OFFSHORE DRILLING PROGRAMME

Exploration Licence No. 3/66

Tasmania

PLANET METALS LIMITED

CONTENTS

27th October, 1967 Kenneth McMahon & Partners Pty. Ltd.

INTRODUCTION

This report describes a short reconnaissance drilling programme carried out by Planet Metals Limited during July, 1967, in their Exploration Licence No. 3/66, an off-shore tenement in Bass Strait adjacent to Northern Tasmania.

Planet Metals Limited supplied a chartered tuna vessel "Twofold Bay" from Eden in southern New South Wales, equipped with an "Amdril" airlift underwater drill supplied and operated by Alluvial Mining and Shaft Sinking Co. Limited of the United Kingdom. The vessel carried a Planet representative who was also responsible for position fixing and navigation.

The selection of drilling targets, the taking of the samples, and the supervision of the assaying and assembling of results, were the responsibility of Kenneth McMahon & Partners Pty. Limited, who arranged for a qualified Mining Engineer and Sampling Assistant to be aboard the vessel when all drilling was undertaken.

SUMMARY and RECOMMENDATIONS

"Twofold Bay" arrived at Beauty Point at 1800 hours on 5th July and departed for Eden on 13th July at 2200 hours. In this time 18 holes were drilled for a total of 75 feet, the hole locations ranging over 60 miles of the north coast of Tasmania. Of the 8 days that the vessel was in Tasmanian Waters, 6½ days were available for drilling, 1½ days being lost due to thick fog which made position fixing impossible. During the period, reasonably calm conditions were experienced with average swells being 4 feet, and maximum 10 feet.

Of the 18 holes drilled in favourable physiographic features, two had depths of 14' and 15', three had superficial depth only, and the average was about four feet. It would appear from this that Bass Strait is swept by underwater currents which have removed most of the sediment from the inshore shelf. The major exception to this proved to be the bay between West Head and Badger Head adjacent to the Tamar River (see plan) where a sedimentary basin was located and which could be the original course of the Tamar.

Of the 45 samples submitted for assay, only two contained more than 1% heavy mineral, and both are located in the bay mentioned above. All samples contained varying quantities of rutile, zircon, ilmenite, and traces of cassiterite, but gold, of negligible proportions, appeared in four samples only.

The significant feature of this programme is that the heavy mineral has been proved to contain up to 10% Rutile and 22% Zircon, so that any commercial venture would be orientated towards producing these minerals.

It has already been recommended verbally that the onshore inland sandhills and low-lying country behind West Head and Badger Head be secured for prospecting by conventional hand augering.

Some potential does exist for an offshore deposit in the West Head Bay, but Kenneth McMahon & Partners Pty. Ltd. are of the opinion that any further offshore work should be confined to sub-bottom profiling of this area, and the areas adjacent to the mouths of the Curne and Piper Rivers. Should this work reveal sediment in sufficient quantity then drilling could be undertaken to assess this sediment.

SELECTION OF DRILLING TARGETS

Before the start of the drilling programme, Planet Metals Limited had commissioned two studies by independent consultants, one concerning the hinterland geology of Northern Tasmania, and the other the interpretation of the bathymetric data available from the Australian Hydrographic Office.

The geological report was prepared by Cundill, Meyers & Associates of Melbourne, and reasoned that only mineral deposits close to the coast could be expected to have an off-shore distribution pattern related to the present river mouths. The report recommended the Beaconsfield-Lefroy area for gold and osmiridium, the Ringarooma River - Blue Tier area for tin and gold, the Bridport area for heavy minerals, the Devonport area for rutile and the Forth River for tin.

It had been hoped by Kenneth McMahon & Partners Pty. Ltd. that a sub-bottom profile instrument would be used before drilling commenced to detect favourable sediment beds for drilling targets, but this was not available.

Drilling targets were therefore selected close to the mouths of existing rivers, and with regard to those physiographic features, to which attention had been drawn in the report on the bathymetric studies prepared by Dr. J.R. Conolly.

Areas selected were as follows:-

Tamar River This is a wide broad river which drains a large part of north-eastern Tasmania, including the tin areas of the Eastern Tiers and the Beaconsfield Goldfield. Closer examination of the hydrographic charts revealed a rock bottom for most of the mouth of the river. Attention then turned to the bay west of the Tamar River, between Low Head and Badger Head, as the hinterland contained large sand hills, and indications were that this could have been the original outlet of the Tamar. This bay had the added advantage of being in relatively shallow water and protected from all but northerly weather (E. Group Holes).

Currie River The hydrographic charts showed a submerged river bed extending from the mouth of the Currie River to a possible strand line (Conolly) located between the 20 and 25 fathom lines. As this river drains the Lefroy Area, interest was centred on gold and tin ("G" and "H" Group Holes).

Piper River The chart shows two possible submerged river beds in Noland Bay which could be extensions of the Piper River. This river drains part of the Lefroy Area and is close to the Blue Tier, the interest here being gold and tin ("J" Group Holes).

Mersey River Conolly drew attention to the apparent delta or sediment from which forms an arc at the mouth of the Mersey River. It was decided to test this for heavy minerals as the Mersey drains an extremely large area of Central Tasmania, particularly the Western Tiers Formation ("D" Group Hole).

Ulverstone Rutile has been recorded from a tributary of the River Leven (Clayton River), and the Forth River drains well mineralized areas of Central Tasmania such as Lorinna, Cethana and Moina. The test area selected was the shallow inshore submerged beach between the Leven and Forth Rivers, the interest being heavy minerals including rutile and tin ("A" Group Holes).

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SUPERVISORS OPERATIONAL LOG

Sunday 2nd July

Caddy, Cameron (McMahon & Partners) and Hill (Amdrill) to Launceston. Wiseman and Alcorn (Planet) had preceeded to locate onshore stations for positioning the T.F.B. It was hoped that the T.F.B. would arrive Tasmania p.m. on Sunday.

However, T.F.B. had not appeared by 2100. Wiseman and Alcorn had not had a successful day locating onshore trig stations.

Planned that Wiseman and Alcorn continue to search for stations and Caddy, Hill and Cameron proceed 1) to make contact with the harbourmaster re information on T.F.B. progress.

2) to locate small foundry to work on new Amdril. (Phoenix was recommended and they have a small works in Bell Bay near the wharf).

3) to contact hauliers and storage shed for samples.

Monday 3rd July

Hill and Caddy and Cameron set off as planned to locate the Harbourmaster. He informed that a telegram for Wiseman had been sent to him to the effect that the T.F.B. had turned back in heavy seas and winds force 8-9. The owner was then telephoned and he said that the T.F.B. had returned to Eden and was now trapped in the harbour.

Cameron made arrangements for sample transport and storage.

Caddy and Hill made arrangements for the fabrication of a new Amdril with Phoenix Foundry at Bell Bay.

At 1900 Wiseman and Alcorn had returned from the field after a second unsuccessful day as far as locating shore stations was concerned. It was decided that Wiseman should phone the owner of the T.F.B. and order her to sea as soon as possible. This was done and it seemed likely that T.F.B. would leave Eden 0800 on Tuesday 4th and thus could be expected between 1400 and 1600 on Wednesday 5th.

Hill arranged to go to Melbourne on Private Business Tuesday and Wednesday and return late Wednesday evening to go out to sea on Thursday.

Tuesday 4th July

Caddy and Cameron completed arrangements for sample handling and for the fabrication of a drill straightener. Rock drill oil was purchased for the Amdril and contact was made with the B.P. depot concerning refuelling of the T.F.B.

Wednesday 5th July

Slight drizzle and fog in the morning. Report writing and planning of drill holes. Visited Beaconsfield.

Hill returned 2030. T.F.B. arrived approximately 1800.

Thursday 6th July

Thick fog all day prevented T.F.B. from leaving her berth at Beauty Point.

Friday 7th July

Fog until 1200. Sailed 1205 for the beach to the west of the mouth of the Tamar. It is surmised that some of the alluvium from the Beaconsfield Field would have been washed down the possible old river that was to be drilled and that sea action would have concentrated gold and the other possible H.M.'s and redeposited it just off the present beach line. Hydrographic charts showed rock in parts in water depths > 15 fathoms so it was decided to keep close to the shore and drill up to 10 fathoms. This area looked the best prospect and was chosen to be drilled first in spite of the fact that it was fairly sheltered from foul weather and the weather today was fair-moderate with little swell.

As it was, four holes were drilled between 1415 and 1815. The first hole drilled, E5, penetrated no superficial at all except a few scattered coarse grains of quartz sand. However, as the suspected river mouth was traversed greater penetration was achieved (up to 14') and one hole E3 in 8' of sediment also showed up a very fine gold colour. I decided to stay in this area tomorrow and try to delineate the sediments more and to consolidate a possible discovery. The heavy mineral appeared to be rutile and zircon with some ilmenite or magnetite. The grain size of the H.M. is very fine. Possible source of zircon flour.

Saturday 8th July

Continued drilling old Tamar mouth as planned. Weather had worsened slightly overnight but swell still ∠ 5' which is adequate. A possible channel running N.W. from slightly west of the centre of the beach filled with up to 14' of sediments has been located (see plan). For more details of drilling see logs.

Sailed for Eastern Areas and anchored off Currie River Settlement.

Planned to Drill deep holes if weather held.

Sunday 9th July

Moderate swell and N.E. wind caused T.F.B. to pitch and yaw making collaring very difficult. However, it seems that all holes bottomed in that they were on reef. Copious marine growth coral encrusted basalt fragment coarse sand and shell fragments. Usually some H.M. All this area east of the Tamar must be sub bottom profiled. It is impossible to carry out a meaningful exploration programme merely probing the bottom with the Amdril without more information on sediment thickness. The whole area traversed by the T.F.B. showed up as reef and irregular sand bottom on the ship's echosounder. The 20-25 fathoms fossil beach outlined by Conolly seems to be reef. I decided to spend some time traversing the proposed drilling sites and trying to determine what was reef and what was not. However, for this sort of work fairly calm conditions are called for and if we get calm conditions we drill. Thus, we tended to feel our way from target area to target area. Apparently there is very little sand of interest to us.

Four holes were drilled for a total of 8' of sediments. The last hole of the day, J1, was drilled off the Piper River in a position that from the hydrographic chart supplied by Planet indicated a possible fossil bed of the river. This is backed up by Conolly's interpretation. He recommended this area as being the most promising prospect. However, the stern of the T.F.B. was yawing so much that collaring was almost impossible. Only 3' of penetration was achieved. But, the sediment was of a type different from the reef sediments that had been encountered so far in this area and it is possible that we had in fact located the old river bed. As suggested in the Cundill-Meyers report concerning tin in the Esk river alluvial gold in the Piper River is unlikely to have gravitated far down stream in any quantity and thus any concentrates should be sought near the mouth of the present river and then followed out to sea if conditions seem to indicate that this is reasonable.

As a result of this re-thinking I have drawn up a revised drilling plan for both offshore Currie and Piper rivers. As Conolly's fossil beach appears to be predominantly reef this seems the only thing to do for the time being until some sub bottom profiling can locate better targets. Local knowledge indicates that we will not find any large quantity of sand in water less than about 30 fathoms which is too deep for our present rig.

The proposed pattern is now:

a) Test Old Currie River for gold. 3 holes along the bed approximately N.W. and 3 holes at right angles to that line across the southern end of a possible delta system.

b) Test "unknown" River for gold. 3 holes along axis of trough towards line H.

c) Chase up Piper River System for gold. 9 holes along possible branches and at possible junctions.

d) Test "Conolly" River for gold. Possible river running parallel to the coast in the middle of the only likely sandy area. 3 holes. This is a long shot as it is neither the highly favoured beach located by Conolly between 20-30 fathoms nor is it an obvious tributary of either the Currie or Piper which Cundill-Meyers recommend (indirectly) as being the most likely areas to prospect. This adds up to a total of 22 holes. However, there is not enough time left to handle this programme and I have selected 7 holes from these as being of prime importance.

In addition to the drilling I would like, if possible, to depth-sound the areas F, G, I and J in detail to try to detect the presence of reef.

T.F.B. returned to Beauty Point to drop Hill and to off-load samples. It was also expected to refuel and to carry out a few electrical modifications.

Monday 10th July

Heavy winds and rain (poor visability) prevented T.F.B. leaving. As planned, the samples were off-loaded and the ship was re-fuelled.

At 2300 a light fog came down causing much consternation to all.

Tuesday 11th July

Fog until 1130, sailed 1200. It was planned to test the areas outlined previously. Crossed area F about 1300. Strong reef echo on depthsounder, very ragged bottom. Sailed to Area G. Anchored about 17 fathoms at 1430. Settled at anchor for a while. However, it soon appeared that the westerly wind was causing a N.W. swell of about 8' which made drilling impossible at this depth of water.

Sailed towards mouth of Currie River. Anchored 1500 outside in 9 fathoms.

Hole G2 was collared at 1530 in 53 feet of water. Drilling and sampling was complete at 1630. There was only a thin covering of sand 1'-2' at maximum. Again evidence of hard bottom, covered with marine growth coral and shell fragments. There was a 6' swell for this hole.

Strong winds were forecast for the area and T.F.B. sailed for mouth of Tamar 1700. Anchored 1830. Moved to Georgetown 2100 because anchor was dragging.

Wednesday 12th July

Left Georgetown 0615. Sailed straight out to sea. Seas rough north west wind about 20 knots. At about 0700 in rough sea I decided not to try the exposed areas east of Tamar but to test the Ulverstone area which could give us a little shelter.

Received urgent message for List to contact Hill. Thus, had to waste time running into Devonport and out again. Out of Devonport by 1200.

Sailed to Ulverstone. Drilled two holes on Line A. Both struck reef or hard bottom. A3 was peculiar in that a large quantity of sulphide material (arsenopyrite) associated with carboniferous banded indurated sand. Probably indicative of old lagoon or swamp.

Sailed back past Devonport to holes in Group D drilled the central hole. Echosounder showed this area to be fairly flat bottom but once again reef material was recovered. Echosounder seemed to indicate most of this area also is reef.

Returned to Beauty Point 1950. Moved to Georgetown 2230.

Resolved to test East of Tamar for last time tomorrow.

Thursday 13th July

Left Georgetown 0620 and sailed out of Tamar. Heavy rain and N.W. swell. Sailed to first drilling position G3 in 97 feet of water. Spent some time looking for a possible sand trap. Found it and drilled. Although this was once again a shallow deposit, it did not present the usually dismal selection of sea weed, prawns and shell that I have come to expect from these north coast leases. Instead there was a fair quantity of fine pale brown sand covering the shell fragments and gravel, usually yellow-brown acid tuff ? material with coral coating. There was also some rounded quartz particles mostly $< 1/8"$ and a small quantity of very dark clay, possibly indicative of river bed.

The sea was by 1010 pretty rough and a measured tool movement of 10 feet showed that drilling would not be feasible much longer.

We then ran echosoundings over some of the target areas and at one point (the only possible sand bed in the area according to Wiseman) we threw over the sand dredge in an attempt to get a bottom sample. This was not a wild success but it did show that there was some sand at this point. It was taken over the area called "Connlys" River and although there was no visible H.M. this does not mean that the area should be disregarded in future exploration work.

At about 1300 all echosoundings had been completed and we turned back to the Tamar. The swell from N.W. had worsened and winds of up to 22 knots were recorded by Wiseman.

Arrived back at B.P. 1530 off loaded samples and checked on progress with Amdril at Phoenix's Foundry. The job was still not complete. Crossed to Bell Bay and collected Amdril. D. List and Caddy checked with Phoenix Foreman Des Gibbons that there is still two or three days work to have the drill operational.

Returned to B.P. 1700. Arranged sample transport to Launceston and departed B.P.

T.F.B. to head for Eden 2200.

Caddy and List agreed on the handling of the improved Amdril to combat any contingency.

SAMPLING AND ASSAYING

The "Amdril" unit consists of a twenty feet length of four inch diameter steel casing, within an outer casing eight inches in diameter. The unit is suspended vertically from a cable attached to the ship's derrick and lowered to the sea bottom, where air and water are pumped into the outer casing and sample material is forced up the inner casing. An air hammer is incorporated in the top of the unit to assist penetration. Attached to the top of the unit is the four-inch diameter production hose and other lesser diameter hoses for the introduction of air and water.

A steel circular ring slides up and down the casing and remains on the sea-bed when the drill penetrates. A transducer, fitted to the top of the drill, sends out a pulse to this ring, which records on an echo-sounder aboard the ship, thus showing the depth of penetration.

The production hose leads to a boiling box which breaks the velocity of water and sample material. This boiling box is mounted on rails over six steel sampling compartments, and was designed to be pulled to any compartment so that incremental sampling could take place.

In practice, however, the standard five feet sample increment could not be obtained due to the very large volume of water and material obtained. For this reason, the increments were taken at any interval depending on the amount of sediment available, usually at two feet intervals.

Because gold was being sought in each sample, no cut was taken. The water was siphoned off and the entire bulk of the sample scraped from the sampling compartments and bagged in large plastic bags.

These bulk samples were taken to the Launceston Laboratory of the Tasmanian Department of Mines where the sample was tabled and the heavy mineral table concentrate taken and forwarded to Kenneth McMahon and Partners Pty. Ltd. in Sydney. The heavy mineral samples were then delivered to Geochemical and Mineralogical Laboratories Pty. Ltd. at Double Bay, where analysis took place for rutile, zircon, ilmenite, tin and gold.

Assay details are set out below.

Launceston Laboratory Procedure.

a. Sample weighed wet.

b. Moisture sample taken and dry weight calculated.

c. Material cradled to remove coarse material, (slime would be lost).

d. Cradle screen undersize tabled, (mineral bands observed).

e. Table concentrates panned for signs of gold.

f. Pan fractions recombined, dried and weighed. All material has been retained and stored in Launceston for future examination.

g. Assay results supplied were the percentage by weight of the table concentrate obtained, plus indications of what minerals were observed on the table and in panning.

Geochemical and Mineralogical Laboratories Pty. Ltd.

a. Heavy mineral table concentrate subjected to bromoform sink-float assay to obtain true percentage by weight of heavy mineral.

b. Heavy mineral separated in Franz Isodynamic Separator for determination of Rutile, Zircon and Ilmenite.

c. Heavy mineral re-bulked and subjected to assay by colorimetric methods for tin.

d. Fire assay completed for gold content. This last step precludes any of the heavy mineral concentrate being available for further examination.

Results of all assays have been included in the drill logs.

OFFSHORE DRILLING LOG

159012

ULVERSTONE

Hole	Water Depth	Date and Time Drilled	Increment	% H.M.	Constituents as Percentage of Heavy Mineral					Remarks
					Rutile	Zircon	Ilmenite	Cassiterite	Gold	
A3	52'	12.7.67 1335-1430	0-2'	0.05	Trace	1.5	11.5	0.06	-	Marine growth associated with reef, also quartz pebbles covered with coral. Some brown sand and quantities of undurated sand with carbonaceous material, fossilized leaves, twigs. Large quantity sulphide material mostly pyrite and arsenopyrite. Coarse rounded fragments of hematite (1/8"). Lumps of grey chert with coral encrustations. 2' Penetration, hard bottom conditions.
	Position Angles		Don Bluff - Silo 08° 05' Silo - Ulverstone Beacon 130° 01'							
A4	43'	12.7.67 1435-1515	0-2'	0.03	2.0	2.0	19.5	0.14	-	Reef area again: Marine growth, shell fragments rounded quartz pebbles (< ¼") some with coral growth attached poor H.M., bluish colour, possible ilmenite, very fine grained. Lumps green clayey tuffs with calcite crystals in vugs, similar to green shales, very soft. Short hole, proving target area on reef again.
	Position Angles		Mersey Bluff - Silo 09° 37' Silo - Ulverstone Beacon 141° 46'							

159013

OFFSHORE DRILLING LOG

Hole	Water Depth	Date and Time Drilled	Increment	% H.M.	Constituents as Percentage of Heavy Mineral					Remarks
					Rutile	Zircon	Ilmenite	Cassiterite	Gold	
D1	94'	12.7.67 1625-1710	0-2'	0.10	2.0	4.5	7.0	0.01	-	Fine grained pale brown sand, much shell, pebbles, marine growth. No evidence of reef but hard bottom possibly indurated sand and gravel. Large chert pebbles < 2", covered with coral. Small rounded quartz fragments < 1/8"
	Position Angles		Point Sorrel - Egg Island 49° 07' Egg Island - Mersey Bluff 84° 49' Mersey Bluff - Don Bluff 18° 48'							Drill Shoe damaged, indicating hard bottom.
E1	41'	8.7.67 1550	0-3'	0.27 0.23 0.18	7.5 10.0 8.5	16 11 12	27 25.5 23	0.05 0.05 0.04	- - -	Fine grained compact grey sand. Shell and small quartz fragments occasional lumps indurated sand.
										Very little superficial. Drill moved about violently, indurated or hard rock bottom.
	Position Angles		West Head - Asbestos 114° 14' Asbestos - Badger 97° 35'							Moved vessel 100' bearing 250° and collared again. No better result, very poor penetration.

159014

OFFSHORE DRILLING LOG

Hole	Water Depth	Date and Time Drilled	Increment	% H.M.	Constituents as Percentage of Heavy Mineral					Remarks
					Rutile	Zircon	Ilmenite	Cassiterite	Gold	
E2	58'	7.7.67 1715-1750	0-2	0.30	7	19.5	41	0.09	-	Clayey grey sand, much shell. H.M. present.
			2-5'	0.31	7.5	16	36	0.06	-	Clayey as above, shell fragments. Glitter from H.M. present.
			5-8'	0.17	2	15.5	30	0.06	-	As above
			8-11'	0.11	7	9.5	9.5	0.05	-	As above but larger fraction of broken shell.
			11-14'	0.20	6.5	90	14	0.14	-	As above but larger fraction of broken shell.
			14-15'	0.15	6	13	19	n.d.	n.d.	Fine grained grey sand with H.M., clayey with little shell. Bottomed as 15 feet.
	Position Angles		West Head - Asbestos			97° 18'				
			Asbestos - Badger			77° 12'				
			Air Mark - Asbestos			90° 16'				
			Asbestos - Port Sorrell			93° 18'				
E3	38'	7.7.67 1620-1650	0-3'	0.28	9	12.5	25.5	0.30	10 grns /long ton	Fine grained grey sand, broken coarse shell, some H.M.
			3-6'	0.27	7	20.0	34	0.11	-	Yellow fine grained sand, white broken shell, some H.M. small gold colour (N.B. This could have been brass)
			6-8'	0.07	10	22	31.5	0.18	-	Coarser grey sand than above, some shell, good H.M.. Indications of high rutile and zircon content. Bottomed at 8 feet.
	Position Angles		West Head - Asbestos			125° 53'				
			Asbestos - Badger			83°42'				
			Asbestos - Port Sorrell			84° 23'				
			West Head Marker - Asbestos			117° 13'				

159015

OFFSHORE DRILLING LOG

Hole	Water Depth	Date and Time Drilled	Increment	% H.M.	Constituents as Percentage of Heavy Mineral					Remarks
					Rutile	Zircon	Ilmenite	Cassiterite	Gold	
E4	63'	7.7.67 1530-1605	0-2'	0.25	6.5	16.5	29	0.10	-	Fine grained grey sand, coarse broken shell, good H.M.
			2-6'	(0.46	6.5	17.5	32.5	0.10	-	As above
				(0.30	8.0	17.0	30	0.07	-	
	Position Angles		West Head - Asbestos 114° 27'							Bottomed at 6 feet.
			Asbestos - Badger 66° 40'							
			Asbestos - Port Sorrell 77° 54'							
E5	69'	7.7.67 1415-1500	Nil							No sample obtained from this position, probably rock. A few grains of clear quartz and limonite stained quartz fragments.
	Position Angles		Reef Beacon - Asbestos 114° 48'							No superficial. On bedrock.
			Asbestos - M.B. 72° 20'							
			Asbestos - Port Sorrell 69° 20'							
			West Head - Asbestos 105° 57'							
E6	42'	8.7.67 0745-0930	0-3'	(1.00	5	18	30	0.05	-	Very fine grained grey sand, very clayey and compact. Good H.M.
				(0.52	7	18.5	29	0.08	-	As above with occasional small pebbles.
			3-6'	(0.34	6.5	18	32.5	0.04	-	As above, more clay and more shell.
				(0.16	6	20	32	0.08	-	As above, more clay and more shell.
				(0.50	8	11.5	16	n.d.	n.d.	As above, more clay and more shell.
	Position Angles		West Head - Asbestos 132° 00'							This hole to be re-drilled as stern of vessell was swinging violently.
			Asbestos - Badger 74° 17'							

159016

OFFSHORE DRILLING LOG

Hole	Water Depth	Date and Time Drilled	Increment	% H.M.	Constituents as Percentage of Heavy Mineral					Remarks
					Rutile	Zircon	Ilmenite	Cassiterite	Gold	
E7	45'	8.7.67 0950-1130	0-5'	1.02	6	11.5	21.5	0.05	12 grns /long ton	Greyish yellow sand, very fine grained, some shell, good HM.
			5-10'	0.30	4.5	8.5	11	0.05	-	As above at start, thence quartz, indurated sand, pebbles.
			10-14'	0.17	5	8.5	5	0.06	-	Dark grey sand, some shell, large quartz round pebbles.
				0,11	7	13.0	20	0.02	-	As above
				0.02	4.5	9.5	6	0.12	-	As above
										Hard drilling. Resistance at 5' on account of indurated sand and pebbles. Bottomed at 14'. Yellow limonitic sandy clay on shoe.
	Position Angles		Same location as E6							
E8	43'	8.7.67 1130-1215	0-1'	0.73	10	11	14.5	0.04	6 grns /long ton	Very fine compact grey sand. H.M. but superficial about 6" only. Kaolinized white clayey material sticking to drill shoe.
	Position Angles		West Head - Asbestos 140° 44'							
			Asbestos - Badger 62° 01'							
			Air Marker - Asbestos 120° 28'							
			Asbestos Point Sorrell 69° 15'							

159017

OFFSHORE DRILLING LOG

Hole	Water Depth	Date and Time Drilled	Increment	% H.M.	Constituents as Percentage of Heavy Mineral					Remarks
					Rutile	Zircon	Ilmenite	Cassiterite	Gold	
E9	68'	8.7.67 1700	0-5' 5-8'	0.34 0.28 0.20	5 5 6	11 12.5 12	24.5 21 22	0.04 0.08 0.10	- - -	Fine grey sand, lumps indurated sand, very hard, banded with calcareous matter and stained grey-black. Bands of vegetable matter, shell. Much pebbles mainly quartz, chert, jasper all <3/8", occasional rounded stone >½" yellow, grey and black clay. Drill had 3 feet of clay stains on shoe.
	Position Angles		West Head - Asbestos 107° 29' Asbestos - Badger 71° 33' Air Marker - Asbestos 98° 32' Asbestos - Point Sorrell 84° 03'							
G1	120'	9.7.67 0825-1115	Surface Samples	0.26 0.47 0.31	4.5 3.5 5.0	7 1.5 9.5	14.5 10.5 21.5	0.01 0.03 0.03	- - -	Fine grained pale brown sand, much shell <¼" diameter, coral and other calcareous matter. Poor H.M. Only shallow penetration, very little superficial. Stern swinging, difficult to collar hole.
	Position Angles		10th Island - Stony △ 28° 15' Stony △ - Low Head 120° 45'							

Curve here.

159018

Carruthers

OFFSHORE DRILLING LOG

Hole	Water Depth	Date and Time Drilled	Increment	% H.M.	Constituents as Percentage of Heavy Mineral					Remarks
					Rutile	Zircon	Ilmenite	Cassiterite	Gold	
G2	53'	11.7.67 1600	Surface Sample	0.22	3.5	6	27	0.09	18 grns /long ton	Reef material. Shell fragments, marine growth, angular basalt fragments covered in coral. Rounded quartz pebbles approx. ¼". Pale brown sand. Some basalt pebbles > ½" had deep green clay covering, suggesting possible old river bed.
				0.50	3.5	10	29	0.14	-	Little penetration as strong north-westerly swell caused stern to yaw. Drill obtained surface sample but appeared to have bottomed.
	Position Angles		10th Island - Stony △ 39° 29' Stony △ - Round Hill 26° 10'							
G3	97'	13.7.67 0920-1010	0-2'	0.14	5.5	11	23	0.20	-	This hole was located by searching for a sand trap. Fine grained pale brown sand some H.M. Large quartz and shell fragments also coral covered gravel. Rough tuffs < ¼", occasional rounded quartz pebbles. Small quantity very dark clay, possibly indicative of old river bed.
	Position Angles		10th Island - Stony △ 36° 37' Stony △ - Round Hill 19° 48' Round Hill - 5MB 112° 45'							

159019

Currie River. (45) 4 miles 346)

OFFSHORE DRILLING LOG

Hole	Water Depth	Date and Time Drilled	Increment	% H.M.	Constituents as Percentage of Heavy Mineral					Remarks
					Rutile	Zircon	Ilmenite	Cassiterite	Gold	
H1	85'	9.7.67 1145-1235	0-2'	0.43 0.59	3.5 5	3.5 4	12.5 15.5	0.02 0.04	- -	Coarse shell and large quantity animal material. probably sponge and coral. Some fine brown sand with poor H.M., which is coarser than any encountered in Tasmania so far. Calcareous coated pebbles and fragments of basement which here is a fine crystalline basalt. Quantity of weed indicates reef. Superficial about 2 feet, hard rock bed.
	Position Angles		10th Island - Stony 59° 51' Stony ▲ - Low Head 136° 10' Round Hill - Low Head 07° 20'							
J1	65'	9.7.67 1450-1550	0-3'	0.15 0.10	5.5 5.5	9.5 11	26 17.5	0.05 0.10	- -	Coarse pale brown sand, much small fragments. No evidence of basement. Occasional coral fragments.
				0.26	6	10	24	0.14	-	Fine grained grey sand found 1-2' below surface, poor to moderate H.M.
	Position Angles		Round Hill - 10th Island 40° 10' 10th - 9th 104° 30' 9th - W. Double Sandy Cape 36° 56' 10th - West, house 120° 40'							Attempt made with this hole to locate old bed of Piper River.
J2	117'	10.7.67 1310-1415	0-1'	0.01 0.03	4.5 3	6.5 4	10.5 11.5	0.06 0.02	- -	Much shell and weed. Coarse light brown sand about ½", coral coated. Surface sample.
	Position Angles		10th - 9th 122° 54' 9th - W. Double Sandy Cape 55° 21'							

019

TASMANIA

AMG REFERENCE POINTS ADDED

1:500,000

SCALE

7·89 Miles to 1 Inch

MILES 5 4 3 2 1 0 5 10 15 20 25 30 35 40 45 50 MILES

KILOMETRES 5 4 3 2 1 0 5 10 15 20 25 30 35 40 45 50 KILOMETRES

5 cm

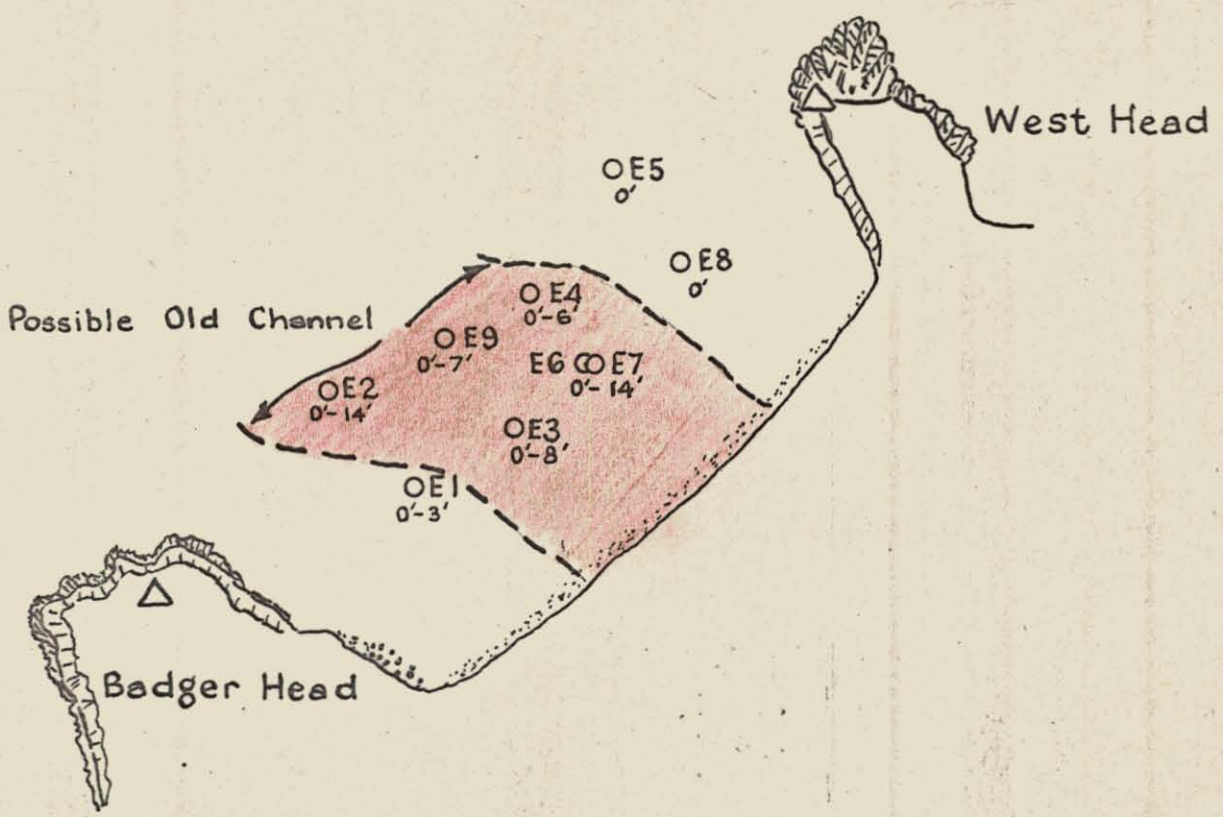
159020

Issued by authority of the Hon. D. A. Cashion, Minister for Lands and Works, Tasmania.
This map was compiled and produced by the Lands and Surveys Department, 1964
from the latest information available. It is not wholly the result of precise survey.

020

159021

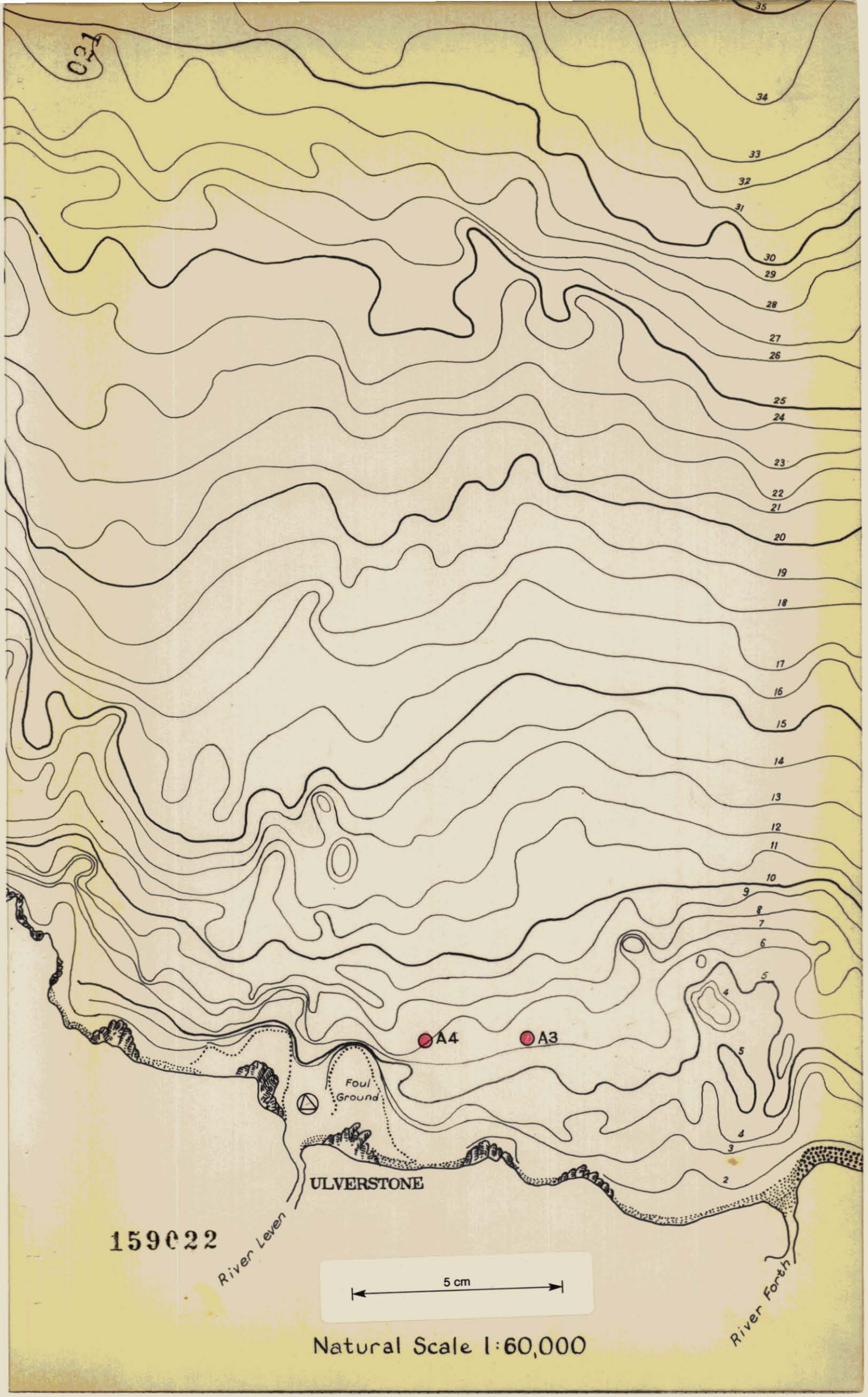
PLAN SHOWING POSSIBLE OLD CHANNEL. WEST HEAD - BADGER HEAD BAY.



△ Asbestos

5 cm

Natural Scale 1:50,000.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4
5
4
3
2
A4
A3
Foul Ground
ULVERSTONE
River Leven
River Forth
5 cm
Natural Scale 1:60,000

022

20
19
18
17
16
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14
13
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12
10
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8
7
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4
3
2
1

D1

G. Egg I.

D.

M.

Gp.Fl(4)W.R. 122 ft. ev. 12 sec.
16 & 7 M.
Mersey Bluff

(U)Fl.

159023

5 cm

Natural Scale 1:50,000

Low Head
Gp. Fl.(3) 18 M. Fog Dia.
Telegh & Sigl Stn
L.

PORT DALRYMPLE

W. West Head

E5
E8
E4
E9
E6 E7
E2
E3
E1

Badger Head
B.

Pt-Sorell
S.

PORT SORELL

E.

A. Asbestos

159024

5 cm

TASMANIA — NORTH COAST

MERSEY BLUFF to LOW HEAD

H.M.A.S. WARREGO, 1946 and H.M.A.S. BARCOO, 1947

023

Natural Scale 1:50,000


Tenth Islet
G1
H1
G3
G2
J2
J1
D
Flat Rks
West Double Sandy Cape
NOLAND BAY
Stony Point
Tom O'Shanter Bay
Stand Hills 50 to 80 feet high
5 Mile
Five Mile Bluff
Aerodrome
Low Head
RIVER TAMAR
Round Hill
R
Currie River
Piper River
Little Piper River
5 cm
Natural Scale 1:50,000.
159625
024