

ELECTROLYTIC ZINC COMPANY OF AUSTRALASIA LIMITED  
WEST COAST DEPARTMENT

**FIRST REPORT ON HEEMSKIRK TINFIELD**

**TRIAL HARBOUR – SPL 1**

By  
G M Bainbridge

02\_4673

AMG REFERENCE POINTS ADDED

398 2

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TT 42

ELECTROLYTIC ZINC COMPANY OF AUSTRALASIA LTD.  
WEST COAST DEPARTMENT

MEMORANDUM

TO:— Superintendent.

FROM:— Chief Geologist.

30th December, 1966.

SUBJECT:— EXPLORATION - TRIAL HARBOUR.

I submit for your information, a report by G. M. Bainbridge on the drilling programme recently completed in the Trial Harbour area.

In viewing the results of the drilling, the history of the field, upon which Bainbridge has dwelt at some length, should be borne in mind. The recorded production of 814 tons of metallic tin is a decidedly meagre return for the effort and capital which have been expended in the area, but is in all probability a reflection of the nature of the mineralisation, which is one of irregularly mineralised quartz-tourmaline veins within the granite. The mineralisation appears to lack continuity both laterally and in depth.

The aim of the drilling programme was to test for continuity of mineralisation in depth beneath the former workings. In this the programme was markedly unsuccessful, and I therefore support Bainbridge's recommendation, that no further drilling be carried out within the granite.

With regard to his second proposal that the sediments to the south of the granite be examined for tin mineralisation, it should be noted that this proposal is currently being researched, with a view to selecting a suitable geochemical approach to the problem of exploration.

*H.A.S.*  
CHIEF GEOLOGIST.

GHG.KAS

## TIN INVESTIGATION OF THE HEEMSKIRK GRANITE

### ADVANCE SUMMARY

The rapidly rising world price of tin during 1963/64 re-kindled an interest in tin exploration throughout Tasmania, and particularly around the previously worked tin fields of the West Coast. The frequent occurrences of tin mineralisation, both alluvial and in situ, in the Heemskirk granite as reported in the Geological Survey Bulletin No. 21 by L.L. Waterhouse, 1916 resulted in a decision to examine and assess the area for tin deposits which may have become economic due to the current high price of tin and to modern mining methods and equipment. Consequently, a Special Prospectors Licence covering the southern portion of the Heemskirk granite was applied for and was granted on 23/10/'64.

Having acquired the S.P.L. the Company initiated negotiations for an option on a mineral lease held by Mr. E. Coleman who has been tributing the alluvial tin on a very small scale on his claims for many years. Upon completion of negotiations, a two year option to purchase the rights to the claims came into effect 7/1/'65. A sampling and drilling programme was then planned to assess the possibility of outlining sufficient tonnages of economic tin within the S.P.L. area.

### LOCATION

The S.P.L. is 4.7 miles long by 3.2 miles wide and is situated with its northeast corner five miles due west of Zeehan. The western boundary follows the coastline to a point several hundred yards north of the mouth of South Gap Creek, before turning due north and terminating at the Trial Harbour-Granville road. A narrow gravel road, which had previously been used to supply the old Zeehan mining field from Trial Harbour winds its way through the middle of the lease.

### HISTORY

Tin was first discovered in the Heemskirk district in the late 1870's. In the early period of the district's mining history, there was a great deal of mining activity in the region. Many thousands of pounds were spent and a large number of men were employed.

During the early days of the mining boom, the Heemskirk tin field was accessible only by sea through the relatively unsheltered bay on which Trial Harbour is situated. Supplies could be unloaded only during periods of favourable weather which were limited especially during the winter months. As a result, mining operations in the area were badly hampered by climatic conditions. It was not until after Zeehan was well established that a railway line was extended to this region, and with it a more dependable way of supplying the tin field was found by carting essentials from Zeehan along a previously constructed track between the two mining fields.

During the mining boom, the most successful method of locating tin lodes was to use the streams as leads by panning the tin in the alluvials while working towards the source of the stream until tin could no longer be detected. Exploratory trenches were then cut through the overburden into the Heemskirk granite in the vicinity of the suspected tin lodes. Many shallow trenches and pits lie scattered throughout the southern part of the tin field.

Attempts were made on numerous tin prospects in the field to establish a profitable tin mine; however, in many instances expensive machinery was installed before sufficient development was done to prove substantial ore reserves. Consequently, many of these mining ventures closed down shortly after mining operations began, due to insufficient readily accessible ore. Interest in the field quickly waned with the closing of the various mines. Of all the mining ventures, only the Federation Mine continued to work until the late 1930's, and even it was worked intermittently. The total recorded production from the Heemskirk field is reported to be 814 tons of metallic tin.

### GEOLOGY

The Heemskirk granite is a semi-circular shaped stock 46 square miles in area with its southern limit situated immediately north of Trial Harbour. The age of the granite is reported to be Devonian.

The margin of the granite transgresses the bedding of the contact sediments and forms an intrusive contact mainly with the Precambrian Conah Formation.

Basically, two types of granite are prominent in the intrusive mass, these being the red and the white granite. Both types appear as an equigranular intrusive; however, the white granite may also be porphyritic containing biotite.

Porphyritic aplite and microgranite dykes intrude both the red and the white granite. Also, in the southern portion of the mass, quartz and quartz-tourmaline dykes cut the granite.

Accessories in the granite are tourmaline, apatite, fluorite, rutile, monazite, allanite, molybdenite, magnetite, and leucoxene.

MINERALISATION:

Sulphide mineralisation is limited to pyrite which is associated mainly with the quartz-tourmaline dykes where pyrite occurs as granular disseminations. In the granite itself, only trace amounts of pyrite can be detected. In his report, Blisset states that the cassiterite mined throughout the tin field was associated with tourmaline in the quartz-tourmaline dykes which intrude the granite. The fact that assays of the order of 10% Sn have been obtained from a crystalline quartz-tourmaline rock taken from the alluvials, which Coleman has been working, co-incides with this statement.

Early in 1965 work commenced on a sampling and drilling programme in the S.P.L. Extensive channel sampling in the shallow surface pits and in the adit was undertaken on Cornish's Trial Harbour Lease (old Sweeney Mine area).

During the drilling programme in the Heemskirk granite, five holes totalling 1589 feet were drilled. Of these, three were drilled in the vicinity of Coleman's Workings and one each at Geason's Workings and the Central Workings of the Federation Mine.

The bore holes are listed as follows:-

....4/.

MINERALISATION (Contd.)

- 4 -

| <u>Bore Hole No.</u> | <u>Location</u>    | <u>Bearing</u> | <u>Angle</u> | <u>Footage</u> |
|----------------------|--------------------|----------------|--------------|----------------|
| THP 115              | Coleman's Workings | S19°E          | -30°         | 379            |
| THP 117              | " "                | N19°W          | -35°         | 309            |
| THP 119              | " "                | N19°W          | -65½°        | 251            |
| THP 121              | Geasons            | S84°W          | -35°         | 235            |
| THP 123              | Central            | S43°W          | -30°         | 415            |

The locations of these bore holes are shown on an accompanying plan.

All the core from THP 115 was split and sampled in 5 ft. lengths to ensure that tin mineralisation in the equigranular granite would not be overlooked if it were present in this rock type. However, only the quartz and quartz-tourmaline dykes and adjacent granite were sampled in the core from the remaining bore holes.

RESULTS

Consistently low tin assays were obtained from sampling the surface and underground workings of Cornish's lease.

In the drill core, the assays indicated that the sampled granite, in most cases, contained tin in insufficient amounts to be detected by chemical analysis and that only little better than trace amounts of tin were present in some of the dykes.

CONCLUSION

The fact that we have not intersected any significant tin mineralisation in the Heemskirk granite does not preclude the possibility that small isolated tin deposits do not exist. However, due to the small size of the known tin lodes, it is likely that any tin mineralisation of economic grade is limited to small pods or lenses in the granite. In which case, it is considered very unlikely that sufficient tonnages of tin ore is present in the granite to consider a mining operation.

RECOMMENDATIONS

- 5 -

It is recommended that no further drilling be done in the Heemskirk granite due to the disappointing results obtained both from sampling Cornish's prospect and from the drilling programme.

However, it is recommended that the Conah quartzites on the southern contact of the Heemskirk granite be examined for tin mineralisation on the chance that this Precambrian formation has served as a host rock for tin bearing solutions escaping from the intrusive granitic mass.

*G.M. Bainbridge*  
G.M. BAINBRIDGE  
GEOLOGIST

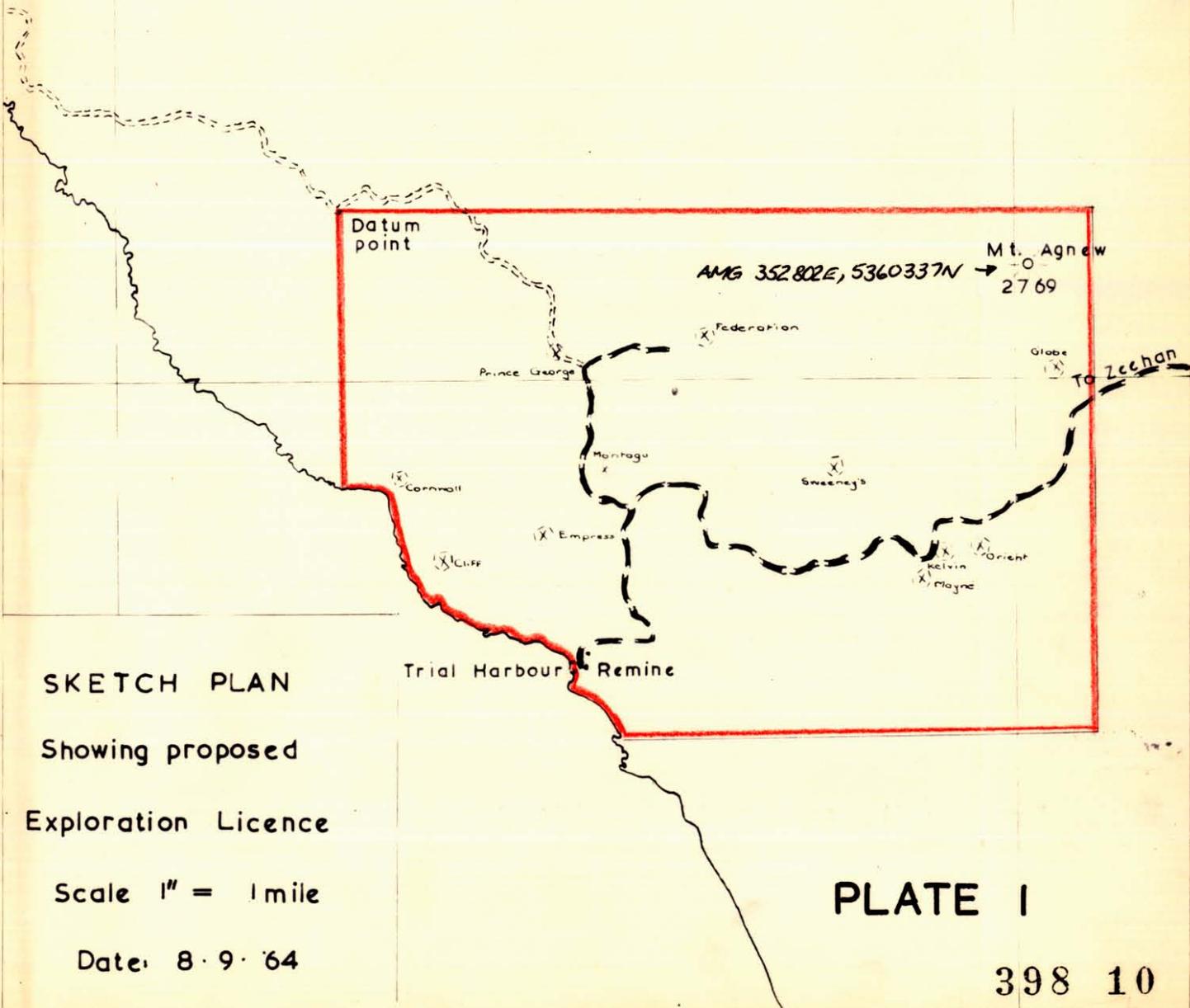
GMB/DEP

5 cm

AMG REFERENCE POINTS ADDED



Mt. Heemskirk  
○ ← AMG 348157E, 5364859N  
2450



SKETCH PLAN

Showing proposed

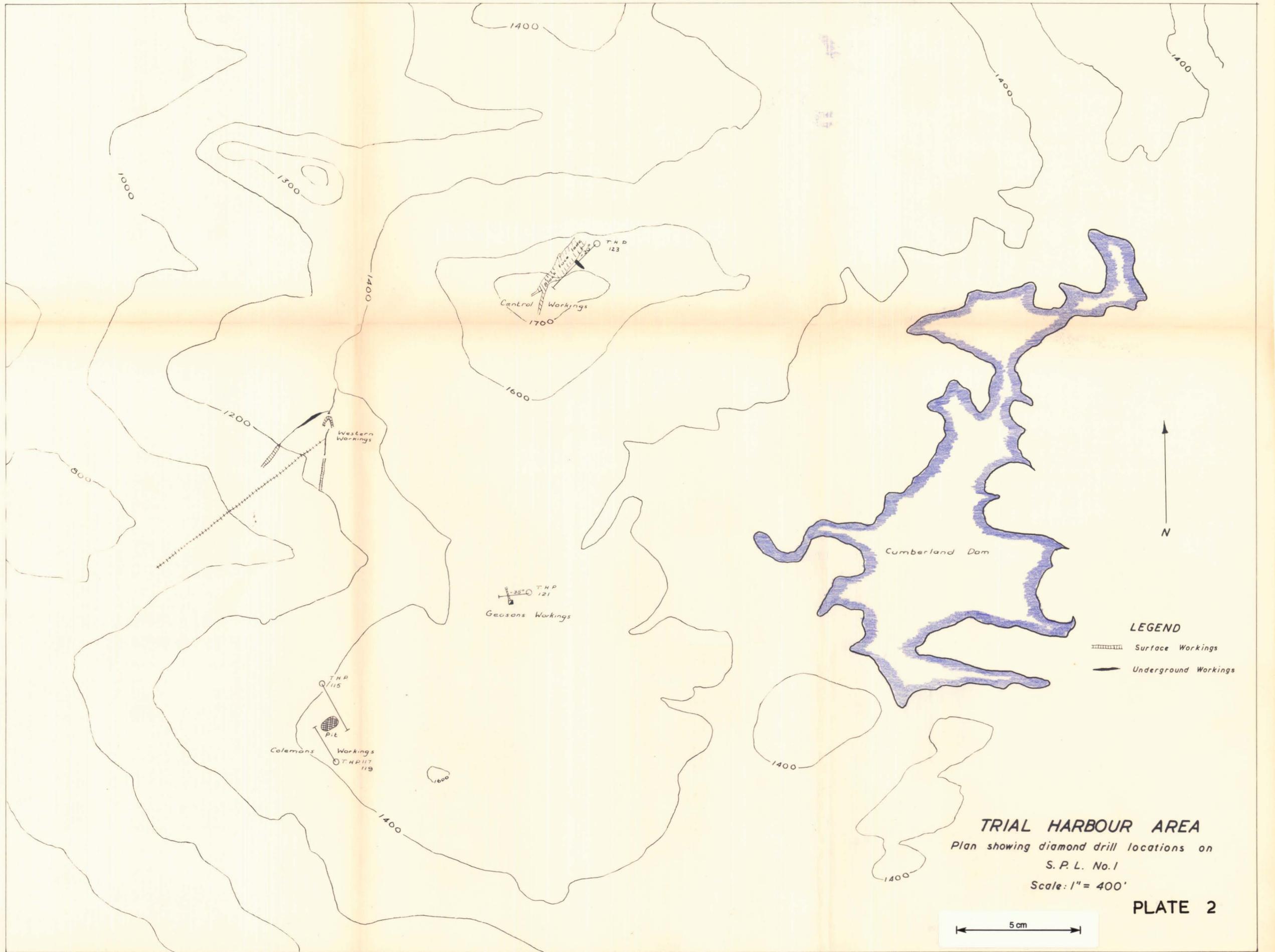
Exploration Licence

Scale 1" = 1 mile

Date: 8.9.64

PLATE I

398 10



398 11

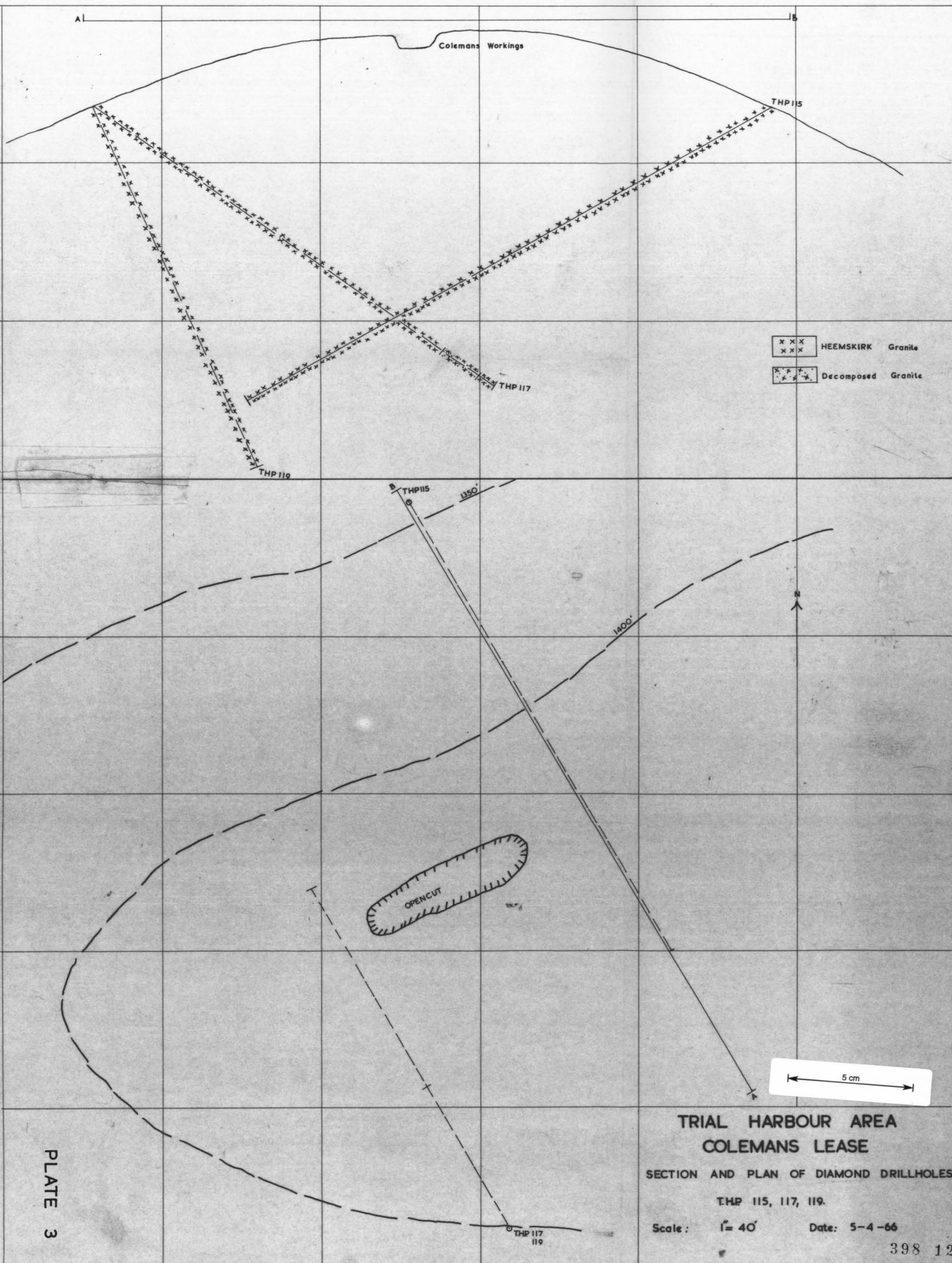
Xo 204

5 cm

**TRIAL HARBOUR AREA**  
 Plan showing diamond drill locations on  
 S.P.L. No. 1  
 Scale: 1" = 400'

**PLATE 2**

E.Z. Co. W.C.D. Geol. Dept. XO. 197.



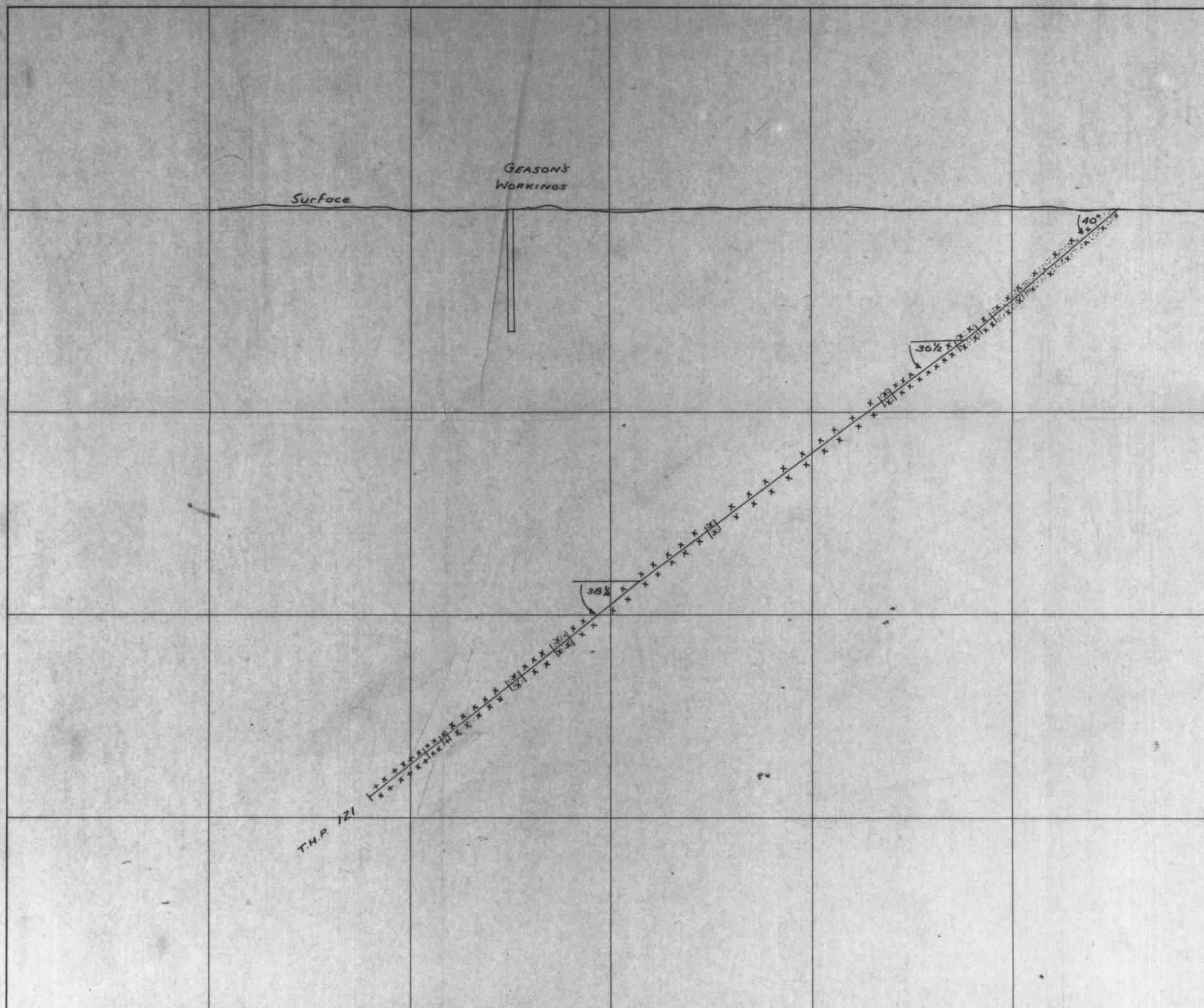
|                         |                    |
|-------------------------|--------------------|
| x x x<br>x x x          | HEEMSKIRK Granite  |
| x x x<br>x x x<br>x x x | Decomposed Granite |

**TRIAL HARBOUR AREA  
COLEMANS LEASE**  
SECTION AND PLAN OF DIAMOND DRILLHOLES

T.H.P. 115, 117, 119.

Scale: 1" = 40'      Date: 5-4-66

PLATE 3



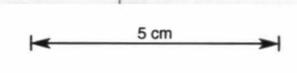
LEGEND

Igneous

HEEMSKIRK  
GRANITE



- GRANITE
- WEATHERED GRANITE
- GREY GRANITE WITH  
SOME PINK FELDSPARS



TRIAL HARBOUR AREA

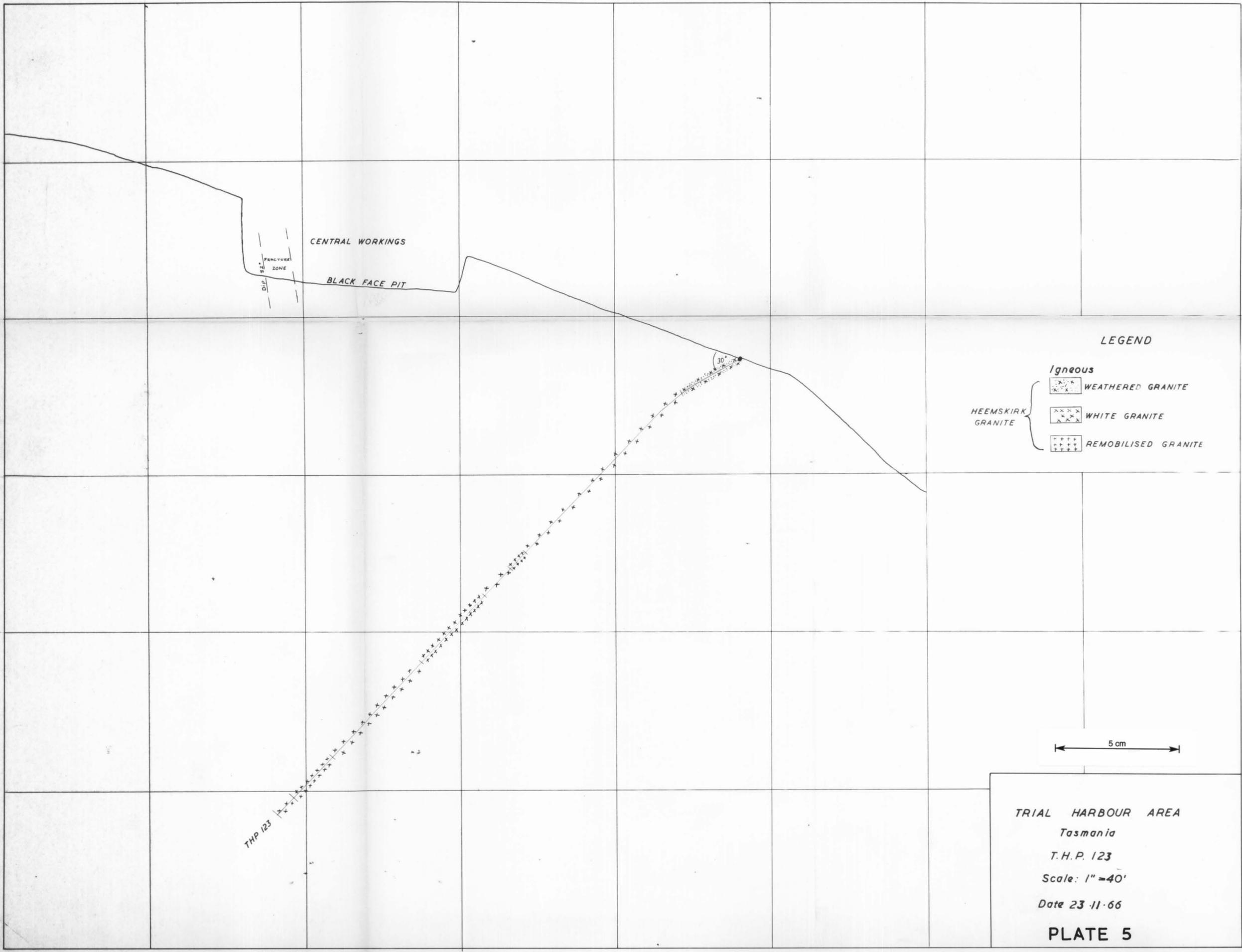
Tasmania

T.H.P. 121

Scale: 1" = 20'

Date: 15.9.86

PLATE 4



LEGEND

- Igneous**
-  WEATHERED GRANITE
  -  WHITE GRANITE
  -  REMOBILISED GRANITE
- HEEMSKIRK GRANITE

5 cm

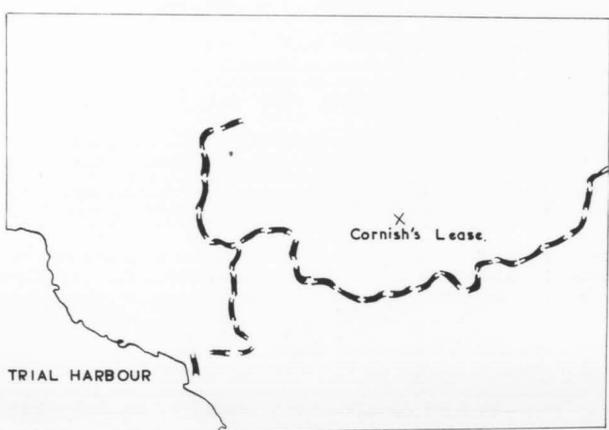
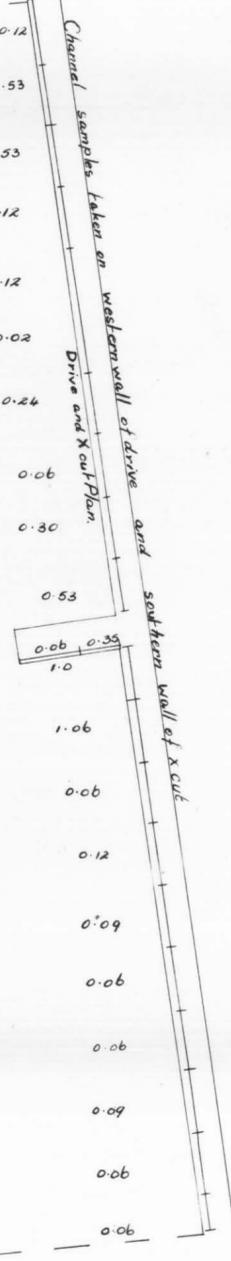
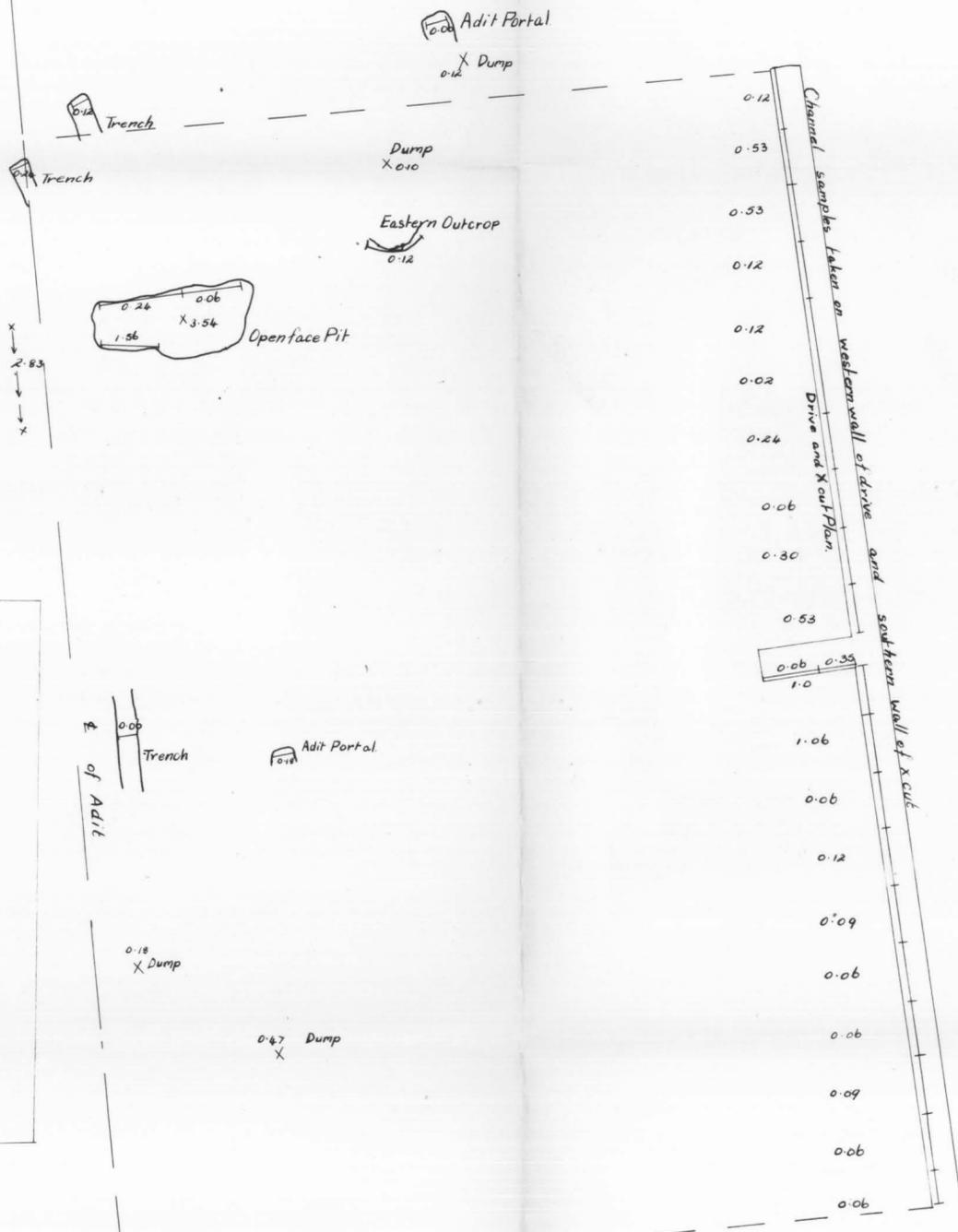
TRIAL HARBOUR AREA  
 Tasmania  
 T.H.P. 123  
 Scale: 1" = 40'  
 Date 23.11.66

PLATE 5

398 14



0.06 Pit



LOCATION PLAN  
Scale: 1 mile to 1 inch

**LEGEND**  
 // Channel Sample  
 X Grab Sample

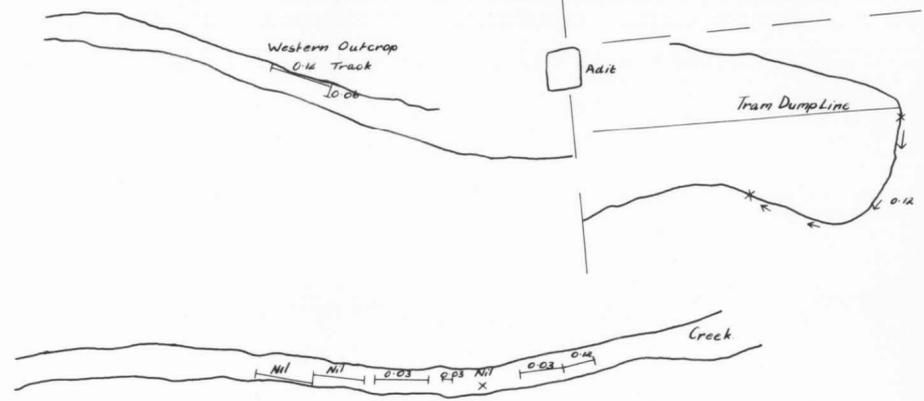
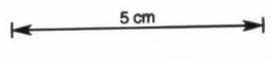


PLATE 6



**TRIAL HARBOUR**  
**PLAN SHOWING**  
 Sn Assays Of  
 Surface and U/Ground Workings  
**K. CORNISH'S LEASE**  
 Scale: 1 = 20'      Date: 16-6-65