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RECOMMENDATIONS FOR EXPLORATION TARGETS AT OCEAN BEACH, TASMANIA

Exploration Licence 1/86

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VICTORIA PARK WA 6100

18 August 1987

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REPORT TITLE	Recommendations for exploration targets at Ocean Beach, Tasmania.
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OCEAN BEACH - TASMANIA

As a result of our recent trip to this prospect I have the following comments to make:

1. OBSERVATIONS

1.1 It appears to me that the Tertiary basement which comprises an unsorted range of grains from angular silt to rounded cobbles is an outwash moraine. It also appears that the terraces are therefore primary features (ie. are alluvial terraces) and not secondary (ie. wave cut platforms) as the juxtaposition of unsorted silts and gravels throughout the area suggests little if any reworking of the basement surface.

Though there are undoubtedly several terraces, the major terrace which comprises the area adjacent to the airport that, to the north and east of Strahan, is probably only one terrace slopes to the west and south has been dissected by streams. The other terraces probably reflect deposits which occurred during differing sea levels with the "beach ridges" possibly representing deposition at the wave-cut face of the ice sheet (ie. a smoothly curved ice face basically parallel to present Ocean Beach).

Because of this I would not consider the surface of the terraces to be a primary target for HMs.

1.2 The peninsula is not a marine spit but probably the terminal moraine of a glacier that occupied MacQuarie Harbour - the "beach ridges" reflecting deposition at, or small scale movements of, the ice-face across the terminal moraine. (see above). Thus there is not likely to be a major marine concentrated lag deposit of HM within the basement.

1.3 The moraines throughout the area contain a small % of HM. This suggests that wherever the moraine has been reworked there is potential for concentration of HM.

The only zone where reworking of the basement has occurred is close to the modern beach. It is evident here that seasonal recycling of the beach to a series of winter bars is leading to concentration of HM between HWM and LWM. It is also evident that there is a series of younger dune ridges about 100m wide along the central part of the coast. These ridges are the result of a phase of

coastal advance at some time in the recent past (ie. last few hundred or dozens of years) and it is likely therefore that there is a buried beach beneath these dunes. At the moment the coast is eroding and there is an old beach exposed in the cliff at the base of the eroding dunes which contains a significant % of HM. Thus not only is there HM resource on the modern beach but there is good potential for an additional resource of unknown width beneath the dunes immediately behind the beach. (see Figure 1)

The abundance of HM in both the modern beach and the old beach is greatest in the central part of the Ocean Beach coast. One of the major thrusts of the exploration programme therefore should be to determine the inland extent of the old beach in this zone.

1.4 Because of climatic fluctuations it is possible that the basement comprises successive layers of moraine deposited at different elevations. This raises the possibility that there have been previous marine reworkings of the basement. The reported intersection by CRA of HM within the basement moraines near the airport could be attributed to a now-buried strandline.

1.5 South of the airstrip the basement is covered by series of high dunes which are most likely transgressive from the coast. It is possible, however, that the dunes overlie a true marine extension of the basement "spit" (ie. as the entrance to MacQuarie Harbour shallowed a true spit formed by marine processes). Thus there is the chance that there may be HM lag deposits beneath the dunes. Inspection of the modern beach at the entrance to MacQuarie Harbour did not reveal the presence of significant HM suggesting that the "spit" in this area would have been composed of lighter material only. This in turn suggests that the likelihood of finding significant concentrations of HM beneath the dunes will not be great, especially, as no old beach zone was evident beneath the eroding dunes along the southern part of the modern coast.

1.6 To the north where the Henty River discharges, the dunes contain a small % of coarse sand to grit size material suggesting that during floods the Henty River is capable of discharging particles that are larger and/or heavier than sand. This in turn suggests that if there is gold in the hinterland, the river would be capable of transporting it to the beach. Though this trip did not reveal much more about the Henty system the potential for river bed gravels downstream of the bridge is considered to be good.

As these gravels are likely to contain HM and possibly gold, exploration of the area is warranted. Likewise the beach and dune area south of the Henty River, where the mouth discharges to the sea is a target area that should be tested.

1.7 The trip confirmed the presence of cobbles and the high water table that has made sampling of the area difficult.

Any testing of the Tertiary basement, which contains significant variations in grain size, must be based on bulk sampling. This is considered worthwhile as the basement can be readily upgraded by sieving implying that the relatively small % of HM in the deposit may yet prove to be economic. I would suggest that at least a backhoe and a trommel with a 2-5mm screen would have to be used to get a good sample.

Testing the dunes and possibly the beach will be relatively easy due to the presence of only few cobbles. A 4wd mounted RC rig would probably be best.

The Henty River is more difficult as it suffers problems with depth (± 5m) high water table and probability of cobbles. If nothing else the use of mechanical aids is indicated.

2. EXPLORATION TARGETS

From my point of view the trip has clarified and classified the targets I would attempt to explore. Starting with the most prospective I see the following targets:

2.1 The most prospective target is the HM resource partly exposed along the modern coast (Area 1 on the map). In the first instance I would drill along the existing tracks to the beach to determine the extent of marine reworking inland from the modern beach. I would also drill to basement to determine the true depth of the reworked material as there may be several beach zones at different levels beneath the dunes. As follow up I would drill sections across the beach and frontal dunes at 1-2 km intervals along the coast. This programme would clarify the 3 dimensional shape and grade of the deposit along the modern coast.

2.2 The second more prospective target is the Henty River system. I would test the river bed gravels beneath the flood plain downstream of the bridge (AREA 2) and along the coast to the south for 3-4 km (AREA 3). I am not sure what equipment to use on the flood plain, but certainly it has to be capable of coping with a high water table, and cobbles to a depth of at least 5m. Testing of the area along the coast would probably require a R C rig.

2.3 The third most prospective target is the moraine material itself (AREA 4). Because the material can be so readily upgraded by sieving, I would bulk test it anywhere a decent sample could be obtained. I think a backhoe and trommel would be required so that material from a decent sized pit could be processed (ie screened to 2mm).

Obviously an estimate of the original volume would have to be made (ie size of hole). Probably this work would be better done in summer to avoid the high water table. As there is no reason to pick any one site over another, it is probably worth taking samples on a rough 1km x km grid as shown on the map.

2.4 The fourth target is the young dunes West and South of the airstrip which possibly will contain in excess of 1% HM (AREA5). As the grade is likely to increase wherever reworking has occurred, it would be worth checking for lag deposits at 0 - 2 m above MSL. The logs of a couple of RC holes would clarify the stratigraphy of the southern end of the "spit" and the presence or otherwise of a beach zone in which HM are concentrated. Additional holes along the existing tracks would also confirm whether the increasing trend in HM content in the dunes (identified by previous workers) continued to the south.

2.5 In addition to the above it would probably be worth drilling a series of deep holes (say to 20m) into the basement to see if there are any old strand lines buried beneath the upper moraines. The holes could be drilled along the Ocean Beach Road (AREA 6). Whether the RC rig would be capable of drilling these holes should be checked.

If an RC rig is used it may be possible to obtain "bulk" samples from specific horizons when HM are detected, by leaving the bit at the required depth and allowing the hole to cave. The sample, as it will probably derive from a horizon containing cobbles will represent a sieved sample or concentrate - enhancing detection of gold and other credit minerals.

3. CONCLUSION

In conclusion the trip has confirmed the potential of the area to host a HM resource, more notably along and inland of the modern coast. I believe therefore that further exploration along the lines outlined above is warranted.

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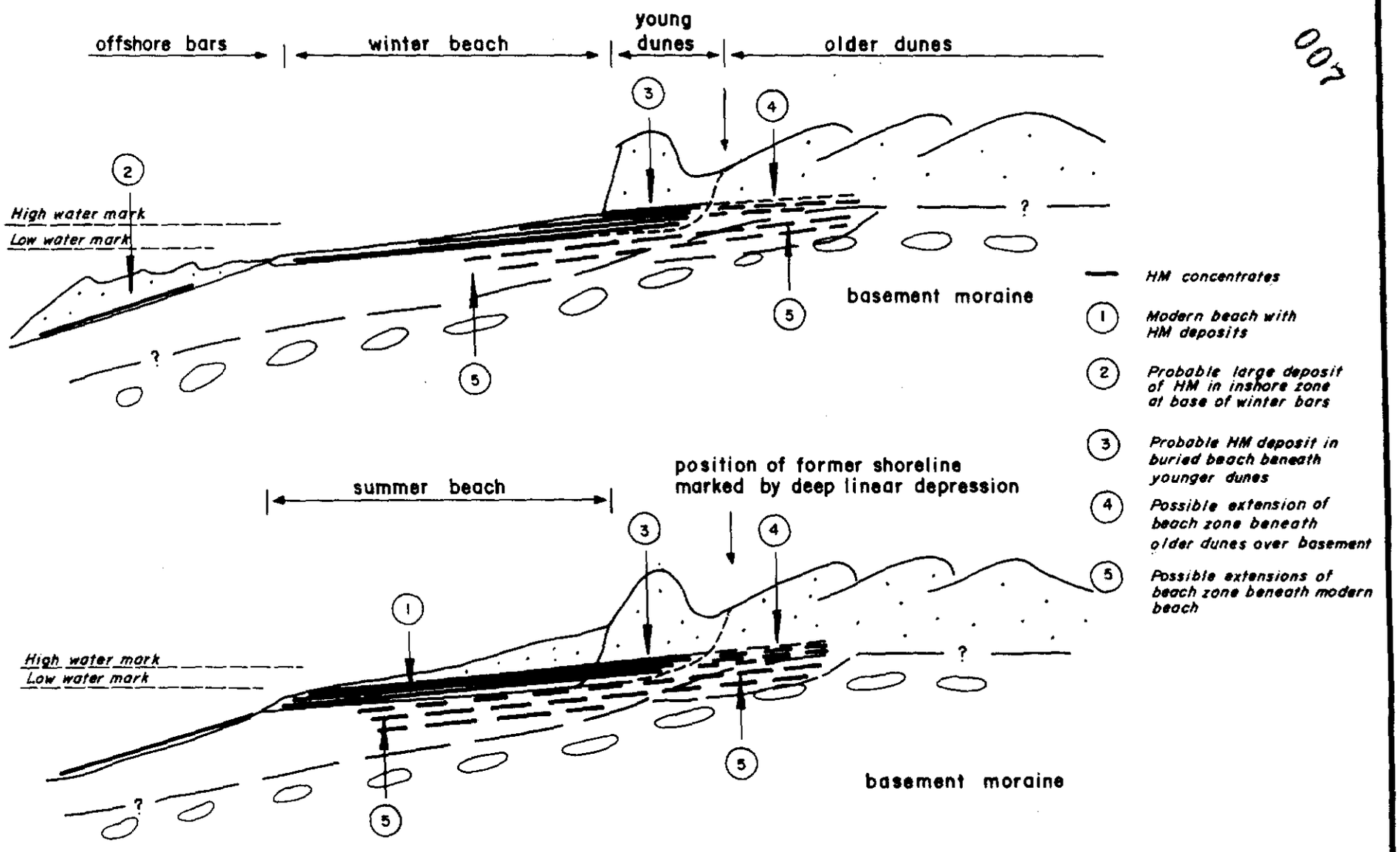

Sketch of Cross-sections through Ocean Beach in Summer and Winter Position of HM Deposits on Modern Beach

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355 000mE
360 000mE
365 000mE
370 000mE

6 350 000mN
6 345 000mN
6 340 000mN
6 335 000mN
6 330 000mN
6 325 000mN

AREA 1
AREA 2
AREA 3
AREA 4
AREA 5
AREA 6

EL 1/86

1977 Exit
1982 Exit
Ocean Beach
Henty River
Henty Road
Tullah Road
Lakes Road
Tully River
Fabritorp River
Lake Rantik
Lake Garcia
Lake Ashwood
Lake Rellinger
Manuka River
Henty Rd
Lake Rosanya
Lake Strahan
AIR PORT
Lyell Highway
STRAHAN
Strahan Harbour
Long Bay
Dead Horse Pt
Lowana Rd
Leffes Bay
Buoy Pt
Henry Pt
Macquarie Heads Road
Cat Island
Neck I
Swan Basin
Lowana Pt
King River
King Pt
Pine Cove
MACQUARIE HARBOUR
SOUTHERN OCEAN

LEGEND
Primary line of holes
Secondary line of holes
Pit for bulk samples

5 cm

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Aztec Exploration Limited

TASMANIA 87-2738

OCEAN BEACH PROJECT

EL 1/86
TARGET AREAS
& PROPOSED LINE OF HOLES

Scale	1 : 25 000	Map Reference	CAPE SORELL 7913
Date	AUGUST 1987	Sheet of	
Author		PLAN No.	113 - 5
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