Excursion planner

List of excursions

1. Building stones of Glasgow

2. Fossil Grove

3. Milngavie and Mugdock

4. Baldernock and Blairskaith

5. Campsie Glen

6. Corrie Burn

7. Dumbarton Rock

8. Ardmore Point and Auchensail

9. Balmaha

10. Aberfoyle district

11. Loch Lomondside

12. Sithean Sluaigh

13. Rosneath Peninsula and Loch Long

14. Greenock to Largs

15. Great Cumbrae

16. Upper Old Red Sandstone of the Firth of Clyde

17. Saltcoats

18. Loanhead Quarry

19. Boyleston Quarry

20. Trearne Quarry

21. Hagshaw Hills

22. Lesmahagow

23: Lugar Sill and Mauchline

24. Heads of Ayr

The Girvan-Ballantrae District (25–31)

25. Pinbain Block

26. Knocklaugh

27. Bennane Head to Downan Point

28. Dow Hill, Byne Hill and Ardmillan Braes

29. Upper Stinchar Valley and adjacent areas

30. Girvan Foreshore

31. The Craighead Inlier

32. Dob's Linn

33. Quaternary

Standards of excursions

a) Less advanced–but can provide advanced study as well: 1, 2, 3, 4, 5, 6, 7, 8, 14, 15, 17, 18, 19, 20, 21, 23, 24, 31, 33 (excursion) plus introductory itineraries for Girvan (25 to 30) and Dob's Linn (32).

b) More advanced–but with impressive exposures for all levels of knowledge and explanation of the more advanced features in most cases:

9–faulting and terrane development

10–cleavage and overfolding

11–polyphase deformation

12–a metamorphic aureole

13–Dalradian structures

16–alluvial palaeoenvironments in Old Red Sandstone

20–palaeoecology in the Carboniferous

22–arthropods and early fish (Silurian)

25 to 30–history of the Girvan area (plate tectonics)

32–graptolite succession

33–Quaternary (account)

Topics in excursions

The Stratigraphical Summary (Table 0.1) indicates which excursions are most suitable for studying particular examples of the following:

1. Stratigraphical systems
2. Rock groups or important formations
3. Sedimentary facies
4. Faunal associations

More detailed information is given under the heading Features at the beginning of each excursion account.

The following topics are not adequately covered in (Table 0.1).

1. Igneous intrusions

a) sills: excursions 3, 17, 23

b) dykes: excursions 3, 14, 15, 17, 18, 24, 25, 30

c) plugs and vents: excursions 7, 12, 24

2. Metamorphism excursions 10, 11, 12, 13

3. Structural features

a) simple folds: excursion 8

b) complex folds: excursions 10, 11, 13, 25

c) minor faults (visible): excursions 7, 8,13,14,15,24, 27, 28, 29, 30, 32

d) major faults (not usually visible): excursions 5, 6, 9, 10

e) cleavage: excursions 10, 11, 13

4. Fossil collecting

a) Ordovician and Silurian shells: excursions 28, 29, 30, 31

b) Ordovician and Silurian graptolites: excursion 32

c) Devonian plants: excursion 8

d) Carboniferous shells: excursions 4, 5, 6, 20

e) Carboniferous plants: excursion 2

5. Mineral collecting excursions 18, 19, 20

Timing of excursions

Estimates of the time needed for each excursion are provided at the beginning of each account. In some cases a shortened itinerary is suggested.

1. Suitable for half-day or summer evening Excursions 2, 3, 4, 5, 6, 7, 8, 9, 17, 18, 19, 20
2. Combinations of above geographically convenient for a day trip Excursions 1 and 2: 3 and 4: 7 and 8: 18 and 19: 18 and 20
3. Week-end trip Selected localities in the Girvan and Ballantrae area from Excursions 25 to 31. See Introduction to Girvan–Ballantrae section.

Maps

The 1: 63 360 and 1 : 50 000 geological (BGS) maps which cover the area are shown on (Figure 0.4).

The following O.S. 1 : 50 000 maps cover the excursion area:

56 Inveraray and Loch Lomond

57 Stirling and The Trossachs

63 Firth of Clyde

64 Glasgow

70 Ayr and Kilmarnock

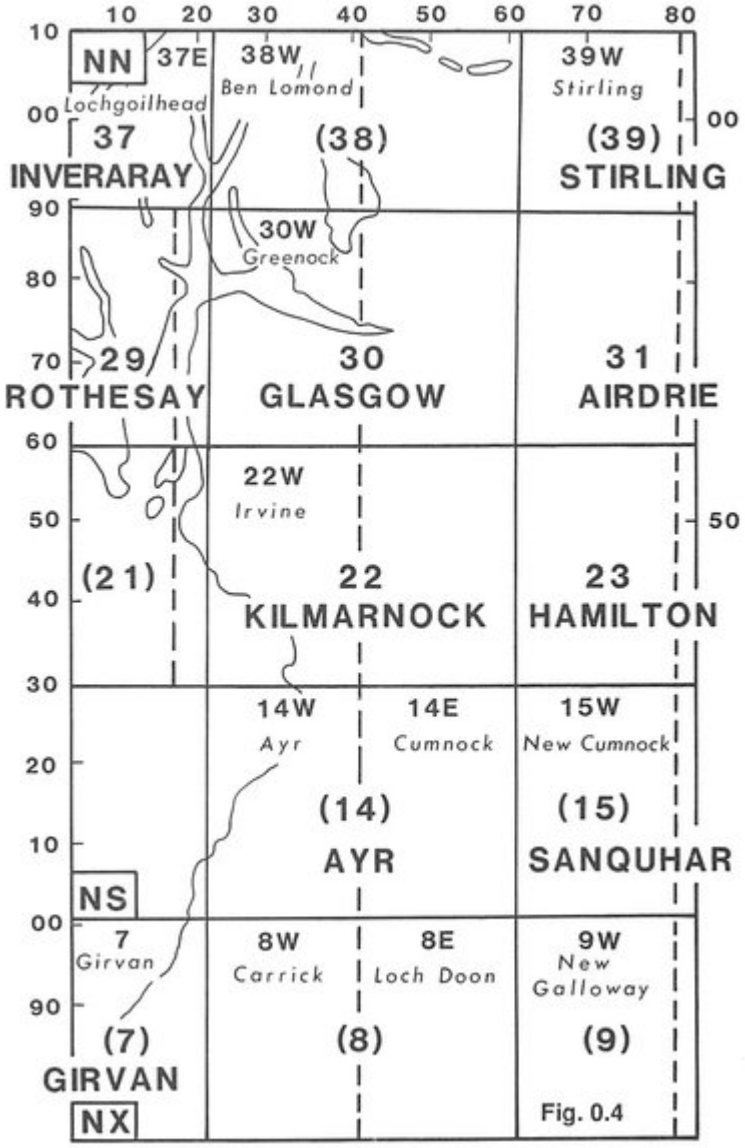
71 Lanark and Upper Nithsdale

76 Girvan

79 Hawick and Eskdale

AGE Ma	SYSTEM and PERIOD	MAJOR ROCK UNITS	MAIN ROCK TYPES and SELECTED FORMATIONS	FOSSIL GROUPS	ENVIRONMENT	EXCURSIONS (Shortened titles)	PALAEO LATITUDE
2	QUATERNARY		glacial deposits, alluvium, raised beach deposits, peat	marine shells	glacial erosion & deposition changes of sea level	**33.** Quaternary **5.** Campsie	50°N
65	TERTIARY	not present in this area but represented on the Isle of Arran					40°N
145	CRETACEOUS						
205	JURASSIC						30°N
250	TRIASSIC						
290	PERMIAN	Mauchline Sandstone	red dune-bedded sandstones lavas and ashes		sand deserts - wind from east: vulcanicity	**23.** Lugar etc	
	CARBONIFEROUS	Coal Measures	mudstones, sandstones, coals Barren Red Measures at top	non-marine bivalves plants	forested tropical swamps, rivers and lakes	**17.** Saltcoats	8°N
		Passage Group	coarse cross-bedded sandstones, fireclays: some lavas	plants	large rivers and deltas	**17.** Saltcoats **24.** Heads of Ayr	
		Up. Limestone Gp.	sandstones, shales, limestones (Giffnock Sdstn., Orchard Lstn.)	bivalves brachiopods	cyclical deposition of muds, deltaic sands		
		Limestone Coal Gp.	sandstones, shales, coals	bivalves, plants Lingula	swamp vegetation (to form coals) with	**2.** Fossil Grove	0°
		Lr.Limestone Gp.	shales, limestones, sandstones (Hurlet & Blackhall Limestones)	brachiopods, corals, bivalves, crinoids	marine incursions (limestones)	**20.** Treame, **4.** Blairskaith, **6.** Corrie Burn, **5.** Campsie	
		Calciferous Sdstn. Measures	lstns. & shales (Ballagan Beds) Clyde Plateau Lavas: sandstones	rare ostracodes	lagoons and vulcanicity	**5.** Campsie, **3.** Milngavie **7.** Dumbarton, **18.** Loanhead	5°S
360	DEVONIAN	Upper Old Red Sandstone	less coarse conglomerates redder sdstns., cornstones	plants rare fish	alluvial sedimentation in a strike-slip fault regime	**16.** Clyde ORS, **15.** Cumbrae **14.** Greenock, **24.** H. of Ayr	
		Lower Old Red Sandstone	coarse red conglomerates and sandstones: lavas in Ayrshire	plants rare fish		**9.** Balmaha, **16.** Clyde ORS, **8.** Ardmore	10°S
410	SILURIAN	Girvan & Midland Valley inliers	conglomerates, sdstns, shales passing up into red beds	brachiopods trilobites, fish	shallowing sea becoming non-marine	**30.** Girvan, **31.** Craighead **21.** Hagshaw, **22.** Lesmahagow	
		Southern Uplands	greywackes, black shales, mdstns. (Birkhill Shales)	graptolites	oceanic muds with turbidites	**32.** Dob's Linn	0°
440	ORDOVICIAN	Highland Border Complex (L&U.O.)	spilites, black shales, cherts, serpentinite: sdstn. & lstn.	brachiopods rare	oceanic muds, oozes: ophiolite evolution	**9.** Balmaha **10.** Aberfoyle	
		Girvan Cover rocks (U.O.)	conglomerates, greywackes, shales, limestones	trilobites graptolites	proximal fore-arc basin variable depth	**29.** Stinchar Valley **28.** Dow Hill, **30.** Girvan	15°N
	U.O. = upper Ord.	Ballantrae Complex (L.O.)	black shales, cherts, spilites, serpentinite, gabbro etc.	rare graptolites rare radiolaria	volcanic arc and marginal basin	**27.** Bennane Hd. **25.** Pinbain **26.** Knocklaugh, **28.** Dow Hill	
	L.O. = lower Ord.	Southern Uplands (U.O.)	greywackes, black shales, cherts, (Hartfell Shales)	graptolites	oceanic muds with turbidites	**32.** Dob's Linn	
510	CAMBRIAN	?					25°N
570	PRECAMBRIAN	Southern Highland Group	schistose grits (Ben Ledi Grits) slates, phyllites (Aberfoyle Slates)		oceanic muds with turbidites	**11.** L.Lomond, **13.** Rosneath **10.** Aberfoyle	

(Table 0.1) Stratigraphical succession for the Glasgow Girvan areas.



(Figure 0.4) Map showing the present coverage of the area by British Geological Survey (B.G.S.) maps. The names in bold with the larger numbers indicate the older series of maps, some of which (with numbers in brackets) can no longer be purchased. The italicised names with smaller numbers are for recent maps: there are now separate sheets for the western and eastern parts and their boundaries are shown by broken lines. The Irvine map (22W) is as yet only in Drift edition. More of the new maps will be forthcoming. The National Grid squares are indicated.