

APPENDIX III. STUDY OF THE ACOUSTIC STRATIGRAPHY IN THE SCHEDULED IPOD SITE AREA FOR DSDP LEG 61 TO THE WEST OF MARSHALL ISLANDS

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The continuous seismic reflection profiling survey was carried out in the scheduled IPOD site area for DSDP Leg 61 in Nauru Basin about 280 km southwest of Kwajalein Atoll of Marshall Islands. The total length of ship's track is about 700 km (Fig. AIII-1). The profiling records are shown in Fig. AIII-2.

The sea floor is very smooth around the point of 18th day 14 h (GMT) northwest to the point of 19th day 06 h (GMT), and then towards southeast it rolls very gently, having with a channel-like topography at the point of 19th day 14 h (GMT).

The acoustic stratigraphy is divided into three layers, namely layer A, layer B and acoustic basement. Layer A comprises the uppermost part of the sequence, and shows highly stratified pattern along the northwestern part of the track down to the point of 19th day 06 h (GMT), while the pattern varies into the semi-opaque to opaque layer along the remaining southeastern part of the track. The thickness of layer A increases in the areas to the west-southwest of Ujae Atoll and to the west of Namoric Atoll, measuring 0.4–0.5 seconds in two-way acoustic travel time. Layer B, which underlies the layer A, is an acoustically semi-opaque to opaque pattern layer, with the thickness of 0.1–0.2 seconds. However, it is difficult to distinguish between layer B and acoustic basement. The surface of the acoustic basement abounds in undulation pattern, and is observed at the depth of 0.2–0.6 seconds from the sea floor.

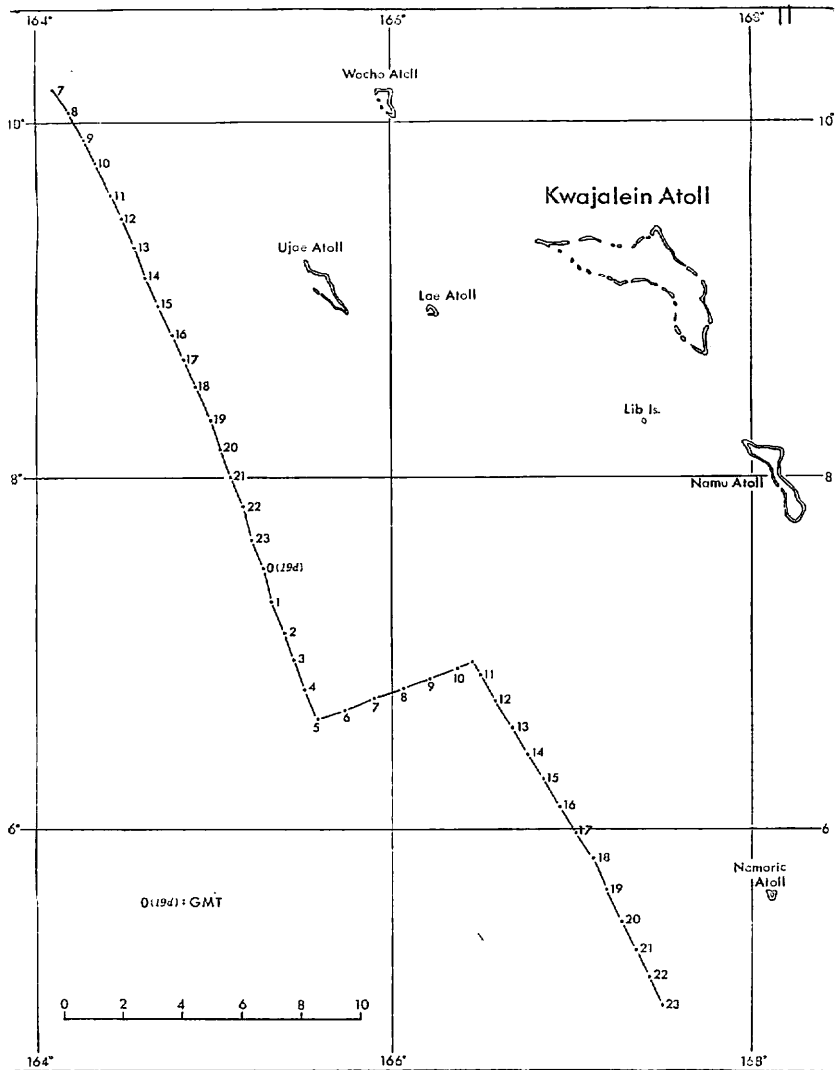
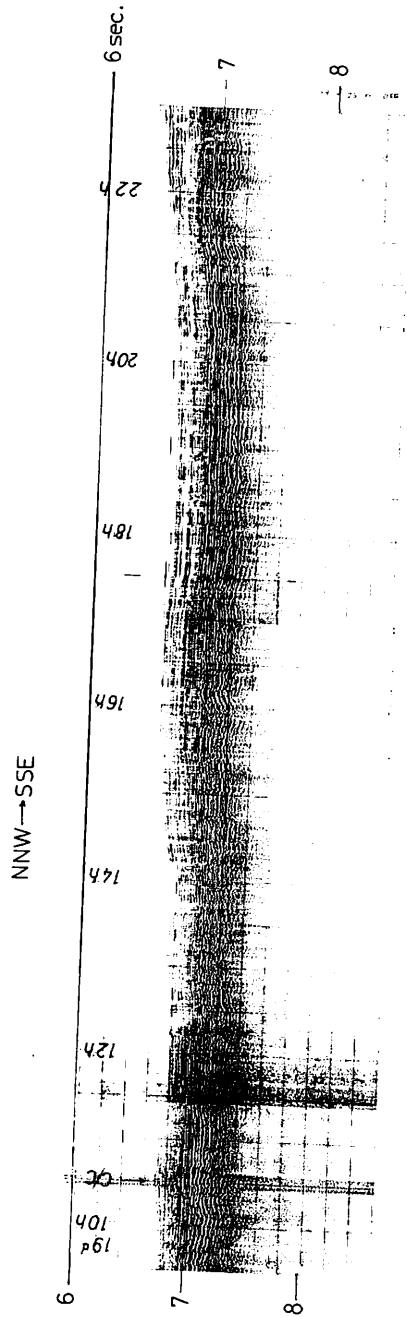
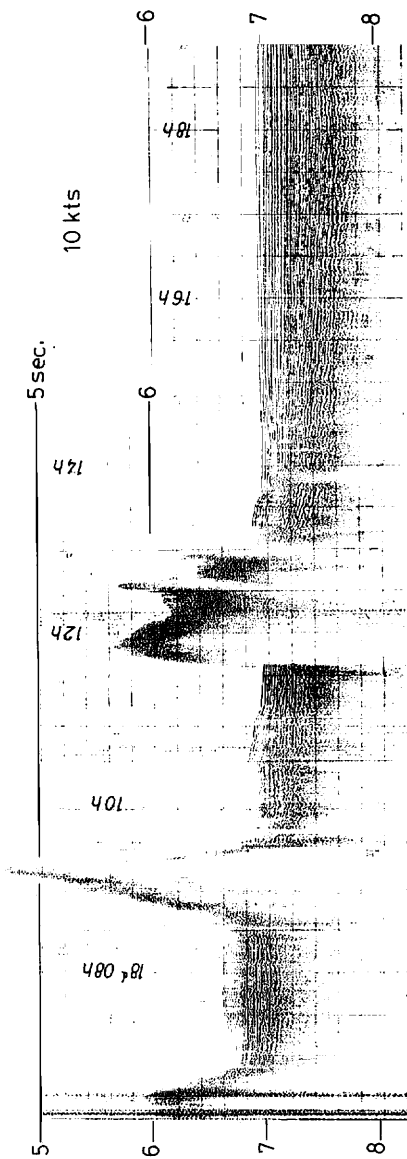


Fig. AIII-1 The ship's track for the continuous seismic reflection profiling survey in the scheduled IPOD site area for DSDP Leg 61 to the west of Marshall Islands (scale is in nautical miles).

Fig. AIII-2 (1-2) The seismic reflection records in the scheduled IPOD site area for DSDP Leg 61 to the west of Marshall Islands. The ship's speed is 10 knots and the vertical exaggeration is 1:33.

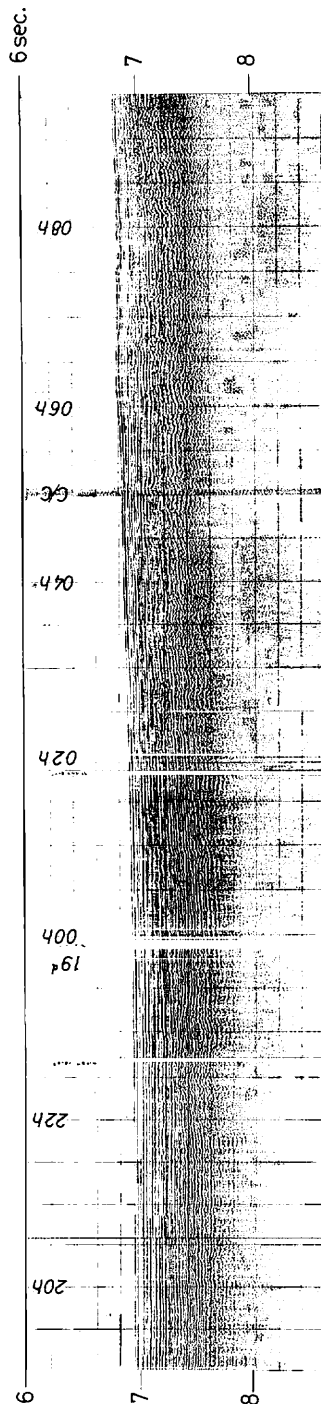


(1)



SWW → NEE

NNW → SSE



(2)