Tables

Gill Beck

(Table 1.1) Carboniferous-Permian Igneous Rocks Block: GCR networks and site selection criteria.

Site name	GCR selection criteria
Chapter 2	Dinantian volcanic rocks of the Midland Valley of
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North Berwick Coast	Hills Volcanic Formation. Exceptional examples of tuff-rings and small-scale volcanic vents. Internationally important for crustal and mantle xenoliths.
Garleton Hills	Representative of the trachytic upper member of the Garleton Hills Volcanic Formation and of Dinantian trachytic volcanism in general.
Traprain Law	Representative of the silica-undersaturated, highly evolved intrusions of East Lothian. Exceptional example of a laccolith.
Arthur's Seat Volcano	Representative of the Arthur's Seat Volcanic Formation. Exceptional examples of classic volcanic features that dominate the city landscape, influencing development and culture. Internationally important for the historical development of geology and understanding of igneous processes.
Burntisland to Kinghorn Coast	Representative of the Kinghorn Volcanic Formation. Examples of fragmented lava (hyaloclastite) with associated pillow lavas, formed in a marine lava delta.
Touch, Fintry and Gargunnock Hills	Representative of the north-eastern part of the Clyde Plateau Volcanic Formation. Exceptional example of a volcanic escarpment with 'trap' features.
Campsie Fells	Representative of the northern part of the Clyde Plateau Volcanic Formation and of the North Campsie Linear Vent System. Exceptional examples of volcanic vents, remnants of ash copes and plugs.
Dumbarton Rock	and small-scale volcanic vents. Internationally important for crustal and mantle xenoliths. Representative of the trachytic upper member of the Garleton Hills Volcanic Formation and of Dinantian trachytic volcanism in general. Representative of the silica-undersaturated, highly evolved intrusions of East Lothian. Exceptional example of a laccolith. Representative of the Arthur's Seat Volcanic Formation. Exceptional examples of classic volcanic features that dominate the city landscape, influencing development and culture. Internationally important for the historical development of geology and understanding of igneous processes. Representative of the Kinghorn Volcanic Formation. Examples of fragmented lava (hyaloclastite) with associated pillow lavas, formed in a marine lava delta. Representative of the north-eastern part of the Clyde Plateau Volcanic Formation. Exceptional example of a volcanic escarpment with 'trap' features. Representative of the northern part of the Clyde Plateau Volcanic Formation and of the North Campsie Linear Vent
Dunrod Hill	potential international importance. Representative of the dominant member in the western part of the Clyde Plateau
Machrihanish Coast and South Kintyre	Highland Boundary Fault. Exceptional example of a trachyte
Heads of Ayr	comprising the roots of a tuff-ring, with superb three-dimensional coastal exposures. Contains crustal and
Chapter 3	Dinantian rocks of the Northumberland, Solway and Tweed

basins Network

Representative of the Tournaisian Cockermouth Lavas.

Bothel Craggs Quarry Little Mell Fell Quarry Langholm-Newcastleton Hills Lintmill Railway Cutting Hareheugh Craigs Cottonshope Head Quarry Kershope Bridge River Esk, Glencartholm Chapter 4 Ardrossan to Saltcoats Coast (Chapter 5) East Fife Coast Howford Bridge Carron Water **Chapter 5** Arthur's Seat Volcano (Chapter 1) South Queensferry to Hound Point Ardrossan to Saltcoats Coast Lugar Benbeoch

Representative of a tholeiitic andesite lava, rare in the British Carboniferous lava successions and providing evidence for fractionation of the tholeiitic magmas.

Representative of dykes and pyroclastic rocks of a neck, both associated with the Cockermouth Lavas but well to the east of the main outcrop.

Representative of the Tournaisian Birrenswark Volcanic Formation.

Representative of the Tournaisian Kelso Lavas.

Representative of the plugs associated with the Kelso Lavas. A rare composite example.

Representative of the Tournaisian Cottonshope basalts.

Representative of the Visean Kershopefoot basalts.

Representative of the Visean Glencartholm Volcanic Beds.

Silesian and Early Permian volcanic rocks of Scotland Network

Representative of the Namurian Troon Volcanic Member and the Ayrshire Bauxitic Clay Member.

Representative of Late Carboniferous to Early Permian necks. Internationally renowned for cross-sections through the roots of phreatomagmatic tuff-rings at various structural levels. Exceptional examples of crustal and upper-mantle xenoliths.

Representative of the Early Permian Mauchline Volcanic Formation.

Representative of the Early Permian Carron Basalt Formation. Exceptional examples of volcanic rocks interdigitating with contemporaneous fluvial and aeolian sedimentary rocks.

Alkaline basic sills and dykes of Scotland Network,

Representative of alkali dolerite sills of various ages in the eastern Midland Valley. Exceptional examples of both upper and lower contacts that have great historical significance and hence international importance. Spectacular part of the city landscape.

Representative of alkali dolerite sills in the eastern Midland Valley. Internal mineralogical and textural variations are well displayed. Exceptional examples of hydrothermal alteration to 'white trap'.

Representative of the composite alkali dolerite sills of the western Midland Valley. Exceptional examples of internal and external contacts and of metamorphic effects on the sedimentary country rocks.

Internationally important example of a composite, alkaline basic sill, both historically and in recent times.

Representative of the early Permian alkaline basic sills of the western Midland Valley, exhibiting a wide variety of rock-types from peridotite to spectacular late fractionates termed 'lugarite'.

Representative of olivine-rich alkaline basic sills of the western Midland Valley. Exceptional examples of fresh, olivine-rich, nepheline-dolerite.

Craighead Quarry
Dubh Loch
Chapter 6
South Queensferry to Hound Point (Chapter 5)
North Queensferry Road Cuttings
Wallstale
Lomond Hills
Gloom Hill, Dollar
Mollinsburn Cuttings
Corsiehill Quarry
Whin Sill Exposures in Upper Teesdale
Steel Rigg to Sewingshields Crags

Representative of the rare Late Carboniferous to Early Permian intrusions within the Southern Uplands. An exceptionally fresh and visually striking porphyritic nepheline-gabbro, formerly termed an 'essexite'. Visually striking representative of the Late Carboniferous to Permian lamprophyric dykes of the western Highlands. Contains exceptional examples of mantle xenoliths and xenocrysts.

Tholeiitic sills and dykes of Scotland and northern England Network

Representative of the Midland Valley Sill-complex. Exceptional example of a basal contact, exhibiting multiple intrusive sheets and apophyses, chilled margins, thermally altered sedimentary rocks.

Representative of the Midland Valley Sill-complex exhibiting a complete section. Exceptional examples of many of the features that characterize large sills, including baked sediments on top of the sill that prove that it is an intrusion. Representative of the Midland Valley Sill-complex.

Exceptional example of a vertical transgression along a fault plane.

Representative of the Midland Valley Sill-complex forming a prominent scarp feature. Exceptional example of large-scale transgressive contacts and thermal effects above the sill. Equivocal relationships between the sill and alkaline basic plugs have generated much debate.

Representative of the Ochil Fault-intrusion.

Representative of quartz-dolerite dykes of the tholeiitic dyke-swarm of central Scotland. Exceptional examples of horizontal columnar joints.

Representative of basalt dykes of the tholeiitic dyke-swarm of central

Scotland. Exceptionally well-exposed vertical contacts and horizontal columnar joints.

Representative of the thickest part of the Great Whin Sill at its lowest stratigraphical level. Nationally important landscape features exhibit exceptional examples of many of the features that characterize large sills, including baked sedimentary rocks on top of the sill, which prove that it is an intrusion, transgressive upper and lower contacts, columnar jointing and a pegmatitic central facies.

Representative of the Great Whin Sill forming a major landscape feature of international historical importance. Exceptional features include offsets in the scarp attributed to transgression between stratigraphical levels and baked sedimentary rocks above the sill, which prove that it is an intrusion.

Longhoughton Quarry
Cullernose Point to Castle Point
Budle Point to Harkess Rocks
Greenfoot Quarry
Holy Island
Wydon
Chapter 7
Litton Mill Railway Cutting
Water Swallows Quarry
Tideswell Dale
Calton Hill
Clee Hill Quarries
Barrow Hill

Representative of the Great Whin Sill. Exceptional features include baked sedimentary rocks above the sill, and rafts of sedimentary rock in the upper part, which prove that it is an intrusion. The relationship of the sill to movement on the Longhoughton Fault is also clearly displayed.

Representative of the Great Whin Sill. Exceptional features include well-developed columnar jointing, rafts of baked sedimentary rock and late-stage veins.

Representative of the Great Whin Sill. Exceptional for the large number of rafts of sedimentary rocks with varying orientations. Internationally important for the presence of miniature ropy flow texture on the insides of large vesicles. Representative of the Little Whin Sill.

Representative of the Holy Island dyke subswarm, which is related to the Whin Sill-complex. Exceptional example of an intrusion showing 'step-and-stair' transgression and numerous contact features. Internationally important for the presence of miniature ropy flow texture on the insides of large vesicles.

Representative of the St Oswald's Chapel dyke subswarm, which is related to the Whin Sill-complex. A rare natural inland exposure of a simple dyke.

Carboniferous and Permian igneous rocks of central England and the Welsh Borderland Network

Representative of the upper part of the Visean Upper Miller's Dale Lava of Derbyshire. Exceptional example of the brecciation of a lava flow that terminated in an aqueous environment.

The Water Swallows Sill, representative of the alkali dolerite sills of Derbyshire, is intruded into the Visean Lower Miller's Dale Lava. Exceptional examples of columnar jointing and of mineral layering in the sill.

The Tideswell Dale Sill, representative of the alkali dolerite sills of Derbyshire, is intruded into the Visean Lower Miller's Dale Lava. The sill shows chilled margins and thermal alteration of country rocks.

The Calton Hill Volcanic Complex comprises the remains of a phreatic tuff-ring associated with the Upper Miller's Dale Lava, intruded by basanite sills. Internationally important as the only locality in England at which mantle xenoliths can be found.

The Clee Hills Sill is representative of the West Midlands suite of Late Carboniferous alkali dolerite sills.

The Barrow Hill Complex is an exceptional example of a Westphalian volcanic vent with associated volcanic deposits. Internationally important for the presence of the oldest anatomically preserved conifers found to date.

Middle Hope Spring Cove

Representative of Tournaisian Middle Hope Volcanic Beds of south-west England. Exceptional examples of lapilli-tuffs and pillow lava. Nationally important for the association of igneous, sedimentological and palaeontological features that allow reconstruction of the growth and subsequent subsidence of a volcanic cone on a marine carbonate shelf. Representative of Visean volcanic rocks of south-west England. Exceptional example of a pillow lava erupted under

water in a marine carbonate environment.

Exceptional example of a monchiquite intrusion associated with a Visean volcanic pipe. Internationally important as the only locality in Wales at which mantle xenoliths are found.

Table 2.1 Succession of the Clyde Plateau Volcanic Formation in the northern part of the Touch, Fintry and **Gargunnock hills.** (After Francis et al., 1970, table 7.)

Fintry Hills

Golden Hill Quarry

Touch and Gargunnock hills

Kirkwood Formation

Conglomerates, sandstones and mudstones derived from weathering of Clyde Plateau Volcanic Formation Regional diachronous erosional unconformity -

Touch House Member (thickness not known)

Feldspar-macrophyric olivine basalts

Black Mount Member (>24 metres) Microporphyritic basalts

and subordinate trachybasalts

Fintry Hills Member (>122 metres) Feldspar-macrophyric olivine basalts with a high proportion of microporphyritic basalts and rare trachybasalts

Gargunnock Hills Member (91—>152 metres)

Feldspar-macrophyric olivine basalts and composite basalts with subordinate microporphyritic basalts and rare mugearites

Shelloch Burn Member (40-60 metres) Trachybasalts, microporphyritic basalts and feldspar-macrophyric olivine basalts

Lees Hill Member (0-40 metres) Trachybasalts

Spout of Ballochleam Member (24–92 metres) Feldspar-microphyric basalts; Stronend Interbasaltic Beds in middle part Slackgun Interbasaltic Member (0-79 metres) Tuff (possibly volcanic detritus),I aterites and weathered lavas

–Unconformity—

Skiddaw Member (0–37 metres) Feldspar-macrophyric olivine basalts and composite basalts

Baston Burn Member (9–67 metres) Feldspar-macrophyric olivine basalts

Basal Member (30-46 metres) Trachybasalts, feldspar-macrophyric olivine basalts and feldspar-microphyric basalts

Clyde Sandstone Formation

Fluvial sandstones and conglomerates; some reworked volcaniclastic detritus in upper part

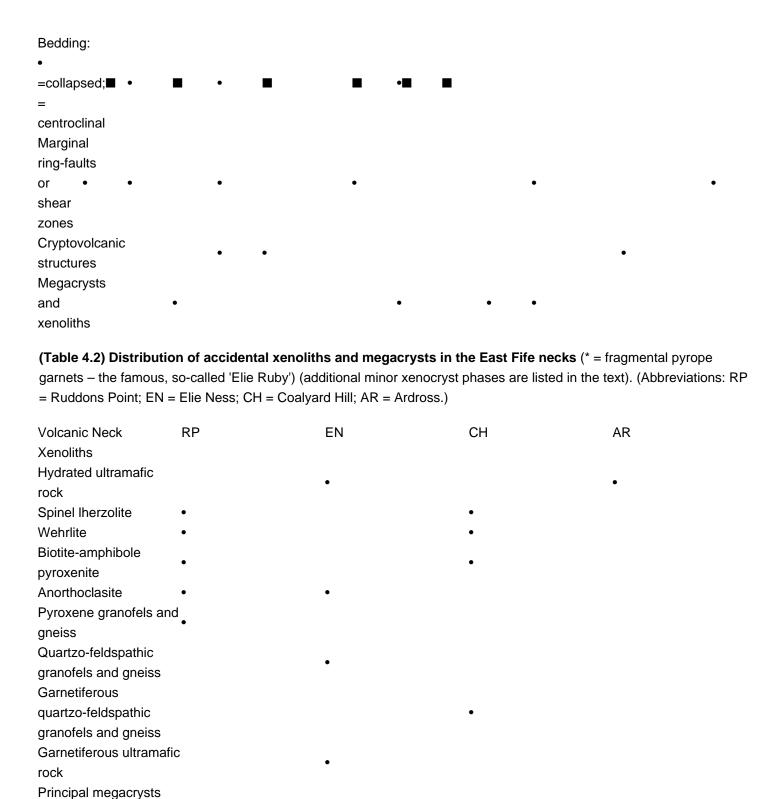
(Table 2.2) Succession of the Clyde Plateau Volcanic Formation in the western Campsie Fells. (After Hall et al., 1998. table 4)

	Lava types	Source		
Holehead Lava Member	Mainly feldspar-macrophyric basalt	Waterhead central volcano		
	('Markle type')	Waternead Central Volcario		
	Microporphyritic basalt, mugearite,	Local centres and North Campsie Linear		
Fin Glen Lava Member	trachybasalt and a persistant phonolitic	Vent System		
	trachyte	veni System		
Upper and Lower North Campsie lava	Microporphyritic basalt, basalticCampsie	e North Campsie Linear Vent System		
members	lava members hawaiite and hawaiite	North Campsie Linear Vent System		

(Table 4.1) Lithological units and features of the volcanic necks between Lundin Links and St Monance, East Fife Coast.

(Abbreviations: LL = Lundin Links; VF = Viewforth; RP = Ruddons Point; KC = Kincraig; CF = Craigforth; CN = Chapel Ness; EH = Elie Harbour; EN = Elie Ness; WL = Wadeslea; AR = Ardross; CH = Coalyard Hill; NW = Newark; DC = Dovecot; DR = Davie's Rock; SM = St Monance.) Based on Francis in Forsyth and Chisholm, 1977, figs 20–24; Upton *et al.*, 1999.

Lithological														
units / LL	VF	RP	KC	CF	CN	EH	EN	WL	AR	СН	NW	DC	DR	SM
Necks														
Basaltic tuff and														
agglomerate	•	•	•	•		•	•	•	•		•			•
(bedded)														
Basaltic														
tuff and														
agglomerate	•	•	•				•	•	•	•	•	•		•
(unbedded)														
Basaltic														
breccia			•			•								
Sediment-der	rived								_					
tuff				•					•	•	•			
Tuffisite		•	•	•	•	•		•	•			•	•	•
breccia														
Tuffisite	•	•	•		•		•					•		•
dyke(s)														
Tuffisite								•	•		•	•		
intrusion(s)														
Basaltic				•		•	•	•	•			•		
dyke(s) Basaltic														
intrusion(s)														
(not		•	•							•			•	•
specified)														
Olivine														
basalt														
and					•	•							•	
basanite														
intrusion(s)														
Olivine-doleri	te					•	•							
intrusion(s)														
Sandstone														
(large														
xenoliths		•	•			•			•	•		•		•
and														
rafts)	_													
Carboniferous					_	_		_						
sedimentary	•	•	•	•	•	•	•	•	•	•	•	•	•	•
rocks														



(Table G1) Local nomenclature of basic igneous rocks of Carboniferous and Permian age in Scotland, as used on Geological Survey maps and in most literature since 1928. Now being replaced by more-standard terminology based on dominant phenocrysts and, where possible, the chemical composition. (pl = plagioclase, ol = olivine, cpx = clinopyroxene, fetiox = iron-titanium oxides.)

and xenocrysts
High-temperature
feldspar — mainly
anorthoclase
Garnet *
Corundum
Zircon

Basalt type of Phenocrysts MacGregor (1928) Macroporphyritic (phenocrysts > 2mm)	Phenocrysts abundant	Phenocrysts may be t present in lesser amounts	Chemical classification after Macdonald (1975)	Type locality
Markle	pl	± ol, fetiox	pl ± ol ± fetiox-phyric hawaiite, basaltic hawaiite or basalt	Markle Quarry, East Lothian
Dunsapie	pl + ol + cpx	± fetiox	ol + cpx + pl ± fetiox- phyric basaltic hawaiite or ol + cpx + pl-phyric basalt	Dunsapie Hill, Edinburgh (neck intrusion)
Craiglockhart	ol + cpx		ol ± cpx-phyric picrobasalt or basanite	Craiglockhart Hill, Edinburgh (flow)
Microporphyritic (phenocrysts < 2mm)			prorosacan di sacarmo	_aa.g.r (e.r.)
Jedburgh pl		± ol, fetiox	pl ± ol ± fetiox-phyric hawaiite, basaltic hawaiite or in some cases basalt	Little Caldon, Stirling shire (plug). Also in Jedburgh area
Dalmeny	ol	± cpx, pl	ol ± cpx-phyric basalt	Dalmeny Church, West Lothian (flow)
Hillhouse	ol +cpx		ol ± cpx-phyric basalt o basanite	r Hillhouse Quarry, West Lothian (sill)

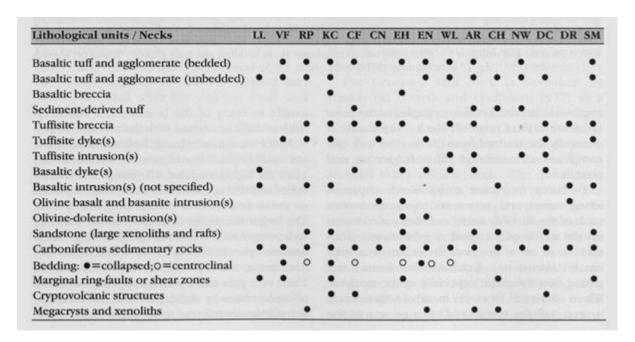
References

Table 1.1 Carbonibrous-Pers	min Ignores Reals Mark, GCK servicely and six schools orients.	Bible 5.1 - possil		Table 1.1 contail.		
Site name	GCR selection criteria	Hondard Bridge	Representative of the Early Promise Manufalou Volcania Formation.	Steel Rigg to Sewingsbirkly	Representative of the Gazat White SEE Scending a major backcope System of	
	the Midland Valley of Involved and adjacent areas Screenk, Chapter 2	Carrie Water	Representative of the Early Permiss Carrier Basis Formation. Exceptional	Crago	international homoroul importance. Exceptional features include offices in	
North Torotch Coast	Representative of the lower, basic reprehens of the Carloson Hills Volcania		examples of rollians; rule introligitating with consemposations florial and		the scarp areibated to transprotest between stratgraphical levels and haked	
	Formation. Europeanal examples of tull-rings and small-scale releases recen-		andas witnessay sods		endonentary recks above the self, which prove that it is an increase.	
	transactionally important fire cruenal and murcle sarrollafie.	Afficiate house offic and shokes	of Scotland Network, Chapter S	Longboughton Quarry	Representative of the Great White Sdl. Europeirosal Scenario include haloof	
Conference William	Representative of the tradition appear member of the Eurkeen Hills Volcario	Archar's Soul Volcano	Experientative of phalt dislative with of various upon in the cassors Malland		indimentary rocks above the still, and rules of audinomory rock in the upper part, which prove that it is an intension. The informedate of the still to	
	Formation and of Dissesses multiple volcasions in general	(Chapter 1)	Takes. Exceptional examples of both upper and lower contains than have		secretaria on the Longboughton Fault is also clearly displaced.	
Trapesia Lew	Representative of the ellipsundersaturated, highly evolved instrument of East Lodinar. Despitored manufe of a lacolish.		grow bisnorted significance and besser intermentant importance. Spectacular	Cultivascus Point to Corde	Representative of the Coop White MS. Descriptional features include well-	
Arthur's Seat Volcage	Representative of the Arthur's Seat Volcarie Formation. Enceptional cramples		part of the city landscape.	Point	developed enhancer pressing, rafts of baked welconstary rock and late-stage	
Action 1 real framework	of classic volcanic features that donorses the city landscape, influencing		Representative of alkali delette silk to the current Melland Yafer. Institud			
	development and culture. Internationally important for the benefical	Point	minoraligical and tentural curtaints are well displaced. Exceptional examples of hydrodynesis abroating to white easy.	Budle Point to Harborn Backs	Representes of the Great Whin Self. Enceptional for the large number of radio of audinomore code with raying orientations. Internationally	
	development of grotings and understanding of species processes.	Andromes to Salvours Court		Books	important for the previous of minimum copy flow testure on the insides of	
Summished to Kingborn	Representative of the Kinghorn Volcanic Formation. Examples of Engineered		Yalley. Europtonal enamples of amonal and enemal common and of		large resides.	
Coast	lars Dystoclastic; with associated pillow larse, formed in a marine lies delta.		manuscriptic effects on the sedantimary createry exclu-	Greenfoot Quarty	Representative of the Link White Still.	
Touch, Fistry and Gargamock Wills	Representative of the north-custom part of the Chole Harcas Volume Francisco. Encaptional countrie of a column consequence with Your	lager	becommonly important example of a composite, allatine from self, both	Bob bland	Representative of the Holy biland dylar substracts, which is related to the	
Conganence State	Francis. Excitos cuaça et a circuit excipera ven sup-		Sometally and to recent times. Representative of the early Personn alkaline		When hill-complex. Exceptional example of an intraction allowing 'emp-and'	
Compute Stella	Representative of the northern part of the Clote Planus Volcario Formation		basic sells of the section Method Yufers, exhibiting a wide nation of rock- topes from periodicitie to approximate late fractionaura termsof fagacter.		may bumphouse and opposites contact features. Immunicipally suported	
	and of the North Campus Linear Year System. Europicous countries of	Steeleock	Representative of obspared allution has alle of the woman Midwal		for the presence of minimum supp flow nomine on the insides of large resides.	
	reduzent reseas, remeasure of sele-comes and plugs.	-	Yales Europeional complex of Brok, obviou-sich, popheline-sickonte.	Worker	Representative of the In Ownship Chapet-title subsevens, which is related to	
Dundseron Rock	Employed example of a visually striking volcane plug merciated with the	Cratghrad Quarry	Representative of the rare Late Carbondirous to Karly Permian increases		the Whin Sill-complex. A race named solved exposure of a simple dyler.	
Descript SEE	Cloth Platean Volcanic Formation. Faceprismal examples of companie faceautic law flows with potential		waters the Academ Uplands. An exceptionally fresh and resulty senting			
			propherite replaine-galden, formerly screed an 'concate'.	Carbonitorous and Permiss ignoous rocks of control England and the Welsh Statistical Network Chapter 7		
	western part of the Clode Plantas Voltages Romanton.	Debt Lock	Viscolly orders of the Law Carbonitrius or Persons Improphers often of the sentent Highlands. Commiss comprised			
Machellanish Court and	Representative of Discontine reduction scords were of the Highland Soundary		examples of marrie sensible and sensories.	Littors Mill Radway Conting	Representative of the upper part of the Varian Typer Miller's Date Lore of Destroine. Europeanal empiries of the herecision of a loss flow that	
South Kintyee	Fault. Encaptional encapits of a teachers have done.				treatment in an approve continuous.	
Heads of Apr	flamptional example of a Strumtum tolomic mech, comprising the more of a		icoloud and meritors England Network, Chapter 6	Water Swellows Querry	The Water Straftone Sill, exponentative of the adult deletts sile of	
	suffering, with suporb three-discussional council exposures. Consists crustal		Representative of the Michael Yalko Silv-complex. Europeonal coample of a		Dediphies, is sended one the Vacan Lower Millor's Dale Love. Europeanal	
	and apper mands sensibile.	Poles (Chapter 5)	hand contact, exhibiting multiple manufact obers and apophysis, chilled margins, decembral solvent solvenous racks.	25000000	anamples of substance justifying and of mineral layering in the old.	
Dissetton rocks of the North	hamberhand, Solway and Twood basins Network, Chapter 3	Sorth Oscendory Real	Representative of the Maliant Valley bill-complex exhibiting a complete	Tideswell Dale	The Toboxed Dale NV, representative of the allust districts offs of Destrolate, in annualed into the Viscon Lorent Willer's Dale Lore. The still shows shilled	
GH book	Angerocometric of the Youtmanian Conferenceth Large.	Custings	scotes. Exceptional examples of many of the frances that characterise large		margins and thermal alternation of country make.	
Bothel Gragge Quarry	Representative of a thelesiste androise lora, rare in the British Carbonilleron	1000000	ells, reduding heled and memor on mp of the sell that prove that it is an	Colone Hills	The Calon Hill Volcanic Complex comprises the remains of a physics ruff-	
	less nationales and providing endones for fractionation of the theletin.		Section 1997		ring associated with the Epper Millor's Date Lers, instruded by basenin with	
Links Nell Tell-Quarry	response. Representative of drikes and provolunts make of a neck, both securited with	Wallstale	Representative of the Midhard Valley Nilsonspies. Europional example of a		Internationally important as the only kealty in England at which mustic	
term see the query	the Conformation Large but well to the rate of the mate custors.	Instead Mile	control recognision along a bulk place. Representative of the Midfand Yolks Mill-complex Remong a premiurest acusp.	Cler HB Quarters	monolithe can be found. The Care Hills hill to supremiseasine of the Woot Mallande units of Lan	
Langheim Newsonkers Hill	he Representative of the Transmission Newsonsch Volcarie Formation.	Lossonid Hills	Representative of the Michael Yalk's Net-complex Emissing a primitive score. Research Teacoptional reactions of large scale transpositor contacts and thermal	Care total Quantities	Carbondones allal deleter alla.	
Linimill Railway Carring	Representative of the Tournation School Lette.		offices above the sill. Equitoral relativeships between the sill and alkaline	Santa SS	The Summe 108 Complex is an exceptional example of a Weephalter	
Harehough Croige	Representative of the plage associated with the Balan Large. A new composite		have plage have processed much debate.		rokum not with assessed rokum deposits. Internationally important	
	Chample, College Colle	Gloom Hill, Dollar	Superconnection of the Octob Facili Internation.		for the presence of the oblest assessmissily preserved contiens build to date.	
Commodespe Head Quarry	Representative of the Transaction Commodespe Issuelis.	Molitobura Carriage	Representative of quarter-defector defect of the decision dylar reason of crossed	Muldis Hope	Representative of Vinesaman Middle Prope Volume Beds of analyses	
Kerebope Bridge	Representes of the Vacun Kembespelook baselin.		Scoland. Exceptional examples of Scotavard columnar points.		England. Exceptional examples of lightly-pile and pillow laws. Nationally important for the precision of lightness, inclinentishing and	
River Dale, Gloscardolini	Representative of the Vision Gleocardwin Volcane India.	Considell Querry	Representative of bands dykes of the theletine dyke-swarm of cannot		pateronningted frames that allow monostration of the growth and	
Affection and Early President	reference stocks of Scotland Sectionsky, Chapter 6		Acreland. Exceptionally well-expresed neural contacts and hostenest columns pions.		subsequent subsidiance of a telepole copy on a marine curbonum shell	
	Representative of the Nationalist Texas Voltages Monther and the Appalaist	White Hill Exposures in	Representation of the Andrea part of the Great White hill at its house	- Spring Core	Representative of Viscon volcame rocks of anoth-seen England. Exceptional	
(Chapter f)	Baselin Clay Howber	Upper Trendale	enargraphical level. Nationally assporture landscape features calcula-		rample of a pilow law coupoid under want to a matter carbonies	
East Fife Coast	Representative of Late Carbonolismus to Early Poresian nacio. Internationally		exceptional exceptive of more of the frances that characterize large sills.	Control or the Control	ARTECONOMIC	
	encouned for consenctions through the econ of phenoconagnatic suffrequ		excluding baked sedimentary rocks on top of the sell, which prove that it is an	Goldon Hill Quarry	Exceptional example of a monotogotic servace secciond with a Young volunts pipe. Secondarionally expectant as the only locality in Wales at what	
	at various assumed levels. Europerous coamples of crustal and upper muscle		nameter, transpressive upper and lower contacts, columnar printing and a		months and other are found	

(Table 1.1) Carboniferous-Permian Igneous Rocks Block: GCR networks and site selection criteria.

	Lava types	Source
Holehead Lava Member	Mainly feldspar-macrophyric basalt ('Markle type')	Waterhead central volcano
Fin Glen Lava Member	Microporphyritic basalt, mugearite, trachybasalt and a persistant phonolitic trachyte	Local centres and North Campsie Linear Vent System
Upper and Lower North Campsie lava members	Microporphyritic basalt, basaltic hawaiite and hawaiite	North Campsie Linear Vent System

(Table 2.2) Succession of the Clyde Plateau Volcanic Formation in the western Campsie Fells. (After Hall et al., 1998. table 4)



(Table 4.1) Lithological units and features of the volcanic necks between Lundin Links and St Monance, East Fife Coast.

Volcanic Neck	RP	EN	СН	AR
Xenoliths				
Hydrated ultramafic rock		•		
Spinel lherzolite	•		•	
Wehrlite	•		•	
Biotite-amphibole pyroxenite			•	
Anorthoclasite	•	•		
Pyroxene granofels and gneiss	•			
Quartzo-feldspathic granofels and gneiss				
Garnetiferous quartzo-feldspathic granofels and gneiss			•	
Garnetiferous ultramafic rock		•		
Principal megacrysts and xenocrysts				
High-temperature feldspar – mainly anorthoclase	•	•	•	
Garnet *				
Corundum	•			
Zircon		•		

(Table 4.2) Distribution of accidental xenoliths and megacrysts in the East Fife necks.

Basalt type of MacGregor (1928)	Phenocrysts Chemical classification after abundant may be present Macdonald (1975) in lesser amounts		Type locality	
Macroporphyriti	c (phenocrysts >	2mm)	71 111 111 11	But to the second
Markle	pl	± ol, fetiox	pl ± ol ± fetiox-phyric hawaiite, basaltic hawaiite	Markle Quarry, East Lothian
			or basalt	
Dunsapie	pl + ol + cpx	± fetiox	ol + cpx + pl ± fetiox- phyric basaltic hawaiite or ol + cpx + pl-phyric basalt	Dunsapie Hill, Edinburgh (neck intrusion)
Craiglockhart	ol + cpx		ol ± cpx-phyric picrobasalt or basanite	Craiglockhart Hill, Edinburgh (flow)
Microporphyritic	(phenocrysts <	2mm)		
Jedburgh	pl	± ol, fetiox	pl ± ol ± fetiox-phyric hawaiite, basaltic hawaiite or in some cases basalt	Little Caldon, Stirling- shire (plug). Also in Jedburgh area
Dalmeny	ol	± cpx, pl	ol ± cpx-phyric basalt	Dalmeny Church, West Lothian (flow)
Hillhouse	ol + cpx		ol ± cpx-phyric basalt or basanite	Hillhouse Quarry, West Lothian (sill)

(Table G1) Local nomenclature of basic igneous rocks of Carboniferous and Permian age in Scotland, as used on Geological Survey maps and in most literature since 1928. Now being replaced by more-standard terminology based on dominant phenocrysts and, where possible, the chemical composition. (pl = plagioclase, ol = olivine, cpx = clinopyroxene, fetiox = iron-titanium oxides.)