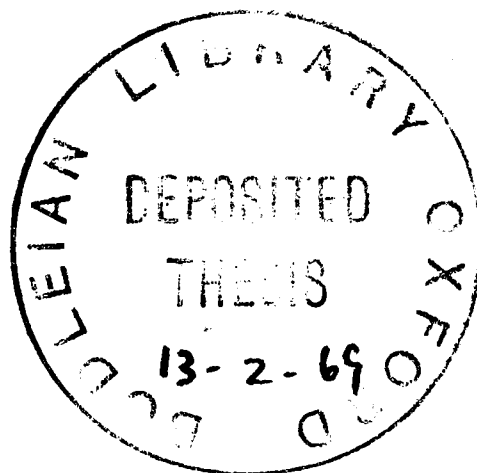


SEDIMENTATION STUDIES IN THE SILURIAN ROCKS
OF NORTH-WEST GALWAY, EIRE

14
LAIRD M. G.

Volume 2, Photographs



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PLATE 1

Facies A conglomerate interlayered with Facies B massive sandstone.

Benchoona Member 1, section 31. Hammer is 33 cm. long.

PLATE 2

Closely packed boulders in Facies A conglomerate, Benchoona

Member 1. Benchoona Member 1, section 31.



PLATE 3

Small pocket of pebbles (Facies A conglomerate) bordered above and below by Facies B massive sandstone. Pocket-knife is 9 cm. long. Benchoona Member 1, section 30.

PLATE 4

Facies B pebbly sandstone of the Gowlatn Member, showing "content grading" upwards. Note large grain to left of pocket-knife. Section 27.

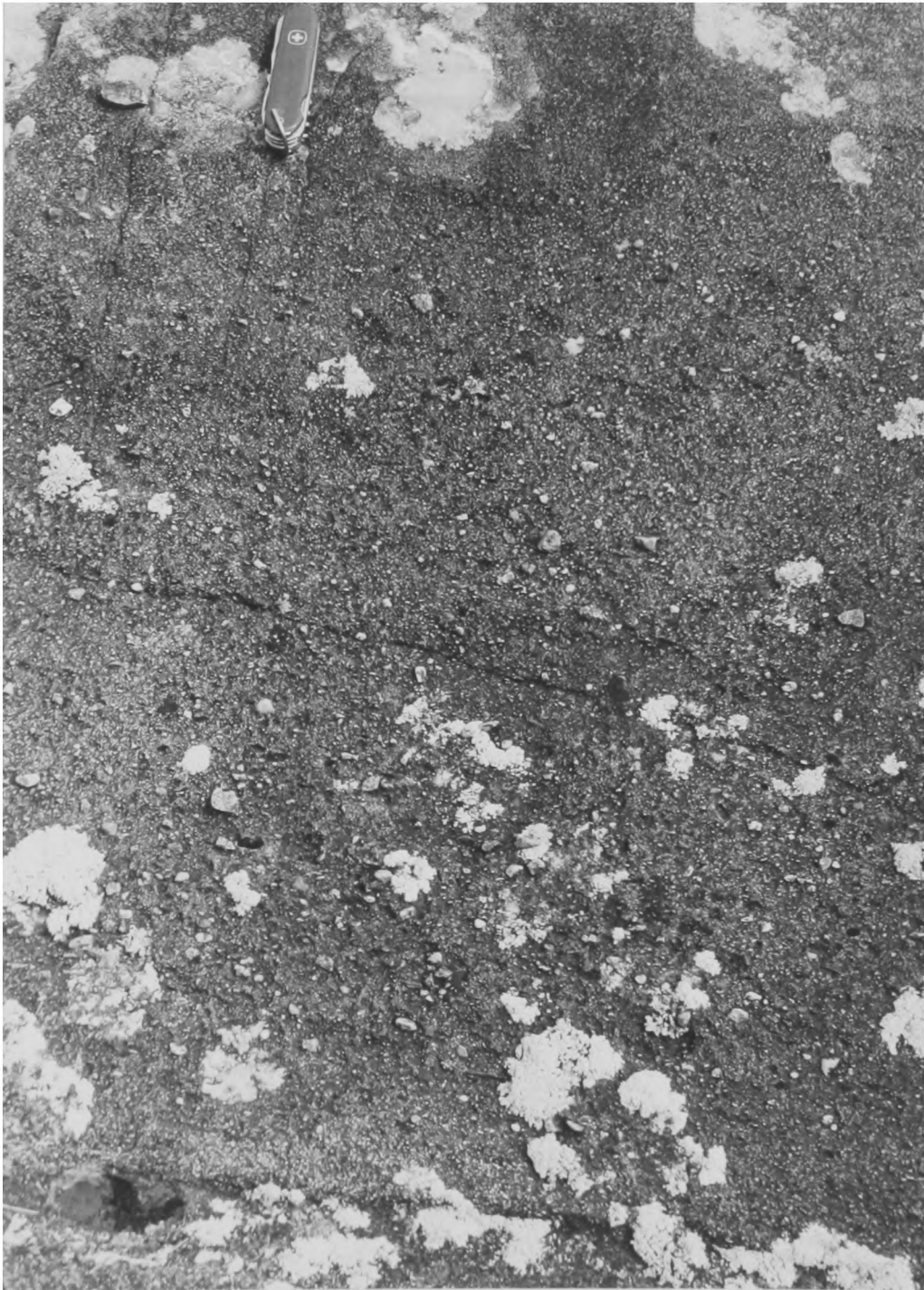


PLATE 5

Ungraded breccia of Facies B, Gowlatu Member, showing sharp junction between breccia and finer-grained ungraded massive sandstone. Beds young to the left of the photograph. Locality as for Plate 5.

PLATE 6

Thick units of sub-facies C1 breccia of Benchoona Members 2 and 3. South of Benchoona summit, section 7.



PLATE 7

Graded sandstone beds of sub-facies C2, Letterettrln Member 3, North of Owengar River, section 17.

PLATE 8

Graded sandstone beds of sub-facies C3, Glencraff Formation. Locality as for Plate 7.

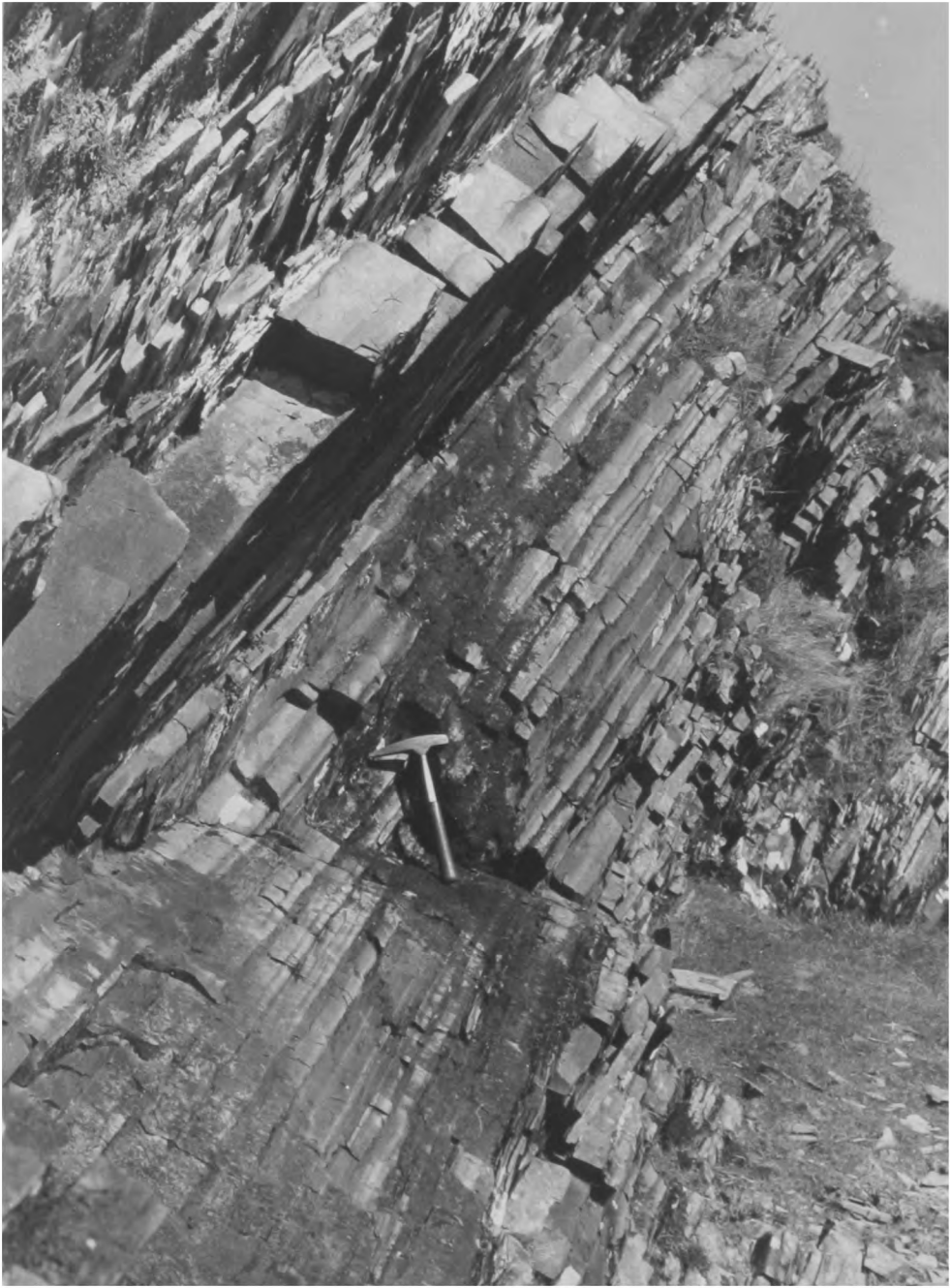


PLATE 9

Groove, prod, and brush-marks on the sole of a sub-facies C2 graded sandstone bed. Roadside, between sections 21B and 22.

PLATE 10

Flame structure 30 cms. high formed in fine-grained parallel laminated sandstone below a graded sandstone bed of sub-facies C2. Benchoona Member 3, section 2.



PLATE 11

Large transverse ripples on the sole of a graded sandstone bed of sub-facies C2, Benchoona Member 3, section 7. Pocket-knife (lower) gives the scale.

PLATE 12

Transverse ripples forming discontinuous ridges and troughs on the sole of a graded breccia bed of sub-facies C1. Benchoona Member 3, section 3.



PLATE 13

Breccias of sub-facies C1 showing “swirls” of coarse breccia within coarse sandstone. Note amalgamation of beds near the top of the photograph. Pocket-knife (left centre) gives the scale. LetterettrIn Member 2, section 17.

PLATE 14

Sand volcano-like structure developed by vertical loading of one breccia bed on another. LetterettrIn Member 3, section 17.



PLATE 15

**Small scour in the top of a sub-facies C2 sandstone bed. Letterettrin
Member 3, section 17.**

PLATE 16

**Small scour cut into the top of a sub-facies C3 breccia bed, acting as
a trap for coarse grains. Benchoona Member 3, section 7.**



PLATE 17

Two graded beds of sub-facies C3 showing well-developed Bouma sequences.

Lower: BC; Upper: AB convolutions. Diameter of coin is 2.1 cm. Benchoona Member 3, roadside, section 21B.

PLATE 18

Reverse grading in sub-facies C1 breccia. Lettergesh Formation, above Benchoona Members, section 33.



PLATE 19

Reverse-graded bed in sub-facies C2 sandstone showing well-developed parallel-lamination at the base of the bed. Letterettrin Member 3, section 17.

PLATE 20

Symmetrically-graded bed in sub-facies C2 sandstone showing poorly-developed parallel-lamination at the base of the bed. Note also sinuous sheet-structures near the base and vertical sheets below the upper parallel-laminated portion. Letterettrin Member 3, section 17.



PLATE 21

Internal scours developed in a sandstone bed of sub-facies C2. Note "dish-structures" below the parallel-laminated interval. Scale given by pocket-knife at right centre. Lettergesh Formation, section 33.

PLATE 22

Low-angle cross-stratification filling scour in same bed as Plate ¹22. Note apparently opposite current direction implied by cross-stratification above.



PLATE 23

Sub-facies C2 graded sandstone beds showing amalgamation and sharp junction between cross-laminated interval and faintly parallel-laminated interval below. Benchoona Member 1, section 27.

PLATE 24

Alternating cross- and parallel-famination at the top of a sub-facies C2 graded sandstone bed. Lettergesh Formation (above Benchoona Member 1), section 33.



PLATE 25

Disturbed and oversteepened cross-lamination at the top of a sub-facies C2 graded sandstone bed. Benchoona Member 1, section 27.

PLATE 26

Overtured cross-lamination at the top of a sub-facies C2 graded sandstone bed. Letterettrin Member 3, section 17.



PLATE 27

Parallel-aligned ridges and furrows overlying convolutions in the top of a sub-facies C2 graded sandstone bed. Letterett In Member 3, section 17.

PLATE 28

Contorted synclines developed in parallel-laminations at the top of graded sandstones of sub-facies, C3. Benchoona Member 2, section 21B.



PLATE 29

Highly-contorted laminations at the top of a sub-facies C2 graded sandstone bed. Lettergesh Formation (above Benchoona Member 1), section 33.

PLATE 30

Cross-bedding associated with sub-facies C1 breccias. Note grading and high slope angle of foresets. Benchoona Member 3, section 7.



PLATE 31

**Dune-shaped cross-bed passing down into almost horizontal laminations.
Benchoona Member 3, section 7.**

PLATE 32

Scours filled with cross-beds. Benchoona Member 3, section 7.

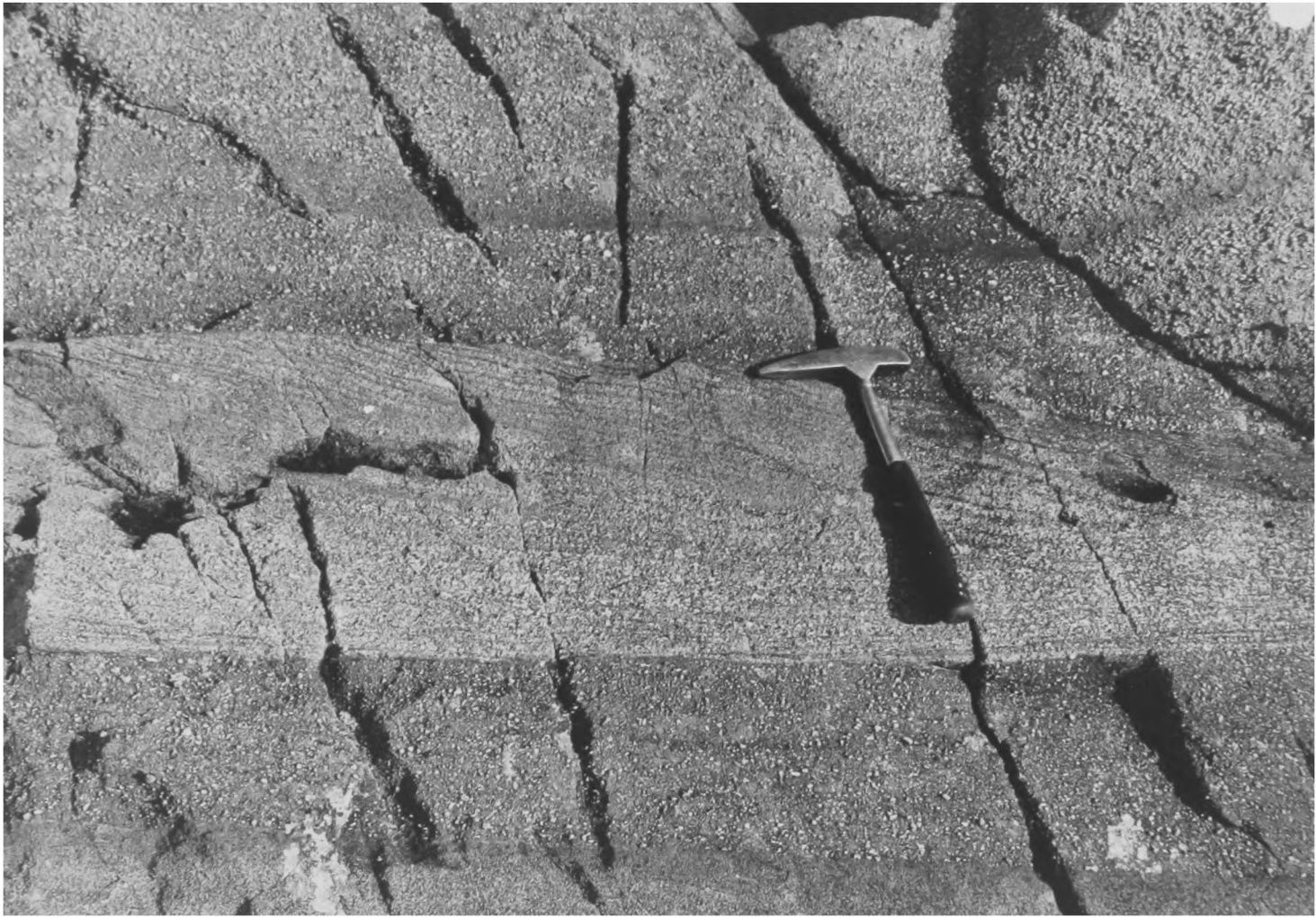


PLATE 33

Top surface of a sub-facies C1 breccia bed containing sheet structures showing parallel rectilinear surface expression of sheets. Benchoona Member 3, section 7.

PLATE 34

Branching root-like pattern displayed by sheet structures seen in cross-section in a sandstone bed of sub-facies C2. Lettergesh Formation, section 36.



PLATE 35

**Systems of branching sheet structures, in a sub-facies C2 sandstone bed.
Letterettrln Member, section 24.**

PLATE 36

**Small sandstone dykes developed in the parallel-laminated interval at the
top of a graded sandstone bed of sub-facies C2. Height of photograph
approximately 10 cm. Lettergesh Formation (above Benchoona Member 1),
section 33.**



PLATE 37

Mudstone Inclusion in sandstone bed of sub-facies C2 showing shell of lighter-coloured sandstone. Letterettrin Member 3, section 17.

PLATE 38

Large contorted Inclusions of laminated fine sandstone in breccia of sub-facies C1. Note also sheet structures and cross-bedding (top). Benchoona Member 3, section 7.

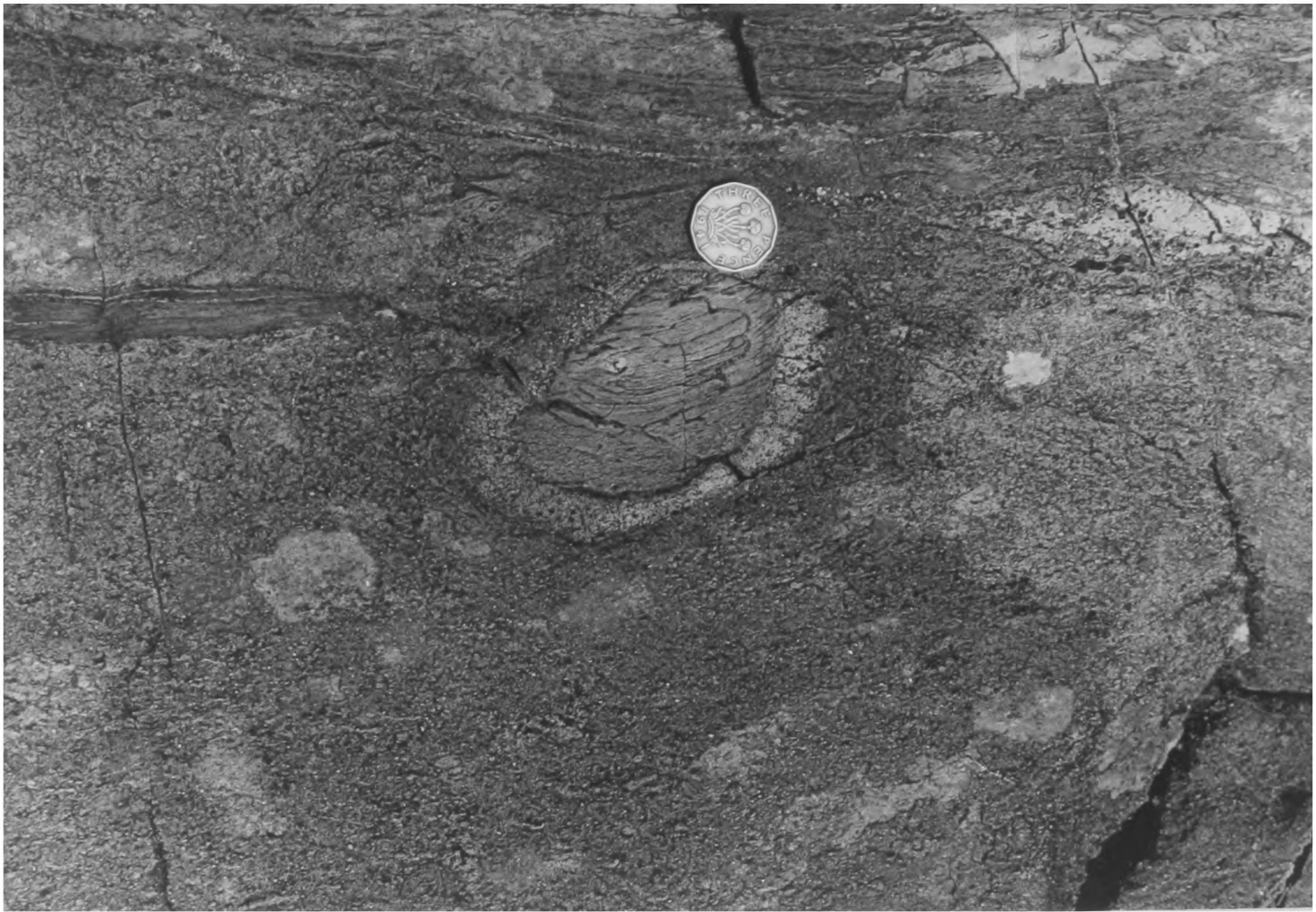


PLATE 39

Sub-facies D1 showing parallel- and cross-laminated thin sandstone beds interlayered with silty mudstone. Lettergesh Formation, section 33.

PLATE 40

Sub-facies D2 showing silty mudstone with laminae of fine-grained sandstone. Gowlaun Member, section 1.



PLATE 41

Facies F, silty streak, showing discontinuous laminae of fine-grained sandstone on siltstone in silty mudstone. Middle Member, Lough Muck Formation, section 15.

PLATE 42

Facies G, oscillatory facies. Middle Member, Lough Muck Formation, section 15.



PLATE 43

Facies H, siltstone with thin parallel- and cross-laminated beds of fine-grained sandstone. Upper Member, Lough Muck Formation, section 14.

PLATE 44

Facies I, massive erosive-based sandstone. The complex consists of a number of beds, the lowermost resting sharply on mudstone with slump balls of sandstone. Lower Member, Lough Muck Formation, section 19.

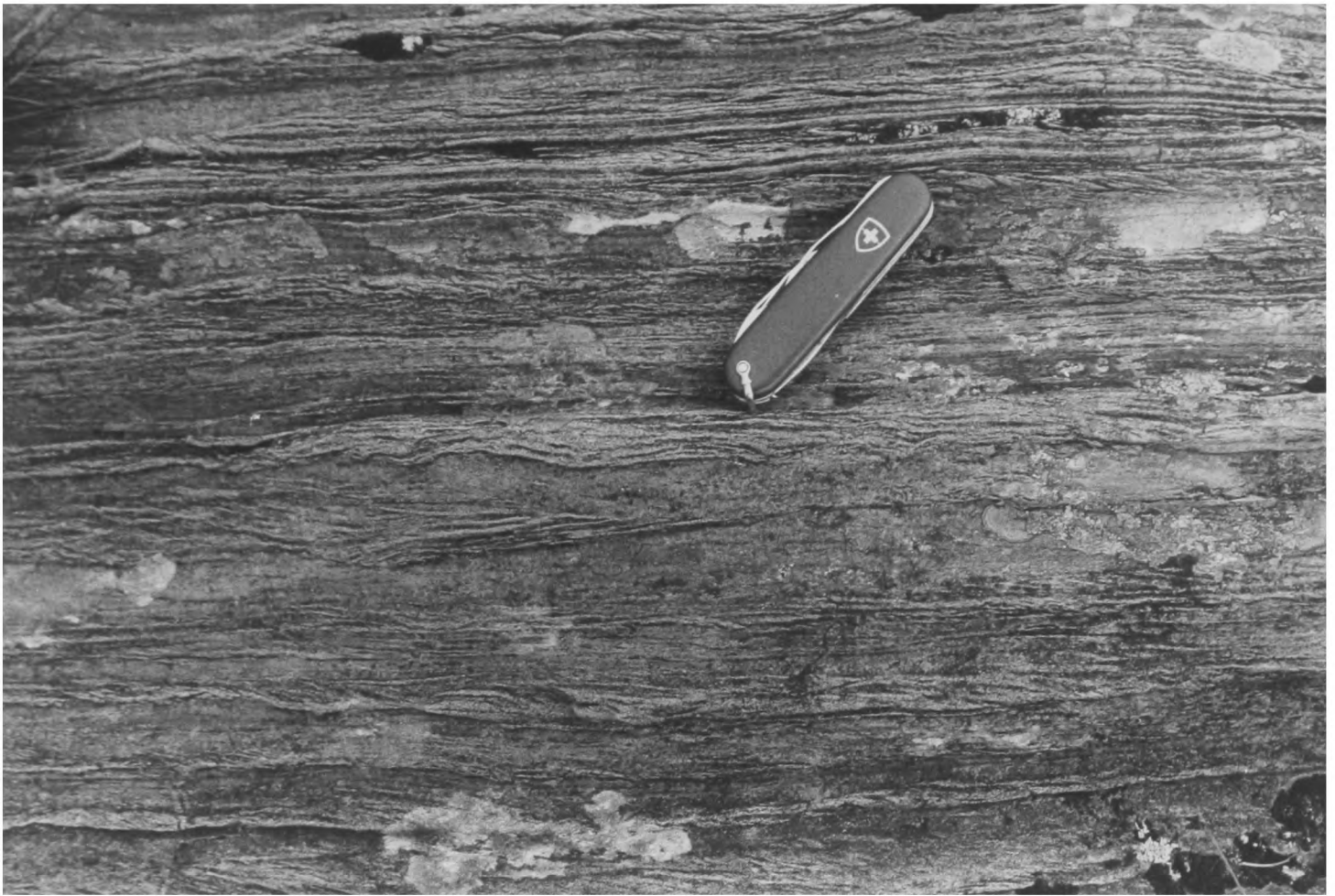


PLATE 45

Massive sandstone bed of Facies I, with its base sharply cross-cutting parallel- and cross-bedded strata of Facies J and L. Middle Member, Lough Muck Formation, section 17.

PLATE 46

Internal erosion and channelling in Facies I massive sandstone. Lower Member, Lough Muck Formation, section 17.



PLATE 47

Massive sandstone complex showing two horizons of mudflakes, the lower one at the base of the bed (right). The basal portion also contains a concentration of fossils, mainly brachiopods. Middle Member, Lough Muck Formation, section 26.

PLATE 48

Fossils within the base of a massive sandstone bed of Facies I resting in a small channel cut into Facies E mudstone which is also fossiliferous. Pocket-knife marks the junction of the two lithologies. Middle Member, Lough Muck Formation, section 24.



PLATE 49

Herring-bone cross-bedded sandstones of Facies J. Coin is 1.9 cm. in diameter.

Upper Member, Lough Muck Formation, section 14.

PLATE 50

Facies K "knitted beds" showing frequent change in the direction of dip of cross laminae at the same horizon. Upper Member, Lough Muck Formation, section 34.

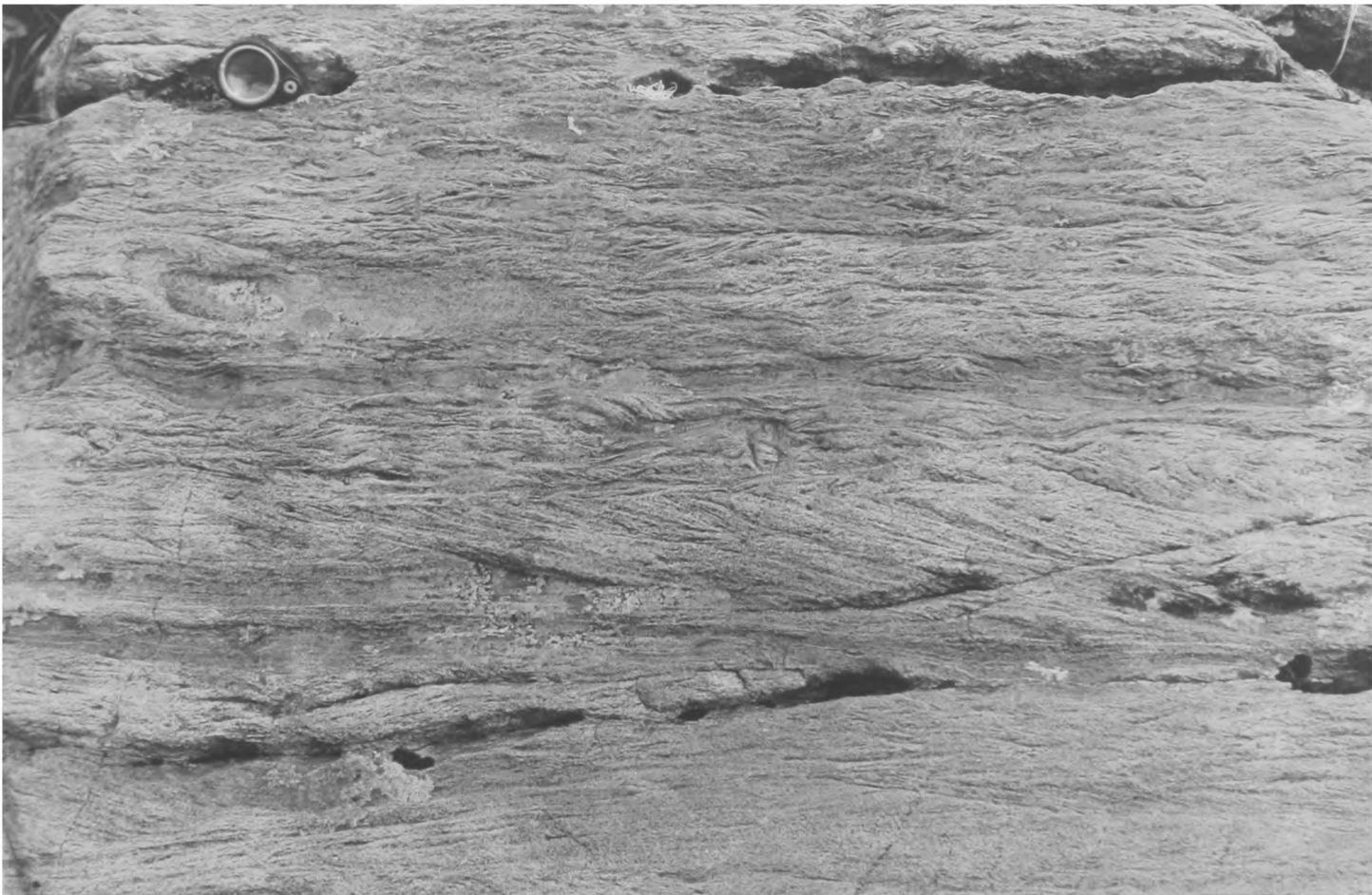


PLATE 51

Parallel-bedded sandstones of Facies L. Salrock Formation, section 14.

PLATE 52

**Facies M "spaghetti beds", showing lenses of fine-grained sandstone
in mudstone. Match is approximately 4.5 cm. long. Upper Member, Lough
Muck Formation, section 35.**



PLATE 53

**Facies M "spaghetti beds" showing wave-modification of fine-sandstone lenses
in mudstone. Same locality as Plate 52.**

PLATE 54

**"Flame structure" in tuff of Facies N. Note parallel-laminated top to bed
(upper). Salrock Formation, section 12.**

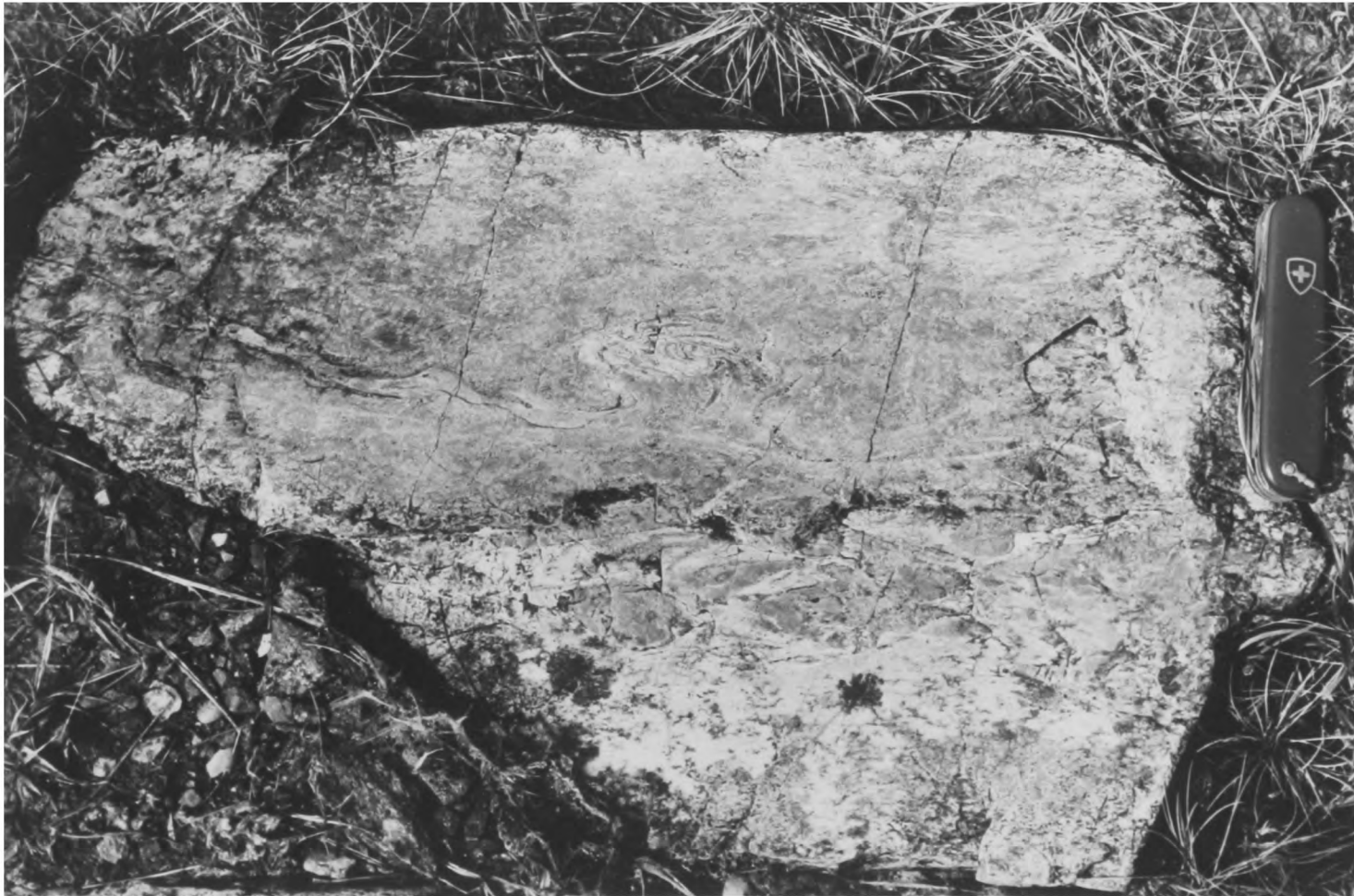
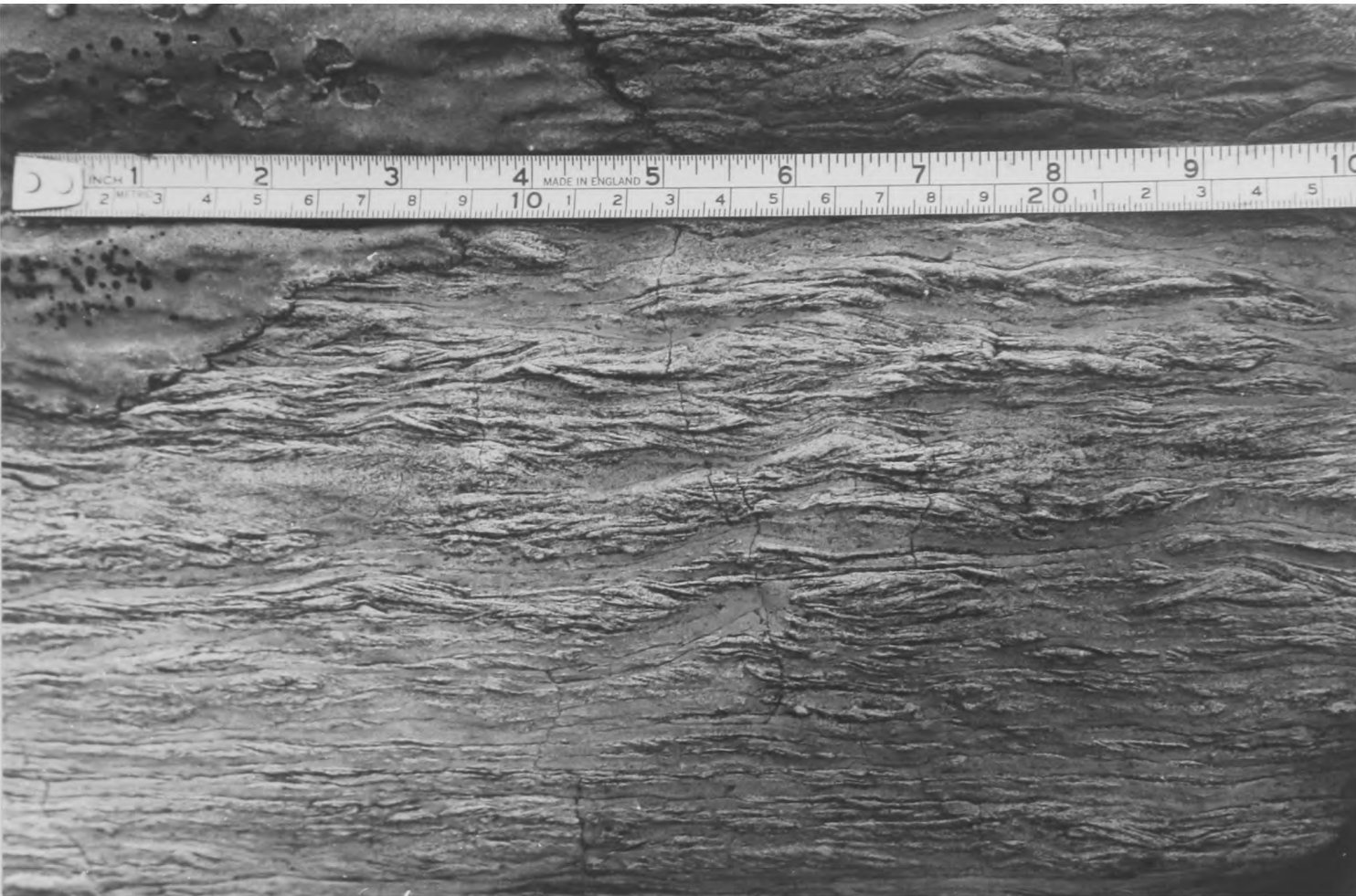


PLATE 55

**Probable loading at the base of thin tuff beds (younging upwards in photograph).
Salrock Formation, section 14.**

PLATE 56

**Slump bed in Facies C graded sandstones showing detached and folded strata.
Letterettrin Member 1, section 7.**

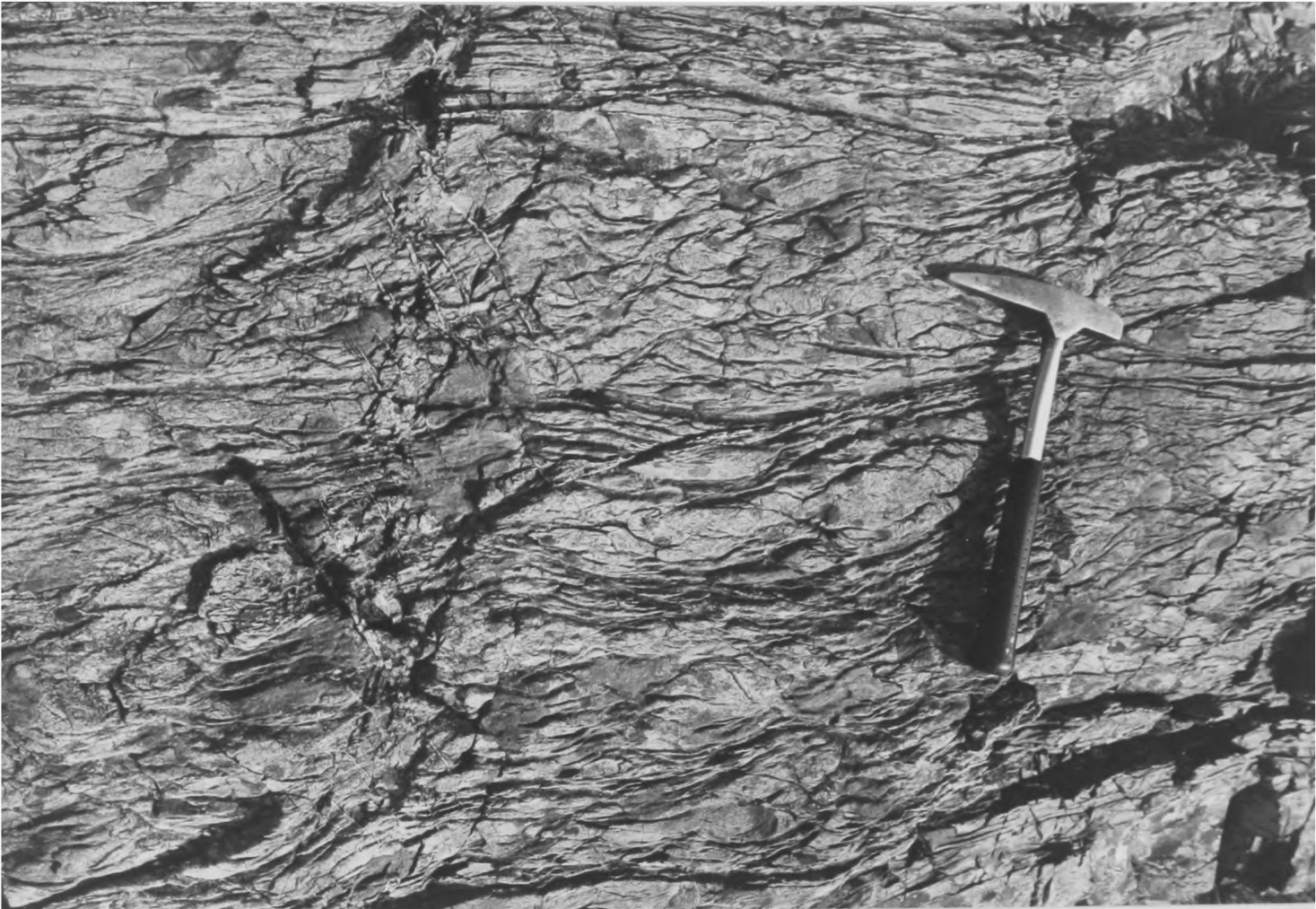


PLATE 67

Detached slump fold in parallel-laminated sandstone incorporated in silty mudstone. Lower Member, Lough Muck Formation, section 17.

PLATE 68

Overfold in Facies H thin sandstone beds, with one limb attached. Middle Member, Lough Muck Formation, section 18.



PLATE 59

Large overfold in Facies L parallel-bedded sandstones, with presumed downslope limb attached. Upper Member, Lough Muck Formation, section 35.

PLATE 60

Slump scar infilled with draped sediments of the same lithology (alternating thin siltstone and fine-grained sandstone beds) as that of the surrounding strata. Middle Member, Lough Muck Formation, section 9.

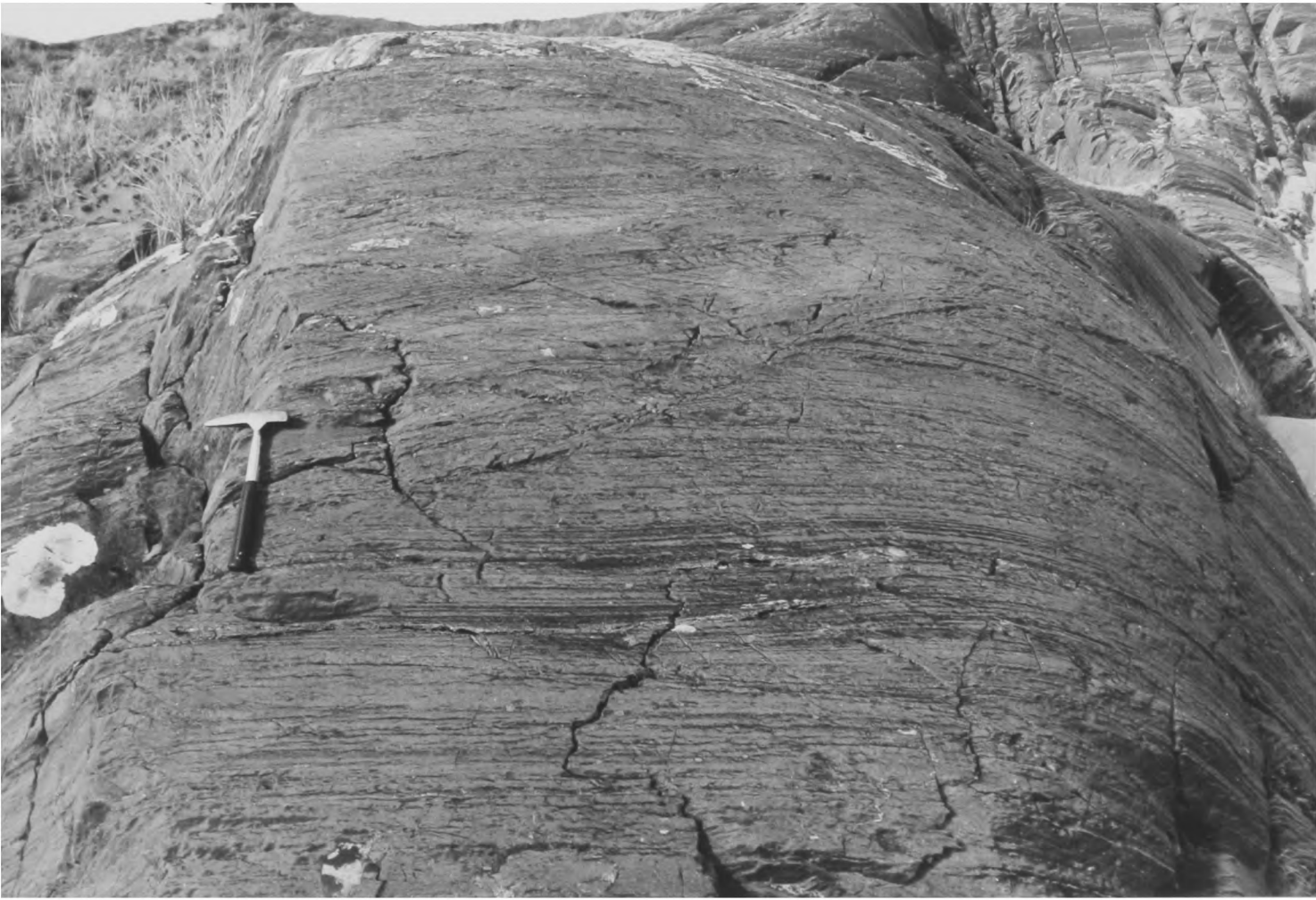
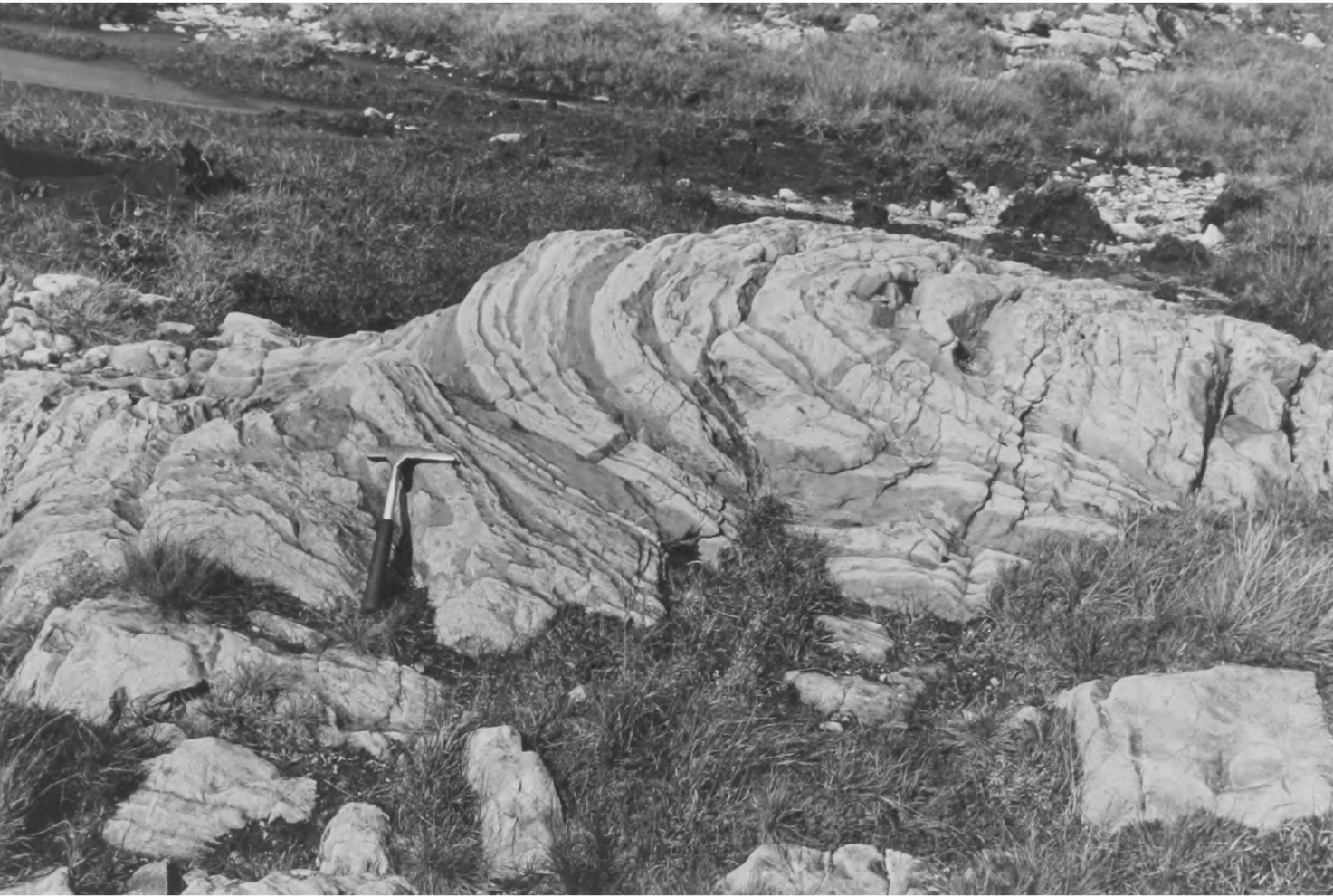


PLATE 61

Rotated packet resting on a basal shear surface. Both the rotated strata and those underlying consist of alternating beds of very fine sandstone and bundles of fine sandstone laminae. Middle Member, Lough Muck Formation, section 15.

PLATE 62

Rotated packets of strata resting on basal shear surfaces. Two blocks of sediment have slipped and rotated, leaving a hole in which the overlying strata are draped. Strata are similar in lithology to those in Plate 61. Same locality as Plate 61.



PLATE 63

**Horizontal trails on the base of a parallel-bedded sandstone of Facies L.
Upper Member, Lough Muck Formation, section 14.**

PLATE 64

**Horizontal burrows on the base of a graded sandstone bed of sub-facies C2.
LetterettrIn Member, section 17.**

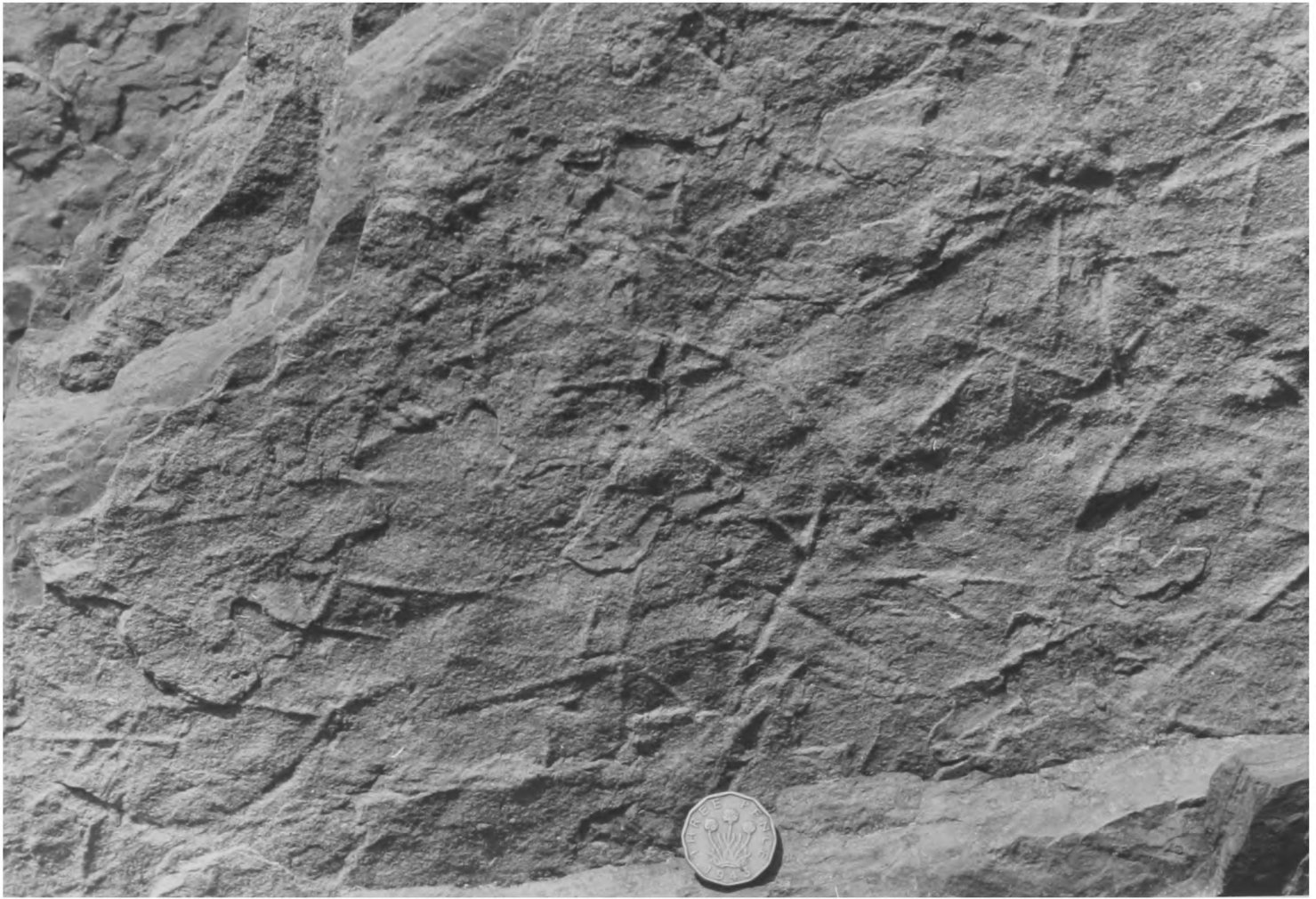


PLATE 65

Post-depositional burrows cutting grooves on the base of a thin graded sandstone bed of sub-facies C3. Glencraff Formation, section 17.

PLATE 66

Mottling of a Facies E massive siltstone bed due to horizontal burrows. Middle Member, Lough Muck Formation, section 15.

