

MICROFILMED

Final Report

EL 7/75

Pittwater

Louisa Mining Corp. N. L.

78-1273

000

OPEN FILE

253002

Page 1.

LOUISA MINING CORPORATION N.L.

152 BRISBANE STREET, LAUNCESTON, TASMANIA. 7250

20th July, 1978

556 SANDY BAY ROAD
HOBART 7005

The Director of Mines,
G.P.O. Box 124B,
HOBART. 7001

Dear Sir,

re: Final Report E.L. 7/75 - Pittwater

The Company did not request an extension of the above E.L. after 6th April, 1978 and herewith our final report to cover the operations during the period of the licence from 3rd October, 1975.

Application for the E.L. was first made in Feb. 1975 for an area of approx. 40 sq.k.m. covering the Seven Mile Beach - Five Mile Beach sand spit as well as the greater part of Pittwater seawards from the causeway together with Barilla Bay near Cambridge Aerodrome.

The application was later amended after consultation with the Municipality of Clarence and the Municipality of Sorell so as to exclude the Sandy Point dune area and to widen the proposed exempt area along Seven Mile Beach.

Some 70 objections were received to the application following which the property of Mr. J.J. Kennedy was excluded from the application. The Tasmanian Conservation Trust agreed to not tender evidence in support of its objections in the application in consideration of the Company agreeing not to make more than six test drills in Barilla Bay.

Subsequently 21 people had withdrawn objections and at the Mine Warden's Court heard on 15th September, 1975 at Hobart only one objector appeared (Loongana Sawmills Pty. Ltd.). This objection was dismissed by the Warden's reserved decision.

E.L. 7/75 was issued on the 6th October, 1975 and was subsequently extended to 6th April, 1978.

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TELEGRAMS :
RALGUY LAUNCESTON

MANAGER HOBART
556 SANDY BAY ROAD,
SANDY BAY, TAS. 7005
TELEPHONE 25 2803

LOUISA MINING CORPORATION N.L.Page 2.E.L. 7/75 Summary of Operations

During the early part of the licence period a scout drilling programme was undertaken over a broad grid system to cover the main sand deposit of the 'spit' between Seven Mile Beach and Five Mile Beach. Hand augers (Dormers') were put down to depths of 25 ft to 50 ft with sampling at each 5ft section. All holes were in clean free sand, with shell fragments mostly in the near surface sections. The water table was reached in all holes at depths between 5 and 10ft (1.5 and 3m) depending on the dune height at the drilling site. The water table would seem to be from 1 to 3 ft above M.S.L. in Pittwater and is highest in the central part of the sand spit. There were indications that the water table level may be affected by the sea level tidal heights. Pittwater tides lag about 2hrs 40 mins behind the Hobart Port tides.

On reaching water table the hand auger holes were cased and the holes bailed with a sludge pump. Locations of these holes are shown in Figure 1.

Only a few holes reached bottom and this was at a depth of about 40 feet (12m) in all cases. The bottom was green clay, above which there was a shell bed.

Yellow aeolian sand extends to about the water table below which the sand is a grey colour and probably of marine type.

The sands are generally medium to fine grain but local areas have coarser sands, namely the channel floors in Pittwater where coarse to very coarse sands can be found.

Samples of about 150 in number were assayed at Launceston in the Mines Department Lab. by heavy liquid separation of the heavy minerals. Some grain counts were taken of the recovered heavy mineral which contained rutile, zircon, ilmenite, magnetite, topaz, garnet, leucoxene, etc.

Grain counts indicated that the average h.m. sample contained 9% Rutile and 16% zircon.

Assay results from the sink/float heavy liquid separations of the scout drilling samples are included herewith and have Mines Department Nos. Reg. 751773 - 751816, 751817-751873, and 751967 - 752006. The drill hole locations are shown in Figure 1.

The scout drilling indicated that sands containing the highest heavy mineral grades are located on the inland Pittwater side of the 'spit'. Further scout drilling indicated local heavy concentrations of heavy mineral, mainly close to the present northern side of the dune area to the east of Hobart Airport. These samples were washed by dish to get an idea of grade and some samples grain counted. It was found that these higher grade heavy mineral areas also contained a higher proportion of rutile.

The scout drilling also indicated the presence of 15-20% shell content in some areas and this is represented by the + 710um fraction shown in the Mines Department assay sheets mentioned above.

As most of the shells are broken up in the sludge pumping operation, test pits were dug with a back-hoe in the area near the private gate at the end of Pittwater Road. Samples taken showed that the shells were mostly in an unbroken state, and that small stones were also present.

Mineral Deposits Limited

In mid 1976 the Company arranged an option agreement at no cost to Mineral Deposits Limited of Southport, Queensland. That company transported their reverse circulation drilling rig to Tasmania in July, 1976 and undertook further test drilling during Aug. and Sep. 1976.

A line of drill holes was put down across the main part of the sand spit as indicated on Plan T.P.1 to depths of 10-16m with sampling each 1.5m. The samples were assayed for heavy mineral content at the Mineral Deposits H.Q. at Southport, Qld.

Louisa Mining Corporation N.L.

Page 4.

Mineral Deposits Ltd. estimated the deposit could contain about 150,000 tonnes of 88% TiO_2 product at a grade of 0.165%. Drilling of the higher grade areas would upgrade this reserve.

Traverses over the higher grade areas with a scintillation counter revealed that these areas could simply be located by this means due to the monazite content of about 2% in the heavy mineral.

Grain counts of the higher grade areas gave somewhat variable results, depending on depth. However analysis of drill hole at 12000E 1000S from 0-27.5ft depth from 0 - 15ft depth

Rutile	6.2%	9.0%
Zircon	13.0%	17.0%
Monazite	2.2%	1.1%
Ilmenite	57.0%	53.0%
Cr ₂ O ₃ in Ilmenite	1.9%	4.0%

Scout drilling on the western side of Hobart Airport, outside Commonwealth land, indicated little potential for heavy mineral deposits as all test areas gave very low h.m. values. In the area of Barilla Bay, little sand was found, there being a clay base at depths of less than 1m.

Following the down turn in the demand and prices for rutile and zircon during 1976, the interest in the area turned to exploration and testing for sand and shell which could be suitable for constructional purposes in the case of sand and for use as an acid neutralizer at the E.Z. works in the case of shell.

Further drilling of the tidal waters of Pittwater was carried out. Ten holes were put down with sludge pump to depths of 15 to 20 ft and sieve test made of each 5ft section. The results are given for this line (122,200' East) in Fig.2.

005

Conclusion

Exploration work in the area of E.L. 7/75 has located very large reserves of clean sand, both onshore and in Pittwater sound.

The grain size of these sands, being in the medium to fine range with about 50% of the reserves in the 150 to 250 micron size range, would require classification to be acceptable for use in concrete of high strength. The economics of this type of mining could be improved if combined with a land reclamation and development scheme. This proposal is now under investigation by the Company and an application has been made to the Tasmanian Government for 'approval in principle' for a development scheme. The high proportion of fines from the classification plant would be used for land reclamation. There appears to be a reserve of sand in Pittwater which could provide for the requirements for the Hobart area for a great many years.

The market for heavy mineral sands, such as rutile and zircon, remains in a state of depression with large over production of zircon in Australia and there is little sign of an early recovery. Therefore the Company is not able to justify further funds for exploration for these minerals at this stage. However the work undertaken indicates that there are further areas where drilling could be justified if the outlook and relative price of rutile and zircon improve.



(Mac C. Forster)

Exploration Manager

14.4m @ 0.70% 120N
 15.4m @ 0.71% 120N
 12.4m @ 0.62% 60N
 13.4m @ 1.21% 00
 14.4m @ 0.44% 10 30S
 10.4m @ 1.14% 60S
 1.5m @ 0.76% 120S
 15.7m @ 0.40% 180S
 1.4m @ 0.44% 180S
 15.4m @ 0.44% 180S
 10.4m @ 1.36% 240S
 6.5m @ 1.83% 300S
 14.4m @ 2.24% 360S
 13.5m @ 2.34% 420S
 11.4m @ 1.51% 500S
 9.4m @ 2.02% 540S
 10.4m @ 1.85% 600S
 10.7m @ 1.85% 660S
 10.4m @ 1.62% 720S
 12.9m @ 1.06% 780S
 15.4m @ 1.20% 840S
 13.9m @ 1.81% 900S
 12.9m @ 2.43% 960S
 13.5m @ 1.62% 1020S
 12.2m @ 1.30% 1080S
 12.4m @ 1.30% 1140S
 14.9m @ 1.33% 1200S
 12.4m @ 0.48% 1260S
 17.4m @ 1.54% 1320S
 12.4m @ 0.44% 1380S
 12.4m @ 0.77% 1440S
 12.7m @ 1.06% 1500S
 12.4m @ 0.74% 1560S
 12.4m @ 1.06% 1620S
 12.4m @ 0.44% 1680S
 12.4m @ 0.44% 1740S

Castle S.D.F.

S.S. @ 1.00% S.D.F.

14.01-14.50% S.D.F.

Airport

Mile

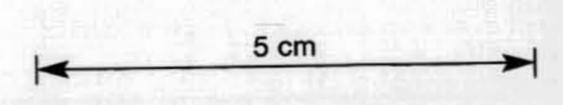
Beach

MINERAL DEPOSITS LIMITED

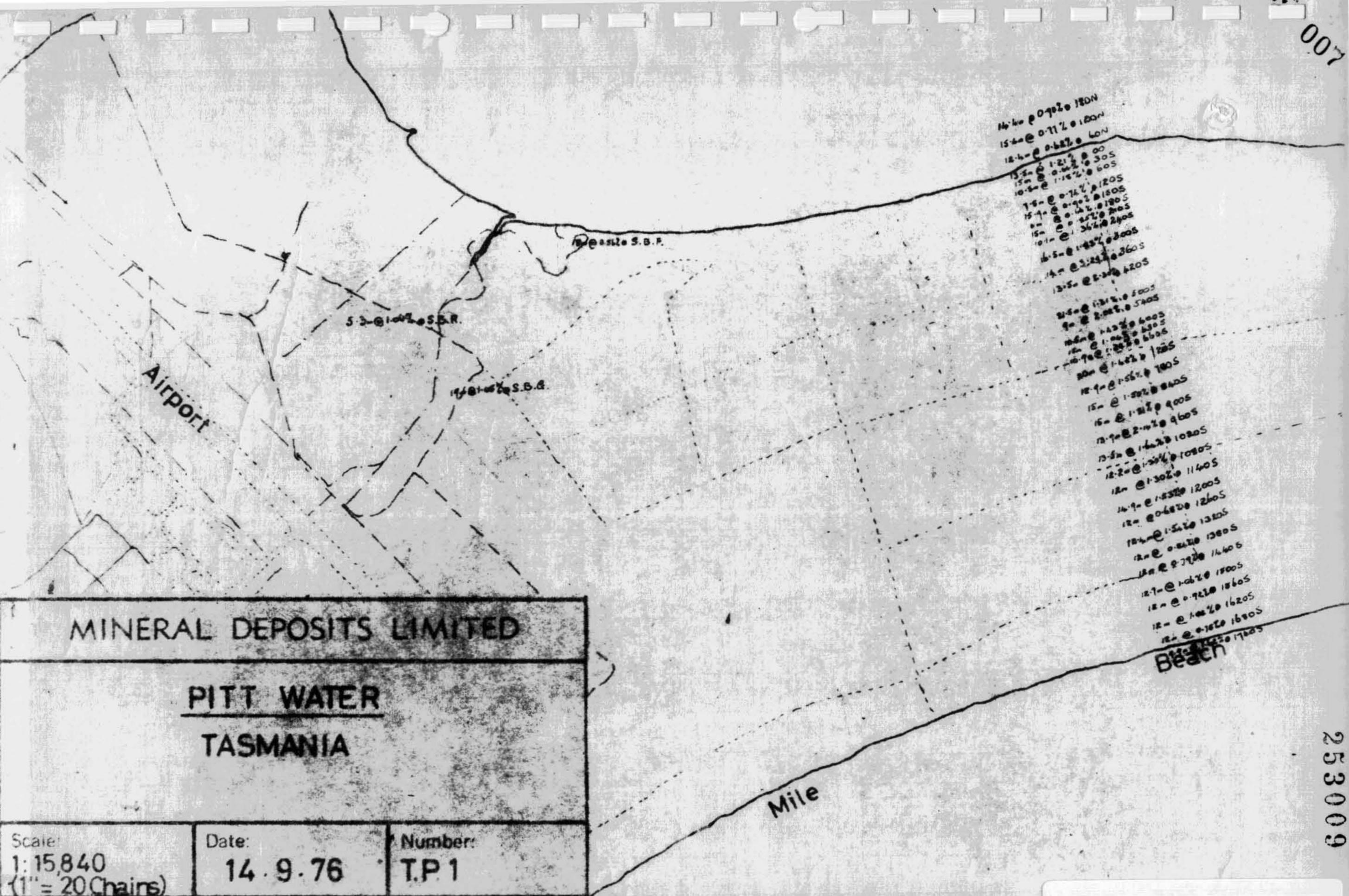
PITT WATER TASMANIA

Scale: 1:15,840 (1" = 20 Chains)	Date: 14.9.76	Number: T.P. 1
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Sheet 'C1



253008



MINERAL DEPOSITS LIMITED

PITT WATER

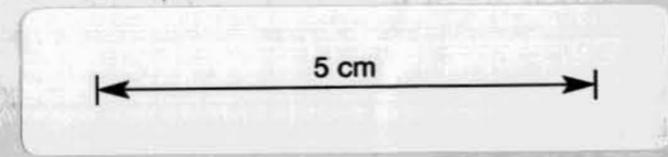
TASMANIA

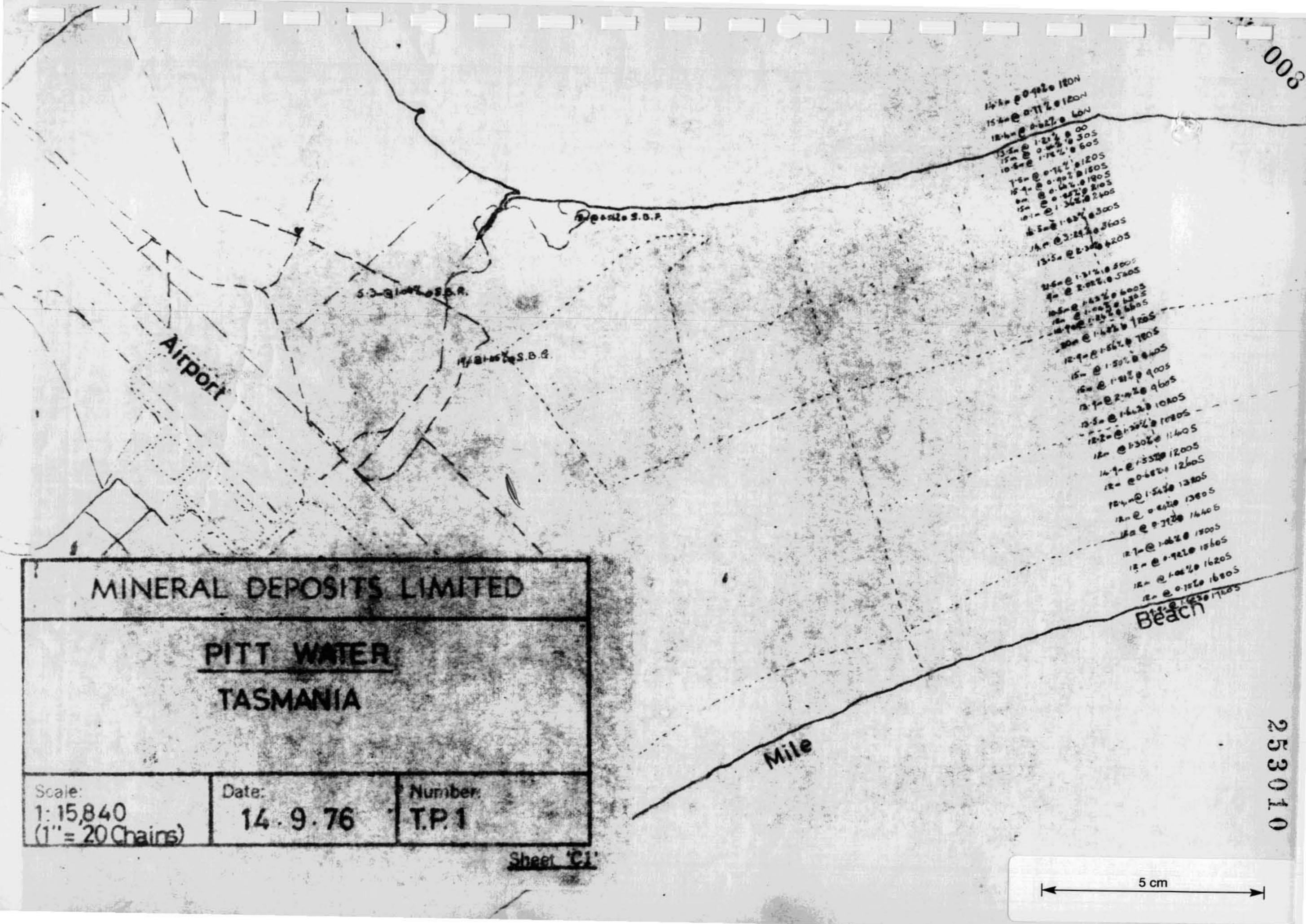
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 (1" = 20 Chains)

Date:
 14.9.76

Number:
 T.P. 1

Sheet 'C1

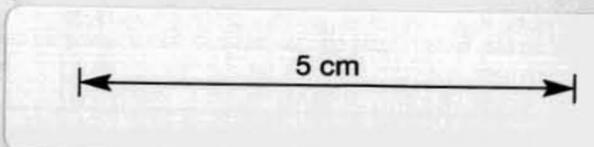




14.4 @ 0.42 @ 180N
 15.4 @ 0.11 @ 120N
 18.4 @ 0.27 @ 60N
 13.2 @ 1.27 @ 00
 15.2 @ 0.24 @ 30S
 10.6 @ 1.74 @ 60S
 7.5 @ 0.74 @ 120S
 15.7 @ 0.90 @ 180S
 8.1 @ 0.64 @ 190S
 15.1 @ 0.47 @ 210S
 10.1 @ 1.36 @ 240S
 6.5 @ 1.63 @ 300S
 14.1 @ 3.24 @ 360S
 13.5 @ 2.30 @ 420S
 21.6 @ 1.31 @ 500S
 9.1 @ 2.07 @ 540S
 10.5 @ 1.43 @ 600S
 12.1 @ 1.04 @ 630S
 14.7 @ 1.24 @ 660S
 20.1 @ 1.42 @ 720S
 12.9 @ 1.56 @ 780S
 15.1 @ 1.50 @ 840S
 16.1 @ 1.81 @ 900S
 17.7 @ 2.42 @ 960S
 23.5 @ 1.42 @ 1020S
 12.2 @ 1.30 @ 1080S
 12.1 @ 1.30 @ 1140S
 14.9 @ 1.53 @ 1200S
 12.1 @ 0.68 @ 1260S
 12.4 @ 1.54 @ 1320S
 12.1 @ 0.61 @ 1380S
 12.1 @ 0.71 @ 1440S
 12.7 @ 1.06 @ 1500S
 12.1 @ 0.92 @ 1560S
 12.1 @ 1.04 @ 1620S
 12.1 @ 0.75 @ 1680S
 12.1 @ 1.23 @ 1740S

MINERAL DEPOSITS LIMITED
PITT WATER
TASMANIA
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 Date: 14.9.76
 Number: T.P.1

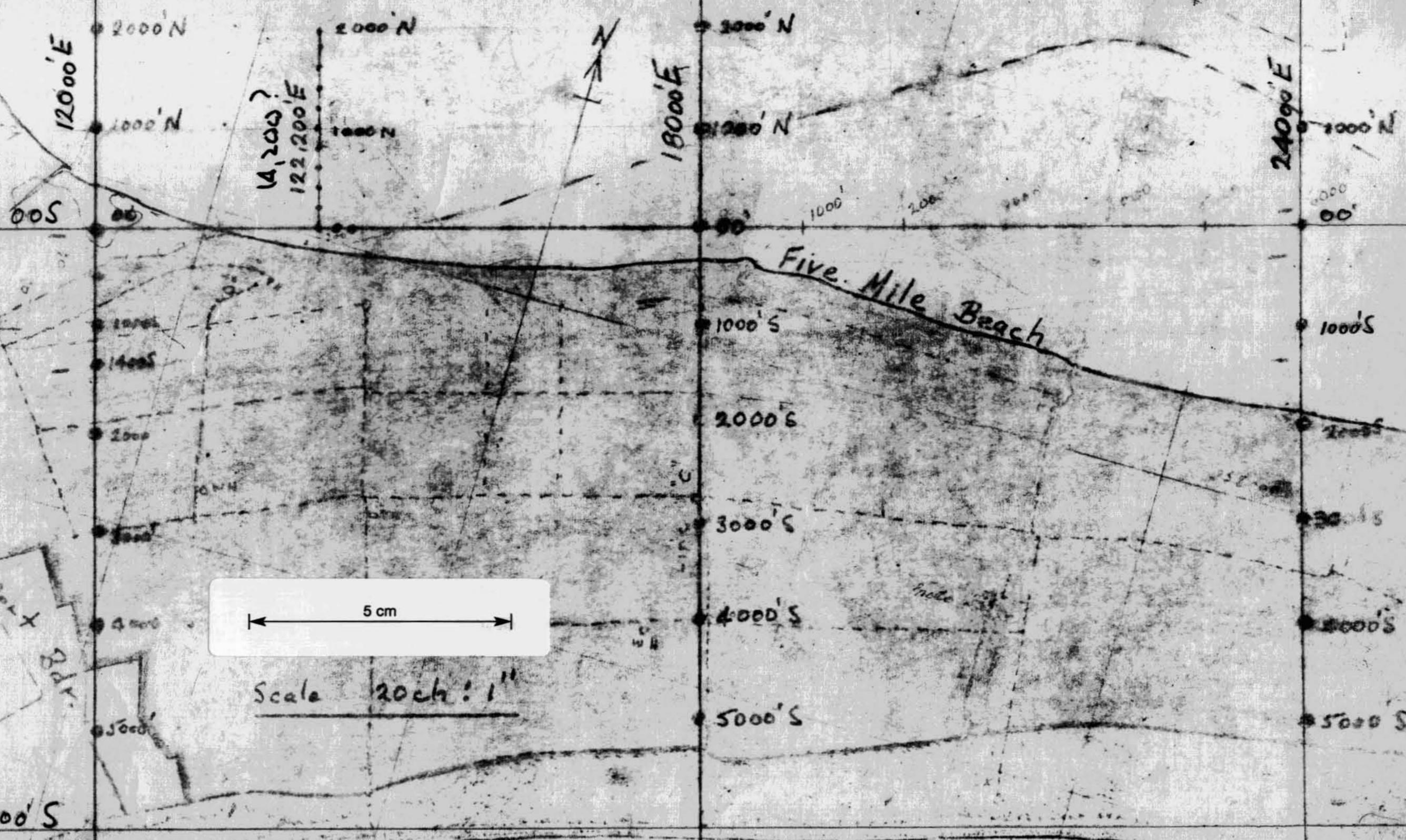
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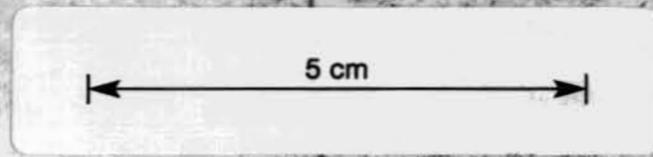
Pittwater

Fig ①

010



253012



Scale 20ch: 1"

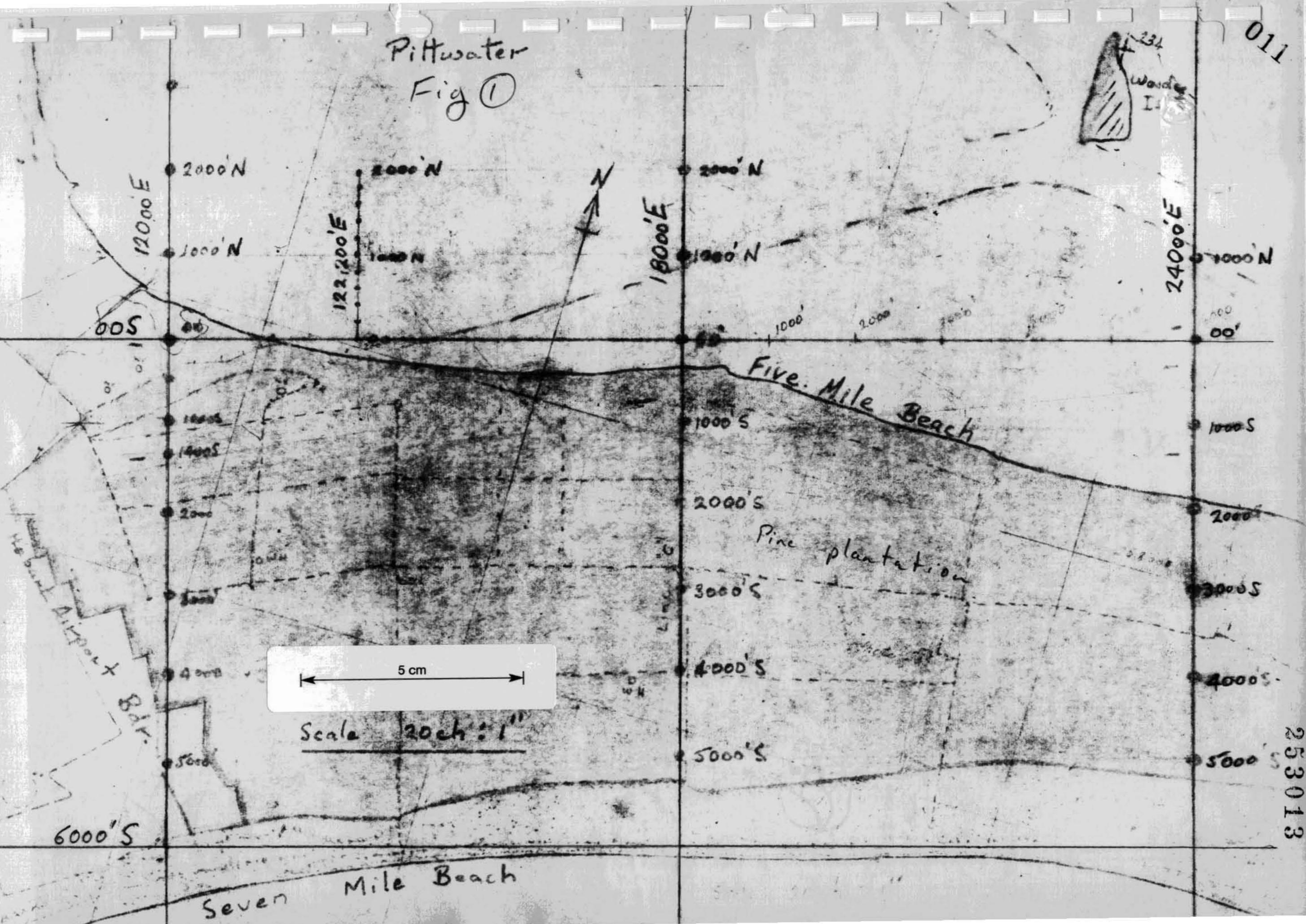
6000'S

Seven Mile Beach

Scale 20ch: 1"

Pittwater
Fig ①

011



253013

April, 1977. MCF

Line: 122,200' East

Fig 2

012

		Percentage Passing Sieve											
		Co-ordinate North (feet)											
Depth	Sieve m.c.	0' N	200' N	400' N	600' N	800' N	1000' N	1200' N	1400' N	1600' N	1800' N	2000' N	Av
0'-5'	1000	88	90		86	94	89	87		91	96	98	91
	500	85	86		83	93	87	82		88	94	96	88
	250	73	71		67	71	61	50		63	78	83	69
	150	34	28		22	32	18	8		15	25	21	23
5'-10'	1000	98	97		99	100	98	99		98	95	97	98
	500	97	96		97	98	97	98		96	92	93	96
	250	91	89		77	80	69	91		86	78	81	82
	150	50	45		27	35	21	33		22	28	27	32
10'-15'	1000	97	98		100	100	99			96	99	99	99
	500	95	97		100	95	98			92	97	98	96
	250	89	70		90	60	51			83	88	92	78
	150	39	24		35	14	9			40	40	41	30
15'-20'	1000	100	100			100	100					100	100
	500	98	99			99	99					96	98
	250	77	93			80	74					84	81
	150	27	58			22	16					34	31

253014

April, 1977. MCF

Line: 122,200' East

Fig 2

013

		Percentage Passing Sieve											
		Co-ordinate North (feet)											
Depth	Sieve m.c.	0' N	200' N	400' N	600' N	800' N	1000' N	1200' N	1400' N	1600' N	1800' N	2000' N	Av
0'-5'	1000	88	90		86	94	89	87		91	96	98	91
	500	85	86		83	93	87	82		88	94	96	88
	250	73	71		67	71	61	50		63	78	83	69
	150	34	28		22	32	18	8		15	25	21	23
5'-10'	1000	98	97		99	100	98	99		98	95	97	98
	500	97	96		97	98	97	98		96	92	93	96
	250	91	89		77	80	69	91		86	78	81	82
	150	50	45		27	35	21	33		22	28	27	32
10'-15'	1000	97	98		100	100	99			96	99	99	99
	500	95	97		100	95	98			92	97	98	96
	250	89	70		90	60	51			83	88	92	78
	150	39	24		35	14	9			40	40	41	30
15'-20'	1000	100	100			100	100					100	100
	500	98	99			99	99					96	98
	250	77	93			80	74					84	81
	150	27	58			22	16					34	31

253015

April, 1977. MCF

Fig ②

014

Line: 122,200' East

		Percentage Passing Sieve											
		Co-ordinate North (feet)											
Depth	Sieve m.c.	0' N	200' N	400' N	600' N	800' N	1000' N	1200' N	1400' N	1600' N	1800' N	2000' N	Av
0'-5'	1000	88	90		86	94	89	87		91	96	98	91
	500	85	86		83	93	87	82		88	94	96	88
	250	73	71		67	71	61	50		63	78	83	69
	150	34	28		22	32	18	8		15	25	21	23
5'-10'	1000	98	97		99	100	98	99		98	95	97	98
	500	97	96		97	98	97	98		96	92	93	96
	250	91	89		77	80	69	91		86	78	81	82
	150	50	45		27	35	21	33		22	28	27	32
10'-15'	1000	97	98		100	100	99			96	99	99	99
	500	95	97		100	95	98			92	97	98	96
	250	89	70		90	60	51			83	88	92	78
	150	39	24		35	14	9			40	40	41	30
15'-20'	1000	100	100			100	100					100	100
	500	98	99			99	99					96	98
	250	77	93			80	74					84	81
	150	27	58			22	16					34	31

253016

015

253017

RE/JD

Report No: N132

File No: 14.020

DEPARTMENT OF PUBLIC WORKS
MATERIALS & RESEARCH DIVISION
TEST REPORT

Fig. 2a

Lab. No: A6549

Date Received: 10/12/76

Submitted by: Mr. M. Forster

Source: Pittwater area

Grid Ref: 122,200E, 800N

Ref. No.	1	2	3	4
Depth ft.	0-5	5-10	10-15	15-20
<u>A.S. Sieve</u>	<u>Percentage Passing</u>			
19 mm	100			
9.5	99	100		
4.75	98	99.5	100	
2.36	96	99	99.5	
1.18	93	98.5	99	100
600 μ m	91	98	97	99.5
425	89	97	93	98
300	81	89	77	90
150	32	35	14	22
75	3.4	1.1	1.1	1.5

Note: The material larger than 600 μ m in all samples consists of shell fragments.

R.B. Bender

(R.B. Bender)

SENIOR ENGINEERING ANALYST.

15th December, 1976



This laboratory is approved by the National Association of Testing Authorities, Australia. The tests reported herein have been performed in accordance with its terms of reference. This document shall not be reproduced except in full.

016

RB/JD

253018
Report No: N132
File No: 14.020

DEPARTMENT OF PUBLIC WORKS
MATERIALS & RESEARCH DIVISION

TEST REPORT

Fig 2a.

Lab. No: A6549

Date Received: 10/12/76

Submitted by: Mr. M. Forster

Source: Pittwater area

Grid Ref: 122,200E, 800N

Ref. No.	1	2	3	4
Depth ft.	0-5	5-10	10-15	15-20
<u>A.S. Sieve</u>	<u>Percentage Passing</u>			
19 mm	100			
9.5	99	100		
4.75	98	99.5	100	
2.36	96	99	99.5	
1.18	93	98.5	99	100
600 μ m	91	98	97	99.5
425	89	97	93	98
300	81	89	77	90
150	32	35	14	22
75	3.4	1.1	1.1	1.5

Note: The material larger than 600 μ m in all samples consists of shell fragments.

R.B. Bender

(R.B. Bender)
SENIOR ENGINEERING ANALYST.

15th December, 1976



This report is the property of the National Association of Testing Authorities (NATA). The tests reported herein were conducted in accordance with its terms of reference and the material tested was produced by the client.

MINERAL DEPOSITS LIMITED

(INCORPORATED IN NEW SOUTH WALES)

81 ASHMORE ROAD, SOUTHPORT
QUEENSLAND, AUSTRALIA 4215

POSTAL ADDRESS: P.O. BOX 44, SOUTHPORT, QUEENSLAND, AUSTRALIA 4215



TELEPHONE: GOLD COAST 39-9055

CABLES: MINDEPOSIT SOUTHPORT QUEENSLAND

TELEX: MINDEP AA. 40438

December 17, 1976.

LGJ/lpb

Mr. Mac Forster,
Chairman,
Louisa Mining Corporation N.L.,
556 Sandy Bay Road,
SANDY BAY, TASMANIA, 7005.

Dear Mac,

Firstly, accept my apologies for such a drawn out decision on the mineral sands and the other prospects.

As I discussed with you recently, the formula for the Calcium Zirconium silicate is $\text{Ca}_3 \text{Zr Si}_2 \text{O}_9$ which contains about 22% Zr in its structure.

All of the other information is supplied to you in duplicate so that you have a copy for the Mines Department as well.

Unfortunately, the best I could do was 150,000 tonnes of 88% TiO_2 product at 0.165% from Pittwater. Bruny Island mineralisation seems to be very patchy and I could not calculate enough at this stage to make the combined areas attractive enough for Mineral Deposits Limited to consider taking over the project for you.

I have discussed the situation with the Business Planning Manager and should you get to a position in 12-24 months time when you have a combined 250,000 tonne ore body, we would then reconsider the position.

Should you have any grain counts or other problems you wish to discuss, we would be ready to assist you.

Enclosed are all the results and information I have regarding your areas including the Weld River file. For the record, I shall list the enclosures:

- (a) Two prints plan Bruny Island with results plotted,
- (b) Two prints plan Pittwater with results plotted,
- (c) Two copies each all bore logs Pittwater & Bruny Island,
- (d) Two copies each grain counts:

<u>Sample No.</u>	<u>Line</u>	<u>Hole</u>	<u>Interval (m)</u>
492	Bruny South	240W	0 - 10.5m
491	Truganninni Steps	00 (Tabled)	0 - 4.5m
490	Truganninni Steps	00 (Bromo- formed)	0 - 4.5m

<u>Sample No.</u>	<u>Line</u>	<u>Hole</u>	<u>Interval (M)</u>
488	Bruny Island	3	0 - 9m
485	Truganinni Steps	120W	0 - 7.5m
483	Bruny South	360E	0 - 20m
482	Pittwater	2	
481	Pittwater	1	
480	Pittwater	3	

- (e) Two copies analysis TiO_2 of sample of Rutile & Leucoxene Ore Zone Pittwater.
- (f) Two copies Ilmenite assays. Sample Numbers 1, 2, 3, i.e. 481, 482, 480.
- (g) Two copies rough cross-section Pittwater.

The results of my first trip to these prospects has not been included as I consider the Pittwater results to be misleading and the Bruny Island results confirm the recent results.

Enclosed also is a copy of the bromoform reclamation system etc.

Samples 480 to 482 have been selected to be representative across the Pittwater Ore Body. I have combined the samples as shown in (d) to enable assaying of various sections down the holes.

Perhaps you could extend the Pittwater deposits by drilling holes across areas I have selected and shown on the plan marked "Recommendation". It is most likely that the sand body at the south eastern end of Pittwater will contain greater proportions of rutile in the heavy mineral as I consider that the most recent mineralisation comes from a different source than the zone sampled by reverse circulation. There is a large volume of sand in this area and any concentration would improve the volume of heavy mineral markedly.

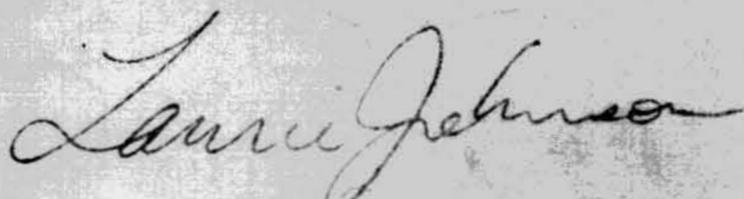
I noticed when flying into Hobart that there are considerable levy-type ridge formations running parallel to the stream feeding Pittwater. This may warrant a closer look. If you haven't checked out the Lauderdale area it may be worth some investigation to complement Pittwater.

On Bruny, as you have already suggested, Cloudy Bay is a worthwhile consideration and there appears to be quite a large body of sand in the area just west of Cape Queen Elizabeth.

I have also sent to you your aerial photos of both areas. Thanks for the use of them.

Please accept my best wishes for Christmas and the New Year to all the Forsters.

Yours sincerely,
MINERAL DEPOSITS LIMITED,



L. G. Johnson,
Senior Geologist.