

PROCEEDINGS
OF THE
YORKSHIRE
GEOLOGICAL SOCIETY

VOLUME 40 : 1973—1976

EDITED BY

A. G. FRASER
D. W. HOLLIDAY
P. D. LAMMING

AND

P. F. RAWSON

Printed for the Yorkshire Geological Society by
A. BROWN & SONS LIMITED
PERTH STREET WEST, HULL

DATES OF ISSUE

Parts 1 to 4

No. 1	pp. 1-22	....	....	....	....	....	31st December 1973
No. 2	pp. 23-40	....	....	....	....	....	22nd March 1974
No. 3	pp. 41-48, Pl. 1	....	....	....	....	....	22nd March 1974
No. 4	pp. 49-62	....	....	....	....	....	22nd March 1974
No. 5	pp. 63-104, Pls. 2-11	....	....	....	....	....	9th August 1974
No. 6	pp. 105-114, Pl. 12	....	....	....	....	....	9th August 1974
No. 7	pp. 115-118	....	....	....	....	....	9th August 1974
No. 8	pp. 119-128	....	....	....	....	....	9th August 1974
No. 9	pp. 129-180, Pls. 13-18	....	....	....	....	....	9th August 1974
No. 10	pp. 181-190	....	....	....	....	....	9th August 1974
No. 11	pp. 191-194	....	....	....	....	....	30th August 1974
No. 12	pp. 195-198	....	....	....	....	....	30th August 1974
No. 13	pp. 199-210	....	....	....	....	....	30th August 1974
No. 14	pp. 211-222	....	....	....	....	....	11th October 1974
No. 15	pp. 223-232	....	....	....	....	....	11th October 1974
No. 16	pp. 233-288, Pl. 19	....	....	....	....	....	7th February 1975
No. 17	pp. 289-296	....	....	....	....	....	14th March 1975
No. 18	pp. 297-308, Pls. 20-22	....	....	....	....	....	14th March 1975
No. 19	pp. 309-318	....	....	....	....	....	14th March 1975
No. 20	pp. 319-334, Pl. 23	....	....	....	....	....	14th March 1975
No. 21	pp. 335-352	....	....	....	....	....	21st March 1975
No. 22	pp. 353-372	....	....	....	....	....	21st March 1975
No. 23	pp. 373-412	....	....	....	....	....	21st March 1975
No. 24	pp. 413-418	....	....	....	....	....	21st March 1975
No. 25	pp. 419-430	....	....	....	....	....	14th July 1975
No. 26	pp. 431-458, Pls. 24-29	....	....	....	....	....	14th July 1975
No. 27	pp. 459-490, Pls. 30-31	....	....	....	....	....	21st November 1975
No. 28	pp. 491-498	....	....	....	....	....	21st November 1975
No. 29	pp. 499-504	....	....	....	....	....	21st November 1975
No. 30	pp. 505-536, Pls. 32-38	....	....	....	....	....	12th December 1975
No. 31	pp. 537-546, Pls. 39-46	....	....	....	....	....	12th December 1975
No. 32	pp. 547-562, Pls. 47-50	....	....	....	....	....	12th December 1975
No. 33	pp. 563-566	....	....	....	....	....	12th December 1975
No. 34	pp. 567-580	....	....	....	....	....	23rd January 1976
No. 35	pp. 581-600	....	....	....	....	....	23rd January 1976
No. 36	pp. 601-612	....	....	....	....	....	23rd January 1976
No. 37	pp. 613-630, Pl. 51	....	....	....	....	....	23rd January 1976
No. 38	pp. 631-638	....	....	....	....	....	2nd February 1976
No. 39	pp. 639-652, Pl. 52	....	....	....	....	....	2nd February 1976

Index and Title pages

No. 40	pp. 653-661, i-vii	
--------	--------------------	------	------	------	------	------	--

CONTENTS

	<i>page</i>
ARCHER, R., see Donovan and Archer	
ASHTON, M. A new section in the Lincolnshire Limestone of South Humberside and its significance	419
BANKS, N. L., see Collinson and Banks	
BRIGGS, D. J. and R. HARTNUP. Small-scale folds in the Permian rocks of South Yorkshire	309
BURGESS, I. C. and M. MITCHELL. Viséan lower Yoredale limestones on the Alston and Askrigg Blocks, and the base of the D ₂ zone in northern England	613
BURGESS, I. C., see Holliday, Burgess and Frost	
CASEY, R. and R. W. GALLOIS. The Sandringham Sands of Norfolk	1
CATT, J. A., A. H. WEIR and P. A. MADGETT. The loess of eastern Yorkshire and Lincolnshire	23
COLLINSON, J. D. and N. L. BANKS. The Haslingden Flags (Namurian G ₁) of south-east Lancashire; bar-finger sands in the Pennine Basin	431
DARBYSHIRE, D. P. F., see Wadge, Harding and Darbyshire	
DONOVAN, R. N. and R. ARCHER. Some sedimentological consequences of a fall in the level of Haweswater, Cumbria	547
DOUGHTY, P. S. <i>Davidsonina (Cyrina) septosa</i> (Phillips) and the structure of the Viséan Great Scar Limestone north of Settle, Yorkshire	41
DOUGHTY, P. S. The structure of the Viséan Limestones between the Craven Faults, Settle, Yorkshire: a reply	564
DUNHAM, K. C. Granite beneath the Pennines in north Yorkshire	191
EARLAND-BENNETT, P. M., see Senior and Earland-Bennett	
EDMONDS, J. M. The geological lecture-courses given in Yorkshire by William Smith and John Phillips, 1824-1825	373
ELLIOTT, T. The sedimentary history of a delta lobe from a Yoredale (Carboniferous) cyclothem	505
FROST, D. V., see Holliday, Burgess and Frost	
GALLOIS, R. W. A borehole section across the Barremian-Aptian boundary (Lower Cretaceous) at Skegness, Lincolnshire	499
GALLOIS, R. W., see Casey and Gallois	
GAUNT, G. D. A radiocarbon date relating to Lake Humber	195
GAUNT, G. D. The Devensian maximum ice limit in the Vale of York	631

CONTENTS

	<i>page</i>
HARDING, R. R., see Wadge, Harding and Darbyshire	
HARTNUP, R., see Briggs and Hartnup	
HATTON, A. A., see Hornung and Hatton	
HEMINGWAY, J. E. and J. S. OWEN. William Smith and the Jurassic coals of Yorkshire	297
HEMINGWAY, J. E. and M. Y. TAMAR-AGHA. The effects of diagenesis on some heavy minerals from the sandstones of the Middle Limestone Group in Northumberland	537
HOLLIDAY, D. W., I. C. BURGESS and D. V. FROST. A recorelation of the Yoredale Limestones (Upper Viséan) of the Alston Block with those of the Northumberland Trough	319
HORNUNG, M. and A. A. HATTON. Deep weathering in the Great Whin Sill, northern England	105
HOUSE, M. R. Facies and time in Devonian tropical areas	233
HOUSE, M. R. Faunas and time in the marine Devonian	459
INESON, P. R., see Mitchell and Ineson	
JOHNSON, P. G. Evidence for abandoned river courses in the west of the Vale of York	223
LEEDER, M. R. Lower Border Group (Tournaisian) fluvio-deltaic sedimentation and palaeogeography of the Northumberland Basin	129
MADGETT, P. A., see Catt, Weir and Madgett	
MCCABE, P. J. The structure of the Viséan Limestones between the Craven Faults, Settle, Yorkshire: a discussion	563
MITCHELL, J. G. and P. R. INESON. Potassium-argon ages from the graphite deposits and related rocks of Seathwaite, Cumbria	413
MITCHELL, M., see Burgess and Mitchell	
ORME, G. R. Silica in the Viséan limestones of Derbyshire, England	63
OWEN, J. S., see Hemingway and Owen	
PARKER, A. The clay mineralogy and some trace element contents of the Speeton Clay	181
PARSONS, C. F. The Bajocian stratigraphy of eastern England	115
PITTY, A. F. Water temperatures in the limestone areas of the central and southern Pennines	601
POWER, G. and I. D. SOMERVILLE. A preliminary report on the occurrence of minor sedimentary cycles in the	

CONTENTS

	<i>page</i>
Middle White Limestone (D ₁ , Lower Carboniferous of North Wales	491
SENIOR, J. R. The Middle and Upper Jurassic succession at Boltby Moor, near Thirsk, Yorkshire	289
SENIOR, J. R. and P. M. EARLAND-BENNETT. The Bajocian stratigraphy of eastern England: a reply	117
SMITH, D. B. The Upper Permian sabkha sequence at Quarry Moor, Ripon, Yorkshire	639
SOMERVILLE, I. D., see Power and Somerville	
SPEARS, D. A. Mineralogy and geochemistry of some Quaternary deposits in the Vale of York	353
TAMAR-AGHA, M. Y., see Hemingway and Tamar-Agha	
VERSEY, H. C. History of Yorkshire geology	335
WADGE, A. J., R. R. HARDING and D. P. F. DARBYSHIRE. The rubidium-strontium age and field relations of the Threlkeld Microgranite	211
WEIR, A. H., see Catt, Weir and Madgett	

Annual Reports	119, 567
Field Meetings	53, 199, 581
Obituaries	49, 578
Index	653

LIST OF PLATES

	<i>facing page</i>
1 Geological map of the Viséan limestones between the South/Middle and North Craven Faults near Settle	47
2 Photomicrographs of fossiliferous cherts	104
3 Photomicrographs of fossiliferous cherts	104
4 Small-scale quartz replacements	104
5 Photomicrographs of quartz and quartzose limestones	104
6 Photomicrographs of quartz-rock	104
7 Photomicrographs illustrating the development of coarse recrystallization mosaics from spherulites of chalcedony	104
8 Chert and limestones	104
9 Photomicrographs illustrating quartz-rock and fluorite relationships	104
10 Silica fabrics	104
11 Geological map of the Pin Dale-Bradwell Moor area	104
12 Deeply weathered section at Holwick Scars, Yorkshire	114
13 Channel sandstones of facies association 1	180
14 Main Algal Formation sediments in Birky Cleugh	180
15 Sandstones and siltstones of facies association 3B	180
16 Specimen and section of rippled sandstone from bed C, Plate 15	180
17 Graphical summary logs of sedimentary facies	180
18 Block diagram to summarize facies variations of the Lower Border group successions	180
19 Distribution of Devonian rocks in Europe, North America and part of North Africa	233
20 Part of the title page of Smith's reports on the coal at Gripe Howe and Borrowby	308
21 Cliff section near the coal adit	308
22 "Section of Strata bored thro' on the Moors 1813"	308
23 Correlation of the Yoredale limestones of northern England	334
24 Sedimentary structures in the Haslingden Flags	458
25 Sediments and structures in the Haslingden Flags	458
26 Trace fossils in the Haslingden Flags	458
27 Heys Britannia Quarries and Green's Moor Quarry	458
28 Sections in the Upper Haslingden Flags in the Central Plateau area	458
29 Sections in the Upper Haslingden Flags in the area of the Britannia Quarries, Whitworth....	458

LIST OF PLATES

		<i>facing page</i>
30	Devonian fossils and sediments	490
31	Devonian fossils and sediments	490
32	Fluvial-distributary in Rogerley Quarry, Stanhope	536
33	Laminated sandstone and coarsening upwards sequence	536
34	Coarsening upwards sequence	536
35	Laminated and burrowed facies	536
36	Representative sample of sections in the Weardale traverse	536
37	Teesdale traverse sections and the solitary Lunedale section	536
38	Main sections of the Stainmore traverse	536
39	Electron micrographs of garnet from sandstones of the Sandbanks Cyclothem at Beadnell	546
40	Garnet and tourmalines from the sandstones of the Sandbanks Cyclothem at Beadnell	546
41	Electron micrographs of garnets from modern beach sand	546
42	Electron micrographs of rutile from the sandstones of the Sandbanks Cyclothem at Beadnell	546
43	Electron micrographs of tourmaline from the sandstones of the Sandbanks Cyclothem at Beadnell	546
44	Outgrowth on a detrital grain of tourmaline: distribu- tion maps for silicon, aluminium and iron....	546
45	Zircon from the sandstones of the Sandbanks Cyclothem at Beadnell, and modern beach garnet artificially etched	546
46	Electron micrographs of authigenic pyrite from sand- stones of the Eelwell Cyclothem at Beadnell	546
47	Haweswater and Arnold Bridge	562
48	Gravel and sand delta: multiple shoreline of regression....	562
49	Desiccation cracks	562
50	Multiple shorelines of regression: desiccation cracks	562
51	Correlation of the lower Yoredale limestones between the Alston and Askrigg Blocks	630
52	Sections of Permian sabkha sediments	652