

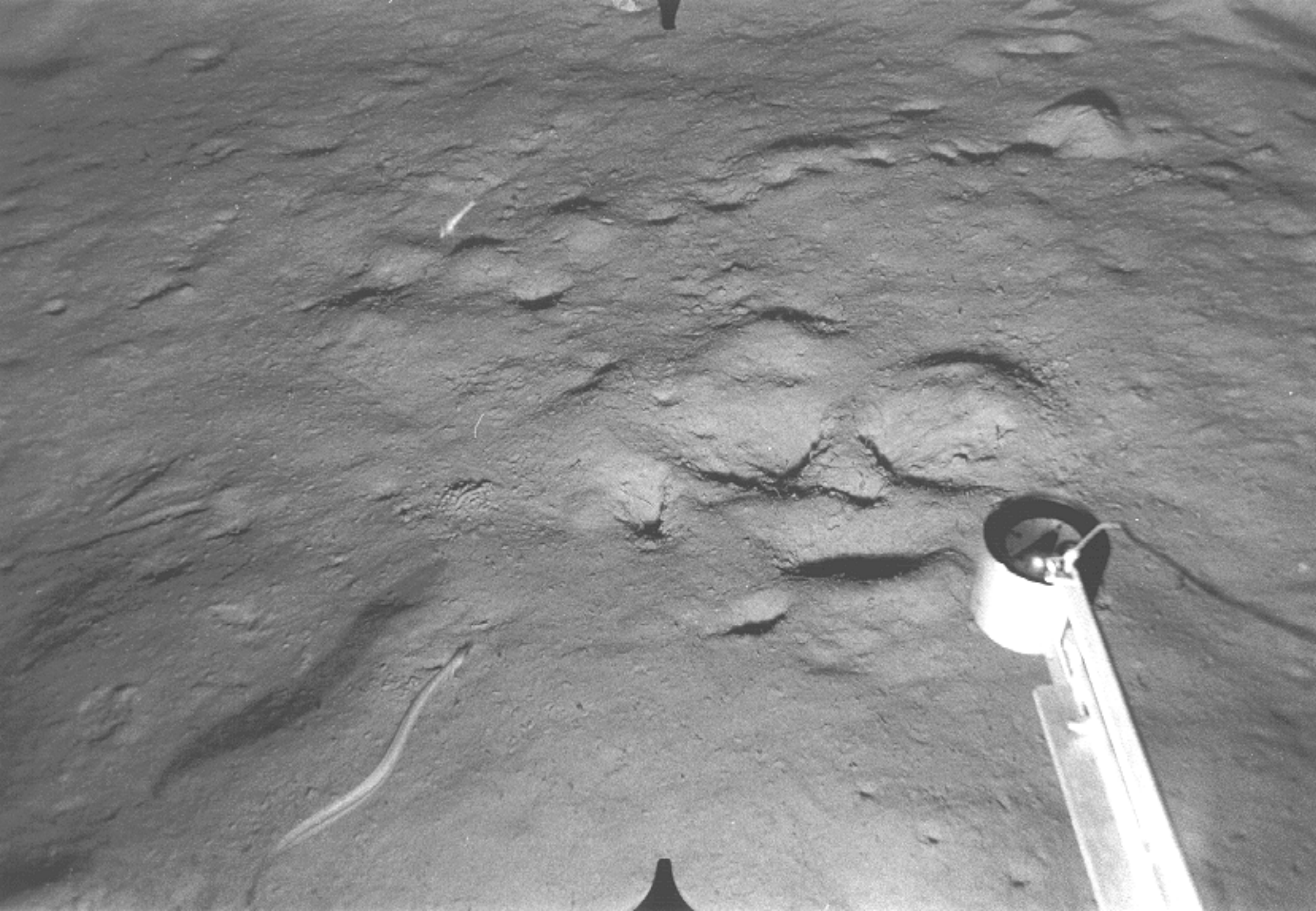
SITE N1500

This site has a seabed predominantly of mud that displays no evidence of hydrodynamic activity. Biota are rarely visible; however, there are many relatively large pits, burrows and mounds present, indicating a well-developed benthic community that includes large-sized burrowed organisms. These burrows are often arranged into complexes of about four separate excavations in groups which are about 50 cm across. There is evidence from the photographs for considerable change in the surface texture of the bed with the seasons: in the winter and spring before the bloom the surface is smooth and covered in a thin layer of fine uniform sediment, like a light, recent fall of snow. However, after the Spring-bloom, during the summer and well on into the autumn, the bed-surface assumes a more grainy, textured appearance. This may be caused by biogenic microstructure, such as that caused by many small agglutinated foraminiferans and metazoans that construct tubules and other shelters that are partly fabricated from sediment particles. The site was visited on five occasions, in April, August and December 1995, and in May and August 1996. One hundred and twenty-five photographs were taken altogether.

Reference No: II/55/4/21:

Site:	N1500
Cruise:	Charles Darwin CD92A
Position:	56° 44' N approx. 09° 25' W approx.
Depth:	1500 m nominal
Date:	8th April 1995.
Time:	07:30 GMT approx.

A synphobranchid eel (length at least 20 cm) casts its shadow over a mud bed, the surface of which is fairly smooth and shows no evidence of benthic current activity. The bed has been reworked (but probably not recently) by energetic burrowing activity of infaunal benthic organisms forming pits and mounds. There is a mound of faecal pellets to the left of the digging-complex and near the centre of the picture. In the background, a row of eight holes (average spacing 8 cm approx.) ends in a mound about 15 cm in diameter. A small pale-coloured fish or perhaps a swimming prawn that appears well out of focus reflects the flashlight at the upper left-centre of the frame. At the extreme left, a degraded series of feeding-grooves radiates from a small hole. Apart from the burrowing activities, the bed appears generally lacking in visible epifauna. The view faces towards the NNW.



Reference No: **II/55/5/26:**

Site: N1500

Cruise: Charles Darwin CD92A

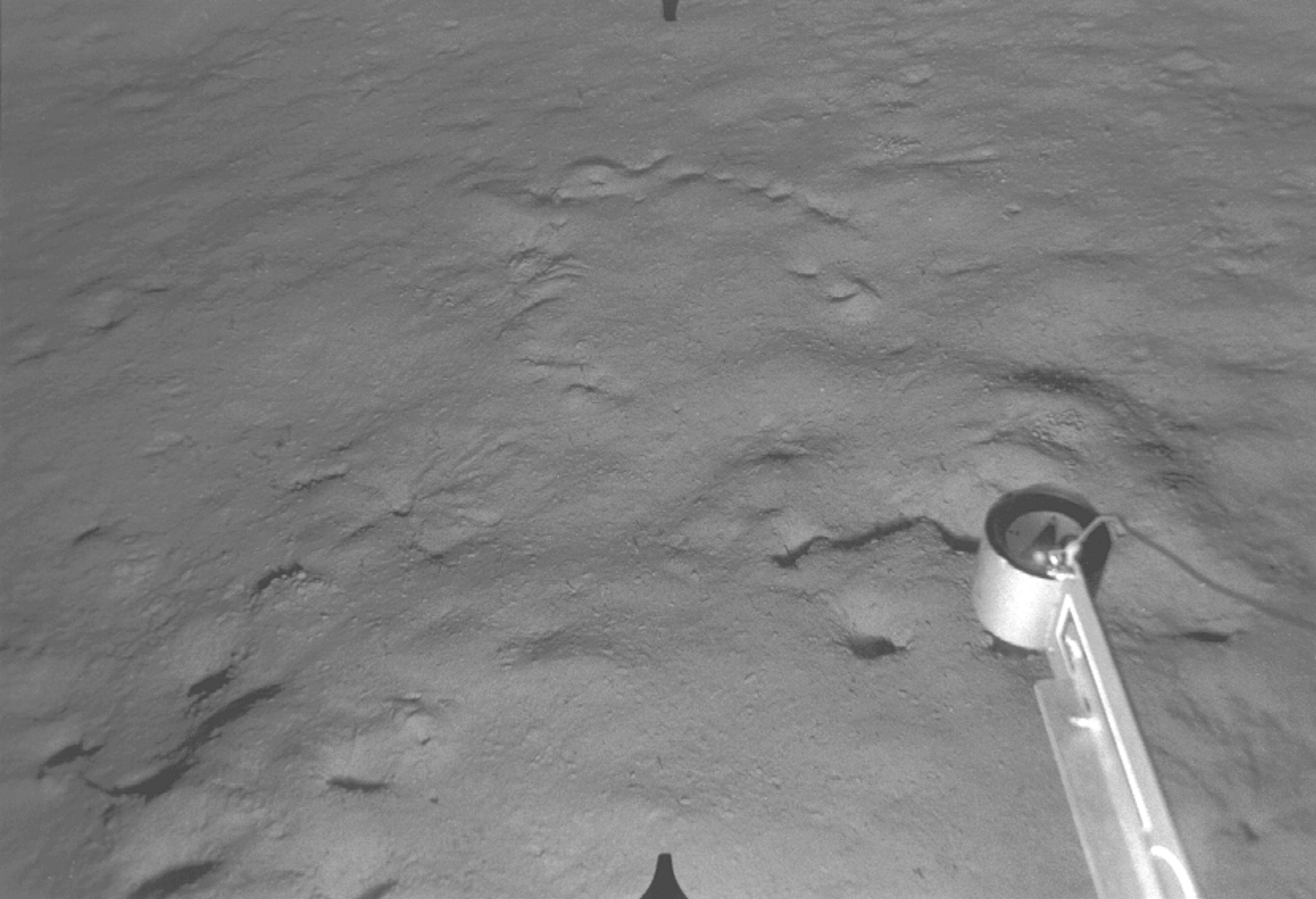
Position: 56° 44' N approx.
09° 25' W approx.

Depth: 1500 m nominal

Date: 8th April 1995.

Time: 07:40 GMT approx.

This shows a bed of mud which is generally smooth and devoid of epifauna, but which demonstrates evidence of a well-developed burrowed benthic fauna by the presence of many burrows and mounds. There is little evidence of recent burrowing activity and several mounds of faecal pellets are generally degraded. There are no current-induced bedforms. A spoke-like rosette of feeding marks radiates from a central hole (left of centre) and has almost been obliterated. In the background, there is a row of holes terminating in a mound (see also photograph **II/55/4/21**) which might have collapsed partially. The picture was taken in early Spring (before the bloom) and the view faces towards the NNW.



Reference No: II/54/7/32:

Site: N1500

Cruise: Challenger CH123B

Position: 56° 44.62' N approx.
09° 24.79' W approx.

Depth: 1500 m nominal

Date: 11th December 1995.

Time: 13:23 GMT approx.

This picture shows a muddy seabed with many burrows and mounds (especially in the background), but the view has a generally smoothed appearance, although there is some surface texture (possibly from agglutinated foramiferans) in the centre-foreground. There are no visible epifauna except for a conical snail shell (3 cm long approx.) in the left foreground, and perhaps the antennae of decapod crustacean within the burrow at top centre. A degraded mound of faecal pellets shows near the left-hand edge. There is no evidence of significant benthic current-activity. The picture was taken in early winter and the view faces towards the SW.



Reference No: *II/40/3/17*:

Site: N1500

Cruise: Challenger CH121A

Position: 56° 44.52' N approx.
09° 25.97' W approx.

Depth: 1592 m

Date: 15th August 1995.

Time: 04:57:47 GMT

This shows a predominantly muddy seabed which displays no evidence of benthic current activity, but there is much bioturbation. The sediment surface has a rough, textured appearance caused by many small tube-like, sometimes branching, micro-structures (probably caused by agglutinating foraminiferans anchored to the sediment) giving the bed a biologically "active" appearance. A partial rosette of spoke-like feeding marks surrounds a central hole to the left of picture-centre; the grooves are approx. 22 cm long and appear to have been made recently. There is a small gastropod mollusc just above the middle of the picture that appears to be moving leaving a faint trail in the sediment across the field of view out to the left. The large rattail fish is probably *Coryphaenoides rupestris* and is more than 80 cm long. The identity of the small black fish nearby is unknown; it is 12 cm long approx. The picture was taken in August (i.e., during summer conditions), and the view faces towards the SSW.



Reference No: **II/46/6/29A**:

Site:	N1500
Cruise:	Challenger CH126B
Position:	56° 44.44' N 09° 23.08' W
Depth:	1499 m
Date:	2nd May 1996.
Time:	21:46:27 GMT

A muddy seabed is shown which displays no evidence of benthic current activity, but there is much evidence of bioturbation by burrowed infauna, particularly in the shape of groups of four pit-like depressions (see also photographs **II/55/4/21**, **II/55/5/26**, **II/54/7/32** and **II/40/3/17**). The surface has a rough texture caused by sediment reworking by smaller benthic animals, with many small micro-structures present, possibly formed by foraminiferans of agglutinated sediment particles; the bed has a biologically "active" appearance. A rosette of spoke-like feeding marks surrounds a central hole (to the right of picture-centre); the grooves radiate 15 cm approx. (there is a similar system at the left-hand edge of the picture). They are probably caused by the feeding activity of polychaete or echiuran worms. The sediment in the top left corner of the picture has a higher reflectivity than the bed generally: this appears to be as a consequence of having being disturbed violently. Elsewhere, there are faecal pellets, numerous burrows and the resting imprint of a starfish (overall diameter 13 cm approx.). The picture was taken in May (i.e., at the start of the spring bloom), and the view faces towards the SSW.



Reference No: II/40/2/7 (part-frame enlargement):

Site:	N1500
Cruise:	Challenger CH121A
Position:	56° 44.54' N 09° 25.78' W
Depth:	1580 m
Date:	15th August 1995.
Time:	04:37:30 GMT

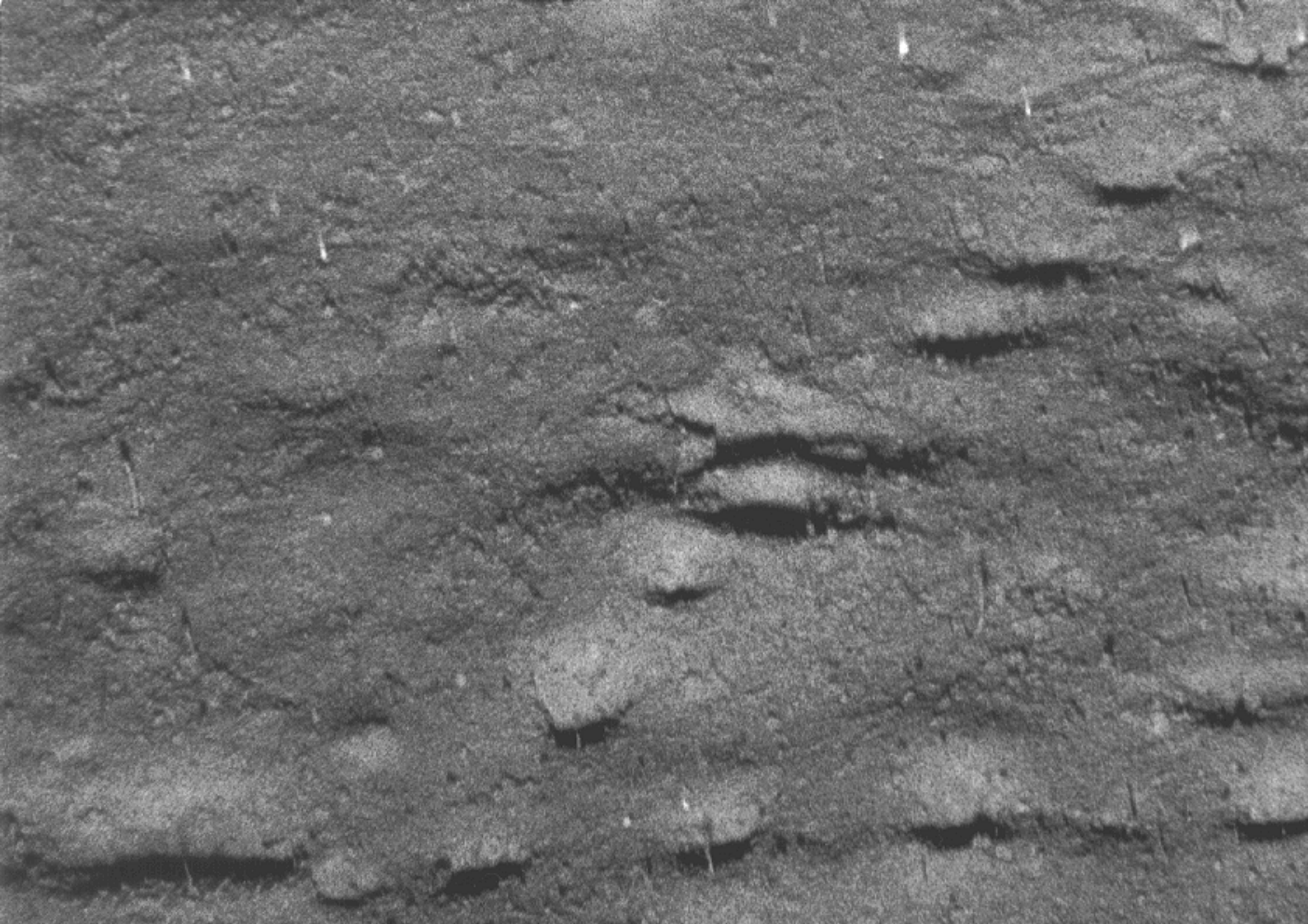
This enlargement shows the appearance of the bed during the "active" summer period: the surface is heavily textured with micro-structures, up to 10 mm long, possibly formed at least partly by agglutinated foraminiferans. The "splits" or tension-gashes in the surface-mound may have been caused by a burrowing echiuran worm.



*Reference No: **II/40/5/25** (part-frame enlargement):*

Site:	N1500
Cruise:	Challenger CH121A
Position:	56° 44.51' N 09° 26.11' W
Depth:	1583 m
Date:	15th August 1995.
Time:	05:12:46 GMT

Two intersecting rows of holes are seen during the "active" summer season; each row is about 50 cm long. There is little evidence of sediment-ejection from the holes; rather, the holes appear to have been formed from below, and the "roofs" have collapsed downwards. The fate of the sediment removed is unexplained. Bright flecks of marine snow appear near the top of the picture.



Reference No: *II/46/5/22A* (part-frame enlargement):

Site:	N1500
Cruise:	Challenger CH126/B
Position:	56° 44.41' N 09° 23.02' W
Depth:	1496 m
Date:	2nd May 1996.
Time:	21:32:29 GMT

A series of spoke-like feeding-grooves radiates from a central hole, possibly made by an echiuran or polychaete worm; there is no obvious sign of material having been ejected from the hole. The longest feeding mark (to the left of the hole) is 19 cm long approx. Apart from a single groove towards the camera (which makes the central hole appear as a notch), most activity has taken place towards the background. This is not typical; many of these patterns were recorded during SES, and usually the grooves are distributed irregularly all around the central hole, but note that this picture was taken at the start of the active season, and so the system of grooves might not be fully-developed. The "texture" visible on the sediment surface is made up of many tiny burrow openings and surface tubule- or ball-like microstructures.

