	71-E-114	0.06	BLD				
A 23	71-E-115	0.08	BLD				
A 24	71-E-116	0.09	BLD				
A 25	71-E-117	0.26	BLD				
A 26	71-E-118	0.41	BLD				
A 27	71-E-119	0.04	BLD				
A 28	71-E-120	0.14	BLD				
A 29	71-E-121	0.04	BLD				
A 30	71-E-122	0.04	BLD				
A 31	71-E-123	0.09	BLD				
A 32	71-E-124	0.12	BLD				
A 33	71-E-125	0.02	BLD				
A 34	71-E-126	0.14	BLD				
A 35	71-E-127	0.06	BLD				
A 36	71-E-128	0.41	BLD				
A 37	71-E-129	0.03	BLD				
A 38	71-E-130	0.04	BLD				
A 39	71-E-131	0.03	BLD				
A 40	71-E-132	0.08	BLD				
A 41	71-E-133	0.04	BLD				
A 42	71-E-134	0.06	BLD				
A 43	71-E-135	0.04	BLD				
A 44	71-E-136	0.08	BLD				
A 45	71-E-137	0.04	BLD				
A 46	71-E-138	0.06	BLD				
A 47	71-E-139	0.09	BLD				
A 48	71-E-140	0.04	BLD				
A 49	71-E-141	0.08	BLD				
A 50	71-E-142	0.09	BLD				
A 51	71-E-143	0.06	BLD				
A 52	71-E-144	0.06	BLD				
A 53	71-E-145	0.08	BLD				

**METHODS:**



This laboratory is registered by the National Association of Testing Authorities, Australia. The tests reported herein have been performed in accordance with its terms of registration.

*D. Loughrey*  
for Chief Chemist

028

## GEOCHEMICAL LABORATORY REPORT 840029

FIELD SHEET No.: 006410/11 PROJECT No.: EL.6/68 - AUSTRALIA/SUMMIT MINE AREA -

LAB. SHEET No.: 638/6 SAMPLE TYPE: ROCK BLUE TIER DATE: 26th May, 1971.

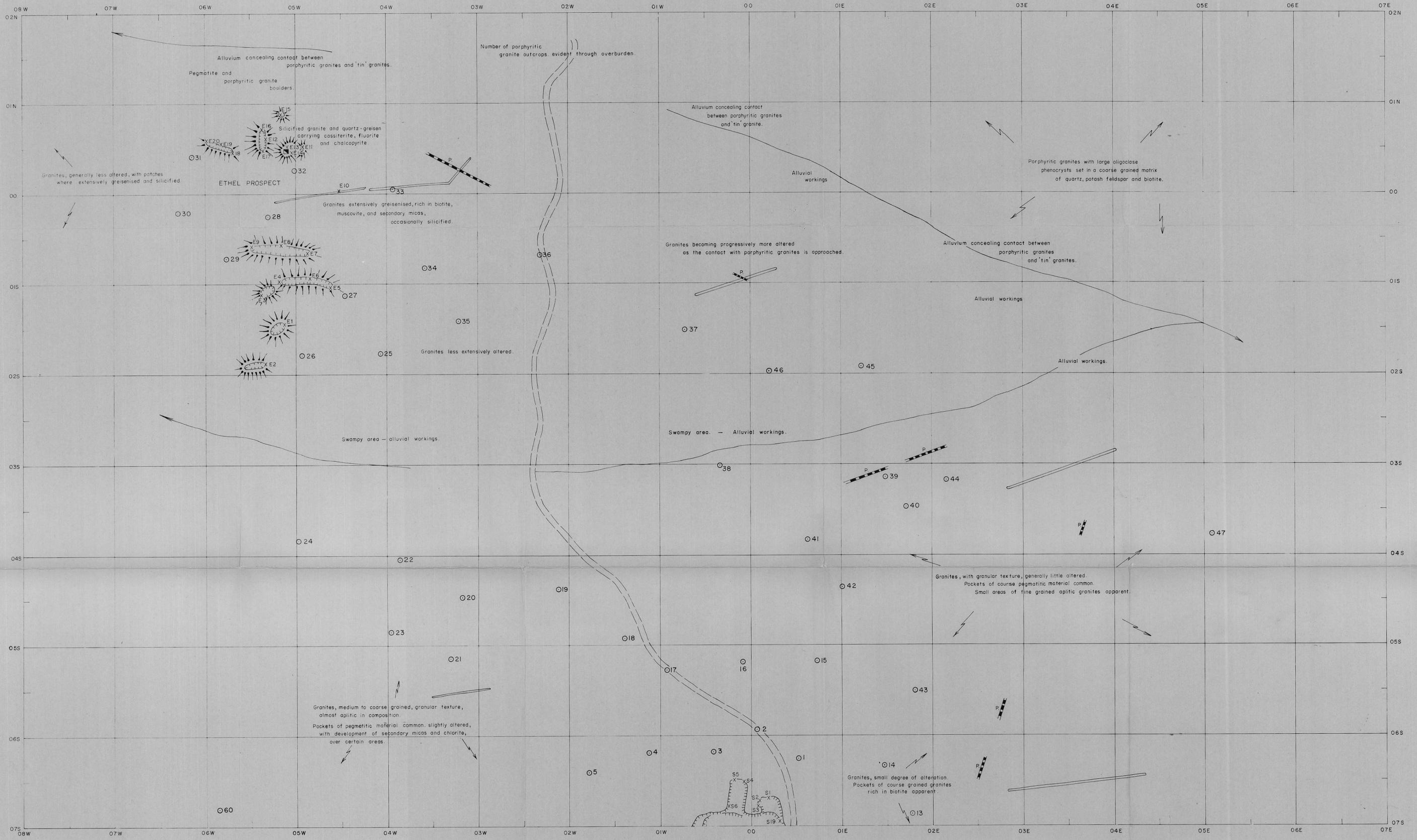
SAMPLE No.	LAB. No.	Sn %	W ppm						
A 54	71-E-146	0.02	BLD						
A 55	71-E-147	BLD	BLD						
A 56	71-E-148	0.30	BLD						
A 57	71-E-149	0.09	BLD						
A 58	71-E-150	0.04	BLD						
A 59	71-E-151	0.04	BLD						
A 60	71-E-152	0.04	BLD						
A 61	71-E-153	BLD	BLD						
A 62	71-E-154	0.08	BLD						
A 63	71-E-155	0.04	BLD						

## METHODS:



This laboratory is registered by the National Association of Testing Authorities, Australia. The tests reported herein have been performed in accordance with its terms of registration.

*D. Langhway*  
 Chief Chemist



840030

TEXAS INSTRUMENTS INCORPORATED 71-783 SERVICES GROUP

GEOPHOTO RESOURCES CONSULTANTS AUSTRALIA BRISBANE

TEXINS DEVELOPMENT PTY LTD. E.L.6/68 NORTH-EAST TASMANIA

AUSTRALIA MINE-SUMMIT MINE AREA

BLUE TIER

COBRA DRILL AND 029

ROCK CHIP SAMPLE POINTS



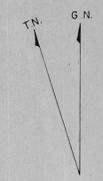
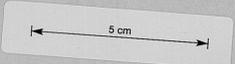
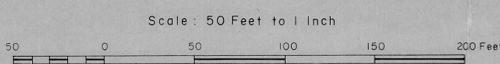
PROJECT 6/68 AUTHOR I. Mortimore. DATE 3/8/71 DWG No 1/147

LEGEND

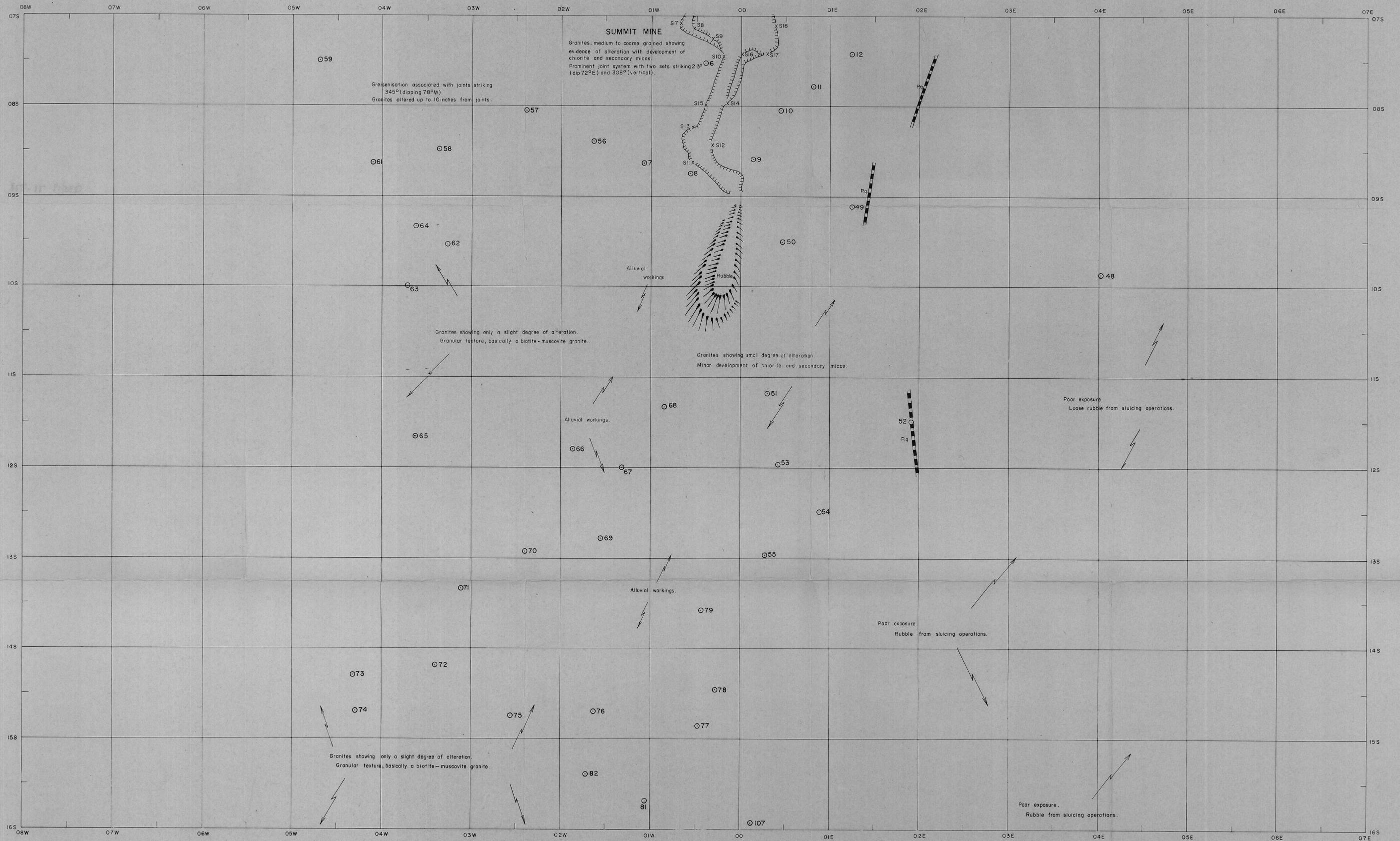
- 57 Cobra rock drill location.
- X 55 Rock chip sample point.
- Vein Pg - Pegmatitic quartz. P - Pegmatite.
- ||||| Rock face.
- ⌘ Dump.
- Prospecting ditch.
- Water course.
- Track.

SHEET INDEX

1	2
3	4
5	6



11-11-11-11-11

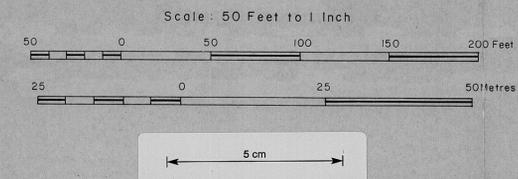


**LEGEND**

- 57 Cobra rock drill location.
- X55 Rock chip sample point.
- Vein  
Pg - Pegmatitic quartz  
LP - Pegmatite.
- ⌋ Rock face.
- ⌋ Dump.
- ⌋ Prospecting ditch.
- ⌋ Water course.
- ⌋ Track.

**SHEET INDEX**

1	2
3	4
5	6



840031

TEXAS INSTRUMENTS INCORPORATED  
 SERVICES GROUP 71-788

**GEOPHOTO RESOURCES CONSULTANTS**  
 BRISBANE AUSTRALIA



TEXINS DEVELOPMENT PTY LTD  
 E.L.6/68 NORTH EAST TASMANIA  
**AUSTRALIA MINE-SUMMIT MINE AREA**  
**BLUE TIER**  
 COBRA DRILL AND 031  
 ROCK CHIP SAMPLE POINTS.

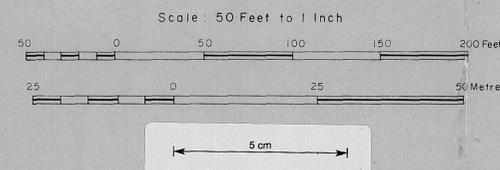


**LEGEND**

- 57 Cobra rock drill location.
- X 55 Rock - chip sample point.
- ▬▬▬ Vein  
Pq - Pegmatitic quartz.  
P - Pegmatite.
- TTTTT Rock face.
- ▬▬▬ Dump.
- ▬▬▬ Prospecting ditch.
- ← Water - course.
- ▬▬▬ Track.

**SHEET INDEX**

1	2
3	4
5	6



840032

TEXAS INSTRUMENTS INCORPORATED 71-738  
SERVICES GROUP

**GEOPHOTO RESOURCES CONSULTANTS**  
BRISBANE, AUSTRALIA

G. N. TEXINS DEVELOPMENT PTY. LTD.  
E.L.6/68 NORTH EAST TASMANIA  
AUSTRALIA MINE-SUMMIT MINE AREA  
**BLUE TIER** 030  
COBRA DRILL AND  
ROCK CHIP SAMPLE POINTS

PROJECT 6/68 AUTHOR I. Mortimore. DATE 3/8/71 DWS No 1/147