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REPORT ON HEAVY MINERAL DEPOSITS

EXPLORATION LICENCE 21/69

SOUTHWESTERN TASMANIA

MICROFILMED

Geotechnics (Aust) Pty. Ltd.

70 Pitt Street,

SYDNEY

August, 1970.

NEW SOUTH WALES

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REPORT ON HEAVY MINERAL DEPOSITS
EXPLORATION LICENCE 21/69, SOUTH WESTERN TASMANIA

SUMMARY AND CONCLUSIONS

A total of nine areas covered by Exploration Licence No. 21/69 held by Sub-Oceanic Minerals N.L. on the south west coast of Tasmania were explored for heavy mineral deposits containing rutile, ilmenite and possibly tin. Of the nine areas, Southwest Bond Bay Kelly Basin and Wreck Bay contain low grade heavy mineral deposits of possible commercial significance. Further auger drilling is recommended to determine the possible grade and extent of these heavy mineral deposits.

The areas of North Bond Bay, Payne Bay, Davey River, Nye Bay, Mulcahy Bay and the beach and dune areas northeast of Hobbs Island lacked sufficient heavy mineral grades and tonnages to warrant further investigation at this stage.

RECOMMENDATIONSA. SOUTHWEST BOND BAY:

Low grade heavy mineral concentrations are present in dune sands at Southwest Bond Bay. The heavy mineral content is low but some of the higher grades extend into the parallel dune sands. The small number of scout holes bored so far are not adequate to test the dune sands and further drilling may upgrade the deposits.

Further scout drilling is recommended to test the possible commercial potential of this deposit as follows :-

Three traverses 2000 feet apart should be bored along lines 5000E, 7400E and 9800E (Plate II). Hand auger holes should be spaced at 200 feet so as to extend from the shoreline inland.

Approximately 9 days would be required to drill 25 holes for 750 feet.

B. KELLY BASIN:

(a). Auger drilling and bulk sampling from 34 localities is recommended to test the rutile - ilmenite deposits in the western area of Kelly Basin. Anticipated duration of this programme is 5 days.

(b). Further auger drilling is recommended along traverses 2400 feet apart with holes spaced at 800 feet in the eastern area of Kelly Basin. About 6 days will be required to drill 16 holes for 480 feet to test the tidal sand deposits for heavy mineral concentrations in depth.

C. WRECK BAY:

Low grade heavy mineral concentrations are present in the beach and dune sands at Wreck Bay. The heavy mineral content is low but samples collected so far are confined to the surface layers of the sand deposits.

Deeper drilling is recommended to test for heavy mineral deposits in depth. Four traverses 1200 feet

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apart should be drilled across the beach and dune sand deposits. Holes are to be spaced along traverses at intervals of 50 feet across the beach and at intervals of 100 feet across the dunes.

The anticipated duration of this work is 12 days to drill 40 holes for 1200 feet.

INTRODUCTION

Concentrations of heavy minerals are known to occur on the southwest coast of Tasmania, 130 miles by sea west of Hobart. Exploration Licence 21/69, of 100 square miles was granted to Sub-Oceanic Minerals N.L. over this area which is in the Land Districts of Kent and Arthur. This licence entitles the lease holders to explore for beach sand minerals (rutile, ilmenite, zircon, tin and associated minerals) within the confines of the Exploration Licence area.

Exploration Licence 21/69 covers the shoreline from Cox Bight on the south coast to Nye Bay on the west coast, and includes beaches of Bond Bay and Kelly Basin in Port Davey. The licence covers approximately 100 miles of shoreline and extends 1,000 yards inland and 760 yards offshore.

All of the western coastline is exposed to predominant westerly and southwesterly gales.

Access to the area is obtained only by sea and

consideration must be given to the finding of suitable anchorage.

Geotechnics (Aust) Pty. Ltd. carried out a brief aerial reconnaissance of the area on the 9th November, and ground inspection and sampling of accessible localities were made on the 11th November, 1969.

Between 5th March to 20th March, 1970 a programme of scout drilling and surface sampling of the area under E.L. 21/69 was completed by Geotechnics (Aust) Pty. Ltd. with the assistance of staff and equipment supplied by Sub-Oceanic Minerals N.L. A total of 107 samples were taken from 53 hand auger holes bored for a total of 411 feet and 14 surface samples were also collected.

METHOD OF INVESTIGATIONFIELD WORK

A 40 foot diesel powered launch "M.V. Tunney" owned by Sub-Oceanic Minerals N.L. was used for transport and served as a base camp. An 8 foot aluminium dinghy with outboard motor was used for access to the beach areas.

The beaches, dunes and other sedimentary deposits were sampled using a hand auger, sludge pump and casing supplied by Sub-Oceanic Minerals N.L. A spade was used for surface sampling. On North Bond Bay a reconnaissance grid was established using a compass and steel tape.

The hand auger was used for boring down to ground water level. Below the water table the sludge pump and casing was used. Samples were generally taken every five feet and representative portions were retained.

The samples were split using a large and a small riffle splitter. Approximately 2lb. of sand was retained in plastic bags for analysis.

The plans of the areas investigated include Plates I to VI which are drawn on scales of 100, 400, 600, 2000, or 4000 feet to the inch. Plate I was drawn from data obtained from pace and compass traversing. Plates II to VI were drawn from enlargements of aerial photographs obtained from the Lands Department, Hobart. The plans show the general geology, localities and details of the hand auger holes. Cross sections were drawn on scales of 50 feet to the inch (horizontal) and 100 feet to the inch (vertical).

SAMPLE ANALYSIS

All the samples were analysed by General Superintendents Co. (Aust) Pty. Ltd. of Sydney for :-

1. Heavy Mineral Fraction All the samples were analysed for heavy mineral percentage. The samples were dried and then weighed. Gravel and pebble samples

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were pulverised to pass through a +30 mesh screen. The sample was then put through a tetrabromoethane solution of specific gravity 2.93 to separate the heavy and light fractions. The percentage of the heavy mineral fraction was then calculated by weight.

2. Grain Counts In 25 samples, ilmenite and rutile were determined by grain counts. The heavy mineral fraction was magnetically separated into non-magnetic and magnetic fractions. Each fraction was analysed under a microscope and grain counts for ilmenite and rutile were made. The results are expressed as percentages of the heavy mineral fraction.

3. Chemical Analysis It was considered expedient to have some of the samples analysed for titanium dioxide, tin and chromium.

(a) Fifteen samples from Kelly Basin and Wreck Bay were analysed for titanium dioxide by the colorimetric method.

(b) Fourteen samples from Kelly Basin and Wreck Bay were analysed for tin by atomic absorption spectrophotometry (AAS)

(c) The chrome content of the ilmenite in 19 samples

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was analysed by chemical assay.

Twenty samples were checked for heavy mineral percentage by Geochemical & Mineralogical Laboratories Pty. Ltd. of Sydney. Grain counts for ilmenite and rutile were made on 8 of these samples and chemical analysis for titanium dioxide, tin and chromium were made on 4 of the samples.

The final results from both laboratories were generally comparable.

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PHYSIOGRAPHY

The coastline of southwest Tasmania trends north-northwest from South West Cape to Elliot Bay in an almost straight line. Mountains parallel the coast in a series of ranges extending inland for over 20 miles. The largest river - the Davey River, flows southeastwards between the Propsting and Wilson Ranges for 15 miles then turns southwards towards the coast, entering the drowned river valley harbour of Port Davey. The Giblin River flows southwest into Nye Bay, from numerous small tributaries all trending north northeast.

The De Witt Range with a maximum height of 2,450 feet is about 3 miles inland from the coast and trends south southeast from Nye Bay to Port Davey River. A north-south strike is more prominent in the low foothills of the De Witt Range which cut across the trend of the coastline and form prominent rocky headlands on the west coast between Nye and Wreck Bays. Sandy beaches are confined to the bays on this coast. South of Wreck Bay a prominent coastal plain extends southwards and eastwards towards the Kelly Basin area.

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Some of the sandy beaches on the west coast are associated with high parallel and transverse dune systems which extend southeastwards over the coastal plain, for distances of up to 4 miles. The remainder of the west coast is characterised by a sea cliff varying in height from a few feet in sheltered bays to more than 50 feet on open and rocky shores. Flat coastal plains extending inland from the sea cliffs are generally between 10 and 30 feet above sea level.

Stranded sea cliffs are also present in parts of Port Davey.

On the west coast of Port Davey, similar areas of coastal plain are on the southeastern flanks of the De Witt Range. Narrow coastal plain lines the remaining areas of the coast.

On the east coast of Port Davey the foothills of the Erskine Range rise from the coast and only a narrow coastal plain is present.

South of Port Davey, mountain ranges and steeply dissected foothills rise steeply from rocky

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coastline, and form a cliffed peninsula at South West Cape. Stephens Bay immediately south of Port Davey is the only large embayment which contains any significant sandy beaches. West of South West Cape the coastline transects the dominant southeast trend of the mountain ranges and deep indentations occur between Wilson Bight and Cox Bight. Sandy beaches line the northern shores of these bights. At Cox Bight the beach is over 2 miles long.

Coastal plain is absent on the coastline between Port Davey and South West Cape and poorly developed between South West Cape and Cox Bight.

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GEOLOGICAL SETTING

GENERAL

The basement rocks of the area consist mostly of schist and quartzite of Pre-cambrian age. Quartzite and conglomerate crop out at Bond Bay and granite crops out in the far north at Elliot Bay and in the far south at South West Cape. Unmetamorphosed Precambrian schists are exposed in the Bathurst Harbour area.

Quaternary sediments comprise beach and dune sands, tidal sands and gravels and mixed alluvial marine sands and gravels.

QUATERNARY DEPOSITS

Most of the beach and dunal areas comprise aeolian and marine quartz sands.

In parts of the Kelly Basin and Bond Bay beaches, medium to coarse gravel deposits are common.

Transverse dune sands overlies some of the coastal plain areas of the exposed west coast. The remaining coastal plains in these areas are overlain by shallow mixed fluvial, alluvial and aeolian sand deposits. The coastal plain deposits around Port Davey vary from shallow soil deposits inland from Kelly Basin and Payne Bay to marine sand and gravel deposits with depths of up to 20 feet at Bond Bay.

THE CONCENTRATION AND ORIGIN OF HEAVY MINERALS

Most of the heavy minerals were found on the present day beaches and the concentration of these heavy minerals is primarily a result of wave action.

Heavy mineral concentrations associated with older stranded beach lines were found at Bond Bay. Wind blown concentrations are present in the dune sands of Wreck Bay, and some higher heavy mineral grades were obtained from parallel dunes of South East Bond Bay. Large grains of rutile were found in the gravel deposits of Kelly Basin.

Constituents of the heavy mineral fraction in order of abundance are garnet, ferrosilicates, ilmenite, rutile,

and zircon. The ilmenite and rutile content of the heavy mineral fraction was determined in all of the samples.

In regard to distribution of heavy mineral concentrations it was noted that :-

1. The grade of heavy mineral concentrations increased on the beaches near the outlets of the present streams and rivers.

2. The beach and dune sand deposits are more extensively developed on the eastern side of the bays but higher heavy mineral concentrations are more common in the smaller western beaches of the bays. This was particularly noticeable in the Port Davey area.

The source of the heavy minerals is not known. On the exposed west coast beaches the grains of the heavy minerals were small and well-rounded.

Similar grain characteristics were found in beaches and dune sands of Port Davey except for the gravel deposits of Kelly Basin where the large size of rutile grains up to a quarter of an inch across suggest a local source for rutile. The ilmenite found in Kelly Basin samples however, was of average size.

HEAVY MINERAL DEPOSITSNORTH BOND BAY:

Bond Bay beach is a coastal strip on the west side of Port Davey between the entrance to Kelly Basin and a major headland 6,000 feet northeast of the entrance (Plate I). The beach has an average width of 35 feet.

The northern half of the beach is 3,600 feet long and abutts against wave cut cliffs up to 10 feet in height. From the top of the cliffs a coastal plain extends inland for about 230 feet, then a fossil wave-cut cliff rises steeply to over 50 feet. Above the fossil cliffs undulating topography rises gradually inland.

The southern half of the beach is divided by a rocky headland. The wave-cut cliffs beside the present-day beach average 3 feet in height. Behind these cliffs higher undulating topography rises immediately inland and no coastal plain is evident.

Hand auger holes were drilled at 400 feet

intervals along North Bond Bay beach. In addition, three traverses 1,200 feet apart were established normal to the beach to extend across the beach, coastal plain and fossil cliffs. Hand auger holes were drilled at 50 foot intervals along these traverses to delineate sand deposits inland, and three other auger holes were drilled on the coastal plain between the three traverses.

The results from samples of 37 auger holes showed that the beach and coastal plain areas contain sand, soil, peat and gravel deposits to an average depth of 8 feet above the bedrock. Holes drilled along the beach show that the depth of sand increases away from the rocky headlands and rock outcrops. The bedrock surface beneath the coastal plain is probably an old wave-cut platform.

Samples from the hand auger holes were analysed for heavy minerals. The results are shown in Appendix 2 and also in Plates I and II. The average grade of heavy mineral is 1.57% for 234 feet drilled. The best heavy mineral grades appear to be in the upper 5 feet of sand along the central and southern parts of the present beach. The average grade of heavy minerals in the present day beach sands is 3.46%. Grades are generally

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much lower on the coastal plain.

Using a conversion factor of 20 cubic feet to one ton, the total tonnage of sand on the beach and coastal plain for North Bond Bay is estimated at 500,000 tons. Total tonnage of heavy minerals in the coastal plain and present beach sands of North Bond Bay is estimated at 7,850 tons.

Results of analyses of the heavy mineral fractions are tabulated in Appendix 1. The heavy mineral fraction contains an average of 19.02% ilmenite and 1.14% rutile. The chrome content in the ilmenite was determined in three samples and averaged 394 ppm.

Two hand auger samples from the south end of Bond Bay contained an average heavy mineral grade of 5.95% for 11 feet drilled.

Results obtained so far show that the tonnage and grade of the heavy mineral deposits at North Bond Bay are too low to support a profitable mining operation under current prices and mining techniques.

SOUTH EAST BOND BAY:

From the Kelly Basin entrance the coastline runs eastwards for 6,800 feet to Elphinstone Point. The beaches along this section of Bond Bay average 21 feet in width. Behind the beaches are a series of parallel dunes extending inland for 1600 feet, rising to a maximum height of 30 feet above sea level (Plate II). Behind the dunal areas bedrock crops out and undulating topography rises to over 300 feet above sea level.

Three hand auger holes were drilled at approximate 3000 foot intervals along South East Bond Bay beach. In addition four hand auger holes were drilled to test the parallel dunes inland.

The beach sand deposits along South East Bond Bay varied from over 25 feet in depth at the Kelly Basin entrance to 5 feet in depth near Elphinstone Point.

The four auger holes drilled in parallel dunes inland from the beach indicated sand depths in excess of 20 feet, and the bedrock was not reached. The

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estimated volume of sand on the beach and parallel dunes based on the depths reached by the seven auger holes is about 5,500,000 tons. Deeper holes to delineate the true depth of sand over bedrock could probably increase this tonnage.

Heavy mineral grades for the beach and dune sands of South East Bond Bay range from 0.51% to 1.77% for 110 feet drilled. At this stage the possible tonnage of heavy minerals for South East Bond Bay could be 90,000 tons. *= 0.16% of 5.5×10^6* || ?

The average composition of the heavy mineral fractions is 18.72% ilmenite and 1.50% rutile.

Further drilling is recommended to determine whether higher grade heavy mineral deposits with commercial potential are present in this area.

KELLY BASIN:

Kelly Basin is a shallow tidal basin with approximately 6 miles of sand and gravel beaches (Plate III).

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In the eastern area of the Basin three main embayments are separated by two prominent headlands. Small rock outcrops subdivide the embayments into 5 beaches with a total length of 4000 yards. The beaches are terminated by rocky sea cliffs ranging in height from a few feet to over 30 feet. A coastal plain extends inland from the top of the sea cliffs for an average distance of 400 feet before rising to more rugged topography.

The western area of Kelly Basin is comprised of smaller beaches averaging 500 yards in length and 5 to 10 yards in width, scattered along a deeply embayed shoreline. The beaches abutt against sea cliffs terminating a gently rising hinterland, or against small areas of coastal plain.

The depth of the tidal sands, gravels and muds in Kelly Basin increases with the distance from the shoreline. About 500 feet from the shoreline the depth of sediment is 5 to 6 feet. At distances of over 1000 feet the sediment thickness exceeds 12 feet and one hole was drilled to 25 feet without intersecting bedrock.

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Offshore tidal sands and muds extend over most of the eastern area of Kelly Basin where the depth of water is only 2 feet. The area of submerged sand deepens towards the centre of the basin where it may have a depth of over 30 feet.

The mixed gravel and mud found around the majority of the western beaches is usually only about 2 feet deep overlying the bedrock.

Sand deposits on the coastal plain around the perimeter of Kelly Basin seem to be small, one auger hole 200 feet inland penetrated 2 feet of soil and peat before intersecting bedrock.

Because of the complex environment around Kelly Basin and the reconnaissance nature of the scout drilling, the tonnage of sand can only be broadly estimated at this stage. The area could contain 1 million tons of sand and gravel on the beaches and about 15 million tons of tidal sand deposits. No estimate of heavy mineral tonnage can be made at this stage.

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Five localities were sampled in the eastern area and ten localities were sampled in the western area of the Kelly Basin.

Analysis of the samples from the western side of Kelly Basin showed wide variations in the heavy mineral percentages which can be partly explained by the poorly sorted nature of most of the beach deposits, and the coarse grain size of the rutile. On the western side of the Kelly Basin heavy mineral grades vary from 1.10% to 3.80%.

It was noted that higher results were obtained from the shallow pebbly beaches from the western area, whereas the deeper sands in eastern areas contained only low grades.

The analysis of the heavy mineral fractions in samples from the western area was done both by grain counts for ilmenite and rutile and by chemical analysis for TiO_2 . The occurrence of pebbles and shells in the samples plus the problem of grain counts when large grains of rutile were known to occur necessitated the use of the above two methods.

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A check of the results was also carried out by another analytical laboratory. The results by grain counts (see Appendix 1) indicate an average heavy mineral fraction of 18.7% ilmenite and 2.8% rutile. Chemical analysis for TiO₂ averaged 0.8% of total sample.

All the chemical analysis for tin were below 0.05%. The chrome content of the ilmenite contained an average 324 ppm.

The presence of rutile in samples from the western area warrants further drilling together with bulk sampling to obtain more reliable assessment of the possible commercial potential of the heavy mineral deposits.

Reconnaissance drilling in eastern area is recommended to test the tidal sand deposits in depth.

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PAYNE BAY:

At Payne Bay there is a crescent shaped sand beach 2,400 yards long with an average width of 80 feet (Plate IV). A narrow, heavily vegetated coastal plain about 500 feet wide rims the beach and extends southwards along the coastline for about 3 miles.

South of Payne Bay the coastline is rocky and beach sand deposits totalling about 1 mile in length are confined to small bays. The beaches average 20 feet in width.

Six sites in Payne Bay and the coast to the south were investigated. Two surface grab samples were taken at each end of Payne Bay beach.

The highest grade for heavy mineral of 0.40% was at the northern end of the beach. The area does not appear to warrant further investigation.

DAVEY RIVER:

From the Davey River mouth to Hells Gates about 8 miles upstream, the river course is flanked by mud and flood plain deposits. A heavy mineral occurrence (Plate IV), 1 mile north of Settlement Point on the Davey River has been recorded by the Mines Department of Tasmania.

A number of localities were inspected along the Davey River between Fitzroy Point at the river mouth and upstream to Hells Gates. The reported site of heavy mineral concentrations was also investigated. No significant heavy mineral concentrations were found at any of the sites visited.

Further work in this area is not recommended.

NYE BAY:

The beach which varies from 200 to 300 feet in width comprises a spit about one mile long extending across the mouth of the Giblin River (Plate V). A line of 50 feet high foredunes parallels the beach.

Transverse dunes behind the foredunes extend inland for about one mile to the Giblin River in the southeast. An alluvial coastal plain between 10 and 15 feet above sea level extends inland from the periphery of the dunal areas for a distance of up to three quarters of a mile.

The Mines Department of Tasmania have recorded heavy mineral occurrences inland on the Giblin River. The reported locality was examined and one hand auger hole was bored to test this site. A second hole was positioned at the south end of Nye Bay beach and 100 yards west of the Giblin River. The remaining areas of beach and dune sands were reconnoitered, and one hole was placed inland near a small lake. Bedrock was not intersected in any of the holes.

Heavy mineral percentages from the samples were low. The average grade was 0.29% for 25 feet drilled. The composition of the heavy mineral fraction averaged 21.0% ilmenite and 2.0% rutile.

The grades are too low for profitable mining and no further work is recommended in this area.

MULCAHY BAY:

The beach which averages 200 feet in width extends for one mile between rocky headlands to the north and south. The beach adjoins 30 feet high foredunes which extend for about 200 yards inland over a broad coastal plain. The plain extends further eastwards for half a mile and southwards along the coastline for two and a half miles.

Field inspections of this area did not show any significant quantities of heavy mineral concentrations. No further work is recommended in this area.

WRECK BAY:

The beach is one mile long and averages 300 feet across rising to 40 feet high foredunes (Plate VI). Behind the dunes is a lower undulating coastal plain with a peaty topsoil surface. Quartzite and schist

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crop out along the central part of the beach and quartzite hills occur 200 yards inland from the foredunes.

Five surface samples were taken, one sample from each end of the southern half of the beach, and three samples at intervals of 50 yards in a traverse across the foredunes in the north half of the area.

Heavy mineral seams varying from fraction of an inch to over one inch in thickness were spread uniformly throughout the dune sands of Wreck Bay and in places extend in depth to at least 3 feet. Higher concentrations of heavy minerals are at the front of the dunes, in blowout sections going inland, and in small streams truncating the dunes. Heavy mineral seams were less abundant on the beaches.

The heavy mineral percentage in the samples is relatively constant, varying from 2.20% to 4.50% heavy minerals.

The ilmenite content of the heavy mineral fraction was determined by grain counts and averaged 8.9% of the heavy minerals, varying from 1.5% to 15.9%. The rutile content was determined by grain counts, and the samples were further analysed chemically for TiO_2 . The average percentage of rutile by grain counts in the heavy minerals is 4.7%. Chemical results show an average of 0.3% TiO_2 of total sample.

Four of the samples were chemically analysed for tin. All the results assayed less than 0.05%. The chrome content of the ilmenite averaged 386 ppm.

The estimated tonnage of sand is 14 million tons.

Reconnaissance auger drilling is required to test the heavy mineral concentrations in depth.

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THE BEACH AND DUNE AREAS NORTHEAST OF HOBBS ISLAND:

The beach is about one mile long and averages 300 feet in width (Plate VI). A line of foredunes up to 150 feet high extend along the full length of the beach. Beyond the foredunes a series of transverse dunes trend southeast. Aerial photographs show that the transverse dunes form a belt three quarters of a mile wide and possibly two and a half miles long. Distance from dune crest to crest is about 100 yards with an average height from trough to crest of 20 to 30 feet.

The heavy mineral content of the beach and dune sands is low. Only small wind blown heavy mineral concentrations were seen on the surface and in stream beds which cut through the foredunes.

Two surface samples were taken, one sample from the crest of a transverse dune about 1,000 yards inland from the beach and one sample from the top of the foredunes.

Heavy mineral grades of the two samples were

lower than those of the adjoining Wreck Bay, and averaged 1.22% heavy minerals. The heavy mineral fractions comprise 21.1% ilmenite and 1.6% rutile.

Results of preliminary investigation in this part of the area are not promising and no further work is recommended.

GEOTECHNICS (AUST) PTY. LTD.

Cary Holdgate

H.J. Ward

for

H.J. WARD
Managing Director

14th August, 1970.

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APPENDIX 1

APPENDIX 1

ANALYSIS OF HEAVY MINERAL FRACTIONS

LOCATION	HOLE NO.	SAMPLE NO.	DEPTH	HEAVY MINERAL PERCENTAGE	TiO ₂ % total sample	TIN % total sample	HEAVY MINERAL FRACTION				
							ILMENITE%	RUTILE%	TiO ₂ % HMF	TIN % HMF	CHROME CONTENT OF ILMENITE ppm
N. Bond Bay	1	69583A	0' - 5'	0.26							
N. Bond Bay	1	69584A	5' - 10'	0.38							
N. Bond Bay	2	69501A	0' - 5'	2.00							
N. Bond Bay	2	69502A	5' - 10'	1.20							
N. Bond Bay	2	69503A	10' - 15'	1.70							
N. Bond Bay	3	69504A	0' - 5'	1.20							
N. Bond Bay	3	69505A	5' - 10'	0.50							
N. Bond Bay	3	69506A	10' - 15'	3.70							
N. Bond Bay	3	69507A	15' - 20'	1.23							
N. Bond Bay	4	69508A	0' - 10'	1.84							
N. Bond Bay	4	69509A	10' - 13'	0.50							
N. Bond Bay	5	69510A	0' - 3'	2.30							
N. Bond Bay	5	69523A	3' - 4'	1.40			11.5	0.6			
N. Bond Bay	6	69511A	0' - 2'	0.56							
N. Bond Bay	6	69524A	2' - 4' 6"	1.60							
N. Bond Bay	7	69525A	0' - 2'	0.30							
N. Bond Bay	8	69513A	0' - 5'	1.21							
N. Bond Bay	8	69514A	5' - 10'	0.10							
N. Bond Bay	8	69515A	10' - 15'	1.70			10.4	Tr.			
N. Bond Bay	8	69516A	15' - 16'	5.11							
N. Bond Bay	9	69526A	0' - 3' 6"	0.26 (0.5)			14.4 (NIL)	Tr. (NIL)			
N. Bond Bay	10	69527A	0' - 3'	1.00							
N. Bond Bay	11	69581A	0' - 3'	8.50			18.7	Tr.		340	

ANALYSIS OF HEAVY MINERAL FRACTIONS

LOCATION	HOLE NO.	SAMPLE NO.	DEPTH	HEAVY MINERAL PERCENTAGE	TiO ₂ % total sample	TIN % total sample	HEAVY MINERAL FRACTION				
							ILMENITE%	RUTILE%	TiO ₂ % HMF	TIN % HMF	CHROME content of Ilmenite ppm
N. Bond Bay	11a	69582A	0' - 3'	1.10							340
N. Bond Bay	12	69580A	0' - 5'	1.07							
N. Bond Bay	13	69530A	0' - 1'	3.00 (7.2)			14.5	0.3			
N. Bond Bay	14	69531A	0' - 2'	0.80							
N. Bond Bay	15	69532A	0' - 4'	1.10			12.1	Tr.			
N. Bond Bay	16	69533A	0' - 4'	2.10							
N. Bond Bay	17	69541A	0' - 3'	0.40							
N. Bond Bay	18	69542A	0' - 1'6"	0.54							
N. Bond Bay	19	69578A	0' - 5'	5.70							
N. Bond Bay	20	69579A	0' - 2'6"	0.94							
N. Bond Bay	21	69574A	0' - 5'	20.40 (17.5)			9.6 (6.0)	1.8 (1.0)			
N. Bond Bay	21	69575A	5' - 7'	2.00							
N. Bond Bay	22	69576A	0' - 5'	1.08							
N. Bond Bay	22	69577A	5' - 7'6"	0.63							
N. Bond Bay	23	69543A	0' - 5'	2.20 (3.1)			4.8	0.8			460
N. Bond Bay	23	69544A	5' - 10'	1.10							
N. Bond Bay	24	69545A	0' - 5'	0.43							
N. Bond Bay	24	69546A	5' - 10'	0.40							
N. Bond Bay	24	69547A	10' - 15'	1.06							
N. Bond Bay	24	69548A	15' - 17'	0.48							
N. Bond Bay	25	69549A	0' - 5'	0.30			54.4	4.9			
N. Bond Bay	25	69550A	5' - 7'	1.30							

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APPENDIX 1.

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ANALYSIS OF HEAVY MINERAL FRACTIONS

LOCATION	HOLE NO.	SAMPLE NO.	DEPTH	HEAVY MINERAL PERCENTAGE	TiO ₂ % total sample	TIN % total sample	HEAVY MINERAL FRACTION				
							ILMENITE%	RUTILE%	TiO ₂ % HMF	TIN % HMF	CHROME content of ilmenite ppm
N. Bond Bay	26	69551A	0' - 5'	1.00							
N. Bond Bay	26	69552A	5' - 9'	2.60			38.4	2.2			
N. Bond Bay	27	69553A	0' - 5'	0.70							
N. Bond Bay	27	69554A	5' - 7'	2.10							
N. Bond Bay	28	69555A	0' - 5'	1.25							
N. Bond Bay	28	69556A	5' - 9'	1.50							
N. Bond Bay	29	69557A	0' - 5'	1.00							
N. Bond Bay	29	69558A	5' - 10'	0.70							
N. Bond Bay	30	69566A	0' - 1'	0.52							
N. Bond Bay	31	69567A	0' - 1'	1.50							
N. Bond Bay	32	69568A	0' - 2'	1.20			67.0	Tr.			
N. Bond Bay	33	69569A	0' - 2'	0.64							
N. Bond Bay	34	69570A	0' - 2'	0.30							
N. Bond Bay	35	69571A	0' - 5'	6.20			9.3	Tr.			
N. Bond Bay	35	69572A	5' - 10'	0.68							
N. Bond Bay	35	69573A	10' - 12'	0.85							
N. Bond Bay	36	69585A	0' - 5'	1.98							
N. Bond Bay	36	69586A	5' - 7'	0.62							
N. Bond Bay	37	69587A	0' - 6'	9.10			4.7	0.5			

040

APPENDIX 1.

975041

ANALYSIS OF HEAVY MINERAL FRACTIONS

LOCATION	HOLE NO	SAMPLE NO.	DEPTH	HEAVY MINERAL PERCENTAGE	TiO ₂ % total sample	TIN % total sample	HEAVY MINERAL FRACTION				
							ILMENITE%	RUTILE%	TiO ₂ %HMF	TIN % HMF	CHROME content of Ilmenite ppm
S.E. Bond Bay	1	69593A	0' - 5'	1.10							
S.E. Bond Bay	1	69594A	5' - 10'	1.02							
S.E. Bond Bay	1	69595A	10' - 20'	0.51							
S.E. Bond Bay	2	69599A	0' - 5'	0.62				1.3			
S.E. Bond Bay	2	69600A	5' - 10'	0.69							
S.E. Bond Bay	2	69442A	10' - 20'	0.84			14.7	1.3			
S.E. Bond Bay	3	69596A	0' - 5'	0.93							
S.E. Bond Bay	3	69597A	5' - 10'	2.20 (0.50)			35.8	2.1			
S.E. Bond Bay	3	69598A	10' - 15'	3.00			32.8	1.3			
S.E. Bond Bay	4	69443A	0' - 5'	5.10 (7.61)			14.7 (NIL)	1.6 (2.5)		224	
S.E. Bond Bay	5	69444A	0' - 5'	4.00			16.4	1.5			
S.E. Bond Bay	6	69445A	0' - 20'	1.80			11.5	0.9			
Kelly Basin	1	69588A	0' - 5'	2.18							
Kelly Basin	2	69589A	0' - 5'	0.88 (0.10)			8.6	2.8			
Kelly Basin	2	69590A	5' - 10'	N.R.			41.0	2.7			
Kelly Basin	2	69591A	10' - 15'	0.46							
Kelly Basin	2	69592A	15' - 25'	0.97							
Kelly Basin	3	69448A	0' - 12'	0.36 (0.10)	0.05	0.005	27.2	1.3		312	
Kelly Basin	4	69446A	0' - 6'	2.20 (1.52)	0.32	0.005	(4.0)	(4.5)	2.8	0.05	244
Kelly Basin	5	69447A	0' - 2'	Nil (0.10)	0.15	0.005					480
Kelly Basin	6	69520A	0' - 2'	0.42	0.47	0.005					320
Kelly Basin	7	69519A	0' - 2'	4.00	1.35	0.005					380
Kelly Basin	8	69449A	0' - 5'	9.70 (9.55)	1.90	0.005	(4.0)	(5.0)	7.5	0.05	360

041

975042

APPENDIX 1.

ANALYSIS OF HEAVY MINERAL FRACTIONS

LOCATION	HOLE NO.	SAMPLE NO.	DEPTH	HEAVY MINERAL PERCENTAGE	TiO ₂ % total sample	TIN % total sample	HEAVY MINERAL FRACTION				
							ILMENITE%	RUTILE%	TiO ₂ % HMF	TIN % HMF	CHROME content of Ilmenite ppm
Kelly Basin	9	69518A	0' - 2'		0.49						
Kelly Basin	10	69540A	0' - 2'	3.80 (0.6)	0.60	0.005					382
Kelly Basin	11	69521A	0' - 2'	1.70	0.42	0.005					240
Kelly Basin	12	69451A	0' - 5'	1.10 (1.2)	0.51	0.005					424
Kelly Basin	13	69522A	0' - 2'	1.90	0.84	0.005					130
Payne Bay	1	69535A	0' - 12'	1.40							
Payne Bay	2	69534A	0' - 12'	0.30							
Nye Bay	1	69539A	0' - 5'	0.34							
Nye Bay	1	69540A	5' - 10'	0.34							
Nye Bay	2	69536A	0' - 5'	0.23 (0.1)							
Nye Bay	2	69537A	5' - 10'	0.30 (0.30)			39.0 (4.0)	Tr. (4.0)			
Nye Bay	2	69538A	10' - 15'	0.1							
Wreck Bay	3	69559A	0' - 2'	3.20 (3.22)	0.26	0.005	13.4 (1.5)	3.2 (6.0)	5.8	0.05	215
Wreck Bay	4	69560A	0' - 2'	4.50			15.9	4.1			
Wreck Bay	5	69563A	0' - 2'	2.20 (2.10)	0.16	0.005	10.7	2.0			670
Wreck Bay	6	69562A	0' - 2'	2.90 (4.65)	0.43	0.005	7.0 (3.0)	2.9 (12.0)	1.61	0.05	350
Wreck Bay	7	69561A	0' - 2'	3.40	0.33	0.005	10.7	2.7			312
Hobbs Isle	1	69564A	0' - 2'6"	1.30							
Hobbs Isle	2	69565A	0' - 3'	1.20			21.1	1.6			

* NOTE - Check AAS results in brackets

042

975043

APPENDIX 2

043

975044

AREA : NORTH BOND BAY

PROJECT NO : P5121.

HOLE NO. : 1

LOGGED BY : G. HOLDGATE

CO-ORDS : 400N
00W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	5'	Brown sand. Water table at 2 feet.
5'	10'	Brown sand.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>
0'	5'	69583A	0.26
5'	10'	69584A	0.38

044

975045

AREA : NORTH BOND BAY

PROJECT NO : P512.1

HOLE NO. : 2

LOGGED BY : G. HOLDGATE

CO-ORDS : OOS
66W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	5'	White sand, water table at 4 feet.
5'	10'	Brown sand.
10'	15'	White sand.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>
0'	5'	69501A	2.00
5'	10'	69502A	1.20
10'	15'	69503A	1.70

045

975046

AREA : NORTH BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 3

LOGGED BY : G. HOLDGATE

CO-ORDS : OON
50'W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	5'	Carbonaceous material, dark brown sand, water table at 4 feet.
5'	10'	Dark brown sand.
10'	15'	Light brown sand.
15'	20'	Dark brown sand.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>
0'	5'	69504A	1.20
5'	10'	69505A	0.50
10'	15'	69506A	3.70
15'	20'	69507A	1.23

046

975047

AREA : NORTH BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 4

LOGGED BY : G. HOLDGATE

CO-ORDS : OON
150W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	10'	Dark brown sand, water table at 4 feet.
10'	13'	Black & brown sand, bedrock at 13 feet.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>
0'	10'	69508A	1.84
10'	13'	69509A	0.50

047

975048

AREA : NORTH BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 5

LOGGED BY : G. HOLDGATE

CO-ORDS : OON
200W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	3'	Muddy black sand, carbonaceous material.
3'	4'	Dark brown sand and bedrock samples, bedrock at 4 feet.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>	<u>H.M. FRACTION</u>	
				<u>Ilmenite%</u>	<u>Rutile%</u>
0'	3'	69510A	2.30	-	-
3'	4'	69523A	1.40	11.5	0.6

048

975049

AREA : NORTH BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 6

LOGGED BY : G. HOLDGATE

CO-ORDS : OON
250W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	2'	Dark grey black sand.
2'	4'6"	Light brown-white sand, bedrock at 4 feet 6 inches.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>
0'	2'	69511A	0.56
2'	4'6"	69524A	1.60

049

975050

AREA : NORTH BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 7

LOGGED BY : G. HOLDGATE

COORDS : OON
300W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	2'	Brown sand, bedrock at 2feet.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>
0'	2'	69525A	0.30

050

975051

AREA : NORTH BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 8

LOGGED BY : G. HOLDGATE

CO-ORDS : OON
350W

<u>DEPTH</u>		<u>DESCRIPTION</u>			
From	To				
0'	5'	Muddy sand, water table at 3 feet.			
5'	10'	Brown sand.			
10'	15'	Slightly muddy brown sand.			
15'	16'	Muddy sand, bedrock at 16 feet.			

		<u>SAMPLE NO.</u>	<u>H.M.%</u>	<u>H.M. FRACTION</u>	
				<u>Ilmenite%</u>	<u>Rutile%</u>
0'	5'	69513A	1.21	-	-
5'	10'	69514A	0.10	-	-
10'	15'	69515A	1.70	10.4	Tr.
15'	16'	69516A	5.11	-	-

051

975052

AREA : NORTH BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 9

LOGGED BY : G. HOLDGATE

CO-ORDS : OON
400W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	3'6"	Dark brown/black sand and carbonaceous material - schist fragments, bedrock at 3 feet 6 inches.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>	<u>H.M. FRACTION</u>	
				<u>Ilmenite%</u>	<u>Rutile%</u>
0'	3'6"	69526A	0.26	14.4	Tr.

052

975053

AREA : NORTH BOND BAY

PROJECT NO: : P512.1

HOLE NO. : 10

LOGGED BY : G. HOLDGATE

CO-ORDS : 00N
450W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	3'	Black carbonaceous material and some sand and schist fragments, bedrock at 3 feet.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>
0'	3'	69527A	1.00

053

975054

AREA : NORTH BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 11

LOGGED BY : G. HOLDGATE

CO-ORDS : 400S
00W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	3'	Peat, sands and gravels. Bedrock at 3 feet.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>	<u>H.M. FRACTION</u>		
				<u>Ilmenite%</u>	<u>Rutile%</u>	<u>Chrome%</u> (chem)
0'	3'	69581A	8.50	18.7	Tr.	0.0340

054
975055

AREA : NORTH BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 11(a)

LOGGED BY : G. HOLDGATE

CO-ORDS : 400S
200W

<u>DEPTH</u>		DESCRIPTION
From	To	
0'	3'	0' - 2' Carbonaceous material. 2' - 3' Gravel. Bedrock at 3 feet.

	SAMPLE NO.	H.M.%	H.M. FRACTION			
			<u>Ilmenite%</u>	<u>Rutile%</u>	<u>Chrome%</u> (chem)	
0'	3'	69582A	1.10	-	-	0.0340

055

975056

AREA : NORTH BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 12

LOGGED BY : G. HOLDGATE

CO-ORDS : 800S
00W

£

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	5'	0' - 2' Sand and gravels.
		2' - 5' Mud and clays. Schist bedrock at 5 feet. Water table at 2 feet.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>
0'	5'	69580A	1.07

056

975057

AREA : NORTH BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 13

LOGGED BY : G. HOLDGATE

CO-ORDS : 1200S
00W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	1'	Very light brown sand. Bedrock at 1 foot.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>	<u>H.M. FRACTION</u>	
				<u>Ilmenite%</u>	<u>Rutile%</u>
0'	1'	69530A	3.00	14.5	0.3

057

975058

AREA : NORTH BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 14

LOGGED BY : G. HOLDGATE

CO-ORDS : 1200S
50W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	2'	Black carbonaceous material, some sand and pebbles. Bedrock at 2 feet.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>
0'	2'	69531A	0.80

058

975059

AREA : NORTH BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 15

LOGGED BY : G. HOLDGATE

CO-ORDS : 1200S
100W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	4'	Black carbonaceous material and sand, some quartz fragments. Bedrock at 4 feet.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>	<u>H.M. FRACTION</u>	
				<u>Ilmenite%</u>	<u>Rutile%</u>
0'	4'	69532A	1.10	12.1	Tr.

059

975060

AREA : NORTH BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 16

LOGGED BY : G. HOLDGATE

CO-ORDS : 1200S
150W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	4'	Black carbonaceous material and sand. Schist fragments. Bedrock at 4 feet.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>
0'	4'	69533A	2.10

060

975061

AREA : NORTH BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 17

LOGGED BY : G. HOLDGATE

CO-ORDS : 1200S
200W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	3'	2 feet - peat and earth.
		1 foot - sandy earth and quartz fragments.
		Bedrock at 3 feet.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>
0'	3'	69541A	0.40

061

975062

AREA : NORTH BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 18

LOGGED BY : G. HOLDGATE

CO-ORDS : 1200S
250W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	1'6"	Peat and earth. Bedrock (quartz) at 1 foot 6 inches.

	<u>SAMPLE</u>	<u>SAMPLE NO.</u>	<u>H.M.%</u>
0'	1'6"	69542A	0.54

062

975063

AREA : NORTH BOND BAY

PROJECT NO.: P512.1

HOLE NO. : 19

LOGGED BY : G. HOLDGATE

CO-ORDS : 1600S
OOW

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	5'	Brown sand. Heavy minerals. White sand Gravels. Brown sand. Schist bedrock at 5 feet. Water table at 3 feet.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>
0'	5'	69578A	5.70

063

975064

AREA : NORTH BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 20

LOGGED BY : G. HOLDGATE

CO-ORDS : 1600S
200W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	2'6"	Mud, stones, gravels. Bedrock at 2 feet 6 inches. Water table at 2 feet.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>
0'	2'6"	69579A	0.94

064

975065

AREA : NORTH BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 21

LOGGED BY : G. HOLDGATE

CO-ORDS : 2000S
OOW

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	5'	Reddish black sand. Water table at 18 feet.
5'	7'	Brown sand, schist bedrock at 7 feet.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>	<u>H.M. FRACTION</u>	
				<u>Ilmenite%</u>	<u>Rutile%</u>
0'	5'	69574A	20.40	9.6	1.8
5'	7'	69575A	2.00		

065

975066

AREA : NORTH BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 22

LOGGED BY : G. HOLDGATE

CO-ORDS : 2000S
200W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	5'	Peat, sand and gravel. Water table at 1 foot.
5'	7'6"	Brown sand, gravels. Schist bedrock at 7 feet 6 inches.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>
0'	5'	69576A	1.08
5'	7'6"	69577A	0.63

066

975067

AREA : NORTH BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 23

LOGGED BY : G. HOLDGATE

CO-ORDS : 2400S
00W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	5'	Brown sand and quartz schist gravel beds. Water table at 6 inches.
5'	10'	Brown sand.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>	<u>H.M. FRACTION</u>		
				<u>Ilmenite%</u>	<u>Rutile%</u>	<u>Chrome%</u> (chem)
0'	5'	69543A	2.20	4.8	0.8	0.0460
5'	10'	69544A	1.10	-	-	-

067

975068

AREA : NORTH BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 24

LOGGED BY : G. HOLDGATE

CO-ORDS : 2400S
50W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	5'	Topsoil, white sand - 1 foot; brown sand - 3 feet.
5'	10'	White quartz sand.
10'	15'	Brown sand. Water table at 12'
15'	17'	Brown sand and quartz bedrock at 17 feet.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>
0'	5'	69545A	0.43
5'	10'	69546A	0.40
10'	15'	69547A	1.06
15'	17'	69548A	0.48

068

975069

AREA : NORTH BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 25

LOGGED BY : G. HOLDGATE

CO-ORDS : 2400S
100W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	5'	Peat, vegetation and brown sand.
5'	7'	White sand. Quartzite bedrock at 7 feet. Water table at 5 feet.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>	<u>H.M. FRACTION</u>	
				<u>Ilmenite%</u>	<u>Rutile%</u>
0'	5'	69549A	0.30	54.4	4.9
5'	7'	69550A	1.30	-	-

069

975070

AREA : NORTH BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 26

LOGGED BY : G. HOLDGATE

CO-ORDS : 2400S
150W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	5'	Peaty soil, some sand. Water table at 2 feet.
5'	9'	Brown sand, mud, schist bedrock at 9 feet.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>	<u>H.M. FRACTION</u>	
				<u>Ilmenite%</u>	<u>Rutile%</u>
0'	5'	69551A	1.00	-	-
5'	9'	69552A	2.60	38.4	2.2

0710

975071

AREA : NORTH BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 27

LOGGED BY : G. HOLDGATE

CO-ORDS : 2400S
200W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	5'	Quartz gravel, light brown sand.
5'	7'	Brown sand, schist bedrock at 7 feet.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>
0'	5'	69553A	0.70
5'	7'	69554A	2.10

071

975072

AREA : NORTH BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 28

LOGGED BY : G. HOLDGATE

CO-ORDS : 2400S
250W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	5'	Quartz gravel, light brown sand. Water table at 2 feet.
5'	9'	Brown sand. Quartz, schist bedrock at 9 feet.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>
0'	5'	69555A	1.25
5'	9'	69556A	1.50

072

975073

AREA : NORTH BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 29

LOGGED BY : G. HOLDGATE

CO-ORDS : 2400S
300W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	5'	Peaty brown sand. Water table at 3 feet.
5'	10'	Quartz gravel. Brown sand. Bedrock at 10 feet.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>
0'	5'	69557A	1.00
5'	10'	69558A	0.70

AREA : NORTH BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 30

LOGGED BY : G. HOLDGATE

CO-ORDS : 2400S
350W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	1'	Quartz gravel. Bedrock at 1 foot.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>
0'	1'	69566A	0.52

074

975075

AREA : NORTH BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 31

LOGGED BY : G. HOLDGATE

CO-ORDS : 2400S
400W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	1'	Mud and quartz bedrock at 1'foot.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>
0'	1'	69567A	1.50

075

975076

AREA : NORTH BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 32

LOGGED BY : G. HOLDGATE

CO-ORDS : 2400S
450W

2

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	2'	mud and 6 inches of gravel and sand. Bedrock at 2 feet.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>	<u>H.M. FRACTION</u>	
				<u>Ilmenite%</u>	<u>Rutile%</u>
0'	2'	69568A	1.20	67.0	Tr.

076

975077

AREA : NORTH BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 33

LOGGED BY : G. HOLDGATE

CO-ORDS : 2400S
500W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	2'	Mud and 6 inches of gravel. Bedrock at 2 feet.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>
0'	2'	69569A	0.64

077

975078

AREA : NORTH BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 34

LOGGED BY : G. HOLDGATE

CO-ORDS : 2400S
550W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	2'	Mud and 6 inches of gravel. Bedrock at 2 feet.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>
0'	2'	69570A	0.30

J78

975079

. AREA : NORTH BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 35

LOGGED BY : G. HOLDGATE

CO-ORDS : 2800S
00W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	5'	0' - 3' brown sand.
		3' - 5' white sand. Water table at 2 feet.
5'	10'	White quartz sand.
10'	12'	10' - 11' white sand.
		11' - 12' brown sand. Gravel bedrock at 12 feet.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>	<u>H.M. FRACTION</u>	
				<u>Ilmenite%</u>	<u>Rutile%</u>
0'	5'	69571A	6.20	9.3	Tr.
5'	10'	69572A	0.14	-	-
10'	12'	69573A	0.61	-	-

075

975080

AREA : NORTH BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 36

LOGGED BY : G. HOLDGATE

CO-ORDS : 3200S
00W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	5'	Brown sand. Water table at 3 feet.
5'	7'	Brown sand and fine shingle. Schist bedrock at 7 feet.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>
0'	5'	69585A	1.98
5'	7'	69586A	0.62

080

975081

AREA : NORTH BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 37

LOGGED BY : G. HOLDGATE

CO-ORDS : 4400S
00W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	6'	Brown sand. Schist bedrock at 6 feet. Water table at 2 feet 6 inches.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>	<u>H.M. FRACTION</u>	
				<u>Ilmenite%</u>	<u>Rutile%</u>
0'	6'	69587A	9.10	4.7	0.5

081

975082

AREA : SOUTH EAST BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 1

LOGGED BY : G. HOLDGATE

CO-ORDS : 1500S
6100E

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	5'	Light brown sand. Water table at 5 feet.
5'	10'	Light brown sand.
10'	20'	Medium brown sand and shells.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>
0'	5'	69593A	1.10
5'	10'	69594A	1.02
10'	20'	69595A	0.51

082

975083

AREA : SOUTH EAST BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 2

LOGGED BY : G. HOLDGATE

CO-ORDS : 1900S
6200E

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	5'	White dune sand & H.M. layer.
5'	10'	Brown sand. Water table at 7 feet.
10'	20'	White brown quartz sand and shells

		<u>SAMPLE NO.</u>	<u>H.M.%</u>	<u>H.M. FRACTION</u>	
				<u>Ilmenite%</u>	<u>Rutile%</u>
0'	5'	69599A	0.62	-	1.3
5'	10'	69600A	0.69	-	-
10'	20'	69442A	0.84	14.7	1.3

083

975084

AREA : SOUTH EAST BOND BAY

PROJECT NO. : P512,1

HOLE NO. : 3

LOGGED BY : G. HOLDGATE

CO-ORDS : 2200S
6400E

<u>DEPTH</u>		<u>DESCRIPTION</u>			
From	To				
0'	5'	White sand.			
5'	10'	White dune sand.			
10'	15'	White dune sand. Water table at 15 feet.			

		<u>SAMPLE NO.</u>	<u>H.M.%</u>	<u>H.M. FRACTION</u>	
				<u>Ilmenite%</u>	<u>Rutile%</u>
0'	5'	69596A	0.13		
5'	10'	69597A	2.20	35.8	2.1
10'	15'	69598A	3.00	32.8	1.3

084

975085

AREA : SOUTH EAST BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 4

LOGGED BY : G. HOLDGATE

CO-ORDS : 2000S
8600E

<u>DEPTH</u>		<u>DESCRIPTION</u>				
From	To					
0'	5'	Brown sand, H.M. layer and schist bedrock at 5 feet.				
		<u>SAMPLE NO.</u>	<u>H.M.%</u>	<u>H.M. FRACTION</u>		
				<u>Ilmenite%</u>	<u>Rutile%</u>	<u>Chrome%</u> (chem)
0'	5'	69443A	7.61	14.7	1.6	0.0224

085

975086

AREA : SOUTH EAST BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 5

LOGGED BY : G.HOLDGATE

CO-ORDS : 2400S
8600E

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	5'	Brown sand and some organic matter.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>	<u>H.M. FRACTION</u>	
				<u>Ilmenite%</u>	<u>Rutile%</u>
0'	5'	69444A	4.00	16.4	1.5

026

975087

AREA : SOUTH EAST BOND BAY

PROJECT NO. : P512.1

HOLE NO. : 6

LOGGED BY : G. HOLDGATE

CO-ORDS : 2300S
9000E

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	20'	Light brown dune sand.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>	<u>H.M. FRACTION</u>	
				<u>Ilmenite%</u>	<u>Rutile%</u>
0'	20'	69445A	1.80	11.5	0.9

087

975088

AREA : KELLY BASIN

PROJECT NO. : P512.1

HOLE NO. : 1

LOGGED BY : G. HOLDGATE

CO-ORDS : 700S
3200E

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	5'	Brownsand, gravel bottom. Water table at 3 feet.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>
0'	5'	69588A	2.18

088

975089

AREA : KELLY BASIN

PROJECT NO. : P512.1

HOLE NO. : 2

LOGGED BY : G.HOLDGATE

CO-ORDS : 600S
1000E

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	5'	Browns sand and shells. Water table at 2 feet 6 inches.
5'	10'	Light grey sand and shells.
10'	15'	Light grey sand and shells.
15'	25'	Light grey sand and shells.

<u>SAMPLE NO.</u>		<u>H.M.%</u>	<u>H.M. FRACTION</u>		
			<u>Ilmenite%</u>	<u>Rutile%</u>	
0'	5'	69589A	0.88	8.6	2.8
5'	10'	69590A	N.R.	41.0	2.7
10'	15'	69591A	0.46	-	-
15'	25'	69592A	0.97	-	-

089

975090

AREA : KELLY BASIN

PROJECT NO. : P512.1

HOLE NO. : 3

LOGGED BY : G. HOLDGATE

CO-ORDS : 6600S
1300E

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	12'	Fine sand 0'-10'
		Fine sand and shells 10'-12'.

<u>SAMPLE NO.</u>	<u>H.M.%</u>	<u>H.M. FRACTION</u>				
		<u>Ilmenite%</u>	<u>Rutile%</u>	<u>Chroem%</u>	<u>TiO₂%</u>	<u>Sn%</u>
0' - 12'	69448A 0.36	27.2	1.3	0.0312	3.81	0.005

030

975091

AREA : KELLY BASIN

PROJECT NO. : P512.1

HOLE NO. : 4

LOGGED BY : G. HOLDGATE

CO-ORDS : 7600S
1400E

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	6'	Shelly sand and gravel. Schist bedrock at 6 feet. Water table at 0 feet.

DEPTH	<u>SAMPLE NO.</u>	<u>H.M.%</u>	<u>H.M. FRACTION</u>				
			<u>TiO₂%</u> (%of total sample)	<u>Sn%</u>	<u>Ilmenite%</u>	<u>Rutile%</u>	<u>Chrome%</u>
0' - 6'							
0' - 6'	69446A	2.20	0.32	0.005	4.0	3.86	0.0244

091

975092

AREA : KELLY BASIN

PROJECT NO. : P512.1

HOLE NO. : 5

LOGGED BY : G. HOLDGATE

CO-ORDS : 8700S
1800E

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	2'	Gravel, earth sands. Quartz bedrock at 2 feet.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>	<u>H.M. FRACTION</u>		
				<u>TiO₂%</u> (%of total sample)	<u>Sn%</u>	<u>Chrome%</u>
0'	2'	69447A	Nil	0.15	0.005	0.0480

092

975093

AREA : KELLY BASIN

PROJECT NO : P512.1

HOLE NO : 6

LOGGED BY : G. HOLDGATE

CO-ORDS : 9600S
200E

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	2'	1/2 inch to 1 inch, fine to medium pebbles and sand.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>	<u>H.M. FRACTION</u>		
				<u>TiO₂%</u>	<u>Sn%</u>	<u>Chrome%</u>
				(%of total sample)		
0'	2'	69520A	0.42	0.47	0.005	0.0320

033

975094

AREA : KELLY BASIN

PROJECT NO.: P512.1

HOLE NO. : 7

LOGGED BY : G. HOLDGATE

CO-ORDS : 9600S
100E

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	2'	½ inch - 1 inch , fine to medium pebbles and sand. Bedrock at 2 feet.

	<u>SAMPLE NO.</u>	<u>H.M.%</u>	<u>H.M. FRACTION</u>	
			<u>TiO₂%</u> (% of total sample)	<u>Sn%</u> <u>Chrome%</u>
0'	2' 69519A	4.00	1.35	0.0380

094

975095

AREA : KELLY BASIN

PROJECT NO. : P512.1

HOLE NO. : 8

LOGGED BY : G. HOLDGATE

CO-ORDS : 9800S
200W

<u>DEPTH</u>		<u>DESCRIPTION</u>	<u>SAMPLE NO. H.M.%</u>					<u>H.M. FRACTION</u>		
<u>From</u>	<u>To</u>		<u>TiO₂%</u>	<u>Sn%</u>	<u>Ilmenite%</u>	<u>Rutile%</u>	<u>Chrome%</u>			
0'	5'	Sand top, gravel and sand.								
0'	5'	69449A	9.70	1.90	0.005	4.0	5.0	0.0360		

095

975096

AREA : KELLY BASIN

PROJECT NO. : P512.1

HOLE NO. : 9

LOGGED BY : G. HOLDGATE

CO-ORDS : 9100S
3400W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	2'	$\frac{1}{2}$ inch - 1 inch, fine to medium pebbles and sand. Bedrock at 2 feet.

		<u>SAMPLE NO.</u>	
0'	2'	69518A	NO RESULT

096

975097

AREA : KELLY BASIN

PROJECT NO. : P512.1

HOLE NO. : 10

LOGGED BY : G. HOLDGATE

CO-ORDS : 5400S
5200W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	2'	Shelly sand and gravel.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>	<u>H.M. FRACTION</u>		
				<u>TiO₂%</u> (%Of total sample)	<u>Sn%</u>	<u>Chrome%</u>
0'	2'	69450A	3.80	0.60	0.005	0.0382

007

975098

AREA : KELLY BASIN

PROJECT NO. : P512.1

HOLE NO. L 11

LOGGED BY : G. HOLDGATE

CO-ORDS : 4000S
4000W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	2'	$\frac{1}{2}$ inch - 1 inch, fine to medium pebbles and sand.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>			<u>H.M. FRACTION</u>
				TiO ₂ %	Sn%	Chrome%
				(%of total sample)		
0'	2'	69521A	1.70	0.42	0.005	0.0240

AREA : KELLY BASIN

PROJECT NO. : P512.1

HOLE NO. : 12

LOGGED BY : G. HOLDGATE

CO-ORDS : 1500S
3600W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	5'	Shelly sand.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>	<u>H.M. FRACTION</u>		
				<u>TiO₂%</u>	<u>Sn%</u>	<u>Chrome%</u>
				(%of total sample)		
0'	5'	69451A	1.10	0.47	0.005	0.0424

099

975100

AREA : KELLY BASIN

PROJECT NO. : P512.1

HOLE NO. : 13

LOGGED BY : G. HOLDGATE

CO-ORDS : 300S
4000W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	2'	½ inch - 1 inch, fine to medium pebbles and sand. Bedrock at 2 feet.

	<u>SAMPLE NO.</u>	<u>H.M.%</u>	<u>H.M. FRACTION</u>	
			<u>TiO₂%</u> (%of total sample)	<u>Sn%</u> <u>Chrome%</u>
0'				
0'	69522A	1.90	0.84	0.005 0.0130

100

975101

AREA : PAYNE BAY

PROJECT NO. : P512.1

HOLE NO. : 1

LOGGED BY : G. HOLDGATE

CO-ORDS :

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	12"	beach sand sample

	<u>SAMPLE NO.</u>	<u>H.M.%</u>
0'	12"	69535A
		1.40

AREA : PAYNE BAY

PROJECT NO. : P512.1

HOLE NO. : 2

LOGGED BY : G. HOLDGATE

CO-ORDS :

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	12"	Surface sample.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>
0'	12"	69534A	0.30

AREA : NYE BAY

PROJECT NO. : P512.1

HOLE NO. : 1

LOGGED BY : G. HOLDGATE

CO-ORDS : OON
4500W

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	5'	Brown beach sand.
5'	10'	Brown beach sand.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>
0'	5'	69539A	0.34
5'	10'	69540A	0.34

AREA : NYE BAY

PROJECT NO. : P512.1

HOLE NO. : 2

LOGGED BY : G. HOLDGATE

CO-ORDS : OON
4500E

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	5'	Dune sand sample. Water table at 3 feet.
5'	10'	Brownish red dune sand sample.
10'	15'	Reddish dune sand sample.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>	<u>H.M. FRACTION</u>	
				<u>Ilmenite%</u>	<u>Rutile%</u>
0'	5'	69536A	0.23	-	-
5'	10'	69537A	0.30	39.0	Tr.
10'	15'	69538A	0.26	-	-

AREA : WRECK BAY

PROJECT NO. : P512.1

HODE NO. : 3

LOGGED BY : G. HOLDGATE

CO-ORDS : OON
OOE

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	2'	White quartz sand.

		<u>S</u>						
		<u>SAMPLE NO.</u>	<u>H.M.%</u>	<u>H.M. FRACTION</u>				
				<u>TiO2%</u>	<u>Sr</u>	<u>Ilmenite%</u>	<u>Rutile%</u>	<u>Chrome%</u>
				(%of total sample)				
0'	2'	69559A	3.20	0.26	0.005	13.4	3.2	215

AREA : WRECK BAY

PROJECT NO. : P512.1

HOLE NO. : 4

LOGGED BY : G. HOLDGATE

CO-ORDS : 2500N
200E

<u>DEPTH</u>		<u>DESCRIPTION</u>			
From	To				
0'	2'	White quartz sand.			
		<u>SAMPLE NO.</u>	<u>H.M.%</u>	<u>H.M. FRACTION</u>	
				<u>Ilmenite%</u>	<u>Rutile%</u>
0'	2'	69560A	4.50	15.9	4.1

AREA : WRECK BAY

PROJECT NO. : P512.1

HOLE NO. : 5

LOGGED BY : G. HOLDGATE

CO-ORDS : 5000N
00E

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	2'	White quartz sand.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>	<u>H.M. FRACTION</u>				
				<u>TiO₂%</u>	<u>Sn%</u>	<u>Ilmenite%</u>	<u>Rutile%</u>	<u>Chrome%</u>
				(%of total sample)				
0'	2'	69563A	2.20	0.16	0.005	10.7	2.0	0.0670

107

975108

AREA : WRECK BAY

PROJECT NO. : P512.1

HOLE NO. : 6

LOGGED BY : G. HOLDGATE

CO-ORDS : 5000N
50E

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	2'	White quartz sand.

<u>SAMPLE NO.</u>		<u>H.M.%</u>	<u>H.M. FRACTION</u>				
			<u>TiO₂%</u>	<u>Sn%</u>	<u>Ilmenite%</u>	<u>Rutile%</u>	<u>Chrome%</u>
			(%of total sample)				
0'	2'	69562A 2.90	0.43	0.005	7.0	2.9	0.0350

AREA : WRECK BAY

PROJECT NO. : P512.1

HOLE NO. : 7

LOGGED BY : G. HOLDGATE

CO-ORDS : 5000N
100E

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	2'	White quartz sand.

	<u>SAMPLE NO.</u>	<u>H.M.%</u>	<u>H.M. FRACTION</u>				
			<u>TiO₂%</u> (%of total sample)	<u>Sn%</u>	<u>Ilmenite%</u>	<u>Rutile%</u>	<u>Chrome%</u>
0'	2'	69561A 3.40	0.33	0.005	10.7	2.7	0.0312

AREA : HOBBS ISLAND BEACH

PROJECT NO. : P512.1

HOLE NO. : 1

LOGGED BY : G. HOLDGATE

CO-ORDS : 7700S
2000E

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	2'6"	Light grey sand and carbonaceous material.

		<u>SAMPLE NO.</u>	<u>H.M.%</u>
0'	2'6"	69564A	1.30

AREA : HOBBS ISLAND BEACH

PROJECT NO. : P512.1

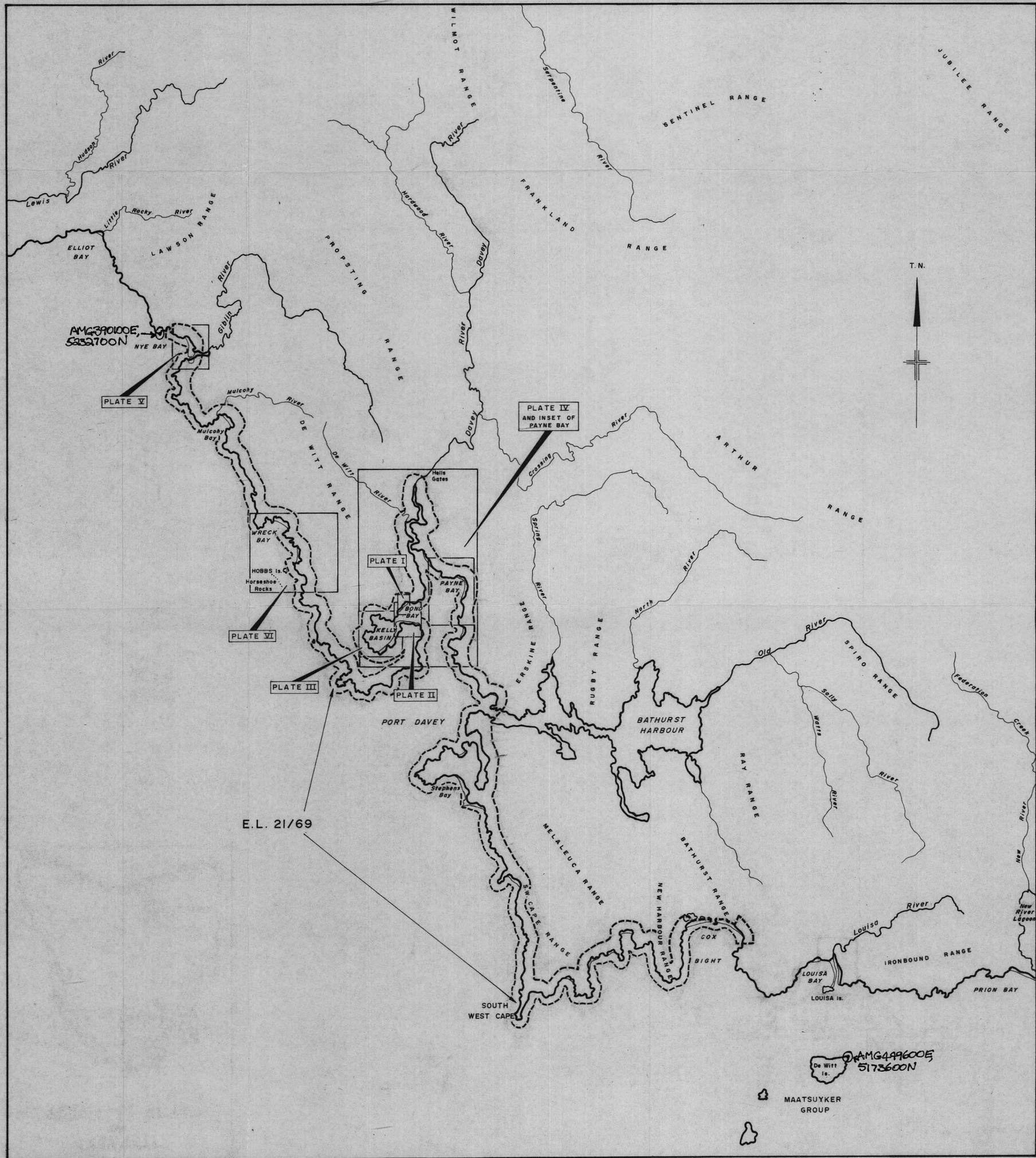
HOLE NO. : 2

LOGGED BY : G. HOLDGATE

CO-ORDS : 6700S
750E

<u>DEPTH</u>		<u>DESCRIPTION</u>
From	To	
0'	3'	White quartz sand.

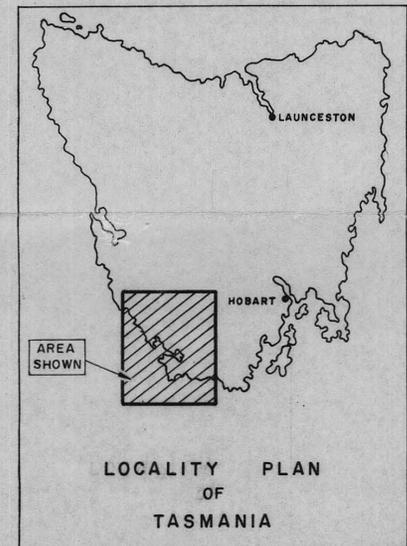
		<u>SAMPLE NO.</u>	<u>H.M.%</u>	<u>H.M. FRACTION</u>	
				<u>Ilmenite%</u>	<u>Rutile%</u>
0'	3'	69565A	1.20	21.1	1.6



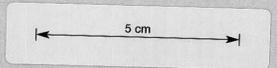
REFERENCE

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AMG REFERENCE POINTS ADDED

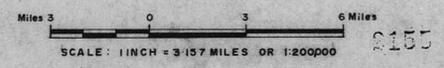


LOCALITY PLAN OF TASMANIA



975112
70-664

SUB OCEANIC MINERALS N.L.
MAP OF SOUTH WEST TASMANIA
LOCATION OF PLATES I TO VII



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REVISED		

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FIG. I

2156



REFERENCE

QUATERNARY

Beach sand and stranded beach deposits

PRECAMBRIAN

Schist, Quartzites and conglomerates

Strike and dip of schistosity

Geological boundary (approx)

Hand auger hole

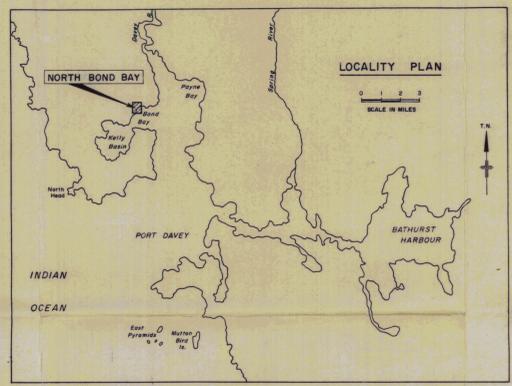
Auger hole co-ordinates in feet

Hole sample depth interval in feet

% heavy mineral fraction

Form line intervals in feet (approximate)

NORTH
BOND BAY



5 cm

975113
70-664

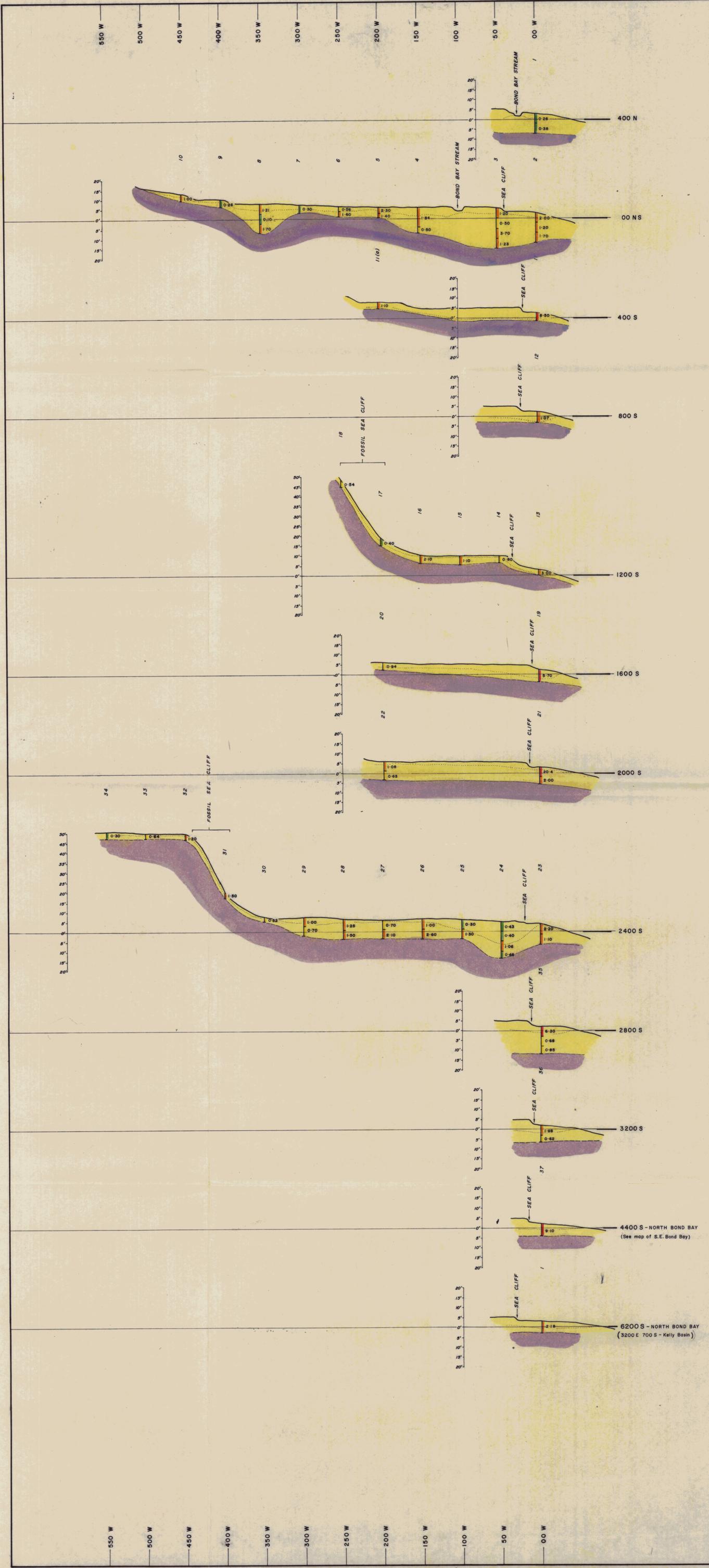
SUB OCEANIC MINERALS N.L.
SCOUT DRILLING MAP
OF
NORTH BOND BAY
PORT DAVEY
SOUTH WEST COAST-TASMANIA

SCALE 1 INCH = 100 FEET

PROJECT NO	PS21
DRAWN BY	D.A.
DRAFTED	E.W.
CHECKED	S.W.
APPROVED	
REVIEWED	

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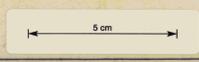
2157



REFERENCE

- QUATERNARY**
 - Beach sand and stranded beach deposits
- PRECAMBRIAN**
 - Schist, quartzite and conglomerates
- Geological boundary
- Water table
- 1-98
0-62
 Hand auger hole with hole number and heavy mineral content (1-98%)
- < 0.50% heavy mineral content
- 0.50-1.00% heavy mineral content
- 1.00-5.00% heavy mineral content
- > 5.00% heavy mineral content

975114

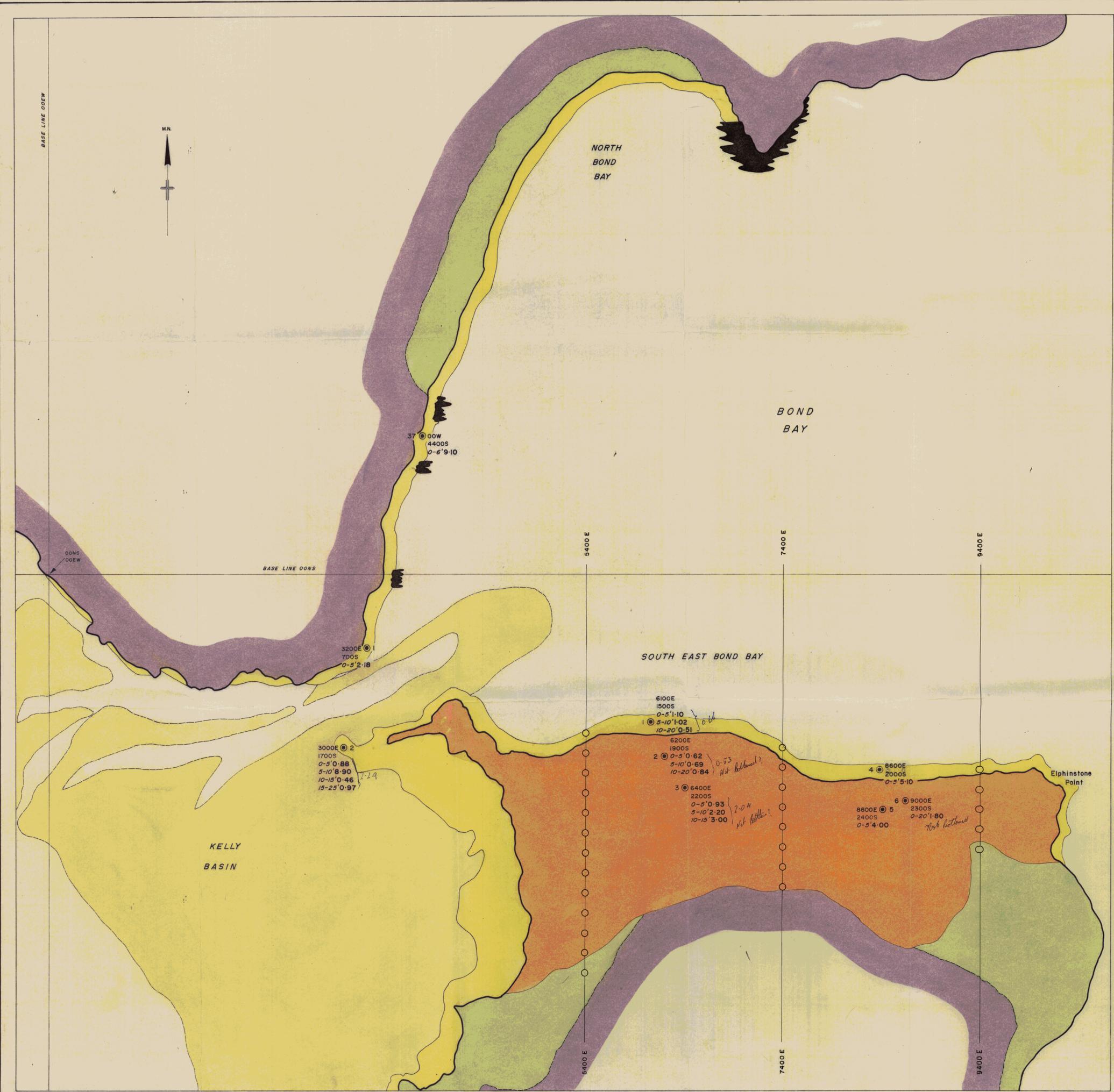


SUB OCEANIC MINERALS NL.
NORTH BOND BAY
HEAVY MINERAL DEPOSITS
CROSS SECTIONS
400N to 6200S

HORIZONTAL SCALE 1 INCH = 50'
 VERTICAL SCALE 1 INCH = 20'

2157

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DRAFTED	E.W. 25.5.70	
CHECKED	G.H. 28.5.70	
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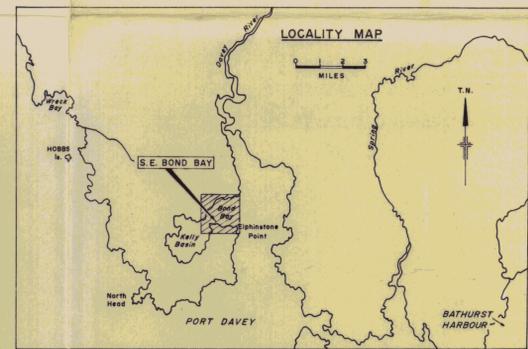
QUATERNARY

- Beach sands
- Tidal sand, silt and gravel deposits
- Parallel coastal dunes
- Coastal plain

PRECAMBRIAN

- Quartzites and schists
- Rocky coastline

- 6 Hand auger hole
- 9000E Auger hole co-ordinates in feet
- 2300S Hole sample depth interval in feet
- 0-20' % heavy mineral fraction
- 1-80 % heavy mineral fraction
- Proposed auger hole



975115
70-664

SUB OCEANIC MINERALS N.L.
RECONNAISSANCE DRILLING MAP OF SOUTH EAST BOND BAY
SOUTH WEST COAST - TASMANIA

SCALE: 1 INCH = 400 FT. 2158

PROJECT NO	BY	DATE
PS12	G.H.	5-6-70
DRAWN	E.W.	22-6-70
CHECKED	G.H.	22-6-70
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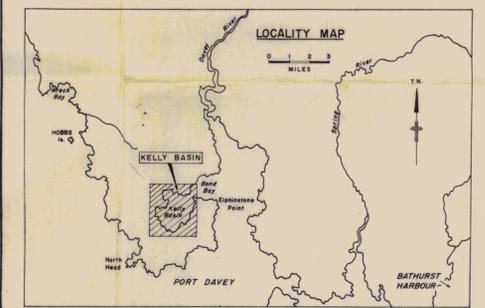
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2159



REFERENCE

- QUATERNARY**
- Beach sands and gravels
 - Tidal sand, silt and gravel deposits
 - Parallel coastal dunes
 - Coastal plain
- PRECAMBRIAN**
- Quartzites and schists
 - Rocky coastline
- 3** Hand auger hole
- 1800E** Auger hole co-ordinates in feet
- 8700S** Hole sample depth interval in feet
- 0-2'** Hole sample depth interval in feet
- 131** % heavy mineral fraction



975116
70-664

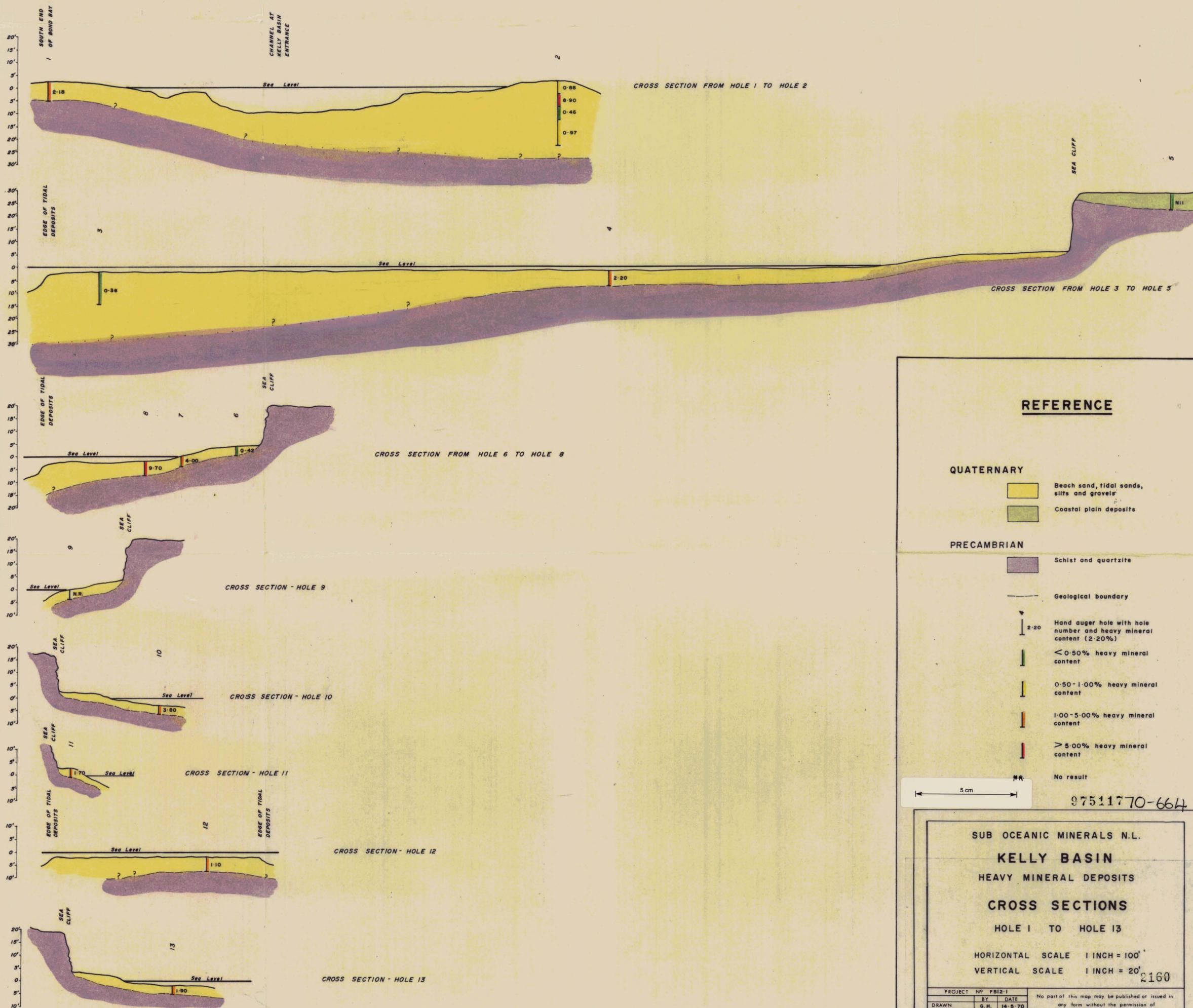
SUB OCEANIC MINERALS N.L.
RECONNAISSANCE DRILLING MAP
OF
KELLY BASIN
SOUTH WEST COAST - TASMANIA
PROVISIONAL ONLY

SCALE: 1 INCH = 400 FT.

PROJECT NO.	8821	DATE	
DRAWN	G.H. 5.5.70	CHECKED	G.H. 28.3.70
CHECKED	G.H. 28.3.70	APPROVED	
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REFERENCE

QUATERNARY

- Beach sand, tidal sands, silts and gravels
- Coastal plain deposits

PRECAMBRIAN

- Schist and quartzite

— Geological boundary

2-20 Hand auger hole with hole number and heavy mineral content (2-20%)

< 0.50% heavy mineral content

0.50 - 1.00% heavy mineral content

1.00 - 5.00% heavy mineral content

> 5.00% heavy mineral content

NR No result



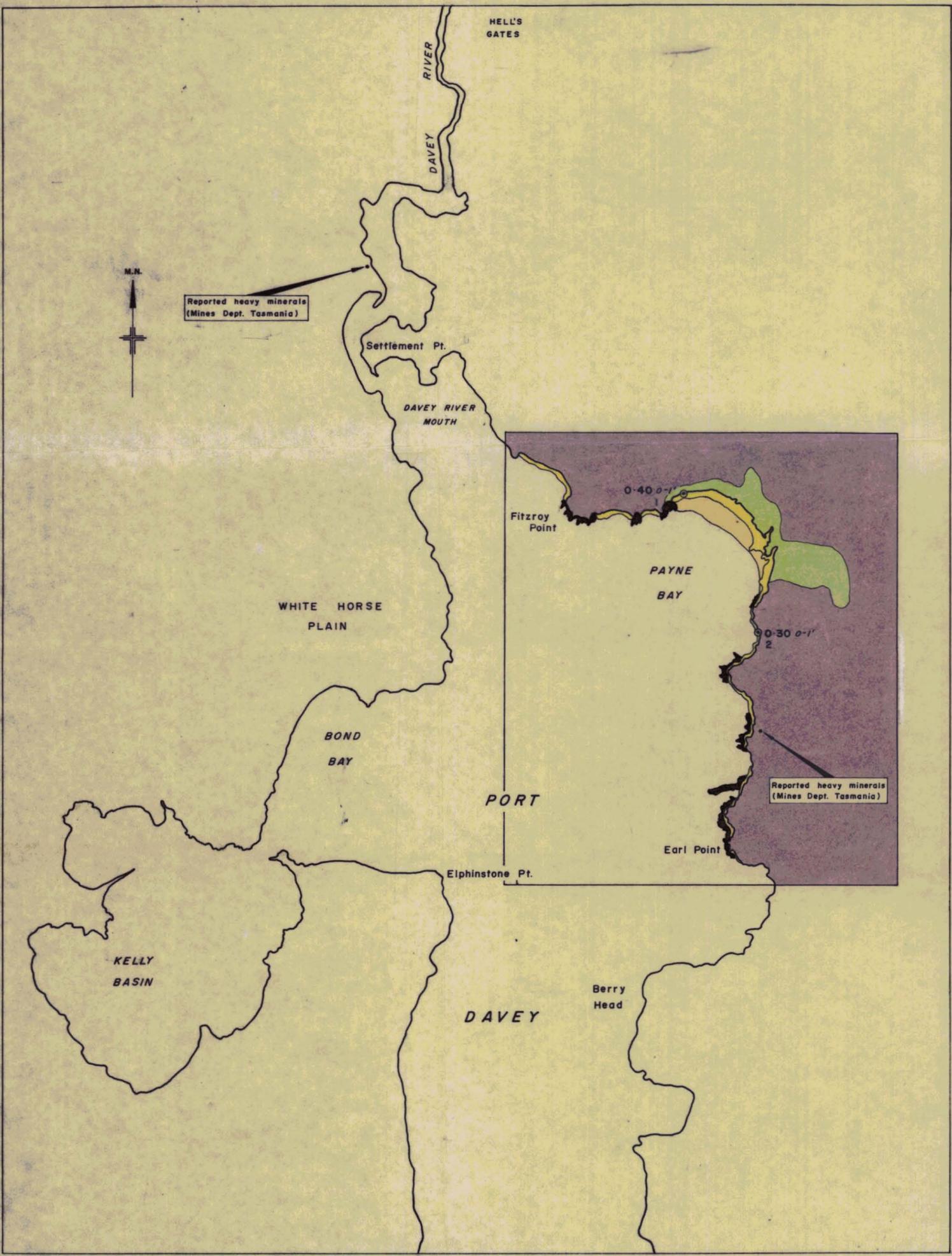
97511770-664

SUB OCEANIC MINERALS N.L.
KELLY BASIN
 HEAVY MINERAL DEPOSITS
CROSS SECTIONS
 HOLE 1 TO HOLE 13

HORIZONTAL SCALE 1 INCH = 100'
 VERTICAL SCALE 1 INCH = 20'

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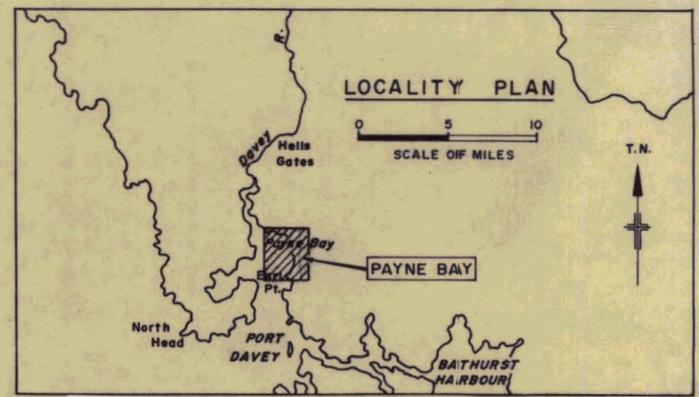
QUATERNARY

- Beach sands and gravels
- Tidal sand, silt and gravel deposits
- Coastal plain

PRECAMBRIAN

- Quartzites and schists
- Rocky coastline

- Hand auger hole
- Hole sample depth interval in feet
- 0-40 % heavy mineral fraction



5 cm 975118-70-664

SUB OCEANIC MINERALS N.L.

MAP OF

PORT DAVEY AREA

SAMPLE LOCALITIES AT PAYNE BAY

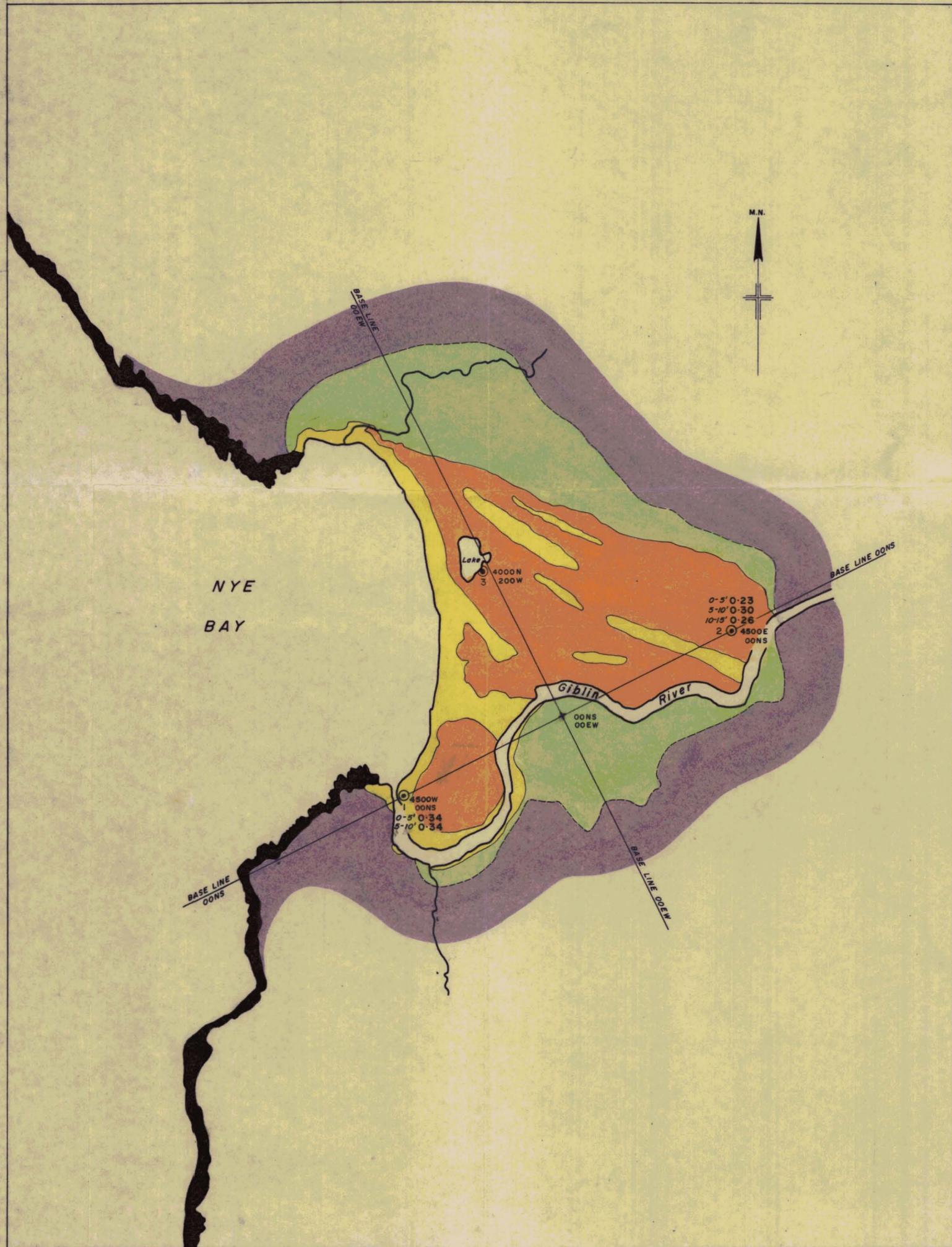
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SCALE: 1 INCH = 4000' (Approx.)

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BY	G.H.	DATE
DRAWN	E.W.	20-5-70
DRAFTED	E.W.	3-6-70
CHECKED	G.H.	3-6-70
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REVISED		

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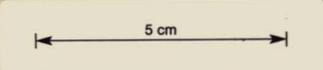
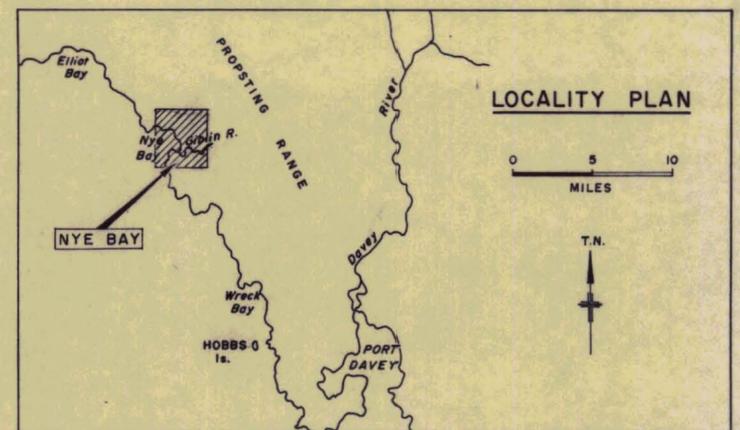
QUATERNARY

- Beach sands
- Sand dunes - foredunes & transverse dunes
- Coastal plain

PRECAMBRIAN

- Quartzites and schists
- Rocky coastline

- Hand auger hole
- 2900W**
OONS Auger hole co-ordinates in feet
- 0-3'** Hole sample depth interval in feet
- 0.34** % heavy mineral fraction



975119
70-664

SUB OCEANIC MINERALS N.L.

SCOUT DRILLING MAP

OF

NYE BAY

WEST COAST - TASMANIA

(As drawn from aerial photographs)

2000 0 2000 4000

SCALE 1 INCH = 2000 Ft. (Approx.)

PROJECT NO P512.1		BY	DATE
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CHECKED	G.H.		9-6-70
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PLATE V



REFERENCE

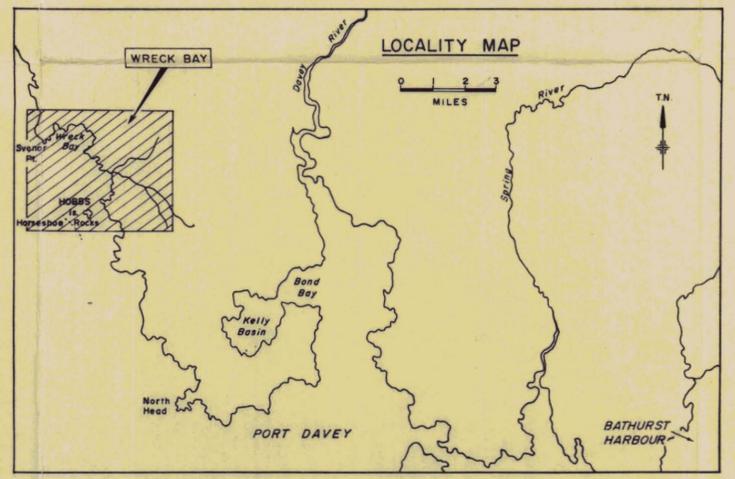
QUATERNARY

- Beach sands
- Sand dunes (known)
foredunes & transverse dunes
- Sand dunes (probable)

PRECAMBRIAN

- Quartzites and schists
- Rocky coastline

- 10 Hand auger hole
- 7700E
2000E Auger hole co-ordinates in feet
- 0-2' Hole sample depth interval in feet
- 1-30 % heavy mineral fraction



5 cm

975120
70-664

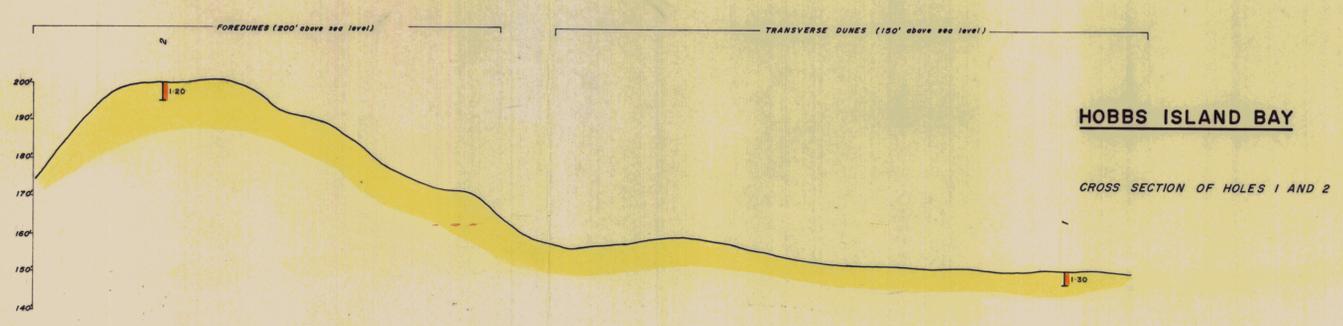
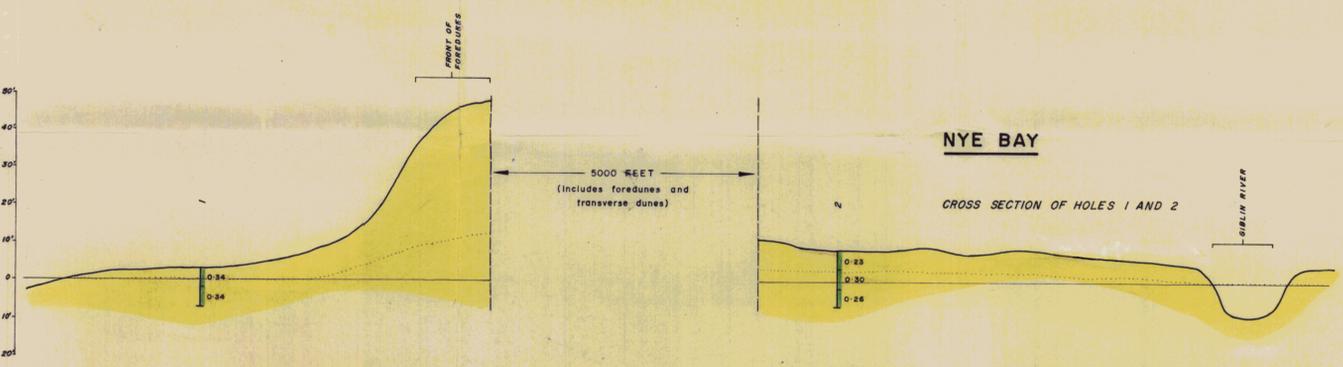
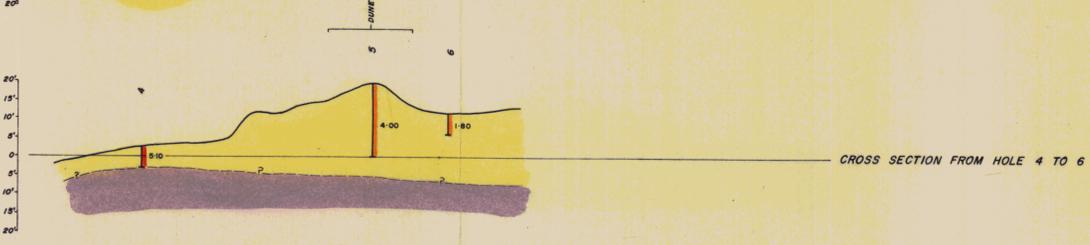
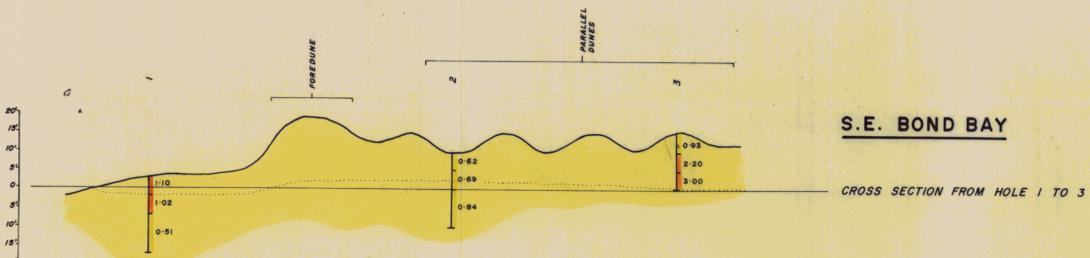
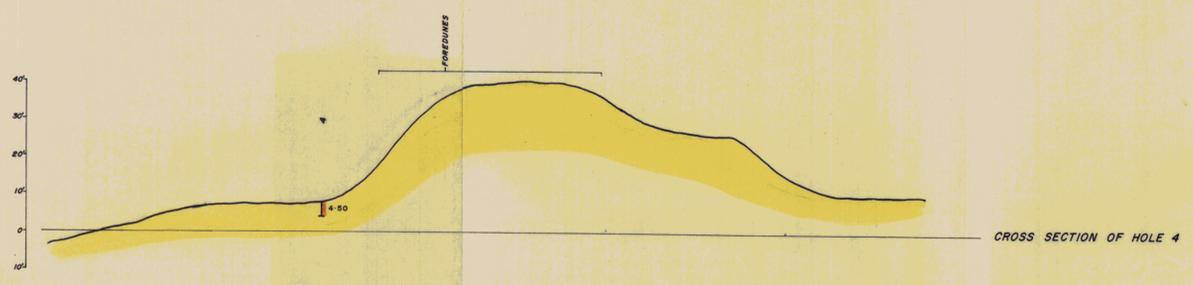
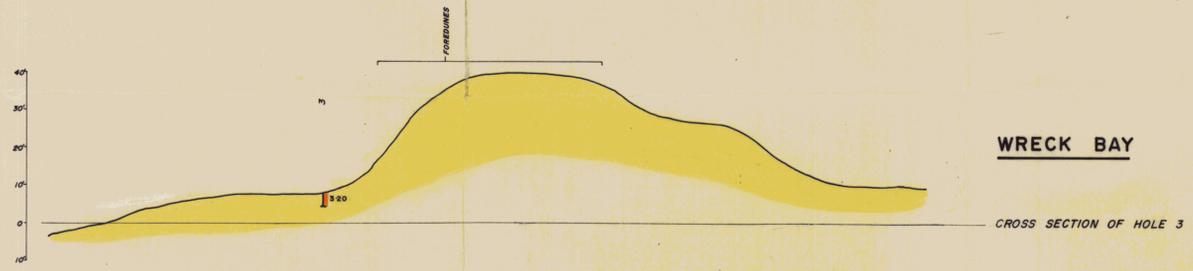
SUB OCEANIC MINERALS N.L.
MAP OF
WRECK BAY & HOBBS ISLAND BAY
SAMPLE LOCALITIES
WEST COAST TASMANIA
(As drawn from aerial photographs)

2000 0 2000 4000
SCALE: 1 INCH = 2000 Ft. (Approx.)

PROJECT	Nº	PS12-1
DRAWN	G.H.	27.4.70
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CHECKED	G.H.	6.5.70
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REFERENCE

- QUATERNARY**
 - Beach and dune sand
- PRECAMBRIAN**
 - Schist and quartzite
- Geological boundary
- Water table
- Hand auger hole with hole number and heavy mineral content (0-20%)
- < 0.50% heavy mineral content
- 0.50-1.00% heavy mineral content
- 1.00-5.00% heavy mineral content
- > 5.00% heavy mineral content

975121

5 cm

70-664

SUB OCEANIC MINERALS N.L.
WRECK BAY
SOUTH EAST BOND BAY
NYE BAY
HOBBS ISLAND BAY
HEAVY MINERAL DEPOSITS
CROSS SECTIONS

HORIZONTAL SCALE 1 INCH = 100'
VERTICAL SCALE 1 INCH = 20' 2104

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