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Seismic surveys at Stanley.

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Seismic refraction surveys were undertaken along the beaches to the west and south of the Nut in an attempt to determine the thickness of Tertiary sediment underlying the basalt of the Nut and Green Hills. The results of the surveys may be summarised as follows:

West Beach (west of Nut, north-west of Stanley):

Layer	*Velocity (m/s)*	*Thickness (m)*
1	400-450	5.5-6.5
2	1350-1650	7.5-10.0 (dip eastward)
3	2100-2500	
4	3000	
5	4800	

South Beach (south of Nut and township). Spreads 1 km from town:

Layer	*Velocity (m/s)*	*Thickness (m)*
1	400-450	2.8-4.4
2	2250-3000	

In each case the velocity of 400-450 m/s represents dry and damp sand while velocities in excess of 2100 m/s represent rock or weathered rock. Only layer 2 at West Beach can possibly represent Tertiary sediment and this is thinning gently to the west. No such sediment is indicated in the tests south of the town.

It is possible that the basement rock is basalt but this is unlikely in view of the wide-ranging weathering profile and a maximum recorded velocity of less than 5000 m/s. Several extended shots were fired and no velocity exceeded 4800 m/s. The time-distance curves recorded are typical of Cambrian or Precambrian sedimentary sequences.

CONCLUSION

A relatively thin cover of sand overlies a fairly regular planed basement of Lower Palaeozoic or Precambrian rocks. The basement rocks are sometimes covered by Tertiary sediments, as may be seen in exposures around the Nut. This covering is very patchy.

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