

9/12 A Q12 No 1

131001

Q12, 7.

EL 2/66
PROSPECTING AREA
FLINDERS ISLAND

68-508

Prospecting Area EL 2/66 Flinders Island

by
T.O. Hughes April 1968

131E

①

2/8

000

131002

68-508

CONFIDENTIAL

C/- SHIMOJO,
1071 SHISHIGAYA,
TSURUMI-KU,
YOKOHAMA-SHI
KANAGAWA-KEN
JAPAN

Dof M	S & A	CG	CC & M	D.S.M.E.
RECEIVED				Registrar
3 - FEB 1969				E & IL
ANSWERED				
DEPT. OF MINES				
REF. NO. 708/69				

20th. Jan.

Dear Tim,

I have just received a copy of the report - thank you - and am hastening to reply in case you are pessimistic about it. Don't be - I think the results are very heartening. I'm sorry I left you to the tender mercies of McMahon & Co. Obviously they had no geologist there and how accurately the drilling was supervised, I don't know but the planning was not good and not just as I advised. Never the less the results are very interesting and quite encouraging. Would you please discuss the points I am making on the next paper with Jack Symons.

*Remember
McMahon
&
Partners*

Whatever the results of your conference with the Mines Dept do not give up the Area. I hope to be back in Australia within the next couple of months and can give you detailed advise and, if necessary, do some supervision myself.

Kind Regards,

T. D. H.

MICROFILMED

MICROFILMED

3282y

131003

001

PROSPECTING AREA E/L 2/66 FLINDERS ISLAND.

1. ABSTRACT

Preliminary drilling at three areas on Flinders Island has indicated large areas of Tertiary Alluvials, at depths of 10 to 50 feet, most of which appear to be tin-bearing. However, the drilling, by Proline Plant, could give no indication of the grade of the deposits. It is recommended that a proper drilling campaign with a suitable plant be undertaken on these deposits.

2. LOCATION AND ACCESS

Flinders Island, the largest of the Furneaux Group is located in Bass Strait between Victoria and Tasmania at Latitude 40°S. and Longitude 148°E

The Island is well settled and the three deposits lie adjacent to good roads connecting Airport and Ports. Passenger flights from Launceston are now almost daily, freight planes run when required and there are several small ships connecting the Island with Tasmanian Ports.

The Pats River and Officer Creek areas are about 5 miles from the principal settlement ~~South~~ Whitemark, and Tanners Bay is 22 miles to the north.

3. TITLE

The portion of the Island containing the tin deposits is held as E.L. 2/66 of 480 square miles in the name of T.D. Hughes, renewable every six months. The tin deposits all appear to occur on Crown Land.

4. RAINFALL AND VEGETATION

The annual average rainfall of Flinders Island is 30 inches and this falls fairly regularly throughout the year, the months of January, February and March being driest. Although there are some areas of timber on the Island the plain country of the alluvial areas is covered by light scrub, grasses and a few saplings

5. GEOLOGY

The Island is occupied by a sedimentary series of quartzites and argillites, the Mathinna Group, intruded widely by Devonian Granite. These rocks are overlain in places, particularly in the East by recent deposits of sands and limestones. In a few areas these recent sands cover small areas of Tertiary leads.

The Tertiary Deposits consist largely of cemented sands and gravels, containing minor clay and wash stones. However there are local concentrations of hard stiff clay and at Tanner's Bay, this clay is associated with black and brown carbonaceous matter and pyrite.

The alluvial tin occurs sporadically throughout the leads but is normally concentrated in the bottom foot or so. In the Pats River - Officer Creek area it

is considered to have been shed from lode tin at or near the granite - Mathinna contact. At Pats River it is of fine and even grade and is associated with fine grained rutile. Closer the contact, at Officers Creek, the tin is fairly coarse and some small areas show high concentration.

6. HISTORY

Tin was first discovered on Flinders Island in 1882 at Tanners Bay, and Killiecrankie Bay. The Pats River area was first taken up in 1896. Small areas in both districts have been worked intermittently ever since. Old workings are small, the largest, at Tanners Bay, measures 1,000' x 200' x 10', and recorded production, though vague, seems to be only of the order of a few tens of tons of tin.

7. WATER SUPPLY

The principal reason for the small tin production seems to have been the inadequate water supply, the tin workers relying on small gravity races from non-permanent streams. However, with modern pumping equipment there should be no lack of water. Sea water could be pumped, about a mile in distance, from the Tanners Bay Field. There is sufficient water throughout the year in Lower Pats River, below the tin leads, for use in this field.

8. DRILLING CAMPAIGN

It was intended to conduct a scout drilling campaign, using a proline plant and to check-drill likely areas with a Southern Cross Percussion Plant. This latter plant was hired from the Closer Settlement Department, but after two holes were put down it was declared by the driller to be unsafe. Consequently the whole campaign was carried out by the Proline Plant. This was of limited use only. It did indicate where bottom, usually soft granite, occurred and was thus useful in indicating the extent of the Tertiary alluvium; incidentally much larger than previously suspected. However as soon as the water table was reached, the plant was useless in indicating the material in the hole as neither sand, wash nor tin could be brought to the surface. 88 bores were put down by the Proline for a total depth of 1,530 feet.

9. TANNERS BAY

The old workings run in a northwesterly direction for about 1,000' diagonally to the creek and are of a maximum depth of 12 feet. The material on the walls is a coarse sand with wash stones cemented into a hard mass. However this hardness appears to occur on exposure and holes put down with the proline had no difficulty in penetrating this material. Carbonaceous matter and pyrite are common in places at the base of the workings and heavy concentrations of tin may be obtained from wash beneath the cemented material. Water was supplied by small races from non-permanent streams in the immediate vicinity. The old miners apparently had trouble in disposing of their tailings and a tail-race, cut deep in the granite, only allowed for working to about 12 feet.

"Killiecrankie Diamonds" (Topaz) are abundant in these workings and are much sort after by "gemologists". Indeed plane loads of these people come from Victoria for a days digging in these old workings.

In the past it has been considered that these Tertiary Deposits, although rich in tin and topaz, were of very limited size. However, the idea that the Tertiary Lead ran in the opposite direction from the present drainage, that is from the southeast to the northwest, has been vindicated by the limited drilling carried out. Three holes were put down 600 feet upstream from the end of the workings and showed much deeper ground over a width of at least 300 feet.

The logs are as follows:

TB1	TB1	TB3
0-8 Coarse Sand	0-5 Cemented Sand	0-15 Cemented sand
8-20 Carbonaceous material - clay	10-12 Black Sandy Clay	15-30 No core
20-30 Clay and wash	12-20 Carbonaceous matter	30-32 Carbonaceous matter
30 Soft bottom	20-33 No Core	32 Bottom
	33-52 Wash and clay	
	52 Soft Bottom	
Water at 8' - Some tin	Water at 10' - Some tin	

Due to the breakdown of the drilling plant, no holes were put down beyond this line, but the lead appears to extend for many thousands of feet to the northwest, in fact, right to Killiecrankie Bay. However no opinion can be given of its tin content.

10. PATS RIVER

By far the most extensive drilling operations were carried out in this area. Bore lines put down 1,000' apart and bore holes at 100' intervals, showed an area of alluvium extending for 6,000 feet in a southwesterly direction with an average width of 700' and a depth of 25', or over 4 million yards. Most of the material is a coarse sand, with some clay and layers of wash, normally at the bottom. The sand becomes hard and cemented when exposed to air. Old Workings at either end of the tested ground are small, although to the northeast extensive use of the upper sands and gravels have been made for road material.

No information can be given as to the tin potential of the alluvium, but it is assumed that at least half is tin bearing.

11. OFFICER CREEK

This is really an extension, upstream, of the Pats River Lead, but there is a gap of two thousand feet between them where the present stream has cut down to bedrock and removed the Tertiary Deposits.

In a wide plain, below the contact of the granite and sediments (the source of

the tin), drilling has revealed two leads. Not sufficient drilling was done to determine yardages in this area, but one lead appears to average 200' and the other 600' in width with an average depth of 15'. The more northerly lead has been opened up by old workings for a length of 800 feet and some very rich prospects (one of 100 lbs. per yd) can be washed along the edges. The tin is coarse and only partly rounded, showing the source is not far distant.

12. LEVENTHORPE CREEK

This is an area only a few miles from Officers Creek, but on the other side (eastern) of Mt. Leventhorpe. No investigation was undertaken in this program but good prospects can be washed from the edge of old workings, of very limited nature, along the Creek and below these workings are quite extensive flats which should be bored.

Access to these workings is not as easy as to the others and some road making would have to be done.

13. RECOMMENDATIONS

Sufficient preliminary work has been done to show that there is sufficient ground of potential economic interest on Flinders Island to warrant a careful and comprehensive drilling campaign.

It is important that the right type of machine be used. It may be that there is too much water near the bottom (where the tin is concentrated) to use a Caldwell. Some type of Percussion Plant of easy manoeuvrability as the holes are shallow, could perhaps be obtained. The samples could be washed on a cradle and weighed and assessed on the site. Check assays could be made from time to time.

It is recommended that the area be retained and a drilling campaign carried out. Although summer conditions are preferable, drilling can be carried out on Flinders Island all the year as the winter rainfall is not severe and access is good.

Lawrence D. Hughes

30. 3. 67.

14.

<u>BORE NO</u>	<u>DEPTH</u>	<u>MATERIAL</u>	<u>WATER</u>	<u>BOTTOM</u>	<u>LIQ</u>
<u>PATS RIVER</u>					
PA1	9'	Sand - Clay		Soft Granite	Nil
2	36'	Sand, Clay, Gravel		"	Trace
3 *	20	Sand, Clay		"	Trace
4 *	20	Gravel "		"	Trace
5	30	Clay		"	Trace
6	22	Sand, Clay	12'	"	Trace
7	27	Sand, Clay	12'	"	5 oz
8	27	Sand		"	6 oz
9	30	Sand		"	"
PB1	3	Sand		Granite	Nil
2	1'6	"		"	"
3	1'	"		"	"
4	1'6	"		"	"
5	19'	Sand, Clay		"	Trace
6	12'	Sand, Clay		Soft Granite	Trace
7 *	5'	Clay			
8	18'	Clay			Nil
9	15'	Sand, Clay			Nil
10	5'	Clay			Nil
11	27	Clay, Sand			Trace
12	26	" "			"
13	27	" "	10'		
PC1	30'	Sand, Clay			Trace
2	12'	" "			Trace
3	39'	" "			
4 *	21'	Clay Sand, wash			Trace
5	42	"	20'	Soft Granite	
6	32'	"		" "	
7	30'	"	10'		
8	12	"			
9	22	Clay Sand	4'	" "	Trace
10	3	Soil		Hard Granite	Nil
PD1	18'	Clay, Sand			Trace
2	18'	Clay, Sand, wash			Trace
3	36'	Clay			Trace
4 *	21'	Clay Sand, wash		Hard Granite	10 oz
PE1	40'	Clay			
2	8'	Sand, Clay, Wash			
3	9'	"			

006

006

cont

<u>BORE NO</u>	<u>DEPTH</u>	<u>MATERIAL</u>	<u>WATER</u>	<u>BOTTOM</u>	<u>LIN</u>
PE4	27'	Clay, Sand			
5	18'	"			
6	18'	Clay, Sand Wash			
7	20'	Clay, Sand Wash			
PF1	36'	Clay Sand wash	18'		
2	45'	Clay, Sand	10'		
3	45'	"			
4	36'	Clay, Sand wash	15'		Trace
5	39'	Sand, Clay 15'33 stiff black clay	10'		Trace
PK1	28'	Sand, clay wash		Soft Granite	Trace
<u>TANNERS BAY</u>					
T-1	12'	Clay, cemented sand			
TB1	30'	Clay sand, wash	8'	Soft Granite	Some
2	52	Clay, Sand, Carbon	10'	"	Some
3	32'	" "	8'	"	"
<u>OFFICER CREEK</u>					
OA1	19'	Clay Sand Heavy wash		Hard Granite	
2	18'	" "	10'	"	
3	15'	Cemented Sand		Soft Granite	
4	7'	Sand Wash			
5	10'	Sand wash	9'		
6	15'	Sand wash			
7	8'	Clay, Sand			
OA8	15'	Sand, Clay	14'		
9	9'	Cemented Sand			
10	12'	"			
11	9'	Clay, Gravel			
OA12 to					
OA25	34'	Soil		Hard Granite	
26	7'	Sand, Clay			
27	9'	"			
28	30	Sand Clay wash	5'		
29	18'	"	15'		
30	20	Sand, Clay	10		

../cont

007

cont

<u>BORE NO</u>	<u>DEPTH</u>	<u>MATERIAL</u>	<u>WATER</u>	<u>BOTTOM</u>	<u>TIN</u>
0A31	15'	Sand,Clay			
32	12'	" "			
33	15'	" "			
34	18'	Sand,clay,wash			
OB1	4'	Sand		Hard Granite	
2	5'	Sand,Clay			
3	15'	" "			
4	16'	Sand,clay,wash		Hard Granite	
5	15'	Cemented Sand			
6	4'	Sand		Hard Granite	

* Southern Cross Plant Bores

GRANITE

M.I. to TRACE
11 27'
12 20'
13 27'
15 19'
18 15'
19 15'
20 5'
21 5'
22 7'
23 12'

TERTIARY

LEAD

602 8 27'
502 7 27'
6 22'
7 20'
8 20'
9 36'
1 9'

TRACES

GRANITE

10 3'
9 22'
8 17'
7 30'
6 32'
5 21'
4 21'
3 21'
2 12'

M.I. to TRACE

PD LINE
3 2 4 1
TRACE

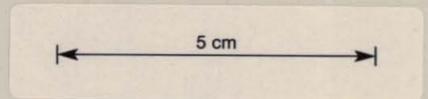
4 27'
3 9'
2 21'
1 20'
18 18'
16 16'

PE LINE

Old workings
4 36'
3 36'
2 45'
1 45'
TRACE
34'



SCALE
1" = 300'



PATS RIVER TINFIELD
DRILLING PLAN
1967

010

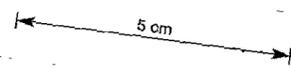
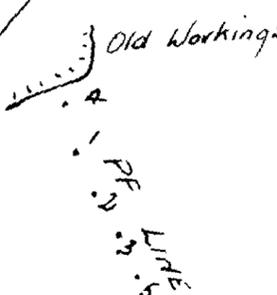
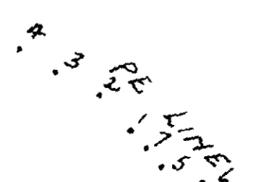
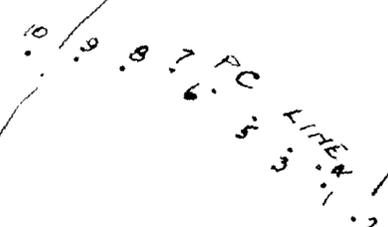
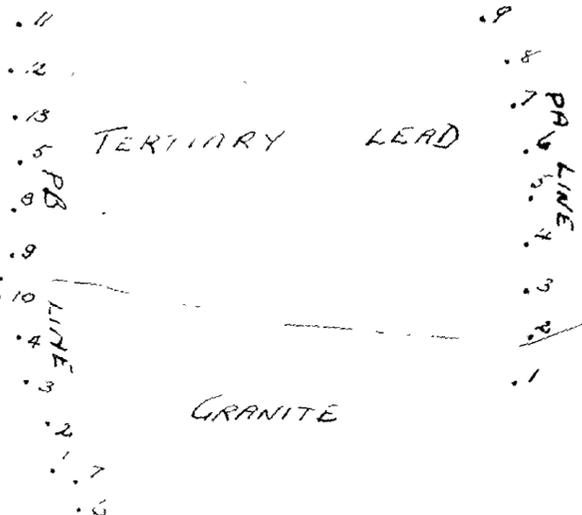
PXI
Old workings

131012

GRANITE

TERTIARY LEAD

GRANITE



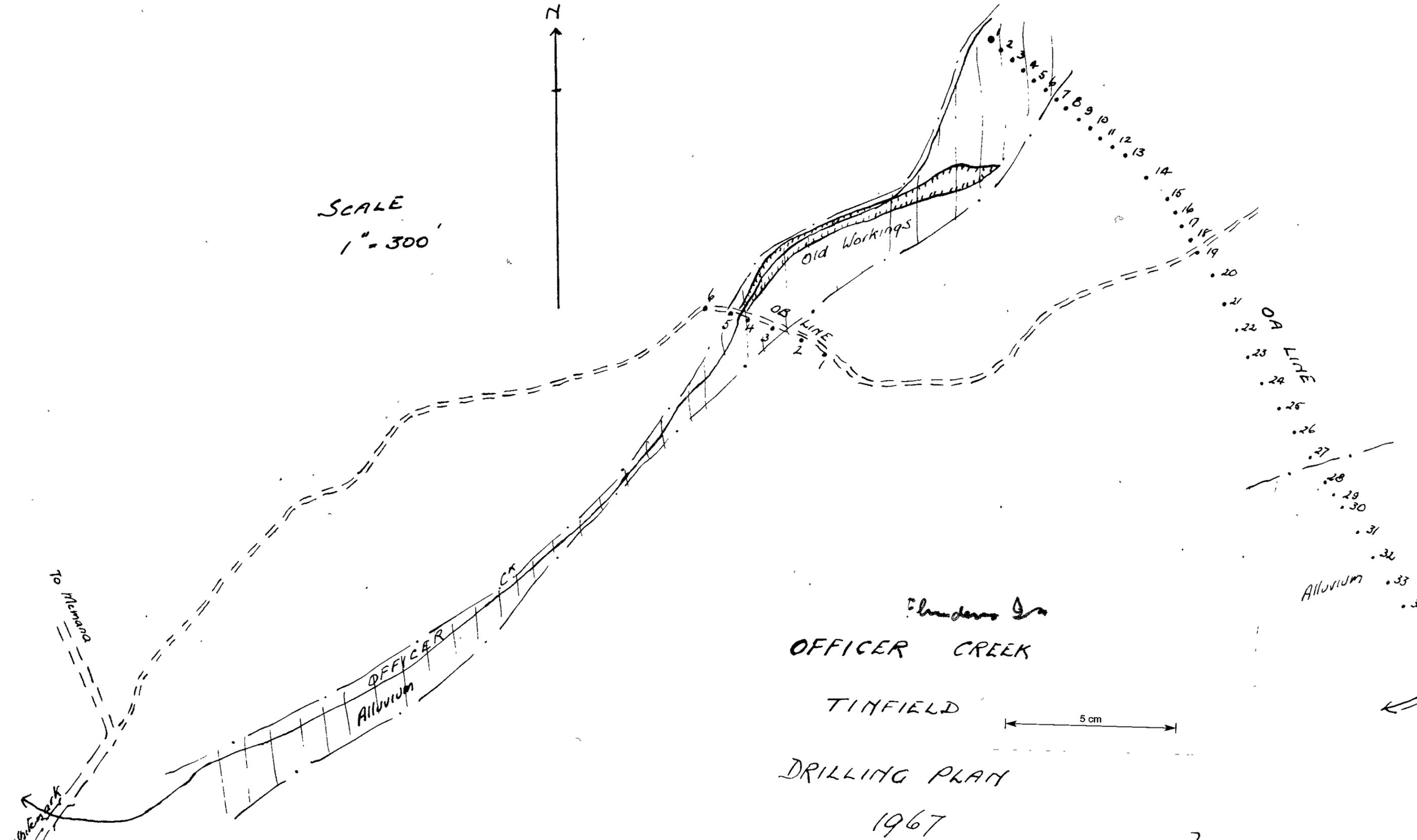
SCALE
1" = 300'

Flinders Is.
PAT'S RIVER TINFIELD
DRILLING PLAN
1967

E.L. 2/66
10/May 1967.

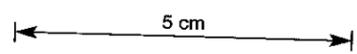
T. D. Planchon
(Kathleen's Invention)

SCALE
1" = 300'



Blunders In
OFFICER CREEK

TINFIELD



DRILLING PLAN

1967

T. D. Hughes (Kathleen Investment)

E.L. 2./66.

10/May 1967.