FLINDERS ISLAND TIN

RESULTS OF SCOUT DRILLING PROGRAMME

E.L. 2/68

KENNETH McMAHON & PARTNERS PTY. LTD.
MINING CONSULTANTS
291 GEORGE STREET,
SYDNEY

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NOTES ON McMAHONS REPORT ON DRILLING AT FLINDERS ISLAND

GENERAL

1. These are typical Tertiary tin bearing leads - similar to many in N.E. Tasmania. The best tin values always occur in wash at the bottom of the lead - usually in the last few feet - although sporadic values do occur at all levels. The economic tin content of the lead is often only 100 feet or less in width and drilling at 100 feet intervals may miss values.

2. Drilling with percussion plants usually tends to underestimate values.

3. Bottom is sometimes difficult to determine and weathered granite and light gravel are often confused. Basalt (hole T.F.1) is not bottom and often good values lie beneath it.

PATS RIVER.

Line PD1 — I consider the 9½ oz. over 38 feet encouraging and some tin extends 100 feet either side.

Line PA1 — Why wasn't the line continued to the North as in the previous drilling? The line PAA has missed the lead.

OFFICER CREEK

This is a very small area and should now be disregarded.

TANNERS BAY

It was recommended that two lines should be put accross the lead, but not one here was completed. I seem to remember at line TB, the proline drilling showed a depth of 50 feet or more.

No bores were put down to the East of the two holes TB1 and TD1 (that showed values).

The Tertiary lead has little to do with the present drainage and TE 1/3E is not on the lead. The basalt showing in TF1 is not on the lead. The basalt showing in TF1 is interesting and indicates that the original Tertiary lead did flow to the North. There may be tin below the basalt.

This is still a promising area and certainly deserves more work - a properly planned drilling program.

At Pats River - which is the secondry area - I think it would be advisable to have a pit sunk in the vacinity of bore PD6 to check the drilling result.

Do not follow McMahons recommendations about Geophysical work and long lines of bores. We know approximately where the main leads are - now we have to prove their tin content.

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CONTENTS

January 10,1969. Kenneth McMahon & Partners Pty.Ltd.

INTRODUCTION.

Kenneth McMahon and Partners Pty.Ltd were retained by a Syndicate represented by Mr.T.K.Shadforth to undertake a scout drilling programme to delineate possible economic deposits of tin over three areas of Tertiary alluvials contained within Exploration Licence No.2/68, Flinders Island, Tasmania. The licence covers an area of 2,080 square miles and includes all of Flinders Island in Bass Strait north of Lady Barron. It is bounded by the parallels of latitude 39° 30' S and 40° 10' S, and the meridians of longitude 147° 40'E and 148° 30' E.

A percussion rig was used in the current drilling to enable the holes to be cased and the core pumped out. All the previous drilling over the three areas known locally as Pats River, Officer Creek and Tanner Bay was carried out with a Proline auger drill. However, no reliable samples could be recovered from below the water table and this led to the use of a percussion drill in the present programme.

SUMMARY AND CONCLUSIONS.

Between 30th September, 1968, and 11th December, 1968, 32 holes were drilled in the three areas for a total of 647 feet. Of these holes, only 9 produced tin metal assaying more than 1 ounce per cubic yard, with the highest value being 14½ ounces per cubic yard in one hole.

Severe weather conditions hampered operations and led to frequent bogging of the trailer-mounted drilling rig and the farm tractor towing the rig.

The three areas in themselves cannot be considered an economic proposition because of the scattered values and high overburden ratios. Tin values, when encountered, are lying in the bottom three feet of wash, and at Pats River and Tanner Bay, the leads are covered by heavy clay and cemented sand respectively, which would present treatment difficulties.

However, the three areas are only a fraction of the present exploration licence, and it is possible that a systematic programme of scout drilling could lead to the discovery of economic deposits in other parts of Flinders Island.

This is likely to be a slow, tedious and expensive business, and recommendations have been made as to how this might be achieved as cheaply as possible.

RESULTS OF DRILLING.

(a) Pats River:

Twelve holes were drilled for a total footage of 278 feet. Depths of holes ranged from 4 feet to 47 feet and bottomed on fresh or decomposed granite.

Holes were located at 100 feet intervals along lines PAA, PA and PD. Only hole number PD6 intersected tin, and assayed 9½ ozs/yd. Tin values, if present, were in the bottom two feet of wash.

From the results of the limited percussion drilling carried out at Pats River, no further drilling can be recommended unless other economic deposits are located within the licence area.

Assay results from the current drilling and the previous Proline auger drilling, indicate about 100 tons of tin in a lead 100 feet wide, providing the lead is continuous between the two old workings.

(b) Officer Creek:

Two lines, OA and OB were drilled over the likely leads with holes spaced at 100 feet intervals. Only two holes, OA3 and OA5 showed any tin values and each of these assayed about 3 oz/yd. Again bottom was either fresh or decomposed granite. No further drilling is recommended at Officer Creek.

(c) Tanner Bay:

Ten holes were drilled at Tanner Bay north of the old tin workings. These were located on lines TA, TB, TD, TE and TF, (see Plate III). From the results obtained the lead appears to be located between the creek and 50 yards up the hill to the west, and extends from line TB possibly to line TE. As before the tin values are in the last two or three feet of wash with the same bottom as before, except for hole TF1, which bottomed in hard versicular volcanic rock.

From 10 to 20 feet of hard cemented sand followed by soft organic material and wash lying on decomposed granite is common to Lines TA, TB, and TD.

The bottom of the lead lies about 15 to 20 feet lower than the present creek bed and slopes in the same north to south direction.

Results from assays give an indication of about 60 tons of tin in the area and it is recommended that no further drilling be carried out until other areas, if any, in the licence have been proved.

DRILLING.

A trailer mounted Goldfields G33 percussion rig on hire from Dorset Tin Division, Gladstone, Tasmania, was used. The drilling rig was towed by a Fordson farm tractor.

The method of drilling employed, was to drive a 6" I.D. steel casing fitted with a $7\frac{1}{2}$" O.D. Drive Shoe ahead of the drilling tools, the core was then pumped out in five feet increments and placed in a cut down 44 gallon drum. Drilling was stopped when fresh or decomposed granite was encountered.

SAMPLING AND ASSAYING.

The core was pumped from the casing in five feet increments into a cut-down 44 gallon drum. The sample was then washed through a hand operated cradle and the remaining tails collected and panned. The resulting heavy concentrate was sent to the Mining Laboratory, Mines Department, Launceston, for assay, where the total sample received was weighed, and any tramp iron present extracted. The remaining sample was assayed for tin by the usual peroxide fusion method.

Each sample was given a number which was recorded in the bore log beside the increment that the sample represented. The hole and location that the number referred to was known only to the Supervisor.

RECOMMENDATIONS

On the information obtained from the recent drilling programme, Kenneth McMahon and Partners Pty.Ltd are unable to recommend further work.

Present leads are confined to existing drainage systems, and the possibility always exists that parallel leads could be present adjacent to the known leads. In addition, other leads could be found away from the existing drainage patterns.

Further investigations could take the form of magnetic and hammer seismic traverses to locate new leads, or systematic drilling over long lines at right angles to the direction of the existing leads.

If further work was decided upon, it is suggested that a second-hand Goldfields G33 Drilling rig be purchased, these being available at a very reasonable cost.

As regards personnel, P.Mason, the Driller used in the current programme, expressed interest in returning to Flinders Island should further work be available. Devoney Brown, a local, is an experienced cradle operator who worked with the Drilling Contractor for Utah Development Company on Cape Barren Island. Failing this, Mr.Bert Thomas, Dorset Tin Division, at Gladstone, could be approached for the hire of an experienced driller to train suitable applicants.

Technical assistance and advice could be given by the Mines Department, Mr.Terry Hughes, or Kenneth McMahon and Partners Pty.Limited.

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DRILLING LOGS

PATS RIVER

Hole No.	Increment	Material	Oz/Sn	Sn/Yd
PA5	0- 5	Clay	Nil	
	5-10	Clay and wash. (W.L.6')	Trace	
	10-15	Clay, gravel	Nil	
	15-20	Clay, gravel	Nil	
	20-25	Clay, gravel	Nil	
	25-28	Clay, gravel	Nil	
		Bottomed on fresh granite.		
PA4	0- 5	Clay	Nil	
	5-10	Clay, wash (W.L.8')	Nil	
	10-15	Clay, wash	Nil	
	15-20	Clay, gravel	Nil	
	20-25	Clay, gravel	Nil	
		Bottomed on fresh granite.		
PA3	0- 5	Clay	Nil	
	5-10	Clay, Wash	Trace	
	10-15	Clay, gravel (W.L.11')	Nil	
	15-20	Decomposed granite	Nil	
	20-25	Decomposed granite	Nil	
		Bottomed in decomposed granite.		
PA2	0- 5	Clay	Nil	
	5-10	Clay, wash (W.L.9')	Trace	
		Bottomed in decomposed granite.		

DRILLING LOGS.

PATS RIVER

Hole No.	Increment	Material	Oz/Sn	Sn/Yd
PAA5	0-10	Wash, clay-sand, decomposed granite (W.L.2')	Nil	
		Bottomed in decomposed granite		
PAA6	0- 5	Soil, wash (W.L.2')	Nil	
		Bottomed in decomposed granite		
PAA7	0- 5	Clay, sand (W.L.2')	Nil	
		Bottomed in decomposed granite		
PAA8	0- 4	Clay, sand	Trace	
		Bottomed in decomposed granite		
PD7	0- 5	Clay, sand	Nil	
	5-10	Heavy clay, sand (W.L.6')	Nil	
	10-15	Heavy clay, sand	Nil	
	15-20	Heavy clay, sand	Nil	
	20-25	Heavy suspension, clay light wash	Nil	
	25-30	" " " "	Trace	
	30-35	" " " "	0.35	
	35-36	No suspension, heavy wash	0.27	1½oz.
		Bottomed in decomposed granite		
PD6	0- 5	Surface sand (W.L.4')	Nil	
	5-10	Heavy clay, sand	Nil	
	10-15	Heavy clay	Nil	
	15-20	Heavy clay	Nil	
	20-25	Heavy clay	Nil	
	25-30	Light wash	0.01	
	30-35	Wash, Iron Pyrites	0.10	
	35-38	Wash, decomposed granite	3.51	9½ oz.
		Bottomed on fresh granite		

DRILLING LOGS

PATS RIVER

Hole No.	Increment	Material	Cz/Sn	Sn/Yd
PD5	0- 5	Soil, surface sand. (W.L. 3')	Nil	
	5-10	Clay, sand	Nil	
	10-15	Heavy suspension, sand	Nil	
	15-20	" " "	Nil	
	20-25	" " "	Nil	
	25-30	" " "	Nil	
	30-35	" " "	Nil	
	35-40	No suspension, wash	0.01	
	40-45	Wash, Iron Pyrites	0.09	
	45-47	Wash, Iron Pyrites	0.01	1/5oz
		Bottomed in decomposed granite.		
PD4	0- 5	Sand	Nil	
	5-10	Sand (W.L. 6')	Nil	
	10-15	Sand	Nil	
	15-20	Sand	Nil	
	20-25	Heavy clay	Nil	
	25-30	Heavy suspension, clay, sand	0.01	
	30-35	Heavy suspension, clay, sand	Nil	
	35-40	Heavy suspension, wash	0.05	
	40-45	Heavy suspension, wash	0.09	1/3oz
		Bottomed in decomposed granite.		

DRILLING LOGS

OFFICER CREEK.

Hole No.	Increment	Material	Oz/Sn	Sn/Yd
OA1	0- 5	Sand (W.L.5')	Nil	
	5-10	Clay, sand	Nil	
	10-15	Clay, sand	Nil	
	15-19	Light wash	0.07	1/3oz
		Bottomed on fresh granite		
OA3	0- 5	Peat and light wash (W.L.4')	Nil	
	5-10	Light wash	0.34	
	10-15	Decomposed granite	0.09	3 oz
		Bottomed in decomposed granite		
OA5	0- 4	Sand, decomposed granite (W.L.1')	0.13	3 oz
		Bottomed in decomposed granite		
OA7	0- 4	Sand (W.L.0')	0.03	3/4oz
		Bottomed in decomposed granite		
OA11	0- 4	Sand, decomposed granite (W.L.1')	Nil	
		Bottomed in decomposed granite		
OA26	0- 5	Sand (W.L.2')	Nil	
	5-10	Clay, sand	Nil	
	10-15	Clay, sand	Nil	
	15-19	Clay, sand	Nil	
		Bottomed in decomposed granite		
OA30	0- 4	Clay, gravel (W.L.1')	Nil	
		Bottomed in decomposed granite		

DRILLING LOGS

OFFICER CREEK

Hole No.	Increment	Material	Oz/Sn	Sn/Yd
OA31	0- 4	Clay, gravel (W.L.1')	Nil	
		Bottomed in decomposed granite		
OB4	0- 5	Sand, clay (W.L.2')	0.02	
	5-10	Sand, clay, wash	0.03	1/2oz
		Bottomed on fresh granite		
OB5	0- 6	Sand, wash (W.L.3')	0.04	1/2oz
		Bottomed on fresh granite		

DRILLING LOGS

TANNER BAY

Hole No.	Increment	Material	Cz/Sn	Sn/Yd
TA1	0- 5	Cemented sand	0.01	
	5-10	Cemented sand (W.L. 10')	0.01	
	10-15	Cemented sand	0.02	
	15-20	Peat, wash, Iron Pyrites	0.02	1/4oz
	20-25	Iron Pyrites, decomposed granite	Nil	
		Bottomed in decomposed granite		
TA2	0- 5	Cemented sand	Nil	
	5-10	Cemented sand (W.L. 10')	0.04	
	10-15	Cemented sand	0.02	1/2oz
	15-20	Cemented sand	Nil	
	20-25	Sand, Iron Pyrites	Nil	
	25-30	Sand, Iron Pyrites	Nil	
	30-35	Gravel, Iron Pyrites	Nil	
	35-40	Gravel, granite	Nil	
		Bottomed on fresh granite		
TB1	0- 5	Cemented sand (W.L. 5')	0.01	
	5-10	Cemented sand	Nil	
	10-15	Peat, wash	0.01	
	15-20	Peat, wash, Iron Pyrites	0.05	
	20-25	Peat, wash, decomposed granite	1.77	7½ oz.
		Bottomed in decomposed granite		
TB2	0- 5	Cemented sand (W.L. 2')	0.02	
	5-10	Cemented sand, peat	Nil	
	10-15	Peat, wash	0.02	
	15-20	Peat, wash	0.03	
	20-25	Peat, wash	0.15	
	25-30	Peat, wash	0.35	2 oz
	30-31	Decomposed granite	Nil	
		Bottomed in decomposed granite		

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DRILLING LOGS

TANNER BAY

Hole No.	Increment	Material	Oz/Sn	Sn/Yd
TB3	0- 5	Cemented sand (W.L.3')	0.03	
	5-10	Cemented sand	0.05	
	10-15	Cemented sand	0.13	
	15-20	Cemented sand, wash	0.33	
	20-25	Sand, wash, clay	0.19	3 oz
	25-28	Clay, decomposed granite	Nil	
		Bottomed in decomposed granite		
TD1	0- 5	Cemented sand (W.L.0')	Trace	
	5-10	Cemented sand	Nil	
	10-15	Sand, peat	Nil	
	15-20	Peat, wash, Iron Pyrites	Trace	
	20-25	Peat, wash, Iron Pyrites	0.05	
	25-28	Peat, wash, decomposed granite	4.00	14½ oz
		Bottomed in decomposed granite		
TD2	0- 5	Clay (W.L.0')	0.01	
	5-10	Clay, sand	Trace	
	10-15	Sand, peat	Trace	
	15-20	Peat, light wash	0.02	
	20-25	Peat, wash	0.12	
	25-30	Peat, wash	0.16	1 oz
	30-34	Decomposed granite	Nil	
		Bottomed in decomposed granite		
TD1E	0- 5	Clay (W.L.0')	Nil	
	5-10	Clay	Nil	
	10-15	Sand	Nil	
	15-20	Wash, decomposed granite	Nil	
	20-25	Decomposed granite	Nil	
		Bottomed in decomposed granite		
TE1/3E	0- 5	Clay (W.L.0')	Nil	
	5-10	Clay, decomposed granite	Nil	
		Bottomed in decomposed granite		

DRILLING LOGS

TANNER BAY

Hole No.	Increment	Material	Oz/Sn	Sn/Yd
TF1	0- 5	Clay (W.L.5')	Nil	
	5-10	Clay	Nil	
	10-15	Clay, sand	Nil	
	15-20	Gravel	Nil	
	20-25	Peat, gravel	Nil	
	25-30	Peat, gravel	Nil	
	30-34	Versicular volcanic rock	Nil	
		Bottomed in versicular volcanic rock		

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OLD TIN WORKINGS

LEAD

TERTIARY

Line PA

Line PB

Line PC

Line PD

Line PE

Line PF

TRACERS

TRACE

5 cm

- Previous drilling
- Current drilling

PATS RIVER TINFIELD FLINDERS ISLAND	Scale: 1" = 300' Oct., 1968 Plate 1

KENNETH McMAHON & PARTNERS PTY. LTD.

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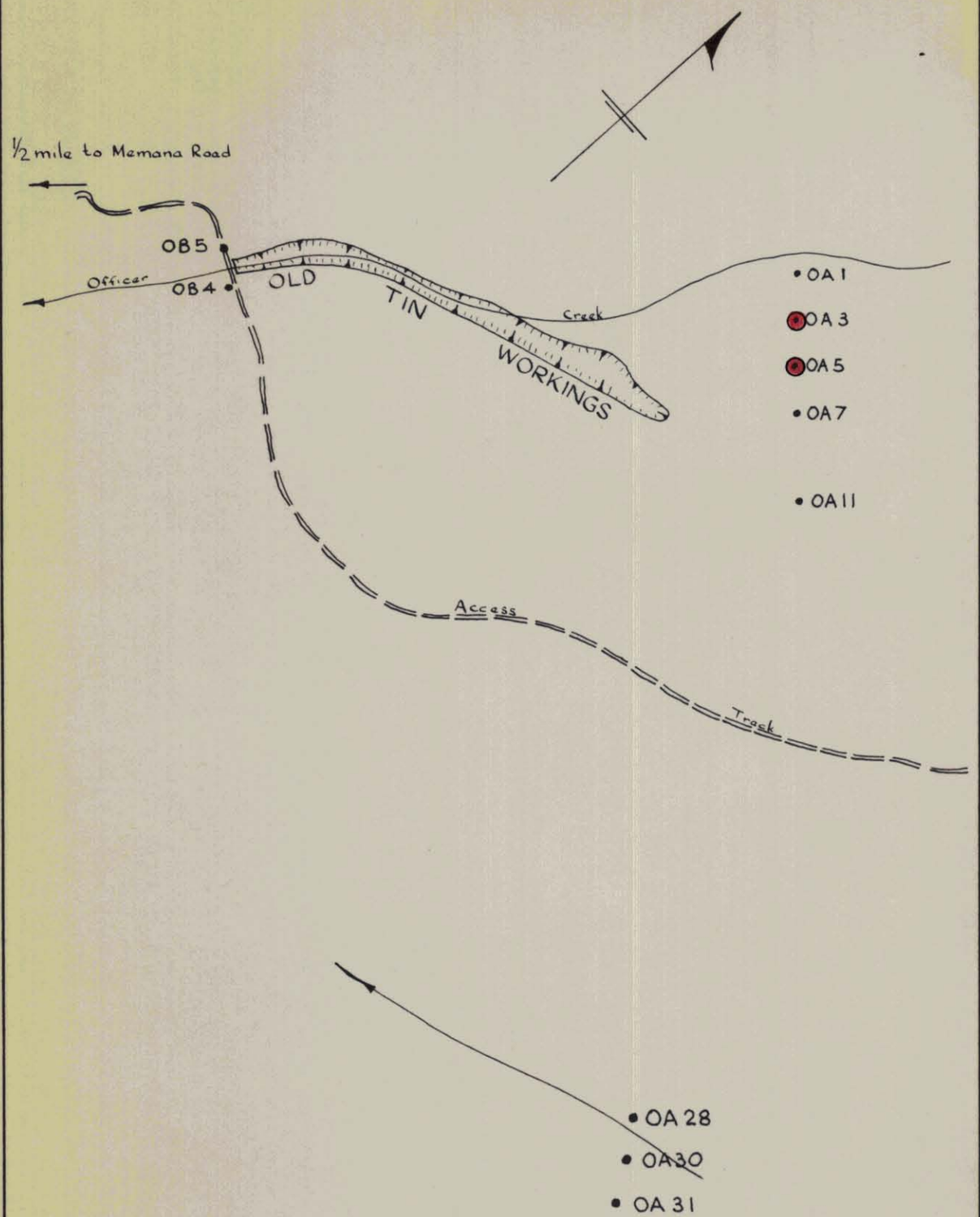

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OFFICER CREEK TINFIELD FLINDERS ISLAND	Scale: 1" = 300' Nov., 1968 Plate 11
KENNETH McMAHON & PARTNERS PTY. LTD.	

5 cm

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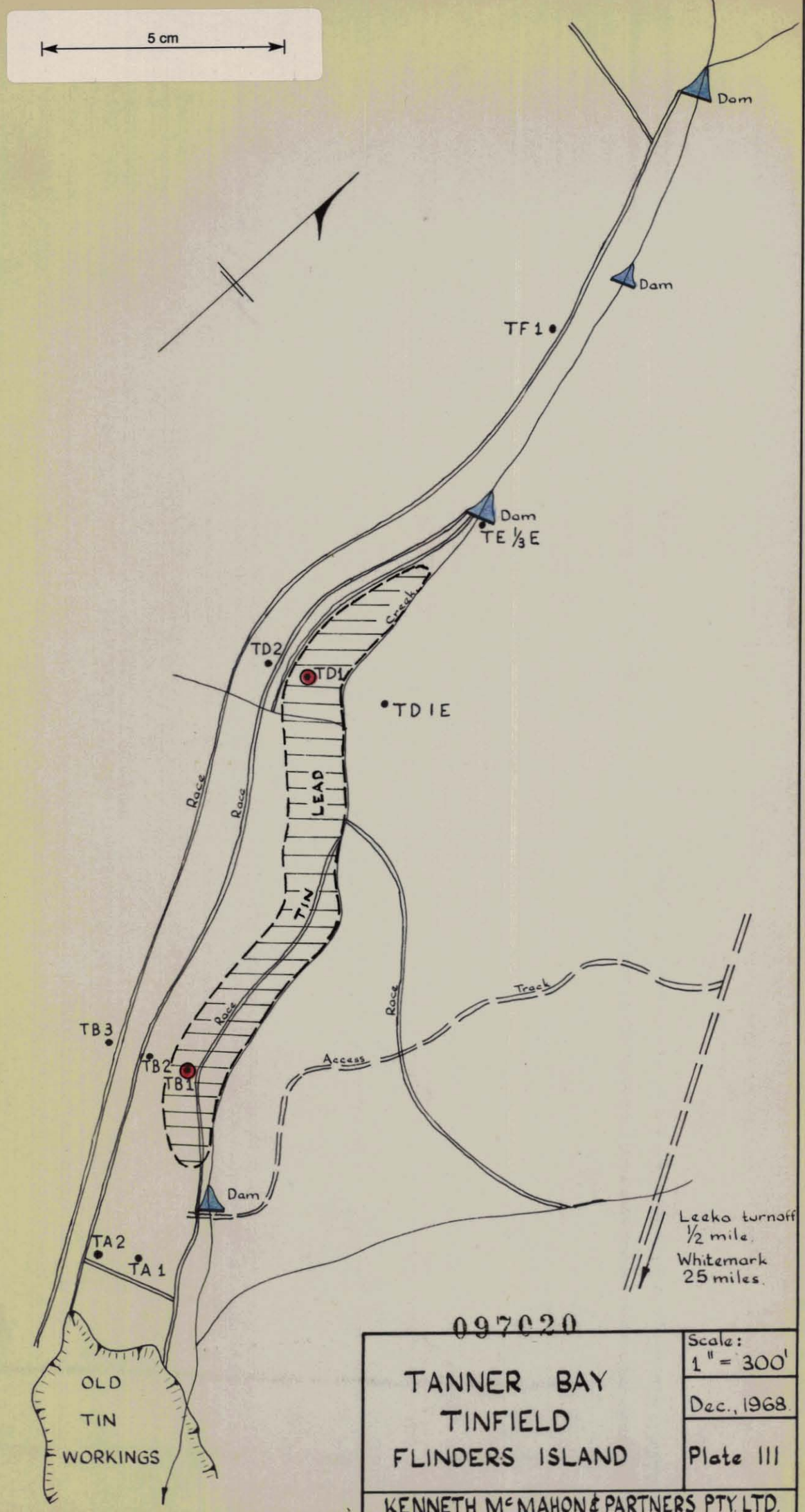

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TANNER BAY TINFIELD FLINDERS ISLAND	Scale: 1" = 300'
	Dec., 1968.
	Plate III

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