



The Black Country Geological Society

NEWSLETTER NO. 94 AUGUST 1992

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

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.

FUTURE PROGRAMME

SUNDAY 20TH SEPTEMBER

Field meeting to Church Stretton, Shropshire.
Leader: Dr. J. Moseley. Joint field meeting organised by Shropshire Geological Society.

Meet 10.00 am at the main car park in Church Stretton (grid ref: 453936). When travelling along the A49 Ludlow-Shrewsbury road, turn into Church Stretton at the traffic lights. After 200 yards turn left into the car park.

This is another of our meetings to mark the 150th anniversary of the Dudley and Midland Geological Society. The society was re-formed in 1862, and one of its first field meetings was held on 19th September 1862 to Church Stretton, so the meeting in our programme will be almost on the anniversary, 130 years later.

It was a joint meeting with other local societies - Woolhope Field Club, Oswestry Field Club and Warwickshire Field Club. The party from Dudley travelled by train to Shrewsbury, met up with the others and visited the Museum; afterwards they went to Church Stretton, where some of the group visited Long Mynd and others Caer Caradoc.

Our friends from the Shropshire Geological Society, who represent some of the same clubs who joined the original field meeting, are kindly organising the joint field meeting, again to Church Stretton, to mark the occasion.

MONDAY 12TH OCTOBER

Lecture: "Blue John fluorspar" by Dr. Trevor Ford.

Fluorspar (calcium fluoride) is found widely in the Carboniferous Limestone areas of the Peak District of Derbyshire in association with veins of lead, but around Castleton the special variety, known as "Blue John" or "Derbyshire Spar" is found and here it used to be mined.

It has a deep blue or purple colour, or can be banded purple-and-white, and it has been prized as a semi-precious ornamental stone, from which vases and ornaments have been seen in Chatsworth House and other places in Derbyshire - so Blue John combines art and history with geological interest.

Chairman
A. Cutler B.Sc., M.C.A.M.,
Dip.M., M.Inst.M.
Vice Chairman
J.E. Gollidge M.A.
Hon. Treasurer
Mrs J. Shilston
Hon. Secretary
P.D. Shilston M.A., C.Eng.,
F.I.E.E., M.I. Mech.E.

Dr. Trevor Ford, of Leicester University, has made a special study of Blue John and will describe its occurrence and its history. He is well known for his geological lectures, and addressed the Society some years ago on another of his specialities - precambrian fossils.

SUNDAY 18TH OCTOBER

Field meeting to Walsall, Hayhead limestone mines and quarry, and Barr Beacon.

Leader: Peter Whitehead, Head of Earth Sciences, Bluecoat Comprehensive School, Walsall.

Meet: 10.30am at Hayhead Nature Trail car park, Longwood Lane, Walsall (grid ref: 042986). This is about 2 miles ENE of the centre of Walsall. Longwood Lane is off the A454 road from Walsall to Aldridge.

This area of Walsall has much geological interest, as it has inliers of Silurian limestone - the Barr Limestone - and shale, as well as extensive Triassic deposits. Limestone has been mined and quarried in the area for centuries, and the Hayhead trail has been designed to show some of the best exposures.

Barr Beacon, which forms a prominent feature of the scenery north of Birmingham, is in the Triassic, Sherwood Sandstone group. It has a large quarry face giving an extensive view of the strata.

PETER WHITEHEAD has been associated with this Society since its formation in 1975. He is very active in the field of geology teaching, and also runs Rocky Rex Enterprises, which produces geological teaching material for schools.

MONDAY 16TH NOVEMBER

Lecture: "Silurian geology from the Pentlands to Pembroke" by Dr. Derek Siviter, University Museum, Oxford.

For this year's theme of celebrating 150 years of Dudley geology, we could not finish the year without giving the Silurian system an important position in our programme. Dudley and its limestone exposures at Castle Hill, Wren's Nest and elsewhere, with their characteristic trilobites and other fossils, played a key role in Sir Roderick Murchison's understanding of the Silurian, culminating in the publication of his classic work "The Silurian System" in 1839.

This lecture by Dr. Siviter will range over the whole scene of Silurian geology in Britain, describing Silurian strata which are such an important factor in many of the most scenic areas of Britain.

DR. DEREK SIVITER came originally from the Black Country and so knows the area well. He is at Oxford University, in the geological department of the University Museum.

SATURDAY/SUNDAY 28-29TH NOVEMBER. GEOLOGY FAIR in Dudley Town Hall to celebrate 150 years of the Dudley Museum geological collection.

MONDAY 7TH DECEMBER.

Lecture: "Lessons from the fossil record" by Dr. Alan Thomas of Birmingham University.

MONDAY 18TH JANUARY 1993.

Lecture on Reclamation of Black Country Country sites.

MONDAY 22ND FEBRUARY 1993. AGM followed by a talk "The Falkland Islands" by Sheila Pitts.

EDITORIAL

Many of our members are affected by the problems of recession. The building industry is in difficulties and some society members face redundancy. University students become disillusioned with their poor job prospects. Dudley fails to win City Challenge and funding for the museum and Wren's Nest site is harder to find. Britain's coal mines are being run down spectacularly despite enormous reserves. In the interests of profit large numbers of workers are laid off though the loss has to be supported by unemployment benefits and lost tax revenues.

The latest jargon word in 'subsidiarity' (it does not feature in my dictionary!). Decisions should be made at the most appropriate level. Eastern Europe hardly presents a salutary role model for giving priority to national interests, nor for the establishment of the multi-national states from which nations are now emerging. But the short sighted profit motive of many company accountants is hardly a desirable focus for major decisions.

Natural resources are finite. Pollution knows no boundaries and cannot be measured in financial terms. Is it truly economic to close down our coal mines and import coal? At what level should decisions on these matters be made and on what criteria should the decisions be based?

REPORTS

Field Excursion to Leckhampton Hill, Sunday 17 May 1992

Leader: Dr. Chris Sands.

It was in sunny spring weather that the group met at the foot of Leckhampton Hill, near Cheltenham. Keeping a watchful eye for adders as well as fossils, we climbed a wooded slope to the remains of some old buildings in the abandoned Leckhampton Quarry. Here we were able to view a section of about 50 metres of the Inferior Oolite, the rock that forms the main Cotswold Scarp. At the base was the Pea Grit, composed of large mis-shapen ooliths. Above this was the Freestone, formed of smaller spherical ooliths. Ooliths form in warm turbulent shallow seas, conditions which ensure that fossil remains are likely to be broken up. Nevertheless, we were able to find fragmentary bivalves, brachiopods, crinoids, echinoids and even ammonites. Bored surfaces were also noted. It was the thicker, more homogeneous beds, lacking current bedding, that were most valuable for building stone.

Lunch was taken overlooking the Devil's Chimney. This pinnacle of rock is detached from the main face, and was left unquarried to form a boundary marker between quarrymen's concessions. Behind, in the uppermost part of the face, beds could be seen cambering toward the Severn Vale, giving rise to widened joints known as Gulls. From this viewpoint the features of the scarp could be seen, with the slumped Lias clays forming hummocky ground at its base. Between the outliers of Churchdown Hill and Robin's Wood Hill, the Severn could just be seen glinting through the haze.

In the afternoon, we examined the higher beds known as The Ragstones, in small exposures around the hillfort at the summit. These are more closely bedded than the Freestone, and contain abundant intact fossils, particularly of the bivalves *Gryphaea sublobata*, (broader than the well-known "Devil's Toenail") and *Trigonia*. An old quarry nearby yielded further specimens, as well as large *Pecten* bivalves and *Terebratulid* and *Rhynchonellid* brachiopods. Passing walkers were intrigued to see members of our party picking up rocks, and one father, on learning that they contained fossils, managed to pacify

his crying child by setting the lad to look for them. Another budding geologist?

The pace of the day was easy-going, in keeping with the warm weather, and we descended at our leisure to the car park, where we thanked Chris Sands.

N. BRADLEY

**150th Anniversary Field Meeting
Sunday 7th June 1992
or
Rowley Rag Revisited**

Our Committee has done well in preparing a programme spaced over some months to celebrate the 150th Anniversary of the founding of the Dudley and Midland Geological Society. It is to be congratulated.

On arrival at Tarmac's Hailstone Quarry, those of us in authentic 1842 costume were photographed by the Birmingham Post and Mail. We went inside Tarmac's site lecture room, where every seat was filled. Each of us was handed a folder containing six items. To set the scene, I cannot do better than to set out below a copy of the introductory sheet.

The Dudley & Midland Geological Society

The initial stimulus for the establishment of a society came from the 1839 Birmingham meeting of the British Society for the Advancement of Science. Several local collections were brought together to form a comprehensive display for the visitors on their excursion to Dudley, causing much excitement not only because of the exquisite beauty of the fossils but also that many new species were brought to scientific attention for the first time. It was the desire to keep these collections together in a permanent museum that led to the establishment of the society.

The first meeting was held at the Free Grammar School, Dudley on 17th January 1842 with the inaugural address being delivered by Roderick Murchison.

The first quarterly meeting and field excursion was held on 7th June 1842, commencing at 12 noon in the Society's rooms in Dudley, to receive committee's report regarding the igneous rocks to be found in the South Staffordshire Coalfield. Lunch in the form of a 'cold collation' for which tickets were 2/6d was served at 1.30 p.m. at the Dudley Arms Hotel. Afterwards the party travelled to Rowley to inspect the quarrying activities, including Bare Hill, Turner's Hill and Timmin's Hill.

You will see from the last paragraph of the sheet and from what follows, that the proceedings of the 150th Anniversary Field Meeting on 7th June 1992 were an updated version of what took place on 7 June 1842. To me this was appropriate.

The day was extremely well prepared and chaired by Alan Cutler. We were extremely fortunate to have these modern quarries available to re-enact it in and to have Mr. Laurence Crump, the Regional Geologist of 'ARC Central' to take us round. There can't have been many 150th Anniversary Celebrations in the country in which the situations have been so closely reproduced.

PAPER 1

Colin Knipe, Johnson, Poole and Bloomer
"Basaltes, Green Rock and Trapp"

"A historical review looking at the distribution of igneous outcrops within the South Staffordshire Coalfield and their influence on mining activities."

Colin Knipe first referred to the report received on 7 June 1842. Mr. Jewkes had described the terms "Basaltes", "Greenrock" and "Trapp" as they were then used. Later in 1868 Mr. Henry Johnson (the first senior partner of Johnson, Poole and Bloomer) said that no mining district in the country had such rocks in profusion.

Colin stated that surface exposures in the Rowley Hills, Barrow Hill, London Heights, Brewins Bridge, Wednesfield etc were listed as the surface evidence of a large sheet of basalt that went under this part of the Midlands. These were a huge system of sills injected very rapidly in just 2 or 3 events and sitting directly on or below the coal seams without burning out the coal to any significant degree.

The position of the main faults in the area and the injection of dolerite, both horizontally and vertically, was also demonstrated. The cost of sinking shafts through intrusions of dolerite and through the green rock was stressed and illustrated.

Reference was made to the Earl of Dudley's "49 Pit" at Pensnett - where there were a lot of fingers of dolerite. The dolerite drove out the volatiles in the coal. This dolerite was only centimetres thick through the Stinking Coal and as much as 30 feet thick in the Heathen Coal. The dolerite had been kept mobile by the steam in it and in the adjacent strata. It was thought that it must have been injected very quickly.

In 1872, the Dudley and Midland Society paid a visit to the Tividale colliery, some 255 yards deep. They went through a heading and saw "the back and contorted coal" and coal "stepped up and down", basalted green rock and "white horse" - a form of dolerite - a very late stage injection of the material which forms white deposits through the fresh basalt, and looks not unlike sandstone, but contains white alteration products.

Basalt in thicknesses up to 16 yards resulted in some chilled margins. Dolerite was very widely found and was also recorded in many shafts and drill holes.

In Chillington Quarry to the South East of Wolverhampton, the dolerite was below the Bottom Coal. Here, it did not burn out the coal and thus it seems that it was injected at a relatively low temperature. There were two celebrated exposures, Rowley Hills and Pouk Hill in Walsall where the dolerite cooled more slowly and produced columnar jointing. Generally the presence of dolerite cost the owners of coal mines a great deal of money.

DOUGLAS WARREN

Dr. Brian Glover, British Geological Survey
Black Country Igneous Intrusions

"Recent re-survey work at Rowley and Tansey Green near Dudley has led to a new regional interpretation of the structure and time of emplacement of local intrusions together with new evidence to aid palaeogeographical modelling."

Black Country Geology was greatly influenced by the evolution of the Pennine Basin. Most sediment has a northerly origin because the Welsh Brabant massif cut off sedimentation from the south.

In Dinantian times deep sub-basins were formed in the East Midlands and North Staffordshire. In Namurian times faulting ended and the sub-basins filled. Deep infilling occurs in the East Midlands and around Stoke. Being on the margin of these basins South Staffordshire has a condensed sequence in Westphalian A and B. As sedimentation spread southwards Westphalian B and C produce nine hundred metres of sediment in the north but less than one hundred metres at Dudley.

The thickness and nature of the South Staffordshire Thick Coal was influenced by its basin margin position. It has no fossil soil, suggesting a lacustrine environment, and is full of lycopods and calamites. Three to four hundred metres of vegetation may have accumulated in a period of one million years. To the north the coal seams split implying basin subsidence. The Thick Coal Rock is a large fluvial sandstone, seventy metres thick.

Westphalian C marked a change in style of sedimentation and the reactivation of tectonic activity. Beds change from grey to red, locally derived from the south. The coal beds gradually disappear and pass into Etruria formation without unconformity.

Recently a volcanic deposit has been found at the top of Westphalian C at Tansey Green in a series of faulted tracts. It includes volcanic pipe and basaltic dyke. The British Geological Survey found tuffs enclosing twigs, lacking bark but with perfect xylem and pith. The conifers appear to be preserved in situ. They claim to have found the oldest, best preserved conifers in the world. The tuff includes a chlorite matrix with plagioclase porphyroblasts replaced by calcite basaltic bombs and plant debris. Cutting through the tuffs and Etruria marls are volcanic veins produced by a steam driven explosion ripping through the strata following renewed crustal stretching so that sedimentary material is included within the veins. The material is locally derived and represents a small steam driven volcano, trapping material from a depth of seventy metres, bringing up plant debris and bivalves from the coal measures below.

At Rowley Regis, the Etruria formation lies at the base of the quarry. The intrusion shows little thermal effect and there is only a slight chilled margin. There is no evidence of arching up of the sedimentary cover. It may well be associated with the renewed faulting and time of active tension and crustal stretching in Westphalian C times and perhaps is of the same date as the volcanic activity at Tansey Green.

Dr. Glover also provided us with copies of the paper he wrote with others on the "Anatomically preserved conifer-like stems from the Upper Carboniferous of England" (Proc. R. Soc. London B. 1992. 247).

KATE ASHCROFT

PAPER 3

Laurence Crump, Regional Geologist ARC Central
Edwin Richards - Hailstone Geology/Operations

"The geotechnical and operation aspects of quarrying at Rowley."

After briefly tracing the geology of the area, he pointed out that no feeder pipe had been proved in the area. The intrusion at the surface had probably been fed by marginal sills.

He then discoursed on what we would see in the quarry and explained the systematic petrographic variation from the top to the bottom of the basalt.

There was significant weathered overburden and up to 50% of the basalt had been weathered. He referred to the secondary rock and the roche.

The present day quarry was actively dewatered when necessary - generally in the winter. After passing through settlement tanks, the water was discharged into surface water sewers. The natural ground water level was not accurately known. Water was not a problem during the early days of the quarry.

The various joint systems in the quarry were reviewed including the columnar joint zones and the curvilinear joints and minor sidewall contacts. The transition zone between the columnar joints and the curvilinear systems was discussed.

The columnar joints did not give rise to great problems though major instabilities could arise to the curvilinear slopes and transition zones, especially if one were to quarry too far into a transitional zone, as a failure in the curvilinear joint is then initiated.

The pitch between the dolerite and the Etruria Marl is some 8% and there can be a condition that will spark off a failure, for example, the effect of unloading. There is an Engineering Geology Investigation on this aspect in progress.

Laurence Crump traced the post 1950 history of the quarry. Until about 1980, the Edwin Richards quarry was worked under planning permission issued in the 1950's. In 1977 and again in 1979 fresh applications were made to work under the site of the former Turner's Hill road and planning consent was given in 1984. The proposal of Tarmac and A.R.C. Ltd to work the quarries as a joint venture led to the applications of 1984 and 1988. In 1988 the joint venture got off the ground. New permissions resulted in the lengthening of the life of the quarry and a good start had been made on the restoration by landfill. The cavity had been sealed as there was an incomplete knowledge of underground water movement. A start had been made on the collection of methane.

A final section of the paper dealt with stripping of overburden, the protection of the area from public view, the mining of six faces, the capacity of the dump trucks and the face shovels, the types of explosives for different purposes and the coating of some 250 tons of material a day.

Then followed a discussion on the 3 papers of which two might be summarised.

Colin Knipe suggested that protective layers of steam top and bottom resulted in the minimum alteration of coal in contact with the dolerite.

Brian Glover expressed the view that the introduction of basalt was a very shortlived event - the basalt went into very wet sediments which were continuously supplied with water.

"The cold collation" was much enjoyed and ended with champagne and an appropriate toast.

Laurence Crump gave us a full tour of the quarries and we were able to see the backfill and the collection of methane. Those of us in costume got somewhat warm ascending from the quarry.

The highlight of the day for one of the costumed gentlemen was to fix "the hoop petticoat" of a lady member who in the past had been Field Secretary and Honorary Treasurer.

Those of you who were unable to be present missed a very good day. Our thanks are due to the many who contributed.

DOUGLAS WARREN

Item from the Midland Counties Herald - 1842 describing the first quarterly meeting of the Dudley and Midland Geological Society

"The day was a remarkably fine one, and the company separated highly pleased with the proceedings of the meeting and this afternoon's excursion"

Re-enacted to perfection! - Ed.

CONSERVATION NEWS

Graham Worton's Conservation Report, 28th May 1992

Since the clean up at Hayes we managed to get permission to do some work at Dudley Zoo. A party of 5 of us, 2 from the Society and 3 from the Museum, were granted permission to look for fossils in limestone that was being moved from Stores Cavern (in the fairground area). I should explain that it was a bit more special than just a fossil collecting trip, as this is the only recorded location for *Trimerus Trilobites*, and the last ones were found by Hollier (a member of the original society) in 1862. The object was to take a rare opportunity to see some of this limestone prior to its disposal, to retrieve any further specimens of this rare beastie that might come to light, and lodge them firmly within Dudley's collections at the Museum.

I am happy to report that the 5 hours or so spent at the zoo yielded about a dozen fragments of *Trimerus*, which probably constitutes the most significant find this century, if not ever! Equally important is the fact that we have been able to foster a good relationship with Dudley Zoo officials and I hope to organise further visits and open up the opportunities for members to work at the zoo and get more involved in the conservation side of things.

Report from Colin Reid on Dudley Rock & Fossil Fair

1992 is the 150th Anniversary of Dudley's celebrated geological collection. The original collection (of which, alas, only a portion now resides in Dudley) was established by the Dudley and Midland Geological Society on its inauguration in January 1842 and was regarded as one of the finest collections in the country.

In this anniversary year we are seeking to mark the occasion with an event that puts Dudley very much on the geological map. Our aim is to hold Dudley Rock and Fossil Fair - a major geological event - in Dudley Town Hall on the weekend of 28/29th November of this year. The Fair will be the largest event of its kind since the BGS Open Days in the late 1980's with up to 40 standholders, both commercial and non-commercial, representing all aspects of geology.

This will include multi-national companies, national organisations, dealers in minerals, fossils, equipment and books, as well as societies, educational bodies and special interest groups. Besides display stands, there will be numerous special events such as competitions, film shows, demonstrations, talks and guided tours of the Borough's key geological attractions. The Fair will build on the success of the Annual Rock 'N' Fossil Roadshow held at Dudley Museum, which this year attracted over 1200 people. The target audience for the Fair will be the layman, interested amateur and student. In effect, it will be a tribute not just to the role geology has played in shaping the Black Country heritage but to geology as a whole and as such, will be advertised nationally. We hope for an attendance of between 5,000 and 10,000 over the two days.

In conjunction with the Fair, we will be re-opening the Museum's Geological Gallery after major refurbishment.

Anyone wishing to participate in the Fair, in whatever capacity, can get more information by contacting me at Dudley Museum, St. James's Road, Dudley, West Midlands, DY1 1HU, tel: (0384) 453574, or through Alan Cutler and Graham Worton who are co-ordinating the Society's role in the event. Please come along and help to make the event a success - you might never get the chance again!

DUDLEY UNSUCCESSFUL IN CITY CHALLENGE BID

At the end of June Dudley learned that its bid for a £37m grant through City Challenge had been unsuccessful. This dealt a serious blow to the borough's plans to develop a world heritage site based around the Castle Hill/Wren's Nest area. The heritage aspect of the bid included building a new Geological Museum at Wren's Nest as a Phase 2 development of the new Interpretation Centre. This was to be linked to the Black Country World site by re-opening the Wren's Nest tunnel. The scheme also included opening up Dark Cavern and providing an underground rail-link between the Zoo and the Canal Trust via 'Flooded Mine'.

Despite this set-back the heritage scheme still has firm support within the authority and a working party has been set up to co-ordinate and prioritise individual projects as well as to pursue funding from the government and private sector. A major problem facing the authority is that millions of pounds worth of limestone infilling has to be carried out before parts of the scheme can go ahead. This is the great irony of Dudley's limestone legacy; while the caverns are a key aspect of the area's industrial heritage, they are also a major hinderance to this heritage being fully exploited. This was almost certainly part of the reason Dudley failed to win its bid.

Rather than dampen the morale of those working to promote our heritage, recent events have merely strengthened our resolve. Watch this void!

COLIN REID

GEOLOGY IN THE CHURCHYARD

"The typical churchyard with its array of gravestones of varying age and design, is an outdoor geological museum accessible to everyone".

This was the theme of the BCGS stand at a churchyard management conference, held at Rowley Regis on 27th June. The aim of the conference was to stress the importance of churchyards for wildlife, particularly in urban areas where they may be one of the few green sites.

The conference was opened by the Mayor of Sandwell, and chaired jointly by the Bishop of Dudley and Peter Shirley, Director of Urban Wildlife Trust.

The society's stand featured a display of photographs showing the many different types of stone used for headstones - local sandstone, marble, granite and other igneous rocks, Portland stone etc. We also provided a set of handouts for all those attending, stressing the geological interest of churchyards, which adds to their value for wildlife.

Afterwards the Rev. David Eve, Vicar of St. Giles Parish Church in Rowley Regis, asked to keep the display for use in a parish exhibition, and we provided him with additional handouts.

PAUL SHILSTON

COURSES

Birmingham University offers a wide range of extramural courses for 1992-93:-

Geology and the World of Minerals
Introducing British Fossils
Introducing Geology
Introducing Minerals and Rocks
Life, Fossils, Environments and the Past
Minerals and Gems
Rocks and Minerals Under the Microscope
The Ice Age
Trilobites, their Relatives and Evolution

Apply to the School of Continuing Studies, The University of Birmingham, Edgbaston, Birmingham, B15 2TT. Tel: 021 414 5607/6/8.

NEWS OF MEMBERS

1. Congratulations to two members on achieving B.A. Honours degrees in Geography with Environmental Science from Wolverhampton Polytechnic. Sue Fairclough receives a First Class and Moira Edwards a Second Class degree. Well done both!

2. Graham Hickman. Graham is a long-standing member of the society and has kept up his membership even during long spells of work for B.P., in Egypt and now in Houston, Texas.

He has sent us this photograph. Daniel, one and a half (left), and Joe, two and a half (right). Two geologists in the making - studying the composition of the path!



Daniel is heavily into stones. They are few and far between in Houston and he takes great delight when he finds one.

We send our best wishes to him and his wife, Kerry.

3. Welcome to new members

Mark Patchett - Brierley Hill
Miss J. Dines - Alvechurch
Simon Weatherley - Brierley Hill

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

The Hayes Cutting gets a facelift

Alan Cutler and Graham Worton, Black Country Geological Society

The Hayes Cutting is a well known and important outcrop of Silurian (Ludlow and Pridoli Series) rocks, unconformably overlain by the basal conglomerate of the Lower Coal Measures (Westphalian A), at the southern end of the South Staffordshire Coalfield. The site has both stratigraphical and structural significance, and also has historical associations, having been described by Murchison in 1839.

The outcrop is at The Hayes, near Lye, in a road cutting on the busy A456 (Stourbridge-Birmingham road). Between the eastern end of the exposure and the nearby road junction with Hayes Lane, a brick retaining wall had deteriorated to such an extent that Dudley Metropolitan Borough Council (MBC) proposed removing it and regrading the bank behind.

The site, which is a designated Site of Importance for Nature Conservation (the local designation equivalent to RIGS in the West Midlands), was not directly affected

by the proposal; but because of its proximity to the proposed works, the Black Country Geological Society (BCGS) was consulted beforehand.

The demolition of the wall and removal of backfill was carried out by contractors at the beginning of April, exposing sediments immediately above the basal conglomerate. Dudley MBC's Public Works Department readily agreed to the BCGS recording, for the first time, the newly exposed section before the bank was regraded. The information gained has subsequently been passed to the



Members of the Black Country Geological Society give the Hayes Cutting a facelift. (Photo by Graham Worton)

British Geological Survey, who have recently remapped the Black Country area.

As the work neared completion, the degraded state of the Hayes Cutting alongside became increasingly apparent. The last time this outcrop received any attention was in 1980, when the cutting was shortlisted as a possible SSSI during the Geological Conservation Review and a BCGS working party cleaned up the most important features.

It was, therefore, very gratifying when the Public Works Department asked if they could help reinstate the exposure. A site meeting was quickly arranged and the necessary work agreed. The local authority's contractors would cut and remove all the scrub vegetation and a disused sewer pipe, prior to BCGS carrying out conservation work on the rock face itself.

The conservation work, which was concentrated on the Silurian-Carboniferous unconformity, was carried out as a two stage operation. The first step was to dig away the fallen debris and grub out the network of rootlets from the section. The second, and more subtle, stage involved the use of brushes and trowels to enhance the unconformity itself. This detailed work brought out the spectacular contact between the steeply dipping Silurian rocks and the overlying irregular basal conglomerate of the Lower Coal Measures. The work was carried out methodically and safely, causing no obstruction to rights of way, no risk to volunteers or to the public, and has turned a virtually unused exposure into a valuable teaching and scientific resource.

The BCGS has always been somewhat reticent about the clearance of sensitive or important sites because, in some circumstances, it can attract unwelcome attention. After due consideration of all relevant factors, the decision to proceed with this work was taken, and there is no doubt that the Hayes Cutting now looks magnificent, making a very striking feature - impressive even to non-geologists.

The BCGS has enjoyed a long relationship with both the Planning and Leisure Departments of Dudley MBC; but this is the first project involving the Public Works Department, and members are most appreciative of their interest, assistance and goodwill.

All we need now is money for an interpretive sign! ■

Earth science conservation

No. 31 July 1992

150TH ANNIVERSARY FIELD MEETING.



The Black Country Geological Society held its 150th anniversary field meeting at the Hailstone Quarry. Present — and dressed for the occasion — were (from left) Dr Anne Sutcliffe, Mr Peter Smith, Mrs Ivy Warren, Mr Graham Worton, Mr Alan Cutler, Mr Douglas Warren, Miss Kate Ashcroft, Mrs Hilary Giltrap, Mrs Sheila Pitts,

BIRMINGHAM POST
15.6.92