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MICROFILMED

GEOLOGICAL EVALUATION OF

OFFSHORE DRILLING FOR TIN

N.E. TASMANIA AND CAPE BARREN ISLAND.

EL 18/70 AND 19/70

BY: DR. J. C. STANDARD
Consulting Geologist,
September, 1970.

AMG REFERENCE POINTS ADDED

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GEOLOGICAL EVALUATION OF OFFSHORE DRILLING FOR TIN - N.E. TASMANIA AND CAPE BARREN ISLAND.

SUMMARY:

The offshore drilling programme conducted by a joint venture between B.H.P. and Utah Development in March and April, 1968, failed to locate commercial concentrations of tin.

An evaluation of the offshore drilling programme was undertaken by the author in September, 1970, and it was found that when their drilling data was processed and plotted as contour lines the results are of geological and possible economic significance.

The results obtained from the drilling in Ringarooma Bay have indicated the possible location of an ancient mouth to the Ringarooma River that has not been previously found and it also indicates the possible location of a tin bearing "deep lead" not previously known.

DISCUSSION:

In March and April, 1968, a drilling programme was conducted by a joint venture between B.H.P. and Utah Development company. The results of this drilling programme are given in a report, No. C.R. 538 583, by J. Volker 1968.

These results have been converted to values expressed in cents per cubic yard for the total hole and for the bottom 15 feet of sample from each hole, and are listed in Table 1.

Contour maps showing the distribution of these values are shown on Plates 1, 11, 111 and 1V. Plates 1 - 4 inc. show the distribution of S_n values in the panned concentrate and Plate 5 shows the holes in Deep Bay, Cape Barren Island, that were not bottomed.

One square mile of bottom sediment 30 feet deep is equal to 92.8 million cubic yards, using a value of $3,283 per short ton of S_n. One cent per cubic yard sediment is worth $928,000. If the above price for tin is for a long ton multiply all results by 0.89285

In Ringarooma Bay the best concentration of tin using the whole hole is worth about $1,000,000. The cost of production would be far greater than this.

GEOLOGICAL INTERPRETATION. RINGAROOMA BAY.

The plotting of the tin values of the whole hole shows a concentration of tin which is not present at the bottom of the sediment. This concentration is interpreted as being deposited by the Ringarooma River when its mouth was located about 2½ miles to the north-east of where it is at the present time.

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GEOLOGICAL INTERPRETATION.
RINGAROOMA BAY. Cont'd.

The highest value of tin found in any of the drilling was in hole 11A, which was located about ¼ mile offshore, 4¼ miles N.E. of the present mouth of the Ringarooma River. This is interpreted as being caused by a tin bearing deep lead ~~lead~~ which has not been previously located. An examination of the topographic map of the onshore area indicates that a now covered stream channel up to a length of about 1½ miles could be present between the coast and Ringarooma Tier, the first outcrop of rock to the east of the coast.

The higher concentration of tin in holes 11A, 12A and 13A, all of which are located less than ¼ mile offshore, indicates that the beaches in this area may contain tin vlues which are of interest.

DEEP BAY, CAPE BARREN ISLAND.

This bay is located off the mouth of the Rook's River which is known to contain tin deposits.

The closest row of holes to mouth of the river, 17, 13, 19 and 20, were not bottomed and therefore the results are inconclusive.

A study of plates 1 and 2 indicates that there is a strong north-westward current, which has moved some of the tin brought in to the bay by the Rook's River to the N.W. and deposited it near the shore in the area around holes 9 and 15.

RECOMMENDATION:
RINGAROOMA BAY AREA.

It is recommended that: (1) a scout drilling programme of 6 lines, parallel to the beach, spaced ¼ mile apart and with holes every 400 ft. along these lines be drilled onshore of the area which in Plate 1 exceed one cent per cubic yard. If a channel is located sample drilling should be done.

2) A scout drilling programme of 6 lines, parallel to the beach, 6000 feet long and ¼ mile apart with holes every 400 feet (15 holes per line) be conducted between Bowler's Lagoon and the beach (inland from hole 8A).

3) Sample drilling of Boobyalla beach on ¼ mile centre (25 holes) from the mouth of the Ringarooma to north end of the beach.

CAPE BARREN ISLAND.

It is recommended that the North-South trending beach located about 2 miles east of the mouth of Rook's River be sample-bored on ¼ mile interval (9 holes).

J C Stanland

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Standard

B.M.I. MINING. TASMANIAN TIN ASSAY RESULTS

7th September 1970.

1 ton of tin on the London market = £1520 or $3283 Australian.
Assuming short tons, one pound of tin is valued at $1.64
If the above price for tin is for a long ton multiply all value result by 0.89285.

	HOLE	WHOLE OF HOLE AV. lb OF TIN PER cu.yd.	WHOLE OF HOLE VALUE OF TIN PER cu.yd. ¢		BOTTOM 15' AV. lb.OF TIN PER cu.yd.	BOTTOM 15' VALUE OF TIN PER cu.yd. ¢
	3RB	0.00692	1.135		0.00857	1.405
	5RB	-------	-----		-------	-----
	7RB	0.00252	0.413	(15.25')	0.00267	0.438
	9RB	0.00397	0.651	(18')	0.00333	0.546
	11RB	0.00332	0.544		0.00467	0.467
	13RB	0.00587	0.963		0.00772	1.266
	9ARB	0.00385	0.631		0.00316	0.518
	11ARB	0.01196	1.961		0.01994	3.270
	12ARB	0.00512	0.840		0.00610	1.000
	12BRB	0.00764	1.253		0.01707	2.799
*	13ARB	0.00565	0.926	(11')	0.00805	1.320
	8ARB	0.00620	1.017	(16')	0.00323	0.530
	14BRB	0.00472	0.774	(17')	0.00707	1.159
	12DB	0.00325	0.533		0.00343	0.563
	13DB	0.00205	0.336	(17')	0.00174	0.285
	15DB	0.00684	1.122	(11.5')	0.00684	1.122
	18DB	0.00190	0.312		0.00185	0.303
	19DB	0.00424	0.695		0.00479	0.479
	20DB	0.00194	0.318		0.00238	0.390
	1DB	0.00502	0.823	(18')	0.00570	0.935
	5DB	0.00424	0.695	(16')	0.00545	0.894
	7DB	0.00477	0.782		0.00420	0.689
	8DB	0.00494	0.810	(18.5')	0.00464	0.761
	9DB	0.00268	0.440		0.00268	0.440
	10DB	0.00509	0.835		0.00569	0.933
	11DB	0.00467	0.766		0.00626	1.027
	14DB	0.00239	0.392		0.00239	0.392
	16DB	0.00465	0.763	(18')	0.00467	0.766
	17DB	0.00308	0.505		0.00546	0.895
	4DB	0.00483	0.792	(10')	0.00483	0.792
	5 Anson Bay	0.00346	0.567	(5')	0.00346	0.567
	2DB	0.00426	0.699		0.00357	0.585
	3DB	0.00668	1.096	(10')	0.00668	1.096
	6DB	0.00703	1.153		0.00801	1.314

* SAMPLES MISSING, AVERAGED ON AVAILABLE SAMPLES ONLY.

Table 1

Petal Point

AMG
579500E
5485400N

0·774
14b – 47'

13 – 30'

13a – 46'

12b – 50'

12a – 45'

11 – 30'

11a – 33'

9 – 30'
bottom

9a – 33'

8a – 26'

7 – 21'
bottom

5 – 0'
bottom

3 – 30'

2 – 0'
bottom

1 – 0'
bottom

BAY

BAROOMA

Ringarooma R

Toobyalla R

AMG
573500E
5473700N

Report No CR 583
J Volker
May 1968

SAMPLE HOLE LOCATIONS

RINGAROOMA BAY

N.E. Tasmania

Greater than 1·5% per cu. yd.

Between 1·0 & 1·5% per cu. yd.

Between 0·7 & 1·0% per cu. yd.

Less than 0·7% per cu. yd.

Scale of miles

0

Plate I
WHOLE OF HOLE

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5 cm

AMG REFERENCE POINTS ADDED

Petal Point

006

14b – 47'

13 – 30'

13a – 46'

12b – 50'

12a – 45'

11 – 30'

10 – 33'

9 – 30'
bottom

9a – 33'

8a – 26'

7 – 21'
bottom

5 – 0'
bottom

3 – 30'

2 – 0'
bottom

1 – 0'
bottom

BAY

RINGAROOMA

Report No CR 583
J Volker
May 1988

SAMPLE HOLE LOCATIONS

RINGAROOMA BAY

N.E. Tasmania

Over 3^{g} per cu.yd

Between 2·0 & 3·0^{g} per cu.yd.

Between 1·5 & 2·0^{g} per cu.yd.

Between 1·0 & 1·5^{g} per cu.yd.

Between 0·7 & 1·0^{g} per cu.yd.

Less than 0·7^{g} per cu.yd.

Scale of miles

0

Ringarooma R

Boobyalla R

Plate II
BOTTOM 15'

5 cm

006596

FLINDERS ISLAND

Little Dog Island

Great Dog Island

SOUND

VANSITTART ISLAND

Tin Kettle Island

Anderson Island

FRANKLIN

AMG 591800E 5533800N

AMG 605500E 5535200N

Dough Bay Island

1-38' 2-31' 3-11'6" 4-11' 5-41' 6-31' 7-35' 8-23'6" 9-18' 10-40' 11-35' 12-48' 13-42' 14-15' 15-41'6" 16-43' 17-45' 18-45' 19-65' 20-43'

DEEP BAY

Rooks River

965008

Greater than 1¢ per cu.yd

Between 0.7¢ & 1.0¢ per cu.yd.

Less than 0.7¢ per cu. yd.

AMG REFERENCE POINTS ADDED

5 cm

CAPE BARREN ISLAND

Scale of miles

1 0 1 2 3 4

Plate III

TOTAL HOLE

C08

FLINDERS ISLAND

Little Dog Island

Great Dog Island

SOUND

VANSITTART ISLAND

Tin Kettle Island

Anderson Island

FRANKLIN

1-38' 2-34' 3-11'6" 4-11' 5-41' 6-31' 7-35' 8-23'6" 9-18' 10-40' 11-35' DEER 12-48' 13-42' 14-15' 15-16' 16-43' 17-45' 18-45' BAY 19-65' 20-45'

Dough Bay Island

Rooks River

CAPE BARREN ISLAND

965009

Greater than 1^{g} per cu.yd.

Between 0.7^{g} & 1.0^{g} per cu.yd.

Less than 0.7^{g} per cu.yd

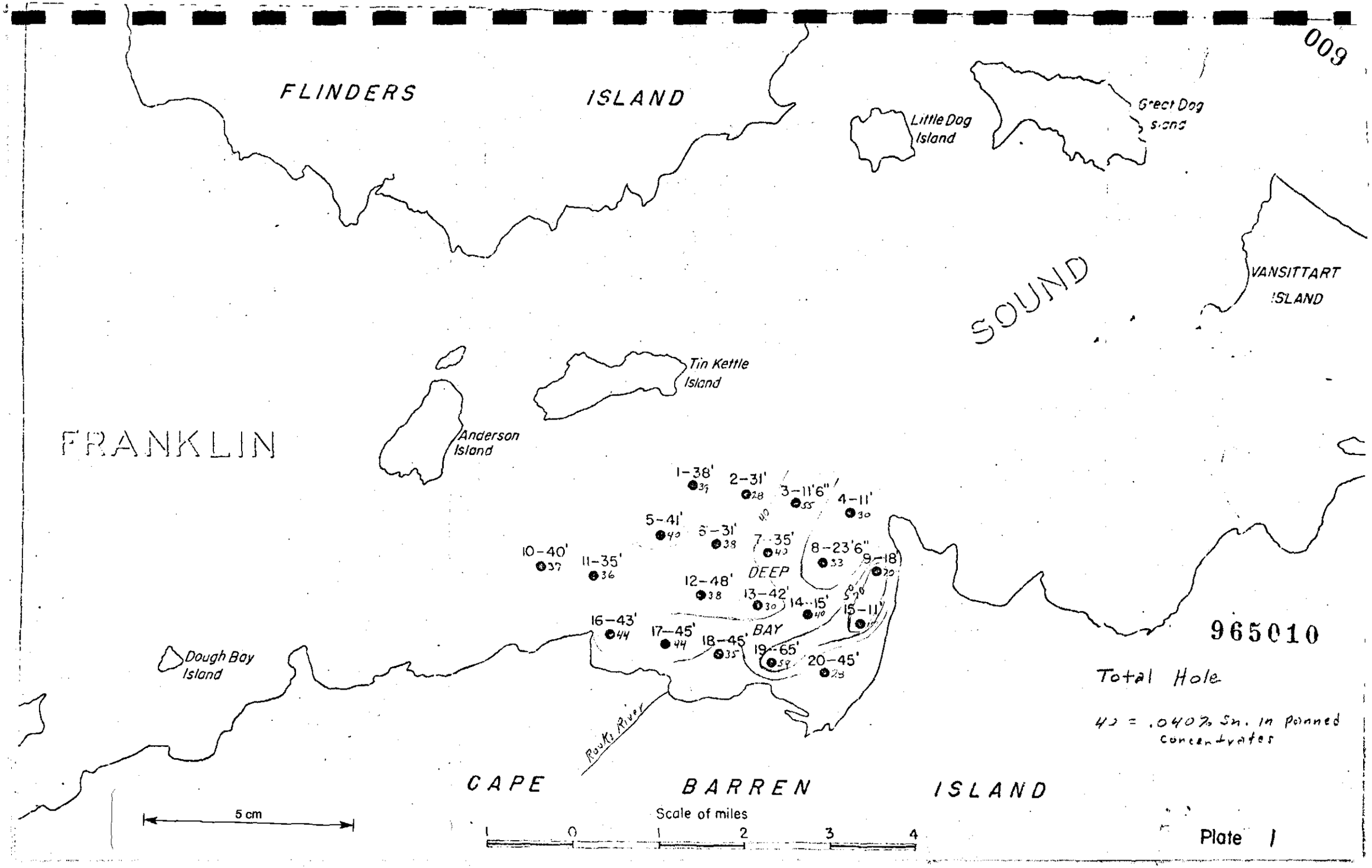
5 cm

Scale of miles

1 0 1 2 3 4

Plate IV

BOTTOM 15'



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Total Hole

43 = .040% Sn. in Panned concentrates

Plate 1

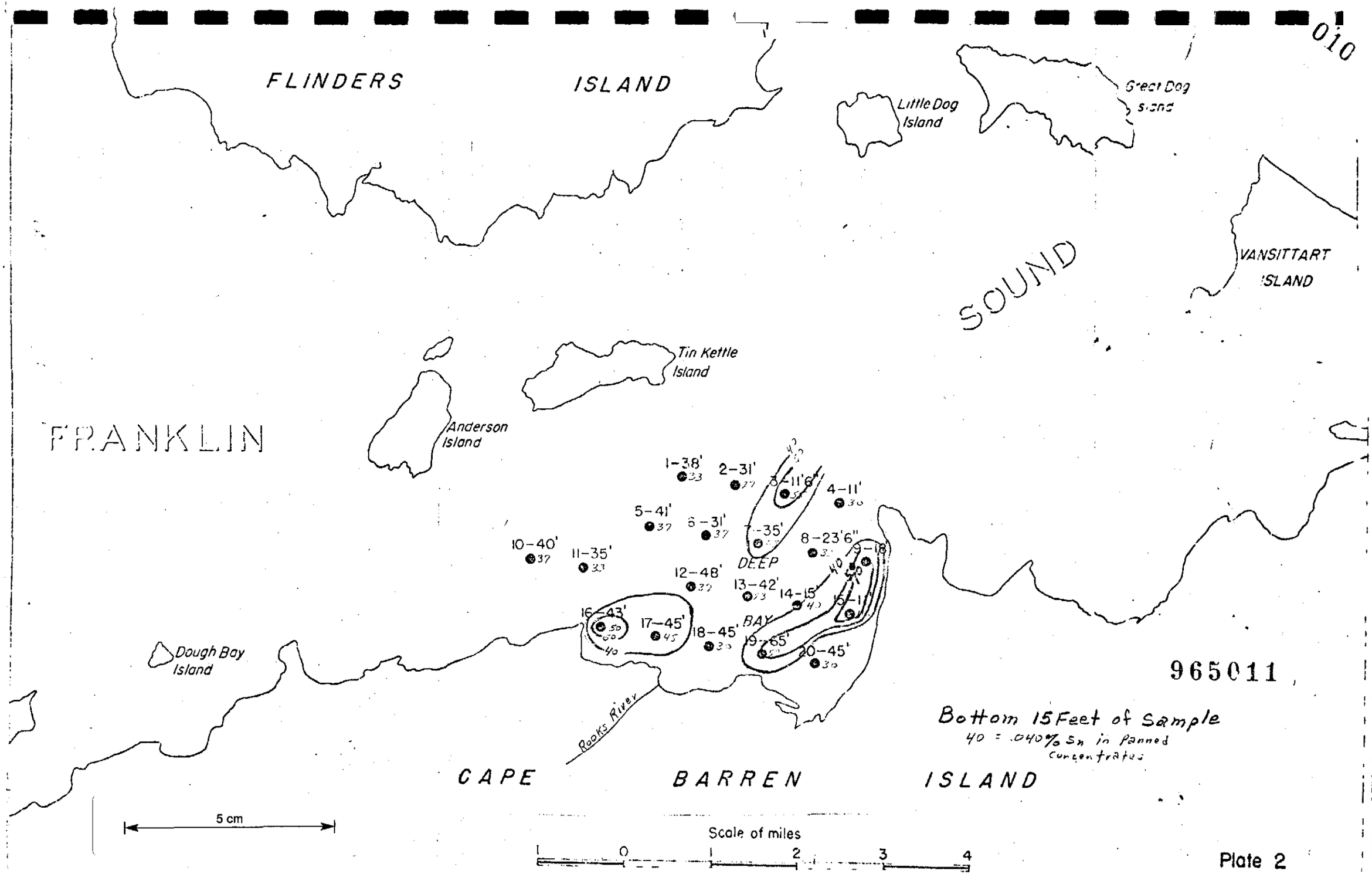
FLINDERS ISLAND
Little Dog Island
Great Dog Island
VANSITTART ISLAND
SOUND
Tin Kettle Island
Anderson Island
FRANKLIN
1-38'
2-31'
3-11'6"
4-11'
5-41'
6-31'
7-35'
8-23'6"
9-18'
10-40'
11-35'
12-48'
13-42'
14-15'
15-1'
16-43'
17-45'
18-45'
19-65'
20-45'
DEEP
BAY
Dough Bay Island
Rooks River
CAPE BARREN ISLAND
965011
Bottom 15 Feet of Sample
40 = .040% Sn in Panned Concentrates
5 cm
Scale of miles
0 1 2 3 4

Plate 2

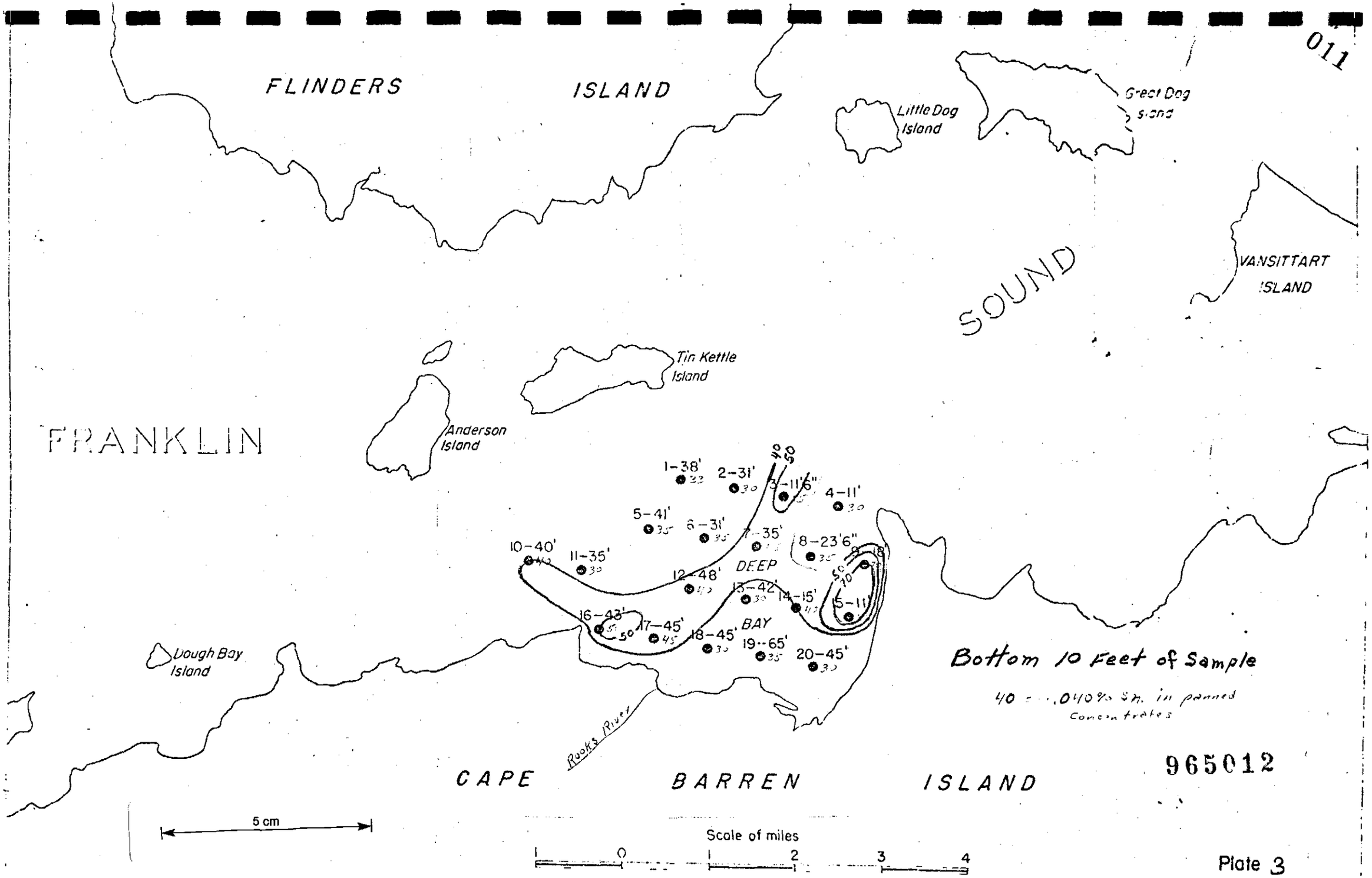

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Plate 3

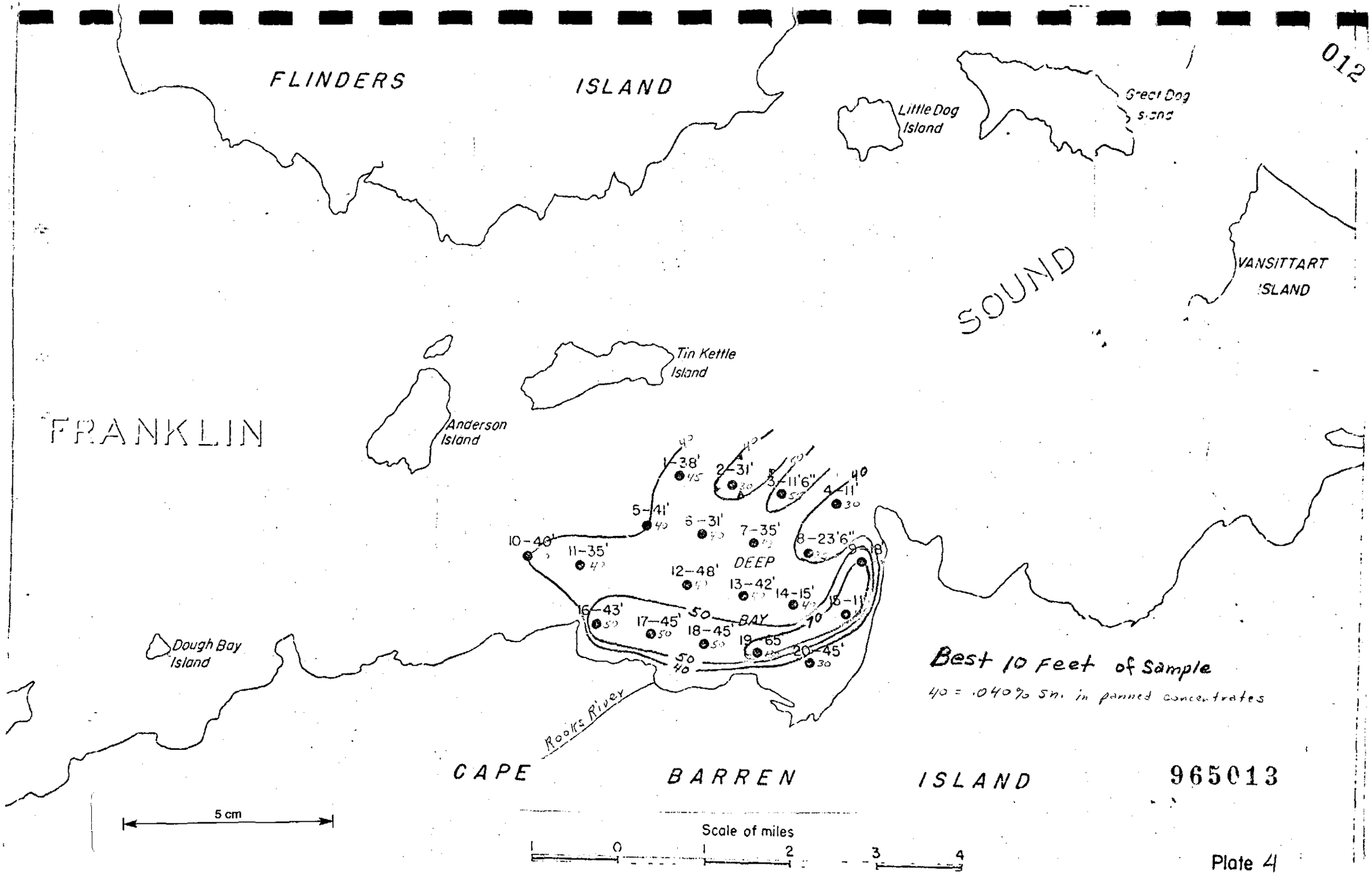
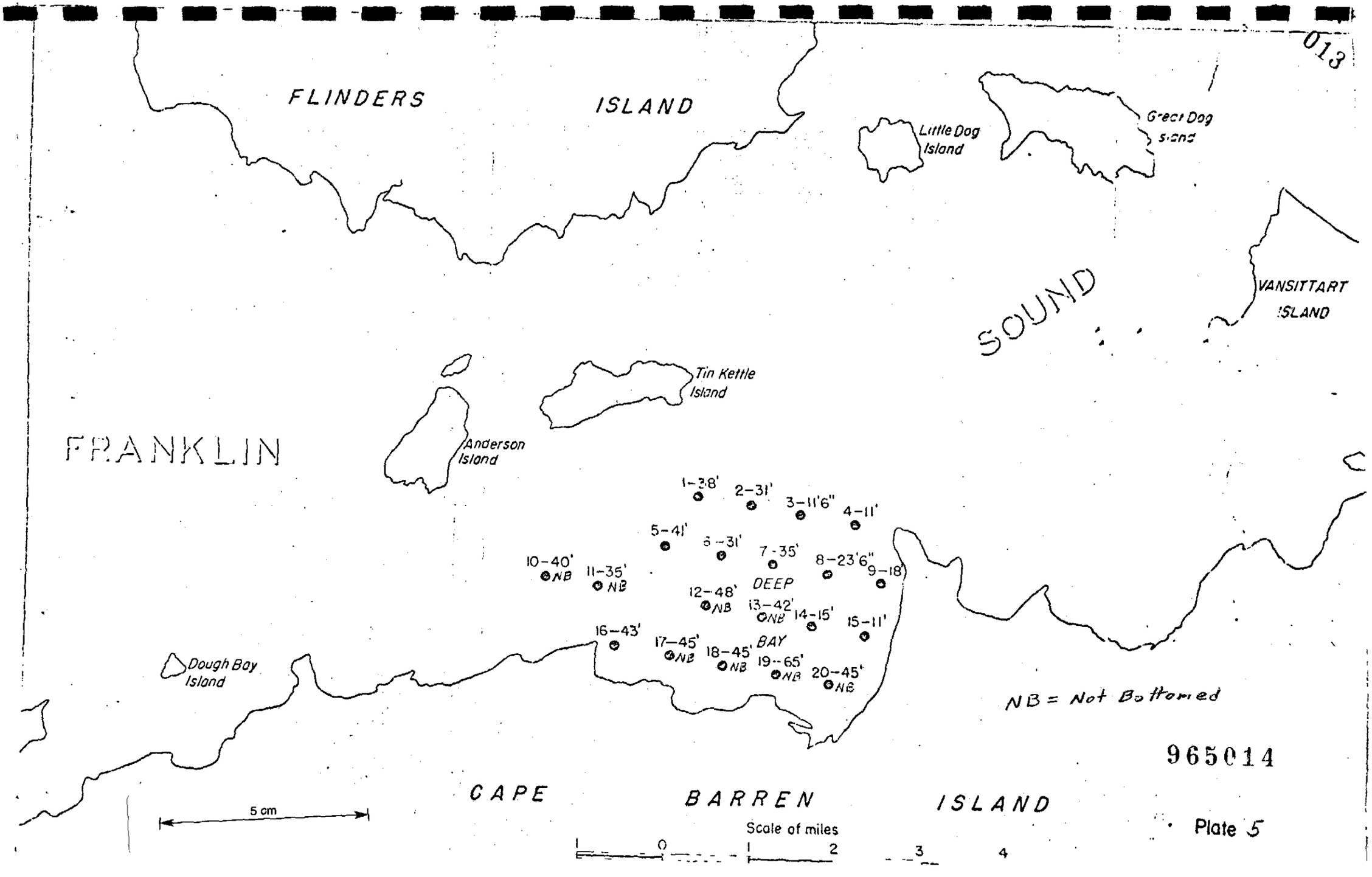

FLINDERS ISLAND
Little Dog Island
Great Dog Island
VANSITTART ISLAND
SOUND
Tin Kettle Island
Anderson Island
FRANKLIN
1-38'
2-31'
3-11'6"
4-11'
5-41'
6-31'
7-35'
8-23'6"
9-18'
10-40'
11-35'
DEEP
12-48'
13-42'
14-15'
15-11'
16-43'
17-45'
18-45'
19-65
20-45'
50
BAY
70
40
Dough Bay Island
Rooks River
CAPE BARREN ISLAND
Best 10 Feet of Sample
40 = .040% Sn. in panned concentrates
965013
5 cm
Scale of miles
0 1 2 3 4

Plate 4


FLINDERS ISLAND
Little Dog Island
Great Dog Island
VANSITTART ISLAND
SOUND
Tin Kettle Island
Anderson Island
FRANKLIN
1-38'
2-31'
3-11'6"
4-11'
5-41'
6-31'
7-35'
8-23'6"
9-18'
10-40' NB
11-35' NB
12-48' NB
13-42' NB
14-15'
15-11'
16-43'
17-45' NB
18-45' NB
19-65' NB
20-45' NB
DEEP BAY
Dough Bay Island
NB = Not Bottomed
965014
CAPE BARREN ISLAND
5 cm
Scale of miles
0 1 2 3 4
Plate 5