

LEICS.

G.M. galena; calcite; chalcopyrite. [? Staunton
Harold,
qv]

GeL (1858) Antimonial galena, "recently", at
some localities

Hall & Kennedy Proc Roy Soc (1967) B168, 377. - Calcite
in fossils, locs. given.

Fox-Strangways (1907) MGS The Geol of the Leics & S Dotts
Coalfields.

Hull (1860) MGS The Geol of the Leics Coalf'd.

TR Potter (1842) The History & Antiquities of Charnwood Forest.

RJ King, Trans. Leics Lit. Phil. Soc. (1967) 61 55 (MA 19 77)
"The minerals of Leics. Section 1 - The elements" - PTO

Native copper; gold; graphite; sulphur.

RJ King J Russ Soc (1983) 1 [2] 27-47 (84M/3594) galena in
Leicestershire

RJ King (1993) = J. Russ Soc. 5 [1] 15-21

"The occurrence of sphalerite in Leicestershire,
England."

Calciovolborthite (tangeite):

- 1) Brick pit at Blaby, Glen Parva, Leics. SP 59. (1st British, King & Dixon 1971).

Volborthite:

- ✓ 1) Blaby, as above (1st British).
✓ 2) Geevor mine, Cornwall. SW 33. (BM X-ray 4140F, specimen BM 1984,639).
✓ 3) Enderby quarry, Leics. SP 59. (BM X-ray 6947F [probably around 1988], proposed purchase from Roland W. Thomas). I don't know if this is the same as Warren quarry.
✓ 4) Wh. Edward, Cornwall. SW 33. (BM X-ray 7017F, Neil Hubbard enquiry, late 1980s).
5) Newhurst & Longcliffe quarries, Shepshed, Leics. SK 41. (Russell Soc. Newsletter No.22, Nov.1991). In a list of "minerals reported to occur", at the end of a field meeting report. But vesignieite is not listed, so I don't know what is going on!

Vesignieite:

- ✓ 1) Newhurst quarry, Shepshed, Leics. SK 41. (1st British, King & Wilson 1976).
✓ 2) Bardon quarry, Coalville, Leics. SK 41. (Brit. Micromount Soc. Newsletter No.22, Apr. 1988). Specimen No.638 in BMS Collection, from Neil Hubbard.
✓ 2) Merehead quarry, Somerset. ST 64. (BM X-ray 4062F). I have no other details.

around 1984?

Tangeite

Glen Parva = Blaby (XRD)

✓ Vesign
✓

Newhurst Q (N Hubb pr comm)
Bardon Q (Min Rec (1988))

Volb

Glen Parva (XRD)
Newhurst N Hubb pr comm (Ves and volb)
Bardon Hill (N Hubb spec → R sub)
cliff Hill (ike)

Enderby Q
not on

lost
Warren Q, Enderby is

The Russell Society

JOURNAL OF THE RUSSELL SOCIETY

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7 March 1993

Dear Richard,

A belated formal thank-you for organising the room and lunch for the editorial board meeting. When people are dragged in from long distances for such a meeting, it's important that everything runs smoothly, and thanks to you it did!

Because I had an article in the UKJMM, I was given a spare copy of the index. I don't need two so you might as well have it (enclosed).

I quite understand that you don't have time now to write a paper on Alderley Edge minerals for this journal. I hope you do write it up one day - the locality needs a competent treatment.

What about the volborthite from Cliffe Hill quarry? Would it make a nice, easy to write Note for the J.Russell Soc.? Or have you other plans for it? Out of curiosity, I looked up volborthite, etc. in my cardindex; the notes on the reverse side may be useful, though the information will need to be checked.

All the best for now. I'm in a rush to get the corrected proofs of the journal ready for sending to the printers tomorrow. I think I can get the journal printed by the AGM on 2nd April. By the way, the AGM in Bath clashes with the London mineral show, so I will not see you there, I'm afraid. Love and thanks to Sheila.

George

Albute

Leics

Springhill Q (?)

Algodonite,

Leics

Newcliffe Hill Q

Allamite

Leics

Mountsomel
Buddon Wood Q

Alumogen

Leics

Monatsoverel (?)

Anal cime

Leics

Croft

Atrillite

Leics

Newhurst Q (?)

Antimony minerals, misc

Leics.

Leicestershire (antimonial galena) :

Aragoite

Leics

Tilton

Newhurst Q

New Cliffe Hill Q

ASPHALT (*See Bituminous mins*)

LEICS

~~Staunton~~ Harold

Dimmins

Aurichalcite

Leics

Newhurst Q

Azurite

Leics

Breedon-on-the-Hill

Bardon Hill

Newhurst Q

Longcliff Q

Newcliffe Hill Q

Banyke

Leics

~~Stamton Harold~~

Breedon-on-the-Hill

Dimmingsdale M's

Mount sorrel

Newhurst Q

Springhill Q

Croft

Longcliffe Q

Newcliffe Hill Q

Barytocelestine

Leics

Lowesby

Biotite

Leico

Mountsorrel

Bituminous minerals

BITUMEN ~~etc~~

LEICS

Dimmingsdale Mt

Staunton Harold (Asphalt, bitumen)

Mountsorrel ("Hydrocarbons") amino acids;
Pitchy asphaltic

Breedon-on-the-Hill (Radioac. bitumen)

Buddon Wood Q ("Hydrocarbons")

LENDE

See SPHALERITE

LEICS

Bobkingite

Leics

Newcliffe Hill Q (TYPE)

Bornite,

Leics.

Newhurst Q

Longcliffe Q

Newcliffe Hill Q

Brochantite

Leics

Newcliffe Hill Q

CdS unspecified
yellow coatings

Leics.

Newhurst Q (?)

CALCITE

Staunton Harold

Ticknall [Derbs]

Leicestershire

Ashby-de-la-Zouch

Bardon Hill

Cliffe Hill quarry

Warren Quarry, Enderby

Breedon-on-the-Hill

Tickow Lane M

Dimmingsdale M's

Momtassel

Croft Q

Springhill Q

LEICS

Newhurst Q

Markfield Q

Sheet Hedges Q

(ind. ferroan)

Catthorpe

Hallaton

Lowesby

Market Harboro'

Old Dalby

Old Parks Coal pit

Ca

Rockingham

Longcliffe Q

Newcliffe Hill Q

Celestine

Leics

Leicester (Asquith Boulevard)

Census site

Leics

beedon-on-the-Hill

Tickow Lane M

Newhurst Q

Newcliffe Hill Q

Chabazite

Leics

Croft

Chalcedonic silica

Leics

Bardon Hill

Chalcoite

Leics

Bredon-on-the-Hill

Buddon Wood Q (?)

Sheet Hedges Q ("high")

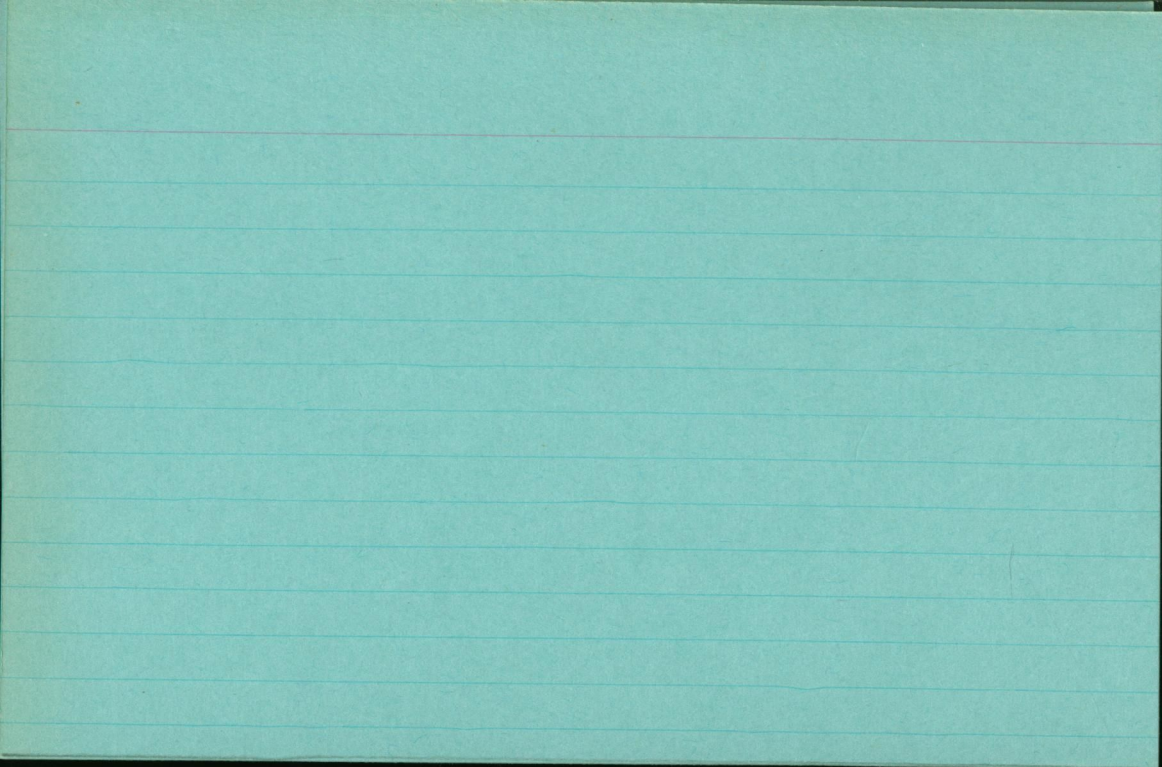
Newhurst Q.

Longcliffe Q.

Newcliffe Hill Q

Chalcophyllite,
New Cliffe Hill Q

Leics



CHALCOPYRITE

LEICS

Lord Ferrer's mines

Staunton Harold

Leicestershire

Breedon-on-the-Hill

Dimmingsdale M's

Mountsorrel

Newhurst Q

Buddon Wood Q

Croft

Ashby de la Zouch

Longcliffe Q.

~~Ashby de la Zouch~~
New Cliffe Hill Q

Chernovite

Leics

Leicester (error for coffinite)

Chlorite (unspecified)

Leics

Mountsorrel

Springhill Q.

Markfield Q.

Croft (?)

Buddon Wood Q.

Bardon Hill Q.

Newhurst Q.

Chrysocolla

Leics

Bardon Hill

New Cliffe Hill Q

Markfield Q

Newhurst Q

Cinnabar

Leics

~~Stanton Harold~~
Dimmingsdale M's

Clinoptacumite

Leics

Newcliffe Hill Q

Coffinite
Leicester

Leics

Connellite

Leics

New
Cliffe Hill Q

Copper minerals, unspecified.

Leics.

Bluebell Q.

Copper, native

Leics

Leics

Bardon Hill
Newhurst Q

Mainfield Q

Newcliffe Hill Q.
Buddon Wood Q

Covelline

Lercs

Newhurst Q.

Newcliffe Hill Q

Cuprite

Leics

Bardon Hill

Kewhurst Q (incl. ch. & trichite)

Sproughton Hill Q

Markfield Q

Newcliffe Hill Q

Buddon Wood Q

Longcliffe Q

Digenite

LEICS

Newcliffe Hill Q

Djurleite

Leics

Leicester (error for coffinite)
Newhurst Q (?)
Newcliffe Hill Q

Dolomite

Leics

Dimmingsdale M's
Mountsorrel.

Newcliffe Hill Q

Breedon-on-the-Hill

Bardon Hill

Springhill Q

Longcliffe Q

Newhurst Q

Sheethedges Q
(incl. ferroan)

Buddon Wood Q (??)

Domeykite

Leics

New Cliffe Hill Q

Dravite

Leics

Newhurst Q

EpidoRe

Lercs

Mountsorrel

Bradgate Q

Buddon Wood Q

Bardon Hill Q

Newhurst Q

Epsomite

Leics

Mountbatten

Erythrite

Leics

Mountsorrel (?)

Felspar₃ (unspecified).

Leics.

Marmtsorrel

Budden Wood Q

Newhurst Q

Fluorite

Leics.

Craft

? Newhurst Q'y (?)

GALENA

LEICS

~~Staunton Harold~~

Ticknall [DEBS]

Leicestershire

Breedon-on-the-Hill

Tickow Lane M

Dimmingsdale M's

Mountsorrel

Newhurst Q

Croft Q

Albert Village p/v

Goethite

Leics

Breedon-on-the-Hill

Mountsorrel

New Cliffe Hall Q

Newhurst Q

Buddon Wood Q

Gold

Leics

Leics

Bardon Hill
Springhill Q

Graphite

Leics

Leics

Greenockite

Leics

Newhurst Q (?)

Gypsum

Leics

Mountsorrel

Leicester

Thurmarston brickyard

Haematite

Leics

Mountsorrel

Meas Lam

Bradgate Q

Springhill Q

Croft

Sheethedges Q

Billesdon (doubtful)

Craneoe (doubtful)

Nevill Holt (doubtful)

OWston (doubtful)

Bardon Hill

Newhurst Q.

Hemimorphite

Leics

~~Stamton Harold~~
Dimmingsdale Mts
Newhurst Q

Hydrohaematite

Leics

Mountsorrel

Illite

Leica

Craft

Ilsemanite

Leics

Tickow Lane mine

Jarosite

Leics

Mountsorrel
Newhurst Q

Jordisite

Leica

Tickow Lane mine

Kaolinite

Leics

Old Parky coal pit
Newhurst Q

Laumontite

Leics

Warren Q

Craft Q

Libethenite

Leics.

Newcliffe Hill Q

Limonte

Leics

See Goethite

Magnesite

Leics

Mountsorrel (?)

Magnesium mineral, unspecified.

Leics

Breedon-on-the-Hill

Magnetite

Kewhurst Q

Leics

Malachite

Leics

Breedon-on-the-Hill Markfield Q

Mountsorrel

Bardon Hill

Newhurst Q

Longcliffe Q

New Cliffe Hill Q

Springhill Q

Budden Wood Q

Manganese oxides (unspec) Leics

Newhurst Q (?)

Marcasite

Leics

Breedon-on-the-Hill

Mountsorrel

Croft (C)

Newhurst (C)

Molybdenum minerals, unspec.

Leics

Breedon-on-the-Hill

MOLYBDENITE

LEICS

Mountsorrel

Buddon Wood Q. (?)
Craft Q. (?)
Newhurst Q. (?)

Mofframite

Leros

Springhill Q

Newhurst Q

New Cliffe Hill Q

Muscovite

Leics

Newhurst Q.

Nacrite

Leics

Grobby
Mount Somers

Olivine

Leics

Newcliffe Hall Q

Orthoclase

Leics

Mountsorrel

Palygorskite, Leico.

Leico.

Cliffe Hill quarry.

Bardon Hill,

Warren quarry.

Newhurst Q

Pascoite

Leics

Glan Parva

Parnauite

Leics

Newcliffe Hill Q

Phosgenite

Leics

Tickow Lane M

PYRITE

LEICS

~~Staunton Harold~~
~~"Ticknall" [Derbs]~~

Mountsorrel

Dimmingsdale M's

Buddon Wood Q

Sheethedges Q

Billesdon

Catthorpe

Lowesby

Rockingham

Croft Q

Newhurst Q

Pyrrolite

Lercs

Mountsobel

Pyrolusite

Leica

Springhill Q

Croft

Bardon Q.

Pyromorphite

Leics

Tickow Lane M

Newcliffe Hill Q

Quartz

Leics

Groby

Mountsorrel

Springhill Q

Barndon Hill

Budden Wood Q

Markfield Q

Newhurst Q

Sheethedges Q

Sidenite

Leics

Dimmingsdale M's

Lowesby

Netherseal Colly

Old Parks Coal pit

Silver, native

Leics

Newcliffe Hill Q

Smithsonite

Leics

Newhurst Q

Spangolite

Letcs

New Cliffe Hill Q

SPHALERITE

LEICS

Lord Ferrer's mines, ~~Asby-de-la-Zouch~~
 (Stanton Park mine) Staunton Harold Slawston

Dimmingsdale M's.

Newhurst A

Asby-de-la-Zouch

Albert Vill pit

Billston

Catthorpe

Cranoe

Hallaton

Lowesby

Market Harboro'

Netherseal Colly

Nevill Holt

Old Dalby

Old Parks Coal pit

Owston

Ravenstone

Rockingham

Strashimirite

Leics

New Cliffe Hill Q

Sulphur, native

Leics

Leics

Tangeite

Leics

Glen Parva
Newcliffe Hill Q.

Tenorite

Leics

Newcliffe Hill Q (?)

(Sphere) Titanite

Leica

Mounts on

Budden Wood Q

Topaz

Leics

Mountsomel

Torbernite (+ meta-)

Leic^{is}

Newcliffe Hill Q (?)

Tourmaline
See also dravite

Leics

Montrossel

Tyrolite

Leics

New Cliffe Hill Φ

Vanadinite

Leics.

Newhurst Q.

Newcliffe Hill Q.

Vesignete

Leics.

Kewhurst Q.

Barndon Hill

Newcliffe Hill Q

Volborthike

Leics

Glen Parva

Kewhurst Q.

Bardon Hill

Newcliffe Hill Q

Enderby Q

Longcliffe Q

Wad

Leaves

Breeder-on-the-Hill (Mo-containing)

Wulfenite

Leics

Breedon-on-the-Hill

Tickow Lane M

Dimmingsdale M's.

Newhurst Q

Yarrowite $\text{Cu}_2\text{S}_8(\text{hex})$

Leics

Newcliffe Hill Q

Zahesite

Leics

Newcliffe Hill Q

Newhurst Q

Zeolites, unspecified

Leics

Warren Q

Zinnerite (+ meta-)

Leics

New Cliffe Hill Q (?)

Zoisite,

Leics.

Bardon Hill Q. (?)

1" 121

SK 30 17

ALBERT VILLAGE PIT nr Swadlincote, Leics

RJK (1993) Sphalerite with galena
in septarian nodules at ALBERT
VILLAGE PIT, SK 301177

ASHBY-DE-LA-ZOUCH, Leics.

SK 3 1

See also ~~LORD FERRERS'S MINES~~, STANTON HAROLD.
DIMMINDALE MINES.

GM: Calcite "Ashby, Leics".

RJK (1993) Accord'g to Ford (1968), sphalerite,
with chalcopryrite in septarian
nodules in fireclay, "near A-de-la-
Z."

ASQUITH BOULEVARD, Leicester, Leics

Re LEICESTER

BARDON ^{Bardon 1"121} HILL, ^{SK 45 13} Leics & BARDON QUARRY (I)

~~cf~~ See also SPRINGMILL Q
cf Breedon-on-the-Hill

Evans & R J King, Nat. (1962) 194, 860.

Palygorskite, compact fibrous masses
filling the centre of a joint, the walls
of which are lined with coarse
calcite xls. BARDON HILL

N Hubbard Priv Comm 4/82. RJK?
Volborthite (Spec → RSWB 82-45); ch'colla,
native copper, cuprite, malachite,

azurite, gold.
(pale pinkish).

Lenses chalcodony
BARDON Qy.

**Field Meeting at Bardon Hill Quarry, Leics.
22nd June 1990**

A dozen members gathered in the quarry car park; a few more arrived later (had they had the foresight to ring the field leader for the meeting time?). Given that it was a gloomy evening and inclined to rain, we were pleased to be transported around the quarry by Mark Aldridge, the Estates Manager, in one of the company minibuses. Whilst driving, he gave us a description of the current and projected workings (they will eventually reach a depth that is just below sea level). This transport made it possible for us to visit the more remote regions of the eastern end of the quarry, an area

that most of us have never reached in the past. As it turned out there was not a lot to see although there was some discussion as to the nature and mode of emplacement of the porphyry that occurs thereabouts.

Russ Soc NewsL.
(1991) 21

During our travels it was obvious that the "island" has been removed (no more of the excellent azurite, malachite, cuprite, native copper etc. for the time being, shame!). It was also evident that a large overburden-removing operation was underway on the south western fringes of the quarry and, on returning to the western end of the quarry, we all approached this area with thoughts of the vesigneite at the Triassic-Precambrian unconformity of previous visits. Unfortunately, little, if any, was found, other than a few patches of rather inferior malachite, chrysocolla and cuprite. A large (1m) quartz vein was exposed about two benches below the area being stripped of overburden and this produced some attractive, reasonably large (4-5cm), clear and colourless quartz crystals partially covered with brown dolomite.

It was not a particularly impressive visit, by Bardon standards, but the transport around the large and complex quarry was most welcome. I must be getting lazy in my old age!

HILL and
BARDON QUARRY, Coalville, Leics. (II)

Min. Rec. (1988) 19 337. Tiny cleavages
vesigneite (N. Hubbard) ✓

Bardon Hill Quarry, Coalville, Leics.

1 June 1991 RSN (1991) 22

After a brief description of the geology and mineralogy of the quarry by the field leader, the party was escorted into the quarry by Mark Aldridge (the Estates manager) who left us to our own devices for the duration of the visit and we dispersed to investigate the newly worked areas. Of these, that on the south side of the quarry (west of the hill) was of most interest, as an extensive overburden-removing operation was exposing the Triassic-Precambrian unconformity.

Although the mineralisation was rather patchy, a reasonable suite of secondary copper minerals was found. The malachite was quite good with some nice sprays of emerald green acicular crystals and some almost black globular crusts. Cuprite (as small deep

red cubic crystals) occurred in small amounts together with azurite, native copper and chrysocolla (some in acicular form, pseudomorphing malachite?).

On a previous visit a prominent quartz vein had produced some clear quartz crystals and a number were extracted this time (mainly by George Lindo). A few groups of rather etched quartz crystals were also collected from an area above the major roadway below the summit of Bardon Hill.

A change in the management of the quarry has meant that the number of parties entering is to be severely restricted and it remains to be seen if we will be able to continue our visits in the future.

1 July 1993 Bardon Hill Quarry, Coalville,
Leics. RSN (1994) 24

This was a joint meeting with the Black Country Geological Society and about 30 people assembled in the quarry car park. We drove up to the western end of the quarry and the party was given a brief explanation of the geology of Charnwood Forest in general and the geology and mineralogy of the quarry. A considerable volume of Triassic overburden has been removed from the west side of the quarry and is being used to infill the eastern end. This work has provided some excellent exposures of the almost horizontally bedded Triassic marls and fine sandstones and the basal breccia at the Precambrian-Triassic unconformity. There was some copper mineralisation at the unconformity but it was rather patchy, even so John Cooper found quite a nice malachite-covered copper specimen and also some specular hematite. Elsewhere Neil Hubbard managed to unearth some green and yellow vanadates, although these were not as impressive as those found on previous visits. Small amounts of azurite, malachite and cuprite were also found.

R. Soc. N. (1994) 25
Bardon Hill Quarry, Coalville,
Leicestershire [Grid Ref: SK 451 130] -
10 July 1994

CB, Leader: Frank Ince

This ever popular quarry continues to provide excellent opportunities for collecting. We were fortunate to have ideal weather (a bit hot if anything) for our visit. A lot of new ground has been exposed, including an excellent wadi in the Precambrian, infilled with Triassic sediments. Minerals collected from exposures along the unconformity included azurite, cuprite, native copper, calcite, various vanadates, occasional quartz crystals and also chrysocolla. Richard Brooks, a new young member found the best area for azurite, and Frank Ince found some reasonable vanadates, unfortunately attached to a boulder the size of a piano!

At the present time, quarrying activities are exposing new ground to the SW of Bardon Hill, and it is anticipated that new areas of the unconformity will emerge. Central Branch will continue to visit Bardon Hill Quarry in the future.

BARDON HILL 2Q'y, Coalville, Leics (III).

Bardon Quarry, Leicestershire [Grid Ref:
SK 451 130] - 23 July 1995 RSN(195)
CB, Leader: Phil Jackman 27

While Frank Ince described the geology of Bardon Quarry, the old hands were anxious to be on their way as they could see that large expanses of the contact between the overlying Trias ('red beds') and the Precambrian had been exposed by the quarry ready to start taking out the hard rock. Although minerals in Bardon are not restricted to this contact zone (for instance there is gold in them there hills!) it is the copper and vanadium minerals at the discontinuity which have given the quarry its recent renown.

In due course, the party of twenty six eagerly set off up the slippery slopes searching for blues and greens and found them in plenty but unfortunately, except for a few occurrences, the minerals were

D. Green et al (2008) J. Russ. Soc.
II, 54-58. Volborthite
confirmed; some mixed with
vesignéite

only there as coatings on joint faces and to my best knowledge nobody found any of the elusive vanadates.

The best specimens shown to me were one covered with pale blue spheres of chrysocolla after malachite associated with spheres of bright green malachite collected by Ian Dosset and another being a crystallised wire copper collected by Tut Cheetham. Otherwise people were content with very infrequent glassy malachite crystals, usually on pale blue chrysocolla, the occasional spray of malachite or azurite, various micro-forms of chrysocolla, probably the most common mineral, and showings of cuprite and copper on fracture faces.

RSN(1999) 35, 18 [RSWB present]. Upper benches:-
Copper, cuprite, malachite, ch'colla, traces azurite,
also quartz, epidote, chlorite. Lower
down qtz-carbonate vein stuff w. Cu
sec's + green vanadates :- F. Ince tested
one & found Ba & Cu so presum'ly
Vesignéite.

[RSWB also found an epidote, pale greenish
radiating with pink rad'g? zoisite
in a chlorite pod in quartz]

RSN(2001) 39, 17. F. Ince. Visit. Usual minerals.

RSN('06) 49 29-30. F. Ince. Usual. Cu min less.
jasper. Also pyrolusite needles

BARDON HILL 20'y, Coalville, Leics. (IV)

Green et al., J. Russ. Soc. (2008), 11, 54-58

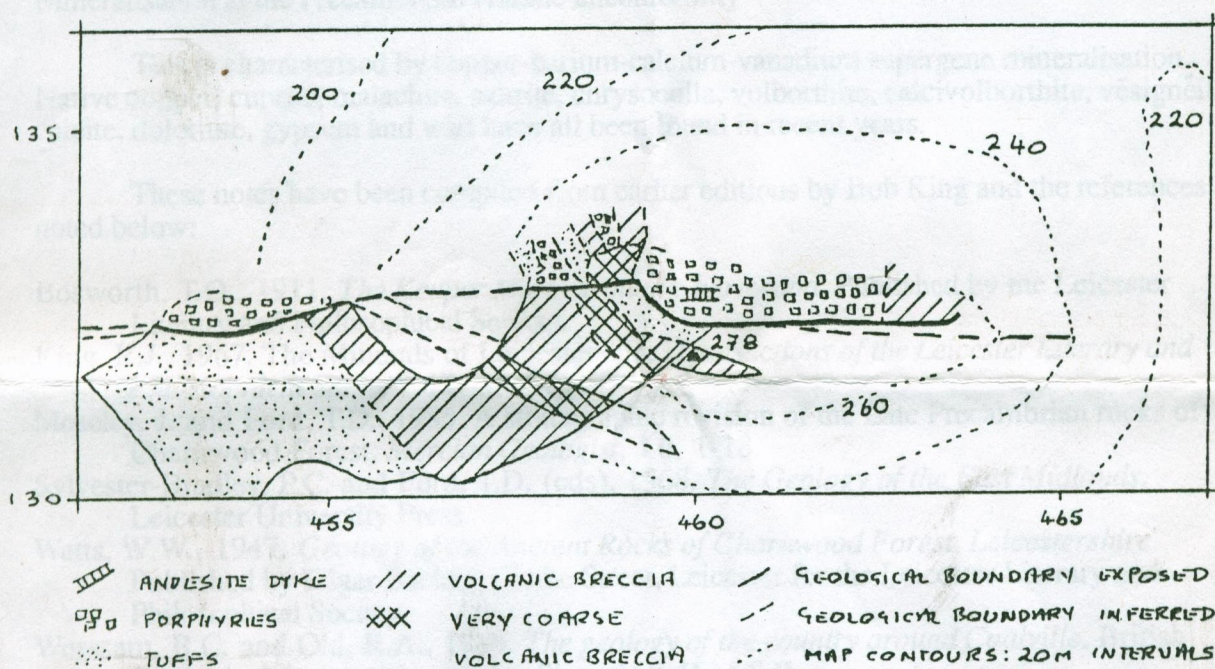
Volborthite confirmed, yellow-green crusts,
mixed sometimes with vesignite.

THE RUSSELL SOCIETY

THE GEOLOGY AND MINERALOGY OF BARDON HILL QUARRY, LEICESTERSHIRE

GEOLOGY

The quarried area of Bardon Hill is part of the Bardon Hill Complex and is composed of a series of acid to intermediate dacitic quartz-feldspar porphyries, brecciated porphyries, volcanic breccias and tuffs. The latter two components may be correlated with the Charnwood Lodge Member of the Maplewell Group of the Charnian Supergroup (Moseley and Ford, 1985). See sketch map below.



GEOLOGICAL MAP OF BARDON HILL (REBORN FROM MOSELEY AND FORD (1985))

The complex is of late Precambrian age and is thought to have been formed as an explosive volcanic arc on the NW margin of a basin in which the Charnian sediments accumulated (Moseley and Ford, 1985). The date of the deposition of the volcanic breccias and tuffs and the intrusion of the porphyries has yet to be determined (various estimates of 600 - 900 my).

Younger andesitic dykes are present and the whole complex has been affected by tectonic activity that has resulted in wide shatter belts, thrusts and faults that carry a number of ultra-silica dykes and *en echelon* quartz lenses (major system with an E-W trend). These dykes and fault systems carry some mineralisation.

The Bardon Hill Complex is surrounded by a sequence of well-bedded Triassic sandstones and mudstones (Mercia Mudstones) with a particularly well-formed basal breccia at the Precambrian-Triassic unconformity. At the topographical low-points of this unconformity supergene mineralisation is present, both in the basal breccia and in fractures in the underlying Precambrian rocks (King, 1967; Sylvester-Bradley and Ford, 1968; Worssam and Old, 1988).

MINERALOGY

There is an overall development of epidote (green) and zoisite (pink) in all the igneous rock types.

Quartz-rich dykes and faults

Epidote (as brownish-green fans), dolomite, quartz, chalcedony veins, specular hematite, pyrite, chlorite and rare gold occur in the quartz rich areas.

Andesite dykes

If these ladder veins are exposed fine twinned albite crystals associated with chlorite and occasional brookite crystals might be found.

Mineralisation at the Precambrian-Triassic unconformity

This is characterised by copper-barium-calcium-vanadium supergene mineralisation. Native copper, cuprite, malachite, azurite, chrysocolla, volborthite, calcivolborthite, vésignéite, calcite, dolomite, gypsum and wad have all been found in recent years.

These notes have been compiled from earlier editions by Bob King and the references noted below:

- Bosworth, T.O., 1911. *The Keuper Marls around Charnwood*. Published by the Leicester Literary and Philosophical Society.
- King, R.J., 1967. The Minerals of Leicestershire. *Transactions of the Leicester Literary and Philosophical Society*, **61**, 55-64.
- Moseley, J. and Ford, T.D., 1985. A stratigraphic revision of the Late Precambrian rocks of Charnwood Forest. *Mercian Geologist*, **10**, 1-18.
- Sylvester-Bradley, P.C. and Ford, T.D. (eds), 1968. *The Geology of the East Midlands*. Leicester University Press.
- Watts, W.W., 1947. *Geology of the Ancient Rocks of Charnwood Forest, Leicestershire*. Published by Edgar Backus, Canke Street, Leicester for the Leicester Literary and Philosophical Society.
- Worssam, B.C. and Old, R.A., 1988. *The geology of the country around Coalville*. British Geological Survey Memoir for Sheet 155, H.M.S.O..

Frank Ince, June 1993.

1" 122

SK 7102 7202

BILLESDON,

Leics.

RJ King (1993). Judd (1875) reported nodules
on N side of main road in village of
Billesdon with "specular haematite"
& pyrite. The "spec. haem." is now
doubtful & may be sphalerite

"BLACKROCK" Leics

See TICKOW LANE LEAD MINE

1" 121

SK 52~~4~~, 08~~4~~?

BLUEBELL Q'y, Groby, Leics.

See also adjacent SHEETHEDGES Q.

Rus. Soc. N^o 144 (1994), 25.

There was some copper mineralisation present in the adjacent Bluebell Quarry. The party returned down the access road in trepidation that sumps and exhaust pipes would part company with cars *en route*!

The quarry company has recently obtained planning permission to join the two quarries which will result in working along the shatter belt. It will also require diversion or culverting of a stream and creation of a new quarry entrance. Central Branch does not plan a visit in 1995 but will be keeping in touch; the site has good potential.

BRADGATE QUARRY, Groby, Leics.

C. Rogers, Priv. Comm. 6/71 :- Haematite,
epidote, sulphides, carbonates

SK 56 15

BUDDON WOOD QUARRY, Mountsorrel, Leics. (I)

RSN 23 (1992)

**Buddon Wood Quarry, Mountsorrel,
Leics. 27th June 1992**

On what turned out to be a very hot afternoon, our party of ten was met by James Prisk of Redland Aggregates who took us into the quarry in a minibus. We paused for a few minutes at the visitors viewing platform (made from blocks of the attractive Mountsorrel granodiorite) on the south eastern rim of what is now a very large hole, for a description of the important features of the quarry and the local geology.

One of the interesting suites of minerals in the quarry is associated with fine-grained pink aplite dykes within the granodiorite. A surprising number of these were found, some over a metre in width. Sprays of olive-green to brown epidote (up to 10 cm) were reasonably common, however they were almost impossible to extract undamaged (hard stuff this granodiorite!). Some of the more coarse-grained portions of the dykes contained quite large quartz crystals (up to 5 cm), again not easy to extract, together with some (as yet unidentified)

feldspar minerals. Allanite and titanite also occur in this setting and whilst fractured crystals of some dark brown to black minerals were seen, well formed crystals were not obvious. A few of the joint faces in the aplite dykes possessed sulphide mineralisation, only pyrite and traces of chalcopyrite were found (no molybdenite on this visit).

On the way back to the cars we had a brief excursion to the area of the quarry containing the granodiorite-Triassic unconformity; this produced nothing of great interest apart from some more blocks of aplite and some malachite (and chalcocite?) on a few of the weathered joint faces. At the end of the visit it was a fairly weary and thirsty group that emerged from the Buddon Wood crucible, thankful that we had been transported around in the minibus.

Frank Ince

See also MOUNTSORREL

Buddon Wood Quarry, Mountsorrel, Leics.

2 August 1991 RSN (1991) 22

As on previous occasions we were driven into and out of the quarry in a minibus. This was just as well as it is now large and quite complex. Despite the changes since our last visit, the upper benches were not that interesting, with a few reasonable specimens of yellowish-green fibrous epidote being found. Some extensions had been made to the floor of the quarry and it was here that Franz Werner found some very good molybdenite, together with pyrite and chalcopyrite, in a few isolated boulders containing dark pink aplite veins. The molybdenite occurred as dull grey patches, one or two of these being 1-2cm across. In another area thin sheets of chlorite were found in a pink matrix, together with some more green to brown epidote.

Now that the current generation has satisfied itself that good molybdenite from Buddon Wood is not a figment of the 'Society imagination', our next visit will hopefully produce topaz etc. etc.!

R. Soc. N. (1994) 25
Buddon Wood Quarry, Mountsorrel, Leicestershire [Grid Ref: SK 571 152] - 23 July 1994

CB, Leader: Neil Hubbard

A particularly hot day greeted our annual visit to this rapidly changing quarry. Initially collecting was poor, with only a few small pieces of epidote being found. Things became more interesting when a particularly fine section through a wadi was reached. An open joint in the wadi was coated with thin crusts of malachite, some of which when viewed under magnification were coating cuprite and copper. Nearby, a nice pyrite specimen was collected by Phil Jackman.

Small patches and veinlets of fine grained pyrite and chalcopyrite associated with a black sooty material occurred sporadically in the wadi, with some of the sooty material having thin crusts of a pink, presumably cobalt-bearing mineral. This was initially dismissed as berry laden bird droppings by one of the party, but then what do you expect from an organic chemist?

The rest of the quarry yielded little of interest except a few nice epidote specimens and one nice molybdenite flake associated with epidote, pyrite and minor titanite which was collected by Frank

Ince on the bottom bench of the quarry. Over all it was quite a productive day for this location.

BUDDON WOOD QUARRY, Mountsorrel, Leics. (II)

1 May 1993 Buddon Wood Quarry,
Mountsorrel, Leics. RSN(1994) 24

Our yearly visit was not quite as interesting as it has been in the past, however a surprising number of blocks of the pink aplite were to be seen. Some of these contained interesting sprays of yellowish-green epidote with quartz, as ever they were very difficult to extract intact. On one of the upper benches Richard Joel found a reasonable specimen of molybdenite with pyrite and chalcopyrite on a joint in the granodiorite.

RSN(1996) 29. Epidote only
(on 2/6/96)

RSN(1999) 35, 17 "Currently
largest inland 'hard-rock'
Q in Europe" ↗

Found epidote, green
chlorite traces ch'pyr.
?Dolomite.

F. Ince, BMSGN('03) 64, 26
BMSG coll 2286. Goethite
+ dolomite SK 565152

RSN(2004) 45, 38 Vist
Hard black "hydrocarbons"
in cav. [=bituminous min's]

1" 121

SK 408 230
(I)

BREEDON-ON-THE-HILL, Leics.

[CLOUD ~~HILL~~ HILL Q'Y]

of Bardon Hill

Mawe (1802).

A large mountain of limestone, containing a large proportion of magnesian earth, at Breedon, on the edge of Leics, used for land & building purposes; reddish-grey; has sparry veins & sometimes small strings of galena.

[? "magnesian earth" may = dolomite]

Rok. ... etc etc

RSWB 4/68. Two large limestone quarries,
working. One is at Breedon Hill, around
407 233, other is at Breedon Cloud, around
413 211-9. Metallic mineral occur in
both, but very sparsely. Breedon Hill
quarry: chalcopyrite, altering to malachite,
small xls.

Breedon Cloud Quarry: chalcopyrite xls, alt'g
to malachite, on baryte (cockscomb "cawk")
on dolomite with calcite galena
altering slightly → cerussite 412-4 210-7

BREEDON-ON-THE-HILL, Leics (II).

P.C. Sylvester-Bradley & R.J. King, Nature (1963), 198, 728

Radioactive bitumen, in globular masses
in decalcified dolomite in the Carb.
Lim. of BREEDON CLOUD; the assoc. minerals
are often dendritic & dissem. in the Triassic
sands. or impregnate the underlying dolomite.
There are chalcocite, galena, calcite,
dolomite, marcasite, a molybdenum
mineral, malachite, azurite, cerussite,

and goethite.

TD Ford & WASSerjeant Bull PDMHS (1964) 2 122 "The Peak Dist. Mineral Index". "Wulfenite has been found in the dolomitised Carb. Lim. of Breedon, Leics, by R.J. King.

Proc Yorks Geol Soc. (1967) 36 347. Field meeting:-
BREEDON CLOUD Q., SK 4121 - A "magnificent spec. of radiate galena mantled in malachite"

C. Rogers, Priv Comm 6/71. "Breedon-on-Hill Q'y",
"413215" [ie Breedon Cloud Q.]. "Lead", "Copper",
"hydrocarbons."

BREEDON-ON-THE-HILL, Leics (III)

MA 81-3548 King, R.J. "Wulfenite in Leics"
 Trans. Leics. Lit. & Phil. Soc. (1980) 72 51-58

Wulfenite in solution "pipes" in
 dolomitised Carb. Lim. overlain
 by Trias at CLOUD HILL Q'y.

Isolated, <1.3mm lustrous pale orange
 cuboid, tab, or pyram xls on concs. on
 corroded galena, in an ancient cave.
 with baryte & a Mo-rich wad

RSN (2004) 4538 BREEDON HILL Q SK 408 230

Visit. Scalenobrown calcite, cellular baryte,

chalcopyrite is, malachite balls on
calcare

BUDDON WOOD QUARRY MOUNTSORREL

HISTORY

The original Mountsorrel activities were in Castle Hill, which dominates the village. Early workings discovered traces of both Roman and Norman operations, and it is established that the hill was the site of a Norman Castle which was destroyed in 1217. Subsequent workings were immediately west of the village — the main Mountsorrel Quarry — which was leased to a Mr. Jackson by the Earl of Lanesborough, the local landowner, whose successor still resides at nearby Swithland Hall.

The then Earl, besides leasing quarries on the estate, also worked one of his own on the eastern fringe of Buddon Wood. This was opened in 1821. It is said that in 1842 a Mr. W. John Martin, member of the local landed gentry, was riding past this quarry and noticed that the men had stopped work and were seated by the roadside. Mr. Martin sought out the Earl and requested that he be allowed to take over the operation. This was arranged and thus began a Martin family connection with quarrying in the Mountsorrel district which lasted until they sold out to the Redland group in 1960.

The original Buddon Wood Quarry continued to work until 1848, when Martin took over the whole mineral lease including the operations at the main Mountsorrel Quarry. In 1854 the Mountsorrel Granite Company was formed, using a windmill as the trade mark. In 1860, under the terms of the Mountsorrel Railway Act of 1854, a branch line was completed to link up the quarry with the existing Midland Railway at Barrow-upon-Soar. A branch line connection was also established with the Great Central Railway to the west of Mountsorrel. In 1876 the enterprise was incorporated as a limited company, the first quarrying organisation in Leicestershire to take this step. The new company took over the rights and workings of the quarry from the executors of the late Mr. John Martin.

There is no reliable information as to the date when the first crushing plant was installed at Mountsorrel but records show that in the year 1900 the production was 200,000 tons, the total number of persons employed being 620. Of this output 20,000 tons was represented by paving setts and over 10,000 tons by channels and kerb. The remainder was smaller broken stone used for road construction.

In 1924 electrification of the quarry was carried out. In 1938 the operations were mechanized. Granite setts for paving, which had been a feature of the quarry's output for so many years ceased production in 1936; and in 1940 the dressing of kerb was also given up through shortage of craftsmen. Thereafter the only products were crushed stone of various sizes for road materials, concrete aggregate, filler media and ballast. Coated bituminous road materials have been an important product at Mountsorrel for over 60 years.

For many years the company distilled its own tar binders, this practice coming to an end in the mid 1950s.

Extraction from the main Mountsorrel Quarry ceased in 1967 after more than 100 years. Thereafter the plant was fed by rock from Cocklow Wood Quarry (adjacent to the Buddon Wood site) which had been opened many years previously.

In the Mountsorrel complex of quarrying activity there have been a number of extraction points worked over the years (Castle Hill, Mountsorrel Main, the earlier Buddon Wood site, Nunckley Hill, Hawcliffe and Cocklow Wood) of which only Cocklow Wood has been in operation latterly. However, this site ran into heavy Keuper Marl deposits, But on the other side of these is the main Buddon Wood area, which for the most part has been shown to carry little overburden and not to be heavily affected by marl infill except on the fringes. The Wood sits on a hill gently rising to a trigonometrical survey station at its highest point, which has an elevation of 429ft OD. The south-west section of the wood is bounded by Swithland Reservoir.

GEOLOGY AND MINERALOGY

The Buddon Wood area is geologically a direct continuation of the Mountsorrel granite mass, which itself forms part of a suite of Caledonian igneous rocks. (Dated by Meneisy and Miller (1963) at 411 ± 18 m.y. and Pidgeon and Aftalion (1978) at 452 ± 8 m.y.)

The main rock type is a modest hybridized granodiorite (the so called Mountsorrel Granite).

The intrusion is in the form of a boss with a convex top and indefinite and unknown extension downwards. The rocks, which comprise the only true granite in Leicestershire, were intruded into Lower Palaeozoic slates. The upper surface of the boss was deeply eroded up to Triassic times, when the area became buried beneath a thick deposit of Keuper Marl. This was largely removed and then buried again beneath boulder clay; subsequent erosion has largely removed this as well.

To the north the margin of the granite can be found in the grounds of Quorn House, approximately 500ft outside the boundary of the main lease. On the western side the boundary lies below Swithland Reservoir. The north-eastern boundary is believed to be a fault, while to the east and south the boundary is not determined since it lies beneath a thick cover of more recent rocks.

A detailed topographical survey was carried out in 1939, while during 1970-71 a comprehensive borehole survey was made. Using diamond drills continuous cores were made through overburden and granite. In other cases an open-hole technique was used to the granite surface, and then a rotary core was taken. The results of the borehole survey showed a total proven reserve of granite (over the whole Buddon Wood lease area) down to the 200ft OD level of 39 million tonnes. Working three 65ft faces below this level, ie down to Ordnance Datum, will yield an additional 61 million tonnes.

An Hercynian event in the form of olivine-dolerite dykes is present throughout the whole Mountsorrel area. The dykes occupy Charnoid trend lines or faults and their walls are more or less mineralized.

The granodiorite has been subjected to late-stage deuteric effects to produce the economically necessary pink colouration, a swarm of aplite dykes, and a temperature-zoned mineralogical sequence.

Phase 1 or Pneumatolytic Phase

Molybdenite — Scales and single crystals.

Allanite — Black prisms.

Topaz — cleavage masses.

Pyrite — Anhedral masses.

Sphene — Single or groups of crystals.

Tourmaline — Thin prismatic black.

Chlorite (beautifully crystallized).

Pyrrhotine — Anhedral masses.

Orthoclase — As crystals lining vughs.

Albite — As crystals lining vughs.

Phase 2

Dolomite — pink crystalline.

Epidote — green prismatic, sometimes forming haloes round allanite prisms.

Chalcopyrite — Anhedral masses.

Pyrite — Anhedral masses.

Galena — Anhedral masses.

Calcite — modestly crystallized.

Hematite — Red earthy masses.

Baryte — Minute groups of platy crystals.

Dyke mineralization

Characterized by mid to low temperature assemblages, and may possibly be related to upper Carboniferous re-distillation mechanisms.

Dolomite — Plate brown, sometimes obviously pseudomorphous after calcite.

Calcite — Striking beautifully crystallized in vughs, sometimes associated with petroleum.

Pyrite — Well crystallized often as pseudo-sphaeroidal groups.

Marcasite — As minute single crystals.

Goethite — Usually sphaeroidal though not pseudomorphous after pyrite.

White clay minerals — One isolated as acrite.

Chlorite — green earthy masses.

Asphaltite in varying degrees of volatility. .

Supergene from whole suite

Jarosite.

Gypsum, Var. selenite.

Epsomite as acicular masses.

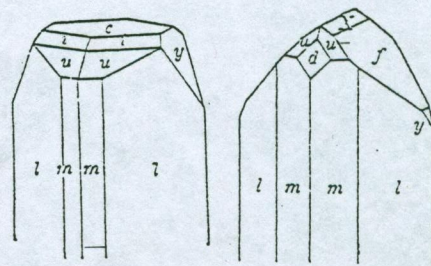
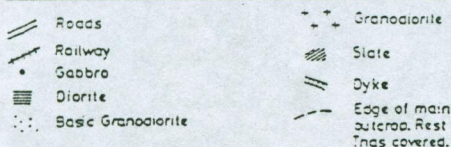
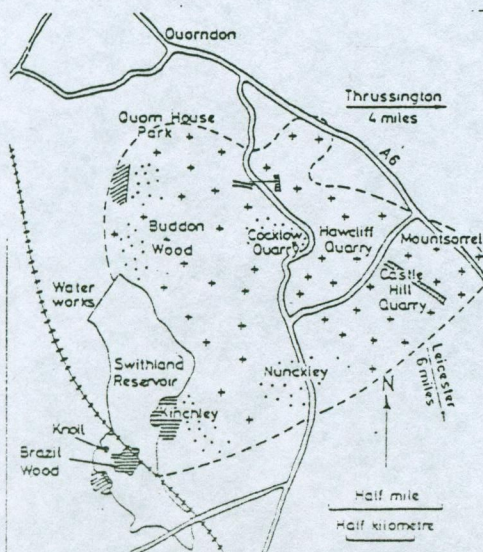
Malachite as earthy colourations.

The Mountsorrel Complex

The Mountsorrel Complex is an closely related series of igneous rocks about 452 (plus or minus 8) million years old. They are thus Caledonian in age - produced by the same continental collision which produced the granites of the Lake District and Scotland. This is almost exactly the same age as the South West Leicestershire Complex - which is seen at quarries in the Croft - Enderby - Stoney Stanton area.

The Mountsorrel Complex displays a much wider range of rock-types than that of South West Leicestershire. Whereas the latter shows a restricted range of dioritic rocks, in the former gabbros, diorite, granodiorite and granitic rocks are all seen. It is likely that the gabbros (only seen in Swithland Reservoir) represent the "primary" magma; the other rocks are derived from it by removal of early-formed crystals, or by mixing of melted country-rocks with the gabbroic magma.

The quarry at Buddon Wood works mainly granodiorite - this is like a granite, but with a bit more plagioclase feldspar, and less quartz. As the granodioritic magma cooled, removal of plagioclase crystals caused the last dregs of liquid to be extra-depleted in calcium and enriched in silica - and this late magma escaped along early cooling joints to form the aplite sheets. These are true granites, but rather fine-grained. The fine grain size may be due to the loss of water from the late melts - some of them contain drusy cavities which represent the "exsolution" of a watery or gas-rich phase. This watery phase is responsible for most of the interesting minerals seen in the Mountsorrel Complex. A considerable list has been reported including molybdenite, allanite, titanite, epidote, dolomite, chlorite, chalcopryite, pyrite, magnetite, orthoclase, pyrrhotite, barite. Topaz and tourmaline are reported, but have not been confirmed by modern methods. Many of these minerals have not been found for a long time - they are all associated with the lasty dregs of magma, whereas most of the quarries are working rocks which are earlier-formed products of crystallization. However, we live in hope that these late rocks may be exposed at any time.....



TOPAZ CRYSTALS
SUCH AS SOMEONE MIGHT
ONE DAY FIND AT
MOUNTSORREL

BUTTERLEY & BLABY BRICK PIT,

Glen Parva, Leics

See under GLEN PARVA

1" 132

SP 5578

CATTHORPE, Leics

RJK (1993) During M-way construction a "borrow-pit" was opened on N side of B 5414 from Catthorpe to Swinford, near Catthorpe "(SP 557 881)" [This is in error - ~~must be~~ 557 781 ?]. In it, Sept. nodules with pyrite, calcite & sphalerite

CHARNWOOD FOREST, Leics.

See also specific localities

TR Potter (1842) "The History & Antiquities of Charnwood Forest".

CHARNWOOD Q., Shepshed, Leics.

See NEWHURST Q.; LONGCLIFF Q.

1" 121 Conton SK 475 106
CLIFFE HILL QUARRY, Leics. ~~(II)~~

See also NEW CLIFFE HILL Q'y.

Evans & R.J. King, Nat. (1962) 194 860.

Palygorskite, forming fine specimens of
"mountain leather", intergrown with
fine-grained calcite.

CLOUD Q'y, Breedon-on-the-Hill, Leics

See BREEDON-ON-THE-HILL

1" 133
CRANOE, Leics.

SP 76 95
Leics

RJK (1993) The "specular haematite"
is probably sphalerite. [In nodules?]

1" 132

SP 51 95

CROFT, Leics. (I)

Jones, MM (1930) 22 lv (exhibit): analcime,
chabazite.

Spec → RSWB; coll. Russell Soc (1976). CROFT QUARRY;
superb analcime with calcite

12/92. In 1992, a specimen of analcime was found in
Mott's quarry. The specimen has large
specimen "covered in blue, green &
yellow streaks", part of one small

CROFT, Leics (II)

RSN 23 (1992)

Croft Quarry, Croft, Leics.

18th April 1992

Sixteen people attended. David Jenkins ferried us in Land Rovers to the lowest bench where the zeolite mineralisation occurs. There had been some rock removed since our visit at this time last year (20th April 1991) but most quarrying activity had been concentrated on breaking through into Huncote Quarry.

Analcime was much in evidence and often good quality. There was an inaccessible joint face (ca 50cm x 50cm) covered with large yellowish crystals which was frustrating to many. Chris Jewson and his guest won the prize for the largest boulders

carried out of the quarry (albeit by Land Rover), these having vughs liberally coated with analcime and calcite. One in particular was very attractive.

Frank Ince found a thin vein of galena running through analcime which he promptly and generously left to Neil Hubbard who proceeded to find very nice 1mm bright galena crystals scattered over analcime. Neil defended his position until the end but there was very little material in total.

Phil Jackman found a vugh lined with analcime coated with hematite with calcite on top. Later examination showed very small gemmy fluorite and chalcopryrite(?) to be also present.

Analcime epimorphs after laumontite to 30mm were in evidence in several areas as was the 'cubic' calcite often found before. It was a good morning's collecting in good weather and good company.

P.S.Jackman.

Croft Quarry, Croft, Leics.
25th July 1992

Thirteen people attended including one Guest from the East Midlands' Geologists' Association. We were again lucky enough to be ferried in by Land Rover, this time by Kevin Cooper. There had only been minor activity in the area of analcime mineralisation since our last visit in April and the quality of material collected was generally inferior. George Fletcher was seen burrowing after very macro calcite crystals in a pipe in the quarry face while Frank Ince found some very micro showings of barite. John Cooper re-located part of a 'cave' liberally lined with small calcite and called over the rest of the party to share in the bonanza. Only a few took advantage and the others could have been right not to!

Nigel Moreton did not join the rest of us in Croft but investigated Huncote Quarry which is now being re-worked as a sort of extension to Croft. He found the workings to be barren of interesting minerals however.

This was not a good day by Croft standards but once again the company was congenial.

P.S.Jackman

^{KSN}
Croft Quarry, Leics. 20 April 1991 (1991) 22

The first Central Branch meeting of 1991 attracted 23 members and guests from as far afield as Kent and South London. It was good to see new members on their first field trip with the Russell Society and we hope they enjoyed the visit.

Croft Quarry is 365ft from top to bottom and is now 40ft below sea-level at its lowest point. Trial borings have established at least another 1000ft of hard rock. Permission has been given to link Croft and Huncote Quarry which will considerably extend the life of Croft and allow the quarry bottom to be dropped still further. There is a significant ingress of water and 1/2 to 3/4 million gallons are pumped each day. Much of this is being used for quarry operations. The water is cold, clear and potable. The sump in the quarry bottom is used in summer months by quarry workers as a swimming pool after which the water would definitely not be potable!

Much rock has been removed from the bottom benches since our last visits (1990). Analcime, calcite and laumontite were present in loose boulders and a few pipes were explored but the calcite and analcime removed were not top quality. Our leader, Neil Hubbard, did however find bright crystals of marcasite on analcime from one pipe. This is an association which has not been seen for several years.

CROFT, Leics. (III)

Central Branch RSN (1994) 24

17 April 1993 Croft Quarry, Croft, Leics.

There had been no quarrying activity at the bottom levels since our second visit last year although shot holes had been drilled one bench up from the sump and the management were promising some movement soon. Most quarrying had been concentrated in the Huncote Quarry area and the dividing wall between Huncote and Croft had been virtually removed. This wall was the site of a pyrolusite occurrence a few years ago.

Despite the lack of promise several new mineralised pipes were located and the usual analcmite/calcite/hematite/laumontite groups were collected. George Fletcher found chalcopyrite scattered on analcmite and clean powdery hematite on analcmite. Phil Jackman had quite attractive opaque fine calcite on analcmite together with numerous analcmite pseudomorphs (epimorphs?) after laumontite. He also found a single small rhombohedron of calcite on analcmite where the calcite was very sharp and

transparent. Later in the summer there was considerable quarrying activity in the sump and the lower benches. This resulted in a wealth of good material with some very beautiful orange-stained analcmite, large calcites in various forms and sheets of small scalenohedral calcite more or less transparent and stained green with chlorite(?). Unfortunately the bonanza was brought to an end, after the second Central Branch visit in September, by the quarry management withdrawing permission for access because collectors had put themselves into dangerous positions while the heavy machinery was in use. Subsequent to this, during the winter, the quarry had a reduction in work-force. At the same time ECC put the whole of its hard rock quarrying company onto the market. These two unsettling events led to a ban on collecting which hopefully will be lifted at some time during the 1994 collecting season.

Croft Quarry, Leicestershire [Grid Ref:
SP 515 960] - 12 November 1994

CB, Leader: Phil Jackman RSN(195)26

Yes, this was the Central Branch on a field trip in winter! Fourteen people including guests turned out in weather varying from driving rain to as good as heavy drizzle. Wrapping paper soon dissolved into papier mache but was needed and was still effective in protecting specimens.

There had been a recent blast in the floor of the lowest bench of the quarry which had erupted a pile of rock and there were several fresh faces to look at. John Cooper located plenty of small whitish and 'hairy' balls on analcime which, as is usual for John, he generously distributed to those who wanted some. This could be aragonite or maybe some more of the illite now confirmed (XRD) from our previous visit (20 August 1994). It is very similar in size but the hairiness is not typical of clay minerals, it seems.

John also re-entered the large pipe in one corner which yields plates of small calcite and analcime but he quickly yielded this to newcomers to the quarry who produced an enormous quantity of specimens which were rapidly washed by the heavy rain. Some of the calcite may be coloured green by chlorite inclusions.

In the pile erupted from the floor I found one or two small sparkly micro-rhombohedral calcites as well as some peculiar pseudo-\epimorphs. These were prisms very roughly hexagonal in section and up to about 20mm long and 10mm across.

They were partially hollow along the length and were either covered with or made from clusters of tiny scalenohedral calcites. Discussion with 'the experts' afterwards proposed aragonite or laumontite as the original species and there are certainly frequent epimorphs of calcite and analcime after laumontite at Croft. Any other suggestions?

Otherwise those who wanted analcime had plenty to collect and there were some small irregular pyrite crystals as well. The visit was made all the easier for us by the lifts down into and out of the sump by the quarry management and our ever friendly driver Barry.

RSN(1996)22

SP515 962

Analcime, calcite. A little
fluorite - pale yellow to colourless,
v. clear; to 2mm.

CROFT, Leics. (IV)

RSN(195) 27

Croft Quarry, Leicestershire [Grid Ref:
SP 515 962] - 8 April 1995

CB, Leader: Phil Jackman

There was renewed interest in visiting Croft this year with a full party of 20 and a waiting-list of people just too late to join the party. Apologies to those who could not attend. Also my apologies to those people who wanted to go but could not contact me for this and other field trips when they came up against the vagaries of British Telecom.

There had just been a blast on the lowest bench and there was a large pile of rock liberally sprinkled with vugs containing analcime, calcite and laumontite although specimen material was rare. The ferrets (perhaps wishing to remain anonymous but individuals with something to do with barrel-making and arrow-making it seems!) each set to work finding a pipe to forage in while most spread out and found the normal suite of minerals. The

pipe workers soon started retrieving good specimens combining analcime and calcite, some prospective cabinet pieces emerging. Their only regrets were that human arms did not come in lengths of 4 feet instead of the inadequate 27 or 28 inches they tend to be!

Unusual species for Croft were a complex crystal of galena(?) and a cleavage plate of molybdenite(?), both micro-sized. Chalcopyrite and marcasite associated with analcime and calcite were relatively common, again in micro-crystals. The pseudo-hexagonal prisms of pseudo/epimorphs after laumontite/aragonite(?) found during the last visit (see the report in the last Newsletter for 12 November 1994) were found again although this time in miniature. A further rarity for Croft was found at three locations. Baryte as pure white to pinkish rosettes to 5mm across was found in two vugs on opposite sides of the lowest bench, perhaps 100 yards apart, as well as on the side of a loose block below one of the vugs. Fluorite, yet another Croft rarity, was also found in one these vugs.

GREAT RAKE, Bonsall, Derbs.

See also GREAT RAKE, Bonsall Leys, Bonsall.

See under "Matlock"

RSN(1997) 30 18-19. Analcime, calcite,
chalcophyrite, calcite.

1" 120 and 121

SK 376 218

DIMMINSDALE MINES, Staunton Harold, Leics

=DIMMINGSDALE or DIMSDALE, [and Calke, Derbs. (I)]

=TICKNALL = ASHBY = STAUNTON HAROLD = LORD or EARL
FERRER'S MINES.

See also under DERBS; ASHBY-DE-LA-ZOUCH.

OS 6" & 2½" maps show "Old Quarries" at above map
ref. The 6" map shows "Lime and Lead works"
at 37652180, also other quarries and old coal
pits in the area. Extensive lime quarries
are shown around 360 240, a little to the
E of Ticknall, in Derbs. The 6" map shows
three "Old Trial Shafts" near Pisternhill Farm,
around 355 200 - 354 203 [These may be ^{minn} coal shafts]
The main site is labelled "DIMMINSDALE" on the 1958 2½" map

Farey (1811) DIMSDALE M., Calke, Derbs, adjoining Leics,
in "yellow limestone?": lead or [presumably galena];
Black Jack [sphalerite].

J.S. Neil "British Minerals" (1907). Leics: DIMMING'S DALE:
galena; chalcopryite; blende [sphalerite].

Also: Leics; Staunton Harold: galena;
chalcopryite; asphalt.

Farey (1811) STANTON-PARK in Stanton Harold; Leics,
in "yellow limestone?": lead [presumably galena];
Black Jack [sphalerite]; pyrite

T.M. Hall (1868) 63: STANTON PARK MINE, in Coal Measures
Bitumen; blende; calcite; chalcopryite

DIMMINSDALE MINES, Staunton Harold, Leics (II)

TMH (1868) 63: LORD FERRER'S MINES, Asby-de-la-Zouch, Leics:

In limestone: blende; chalcopryrite

Geol Mus: TICKNALL, Leics (actually Derbs): galena,
calcite and pyrite, on sandstone

STAUNTON-HAROLD, near Ashby: Asphalt, in
Carb. Lim.

"ASHBY, Leics": Calcite.

Hull (1860) MGS "The Geol of the Leics Coalfld" The
Carb. Lim of Dimmingsdale had a vein with
chalcopryrite, galena, calcite, chalybite
[siderite], blende, bitumen.

Rudler (1905) Calcite, dog-tooth spar, with galena or chalcopysite, at mines once worked near Asby-de-la-Zouch. [This almost certainly refers to the Dimmingsdale mines] Asphalt-Staunton Harold.

PC Sylvester-Bradley & R.J. King, Nature (1963) 198, 728

Bitumen forms 35% of the gangue on the dumps of the old lead mines at Staunton Harold; assoc. are dolomite, baryte, galena, blende, chalcopysite and, rarely, hemimorphite.

R.J. King, Priv. Comm. 9/69. Cinnabar, 0.6 mm brilliant crimson cleavage plates in cleavage of

DIMMINSDALE MINES, Staunton Harold, Leics (III)

"rosin" blend assoc. with galena, hemimorphite,
baryte, chalcopyrite; in very small quantity
on one specimen, K 2844, from an old
collection. Loc. given as "EARL FERRER'S LEAD
MINE" at Staunton Harold, now under the
waters of the new reservoir.

MA 81-3548 R.J. King "Wulfenite in Leicestershire"
Trans. Leics. Lit. & Phil. Soc. (1980) 72, 51-58.
Wulfenite in Staunton Harold lead
mine. [on one spec, assoc. w. baryte]

↓ Russ Soc 5 15-21

RJK (1993). SK 376 217 (Many old refs
given) : sphalerite, hemimorphite

EARL FERRER'S MINES, Staunton Harold, Leics

See DIMMINSDALE MINES

1" 121, 132

SP 53 99

ENDERBY QUARRY, Enderby, Leics

? = WARREN Q'y, q.v.

BM X-ray 6947 F (~1988) (proposed purchase
from Roland W. Thomas). Volborthite

1" 121

SK 50 20

GARENDON PARK, Leics

See TICKOW LANE LEAD MINE

1" 121

SK 62 07

GIPSY LANE BRICKYARD, Gipsy Lane, Leicester,

See LEICESTER

Leics.

1" 132?

SP 563 987

GLEN PARVA,

Leics

Spec. in D. Hardman Coll., purch. from Lythe Minerals
of Leicester (12/11) [? ex R.J. King]. Pascoite, volborthite,
from Glen Parva, Leics.

R.J. King & J.A. Dixon MM (1971) 38 488-492. In
brick pit of Butterley & Blaby Brick Co Ltd
at Glen Parva at SP 563 987 has lens of
gypsum on NE face. Vanadif nodules
abundant in the pit — black, spherical, with

grey-green aureoles - size ~~about~~ 28 mm.

At N end of gypsum lens in 1965 a very small showing of green, & yellow encrustations.

- X-ray → tangeite, volborthite. These

occur on etched surfaces of gypsum, in small joints in marl near a nodule, or on surfaces of nodules.

GROBY, Leics

G.F. Claxingbull MM(1952) 29, 973. Nacrite, in
cavities in quartz & on surfaces of
movement in slickensided syenite

1" 133

SP 7896
7797

HALLATON, Leics.

RJK (1993). Sphalerite, with calcite
in septaria in temporary exposure
at SP 776 977, near HALLATON

1" 121, 122

SK 5-6, 0
Cent on SK 59 04

LEICESTER, Leics.

See also THURMASTON BRICKYARD, WARREN Q,

R.L. Sherlock & B. Smith MGS, SRMRGB III "Gyp & Ank" (1918)

Gypsum, at GIPSY LANE BRICKYARD, Fairfax Rd,

Gipsy lane, $2\frac{3}{4}$ ml NE of Leicester, and at
THURMASTON BRICKYARD, Thurmaston, $3\frac{1}{2}$ ml NE

of Leicester. In both cases is a waste-
product in the clay.

SK 61 09

→ ? v 620 075

PTO

PGE (1978) MM 42, 171. 4th Supp List Br Mins.

< 5mm black globules on gypsum at GIPSY
LANE, Leicester [P.T.O] coll. N. Hubbard (1976)
pres. to BM, may contain chernovite
 $YAsO_4$. X-ray pdr. "nr. chervovite". Spectr
→ Y, As, also Cu, U, Si, Al. S^{2-} also present.
[But v. infra: = coffinite]

N. Hubbard, Priv. Comm. 3/88 The black
nodules in gypsum contain coffinite
as well as djerleite [?]

Faithfull & Hubbard J. Russ Soc (1988). Black nods = coffinite ^{NOT djerl}
BMS Database: ASQUITH BOULEVARD, Leicester, SK 500 001
Celastine

1"121

SK

49

16

LONGCLIFFE Q'y, Shepshed, Leics (I)

Near NEWHURST Q'y (q.v.) = "CHARWOOD Q"

F. Ince, Priv. Comm (11/91) Near, & similar
to NEWHURST Q'y. Azurite, malachite
etc. Diorite.

cf Longcliff Fm SK 49 16

Russ Soc N'letter (1991) 22. Baryte, bornite,
azurite, calcite, chalcocite, chalcopyrite,
cuprite, malachite, volborthite.

LONGCLIFFE Q'y, Shepshed, Leics (II)

RSN 23 (1992)

From Newhurst quarry,

A couple of stalwarts made the trek under the motorway to have a look at Longcliffe Quarry. It is an impressive site from a geological point of view, with the bedding planes of the Beacon Hill Tuffs well exposed, together with the folding and faulting. The diorite was not that easy to spot but was eventually found together with some reasonable cream dolomite. An approaching thunderstorm made us beat a hasty retreat for a cup of fresh brewed coffee in the quarry car park.

Frank Ince

LORD FERRER'S MINES, Staunton Harold, Leics

See DIMMINSDALE MINES

1" 122

LOWESBY, Leics

SK 7207
7108
7306

RJK (1993)

Sphalerite nr Lowesby
Railway st'n. (King 1968) - in railway
cutting at SK 735 069, with
calcite.

In Lowesby brickyard
SK 716 081 nodules with siderite,
calcite, sphalerite, pyrite and
baryto celestine

1" 133

SP 744 874

MARKET HARBOROUGH, Leics

RJK (1993)

During bridge construction
at SP 744 874 near MARKET HARB.
nodules exposed with v. lustrous
plates black sphalerite with
minor calcite

MARKFIELD QUARRY

SK 483 103
Leics (I)

An occurrence of copper minerals at Markfield Quarry, Leics.

F. Ince

Russ Soc. Newsl. (1992)
23 19-20

Introduction

Whilst Markfield Quarry is well known for the occurrence of the South Charnwood diorite (Worssam and Old, 1988), it is not noted for the copper mineralization so common in a number of the quarries in the Charnwood Forest area. The minerals described below were found in a very limited area of one of a number of almost vertical quartz-carbonate veins that trend NE-SW through the SE face of the flooded lowest level of the quarry (SK 48581034).

Geology

Markfield Quarry exploited the South Charnwood diorite, an arcuate exposure of late Precambrian igneous rocks on the SW margin of the Charnwood Forest area, that appears to have the form of a laccolith (Worssam and Old, 1988). The area is the type locality for markfieldite and the predominantly pink rock has been variously described as a diorite (Worssam and Old, 1988), a diorite or granophyric diorite (Evans *et al.*, 1968), a

porphyritic microdiorite (Hatch *et al.*, 1961) and a syenite (Watts, 1947).

Minerals

Calcite CaCO_3

Some of the veins in this part of the quarry are quite large and blocks of brownish calcite up to 1m across are quite common. The vein that contains the copper mineralization is up to 5cm wide and contains colourless to pale greenish-yellow calcite possessing some cavities lined with singly terminated scalenohedral crystals (up to 1cm).

Cuprite Cu_2O

With the calcite there are a number of areas of a grey to black mineral that is lustrous when broken, deep red in thin fragments, has a red-brown streak and contains copper (wet chemistry). Thus this material would appear to be cuprite (rather than, say, chalcocite or hematite). A similar mineral can also be seen to be enclosed within the calcite.

of CLIFFE HILL Q

Chrysocolla (Cu,Al)₂H₂Si₂O₅(OH)₄.nH₂O

Associated with the cuprite and calcite is a blue to greenish-blue mineral that contains copper, however, none of the common anions could be detected (wet chemistry). X-Ray analysis failed to detect any crystalline material, thus it is most probably amorphous chrysocolla (J. Faithfull, pers.comm.). Where a cavity in the calcite has not been completely filled, the majority of the chrysocolla covering the calcite crystals is greenish-blue to mid-blue with a pale blue surface coating.

In these cavities, the coating of chrysocolla contains small (up to 1mm), mid-blue to pale blue, rounded octahedral crystals; most probably chrysocolla pseudomorphs after cuprite. Where these crystals are broken it can be seen that the replacement is complete, with the chrysocolla being mid-blue but possessing a pale blue surface coating.

Malachite Cu₂(CO₃)(OH)₂

Sprays and botryoidal aggregates of emerald green, acicular crystals (up to 1mm) of malachite (wet chemistry) cover small areas of the chrysocolla.

Copper Cu

Enclosed within the calcite and inside the chrysocolla are metallic-looking, red-brown, dendritic growths of what is presumed to be native copper. The amount and size of this material has made chemical analysis difficult.

Quartz SiO₂

Some typical elongated white to transparent quartz crystals (up to 2 cm), associated with green earthy chlorite, are found in cavities in the quartz veins in this part of the quarry.

Discussion

The vein containing the copper mineralization is interesting in a number of respects.

Firstly, in Markfield Quarry the occurrences of copper mineralization are very limited. This is somewhat surprising bearing in mind that copper mineralization is quite common at the nearby Cliffe Hill Quarry (R.J. King, pers.comm.). Also impressive specimens of malachite, azurite, cuprite, native copper, etc., are to be found in many of the quarries in the Charnwood Forest area (King, 1967; King and Ford, 1968).

Secondly, as far as can be ascertained, the observed replacement of cuprite by chrysocolla is unique in Leicestershire, despite the reasonably

common association of these two minerals at other localities.

Thirdly, at least two, and probably three or four, episodes of secondary mineralization have taken place. A report of a whole rock analysis of the Markfield diorite by Watts (1947) does not mention any copper, however a later analysis indicates a low level of copper, 95 ppm (Worssam and Old, 1988). Thus oxidation and mobilisation of this material could have provided the copper bearing solutions that gave rise to the original suite of secondary copper minerals.

Of these minerals the cuprite and copper presumably crystallised at the same time as the calcite leading to the observed intergrowths. This was followed by the deposition of octahedral crystals of cuprite on the calcite. These periods of mineralization were followed by the remobilisation of

the copper in the vein that led to the replacement of the cuprite by chrysocolla and the deposition of the coatings of chrysocolla together with the acicular crystals of malachite.

Acknowledgements

I would like to thank John Faithfull (formerly of the Geology Department, Leicester University; now at the Hunterian Museum, Glasgow) for the XRD analysis.

References

- Evans, A.M., Ford, T.D. and Allen, J.R.L., 1968. Precambrian Rocks in *The geology of the East Midlands*, Sylvester-Bradley, P.C. and Ford, T.D. (eds), Leicester University Press, pp400, pp1-19.
- Hatch, F.H., Wells, A.K and Wells, M.K., 1961. *Petrology of the igneous rocks*, George Allen and Unwin, London, twelfth edition, pp515, pp287, 434.
- King, R.J., 1967. The minerals of Leicestershire: Section 1, The elements, *Trans.Leic.Lit. & Phil.* 61, pp55-64.

King, R.J. and Ford, T.D., 1968. Mineralization in
The geology of the East Midlands, Sylvester-
Bradley, P.C. and Ford, T.D. (eds), Leicester
University Press, pp400, pp112-137.

Watts, W.W., 1947. *Geology of the ancient rocks of
Charnwood Forest, Leicestershire*, published for
the Leicester Literary and Philosophical Society
by Edgar Backus, 46, Cank Street, Leicester,
pp160, pp72-73, 80-81.

Worssam, B.C. and Old, R.A., 1988. Geology of
the country around Coalville (Sheet 155),
Memoir. Brit. Geol. Surv. H.M.S.O., London,
pp161, pp74-79.

1" 121 SK 33 12
MEASHAM, Leics

SRMRGB IX "Fe..." (1919), p. 25: "Farey says, haematite in rounded masses in "alluvial deposits" near Measham, Newhaven & Over Haddon, used by button makers" (!).

Farey (1811) p. 402-3 Haematite for polishing $\frac{1}{8}$ mile W of
Measham. [this is ⁱⁿ ~~near~~ Leics ~~water~~].
S

1" 121

SK 5 1

MOUNTSOREL, Leics (I)
See also BUDDON WOOD Q.

Molybdenite. G. Mus.

RSWB Coll. Spec. ~~from~~ coll by RJK, 6/63. Black
pitchy hydrocarbon, with dolomite &
pyrite, from CASTLE HILL QUARRY, Mounts.

Lowe. Leics Lit Phil. Soc. (1926) 10.

RSWB 8/61 See Vol II p
Pink granite intrusion.
& biotite.

Pink felspar (o'clan)

Rudler (1905): Molybdenite

Studies of
Hydrocarbons, solid & liquid, ^{which} occur in large amounts:

Sylvester-Bradley & R. King Nature (1963) 198 728

C. Ponnamperna & K. Pering Nature (1966) 209 979

JW Aucott & R H Clarke Nature (1966) 212 61 Amino-acids
in the Mountsorrel bitumen

R. J. King Trans Leics Lit Phil Soc (1959) 53, 18. (MA (1960) 14, 518)

5 stages of ign. mineralis'n in this small granodiorite boss:

Pneumatolytic stage (1) → pyrite, molybdenite in aplite veins;

pneumatol. (2) → molybdenite, allanite, sphene, tourmaline,
chlorite, quartz, pyrite, pyrrhotite, topaz.

Hydrothermal (1) → dolomite, epidote, quartz, chalcopryite,
pyrite, galena, calcite, haematite, baryte. Hydrothermal

(2) → calcite, pyrite assoc. w. inject. of orthopyre dykes. Hydroth

(3) → calcite, dolomite, ? magnesite, pyrite, marcasite,

MOUNTSORREL, Leics (II)

goethite, a nacritic clay mineral, chlorite,
epidote, quartz, & an asphaltic compound.
A 6th or supergene stage has introduced
jarosite, selenite [gypsum xls], epsonite,
?alunogen, limonite, hydrohaematite, malachite

9th June 1989 Buddon Wood Quarry, Mountsorrel, Leics. A surprising number of members (12) gathered at the entrance and we found that a considerable extension had been effected on the south and south-west side of the quarry. Despite the fact that we found the remains of a number of pink aplite dykes, not a lot of real interest turned up. Another year perhaps? We retired to the Blacksmiths Arms, Quorn to contemplate future excursions.

R. Soc. N. (1994) 25
Leicestershire erythrite,
~~volborthite and vesignite~~

Erythrite in 'fairly grotty little smudges' was found in basal breccia (Triassic) in a relict wadi at Mountsorrel Quarry, Leicestershire.

1" 133

SP 81 93

NEVILL HOLT, Leics.

RJK (1993). The "specular haematite"
[in nodules?] is probably sphalerite

NEW¹²¹ HILL Cent on SK 475 1061
CLIFFE^Q Markfield, Leicestershire (I)
458 108

CLIFFE HILL Q
of NEWHURST Q., BARDON Q., LONGCLIFF Q.,
~~CLIFFE HILL Q.~~ MARKFIELD Q.; ~~NEW CLIFFE HILL Q.~~

J I Wilson 12/92, Spec → LSOB 1/93. Specimens
given to me, ^{from} a digger driver, who
dug up a 'pod of material' in the
quarry "a few feet long" and gave it
to the owner of a shop in Matlock
Bath recently.

~~Small~~ Lumps of solid azurite with
scattered native copper, coated with
chrysocolla. On one lump small xls
native silver on the chrysocolla.
Also azurite, coatings of tiny

(FTIR 1/93)

greenish-yellow flakes volborthite also
as olive-green radiating blades to ~ 2-3 mm

green fibrous malachite (efferv. w. HCl)

FTIR 2/3/95 Connellite, ^{long} deep blue needles in
one cavity in cuprite, with malachite,
nat copper, silver.

M. Wirth, BMS News (1996), 44, 5. A no. of
specs of volborthite, coll. by Eddie Foy, analysed
& all have appreciable Ba - Vesignite, rather than volborthite

1" 121

SK 43? 10?

NEW CLIFFE HILL QUARRY, Ellistown, Leics.

See also ~~CLIFFE HILL~~ etc.

(II)

V. Rae, spec → RSWB, 7/93 [93-91]

Native copper, rich in solid cuprite
lump with crystals in cavities,
"from New Cliffe Hill Qu, Ellistown, ~~Leics~~ Leicester"

OS 1" 121 shows ELLISTOWN village at
SK 4310, 4 km due W of Cliffe Hill.
No quarries shown, but "Works" and
"Mines" [coal] in vicinity.

Colleen Thompson BMS Nuosl (1995) 40 14.

"Superb" goethite, black lustrous acicular
xls. / at Stanton under Bardon. SK 458 108

RSN(2000)36, 21 Visits (10/99). Nat Cu, cuprite,
mal, little azur, chr'colla. One vgspear-shaped
nat. Cu 10 x 2 x 0.2 cm (!) i ~~was~~ yell-green
Vesigneite (wet chem: - Cu + Ba) coated thinly
w. chr'colla. DK green vanadates, thought to be
moltram seem to be vesigneite.

RSN(2001)39, 17. F. Ince: Vanadinite orange,
slightly rounded, pitted, obtuse bipyrs xls to 6mm in
one vugh in one boulder.

NEW CLIFFE HILL Q'y, 1

Leics (III)

JIW specimens 2000 Native copper, very
rich in large lumps calcite.
On removing the calcite with HCl
large masses of reticulated
He-crystalline native copper remain

JIW spec. 3/02. (Metha?) torbernite or
-zennite, bright green finy rectangular
xls sparse on mass of cuprite
with cubes in small cavities and
some native copper. [Seen RSWB 28/3/02]
[Not enough for IR!]

F. Ince BMS Coll 2287 Vesigneite on calcite

RSN ('03) 42, 26. 2-day visit. Mal, ch'colla, cuprite,
vesign, "xline Mn oxides", azur, qtz, cocksc' baryte
NO vanad found.

R. Ixer, A. Tindle, R. Chapman. (2005) UKJMM 26, 43-50
Algodonite, domeykite, djurleite, yarrowite
etc in polished sections

N. Hubbard, S. Burchmore, D. Green (2005) UKJMM 26,
31-42. Major article; geol. minerals, incl v.g.
photos [much photoshopped?]. Arag, vq azur
baryte, bobkingite (TYPE), bornite, brochant,

NEW CLIFFE HILL Qy,

Leics (IV)

calcite, ceruss, chalcocite, chalcophyllite
→ 2.5 mm w azur; chalcopyr, chrysocolla,
clinoatacamite, ps-octah; connellite in
mass. cuprite, v.g.; copper, covellite cuprite
incl xls; digenite, dolom, goeth, libethen
→ 0.2 mm; malach, mottram, olivenite,
parnaelite, pyrom, silver, spangolite,
strashimirite, tenorite (?), torbernite,
tyrolite, vanadinite, vesignieite v.g.,
volborthite, zalesiite, needles → 0.1 mm.

D Green et al (2008) J. Russ. Soc. 11, 54-58. Pb-rich
tangeite, felted aggs of pale green needles

The cone of the pod

1

or New C.H. &?

Ques?
In 1992 a quarryman at Cliffe Hill quarry, Markfield, Leicestershire (centred on SK 475 106) exposed a colourful pod of ore in the floor(?) of the quarry. The pod was roughly shaped, about long, wide and about deep, and consisted mainly of cuprite, with an outer crust with patches of various shades of blue and green. The pod was dug out and broken up, and specimens were donated to the authors for investigation.

The donated samples consist of

xl sizes. cuprite (habitu). Ag. Volb. Azur Mal

Probe Ag.

NEWHURST QUARRY, Shepshed, Leics. (I)

See also LONGCLIFFE Q (nearby)

C. Rogers, Priv. Comm. 6/71: Sulphides (micro);
Carbonates. (?)

N. Hubbard, Priv. Comm. (8/72). NEWHURST
= CHARNWOOD QUARRY, Shepshed. → ind. ch'trich.
Vesigneite, volborthite, cuprite nat copper,
malachite; on oxidising bornite,
galena, sphalerite etc. Magnetite,
acc. to RJ King. Dinosaur footprints.

F. Ince, Priv Comm (11/91). Chalcopyrite;

azurite, malachite in basal Trias.
Calcite, baryte.

RSN(2001)39 16. F. Ince. Vanadinite 1st found in
1993 from incline on S side; similar to the
Judkins Q. material. Assoc. w. a number of v
vert WNW-ESE veins w. ox'd Cupr, gal, sphal.

Mal; azur; aurich; ceruss, smithson, hemim,
Ca, wulfenite; presumed cds (yellow coatings)
Benches below incline also mottamite
thin crusts of greenish some w. vanad.

NEWHURST Q'y., Shepshed, Leics (II)

RSN (1992) 23

Newhurst and Longcliffe Quarries, Shepshed, Leics. 30th May 1992

Newhurst and Longcliffe Quarries exploit the Northern Diorite and the Charnian tuffs and agglomerates (Beacon Hill Tuffs of the Beacon Hill Formation of the Maplewell Group) on the northern-most edge of the outcrops of Precambrian rocks of Charnwood Forest.

Our party of 9 gathered in the quarry car park and the geological setting of the quarry was explained, together with the effects of the intrusion of the diorite on the surrounding volcanic rocks and the distinction between the Northern (greenish) and Southern (pinkish - Markfieldite) Diorites. A considerable number of minerals have been found at Newhurst and Longcliffe Quarries, mainly around the Triassic-Precambrian unconformity. The occurrence of these was described, with the secondary copper minerals being the most interesting.

On entering Newhurst Quarry the extent of the new operations could be appreciated and the majority of the benches were explored. Only one bench produced any mineralisation of note. Here a limited amount of a small, almost vertical, vein (ENE-WSW) was exposed fairly close to the junction of the diorite and the steeply-dipping volcanic rocks. The vein contained red-brown dolomite and quartz together with localised areas of decomposing sulphides, chalcopyrite (blister copper) and marcasite being the most common. The latter does not appear to have been recorded from the quarry before and occurred in radiating groups of brassy-yellow crystals up to 5cm across. Associated with the vein were some quite nice malachite sprays and coatings, aurichalcite, a small amount of azurite and some aragonite (as pale pink acicular crystals and white globular aggregates of small acicular crystals).

It was just as well that Franz Werner, Mike Kinder and Maggie Frankum came across the vein, as the drill-rig started work on the bench above as we were leaving. I guess that the majority of it will have been removed by now.

R. Soc. N. (1994) 25
Newhurst Quarry, Shepshed, Leicestershire
[Grid Ref: SK 486 182] - 30 April 1994

CB, Leader: Frank Ince

Eighteen members gathered for the meeting which took place in fine, sunny weather - ideal conditions for our visit. The quarry provides interesting exposures of steeply dipping Beacon Hill Beds/Blackbrook Beds, adjacent to the Northern Diorite. Spherical nodules up to 1-2cm across occur in the Triassic sandstones above the unconformity, which are cemented by calcite and are of unknown origin.

Minerals collected include calcite, dolomite, small but bright chalcopyrite, chalcocite (not common), malachite and bornite/chalcopyrite. A vein of calcite/galena yielded cerussite, malachite, azurite, smithsonite, hemimorphite, wulfenite and mottramite. Wulfenite was collected from the same area as last year (1993) but occurred as larger crystals (up to 3-4mm across). The thin orange plates are very fragile and not well attached to the matrix. John Cooper collected examples of chrysocolla and baryte, not previously seen at Newhurst.

Quarrying operations have not as yet removed much of the calcite/galena vein, and prospects for future exposure of interesting material appear to be promising.

Newhurst Quarry, Shepshed, Leics.

18 May 1991 RSN (1991) 22

Newhurst Quarry exploits the Northern Diorite and the Charnian tuffs and agglomerates (Blackbrook Series of the Maplewell Group) on the northern-most edge of the outcrops of Precambrian rocks of Chamwood Forest. Although the rocks at Newhurst have been quarried in the past, there has been little activity in the last 10-15 years, the major operation being at Longcliffe Quarry on the other side of the M1. The focus of activity has returned to Newhurst Quarry and a large operation is currently underway to remove the overburden of Triassic rocks (Mercia Mudstones) and extend the quarry to the south. This work will probably double the surface area of the quarry.

Our party of 14 gathered in the quarry car park and the geological setting of the quarry was explained, together with the effects of the intrusion of the diorite on the surrounding sedimentary rocks and the distinction between the Northern (greenish) and Southern (pinkish - Markfieldite) Diorites. A considerable number of minerals have been found at Newhurst Quarry in the past (16 at the last count), mainly around the Triassic-Precambrian unconformity. The occurrence of these was described, with the secondary copper minerals being the most interesting. → Cont'd (III)

NEWHURST QUARRY, Shepshed, Leics. (III)

On entering the quarry the extent of the new operations could be appreciated and all the new benches were explored. The Triassic rocks produced a few rather inferior dolomite? pseudomorphs after halite and also some quite nice examples of ripple-marks on some of the bedding planes. On the highest benches small amounts of copper mineralisation were found near the Triassic-Precambrian unconformity, in the form of small tufts of malachite on cream dolomite with tiny colourless rounded rhombohedral calcite.

On a lower bench, signs of copper staining led to a significant rock-removing operation that exposed some tufts and blobs of bright green malachite and one or two areas of excellent dark blue azurite crystals (1-2mm) associated with partly oxidised chalcopyrite. The chalcopyrite occurred as small irregular masses together with a few iron-stained crystals on dolomite. Colourless calcite crystals, many of which were iron-stained, also occurred in this area.

Minerals reported to occur at Newhurst (N) and Longcliffe (L):

Aragonite (N); aurichalcite (N); azurite (N,L);
baryte (L); bornite (N,L); calcite (N,L);
chalcocite (N,L); chalcopyrite (N,L);
native copper (N); cuprite (N,L);
cuprite var. chalcotrichite (N); dolomite (N);
galena (N); magnetite (N); malchite (N,L);
smithsonite (N); volborthite (N,L);
+ pseudomorphs after halite.

2 October 1993 Newhurst Quarry,

Shepshed, Leics. RSN (1994) 24

Despite the fact that we have been visiting the quarry regularly - for longer than many of you care to remember - this turned out to be a very interesting visit. On a day that threatened rain (we had one marked down-pour in the middle of the afternoon), our party of eight entered via the new incline on the south and west sides of the quarry (the aim of the operators is to go down another three benches below the bottom of the old quarry). About 150m down the incline was as far as most of us got all day. On the wall above the incline (just below the Precambrian-Triassic unconformity) a small al-

most vertical galena-containing vein had been exposed and this area occupied our attention for about six hours! Galena and calcite (typical colourless or white, rhombohedrally terminated scalenohedra were present, some possessing an interesting edging with black wad/pyrolusite?) together with some decomposing chalcopyrite. As might have been expected a number of secondary minerals were also present: malachite and small amounts of azurite (the latter in the decomposing chalcopyrite), aurichalcite together with cream to brown crusts and aggregates of crystalline hemimorphite, some cerussite and, most interestingly, what appears to be vanadinite with mottramite (found by Roy Frankum, in the area of the galena vein, and Phil Jackman, on loose blocks two benches below the vein) and also wulfenite (found by Neil Hubbard). These minerals are very rare in Leicestershire, in

fact this appears to be the first occurrence of vanadinite. Mottramite has been found at Newhurst before but on this occasion both green and brown crusts and some excellent individual small (<1mm) olive-green transparent flattened bipyramidal crystals, as well as some dark brown to black bipyramidal crystals were found. The vanadinite was present as small (up to 0.8mm) lustrous transparent very pale

brown to light orange-brown hexagonal prisms. The association of these two minerals is similar to that seen at Judkins Quarry, Nuneaton. The wulfenite occurs in a variety of colours and habits. The colour ranged from pale yellow and brown through to mid brown and orange. The majority of the crystals were quite small (up to 1mm) and they appeared to be present in nearly all of the habits characteristic of wulfenite: hemimorphic and bipyramidal as well as thin square plates, some with bevelled edges. It was a remarkable day (it is unusual for lunchtime to pass unnoticed!) but it is also unusual when a such a well known locality produces two unusual minerals.

Newhurst Quarry, Shepshed, Leicestershire
[Grid Ref: SK 486 182] - 1 October 1994
CB, Leader: Frank Ince RSN(195)26

The word about Newhurst Quarry has obviously got around as, despite the rain, 20 or so dedicated individuals appeared in the quarry car park (some

Cont'd (IV) →

NEWHURST QUARRY, Shepshed, Leics (IV)

having travelled from the Liverpool area - who says that the current generation stick to their own patch?). On this occasion it seemed best to keep the geological preamble to a minimum - it's bad enough collecting in the rain without standing around for too long with water running down your neck and not a lot else happening.

The area of interest for most of us was the series of small sulphide veins on the south side of the incline into the quarry just below the Precambrian-Triassic unconformity (in fact some of the party were content to stay here all day - you can't have too much of a good thing apparently!). As on previous visits over the last couple of years, this area produced a range of interesting, and generally quite well crystallised, minerals: calcite, galena, chalcopryite (well oxidised), cerussite, azurite (excellent, if small, dark blue crystals), malachite, smithsonite (pale greenish-brown to light brown waxy-looking globules and crusts), aurichalcite (not spectacular), hemimorphite (beautiful colourless radiating aggregates of typical hemimorphic crystals that merged into pale brown

crusts over some areas of the matrix), motttramite, vanadinite (rather small lustrous pale brown hexagonal prisms), and wulfenite (both as light brown to pale orange thin square plates and bipyramidal crystals). Interestingly a few minerals that appear to be new to the quarry were found: sphalerite as groups of pale brown crystals and what appear to be bright canary yellow powdery crusts of cadmium sulphides (probably amorphous but it could be greenockite or even hawleyite), this latter material was initially confused with the greenish-yellow motttramite - by me anyway; some indigo-blue scales that look suspiciously like covellite (associated with decomposing chalcopryite, malachite etc.) and some very small thin colourless plates that could be baryte.

It has to be said that most of these are just visual identifications made on the spot and at home with the microscope, although Mike Rothwell has checked some of his presumed vanadinite (pale brown hexagonal prisms) using EDAX and it did indeed contain lead and vanadium.

On the north side of the old quarry George

Fletcher turned up some quite reasonable bornite (after chalcopyrite) as veinlets in calcite, together with malachite, etc. Elsewhere in the older workings some more chalcopyrite/chalcocite with galena, some malachite and vanadates (grotty yellowish-green crusts, with some looking suspiciously like the mottramite that Monica

identified by XRD a couple of years ago) were also found. Amongst the loose blocks from a recent blast on the south side of the old quarry some quite interesting vughs with purple-ish calcite crystals were unearthed by Roy Starkey; this rubble also contained some small patches of chalcocite and coatings of malachite.

Fortunately the rain eased off during the day and the afternoon was not too bad, although things were still a bit damp. The party gradually dwindled in numbers as the afternoon wore on, but a dedicated group of long distance travellers worked on before committing themselves to the rigors of the M1 etc. This time I even remembered to have my lunch (see a previous report!).

25N(195) 2T
Newhurst Quarry, Shepshed, Leics.
[Grid Ref: SK 486 182] - 27 May 1995
CB, Leader: Frank Ince

Seventeen Members congregated in the quarry car park, again some long distance travellers including a car load from Essex. Following the traditional chat about the local geology and the mineralogy of the quarry, we moved off to see how things had changed since our last visit - quite a lot, as it turned out, but nothing really new turned up.

Most of us stopped for a while at the area of oxidised Pb/Cu/Zn veins exposed on the incline into the quarry (again a few stalwarts never got beyond this point all day - you can't have too much of a good thing!). Of the expected minerals from this area, all but the elusive vanadinite were found, with wulfenite-of-the-day going to Bob Cheetham (a nice yellowish bipyramid, 1-2 mm unless my memory is playing tricks again). Reasonable amounts of other things also emerged following some dedicated rock-removing: pale yellowish-greenish-brown sphalerite, colourless to brown hemimorphite and bright yellow patches of cadmium sulphides (greenockite? we will get some analysed soon).

CONT'D (V)
5 "023084"348542">

NEWHURST Q'y, Shepshed, Leics. (V)

John Cooper had moved off in search of a patch of purest green that he had noticed on a previous visit above one of the upper benches on the west face of the quarry. As far as I could see he only had limited success but some malachite and chrysocolla coatings were to be found below a recent rock fall. Interestingly, largely because it is not a common mineral in the Leicestershire quarries, some small but quite nice leaflets and protoconchoids of cream baryte on dolomite? were also found in the same pile of debris. From our vantage point Franz Werner could be seen attacking a boulder the size of a family car (more of that in a moment).

A wander around the lower benches did not produce much more apart from some dinged calcite crystals coated with lots of small chalcopyrite crystals (well almost crystals). As expected I came across Franz attacking his boulder which had looked promising as I passed by the first time

(oxidised Cu vein). The second time I passed by a few bits of azurite and malachite were emerging and he was still at it later on having extracted some specimens possessing reasonable if small azurite crystals. What dedication - even if the boulder was still much the same size after all his efforts!

RSN (1996) 29. [27/4/96]
"Fluorite, in the past" (according to
Ron Johnson. [?]). Molybdenite (?);
wulfenite, ~~phaladite~~, kentite,
morphe, ~~yellow cds.~~
galena, dolomite, calcite
mottramite (?)

RSN(1998) 33 13-14. Field trip. LOWER BENCHES:-

calcite xls, some pink; malachite; haematite;
velvety goethite; baryte ADJACENT TO THE
ROADWAY down, just below unconformity, the
well-known exposure gave wulfenite &
galena; hemimorphite, aurichalcite.

RSN(1999) 35. 17-18. small Pb/Zn/Cu veins on S
side: calcite; ?hemim; ?cerussite. Dolomite,
micaceous & botry (small) haematite. Quartz
rock. One xl ? wulfenite. An unident
green xl. (sub-micro!).

RSN(2000) 36, 21-2. Visit. Mothram? Dk green (wet clm: Cu + Pb)
dolom Ce scalen...

NEWHURST QUARRY, Shepshed, Leics (VI)

F. Ince (2005) J. Russ. Soc. 8 [2], 47-65 "The mineralogy of Newhurst Q, Shepshed, Leicestersh." Detailed review minerals, photos, history, locs within quarry described. Fossils, too eg Cheirotherium footprints. Petrology. Ankerite, aragon, aurichalcite, azurite, baryte, bornite, calcite, ceruss, chalcocite, djarbeitte or anilite, chalcopyr, "chloritids", chrysocolla, copper, covellite (incl a 0.6 mm plate) ceprite, dolom, epidote → 5 mm, "feldspar", galena, goethite, haematite (incl plates to 4 mm in "eisenrosen", hemim, jarosite, kaolinite,

malachite, marcasite, mottramite, (light to yellow to dark-green to brown), moscovite, palygorskite?, pyrite, quartz, smithsonite, sphaler, dravite (blue-grey striat micro-xl) vanadinite, incl pale yellow transp hex prism to 0.2 mm; vesignite, "wad", wulfenite
Mineralisation & paragenesis
[volborth not mentioned]

D. Green et al (2008) J. Russ. Soc. 11, 54-58.

Excellent volborthite (photos) (dark green platy). Micro pale green acicular radiating eggs associated with it. (to 0.1 mm - rad $\rightarrow$ 0.2 mm) are zálešite (XRD, EDS, WDS); malachite.

NEWHURST Q.
+ LONGCLIFFE Q.

Leics

THE RUSSELL SOCIETY

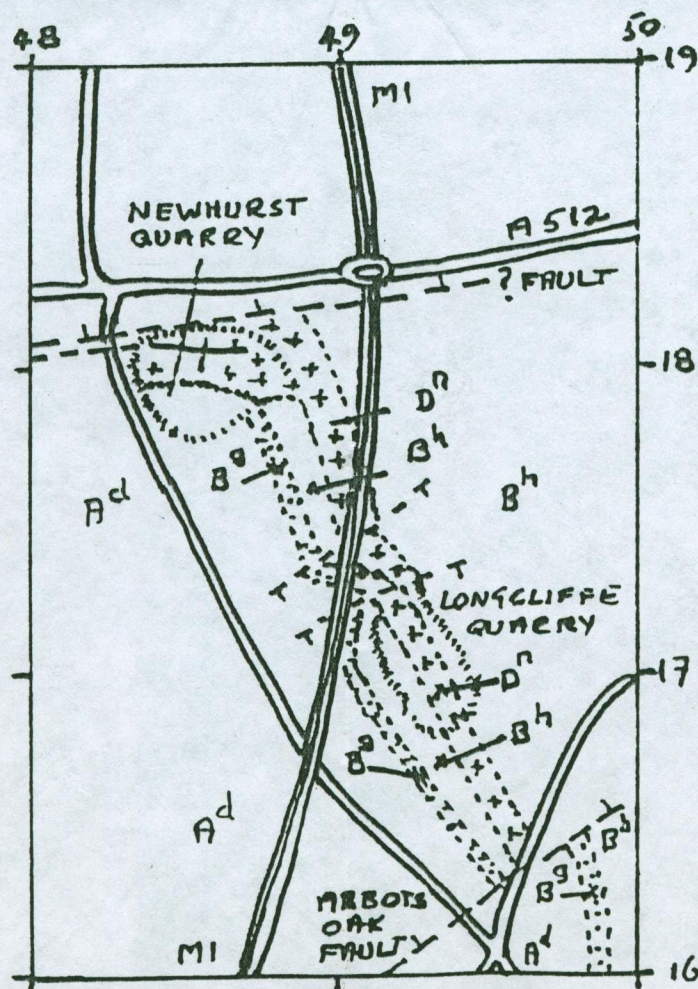
NOTES ON THE GEOLOGY AND MINERALOGY OF NEWHURST AND LONGCLIFFE QUARRIES, SHEPshed, LEICS

GEOLOGY

Newhurst and Longcliffe Quarries exploit the Northern Diorite and the Charnian tuffs and agglomerates on the northern-most edge of the outcrops of late Precambrian rocks of Charnwood Forest. The sequence is thought to have originated as part of an explosive volcanic arc on the NW margin of a basin in which the Charnian sediments accumulated (Moseley and Ford, 1985; Worssam and Old, 1988). The date of the deposition of the tuffs and agglomerates and the intrusion of the igneous rocks has yet to be determined unambiguously (various estimates of 600 - 900 My).

From the geological sketch map it may be seen that the strike of the sequence is NNW-SSE. To the WSW are exposed the tuffaceous pelites of the Blackbrook Reservoir Formation (Ad) of the Blackbrook Group. These are the oldest Charnian rocks adjacent to the quarries and are overlain to the ENE by the Benscliffe Member (Bg) - Felsitic Agglomerate of Watts (1947) - and the Beacon Hill Tuffs Member (Bh) of the Beacon Hill Formation of the Maplewell Group (Moseley and Ford, 1985). Igneous activity resulted in the intrusion of the Northern Diorite (Dn), an event that has produced a marked thermal alteration in the adjacent tuffs and agglomerates (Boulter and Yates, 1987; Worssam and Old, 1988).

Subsequent tectonic activity has resulted in folding (anticlinal axis NW-SE) and a number of major and minor faults with an approximately E-W trend (Boulter and Yates, 1987). A number of these faults carry some mineralisation, probably related to post-Triassic weathering as well as emplacement during faulting (King and Ford, 1968).



The Charnian rocks are separated by a well defined unconformity from a sequence of almost horizontally bedded Triassic predominantly red-brown silty mudstones with some sandstones (Mercia Mudstones). It is reasonably common to find supergene mineralisation at this Precambrian-Triassic unconformity (King and Ford, 1968). The Triassic rocks contain rather ill-formed pseudomorphs (of dolomite?) after halite and also some reasonable examples of ripple-marks on some of the bedding planes. Dinosaur footprints have also been found in the Mercia Mudstones during periods of overburden removal.

MINERALOGY

Quartz veins with carbonates (calcite and pink dolomite) containing sulphides are scattered throughout the quarries, however, the majority of the minerals are to be found at or close to the Precambrian-Triassic unconformity and are characteristic of the supergene mineralisation common in the Charnwood Forest area (King and Ford, 1968).

The following minerals have been reported from Newhurst (N) and Longcliffe (L)

Quarries:

Pyrite (N,L), Chalcopyrite (N, L), Galena (N), Marcasite (N), Magnetite (N),
 Chalcocite (N, L), Bornite (N, L), Copper (N), Cuprite (N, L), Cuprite var Chalcotrichite (N),
 Calcite (N, L), Aragonite (N), Dolomite (N), Malachite (N, L), Azurite (N, L),
 Smithsonite (N), Aurichalcite (N), Cerussite (N), *Chrysocolla* (N)
 Baryte (L), Hemimorphite (N), Wulfenite (N), *Sphalerite*, *Greenockite* ?
 Volborthite (N,L), Vésignièreite (N), Mottramite (N), Vanadinite (N),
 Dolomite? pseudomorphs after Halite (N)

REFERENCES

- Boulter, C.A. and Yates, M.G., 1987. Confirmation of the pre-cleavage emplacement of both the Northern and Southern diorites into the Charnian Supergroup, Mercian Geologist, 10 (4), 281-286.
- King, R.J. and Ford, T.D., 1968. Mineralisation in The Geology of the East Midlands, Sylvester-Bradley, P.C. and Ford, T.D. (eds), Leicester University Press, pp 400, pp 112-137.
- Moseley, J. and Ford, T.D., 1985. A stratigraphic revision of the Late Precambrian rocks of Charnwood Forest, Mercian Geologist, 10 (1), 1-18.
- Watts, W.W., 1947. Geology of the ancient rocks of Charnwood Forest Leicestershire, Published for the Leicester Literary and Philosophical Society by Edgar Backus, 46, Cank Street, Leicester, pp 160.
- Worssam, B.C. and Old, R.A., 1988. Geology of the country around Coalville (Sheet 155), Memoir of the British Geological Survey of England and Wales, H.M.S.O., London, pp 161, pp 4-18, 74-86, 106.

Frank Ince, April 1994

1" 122

SK 68 23

OLD DALBY, Broughton and Old Dalby, Leics

RJK (1993) Nodules in blue sandy Lower
lias shales at SK 684 234 in the
railway cutting at the N end of the
Grimston Tunnel 0.8 km SE of Old Dalby
have sphalerite in lustrous dark
brown plates to 4.3 mm across with
calcite

1" 121

SK 380 183

OLD PARKS COAL PIT, Coleorton, Leics

RJK (1993) Sphalerite, with calcite,
siderite & micro-xl kaolinite in
septarian nodules at OLD PARKS
COAL PIT at SK 380 183

1" 122

SK 7708

OWSTON, Owston and Newbold,

Leics

= OUSTON

RJK (1993)

The "specular haematite"
in nodules from Ouston (= Owston)
are probably sphaerulite

PELDAR TOR, Leics.

See SPRINGHILL Q.

1" 121

SK 40 13

RAVENSTONE, Leics.

RJK (1993) sphalerite, in
RAVENSTONE OPENCAST COAL PIT.

1" 133

SP 8691
8692

ROCKINGHAM, ~~CH~~ Leics.

RJK (1993) Acc'g to Taylor et al (1963)
sphalerite with calcite and
pyrite [in nodules?] on S bank
of R. Welland 1200 yd NE by N
of Rockingham Church [ie SP869 924]

121
SHEET HEDGES Q'y, Groby, Leics. SK 52 08
See also adjacent BLUEBELL Q.

K. Soz. N. (1994) 25
Sheethedges and Bluebell Quarries, Groby,
Leicestershire [Grid Ref: SK 524 083] -
12 May 1994

CB, Leader: Franz Werner

The party of nine met at Sheethedges Quarry in fine weather and were able to drive into the quarry, although the access road was in a very poor state of repair. The main interest was a NW-SE shatter belt in the Southern Diorite which provided conduits for hydrothermal solutions. Although nothing of significance was collected, the quartz/carbonate veins carry calcite, ferroan calcite, dolomite and ferroan dolomite with specular hematite, pyrite and 'high' chalcocite.

1" 133

SLAWSTON, Leics.

SP 77 94
78 93
78 94

RJK (1993) Spec'n in Leics City Mus
(No. 332, 1970) of a septarian nod.
with sphalerite from railway
cutting at SLAWSTON [ie 7893-7894]

14 121

SPRINGHILL QUARRY, Whitwick, Leics (I)

cf BARDON HILL & Q.

Russ Soc News (1990) 20

4th August 1989 Springhill Quarry, Peldar Tor Whitwick, Leics. Five members gathered in the quarry car park and a quick search of the lower levels made it clear that little of any interest had emerged since our last visit. A reasonable amount of work has gone into the extension of the upper levels to the north-west of the main quarry and we investigated this area more thoroughly in the gathering gloom. One large, house-sized block contained a vein that produced some good quartz crystals (up to 3.5cm). A few were quite clean and others possessed inclusions and/or crusts of chlorite.

Mottramite xls → 7mm !!
(Faithful & Ince in preparation)

SK 449 158

Russ Soc News (1991) 21

Field meeting to Springhill Quarry, Peldar Tor, Whitwick, Leics. 14th September 1990

It was a gloomy night in Whitwick, and on reflection 7pm is not a sensible time to start a field trip at this time of year. Despite the late hour, eight stalwarts gathered in the car park and we decided to see what had happened over the last 12 months to the lowest level of the quarry (the source of the quartz-calcite veins containing mottramite, pyrolusite etc. of previous years). Some extensions had been made in the general vicinity of the veins but a diligent search produced nothing of interest.

As dusk turned to night one boulder was found that contained a few veins with crystals of pink albite?, quartz and calcite (small but quite nice when washed). A few samples were extracted in the light of a head torch! - and to think I only took it with me as a joke.

F.I.

~~S. RUSSAIN~~

~~DDN²TTTUT~~

Faithfull SW & FInce J Russ Soc. Not out yet
"A novel occurrence of mottramite"

~~the~~ Springhill Q, Peldar Tor, at SK 449158, in
Precamb. porphyritic dacite. Quartz-chlorite
("pycnoclhorite" - RJ King 1973 PhD thesis U of Leeds)
veins w spec haem, v. rarely gold (King RJ &
T Ford, 1968 - The geol of the E Midlands), haem (spec.)
barite, pyrolusite (xRD) & moscovite (2 M1 polytype).
Calcite Scalenoh. late gen 1 mm dolomite xls.
Mottramite → 7 mm xls!

SPRINGHILL Q'y, Whitwick, Leics (II)

RSN (1992) 23

Springhill Quarry, Peldar Tor,
Whitwick, Leics. 7th August 1992

Why is it always a gloomy evening here?; another of life's little mysteries, perhaps it is always like that in Whitwick!

We went down to the floor of the quarry, now much extended to the north, but there was not a lot to be found. A few quartz-chlorite veins were quite prominent, some containing patches of carbonates (dolomite and scalenohedral calcite). Hopefully when the floor of the quarry is excavated the veins containing motttramite, etc. will be exposed again.

After trudging back up to the higher benches the potential of the areas close to the Precambrian-Triassic unconformity was investigated. At the northern end of the quarry, on the uppermost bench, an excellent exposure of the (dolomitised) basal breccia was to be found. A wadi in the Precambrian had been infilled with large fragments of the igneous and volcanic rocks which were gradually succeeded by the marls of the

Mercia Mudstones. A good look around produced a small amount of copper secondaries (malachite and cuprite, not that common in this quarry).

By this time it was almost dark but Austin Lockwood had been busily reworking an area that we have walked past many times on previous visits (near the primary crusher). This was producing quite nice groups of almost clear quartz crystals up to 3 cm; some were embedded in a white clay and everything was plastered with a dark, tenacious, peaty soil. When these were washed it could be seen that the crystals were a mixture of hexagonal

prisms (commonly in parallel growth) and the tabular habit typical of those found in many of the igneous and volcanic rocks of Charnwood Forest. As some of the latter possess a milky quartz band in clear quartz, they may be faden quartz (see *Mineralogical Record*, 1990, 22, 191-201). Needless to say we ran out of light. Whilst we were walking into the quarry I had joked about collecting here on a previous visit using a head-torch; I regretted not having it with me this time!

Frank Ince

11 June 1993 Springhill Quarry, Peldar
Tor, Whitwick, Leics. RSN (1994) 24

The word has obviously spread that the weather at
Whitwick is usually pretty grotty - the party num-

bered only two - including the field leader! Despite
being 7.00pm in the middle of June, it was *still*
gloomy and inclined to rain (so what's different I
hear you ask?.. see a few of the previous reports of
our visits here); well at least it wasn't cold, in fact
it was very humid. The quarry has been extended
considerably to the north, unfortunately this is
nowhere near the areas of interest seen on former
visits. Some scalenohedral calcite (up to 2cm)
turned up at the bottom of the quarry and an area on
one of the upper benches produced some more of
the clear colourless quartz crystals with chlorite
(and albite?) embedded in a mixture of tenacious
white clay and peaty soil. Needless to say, the pair
of us retired to the pub to rehydrate and consider the
glories of the previous visits to Peldar Tor.

R. S. N. (1994) 25
Springhill Quarry (Peldar Tor), Whitwick,
Leicestershire [Grid Ref: SK 448 158] -
24 June 1994

CB, Leader: Phil Jackman

This quarry, which produced spectacular finds of
mottramite crystals in 1986, was disappointing on
this occasion. A poor turnout, coupled with
heavy rain and thunder and lightning did little to
improve collecting prospects! A few small
specimens of faden quartz were collected. Future
prospects are not encouraging, unless the quarry
is deepened. Central Branch will no doubt main-
tain its watching brief, just in case something
come to light.

PARK or
STA(W)NTON HAROLD, Leics

See DIMMINSDALE MINES

1" 121

SK

61

09

THURMASTON BRICKYARD, Thurmaston, Leics

See also LEICESTER,

SRMRGB(III)(1918): 3½ ml NE of Leicester. Nearly horizontal seam of gypsum, 8' thick, in Keuper Marl. A waste-product.

TICKOW LANE LEAD MINE, Blackbrook, Leics (I)
 = "BLACKROOK"

R J King & BA Ludlam Bull PDMHS 4 Pt I, 403 (1969)
 Rediscovery of old mine in Trias, in
 railway cutting immed. to the W of the
 bridge carrying Tickow Lane over the railway
 just N of Black Brook Hill Farm. Inspired by
Moorbath (1962) Phil Trans Roy Soc. Ser A No 1042 Vol 254
p 295 - study of Pb isotopes in galenas - one in Geol
Survey from "Blackbrook" ~~nr. Garendon Park~~ nr. Garendon Park, Charnwood,
Leics"
Galena some in octahedra highly
 oxidised, and well-xlised cerussite ubiquitous
 sp. on galena. Acic. xls of long prismatic wulfenite

on the gal. & ceruss. Pyromorphite,
yellowish encrust's on joints, etc. ^{often} intim assoc
w. the wulfenite. One minute patch
of pale yellow glassy "cromfordite" [phosgenite]
has been identified. caliche

J. Shipman Midland Naturalist (1882) 5, 280, galena

MA 81-3548 RJ King "Wulfenite in Leicestershire"
Trans Leicester Lib. & Phil. Soc. (1980) 72 51-58.

Wulfenite in solution "pipes" in at
Tickow Lane mine, near Shepshed.
Onebody a flat sheet of galena, & a heavily
cerussite-coated surface of which was found with
a golden haze of minute (to 0.7mm) prismatic xls wulfenite
- cerussite bearing wad in assoc. black sand effloresces ilsemanite in dam.

TICKLOW LANE LEAD MINE, Blackbrook, Leics (II)

1st September 1989 Ticklow Lane Lead Mine, Shepshed, Leics. A dozen members congregated at the unofficial entrance (a 45 gallon oil drum) in the canal-railway cutting. Of these, eight went in, some with difficulty, two could not make it and a couple were not going down anyway. It was rather congested underground, a few samples of decomposing galena emerged, no doubt containing wulfenite etc., and most people seemed satisfied with their visit to one of the Society's more notable exploits. **2nd September 1989** Four members met to close the above mentioned entrance. Lots of rubble and a plug of concrete were forced into the barrel and the surface was landscaped as well as possible. We can only hope that this is the last time these efforts are necessary.

F.I.

SK 74 05

TILTON, Leics

A.R. Horwood, Geol Mag (1910) 7, 173. Aragonite m
The Middle Lias

WARREN QUARRY, ^{1" 121, 132} Enderby, Leics. SP 53 99
See also ENDERBY Q'y.

Evans & R.J. King. Nat. (1962) 194, 860.

Palygorskite, forming fine specimens of
"mountain leather", in a deeply penetrating
joint, intergrown with fine-grained
calcite. Elsewhere in the quarry, it is
almost ubiquitous on the joint
surfaces of the upper level, free from
carbonate impurities, in compact fibrous
masses. Paragenesis discussed.

1" map: "Quarries" marked at SP 5399 - SK ⁵³~~54~~00 [PTO]

C. Rogers, Riv Comm. 6/71: [SK] 538 001.

Laumontite; other zeolites