Record Name: Stigmaria. Little Punchard Gill
SWAAG ID Number: 165
Recorded Date: 2011-03-24 11:07:25
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Site Access: Public Access Land
Record Date: 2011-03-21
Location: Little Punchard Gill
Civil Parish: Arkengarthdale
British National Grid: #NY 963 041
Altitude: 410m
Geology: Exposed by recent rockfall of sandstone strata with traces of a thin coal seam above.

Description: Fine fresh and unweathered example of section of the rootstock of Stigmaria ficoides* exposed in the two faces of a split rock at a recent rockfall in the south bank of Little Punchard Gill.

*British Palaeozoic Fossils plate 38, No 3.
Dimensions: See photos.
Last Update: 2011-03-24

Record Number 165 >>> Image 1: Little Punchard Gill view upstream from fossil find site.

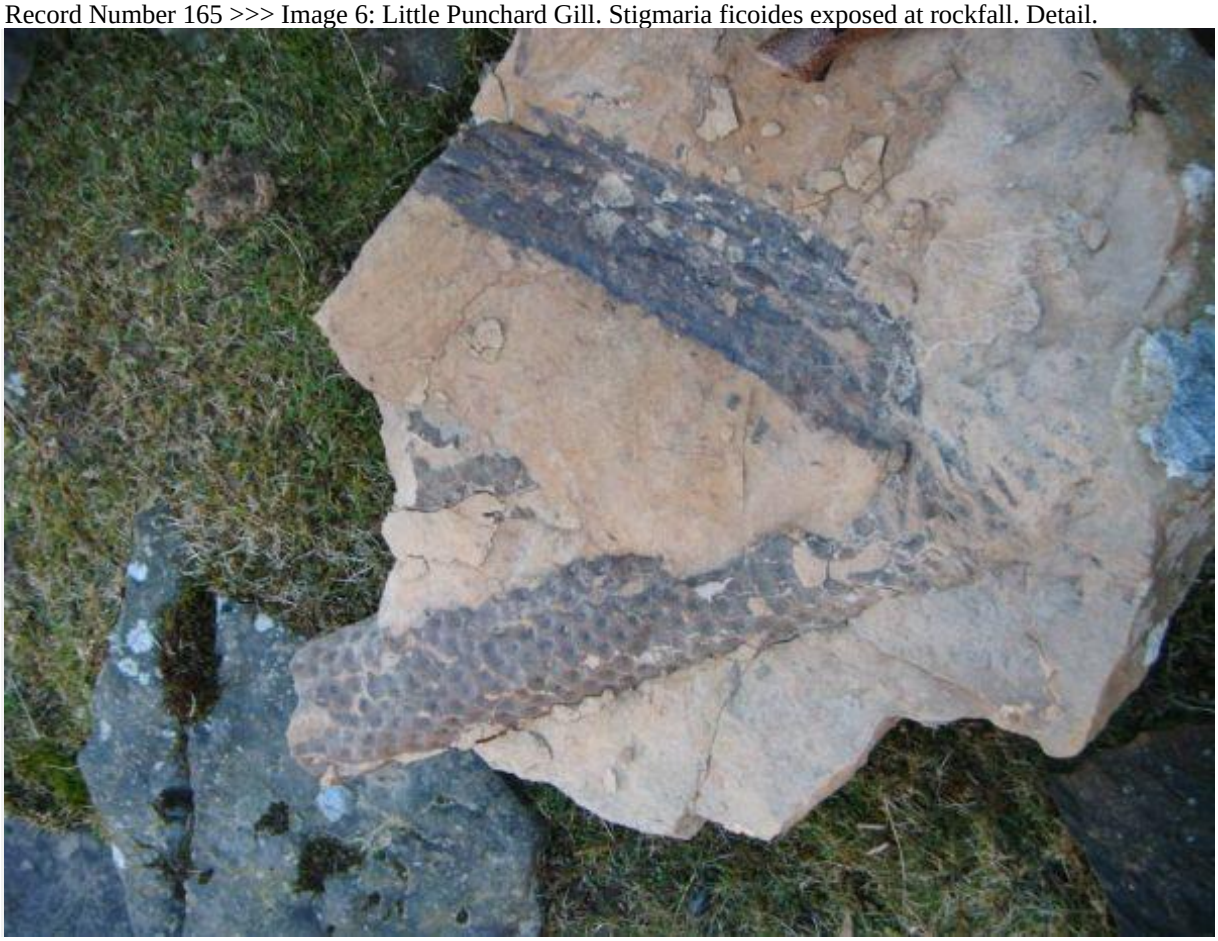
Record Number 165 >>> Image 2: Little Punchard Gill. Stigmaria ficoides exposed at rockfall.

Record Number 165 >>> Image 3: Little Punchard Gill. Stigmaria ficoides exposed at rockfall. Detail.

Record Number 165 >>> Image 4: Little Punchard Gill. Stigmaria ficoides exposed at rockfall. Detail.

Record Number 165 >>> Image 5: Little Punchard Gill. Stigmaria ficoides exposed at rockfall. Detail.

Record Number 165 >>> Image 6: Little Punchard Gill. Stigmaria ficoides exposed at rockfall. Detail.



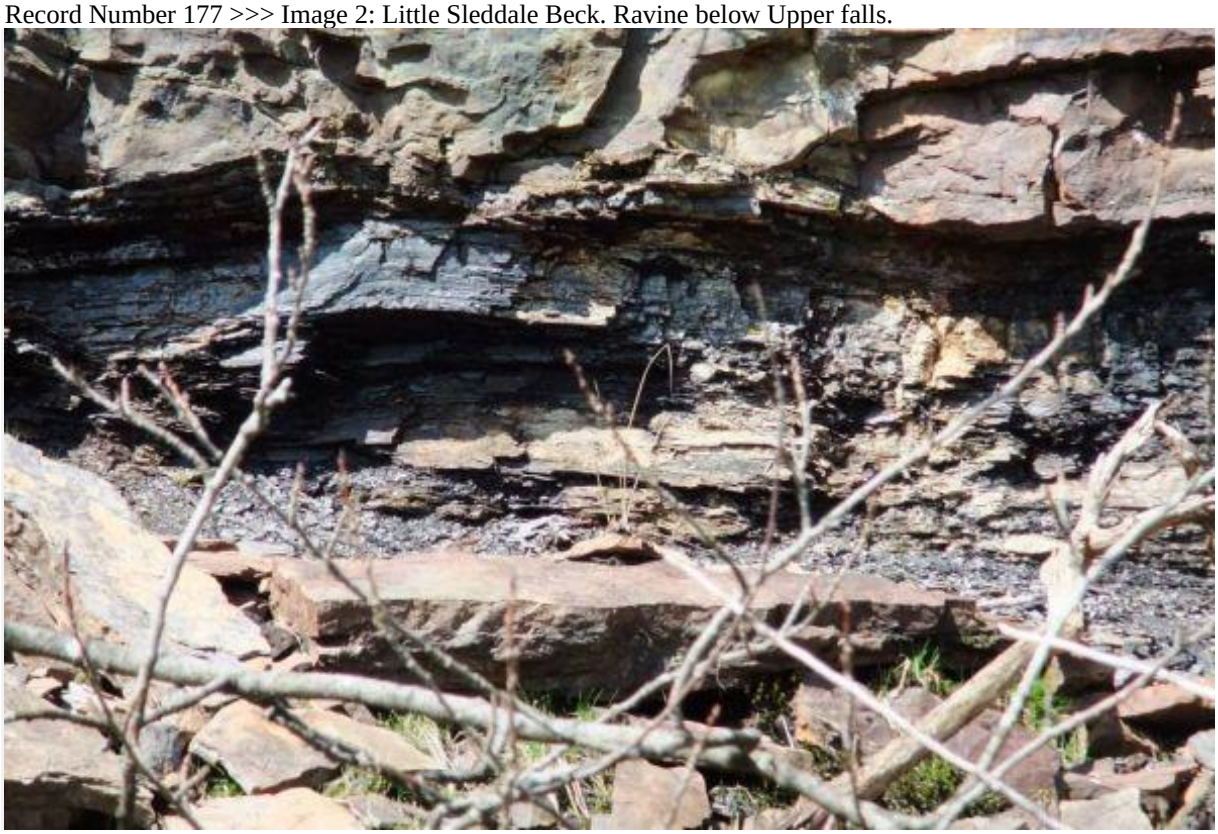
Record Number 165 >>> Image 7: Little Punchard Gill. Stigmaria ficoides exposed at rockfall. Detail.

Record Number 165 >>> Image 8: Little Punchard Gill. Stigmaria ficoides exposed at rockfall. Detail.

Record Name: Little Sleddale Beck
SWAAG ID Number: 177
Recorded Date: 2011-04-22 18:32:31
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Site Access: Public Access Land
Record Date: 2011-04-20
Location: Muker CP. Birkdale Common. Little Sleddale. Upper Falls
Civil Parish: Muker
British National Grid: NY 83040 01868
Altitude: 420m
Geology: Little Sleddale Beck. Faulted Namurian strata with coal seam above the Crow Limestone exposed in ravine below Upper Falls.
Last Update: 2011-06-12

Record Number 177 >>> Image 1: Little Sleddale Beck. Upper Falls.

Record Number 177 >>> Image 2: Little Sleddale Beck. Ravine below Upper falls.



Record Number 177 >>> Image 3: Little Sleddale Beck. Ravine below Upper falls. Coal seam.

Record Number 177 >>> Image 4: Little Sleddale Beck. Sandstone slab in Beck with plant remains.

Record Number 177 >>> Image 5: Little Sleddale Beck. Sandstone slab in Beck with plant remains.

Record Name: Little Sleddale. Lower Falls. Shell bed and mudstones.
SWAAG ID Number: 178
Recorded Date: 2011-04-24 10:33:24
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Site Access: Public Access Land
Record Date: 2011-04-20
Location: Birkdale Common. Little Sleddale.
Civil Parish: Muker
British National Grid: NY 832 020
Altitude: 410m
Geology: Low waterfall formed by a thin hard limestone (Crow Limestone Series?) undercut by eroding soft mudstones.
The top surface of the limestone is highly fossiliferous, see photo.
Description: This fine small waterfall was photographed under drought conditions when the limestone is accessible.
Under higher water conditions this waterfall is a torrent.
Last Update: 2011-04-24

Record Number 178 >>> Image 2: The upper surface of the limestone. Detail of shell bed..

Record Number 178 >>> Image 3: Little Sleddale Lower Falls. Fossiliferous limestone undercut by eroding mudstones

Record Name: Birth of a swallow hole or shakehole. Clints lead mine.
SWAAG ID Number: 192
Recorded Date: 2011-05-17 15:12:19
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geomorphology
Site Access: Public Access Land
Record Date: 2011-05-16
Location: In pasture above Clints Lead Mine.
Civil Parish: Marske
British National Grid: NZ 094 029
Altitude: 305m
Geology: Boulder clay over Main Limestone. At line of shake holes which denote the upper limit of the outcrop of the Main Limestone.

Description: Swallow holes like this can appear at any time and are are formed where surface water erodes boulder clay overlying limestone at the point where the surface water enters enlarged joints in the limestone strata, at the line of the limestone
outcrop. Quad bikers beware!
Depending on the depth and angle of repose of the boulder clay, swallow holes can grow to substantial dimensions. These features may indicale the location of a pothole in the underlying limestone.
Dimensions: 4m diameter approx. Depth unknown!
Last Update: 2011-05-17

Record Number 192 >>> Image 1: Birth of a swallowhole or shakehole.

Record Name: Hyalostelia smithii
SWAAG ID Number: 225
Recorded Date: 2011-06-12 18:20:30
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Site Access: Public Access Land
Record Date: 2005-01-01
Location: Clapgate Scar
Civil Parish: Marske
British National Grid: NZ 1165 0260
Geology: Richmond Cherts. Block talus below cliff.
Description: Lower Carboniferous sponge. Type Site.
British palaeozoic Fossils. Plate 41.(Fig.1).
Dimensions: See photos.
Additional Notes: These remarkably well preserved fossil sponge remains are visible on the surface of large slabs as very long curving bunched siliceous chord like structures.
The string like structures are apparently linked, see Photo796.
Last Update: 2012-09-02

Record Number 225 >>> Image 1: Hyalostelia smithi.

Record Number 225 >>> Image 2:

Record Number 225 >>> Image 3:

Record Number 225 >>> Image 4:

Record Number 225 >>> Image 5: Clapgate Scar with remains of elder.

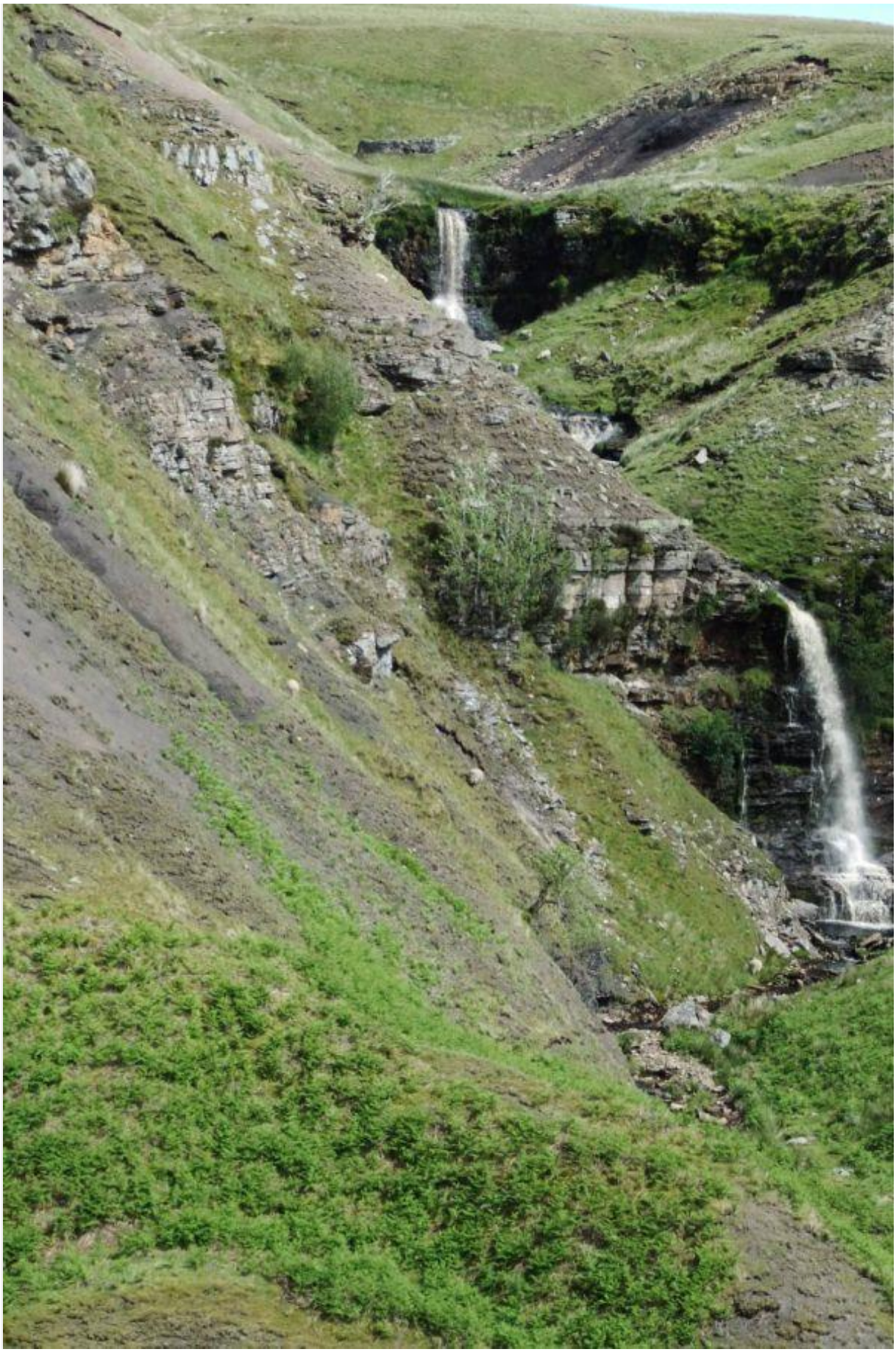
Record Number 225 >>> Image 6: View from Clapgate Scar with gulls.

Record Name: Waterfalls on Hoods Bottom Beck at Graining Scars
SWAAG ID Number: 244
Recorded Date: 2011-06-29 19:13:49
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geomorphology
Record Date: 2011-06-27
Location: Ravenseat Moor. Hoods Bottom Beck. Waterfalls at Graining Scars.
Civil Parish: Muker
British National Grid: NY 86551 04732
Altitude: 475m
Geology: Waterfalls with plunge pools. Hard Namurian Sandstones over soft mudstone strata of considerable thickness undercut by Hoods Bottom Beck.
Description: Three fine waterfalls and plunge pools with well exposed Namurian sandstones and mudstones
below the Lower Howgate Edge Grit.
Keen eyed botanists may notice the isolated cloned stand of aspens to the left of the Lower falls.
Dimensions: See photos
Additional Notes: Surprisingly these waterfalls on Hoods Bottom Beck have no name on the 1:25000 OS Map Hoods Bottom Beck Falls seems the most appropriate.
Who was Mr Hood? He appears to have been influential
in remote locations since there is a Hoods Edge and Hoods Hills at the head of Stonesdale.
Last Update: 2012-08-26

Record Number 244 >>> Image 1: The Lower Falls

Record Number 244 >>> Image 2:

Record Number 244 >>> Image 3:

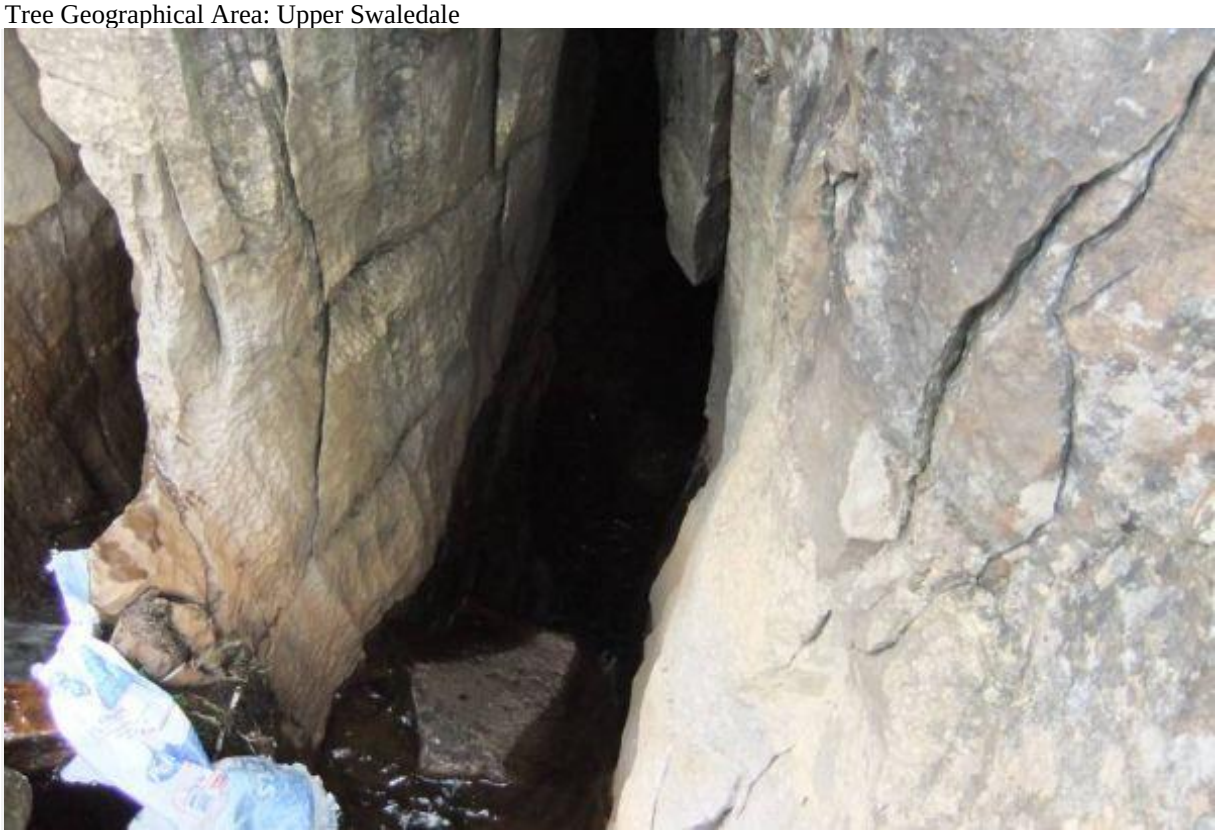


Record Number 244 >>> Image 4:

Record Number 244 >>> Image 5: The Upper Falls

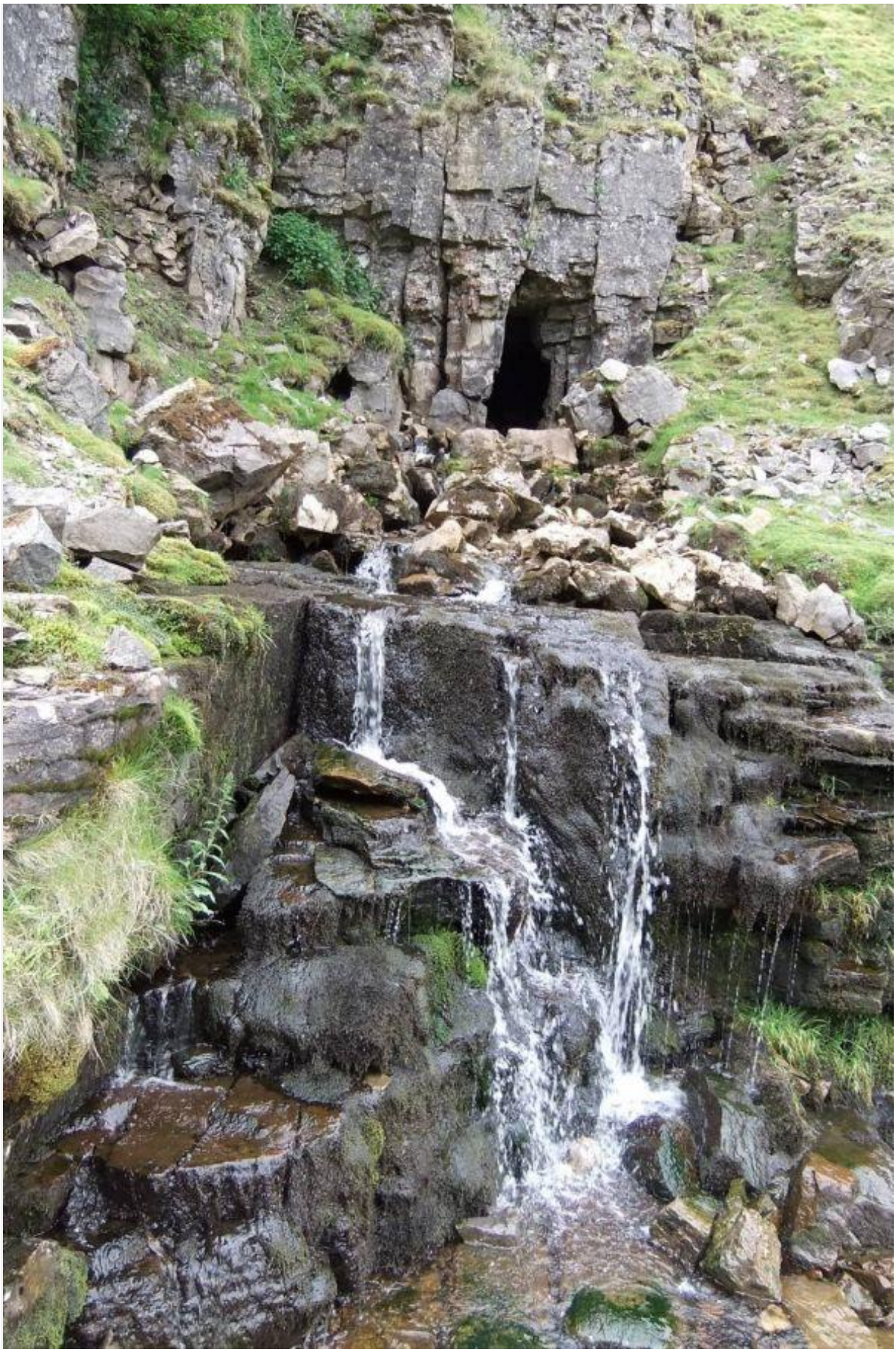
Record Name: Muker Common. Lover Gill, Upper Ravine Cave.
SWAAG ID Number: 377
Recorded Date: 2011-12-03 10:46:14
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geomorphology
Site Access: Public Access Land
Record Date: 2011-06-17
Location: Lover Gill, Upper Ravine
Civil Parish: Muker
British National Grid: SD 88085 96137
Altitude: 488m
Geology: Cave of debouchment at base of the Main Limestone
Description: This small cave is one of several similar small caves within the catchment of the Swale which are not well known and not usually shown on the OS Maps.

Dimensions: See photgraphs
Species: Rowan and bird cherry.
Common Notable Species: Reduced tree species composition above lead mine. Lover Gill.
Last Update: 2011-12-03
Tree Geographical Area: Upper Swaledale



Record Number 377 >>> Image 1: Lover Gill Cave

Record Number 377 >>> Image 2: Lover Gill, Botanical recording with LR



Record Number 377 >>> Image 3: Lover Gill

Record Name: Haw Edge. Tufa cliff above Whitsundale Beck.
SWAAG ID Number: 396
Recorded Date: 2011-12-11 15:10:23
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Site Access: Private
Record Date: 2011-07-27
Location: Haw Edge Scars, Upper cliff.
Civil Parish: Muker
British National Grid: NY 8675 0245
Altitude: 380m
Geology: Tufa formation forming bulbous overhang on sandstone cliff undercut by Whitsundale Beck. Theis extensive tufa cliff extends down the eastern bank of the stream for more than 40m. The tufa has been laid down on the bedrock as a curtain over millenia by a constant seepage of strongly calcareous springwater falling down the cliff from springs which rise higher up the ravine.
Description: This very significant tufa cliff is of exceptional interest as a living example of a tufa curtain similar or greater in extent than the well known fossil tufa curtains above Malham Cove.
This location has a primeval beauty, a wet glistening multi coloured surface of bacteria, diatoms, algae,lichens and mosses all of which cover the surface of the tufa only to be themselves subsequently interred for all time within the soft embrace of the tufa.
Species: Orthothecium rufescens (1992 record) and as listed above (2011).
Common Notable Species: See list.
Additional Notes: WE are fortunate to possess a list of the flowering and non flowering species recorded at the Haw Edge Tufa Cliff (Bogle Hole?) by Dr Allan Pentecost of the Malham Freshwater Biological Research Centre.
His list is as follows (Characteristics of all these unfamiliar species can be seen, by searching for each species named, the Internet):
Plant list from the Boggle Hole gorge tufas

Compiled August 2011 with some additions from a trip in 1992.
* Plants of special interest

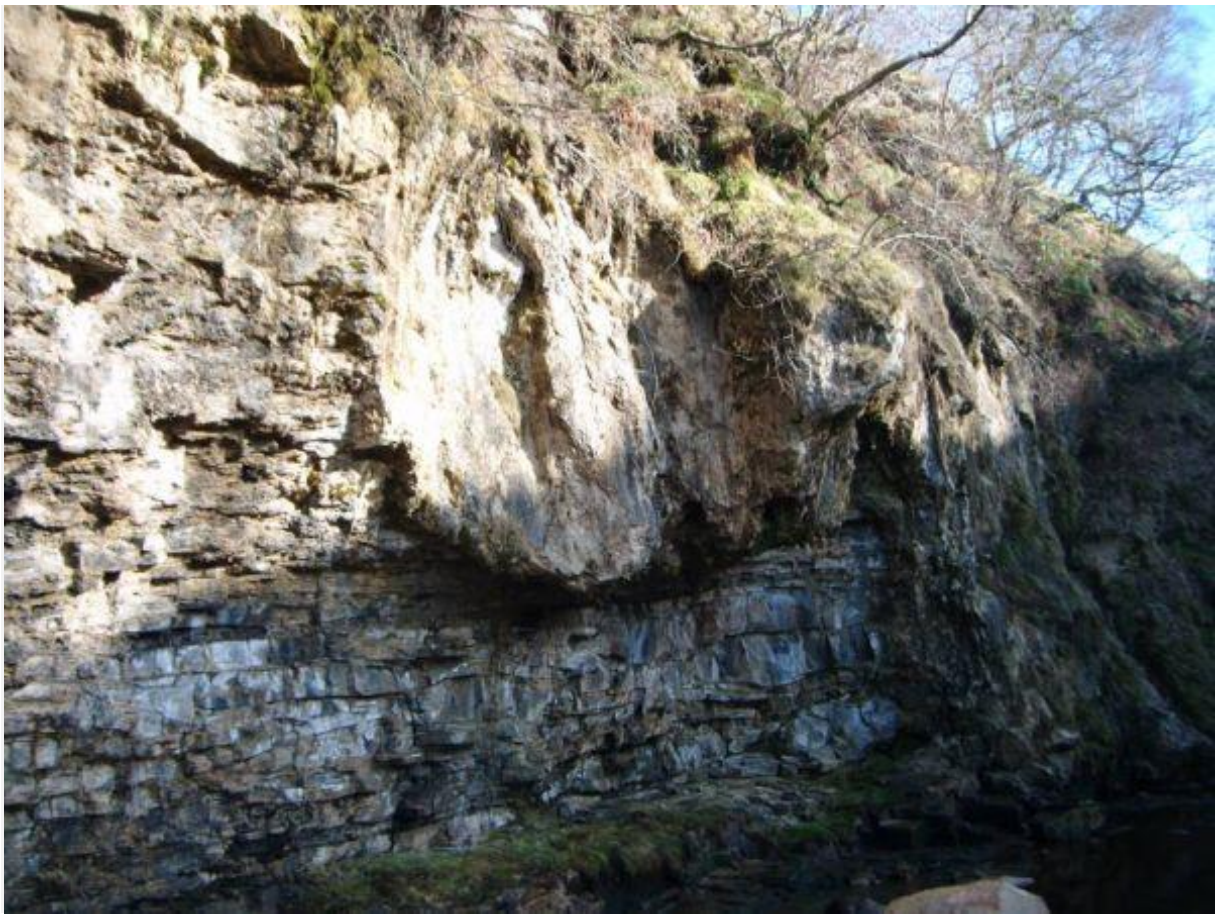
A.Pentecost

Cyanobacteria
Chroococcus turgidus
Lyngbya nana
Rivularia biasolettiana
Scytonema alatum
S. myochrous
Stigonema minutum
Chlorophyta
Cladophora glomerata 1992
Cosmarium leave
Trentepohlia aurea
Rhodophyta
Chroothece richterianum *
Liverworts
Aneura pinguis
Conocephalum conicum
Jungermannia atrovirens
Pellia endiviifolia
Preissia quadrata
Mosses
Bryum pseudotriquetrum
Cratoneuron filicinum
Dichodontium pellucidum
Eucladium verticillatum
Gymnostomum aeruginosum
Orthothecium rufescens 1992*
Palustriella commutata
Philonotis fontana
Rhynchostegium riparioides

Ferns
Asplenium trichomanes
Angiosperms
Angelica sylvestris 1992
Parnassia palustris 1992
Pinguicula vulgaris

Last Update: 2011-12-11
Tree Geographical Area: Upper Swaledale

Record Number 396 >>> Image 1: Haw Edge Scars. Note the autumn colour of the aspens on the tufa cliff is at the upper end of the ravine.



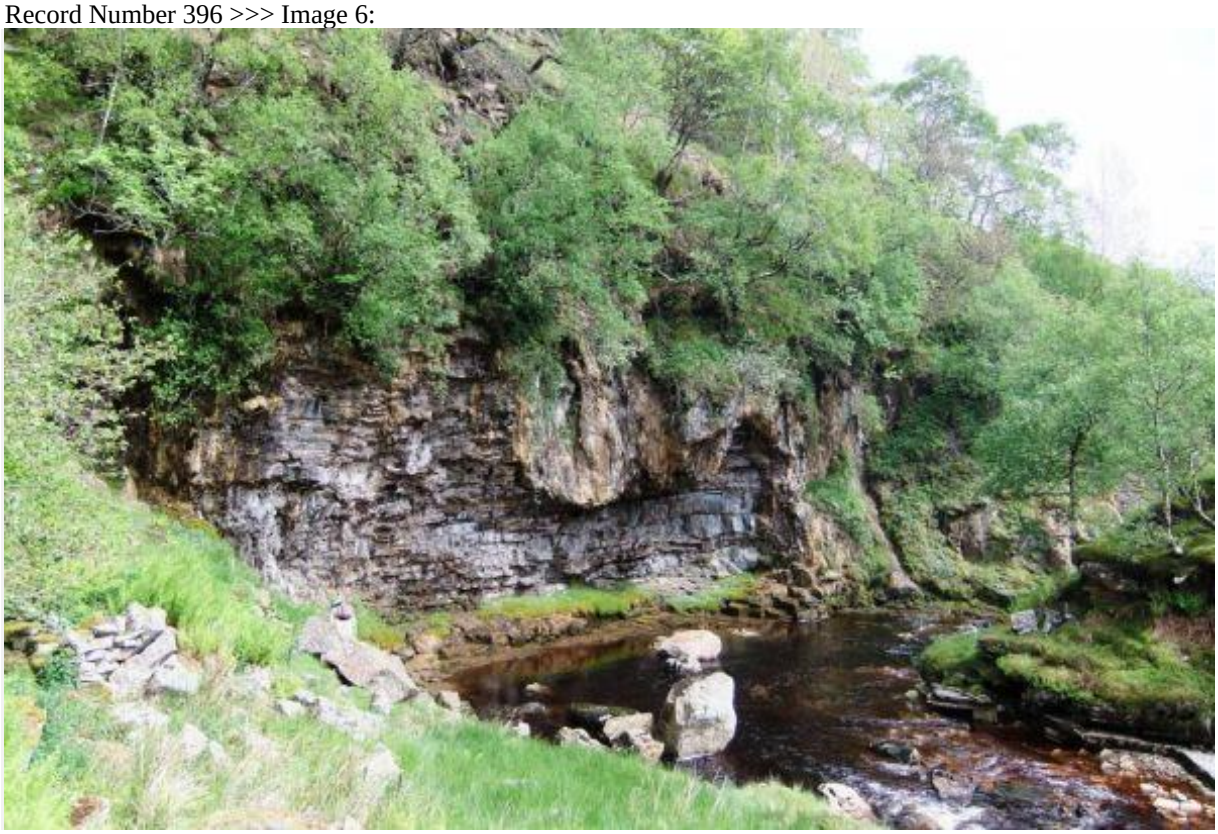
Record Number 396 >>> Image 2:

Record Number 396 >>> Image 3:

Record Number 396 >>> Image 4:

Record Number 396 >>> Image 5:

Record Number 396 >>> Image 6:



Record Number 396 >>> Image 7:

Record Number 396 >>> Image 8:

Record Number 396 >>> Image 9:

Record Number 396 >>> Image 10:

Record Number 396 >>> Image 11:

Record Number 396 >>> Image 12: Autumn colour from the aspens on the tufa cliff

Record Number 396 >>> Image 13: Autumn colour from the aspens on the tufa cliff

Record Number 396 >>> Image 14: Autumn colour from the aspens on the tufa cliff

Record Name: New Forest CP. Holgate and Kexwith Beck. Fault Zone.?Anticline structure.
SWAAG ID Number: 426
Recorded Date: 2012-01-10 17:39:55
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Site Access: Public Footpath
Record Date: 2011-01-09
Location: New Forest CP. Holgateand Kexwith Beck.
Civil Parish: New Forest
British National Grid: NZ 0650 0400
Altitude: 300m
Geology: Steeply dipping chert strata of the ?Underset Limestone series within a fault zone on the eastern side of Kexwith Beck above and to the north of The Goats Bridge. The Underset Limestone forms the upper slopes and and the Main Limestone forms the summit of Holgate How at an elevation some 200m above the stream. The exposed face of the strata fall from the north to the south near Goats Bridge at NZ06500400 and in the opposite direction from south to north in a low cliff at stream level on the east bank of Kexwith Beck also at 300m elevation. Is this structure above Kexwith Beck an anticline? For details of the faulted strata at this location and to make your own interpretation of the strata here, See BGS Solid and Drift Edition, Sheet 41, Richmond. BGS Geological Maps are readily obtainable at a very reasonable price by return of post by a telephone call to 08454560420.
Description: To follow, further site visit required.
Dimensions: 500m in length
Last Update: 2012-01-11

Record Number 426 >>> Image 1: Holgate. Chert strata dipping from north to south.

Record Number 426 >>> Image 2: Holgate. Chert strata some 250m above the Goats bridge forming small cliff at stream level, east bank.

Record Number 426 >>> Image 3: Holgate. Chert strata some 250m above the Goats bridge forming small cliff just above stream level dipping from north to south.

Record Number 426 >>> Image 4: Kexwith beck, 500m upstream. Sandstone and ?chert strata dipping from south to north

Record Number 426 >>> Image 5: Kexwith beck, 500m upstream. Sandstone and ?chert strata dipping from south to north

Record Number 426 >>> Image 6: Holgate. The southern leg of the anticline seen from Schoolmaster Pasture.

Record Number 426 >>> Image 7: Holgate. The 'anticline' seen from the Goats Track.

Record Number 426 >>> Image 8: Holgate. The anticline seen from the Goats Track.

Record Name: Tufa mound at abandoned spring in Pine Plantation.
SWAAG ID Number: 431
Recorded Date: 2012-01-19 16:56:19
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Site Access: Army Range
Record Date: 2012-01-15
Location: Bellerby Moor MOD Ranges. Moorland SSSI.
Civil Parish: Bellerby
British National Grid: SE 08476 93260
Altitude: 311m
Geology: Calcareous spring line in faulted Namurian strata above the Main Limestone. BGS Sheet 41 Richmond refers.
Description: This small tufa spring mound survives to a height of approximately 1.0m. It is capped with turf and heavily eroded but otherwise relatively undisturbed.The stratigraphy of deposition can be seen in the exposed face of the tufa. This one of several tufa springs (each to be recorded seperately) at this locality and is soon to be demolished as it is within the footprint of a new small arms range
Dimensions: See photographs
Additional Notes: The following Notes on Tufa have been provided by John Russell:
The photograph shows a tufa mound around the site of a former spring. Tufa is an outdoor variety of a stalagmite and these are secondary deposits.

Tufa is a spongy, soft, porous sedimentary rock which exhibits a wide range of colours. It forms mainly where there are springs and water seeps. It may form, on rare occasions, in river and lakes. Tufa is a soft carbonate of lime which may envelope animals and plants as it grows. Tufa may have a netted or reticulate structure and be quite friable.

Travertine is another form of limestone with the same origin as tufa. It is denser and often banded. It may also be known as drip stone or flow stone. Slowly dripping water in caverns is responsible for stalagmites, stalactites and columns.

The following notes on Tufa have been provided by John Russell:
Tufa, travertine, flow stone, drip stone and stalagmite (et al)are the result of acid water dissolving limestone and re-depositing it. The acid water is formed in two ways. It can be created by raindrops picking up carbon dioxide as the droplet falls through the air. The rain water is converted into a very weak carbonic acid. The water also becomes more acidic as it runs off the moors through acidic peat bogs. The acids dissolve the limestone and carry it away as calcium bicarbonate. As the calcium bicarbonate rich water becomes exposed to the air it begins to evaporate. The calcium bicarbonate loses carbon dioxide and is deposited as calcium carbonate.

Springs and water seep form mounds of tufa which can be several feet high. The tufa mound in the photograph is no longer active as the water table has moved. These deposits are seldom very large and most appear restricted in time to the Quaternary Period. Most of the deposits are on the Millstone Grits high on the moors over the Swale and Wensleydale valleys.

Studies of this group of rocks yield useful information about paleoclimates. Deposition only takes place when water is flowing, so if water is locked up by a drop in temperature there is little deposition. Ice Ages are detected and dated using these rocks.

Tufa can be found in other locations including Mother Shiptonâ€™s Cave and Dropping Well in Knaresborough, Janetâ€™s Foss at Goredale Scar and How Edge Scars, Whitsundale.

Last Update: 2012-01-23

Record Number 431 >>> Image 1: Bellerby Moor. Deeer Park Plantation. Tufa Mound at abandoned Spring Rise. The spring now rises a few metres to the west.

Record Number 431 >>> Image 2: Bellerby Moor. Area with calcareous, tufa forming springs. On footprint of New Small Arms Range

Record Number 431 >>> Image 3: Bellerby Moor. Army Range. Tufa spring mound in Deer Park Plantation.

Record Number 431 >>> Image 4: Tufa. Detail. Photo John Russell.

Record Number 431 >>> Image 5: Tufa. Detail. Photo John Russell.

Record Name: Bellerby Moor.Infilled tarn between morainic hills with tufa springsand burnt mounds.
SWAAG ID Number: 435
Recorded Date: 2012-01-24 11:25:02
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geomorphology
Site Access: Army Range
Record Date: 2012-01-15
Location: Bellerby Moor
Civil Parish: Not known
British National Grid: SE 084 934
Altitude: 300m
Geology: Depression between morainic hills with calcareous tufa forming springs. This depression, once a small tarn with open water, has been infilled by calcareous soil probably of loessic wind blown silt origine. Mole activity on these areas of loessic soil is intense, in contrast to the surrounding acidic moorland where earthworms and moles are entirely absent.
Description: This depression, once a small tarn with open water, has been infilled by calcareous soil probably of loessic wind blown silt origine. Mole activity on these areas of loessic soil is intense, in contrast to the surrounding acidic moorland where earthworms and moles are entirely absent. This tarn which is close to the western boundary of the Range and the road from Leyburn to Grinton is one of several similar depressions on and close to the footprint of the new Small Arms Range. The presence of two burnt mounds, see photos, here indicate that the this infilled tarn, possibly open water, was attractive to human activity during later prehistory.
Last Update: 2012-01-24

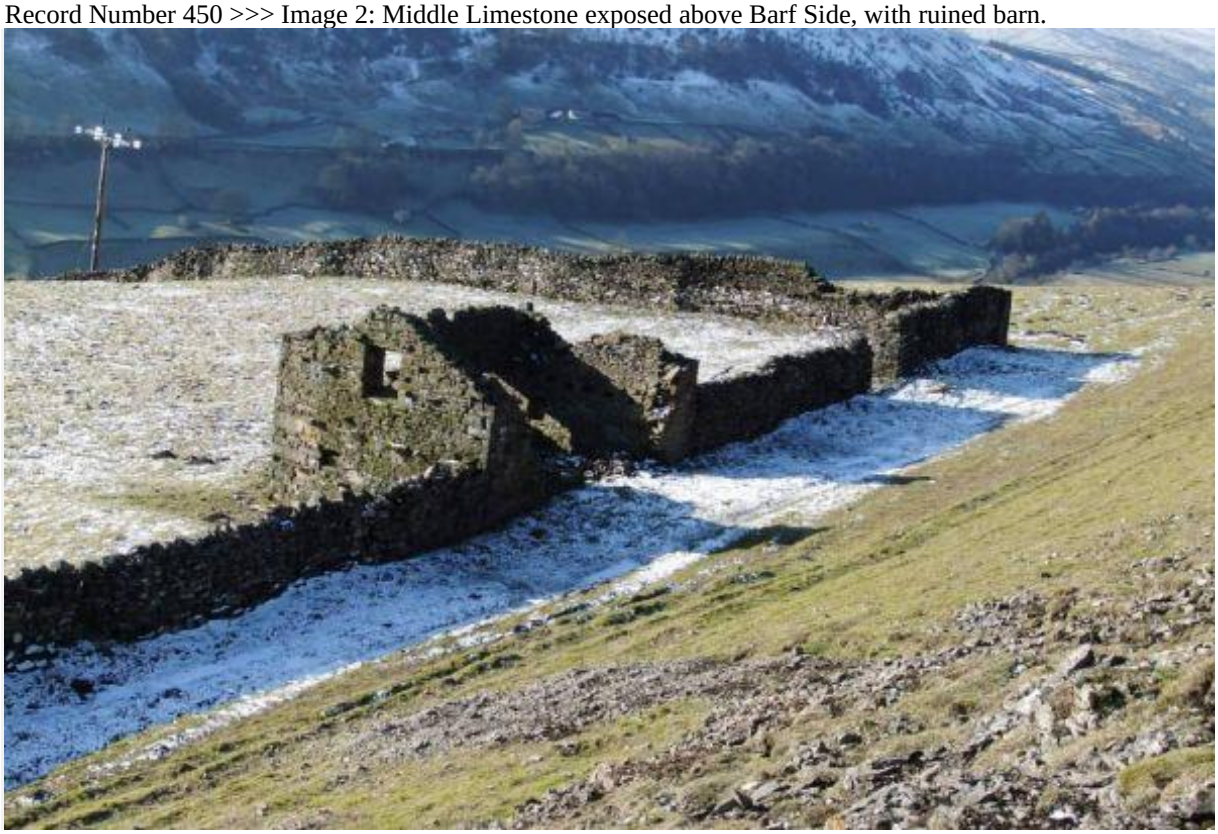
Record Number 435 >>> Image 1: Infilled tarn at Bellerby Moor with standing water after heavy rain.

Record Number 435 >>> Image 2: Burnt mound above infilled tarn, tufa springs nearby.

Record Name: Melbecks. Barf Side. Limestone Scar and pavement formed by the Midle Limestone.
SWAAG ID Number: 450
Recorded Date: 2012-02-05 11:39:16
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Site Access: Public Access Land
Record Date: 2012-01-03
Location: Melbecks. Barf Side.
Civil Parish: Melbecks
British National Grid: SD 9672 9804
Altitude: 380m
Geology: Dale side Scar or low cliff with extensive turf covered pavement above and vegetated talus slope and ?kame terrace below formed by an exposure of the Middle Limestone.
Description: This prominent limestone scar forms the southern edge of Low Row Pasture and provides one of the best high terrace viewpoints in Swaledale. A good track follows the edge of the Scar from which excellent views of the middle reaches of Swaledale and of Shunner Fell in the distance are obtained. The Middle Limestone is the fifth of the cyclotherms below the top of the Main Limestone and underlies the Underset,Three Yard and Five Yard Limestone Cyclotherms. The Middle Limestone Cyclotherm includes the Scar Limestone, the Cockle Shell Limestone and the Single Post Limestone.
The upper surface of the Middle Limestone forms an extensive pavement on the southern edge of Low Row Pasture which is characterised by limestone turf which in May and June is bright with the small flowers of Mountain Pansies (Viola tricolor) (predominanly yellow in Swaledale, blue in Teesdale).
To the north, the Main Limestone is overlain by thin peat and by a quarried strata of sandstone which has provided the material for buildings and drystone walls of the area.
Dimensions: The Limestone Scar is approximately 1km in length
Additional Notes: The excellent grazing provided by the calcareous soils over the Main Limestone pavement here has always been attractive th pastoral settlement and hunting activity. A well defined coaxial field system with scattered cairns extends across Low Row Pasture (to be recorded seperately, see HER to follow)
SWAAG Site: Low Row Pastures
Last Update: 2012-02-05

Record Number 450 >>> Image 1: The Edge or Scar formed by the Middle Limestone forms one of the best viewpoints in Swaledale.

Record Number 450 >>> Image 2: Middle Limestone exposed above Barf Side, with ruined barn.



Record Number 450 >>> Image 3: Barf Side, ruined barn. Detail.

Record Number 450 >>> Image 4: Barb and tanged arrowpoint found on Low Row Pasture.

Record Name: Winterings Low Scar. Faulted chert and limestone strata.
SWAAG ID Number: 453
Recorded Date: 2012-02-05 19:03:45
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Site Access: Public Access Land
Record Date: 2012-02-03
Location: Winterings Low Scar
Civil Parish: Melbecks
British National Grid: SD 9490 9962
Altitude: 470m
Geology: Underset chert faulted down against Underset Limestone.
Description: This visible fractured strata at Winterings Low Scar is one of a number of mineralised faults which have been worked for lead above Winterings through the centuries. Here, chert strata normally above the Underset Limestone are visibly dragged down at an angle of around 40 degrees hard against strata of the Underset Limestone.
Additional Notes: To follow.
Last Update: 2012-04-07

Record Number 453 >>> Image 1: The faulted limestone strata at Low Scar, Winterings.

Record Name: West Stonesdale Beck. How Gill. The fossil brachiopod Productus productus in shales.
SWAAG ID Number: 477
Recorded Date: 2012-03-25 17:51:40
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Record Date: 2012-03-22
Location: West Stonesdale
Civil Parish: Muker
British National Grid: NY 888 031
Altitude: 375
Geology: Namurian shales above the Main Limestone.
Description: This exceptionall well preserved fossil was noticed on the surface of a slab of shale in the bed of the stream.
Other fossils were also present here, see photos.
Dimensions: See photos.
Additional Notes: Reference:
British Palaeozoic Fossils. 1966. Page144, Plate46, No 2. Trustees of the British Museum. London.
Last Update: 2012-03-25

Record Number 477 >>> Image 1: The fossil brachiopod, Productus Productus in shale.

Record Number 477 >>> Image 2: Unidentified fossils in shale.

Record Name: Unidentified fossil from River Swale flood plain gravels.
SWAAG ID Number: 481
Recorded Date: 2012-03-26 17:06:49
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Site Access: Public Footpath
Record Date: 2005-01-01
Location: Bank of River Swale above Isles Bridge
Civil Parish: Grinton
British National Grid: SD 973 973
Geology: River flood plain gravels
Description: Fossil (?branching plant remains, possibly Chara or other similar Alga species)well preserved on surface of sandstone boulder.

Suggested possible identification welcome.
Dimensions: See photos.
Additional Notes: Found by Miss Samantha Brown of Haverdale.
Last Update: 2012-03-26

Record Number 481 >>> Image 1:

Record Number 481 >>> Image 2:

Record Name: West Stonesdale Beck, stream running across ripple marked sandstone.
SWAAG ID Number: 489
Recorded Date: 2012-04-04 13:29:07
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Site Access: Public Footpath
Record Date: 2012-03-29
Location: West Stonesdale Beck
Civil Parish: Muker
British National Grid: NY 8875 0317
Altitude: 370m
Geology: Ripple marked sandstone of Namurian Age above the Main Chert in stream bed.
Description: Rippling effects of shallow water running. over ripple marks which in turn were formed by water currents 280-300 Million Years previously
Dimensions: See photos
Last Update: 2012-04-04

Record Number 489 >>> Image 1: Complex pattern of shallow water rippling over ripples on sandstone made 280-300million years previously.

Record Number 489 >>> Image 2:

Record Number 489 >>> Image 3: West Stonedale Beck

Record Number 489 >>> Image 4:

Record Number 489 >>> Image 5:

Record Number 489 >>> Image 6:

Record Name: Middle Limestone with massed crinoid remains
SWAAG ID Number: 498
Recorded Date: 2012-04-16 16:55:44
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Site Access: Public Footpath
Record Date: 2012-04-15
Location: Lower Wensleydale
Civil Parish: Preston Under Scar
British National Grid: #SE 0794 9080
Altitude: 200
Geology: Middle Limestone
Description: Kelheads Quarry â€“ Crinoidal limestone

Kelheads Quarry was one of nine small quarries run by Leyburn R.D.C. to provide roadstone. Around 1890 the council found it too expensive to buy roadstone from the local commercial quarries and so began to open up small local quarries. Keldheads is small by modern standards with a working face of 50-60 metres. The maximum height of the face is approximately 10 metres.
The quarry was cut into a crinoidal limestone that shows excellent specimens of crinoid stems. This is the Middle Limestone of the Yoredale Cyclothems-and it lies just to the west of the north-south Keld Heads fault system.
The quarry face is packed with the disarticulated stem remains of sea lilies (not a good name as they are invertebrates belonging to the subphylum Crinozoa). The crinoids are related to echinoderms and starfish, which have a five rayed or pentameral symmetry. The sea lilies have a calcite skeleton which has greatly contributed to the development of many Palaeozoic limestones. The crinoids have a fully marine origin because they are stenohaline, making the Middle Limestone a marine limestone.
The body of the crinoid consists of a stem, calyx and moveable arms which originate from the margin of the calyx. The stem is flexible and sometimes several metres in length. It is the stem that survives, while the more delicate calyx and arms break up on death. The majority of crinoids were stalked and attached to the substrate by a root.
The most common carboniferous crinoids are Actinocrinus, Amphocrinus, Poteriocrinus, Platycrinus, Rhodocrinus and Woodocrinus, but to identify these, the calyx must be present. Most Palaeozoic genera became extinct during the Permo-Triassic mass extinction. Other marine fossils like Productus, found in the quarry, confirm the marine nature of the Middle Limestone.

John Russell 16th April 2012

Dimensions: Substantial.
Additional Notes: Important NOTE!
Hammering of exposed rock surfaces to remove specimens of fossils is not permitted at all locations.
It is nearly always possible to get good photographs and specimens may be collected from from river gravels.
Last Update: 2012-04-16

Record Number 498 >>> Image 1: Massed crinoid remains. Middle limestone.

Record Number 498 >>> Image 2: The exposed cliff.

Record Number 498 >>> Image 3:

Record Number 498 >>> Image 4:

Record Number 498 >>> Image 5:

Record Number 498 >>> Image 6:

Record Number 498 >>> Image 7:

Record Name: Keldside. The Keldside and Hurrace Fault System
SWAAG ID Number: 505
Recorded Date: 2012-04-21 13:07:33
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Site Access: Private
Record Date: 0000-00-00
Location: Keldside, Blackburn Beck
Civil Parish: Muker
British National Grid: NY 882 014
Altitude: 340m
Geology: Sandstone and mudstone strata above the Underset Limestone close to the Keldside and Hurrace Faults with visible iron pyrites nodules in the mudstones.
Description: The strata is well exposed in the bed of Blackburn Beck, see photos.
Last Update: 2012-04-26

Record Number 505 >>> Image 1:

Record Number 505 >>> Image 2:

Record Number 505 >>> Image 3:

Record Number 505 >>> Image 4:

Record Number 505 >>> Image 5:

Record Name: SWAAG in Eden Part Seven: The River Caldew and the Caldbeck Mine.
SWAAG ID Number: 515
Recorded Date: 2012-05-06 13:44:46
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Northern Britain
Site Access: Public Access Land
Record Date: 2012-04-30
Location: Caldbeck Fells. The Lake District.
Civil Parish: Not known
British National Grid: NY 490 320
Geology: Skiddaw granite in the bed of the River Caldew, gabbro igneous intrusion on Carrock Fell. For a detailed description of the geology and mineralisation of the Caldbeck Fells and of the Caldbeck Mine in particular, seeCooper, M.P. and Stanley, C.J.1990. 'Minerals of the English Lake District. Caldbeck Fells. Natural History Publications. London. ISBN 0-565-01102-2
Description: This is a short photographic record of the SWAAG Away Day visit to the Caldew Valley (Mosedale) and to the remains of the once productive Calbeck Mine. This is an area world famous for its geology and complex mineralisation.
In addition to the images available on line and in the literature, a visit to the marvellous small museum in the Main Street at Cockermouth to see the minerals won from the Lake District mines displayed is highly recommended.
Restricted to the lower slopes by a dire weather forecast, we were all impressed by the wild beauty of the juniper clad slopes and the black rocks of Carrock Fell, by the waterfalls of the River Caldew and by the distant views towards Skiddaw House.
Last Update: 2012-05-07

Record Number 515 >>> Image 1:

Record Number 515 >>> Image 2:

Record Number 515 >>> Image 3:

Record Number 515 >>> Image 4:

Record Number 515 >>> Image 5:

Record Number 515 >>> Image 6:

Record Number 515 >>> Image 7:

Record Number 515 >>> Image 8:

Record Name: The last of the Trilobites!
SWAAG ID Number: 530
Recorded Date: 2012-05-20 15:13:40
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Site Access: Public Footpath
Record Date: 2012-05-16
Location: Stainmore. Gilmonby Parish. Sleightholme Beck.
Civil Parish: Not known
British National Grid: #SD 9665 1236
Geology: Actively eroding fossiliferous mudstones of Middle Carboniferous Age in cliff over limestone pavement (formed by the top of the Four Fathom Limestone which is the equivalent to the Underset Limestone of the Askrig Block)in stream bed.
Description: Extract from the University of Wales Website:
'By the Carboniferous Period, only one order of trilobites, the Proetida, remained. Two superfamilies are represented, the Proetoidea and Aulacopleuroidea. It has been traditionally assumed that only a handful of trilobite genera are present in Carboniferous rocks, but well over sixty are now recognized. Certain facies in the Carboniferous in Britain contain an abundance of trilobites, with maximum diversity being achieved in carbonate mudmounds, as developed, for example, in the Craven area of North Yorkshire, in the Peak District and in north Wales. The only monographic treatment was published 120 years ago, and is now very much out of date, and a new monograph was started in the late 1980s. Work is well on towards its completion. Much of the data gathered will be used in the revised trilobite volume of the Treatise on Invertebrate Paleontology (q.v.).'
Additional Notes: Fragments of the chacteristic cast trilobate shells of very small Trilobites occur in shales at several localities in the NE Pennine Dales. The mudstone in which these fossils are extremely fragile and are constantly being eroded by floods from the cliff sections in which they occur.
Other species present in the mudstones here include crinoids, brachiopod shells and the very small Carboniferous Polyzoan, Fenestella sp.
The other fossil (?the crinoid Woodocrinus macrodactylus)photographed in these mudstones is found at several localities on Stainmore.
Last Update: 2012-05-21
Tree Geographical Area: Stainmore

Record Number 530 >>> Image 1: Three triobites on slab of mudstone in stream bed.

Record Number 530 >>> Image 2:

Record Number 530 >>> Image 3:

Record Number 530 >>> Image 4: ?The crinoid Woodocrinus macrodactylus

Record Number 530 >>> Image 5: ?The crinoid Woodocrinus macrodactylus

Record Number 530 >>> Image 6: ?The crinoid Woodocrinus macrodactylus

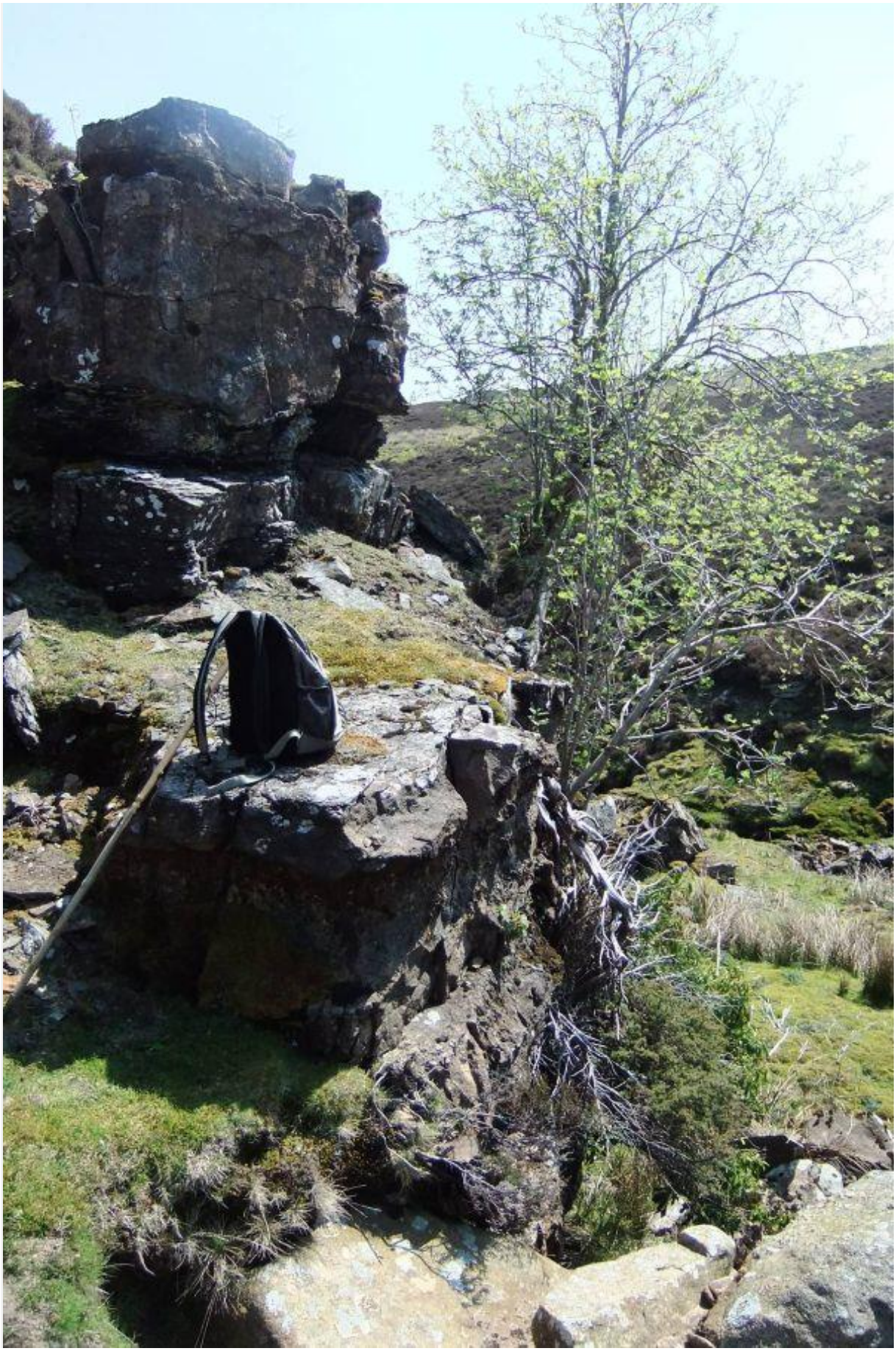
Record Number 530 >>> Image 7: ?The crinoid Woodocrinus macrodactylus

Record Number 530 >>> Image 8: Sleightholme Beck. Fossiliferous mudstones in low cliff above the Four Fathom Limestone in bed of stream.

Record Name: Great Punchard Falls. Crow Limestone.
SWAAG ID Number: 533
Recorded Date: 2012-05-24 11:17:18
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Site Access: Public Access Land
Record Date: 2012-05-23
Location: Great Punchard Gill
Civil Parish: Arkengarthdale
British National Grid: NY 9488 0414
Altitude: 512m
Geology: Waterfall ravine cut by stream through Crow Limestone.
Description: Waterfall and ravine cut by stream through Crow Limestone.
Dimensions: See photos
Additional Notes: The Crow Limestone is probably the most prominant but rarely exposed or seen of the thin limestones which occur at intervals within the sandstones and mudstones above The Main Limestone. The Crow Limestone marks the upper limit of mineralised strata of the North Pennine Orefield.
Last Update: 2012-05-24

Record Number 533 >>> Image 1: Waterfall and Ravine. Great Punchard Gill

Record Number 533 >>> Image 2:



Record Number 533 >>> Image 3:

Record Name: The Richmond Cherts at The Stang. Massed Productid Brachiopods from the Cockle Shell Band
SWAAG ID Number: 534
Recorded Date: 2012-05-24 12:26:20
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Record Date: 2012-05-23
Location: Arkengarthdale. The Stang.Rowantree Gill.
Civil Parish: Arkengarthdale
British National Grid: NZ 012 063
Altitude: 450m
Geology: Namurian. Richmond Cherts. Cockle Shell Band.
Description: These fossils with several different species present may be in the position that they occupied during life alternatively they may be a massed beach deposit.
Dimensions: See photos.
Last Update: 2012-05-24

Record Number 534 >>> Image 1:

Record Number 534 >>> Image 2:

Record Number 534 >>> Image 3:

Record Number 534 >>> Image 4:

Record Number 534 >>> Image 5:

Record Number 534 >>> Image 6:

Record Name: Arkengarthdale. Little Punchard Gill. Plant fossils from strata of the Main Limestone Cyclotherm.
SWAAG ID Number: 535
Recorded Date: 2012-05-24 13:39:30
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Site Access: Public Access Land
Record Date: 2012-05-23
Location: Arkengarthdale. Little Punchard Gill. Plant fossils from strata of the Main Limestone Cyclotherm.
Civil Parish: Arkengarthdale
British National Grid: NY 962 040
Altitude: 417m
Geology: Fossils of the rootstock of Stigmaria ficoides from strata of the Main Limestone Cyclotherm.
Description: Photos 1- Stigmaria ficoides (British Palaeozoic Fossils Plate 38, No 3) in fractured fallen block of sandstone. Little Punchard Gill.
Dimensions: See photos
Last Update: 2012-05-24

Record Number 535 >>> Image 1: Little Punchard Gill view upstream towards ravine cut through the main Limestone.

Record Number 535 >>> Image 2: Fallen blocks of sandstone split to reveal Stigmaria ficoides. Now washed away downstream after flooding.

Record Number 535 >>> Image 3:

Record Number 535 >>> Image 4:

Record Number 535 >>> Image 5:

Record Number 535 >>> Image 6:

Record Number 535 >>> Image 7:

Record Name: Little Punchard Gill. Brachiopod fossils from the top of the Main Limestone.
SWAAG ID Number: 536
Recorded Date: 2012-05-24 13:59:50
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Site Access: Public Access Land
Record Date: 2012-05-23
Location: Little Punchard Gill
Civil Parish: Arkengarthdale
British National Grid: NY 9595 0358
Altitude: 475m
Geology: Top of Main Limestone.
Description: Photos - Gigantoproductus giganteus(British Palaeozoic Fossils Plate 47 No 6.) from strata at top of the Main Limestone. Little Punchard Gill.
Photos - Other Brachiopods from strata at the top of the Main Limestone.
Last Update: 2012-05-24

Record Number 536 >>> Image 1: Gigantoproductus giganteus(British Palaeozoic Fossils Plate 47 No 6.) from strata at top of the Main Limestone. Little Punchard Gill.

Record Number 536 >>> Image 2:

Record Number 536 >>> Image 3: Other Brachiopods from strata at the top of the Main Limestone.

Record Name: Ovington. River Tees, North Bank. Black shales and overlying gravels and silt.
SWAAG ID Number: 552
Recorded Date: 2012-06-25 21:10:22
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Site Access: Public Footpath
Record Date: 2012-06-24
Civil Parish: Not known
British National Grid: NZ 133 152
Altitude: 95m
Geology: Black shales in the Millstone Grit Series of Namurian Age exposed in the North Bank of the Tees below Ovington. A thin layer of ironstone nodules caps the layer, then a bed of gravel topped by river born silt and turf.
A colony of sand martins have made their nest burrows in the silt of the river bank.
Description: This bed of black shale or mudstone is unfossiliferous.
Additional Notes: These shales are usually unfossiliferous however the crowded remains of brachiopods, trilobites, bryophytes (Fenestrella sp.) and other fossils are occasionally found in thin calcareous marine bed bands and at at the base of thick beds of these shales.
Where marine shale bands outcrop in Upper Swaledale, sepages of calcium rich groundwater form tufa deposits with rich flora of high botanical interest.
Reference: British Geological Survey: The Geology of the countrey around Barnard Castle.
Last Update: 2012-06-25

Record Number 552 >>> Image 1: River Tees below the Islands at Ovinton. Just a reminder that the banks of the River Tees between Barnard Castle and Darlington are accessible and of great beauty and interest to walkers and anglers alike.

Record Number 552 >>> Image 2:

Record Number 552 >>> Image 3:

Record Number 552 >>> Image 4:

Record Name: Leyburn Moor Quarry. The Main Limestone.
SWAAG ID Number: 579
Recorded Date: 2012-07-21 16:55:17
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Site Access: Private
Record Date: 2012-07-14
Location: Leyburn Moor Quarry
Civil Parish: Leyburn
British National Grid: SE 097 913
Altitude: 250m
Geology: Quarried exposure of the Main Limestone in the face of this disused quarry. Now a commercial tip site -No access without permission.
Description: Exposure of the Main Limestone in the face of the now disused Leyburn Moor Quarry. Photographed during a visit to the quarry by members of the BSBI.
Last Update: 2012-07-21

Record Number 579 >>> Image 1:

Record Number 579 >>> Image 2:

Record Name: Sleightholme Beck. Dry Gill Pasture. The Little Limestone exposed in the stream.
SWAAG ID Number: 589
Recorded Date: 2012-07-30 17:37:47
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Site Access: Public Access Land
Record Date: 2012-07-29
Location: Bowes Moor. Sleightholme Beck.Dry Gill Pasture.
Civil Parish: Not known
British National Grid: NY 929 090
Altitude: 400m
Geology: Namurian Strata. The Little Limestone exposed in Sleightholme Beck and forming small waterfalls.
Description: The Forest of Stainmoor is a glaciated plain with incutting streams. The rocks are sandstones, mudstones, shales and occasional thin beds of limestone all of Namurian Age and the vegetation is generally acidic moorland except where the limestone outcrops or where calcareous flushes form at springs when the groundwater flowing through the limestone is calcareous.
Dry Gill Pasture is an island of fertility in a sea of heather moorland. A very large tufa deposit has formed close to the Shooting Hut. This deposit is of considerable interest providing an opportunity to study past climatic environments. At least three different soil layers, representing dry climatic zones being visible in the section. These soil layers are seperated by tufa deposits representing wetter climatic zones, see photos.
Additional Notes: The Little Limestone is the first of several thin limestones above the Main Limestone and is at the same horizon as the Richmond Cherts on Stainmore.
Last Update: 2012-08-04

Record Number 589 >>> Image 1:

Record Number 589 >>> Image 2:

Record Number 589 >>> Image 3:

Record Number 589 >>> Image 4:

Record Number 589 >>> Image 5:

Record Number 589 >>> Image 6:

Record Number 589 >>> Image 7:

Record Number 589 >>> Image 8:

Record Name: Trace fossils on sandstone. Slab No One.
SWAAG ID Number: 601
Recorded Date: 2012-09-03 15:52:19
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Site Access: Private
Record Date: 2012-09-02
Location: Hope Moor
Civil Parish: Hope
British National Grid: #NZ 010 082
Altitude: above 500m
Geology: Sandstone strata in the Richmond Chert series
Description: Trace fossils made by different animals well preserved in fine grained sandstone. These trace fossils remain where located and are absolutely fresh and despite their appearance, are vulnerable to frost action and are very fragile. They are of museum quality and could be useful for research.
Some effort will be made to have these fossils identified.
Dimensions: See photo
Additional Notes: Close examination of the photo reveals that the trailing trackmarks and other more concentrated marks on this slab were made by more than one different species of animal.
Last Update: 2012-09-03

Record Number 601 >>> Image 1: Trace fossils on slab of sandstone. Richmond Chert Series. Slab No One.

Record Number 601 >>> Image 2: The same slab, detail.

Record Number 601 >>> Image 3: The same slab, detail.

Record Name: Trace fossils on sandstone. Slab No Two.
SWAAG ID Number: 602
Recorded Date: 2012-09-03 16:08:57
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Site Access: Private
Record Date: 2012-09-02
Location: Hope Moor
Civil Parish: Hope
British National Grid: #NZ 010 082
Altitude: above 500m
Geology: Sandstone strata above the Richmond Chert Series.
Description: Trace fossil of worm like soft bodied creature on surface of sandstone slab.
Dimensions: See photos
Last Update: 2014-02-02

Record Number 602 >>> Image 1: Trace fossil of worm like animals is sandstone. Slab No 2.

Record Number 602 >>> Image 2: The same slab, detail.

Record Name: Fan like trace fossil from Chert Strata.
SWAAG ID Number: 603
Recorded Date: 2012-09-03 16:23:46
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Site Access: Private
Record Date: 2012-09-02
Location: Hope Moor
Civil Parish: Hope
British National Grid: #NZ 012 081
Altitude: Above 500m
Geology: Richmond Chert Srata
Description: Finely preserved fan like trace or plant fossil from Chert Strata.Slab No 3.
Dimensions: See photo.
Additional Notes: This an exceptionally fine example of a fossil which is not uncommon in strata of Namurian Age. Now identified by John Russell as Girtyocoelia, a member of the sponge (Calcispongia) family.
Last Update: 2012-09-05

Record Number 603 >>> Image 1: ow Finely preserved fan like trace or plant fossil from Chert Strata.Slab No 3.

Record Number 603 >>> Image 2: The same slab.

Record Number 603 >>> Image 3: The same slab.

Record Name: Noon Gill Head. A stream cut ravine through black shales above the Main Limestone.
SWAAG ID Number: 617
Recorded Date: 2012-10-08 12:07:43
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Site Access: Public Access Land
Record Date: 2012-10-04
Location: Muker Common. Noon Gill.
Civil Parish: Stainton
British National Grid: SD 8940 9645
Altitude: 530m
Geology: Stream cut ravine revealing black shales or mudstone strata with thin interbedded calcareous sandstone beds of Late Pendleian and Arngillian (Namurian) Age. (Dunham and Wilson 1985,p166).
The photographs show the sandstone beds dip sharply down close to the junction with horizontal beds of the Main Limestone indicating that the stream has respected a minor fault in the Providence Vein series of fractures.
Description: Stream cut ravine at the western end of West Greenseat in black shales or mudstones with thin interbedded calcareous sandstone beds of Late Pendleian and Arngillian (Namurian) Age. (Dunham and Wilson 1985,p166).
The photographs show the sandstone beds dip sharply down close to the junction with horizontal beds of the Main Limestone indicating that the stream has respected a minor fault in the Providence Vein series of fractures.
The Tan Hill Coal outcrops at a higher elevation.
Last Update: 2012-10-08

Record Number 617 >>> Image 1: Noon Gill. Ravine cut through black shales above the Main Limestone.

Record Number 617 >>> Image 2: Noon Gill detail showing strata dipping at minor fault close to junction with the Main Limestone

Record Number 617 >>> Image 3: Noon Gill detail showing strata dipping at minor fault close to junction with the Main Limestone

Record Number 617 >>> Image 4: West Greenseat. Line of solution holes mark the outcrop of the Main Limestone east of Noon Gill.

Record Name: Scar Houses. Cliff Beck Upper Waterfall,Ford and Footbridge.
SWAAG ID Number: 618
Recorded Date: 2012-10-08 12:26:28
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geomorphology
Site Access: Public Footpath
Record Date: 2012-10-04
Location: Cliff Beck.
Civil Parish: Muker
British National Grid: SD 8941 9783
Altitude: 300m
Geology: Hardraw Scar Limestone. Waterfall ravine. BGS Sheet 40.
Description: The access road to Appletree Thwaite House and Pastures crosses Cliff Beck by means of a ford located at the top of a rocky ravine through which Cliff Beck thunders when in spate. In time of spate Cliff Beck must be crossed by means of an ancient stone arched footbridge which is less than a metre in width and has no parapet or guard rail.
Since this footbridge is situated just 3m downstream of the Upper Falls it is possible when standing on the bridge across the ravine to enjoy a unique sensation of risk from the Falls when in flood. The Upper Falls are at same level as the bridge and very close indeed.
Last Update: 2012-10-08

Record Number 618 >>> Image 1: Cliff Beck. Scar House Upper Falls in spate, photographed from the stone bridge..

Record Number 618 >>> Image 2: Cliff Beck. Scar House Upper Falls.

Record Name: White Force Waterfall, the Whin Cill and underlying metamorphosed 'Sugar' Limestone.
SWAAG ID Number: 632
Recorded Date: 2012-11-02 10:24:24
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Northern Britain
Site Access: Public Access Land
Record Date: 2012-11-01
Location: White Force Waterfall
Civil Parish: Holwick
British National Grid:
Altitude: 480m
Geology: The Whin Cill intrusion and metamorphosed 'Sugar' limestone.
Description: White Force is significant as the scene of a visit, on pony with a local guide, by the great pionneering geologist Adam Sedgewick during or before 1827. Adam Sedgwick first to recognised the injected nature of the igneous Whin Cill and that the strata both below and above the Whin Cill had been metamorhosed by contact with the igneous dolerite. (Sedgewick,A.1827. On the association of trap rocks with the mountain limestone formation in High Teesdale, etc. Trans. Cumb. Phil.Soc., 2, 140-196.)
Dimensions: See photos
Additional Notes: During periods of low flow, the waterfall disappears into a fissure within the metamorphosed limestone to re-emerge at the base of the falls. During time of flod the Falls are considered to be extremely impressive, rivalling The High Force!
To those who know me, burnt stones are not infrequently presented as evidence for the heating of water, however the fragments of Sugar Limestone shown on image No xx were heated by contact with the Dolerite Cill some 300M yrs ago, during the Late Carboniferous.
For a detailed discussion on the extent and relative age of the Whin Cill, see Johnson G.A.L. and Dunham 1963. 'The Geology of Moor House- A National Nature Reserve in north east Westmorland.' HMSO.
Last Update: 2012-11-02

Record Number 632 >>> Image 1: Cronkley Fell and The White Force in mid distance from Forest in Teesdale.

Record Number 632 >>> Image 2: The Whin Cill (Upper dark strata) and underlying metamorhosed (light coloured) limestone

Record Number 632 >>> Image 3:

Record Number 632 >>> Image 4:

Record Number 632 >>> Image 5:

Record Number 632 >>> Image 6:

Record Number 632 >>> Image 7: Water rolled cobbles of metamorphosed, fire cracked limestone. The Sugar Limestone.

Record Name: The Upper Teesdale. Whin Cill scenery of the River Tees downstream from Cronkley Bridge to High Force.
SWAAG ID Number: 636
Recorded Date: 2012-11-03 16:41:00
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Site Access: Public Footpath
Record Date: 2012-07-22
Location: The RiverTees downstream from Cronkley Bridge to High Force.
Civil Parish: Holwick
British National Grid: NY 880 283
Altitude: 350m-270m
Geology: River, valley and gorge scenery dominated by the Whin Cill.
Description: This record shows the nature of the scenery of the River Tees from Cronkley Brifge downstream to the High Force which is dominated by the presence of the dolerite igneous intrusive Whin Cill.
Dimensions: See photofile
Additional Notes: This length of the River Tees above the High Force is not only fine scenery but is, together with Crossthwite Common and Holwick Fell also the location of a wealth of archaeological sites of different periods (Coggins, D. 'Upper Teesdale. Thearchaeology of a North Pennine Valley.' BAR British Series 150, 1986.) and was the scene of an intensive charcoal burning and iron smelting or bloomery industry, (Gledhill, T.2003. 'The Charcoal Iron Industry of Upper Teesdale.'Teesdale Record Society.
The archaeology of this area was surveyed and selectively excavated by the Late Dennis Coggins and by Ken Fairless over many years. A number of settlements sites which have their close analogues in Swaledale were surveyed, investigated and radiocarbon dated. These sites which range from lithic find sites and scatters marking the location of Mesolithic Hunter and Neolithic Period Occupation, the unenclosed round house settlement on Bracken Rig of Middle Bronze Age Date to farmstead settlements of Pre-Conquest Date and shielings of Medieval and Post Medieval date. Examples of these sites will be uploaded to the SWAAG Database with the purpose of encouraging members to visit these sites and to be aware of these sites a the closest references for many as yet undated Swaledale sites.
See photofile captions for brief explanatory details of features photographed.
Last Update: 2012-11-06

Record Number 636 >>> Image 1: River Tees and Dine Holm Scars from the Pennine Way at Bracken Rigg.

Record Number 636 >>> Image 2: River Tees at Cronkley Bridge. View downstream.

Record Number 636 >>> Image 3: River Tees, Calf Holm.

Record Number 636 >>> Image 4: River Tees, Shieling on river bank opposite Calf Holm.

Record Number 636 >>> Image 5: River Tees view upstream towards Currack Wood. One of the few remaining areas of Upland Birchwood - once the prevalent woodland present across Upper Teesdale.

Record Number 636 >>> Image 6: Alders on the riverside, Dine Holm Scars in the background.

Record Number 636 >>> Image 7: Alders on the riverside, Dine Holm Scars in the background.

Record Number 636 >>> Image 8: Alders on the riverside, Dine Holm Scars in the background.

Record Number 636 >>> Image 9: Downy birch with alders above the river.

Record Number 636 >>> Image 10: Bends along the Tees and juniper scrub on the Whin Cill undisturbed at Dine Holm Scar. Quarried further downstream.

Record Number 636 >>> Image 11: Bracken Rigg. Unenclosed round house settlement of MBA date near the Pennine Way.

Record Number 636 >>> Image 12: Iron Bloomery (mound of iron slag) next Skyer Beck, in foreground next the footbridge, with juniper.

Record Number 636 >>> Image 13: River Tees at pasture Foot.

Record Number 636 >>> Image 14: Rectangular building on south bank at Pasture Foot,undated but possibly a shieling or early medieval dwelling associated with the iron smelting industry.

Record Number 636 >>> Image 15: The whinstone cliffs upstream of the quarry,photgraphed from the Pennine Way, with native aspen and juniper.

Record Number 636 >>> Image 16: Juniper on the river bank at Calf Holm. These junipers show signs of infection from the Phytopthora austrocedrae pathogen, although inaccessible to walkers.

Record Number 636 >>> Image 17: The quarry on the whinstone cliffs above the High Force.

Record Number 636 >>> Image 18: View upstream from the High Force, Upland birchwood on north bank.

Record Number 636 >>> Image 19: The falls.

Record Number 636 >>> Image 20: The High Force.

Record Number 636 >>> Image 21: The High Force

Record Number 636 >>> Image 22: The falls and river gorge

Record Name: The Deepdale Shap Erratic, John Phillips and the theory of glaciation.
SWAAG ID Number: 641
Recorded Date: 2012-11-12 18:15:07
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geomorphology
Site Access: Public Footpath
Record Date: 2012-11-09
Location: Barnard Castle. Deepdale Beck
Civil Parish: Cotherstone
British National Grid: NZ 0310 1638
Altitude: 189m
Geology: Very large erratic boulder of Shap Granite on the bed of Deepdale Beck, a south bank tributary of the Tees. This boulder is much the largest in the area but careful search of the stream bed will reveal several other boulders of both Shap Granite and of Borrowdale Volcanics.
Description: Very large erratic boulder of Shap Granite on the bed of Deepdale Beck, a south bank tributary of the Tees. This boulder is the largest in the area but careful search of the bed of Deepdale Beck will reveal several other boulders of both Shap Granite and of Borrowdale Volcanics.
This boulder of Shap Granite was one of the erratics noticed by John Phillips,the pionneering Yorkshire Geologist, who realised that Glacial Ice was the only possible transport of such large boulders and thus contributed to the , then, original and revolutionary idea of Glaciation. For details of John Phillips Life and Works, see .Phillips published his 'Geology of the Mountains, Moorlands and Sea Coast of Yorkshire'.
Additional Notes: The photographs show not only the well known boulder of Shap Granite but other large erratic boulders in the bed of the stream also.
Shap erratic boulders mark the extent of the Stainmore Glacier and are found on the Yorkshire Coast as far south as Robin Hoods Bay and also in the Vale of York.
No Lake District erratics are present in Swaledale as the Swaledale Glacier was fed from local snow fields. The southern limit of Shap Erratics was considered by Raistrick (Raistrick, A. 1929. 'The glaciation of Wensleydale, Swaledale and adjoining areas.' Proc. Yorshire Geol. Soc.20. 390-410). to be on the line of the south bank of the Greta and Gill Beck. However I have found a number of Shap Granites marking a southern limit of the ice stream carrying Shap Granites some 3km further south: on Barningham Moor, including a single small boulder at an elevation of 430m AOD on Eel Hill at the northern edge of the High Moor, see also SWAAG Record No. Shap and Borrowdale volcanics are widespread in the area of the Stainmore Ice and can be looked for at all exposures of boulder clay. There is a boulder mounted by a public building on North Road, Darlington and a large boulder of Shap granite is perched on the summit of Goldsborough Hill on Ctherstone Moor.
Last Update: 2012-11-13

Record Number 641 >>> Image 1: The Deepodale Shap Granite Boulder

Record Number 641 >>> Image 2:

Record Number 641 >>> Image 3: A careful look at the surface of the boulder will identify the large pink rectangular chrystals of Felspar characteristic of Shap Granite.

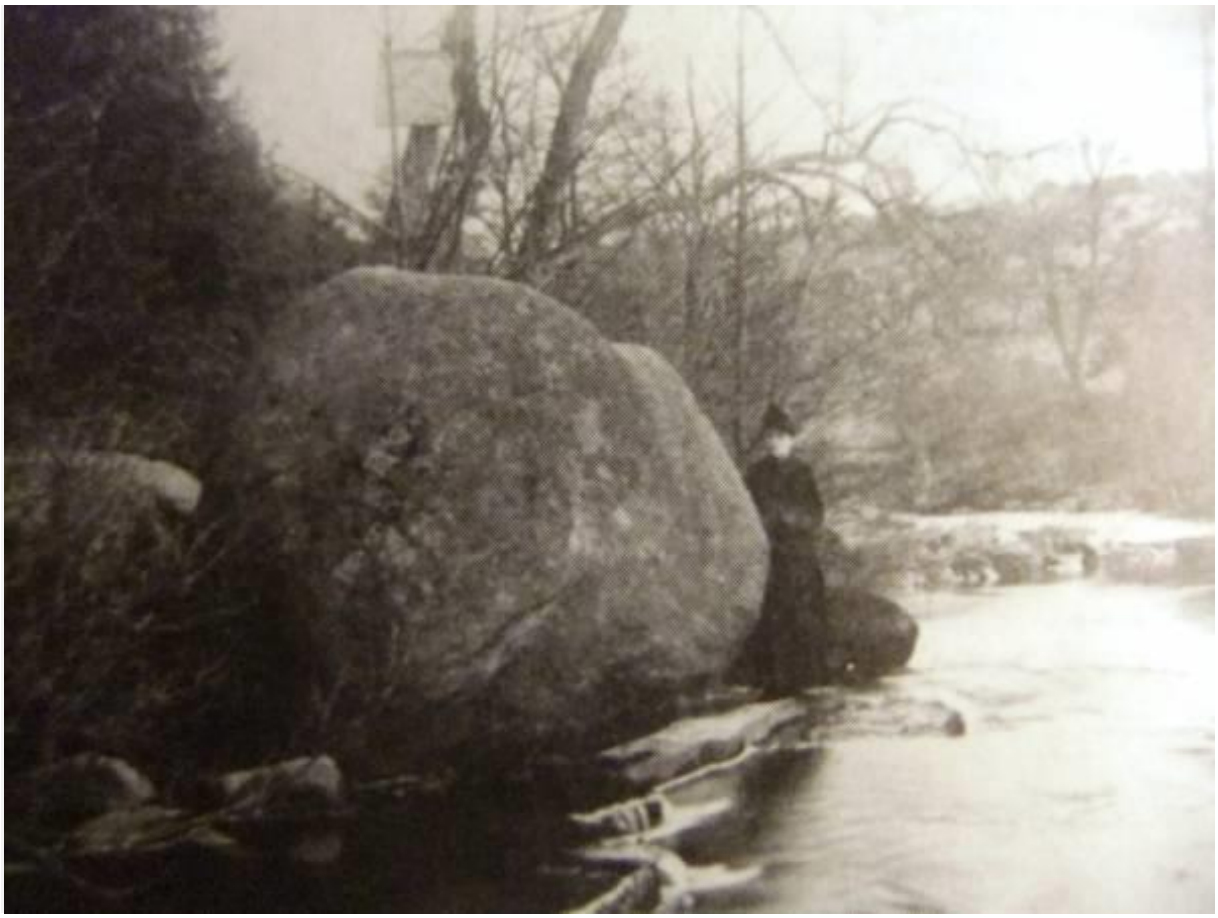
Record Number 641 >>> Image 4:

Record Number 641 >>> Image 5: A second , smaller boulder of Shap Granite in the stream bed.

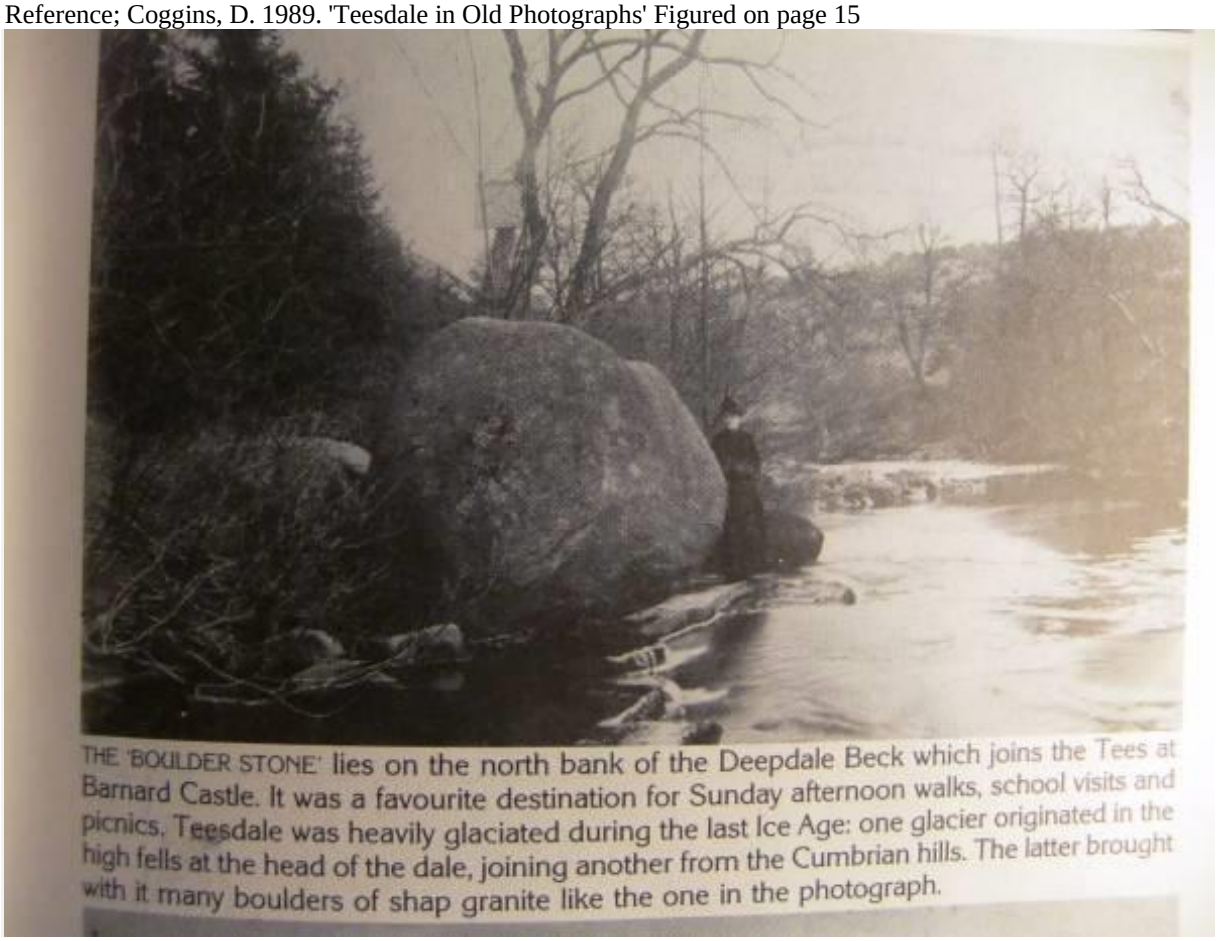
Record Number 641 >>> Image 6: Boulders of Borrowdale Volcanic Rock also.

Record Number 641 >>> Image 7:

Record Number 641 >>> Image 8:



Record Number 641 >>> Image 9: The Deepdale Boulder photographed during the later 19C. Note that the woodland in this area of Deepdale had been clear felled.
Reference; Coggins, D. 1989. 'Teesdale in Old Photographs' Figured on page 15



Record Number 641 >>> Image 10: The Deepdale Boulder photographed during the later 19C. This was

the destination for a popular Sunday Afternoon Walk,School and Museum trips.

Record Name: Two glacial erratic boulders of Carbiniferous Limestone at the Northern Edge of Semer Water Lake.
SWAAG ID Number: 662
Recorded Date: 2012-12-11 10:44:01
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Site Access: Public Footpath
Record Date: 2011-06-23
Location: Semer Water Lake Edge
Civil Parish: Bainbridge
British National Grid: SD 922 875
Altitude: 250m
Geology: Two glacial erratic boulders of Carbiniferous Limestone at the Northern Edge of Semer Water Lake.
Description: Semer Water is the remnant of a much more extensive post glacial lake formed until the River Bain breached the lateral moraine at the edge of the Howgill Ice and cut the pictureque river gorge above Bainbridge. (Kendall and Wroot, 1924 'Geology of Yorkshire',536/7). During the full glacial this glacial lake, then 3 miles wide and ice dammed by the Howgill Glacier extended for a distance of four miles further up Raydale,Cragdale and Bardale cutting the ice margin channelacross the NW shoulder of Addlebrough known as Hukermire Moss and also the ice margin channel at Harker Mire which seperates Addlebrough from The Stake Fell, both channels at an elevation of 375m.
Dimensions: See photos
Additional Notes: The peat infil to both Hukermire and Harkermire have been sampled for pollen by Ann Honeyman and her pollen reports at these sites have provided the basis for the understanding of the vegetational history of this area, see also SWAAG Record 661.
The prehistory of Semer Water Lake Edge and of the surrounding fells is introduced in more detail in SWAAG Record 661.
Last Update: 2012-12-11

Record Number 662 >>> Image 1: A quiet afternoon at Semer Water. The two wave washed and scuptured, limestone glacial erratic boulders.

Record Number 662 >>> Image 2: View to the northern shore where a lake dwelling or crannog,its causeway and the bronze spearhead were found during dredging the river channel through the Lake.

Record Number 662 >>> Image 3: A quiet afternoon at Semmer Water. NO power boats to disturb the ducks!

Record Number 662 >>> Image 4: The North Shore.The alder and willow carr on the northern edge of Semer Water are little changed since prehistory.

Record Number 662 >>> Image 5: Late prehistoric arrow points from the Lake Edge, on display at the Hawes Countryside Museum.

Record Number 662 >>> Image 6: Butchered animal bone. Finds of aurochs, wild horse, red deer etc from prehistoric hunter sites collected from around Semer Water over many years. Now in the Hawes Museum.

Record Number 662 >>> Image 7: The decorated basal looped spearpoint the Lake Edge, on display at the Hawes Countryside Museum.

Record Number 662 >>> Image 8: The lake edge. No power boats are launched here, only sailing dinghies.

Record Number 662 >>> Image 9: A quiet evening at Semer Water.

Record Name: Cotherstone Moor. The Crawlaw Stone - a glacial erratic (and non-anthropogenic archaeological site perhaps)
SWAAG ID Number: 663
Recorded Date: 2012-12-22 10:11:50
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Site Access: Public Footpath
Record Date: 2012-12-16
Location: Cotherstone Moor. East side of Crawlaw Gill.
Civil Parish: Cotherstone
British National Grid: NY 9347 1653
Altitude: 400m
Geology: Glacial erratic weathered gritstone earthfast boulder.
Description: The Crawlaw Stone is a large (for the area) and prominent earthfast glacial erratic gritstone boulder which is heavily fluted following millenia of natural weathering processes. This boulder, a landmark sufficiently distinctive to have a local name and to be named on the 1:25000 OS Map, Sheet OL31,is located midway between the two distinctive rocky 'nunatak-like' hillocks, Goldsborough 2.3km to the east and Shacklesborough 2.7km to the west. Both of these two hillocks have Early Bronze Age funary monuments on their summits, a ring cairn on Goldsborough Hill (See Swaag Record No) and a large but low round cairnn on Shacklesborough. In addition, Goldsborough is the focus of several rock art sites, (See Beckensall and Laurie 1998 and Swaag Record .
The Crawlaw Stone is such a distinctive and prominent Rock within an area of known Early Bronze Age ritual activity, that it is not unreasonable to suppose that it may have been the subject of the unknown ritual activities associated with similar rocks decorated in the cup and ring tradition. That is to say, that it is a non anthropological archaeological site.
Dimensions: See photographs.
Additional Notes: This distinctive rock is a landmark within one of the most distinctive of all Pennine Landscapes. The Pennine Way, the section between Clova Lodge and Gods Bridge- a section usually described as one of the more tedious moorland trudges, crosses Cotherstone Moor some 600m to the east.
Last Update: 2012-12-23

Record Number 663 >>> Image 1: The Crawlaw Stone. Shacklesborough in the far distance, as usually seen.

Record Number 663 >>> Image 2:

Record Number 663 >>> Image 3:

Record Number 663 >>> Image 4:

Record Number 663 >>> Image 5:

Record Number 663 >>> Image 6: Shacklesborough from Slateshill Gill, *10 lens magnification.

Record Name: Cotherstone Moor. Crawlaw Gill. The Cotherstone Syncline. Stream cut ravine with well defined interlocking spurs.
SWAAG ID Number: 664
Recorded Date: 2012-12-23 12:16:16
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geomorphology
Site Access: Public Access Land
Record Date: 2012-12-16
Location: Cotherstone Moor. Crawlaw Gill.
Civil Parish: Cotherstone
British National Grid: NY 9335 1660
Altitude: 390m
Geology: Cotherstone Syncline. BGS Survey Sheet 31, Brough-under-Stainmore. Stream cut ravine with well defined interlocking spurs.
Description: The stream has cut a steep sided ravine, Crawlaw Gill, through thick beds of soft black siltstone and mudstone strata of Namurian Age above the West Stonesdale Limestone which is exposed lower down the Gill.
These strata are equivalent to similar thick black shales exposed in Mirk Fell Gill near Tan Hill Colliery, Arkengarthdale.
Dimensions: See photograph
Additional Notes: No trees or other vegetation can survive to enjoy great old age on these fast eroding shale cliffs, for a single exception see the isolated rowan in photo image no 3. This rowan is a sole survivor, the exposed roots of this rowan shows the rate of erosion of the shales and this tree will not, I expect live to reach old age.
Last Update: 2012-12-23

Record Number 664 >>> Image 1: Crawlaw Gill.

Record Number 664 >>> Image 2: Crawlaw Gill Beck with small waterfalls over the West Stonesdale Limestone strata.

Record Number 664 >>> Image 3: Isolated rowan. The exposed roots of this tree indicate rapid erosion of the soft black shales.

Record Number 664 >>> Image 4: Isolated juniper in Crawlaw Gill. Large glaclial erratic sandstone boulders in the steam bed.

Record Number 664 >>> Image 5: Sheep fold at the head of Crawlaw Gill. Shacklesborough in far distance.

Record Name: Cotherstone Moor. Shacklesborough Hill. Isolated 'nunatak-like' hill.
SWAAG ID Number: 665
Recorded Date: 2012-12-23 18:09:20
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geomorphology
Site Access: Public Access Land
Record Date: 2012-12-16
Location: Cotherstone Moor. Shacklesborough.
Civil Parish: Cotherstone
British National Grid: NY 9085 1708
Altitude: 454m
Geology: Cotherstone Syncline. Namurian, Millstone Grit. See BGS 1:50000 series Sheet 31. Brough under-Stainmore. Isolated 'nunatak' type hill capped with 'The Botany Grit.'
Description: Shacklesborough and Goldsporough are two isolated flat summited distinctive and distant landmarks when viewed from high ground above Arkengarthdale across the glaciated Forest of Stainmore. These two hillocks are prominent features within a very fine and wild Pennine Moorland Landscape which at the head of Baldersdale with a sparce distribution of very interesting Early Bronze Age sites which include a number of rock art sites on both sides of Baldersdale (See Beckensall and Laurie 1998 and the examples previously recorded on the SWAAG Database), the ring cairn on the summit of Goldsborough, a low but substantial round cairn on the summit of Shackelborough, an unenclosed settlement to the east of Goldsborough and several burnt mounds on the northern fells above the Balder (see Laurie 2003). This record is a preliminary account, as we were unable to cross two streams swollen with heavy rains to reach Goldsborough and to photograph the summit and the round cairn at close quarters at our first attempt via Crawlaw Hill. We shall return by a more direct route soon!
Dimensions: See photographs
Additional Notes: Despite the appearance of both Goldsborough and Shacklesborough having survived the glaciation as small 'islands' projecting above the Stainmore glacier,ie 'Nunataks', the presence of two erratic boulders perched on the summit of Goldsborough, one a Shap Granite the other a boulder of Borrowdale Volcanic ash originating from the Lake District or Eden Inlier, these two hills were clearly overtopped by the Stainmore glacier. The whole area of remote moorland, north of the A66 at the head of the north bank tributaries of the Tees, including Deepdale, Balderdale, and Lunedale is an area well worth exploring for all aspects of landscape history.
Last Update: 2012-12-23

Record Number 665 >>> Image 1: Shacklesborough far across Mawman Sike from the Crawlaw Stone

Record Number 665 >>> Image 2: Shacklesborough Hill from Crawlaw Gill

Record Number 665 >>> Image 3:

Record Number 665 >>> Image 4: Mawman Sike and Shacklesborough in the far diatance.

Record Name: Oxnop Scar. A fine high limestone cliff formed by the Main Limestone.
SWAAG ID Number: 680
Recorded Date: 2013-01-15 16:50:11
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Site Access: Public Access Land
Record Date: 2012-12-22
Location: Oxnop Scar
Civil Parish: Muker
British National Grid:
Altitude: 495m
Geology: The Main Limestone exposed as a fine cliff or Scar facing west with scree and pro- talus rampart below. This cliff has an interesting early post glacial relict tree flora with prostrate juniper and aspen. In addition, ash, blackthorn and downy rose all grow at their local altitudinal limit. See SWAAG Record No 350 for details of the vegetation.
Description: The Main Limestone is he re exposed as a fine cliff or Scar some 1000m in length, sheer and dangerous to approach, facing west with scree and pro- talus rampart below. This cliff, in sharp contrast to the similar limestone cliffs of Wensleydale which are largely barren of trees, has an interesting early post glacial relict tree flora with prostrate juniper and aspen. In addition, ash, blackthorn and downy rose all grow at their local altitudinal limit. See SWAAG Record No 350 for details of the vegetation.The Main Limestone, so named by Phillips (1836) was also known by the Miners of Swaledale as the Twelve Fathom Limestone bec Vol. 2 Stainmore to Craven because of its fairly constant thickness, typically some 70-80ft or 21-24m in the mineral field (Reference: Dunham, K.C. and Wilson, A.A.1985.BGS 'Geology of the North Pennine Orefield.' Chapter Five: Namurian and Westphalian Stratigraphy.)
Dimensions: 1km in length 20m high maximum
Last Update: 2013-01-15

Record Number 680 >>> Image 1: Oxnop Scar in winter, photographed from Oxnop Gill.

Record Number 680 >>> Image 2:

Record Number 680 >>> Image 3: The Scar with limestone scree below.

Record Number 680 >>> Image 4: The Scar, detail.

Record Number 680 >>> Image 5: Prostrate juniper at top edge of the Scar.

Record Number 680 >>> Image 6: View northward down Oxnop Gill from the Scar

Record Name: The fossil Hyalostelia smithi at its Type Location 'Near Richmond'
SWAAG ID Number: 692
Recorded Date: 2013-03-06 18:24:52
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Site Access: Public Access Land
Record Date: 2013-03-27
Location: Shaw Beck North Side.
Civil Parish: Marrick
British National Grid: NZ 06652 02575
Altitude: 273m
Geology: In talus scree below Richmond Cherts exposed in low cliff.
Description: This fossil Lower Carboniferous sponge, Hyalostelia smithi, is at its Type Location 'Near Richmond' Reference: 'British Palaeozoic Fossils 'British Natural History Museum, 1966. Figure Plate 41.
Dimensions: See photos
Additional Notes: This fossil has also been recorded at Whitcliffe Scar and in Clapgate Gill.
Last Update: 2013-03-06

Record Number 692 >>> Image 1: The fossil sponge Hyalostelia smithi.Lower Carboniferous. Scree below Richmond Chert at Shaw Gill

Record Number 692 >>> Image 2: The findspot: Shaw Gill, North Side. Low cliff.

Record Number 692 >>> Image 3: Shaw Gill with the Prys Mine Shop.

Record Name: Fossil plant from Ten Fathom Grit Outcrop. This branching plant has the general appearance of a freshwater alga, somewhat similar to Chara.
SWAAG ID Number: 703
Recorded Date: 2013-03-23 16:20:05
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Site Access: Public Access Land
Record Date: 2005-01-01
Location: Ivelet Moor. Beale Hill Scar
Civil Parish: Muker
British National Grid: SD 916 988
Altitude: 460m
Geology: Namurian sandstone. The Ten Fathom Grit. Rock outcrop quarried for new access road and ditch.
Description: Fossil plant, species as yet unidentified, which has the general appearance of a branching freshwater alga, somewhat similar to Chara. Found in ditch recently excavated beside new access road.
Dimensions: See scaled photographs
Additional Notes: Any suggestions as to the identity of this fossil will be gratefully received.
Last Update: 2013-03-23

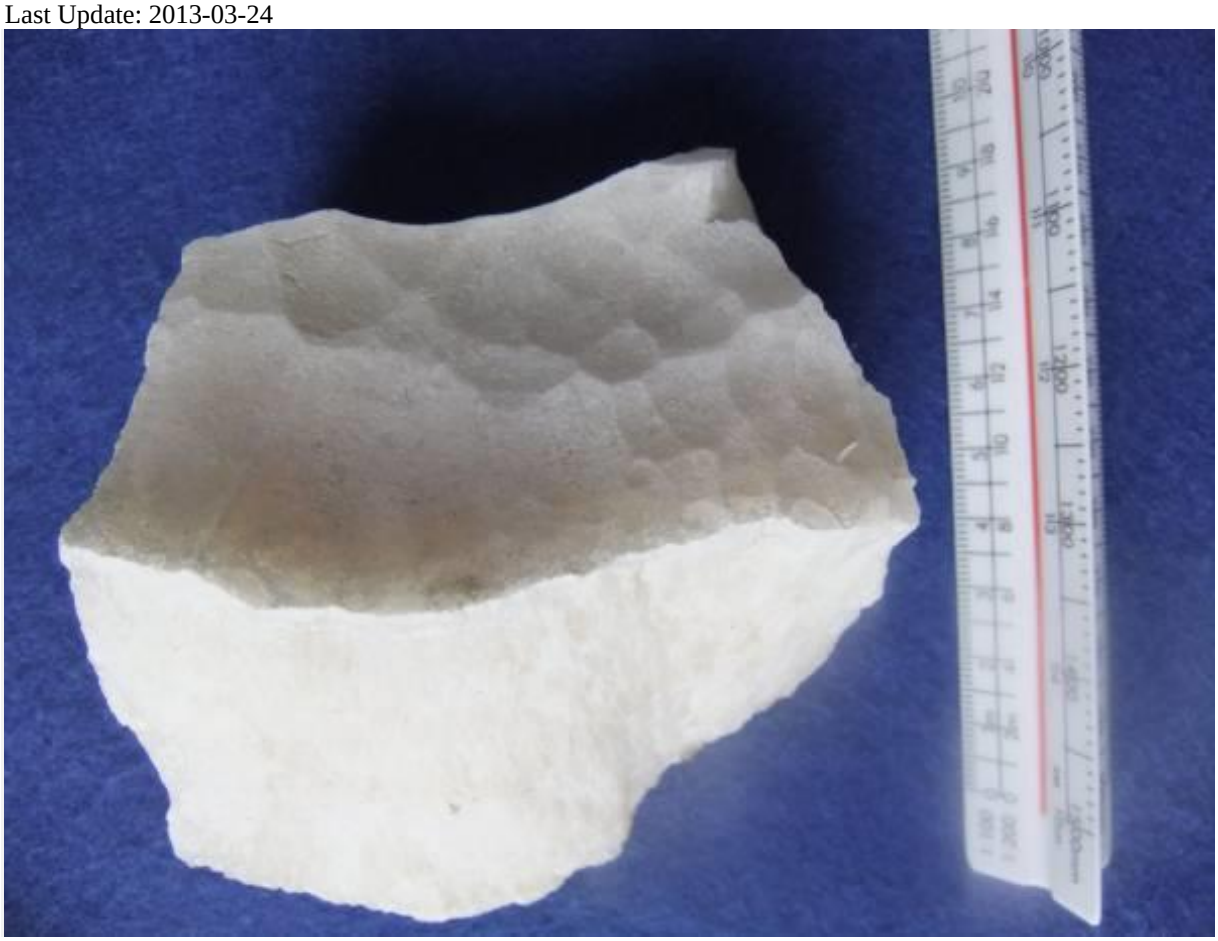
Record Number 703 >>> Image 1:

Record Number 703 >>> Image 2:

Record Number 703 >>> Image 3:

Record Number 703 >>> Image 4:

Record Name: Calcite fragment from spoil heap.
SWAAG ID Number: 705
Recorded Date: 2013-03-24 16:48:00
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Site Access: Public Access Land
Record Date: 2005-01-01
Location: The Copperthwaite Vein
Civil Parish: Marrick
British National Grid: NZ 055 001
Altitude: 425m
Geology: Lead mining ground on the Copperthwaite Vein in The Richmond Cherts.
Description: This calcite fragment which had been dug out by a mineral collector from the spoil heaps on Copperthwaite Allotment then broken and discarded, shows the dimpled surface from its original formation as being deposited from lime rich ground water to form the lining to a void in the limestone. Calcite, $CaCO_3$, is the main constituent of limestone.
Dimensions: See photos
SWAAG Site: Copperthwaite and Raygill Allotments and Stelling
Last Update: 2013-03-24



Record Number 705 >>> Image 1:


Record Number 705 >>> Image 2:

Record Name: Limonite or Yellow Ochre from Orgate Scar
SWAAG ID Number: 706
Recorded Date: 2013-03-24 17:38:14
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Site Access: Public Access Land
Record Date: 2013-03-16
Location: Orgate Scar
Civil Parish: Marske
British National Grid: NZ 095 021
Altitude: 325m
Geology: Richmond Chert over The Main Limestone
Description: Limonite or Yellow Ochre is present at many if not all mineralised faults in the Pennines and elsewhere. Limonite also occurs as Bog Iron Ore. Alteration product of other iron minerals.
Dimensions: See photos
Additional Notes: Yellow ochre and haematite, which provides a red-brown colour, both being ores of iron, were used as a pigment from the Late Palaeolithic onwards. The brownish colour of the limestone in the vicinity of lead veins is due to iron minerals. Haematite nodules have been recorded with lithic scatters of Early Mesolithic Age in Teesdale.
Last Update: 2013-03-24

Record Number 706 >>> Image 1: Limonite from Orgate Scar.

Record Name: John Moss's Chair
SWAAG ID Number: 731
Recorded Date: 2013-06-24 11:44:49
Recorded by: Will Swales
Category: Geological Record
Record Type: Geological HER
Site Access: Public Access Land
Record Date: 2013-06-20
Location: Grinton Gill
Civil Parish: Grinton
British National Grid: SE 043 977
Altitude: 260m
Geology: Carboniferous sandstone feature
Description: John Mossâ€™s Chair is a name marked on the OS Explorer map just west of Grinton Gill, but the map gives to no clue to what it is or exactly where it is. Fortunately the OS 25-inch map of 1912 is more specific and marks its location very precisely, deep in the cut of Grinton Gill.

It can be reached easily via the bridleway that runs westwards from Grinton Lodge Youth Hostel and then, where it crosses the gill, by following the unmarked footpath downstream on the east side of the water. After less than 100 metres, a rather obvious, large rock outcrop becomes clearly visible on the opposite side of the gill. The front elevation is about three metres square, and it seems to have four legs. It looks like a giantâ€™s chair. Thanks to John Russell for pointing out that the rock is carboniferous sandstone.

But who was John Moss? The name goes back to before 1857 when John Mossâ€™s Chair was marked on the first OS map published in that year. The OS surveyors gathered their information from local people. What did they say? Was he a mythical giant who people once believed lived in the gill or on the moor above? Or was the rock named as a joke, after a local man who was very big?

See also Nanny Ward's Well at Record 732

Last Update: 2013-06-24

Record Number 731 >>> Image 1: John Moss's Chair - a natural rock feature that looks like a giant's chair

Record Number 731 >>> Image 2: The view from atop John Moss's Chair looking down Grinton Gill

Record Name: Walden Beck. Carboniferous coral sp. unid. Similar to Amplexus coralloides but larger diameter.
SWAAG ID Number: 740
Recorded Date: 2013-07-21 20:29:25
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Site Access: Public Access Land
Record Date: 2013-07-19
Location: Walden Beck
Civil Parish: Bishopdale
British National Grid: SD 979 794
Altitude: 400m
Geology: Five yard limestone. Fossiliferous limestone as bed of the stream and boulders in stream bed.
Description: Carboniferous coral sp. unid. Similar to Amplexus coralloides but larger.
Reference: British Palaeozoic Fossils Second Ed. 1966.London.
Dimensions: See photgraphs
Additional Notes: Other fossils here include Productus and single corals in the limestone of the stream bed, see photos
Last Update: 2013-07-22

Record Number 740 >>> Image 1: Carboniferous coral sp. unid. Similar to Amplexus coralloides but larger.

Record Number 740 >>> Image 2:

Record Number 740 >>> Image 3: Productus in limestone boulder.

Record Number 740 >>> Image 4: Productus shells sectioned by the stream

Record Number 740 >>> Image 5: An unidentified coral in the limestone.

Record Name: Juniper scrub at base of 2-4m deep peat in sike at southern end of Nine Standards Rigg.
SWAAG ID Number: 747
Recorded Date: 2013-08-21 11:04:33
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Archaeology
Site Access: Public Access Land
Record Date: 2013-08-17
Location: Nine |Standards Rigg. Rollinson Head.
Civil Parish: Muker
British National Grid: NY 82736 05784
Altitude: 643m
Geology: Blanket peat 2-5m deep over Namurian sandstones (Pickerstone Edge Grit).
Description: Sike at southern end of Nine Standards Rigg. Massed remains of Juniper Scrub at base of 2-4m deep peat with stunted birch at higher levels in the peat face.
Dimensions: See photgraphs
Additional Notes: This identification of juniper with stunted birch below deep blanket peat at 643m Elevation which is at the limit of streams feeding Whitsundale Beck below Nine Standards Rigg, together with similar juniper remains with birch well above 600m elevation in Lodge Hags at Uldale Gill Haggs points to the existence during the early post glacial period of widespread juniper scrub on the highest ground on the Swale-Eden Interfluve.
The remains of Scots Pine with birch are present below blanket peat at lower elevations on Birkdale Common.
Last Update: 2013-08-21

Record Number 747 >>> Image 1: Deep blanket peat with remains of juniper at the base and with stunted birch at two further upper levels.

Record Number 747 >>> Image 2:

Record Number 747 >>> Image 3:

Record Number 747 >>> Image 4:

Record Name: The Main Limestone and overlying fossiliferous chert strata exposed in Downholme Quarry
SWAAG ID Number: 769
Recorded Date: 2013-12-11 16:14:04
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Site Access: Public Footpath
Record Date: 2013-11-27
Location: Downholme Quarry
Civil Parish: Downholme
British National Grid: SE 1130 9812
Altitude: 227m
Geology: Fossiliferous Main Chert series strata overlying the Main Limestone.
Description: This record provides a photo record of the rarely so clearly exposed and seen thin bedded fossiliferous chert strata which directly overlies the massively bedded Main Limestone in the wall of Downholme Quarry.
To my untrained eye the fossils seen include not only productid brachiopod shells but also very fine examples of the polyzoan Fenestella sp and sections through two examples of spirally structured shells which may be large gastropods or possibly goniatites. Reference: The British Museum. British Palaeozoic Fossils.
Below the quarry is a very fine limekiln.
Large ash trees grow in the hedgerows around the quarry and a walk on the MOD Downholme Permissive Footpath which passes the entrance to this quarry is worth while to see the views from high of the discreetly located Downholme Church and across to the medieval lynchets and iron age defensive earthworks on the summit of How Hill, Downholme. See photofile.
Dimensions: See photographs.
Additional Notes: This quarry is on MOD Land but can be seen from the Downholme Permissive Footpath which traverses the western edge of the MOD Range. Access is at your own risk. Do not approach or climb the exposed rock face and observe the access and safety rules laid down at the entrance to the quarry and in the Permissive Footpath Leaflet.
This quarry will be visited at the beginning of a walk for SWAAG Members and their guests during a programme of walks planned to take place in the New Year.
SWAAG Site: Downholme Moor
Last Update: 2013-12-11

Record Number 769 >>> Image 1: The Downholme Quarry from the MOD Permissive footpath to Thorpe Edge.

Record Number 769 >>> Image 2: The face of the quarry with thin bedded chert strata above the Main Limestone.

Record Number 769 >>> Image 3:

Record Number 769 >>> Image 4: Surface of limestone with fossils.

Record Number 769 >>> Image 5: Possible Goniatite. A rare zonal fossil of the Namurian.Detail

Record Number 769 >>> Image 6: Possible Goniatite. A rare zonal fossil of the Namurian. Detail.

Record Number 769 >>> Image 7: Productid brachiopod shells and the bryozoan fenestella.

Record Number 769 >>> Image 8: The lime kiln

Record Number 769 >>> Image 9:

Record Number 769 >>> Image 10:

Record Number 769 >>> Image 11:

Record Number 769 >>> Image 12:

Record Number 769 >>> Image 13: The Permissive Footpath Signboard at Downholme Village.


Record Number 769 >>> Image 14: How Hill, Downholme from the Quarry.

Record Number 769 >>> Image 15: How Hill, Downholme from the Quarry.

Record Number 769 >>> Image 16: Earthworks on How Hill, early cultivation overlies an Iron Age defended settlement.

Record Name: Ellerton Scar East. Quarries within Spring Scar Wood. Possible Goniatite fossil in Richmond Chert.
SWAAG ID Number: 777
Recorded Date: 2014-02-18 16:41:25
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Site Access: Army Range
Record Date: 2010-04-12
Location: Spring Scar Wood
Civil Parish: Stainton
British National Grid: SE 090 970
Altitude: 200m
Geology: Loose rock of probable Richmond Chert in scree below quarried face of Main Limestone
Description: Single spiral section of a Goniatite or Gastropod fossil (possibly Reticuloceras bilingue) preserved on the face of a loose slab of rock probably derived from the Richmond Chert Strata which overlies the sheer face of Ellerton Scar within Spring Scar Wood.
Reference:
British Palaeozoic Fossils p.166, plate 57, figure 4.
Dimensions: See images
Additional Notes: Similar fossils have been seen in debris within the quarry at Downholme.
SWAAG Site: Ellerton Moor
Last Update: 2014-02-18

Record Number 777 >>> Image 1:

Record Number 777 >>> Image 2:

Record Number 777 >>> Image 3:

Record Number 777 >>> Image 4:

Record Number 777 >>> Image 5: Eastern section of Ellerton Scar, fossil found on slope below the cliff.

Record Name: A brief account of the Geology of Ellerton by John Russell.
SWAAG ID Number: 782
Recorded Date: 2014-03-04 12:40:47
Recorded by: Tim Laurie
Category: Geological Record
Record Type: Geological HER
Site Access: Private
Record Date: 2014-03-04
Location: Swaledale in the vicinity of Ellerton Abbey
Civil Parish: Ellerton Abbey
British National Grid: SE 075 972
Altitude: 200m
Geology: See attached Text: 'A brief account of the Geology of Ellerton' by John Russell (Image Nos 1 and 2) Explanatory Figure(Image No 3) and Photographs (Image Nos 4-7).
Description: This Record comprises a brief account of the Geology and Late Glacial Landforms of the Lower Swale Valley together with an illustrative sketch and photographic images of the Recessional Moraine and Recessionary Collapse Structure in the vicinity of Swale Farm and of Ellerton Abbey.
Additional Notes: Please click on Images 1 and 2 to read text.
Last Update: 2014-03-04

A brief account of the Geology of Ellerton

Ellerton Abbey and House are sited on the south side of the River Swale. The River Swale is a misfit river in its valley stage. The geology will be dealt with in three chronological stages-

1. Lower Carboniferous.

The Swale valley at Ellerton is a typical glacial trough. It is identified by the following features- it is relatively straight with steep smooth sides and a flat floor. The northern wall of the valley, opposite Ellerton House has a vertical exposure of Middle Limestone. On the opposite side of the valley two cyclothems can be identified in the lower fields. These are best seen in low sunlight. The cyclothems are named after there limestones and in this case they are the three and five yard limestones. Looking down the valley to the east is a north- south fault which throws the Middle Carboniferous against Lower Carboniferous rocks. This fault resulted in extensive mineralisation on the army ranges (Visited by Tim Laurie and Swaag on the 17th of February). It crosses the floor of the valley at Abbey Farm.

2. Glaciation.

Nineteen thousand years ago the last glacial maxima occurred of the Devensian Glacial Period. After this, there was a period of warming until the Younger Dryas about ten thousand years ago. Following the LGM, the warming climate caused the all the Dales glaciers to retreat up the valleys towards the source of the present day rivers. Although the climate was warming, there were rapid and frequent fluctuations in temperature. Cold periods could halt the retreat of the glacier so that it became static or even began to advance again. During these static phases the glacier would pile up moraine at its snout. The snout is the melting point of the glacier. When the glacier retreated there would be a ridge of moraine left crossing the valley. This was called a recessional moraine. Valleys like the Swale have several recessional moraines crossing them. Each moraine had the potential to dam the valley and form a glacial lake. (photo 1).

Running between the valley side and the glacier is a melt water channel. This channel is seen on photo 2 where the dry stone wall runs to the farm. As the water from this channel reaches the valley floor it cuts

Record Number 782 >>> Image 1:

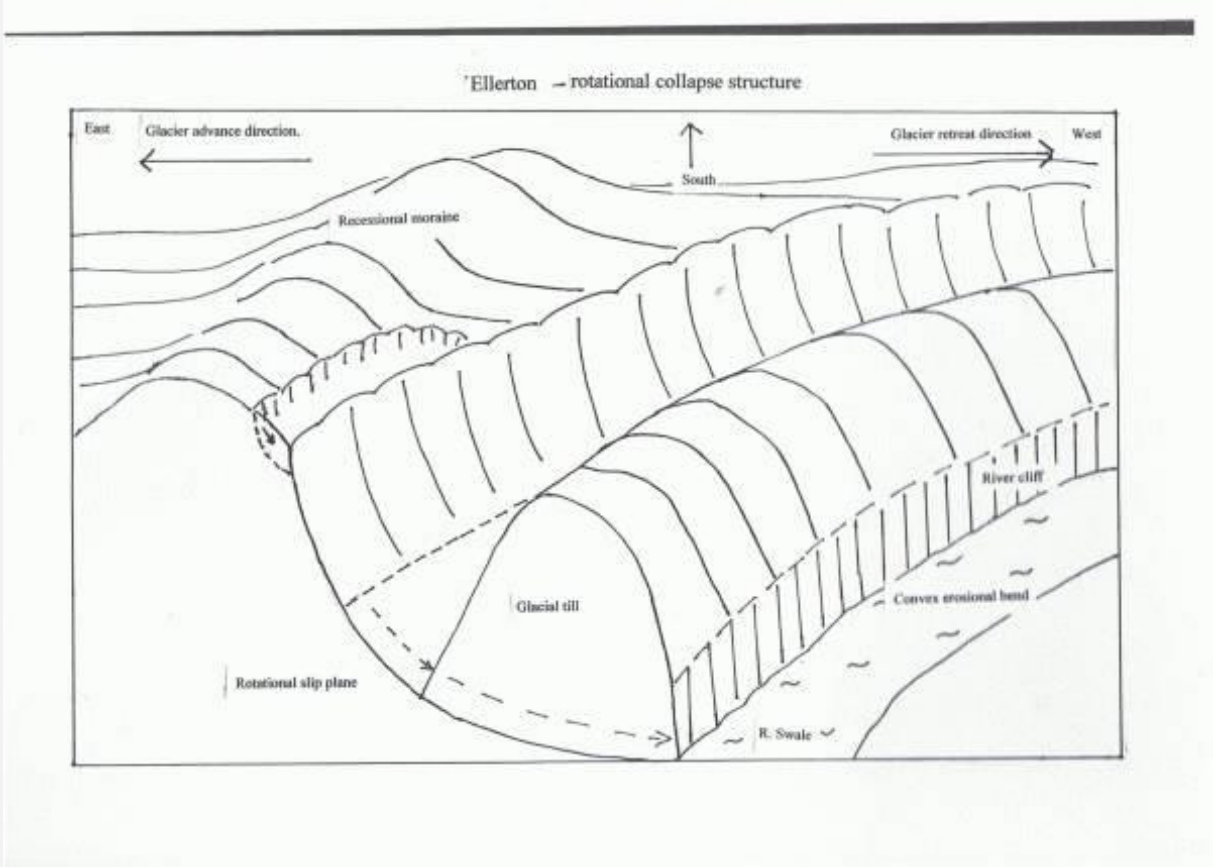
terraces into the east facing slope of the recessional moraine(photo 3). The melt water cuts curved terraces in the recessional moraine.

Eventually the River Swale cuts through the soft recessional moraine and empties the short lived glacial lake. The lake floor sediments are the most fertile areas for farming and are distinguished by being very flat.

3. Post glacial changes to the Recessional Moraine.
Throughout the Holocene Period (last 10,000 years) the recessional moraine at Ellerton has been eroded by the River Swale. This erosion has been very rapid because of the very soft glacial till that makes up the recessional moraine.
At grid ref' 076975 on the OL30 map, the west face of the moraine is being eroded. The outside convex bend of the river is undercutting the base of the recessional moraine and created a steep river cliff. This has caused a series of gravity related rotational slides. Photo 4 shows the beginning of one of these collapse structures.

Notes on pictures.

P1. The valley floor at Ellerton Abbey. To the right of the trees are dark lacustrine sediments. The wooded area above the Abbey is the Middle limestone.
P2. The recessional moraine with horses on the water worn terraces.
P3. Swale Farm with the glacial melt water channel to the right of the dry stone wall.
P4. A major rotational collapse structure in the wooded areas. In the fore ground is another rotational collapse structure in its initial stages



Record Number 782 >>> Image 3:

Record Number 782 >>> Image 4: The valley floor at Ellerton Abbey. To the right of the trees the ploughed field shows dark lacustrine sediments. The wooded bank on the northern side of the River Swale is formed by strata of the Middle Limestone.

Record Number 782 >>> Image 5: The recessional moraine. Horses graze on the water worn terraces.

Record Number 782 >>> Image 6: Swale Farm pastures. Glacial melt water channel to the right of the drystone wall.

Record Number 782 >>> Image 7: Rotational structures above the south bank of the Swale at Swale Farm