



NEWSLETTER NO. 100

AUGUST 1993

The Black Country Geological Society

The Society does not provide personal accident cover for members or visitors on field trips. You are strongly advised to take out your own personal accident insurance to the level you feel appropriate. Schools and other bodies should arrange their own insurance as a matter of course.

Leaders provide their services on a purely voluntary basis, and may not be professionally qualified in this capacity.

The Society does not provide hard hats for use of members or visitors at field meetings. It is your responsibility to provide your own hard hat and other safety equipment (such as safety boots) and to use it when you feel it is necessary, or when a site owner makes it a condition of entry.

FUTURE PROGRAMME

Lecture meetings are held at the Saracens Head, Stone Street, Dudley, 7.30 p.m. for 8 o'clock start.

SUNDAY 26TH SEPTEMBER

Field meeting to quarries at Bedworth and Nuneaton visiting Griff Quarry near Bedworth in the morning and Judkin's Quarry near Nuneaton in the afternoon.

Leader: John Crossling (Warwickshire Museum).

Meet at 10.15 a.m. at the entrance to Griff Quarry (grid ref: 361890). This is about 1.5 miles north of Bedworth. Leave M6 motorway at junction 3 then go north on the A444, towards Nuneaton, for about 2.5 miles to a roundabout. Here take the A4113 going south towards Bedworth, after 50 yards take the left turning (Gipsy Lane) and go along it for a quarter of a mile. The quarry entrance is on the right and there is a small car park to the right as you drive into the site.

The Nuneaton area has important exposures of Pre-Cambrian and Cambrian strata, and they are particularly well displayed in these working quarries. It is difficult nowadays to obtain access to working quarries so we are particularly grateful to John Crossling for arranging these visits.

Hard hats are a condition of entry for this meeting.

Chairman
A. Cutler B.Sc., M.C.A.M.,
Dip.M., M.C.I.M.

Vice Chairman
G. J. Worton B.Sc., F.G.S.,
A.M.I.Geol., M.I.Env.Sci.

Hon. Treasurer
Mrs J. Shilston

Hon. Secretary
P.D. Shilston M.A., C.Eng.,
F.I.E.E., M.I. Mech.E.

MONDAY 11TH OCTOBER. Lecture on mining exploration by John Collier (RTZ Mining and Exploration Ltd.)

The RTZ Group is one of the world's major mining and mineral combines, with interests worldwide in coal, iron ore, copper, zinc and precious metals. This activity requires a continuous programme of exploration for new

sites and for development of existing ones. This lecture will describe exploration and evaluation techniques used by the company and will be illustrated with several examples.

SATURDAY 30TH OCTOBER.

A geological and social event of an afternoon canal trip through the newly re-opened Dudley canal (duration approx. 2 hours) followed by an optional meal. Assemble at 2.15 p.m. at Mad O'Rourkes, Hurst Lane, Tipton (near the Black Country Museum) and leave cars there. Go by private bus to the far end of the tunnel at Netherton, travel by barge through the tunnel into Singing Cavern and Little Tess Cavern with their audio-visual displays, past the Black Country Museum site and finish close to Mad O'Rourkes around 4.45 pm. A meal will be laid on there for those who want it and have booked in advance.

A booking form for the canal trip and meal is given in this newsletter.

MONDAY 15TH NOVEMBER.

Lecture "The uses of palaeomagnetism in the study of sedimentary rocks" by Dr. Peter Turner (Birmingham University).

The study of palaeomagnetism - the earth's magnetic field and its effects over geologic time - has assumed great importance in recent years. Magnetic field changes and reversals are imprinted into rocks when they are formed and this has given geologists a new insight into sedimentary rocks and their histories. In particular, palaeomagnetic studies finally proved that the continental and oceanic plates had actually moved, and this confirmed the whole theory of plate tectonics.

Dr. Peter Turner has palaeomagnetism as one of his specialities and his lecture will cover much of this interesting and important branch of Earth Science.

SATURDAY 27TH NOVEMBER. Geological Roadshow at Dudley Museum, St. James's Street, Dudley. 10.30 am - 5.30 pm.

This will feature geological stands and displays from the Museum, from local firms, societies and other organisations, film shows, the museum shop, a stand where experts will identify your fossils and minerals, and other attractions.

MONDAY 6TH DECEMBER. Lecture "Canal construction and maintenance" by David Brown (British Waterways).

This year - 1993 - is being celebrated by British Waterways as 'the year of the canal' to mark the time 200 years ago when canal planning and building was at its height in the 1790's, so it is appropriate to have a 'canal' lecture in our programme.

This will be an 'engineering geology' lecture dealing with the many aspects of canal construction and maintenance. The lecture will concentrate on the engineering construction and maintenance of canals, making reference to the problems associated with coal-mining subsidence, limestone caverns and earthworks stability.

David Brown is Works Engineer in the Midlands & Southwest Region of British Waterways.

MONDAY 17TH JANUARY 1994. Lecture "Black Country Building Stones" by Keith Hodgkiss.

MONDAY 21ST FEBRUARY, AGM followed by a talk "The Himalayas" by David Gossage.

MARCH (date to be advised)

Lecture: "The Aeolian Islands - a dying volcanic arc in the Tyrrhenian Sea" by Michael Bamlett (University of London).

APRIL (date to be advised)

Lecture "The contribution of groundwater to water supply in the Severn Trent catchment" by R.I. Rodgers (Groundwater planner, Severn Trent Water).

SUNDAY 8TH MAY

Field meeting: "Slip sliding away and a subterranean experience".
Leaders: Dr. J. Cripps and Dr. P.R. Ineson (Sheffield University).

This will be a visit to Mam Tor landslip, Castleton, Derbyshire and related sites.

**** ADVANCE NOTICE ****

SATURDAY/SUNDAY 24/25TH SEPTEMBER 1994

LEY ROCK & FOSSIL FAIR - Town Hall & Museum, Dudley.

EDITORIAL

The Society has reached yet another landmark with the publication of Newsletter 100. To wend it on its way we have messages from previous editors and a forecast of what we may expect by the time Newsletter 200 is published. We are also republishing Newsletter number one.

Appropriately, our 100th Newsletter announces that membership now exceeds 100 for the first time in the Society's history. Thanks to publicity from the 'Rock and Fossil Fair', 'Dinosaur-mania' and 'Jurassic Park', Geology is in fashion and we are the beneficiaries.

I hope our new members will enjoy the exciting programme we have to offer. Places on the canal trip are filling fast and next year's programme looks varied and most attractive.

KATE ASHCROFT

Letters from the Editors

".... To Paid-up Members"

It took me a few weeks to find copies of the early newsletters and, as my filing system has never been the best, they were in more than one box! But what was particularly enlightening was that in amongst the sought-after papers there were other items of interest. One piece of paper was entitled 'Report on a meeting held on Thursday 16th March 1978 at 7.15 pm in Dudley Library, St. James's Road, being the Annual General Meeting followed by a film show.' The meeting opened with refreshments, there was an '... absence of a treasurer ...' (a Mrs E. Bakewell), membership numbered 44 and field trips had been to Wren's Nest, Castleton, Aust Cliff, the Cotswolds and an open-cast coal mine. The major conservation project was recording and sampling at Pouk Hill, Walsall, prior to infilling with domestic refuse and the Society was about to start the collection of site data and also hoped to publish the first volume of the Journal in 1978. I also found out that Dave Wraight is a native of Dorset and John Golledge started life in Wiltshire. Now geologically speaking Dorset can be an asset, but I am not so sure about Wiltshire.

As you will note Newsletter No. 1 dated August 1975 expressed the hope that the publication would '... provide a convenient medium for the dissemination of information about the Society's activities in a lively and informal manner.' I think this has proved to be so over the years. The Inaugural meeting was also described, having taken place in Dudley Museum on 3rd July 1975. I was amused to note that the meeting was attended by '... about 25 people, the majority of whom became members immediately. Clearly we had not learnt to count in those early days but we certainly knew how to enrol members!

Notice was given of the forthcoming inaugural lecture by Professor F.W. Shotton entitled 'The Ice Age in the Midlands'. The Society was accepted as an important body from the moment Fred Shotton agreed to address us. I think that lecture of 25th September 1975 was a landmark. The Newsletter states that a draft constitution was read and '... with the additions of two extra articles was approved ...' Well I don't recall that at all, but it must be true, as must have been the ability to acquire British Regional Geology - Central England for 40p and Sheet 167 Dudley for 50p. It's all there in black and white.

Another item from one box stated that Colin Mitchell as Conservation Secretary had written, in 1979, to West Midlands County Council expressing concern about vandalism and fly-tipping at Pouk Hill Quarry and offering to undertake some conservation work. I feel this was an important beginning in the establishment of the Society as an authoritative and professional group in the eyes of public bodies. There is a lovely line in the reply from the County Council '... when recently inspected, any rope that the children had had had been removed.' Ah, such is Geology, Geology, Geology!

By the time Newsletter Number 2 hit the presses in November 1975 it had expanded from 2 to 4 sides and included an impressive list of forthcoming events starting with a '... Wine, Cheese and Rocks' evening in December. Terry Bond did a review of 'Geology Explained in the Forest of Dean and the Wye Valley' by W. Dreghorn, published by David and Charles 1968, £2.00; and Doug Bedson had accepted the challenge of Literature Librarian.

Between a comprehensive list of sites produced by Peter Whitehead and a letter from Eileen Bakewell on vivid mauve paper I unearthed seven years or so of Extra-Mural class details and registers. The first Extra-Mural class that I taught was at the Central Library, St. James's Road and was entitled 'Rocks, Minerals and Fossils: An Introduction to Geology' - 20 meetings beginning October 3rd 1968, Fee 32/-. Unfortunately I cannot find a class register for that course but I do have them for later courses. On the 1970 course 23 people enrolled. This must have been the group that had the vision to think about starting a Geological Society for the Black Country. I note that most people paid 50/- but for some reason a Mr. A. Cutler only paid 30/-!

The last Newsletter I produced was number 14 - I can't find a copy of it but I do have number 13 which was still only running at 4 pages but the Society's programme looked impressive with a meeting at least every month (with the exception of August) for the whole of 1979. The programme started with a study of local geological maps in January, included sherry at the AGM in March, a weekend field trip to Dorset in May and ended with Graham Hickman talking on 'The Geology of the Dumfries Area' in December.

It was clearly an excellent choice to ask Sheila Pitts to take over as Editor of the Newsletter, for in her very first issue she produced 7 sides. Fresh blood can change things for ever - has there ever been 4 sides since November 1978?!

I am proud to have been associated with the formation of BCGS. The Newsletter was important in the establishment of the Society. The last sentence of my

Editorial in November 1978 says it all, then as now 'The Society is now part of the Black Country and of British Geology. Long may it be so.'

PETER OLIVER

Way back in 1978 the 'phone rang. Peter Oliver asked if I would consider editing the newsletter. This had never crossed my mind, but he was quite insistant and suitably flattering! I agreed to think about it and really wanted to do something for the Society because I'd been part of the original evening class where it all began. The more I reviewed my lack of talant for the other jobs, the more it became the newsletter. My only instructions were "Get 'em to write things up" and "You'll find your own style". Style seemed to be apprehension.

It was fascinating to browse through old newsletters. Forgetting about feelings such as "Did I write that?" I was amazed as how much activity there was, most of it steadily increasing. Venues for indoor meetings changed, but were usually pubs. Conservation work certainly increased - many hours of h & work by a select few appears less often than it deserves. Clearly I should have "got someone to write up" what is involved in organising the major events such as the tenth and fifteenth anniversaries, and not just the splendid finished products!

Some of you may not have been at the tenth anniversary, which was held in Dudley Museum, where the inaugural meeting was also held. Various exhibits there included those of university and British geological Survey origin and no-one could find enough time for all the desired conversations. It was the same year, 1985, that we announced the birth of the new magazine "Geology Today", which now seems to have been around for ever.

Various themes recur and the local limestone is never far from the news. University speakers and leaders of field trips are frequently there too. The series "From the Papers" began. "Letters to the Editor" expanded to make up most of the fiftieth newsletter. That included one from a certain globetrotting geophysicist called Graham Hickman, who'd been a member since his schooldays and kept us posted about a diversity of B.P. oil wells. Lots of other people also passed exams while members, although it was difficult t get them to admit it. And Colin Reid arrived and made a profound impact on Dudley geology.

Some members have organised various sales to swell our bank balance. I especially like the Society sweatshirts, as well as the more geological items. And a lot of us have been on geological holidays at home and abroad, advertised in the newsletter.

One of the best things the BCGS has brought me is many real, long lasting friends. You too, I expect.

They tell me I did fifty newsletters. As someone famous is bound to have said, "Who's counting?" Let's just get on with it!

SHIELA PITTS

The Black Country Geological Society in the 21st Century

What will the Black Country Geological Society be like by the time we issue the Bi-centenial newsletter? (which incidentally will be in April 2010). I don't have a crystal ball or ESP or anything like that. Perhaps the best way to look into the future is to look back at the past (after all, that's what we do in geology all the time isn't it!)

For 150 years the Black Country has been home to people curious about the earth beneath their feet and in 1975 the present Black Country Geological Society was born. From humble beginnings we've grown to 100+ members. For the statisticians we've promoted and popularised geology to our members through more than 730 pages of newsletter, over 130 indoor meetings and about 100 field trips. We've waved the banner at many conferences, exhibitions, roadshows and geological events and been responsible for saving many exposures, had a hand in national conservation policy and in the design and construction of innovative geological displays. We are also regularly asked for advice by professionals such as the British Geological Survey, nature conservation bodies and academic geologists. "From little acorns etc!"

So where are we going and what might be in store for us? At present we have a robust, wide ranging, talented and increasingly enthusiastic membership, collectively capable of supporting all sorts of activities from national geology fairs to extensive canal-side clean up operations. While we continue to strive to do interesting and exciting things our membership will continue to grow and we will undoubtedly organise field trips to places old and new and get speakers to wax lyrical about all manner of things from dinosaurs to volcanoes on other planets. But the possibilities for the future are mind boggling and if we really let our imaginations go, just what might come to pass?

We know that some seeds have already been sown in the Black Country and the B.C.G.S. is already involved in nurturing the shoots that are appearing. For example, plans are afoot to build a national geological Interpretation Centre at Wren's Nest with all manner of facilities. There are plans to extend cavern trips and seek World Heritage Status for Dudley's major heritage attractions, forging ever stronger links with tourism, local culture and the natural world. Dudley is also becoming a prime national centre for amateur geology and geological interpretation. I believe that many of these projects will come to fruition and the spin-offs for our geological society could be very exciting indeed.

Increased membership could put strains on us which might require (and might support) permanent officers like the Dudley Canal Trust has at present. We might forge stronger links with academia and local museums or set up a B.C.G.S. geological collection to rival any national collection. On the conservation front we will win over battles and develop an advisory role for local authorities. We could publish tourist booklets on sites around the Black Country or engineer a Black Country Geological Trail - who knows? By 2010 we may have produced another journal "Black Country Geologist No. 2" and have even sold our stocks of B.C.G.S. Christmas cards!

I've little doubt that our current success reflects our attitude towards our subject, the general upwelling of environmental awareness and changes in the world of technology allowing us to present better printed material and communicate effectively. Our predecessors probably thought blackboards and magic lanterns were the business; now we use overhead projectors, slide shows and videos. Maybe in 10 years time we will use holograms, surround-sound or virtual reality at our lectures.

Technology is certainly advancing at a pace that leaves us all behind so if the B.C.G.S. can help to bridge the ever-widening chasm between the expert and the public then we will have achieved a great deal. This is particularly important now that people like Colin Reid, Michael Crichton and Stephen Spielberg have fired the imaginations of the young with their wave of dinosaur mania. I imagine that the B.C.G.S. may well feel the impact of this fact and fantasy in years to come as a flood of inspired would-be earth scientists hits the colleges, museums and schools. Maybe our membership will swell in the wake of this phenomenon. Time will tell as it always does in the science of geology.

The B.C.G.S. has been around for 150 years and its members have left collections and publications which have provided a human link with the past. They have recorded the structure, membership and aims of a small learned society against a backdrop of serious turmoil in history. The B.C.G.S. continues to collect, conserve, learn and visit places of interest because we enjoy doing these things and they enrich our understanding of the world around us. I imagine that in the year 2010 we will be doing much the same, with some different faces and some technological advances to separate us from the present.



BCGS FIELD TRIP BY NEWSLETTER NO 300

GRAHAM WORTON

REPORTS

Field Excursion to Machen South Wales, 8th May

Twelve members of the Society met with members of the Cheltenham Mineral and Geological Society very early on a Saturday morning to study two quarries situated just northwest of Newport, South Wales.

Both quarries lie in the thin sequence of steeply dipping lower carboniferous limestones well exploited in this area for aggregate and road metal and have been subject to much mineralisation. Fossil evidence is, however, rather lacking.

The group gathered first at Cwm Leyshon quarry which has only recently been closed and cleared of equipment. There has, however, been much 'geologist activity' here as can be seen by the large amount of shattered debris in some areas. To the non-mineralogist this quarry yielded many specimens which, although not rare, were very attractive; minerals included Galena, Hemimorphite, Malachite, Cerussite, Barytes and Calcite. The group spent two hours at Cwm Leyshon happily exploring its levels, quarry faces and debris piles.

After lunch we re-assembled at Machen quarry. This is a very active quarry operated by A.R.C. (Powell Dyffryn) Ltd., by whose kind permission we were allowed to visit on a working day. The limestones found here are of a similar lower Carboniferous position to those in Cwm Leyshon. The mineralisation was also similar but here dominated by Barytes (both cockcomb and massive) and calcite (in veins and geodes). Some very large Scalenohedron calcite crystals along with cockscomb and desert rose Baryte were common; however, only limited veins of galena were evident.

Many of us left the two quarries laden with some lovely specimens and our thanks go to Cheltenham Mineral and Geological Society for introducing us to two new and interesting geological sites.

STEVE HUGHES

Clee Hills Field Excursion, 27th June 1993

Once in a while the weather is ideal for a geologists' field day and Sunday 27th June turned out just that way: brilliantly sunny, clear, warm and calm. From Clee Hill village we could see Bredon Hill, the Malverns, Cotswolds, Black Mountains and numerous other distant landmarks. More than 25 people joined the excursion which was a joint one between the Shropshire Geological Society and our own.

The Clees, at the northern apex of a 10,000² km triangle based on Pembrokeshire and the Severn Estuary, encapsulate many of the geological characteristics of that large area of Upper Silurian, Devonian and Carboniferous sedimentary rocks.

David Gossage's hand-out (copied here) is a tabular summary of the stratigraphic subdivisions of the rocks which make up the Clee Hills, together with a diagrammatic cross section showing the major folds and faults.

The strata preserved in the faulted syncline of Titterstone Clee are transected by four important unconformities. Nevertheless there is a fuller sequence there than at Brown Clee, where uplift and erosion were so persistent that no representatives of the Middle and Upper Devonian or Lower Carboniferous are present. Both Clee Hills owe their existence to cappings of hard, resistant dolerite which have resisted erosion.

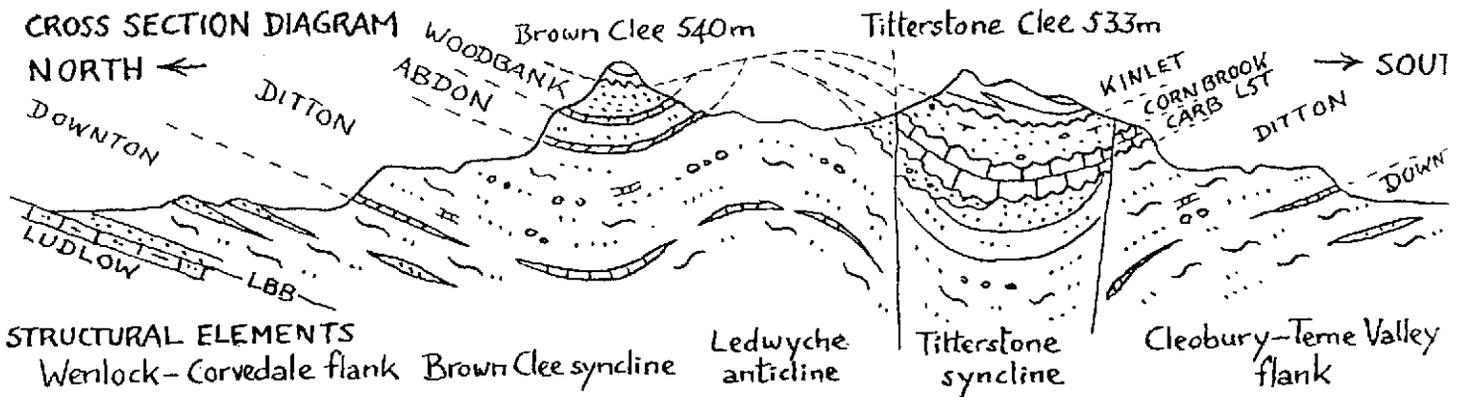
At Clee Hill quarries we saw from a distance of 100m a fine exposure of the upper contact of the intrusive Clee dolerite against an overlying patch of sedimentary rocks of the Kinlet Group (= Coal Measures). Unluckily this exposure cannot be examined at close quarters for safety reasons, but it is well established that the Kinlet rocks immediately in contact with the dolerite are contact-metamorphosed, i.e. baked, proving that the dolerite is an intrusion and not a lava flow.

In Cornbrook Dingle nearby, members picked their way through a healthy crop of bracken, nettles and brambles to examine a number of small natural exposures of coarse, yellowish, quartzose, conglomeratic sandstones of the Cornbrook Sandstone, which underlies the Kinlet Group.

Across moorland from Cornbrook, downhill in the direction of Studley, is an extensive line of old limestone workings, now apparently entirely grassed over, where loose fragments of Carboniferous Limestone are still found. Many are fossiliferous, containing Spiriferid and Productid brachiopods and abundant crinoid debris.

After lunch near (and inside) the Victoria and Kremlin pubs, the party drove on to examine exposures of shales and clays with thin coaly layers and coarse sandstones near the head of Benson's Brook, a short way below the dolerite

BLACK COUNTRY GEOLOGICAL SOCIETY
CLEE HILLS FIELD EXCURSION, 27 JUNE 1993



TIME	LITHOSTRATIGRAPHY		THICKNESS	LITHOLOGIES	FOSSILS	ENVIRONMENT	ECON GEOL		
	GROUP	FORMATION/member							
2my Q	Superficial deposits			Soils, alluvium, glacial drifts		Glacial-temperate	—		
320-375 my	CARBONIFEROUS	WESTPHALIAN	Clee Dolerite		Dolerite, very hard, with olivine and analcite	Plants	Alluvial-deltaic plain. Tropical, high rainfall. Forest-swamp	Road stone, Aggregate	
				up to 80m	Clays, grey & yellow. Ssts, fine-crs -cgl. Coals, ironstone nodds				
		NAMUR-VESTPHALIAN	CORNBROOK SST	up to 200m	Ssts, coarse, yellow-grey, iron-stained. Shales, clays, thin coals	Plants	Alluvial to deltaic. Tropical. Patchy forest	Building stone	
			TOURNAISIAN	Limestones of Studley, Gorstley, Oreton, Farlow	50m+	Lsts, grey, buff, blue; some hard, crystalline, some oolitic, crinoidal. Shale layers. Sst & Cgl at base	Corals, Brachs, Bryozoa, Gastropods, Stroms, Fish	Shallow, high energy, tropical sea. Sand-gravel beaches	Lime, building & ornamental stones
375 my	FAMM-FRAS	FARLOW	U L	up to 150m	Conglomerates, grey-green. Mudsts, Conglomerates - Qtz pebbles, Ssts, yl & brown	Rare Ostracoderm fish	Alluvial	Building stone	
412-420 my	DEVONIAN	WOODBANK	MONKEYS FOLD SST	up to 65m	100% Ssts, green, white, pink. Cgl layers. Xbd		Alluvial		
			CLEE SANDSTONE	150-170m	90% Ssts, olive, green, buff. Minor Cgls. 10% Mudsts, traces Lst				
		ABDON	ABDON LST	5m	Lst, nodular, sandy		Calcrete soil	Lime	
			NORDYBANK	55-60m	Sst, red-brown, cgl. Mudsts, red-brown		Alluvial		
			HILLSIDE DOL	3m	Cgl, intraformational		Calcrete soil	Lime	
		DITTON	U	450m	60% Mudsts, red-brown; alt rapidly with Ssts, 25%, red, brown, olive	Fragments of Ostracoderms. Plants	Alluvial plains with stream channels, calcrete soils. Tropical. Low seasonal rain	Building stone	
M									
420 my	SILURIAN	PRIDOLI	LED BURY	Holdgate Ssts	330-460m	80% Mudst - Siltst, red, alt with 20% Ssts, crs, red-purple, micaceous. Pedogenic carbonate nodules. Cornstones, conglomeratic	Rare fragments of Ostracoderm fish. Plants	Alluvial muds, channel sands. Calcareous clays soils. Tropical. Seasonal rain	Brick
			TEMESIDE SHALES	up to 30m	Mudsts, Siltsts, green to olive. Thin Ssts	Lingula Molluscs	Estuarine mud flats		
		DOWNTON CAS SST	up to 20m	Ssts, yl, fine, mic, cross-bedding, channels	Ostracodes	Beach sand	Building stone		
		LUDLOW	WHITCLIFFE	Ludlow Bone Bed	up to 20m		Plant & fish debris	Intra-tidal mudflat	

Open marine
Tropical

mass of the Titterstone Clee main summit. Fragments of fossil plant stems, rootlets and bark-like material were found, the section here being typical for the Kinlet Group.

The main part of the afternoon was spent some 10 Km to the north, walking over the western moorland slopes of Brown Clee Hill, where some representative sections of the sandstone rocks of the Abdon and Woodbank Groups are exposed. We saw some good examples of current bedding which J.R.L. Allen carefully analysed some years ago, concluding that the source of sediment supply in the Clee area in Devonian time lay in uplifted areas lying to the north-west.

Views from Brown Clee to the west are sweeping and scenically beautiful, and the geologist may have an extra thrill when realising that one is looking across the upturned edges of some 3000 metres thickness of strata ranging from Devonian, through Silurian and Ordovician down to Cambrian. And on the distant Longmynd skyline, perhaps another 8000 metres thickness of still more ancient sediments of the Pre-Cambrian.

DAVID GOSSAGE

Field meeting to Bardon Hill Quarry and other localities in Charnwood Forest, Leicestershire. Sunday 11th July 1993, led by Dr. Frank Ince of the Russell Society.

A good turn out from the Black Country Geological Society, together with some members of the Russell Society, gathered at the Bardon Hill Quarry. This very large working quarry exposed a variety of late Pre-Cambrian volcanic and intrusive rocks, flanked by Triassic deposits. The main objective of the visit was to investigate the Copper mineralization that occurred on the Pre-Cambrian Triassic boundary.

After an introduction, assisted by a brief and informative hand-out, Dr. Ince led the party into a section of the quarry where a Triassic Valley was clearly exposed. Copper mineralization in the form of malachite, cuprite and native copper occurred in places on the Triassic Valley side, and numerous useful hand specimens were collected.

The Pre-Cambrian rocks related to a volcanic centre on the west side of Charnwood Forest. Tuff and Agglomerates of a Pre-Cambrian volcanic edifice had been intruded by sub-volcanic Andesites and Dacites. Of particular interest is a low level of disseminated gold mineralization developed in some of the intrusive masses, probably as a result of a sub-volcanic hydrothermal system during Pre-Cambrian times. The gold assays are reported to be modest, but significant enough to warrant commercial interest. In the past a few small naked eye sized flecks have been found.

The Pre-Cambrian rock had been affected by faulting, shearing and low level hydrothermal metamorphism to the point that in places the actual rock type was not clearly distinguishable beyond the term 'volcanic'. Some of the agglomerates looked suspiciously like intrusive masses that had entrained clots of more acidic material, but without the benefit of thin sections it was difficult to tell. Lenticular veins in the 'intrusive' material contained quartz and a pink mineral, probably the zoisite of the hand-out, although the word pegmatite was heard to be uttered.

The Bardon Hill Quarry had more to see than the time allowed, and a lunch time stop at a local hostelry (or sandwiches sitting on a rock) brought the morning's visit to an end.

The afternoon was spent visiting some of the classic localities elsewhere in Charnwood Forest. First stop after lunch was Beacon Hill where waterlain

tuffs and a panoramic view were enjoyed. Excellent visibility which extended into Derbyshire allowed a brief on the spot review of Leicestershire's geology.

The second stop was Bradgate Park where again waterlain tuffs were seen, together with a more disturbed horizon, known as the Sliding Stone Slump Breccia. This subaqueous debris flow had entrained semi-consolidated tuffs and rolled them up into 'Swiss Rolls' in the turbulence of the flow. The overlying non volcanic sequence was seen at the Stable Pit, where quartzites and slates occurred. Evidence was also seen of part of the major Dioritic intrusions that occurs on the exposed southern edge of Charnwood Forest. Finally the famous bedding plane, with late Pre-Cambrian 'Trace' fossils was examined.

The final stop was an abandoned quarry at Markfield, where the Dioritic intrusion on the southern edge of Charnwood Forest was examined. This major intrusion was indicated to be younger than the Bardon Hill Dacites and Andesites seen in the morning. It was an attractive green and pink rock, known locally as Markfieldite. A series of quarries was visible, where the material had been intensively used for building and aggregate. The current working quarry at New Cliff Hill was reported to have encountered a copper vein with wonderful specimens of malachite and cuprite occurring.

On this tantalising note, Dr. Ince concluded the field meeting, which had proved to be a fascinating excursion of Charnwood Forest; where his local knowledge and familiarity of the area had been appreciated by all who attended.

ADRIAN COLLINGS

Canals 200 Festival 3rd and 4th July 1993

This festival was presented by British Waterways at Kings Norton Canal junction to celebrate the 200th anniversary of 'canal mania' when canal planning and construction was at its height in the 1790's.

The BCGS had a display stand featuring canals with interesting geological exposures, including the Staffs & Worcs Canal at Kinver, Castle Mill Basin at Qudley, Brewin's Bridge and Cutting at Netherton and Edgbaston Canal.

The stand showed another link between canals and geology, since William Smith (1769-1839) "the father of English geology" was a canal engineer and surveyor during this period and his experiences during canal construction fostered his interest in geology.

PAUL SHILSTON

SOCIETY ANNOUNCEMENTS

Public Liability Insurance

This problem has now been resolved. We do however continue to have a possible difficulty with visits to working quarries.

Sometimes, but not often, quarry owners will grant unconditional permission to enter, in which case it is probably reasonable to assume that they accept any risk, but that cannot be guaranteed. Increasingly they are agreeing to entry only if the Society or leader signs an indemnity form accepting that we enter at our own risk. If this is made a condition of entry the Society

will need to similarly ask individual members attending the field trip concerned to sign an indemnity declaration.

We will try to inform members of this requirement in the newsletter if we learn of it in sufficient time. It would therefore be prudent for you to consider your own position concerning personal legal liability insurance.

JUDITH SHILSTON

Venue for Indoor Meetings

The committee has reviewed whether the Saracen's Head is the best venue for us, mainly because of the noise from the karaoke that has become a feature of recent months. Sometimes this is more of a problem than others, but usually it is an irritant rather than a serious difficulty.

We have inspected all the known alternatives in Dudley and weighed all the considerations, i.e. location, car parking, public transport, room size, blackout, electricity supply, refreshments, ambience, cost, room layout, bookings, availability etc., and concluded that the Saracen's Head was the best place!

We decided to examine the possibility of a microphone so that if the need arose the speaker could fight back! We might consider changing the night if it seems that this could be a better long term solution. We continue to hope that the problem will go away.

JUDITH SHILSTON

ITEMS IN BRIEF

1. University of London, Centre for Extra-Mural Studies

Details and booking: Centre for Extra-Mural Studies
Birkbeck College
26 Russell Square
London WC1B 5DQ 'phone 071 631 6633

- (a) Jurassic Park Revisited. One day course in London. Saturday 9th October 1993, 10.00 a.m. to 4.00 p.m. This will examine the science underlying the book and film "Jurassic Park".
- (b) Limestone and Lava in Derbyshire. Weekend field meeting Friday 15th to Sunday 17th October 1993. £34.
- (c) Geology of North Wales. Field meeting 6th to 13th April 1994. Based in Bangor. Estimated cost £300.
- (d) Geology of North Devon Coast. Weekend field meeting 30th June to 3rd July 1994. £34.
- (e) Geology of Southern Alaska. Field class 2nd August to 13th September 1994. Estimated cost £2400.

2. London University - Distance Learning (home study) courses

- (a) certificate in geological science
- (b) diploma in geological conservation
- (c) diploma in applied and environmental geology

Teaching is by distance learning (home study) supplemented by two-day meetings in London and at field locations.

Details from: Alison Sutton, Environmental Science Desk,
Centre for Extra-Mural Studies
26 Russell Square
London WC1B 5DQ 'phone 071 631 6654

3. Wulfrun College

Wulfrun College in Wolverhampton is expanding its geology section in September. Building on the success of the GCSE course it will be offering A-level and AS-level Geology for the first time. These courses are open to anyone 16 years and over and can be studied as part of a full time course, part time or as link courses with schools. The college also has a very popular range of courses in Environmental Science, including GCSE, A-level and BTEC National Diploma.

For further information contact the General Education Faculty Secretary, Wulfrun College, Paget Road, Wolverhampton, WV6 0DU. Telephone 0902 312062.

4. Welcome to new members

Barry Taylor - Kings Norton
Michael Williams - West Bromwich
Raymond Gostling - Ladywood
Matt Brettle - Halesowen

Editor

Kate Ashcroft
48 Worcester Lane
Sutton Coldfield
B75 5NB

Tel: 021 308 6783

Secretary

Paul Shilston
16 St. Nicolas Gardens
Kings Norton
Birmingham
B38 8TW

Tel: 021 459 3603

BLACK COUNTRY GEOLOGICAL SOCIETY

CANAL TRIP WITH OPTIONAL MEAL, SATURDAY 30th OCTOBER 1993.

DUDLEY CANAL TUNNEL, at 3172 yards (1.8 miles) the longest in Britain, was opened in 1792 and was in use for many years. Just over ten years ago it became unsafe and was closed to traffic in 1981.

It has now been repaired at a cost of £1 million, and was opened again on the 200th anniversary of its original opening, in June 1992.

This BCGS SPECIAL CHARTER TRIP will traverse the length of the tunnel, with a historical and geological commentary. The canal barge will also visit the spectacular limestone workings of Singing Cavern, and Little Tess cavern, each with an audio-visual display.

Afterwards there will be an (optional) meal at Mad O'Rourkes, a 'character' pub which has been furnished with many Black Country mementoes, and which is opening early specially for us.

THE TRIP IS OPEN TO ALL MEMBERS AND THEIR FAMILIES AND FRIENDS.

ARRANGEMENTS FOR THE TRIP.

Assemble at 2.15pm at Mad O'Rourkes Pie Factory carpark (corner of Sedgley Road West and Hurst Lane, Tipton. Grid ref: 948925). This is about half a mile north of the Black Country Museum.

Leave cars there, and travel by private bus to the far end of the tunnel, at Parkhead Locks, Netherton.

Travel by barge through Dudley Tunnel, into Singing Cavern and Little Tess cavern, then past the Black Country Museum, to Malthouse Stables Wharf near Mad O'Rourkes, where we disembark at about 4.45pm.

ARRANGEMENTS FOR THE MEAL.

A meal will be laid on at Mad O'Rourkes at 5pm for those who have booked. There is a choice of menu which must be indicated on the booking slip below.

WARNING - the Desperate Dan Pie and the Allotment Pie are described as "very large"

BLACK COUNTRY GEOL SOCIETY BOOKING SLIP FOR CANAL TRIP & MEAL. 30th OCTOBER 1993

Please enter in the boxes the number of items required.

PRICES :	Canal trip :	adults 13 & over - £5.	Mad O'Rourkes - main meal £4.75
		children 5-12 - £3.	" - dessert £1.75
		children under 5 - free.	

CANAL TRIP

Adult	<input type="checkbox"/>
Child 5-12	<input type="checkbox"/>
Under 5	<input type="checkbox"/>

MAIN MEALS

Desperate Dan Pie	<input type="checkbox"/>
Cradley Porker sausages	<input type="checkbox"/>
Chicken Ham & sweetcorn pie	<input type="checkbox"/>
Allotment pie (vegetarian)	<input type="checkbox"/>
Vegetable lasagne	<input type="checkbox"/>

DESSERTS

Jam roly-poly & custard	<input type="checkbox"/>
Mad O'Rourkes mud pie	<input type="checkbox"/>
Apple strudel & cream	<input type="checkbox"/>

I enclose a cheque (payable to Black Country Geological Society) for £.....

NAME(S).....

Please return to :

Mrs. J. Shilston, 16 St. Nicolas Gardens, Kings Norton, Birmingham B38 8TW.

From the Dudley News

Dinosaur film puts museum on a roll



□ Colin Reid Keeper of Geology

Dudley Museum chiefs are bracing themselves for a monster 500 per cent increase in visitor numbers in just one year, when the film 'Jurassic Park' hits the screens at UCI, Merry Hill, on Friday July 16.

The St James's Road tourist attraction is already enjoying a bumper year, with over 60,000 people coming to see its 'Dinosaurmania' exhibition.

But Keeper of Geology, Colin Reid said: "Without sounding too ambitious, we expect that figure to almost double to around 100,000 by December.

"Dinosaurmania is what's happening this year, and the pulling power of prehistoric animals has surpassed even our wildest dreams."

To keep the show on a roll, Colin is planning a new display covering themes similar to those touched upon in the multi-million pound Hollywood blockbuster.

He hopes the museum will have a full-scale model of the 'velociraptor' meat-eater by the time queues start forming outside the cinema, and by coincidence the museum already has a mock-up of a prehistoric fly caught in amber.

In addition, the museum hopes to have stands at UCI

cinema and Merry Hill itself as well as in WH Smith's Wolverhampton Street, Dudley.

Looking to the future, Colin Reid said: "When Dinosaurmania opened at the start of this year, we expected a six month run.

"There is no doubt that without 'Jurassic Park' we wouldn't have considered keeping it going to the end of the year.

"But now we are looking at a permanent exhibit of some sort, especially now dinosaurs are part of the National Curriculum, and seven or eight year olds must know about them."

Mail 13.7.88
Jurassic eggs are found in the park

DINOSAUR hunters have found eggs from the age which produced the monsters featured in the film Jurassic Park.

The discovery was made in Garden Park Valley, Colorado, believed to have been a dinosaur nesting area.

The eggs were in eroded rock. One is said to be intact and others to show evidence of yolk or embryo.

A team from Denver Natural History Museum believe they are from the Jurassic period, 145million years ago.

In the film, which opens in Britain today, dinosaurs are genetically reproduced. The possibility is dismissed by most scientists, but the new find could identify the creature that laid the eggs.



Mail 27.7.93
Fight against the grain

THE sands of time are running out in parts of Britain — but an invention from Southampton University should help in the fight against coastal erosion. A tripod called Tosca has been placed on the sea bed off Chesil Beach in Dorset. Meters measure the rate at which, and direction in which, silt is carried away; Tosca listens to the tiny sounds made by the collisions of pebbles and sand. Some of Britain's most popular beaches are in danger of being

washed away. In Lincolnshire, sand dredged from the North Sea is being used to cover an encroaching bed of mud. Last September it was finally decided to abandon Spurn Head in the Humber estuary, which coastal engineers had been trying to save for a century.

Surprisingly, much coastal erosion is being blamed on groynes, the wooden barriers erected since Victorian times.

ROSS CLARK

BARONESS FISHER INSPECTS THE BOGS STAND AT CANALSIDE 2001