MONMOUTH (part of GWENT)

OS 1" 141, 142, 154, 155, 156.

F.T. Howard, Trans Cardiff Nat Soc (1897-8) 30, 46. Lead deposits of E fringe of S. Wales coalfield

R. Meade Mining J. (1875) 45, 910, 955 Iron industries of Mon.

M. Morris Phil Trans 1773 63 20 A short account of some specimens of native lead in a mine in Mon. [See PIERCEFIELD]

JRF-S (1981) J.R. Foster-Smith "The non-ferrous mines of the S. Wales area" Brit. Mining 18 Northern Mine Res. Soc.

Anglesite Mon

Machen

ANKERITE MON

?Bedwellty
Ynysddu

Antimony minerals, unspecified Mon

Machen (mixt. of antimony oxides)
see Bindheimite

Aurichalcite

Mon

Maden

Baryte

Mon

Macken

Bindheimite

Mon

Machen (?" probable" – Monica Price)

Calcite

Mon

Abercarn
Machen

Cerussite Mon

Machen

CHALCOPYRITE MON

Bedwellty
Newbridge
Ynysddu
Machen

Cinnabar Mon

Macher

Covelline

Mon

Machen

Dickite Mon

Markham

DOLOMITE

MON

Bedwellty
Blackwood
Newbridge
Machen

Fräupontite

Mon

Machen

GALENA, "LEAD ORE" MON

Cefn Pwlldu Hill
Newbridge
Bedwellty Pits
Machen
Mon.
Abercarn
Risca
Chepstow
Piercefield
Crumlyn

Goethite

Mon

Rumney
Macken

Greenockite Mon

Maden (?)

HAEMATITE MON

Blaenavon Mountain

HATTCHETTINE MON

Bedwellty
Ebbw Vale
Newbridge

Hedenbergite

Mon

Ebbw Vale Iron Wks (in slag)

Hemimorphite

Mon

Machen

Cwmleyshon Q

Hydrozincite

Mon

Macken (?)

"Iron Ore" "Ironstone" Mon

Mon

KAOLIN

MON

Bedwellty
Ynysddu

Lead, native. Mon.

Piercefield.

Linarite

Mon

Machen

LINNAEITE MON

(Error for SIEGENITE, RE Bevins' list (1986) & Bevins et al (1985))

Bedwellty

Newbridge

Blackwood.

Malachite

Mon

Machen

MICA MON

Gold Cliff, Newport

MILLERITE MON

Bedwellty
Blackwood
Blaina
Blaenavon
Ebbw Vale
Ebbw Vale Iron Works
Nant-y-Glo
Newbridge
Ynysddu
Bedwas
Markham

Morenosite

Mon

See "Nickel Sulphate(s)"

"NICKEL SULPHATE(S)" MON

Bedwellty Pits
Ynysddu

PYRITE MON

Gold Cliff, Newport

Abercarn

Machen

QUARTZ MON

Bedwellty
Newbridge
Ynysddu
Markham

Rosasite

Mon

Machen

RUTILE MON

Ebbw Vale (?)

SIDERITE MON

Ebbw Vale
Nant-y-glo
Bedwas
Markham

Siegenite

Mon

RE Bevins et al (1985) suggests the Linnaeites may be ~~Siegenite~~ (cpl)

Smithsonde

Mon

Macken

SPHALERITE

MON

Bedwellty
Blackwood
Ynysddu
Machen
Cwmtyswn

Sulphur

Mon.

Macken (?)

Unid. pink mineral Mon

Machen

1" 154 ST 21 95

ABERCARN, Mon.

Rudler (1905); E. Rogers, Trans S. Wales Inst Engs. (1859) 1 228. Pyrite-galena-calcite vein traversing a coal seam in the Pennant series

FJN (1917) also quotes this

BEAUFORT, Mon.

See NANT-Y-GLO.

1" 154 ST 17 89

BEDWAS, Mon.

D. Hardman, Priv. Comm. 11/76. Millerite, siderite, on tip above Bedwas. Tip is near ST 180 901

1" 154 SO 154 064

BEDWELLTY PITS, Tredegar, Mon.

[Prob. = siegenite, q.v.]

NB OS 1" map 154 shows "Bedwellty Pots" at SO 155 061

Howarth, W.E., Geol Mag (1928) 65 517-518. Linnaeite (Co_3S_4), minute octahedra, on matrix or on millerite; also on ~~ankerite~~ dolomite, with quartz ("diamond"); kaolin; blende; chalcopyrite; ?hattchetine, in Clay-ironstone, accompanying Elled Vein.

North FJ & Howarth WE. Proc S. Wales Inst Eng (1928) 325:

Millerite - much is oxidised to sulphate → ?morenosite & basic sulphate of nickel but normal unaltered mineral is common in septarian cracks, with dolomite or ankerite, kaolinite, blende, chalcopyrite, rarely "linnaeite", glass clear doubly-term. quartz; ?hattchettine. From Elled Vein. A no. of specs in Nat Mus Wales - donor The Tredegar Iron & Coal Co. Ltd.

not enough for anal. insol H_2O sol dil acids.

[?siegenite]

RSWB etc (4/64) IV 91 Vg millerite; hatchettine; galena; dolomite; quartz; blende; chalcopyrite; nickel sulphate(s)

FJN (1917) Millerite, a little above the Elbed seam
Fine specimens in Nat Mus Wales.

1"/54 ST 17 97

BLACKWOOD, Mon.

RSWB coll. (ex RAH) Assoc. with MYNYDD ISLWYN SEAM
– Millerite (~~+ cupr~~) in dolomite vughs in black ?mudstone, with small ruby sphalerite, also "linnaeite" [Prob. = siegenite q.v.]

1" 154 SO 25 09

BLAENAVON, Mon.

See also BLAENAVON MTN.

North FJ & Howarth WE, Proc S Wales Inst Eng. (1928) 325:
Millerite, assoc with Three Quarters Vein (The Iron Ores of S. Wales, (1861) 204). ["Blaenafon"]

FJN (1917) Millerite in Three Quarters or Elbed "Mine Balls"

1" 154 SO 25 08

BLAENAVON MOUNTAIN, Pontypool, Mon

See also BLAENAVON,

TMH(1868), 64. Coal-measures: Haematite.

1" 154 SO 20 08

BLAINA, Mon.

Geol of Abergavenny p. 82. Ref to ironstone measures of Cwm Celyn & Blaina. Section-table of Soap Vein has, in Top Mine, 1 in of "Tobacco Pin" – "thin but excellent stone of thin layers, looking like cakes of Cavendish tobacco; contains millerite.

North FJ & Howarth WE. Proc S. Wales Inst Eng (1928) 325
Millerite assoc. with Soap Vein (Iron Ores of S. Wales (1861), 195) Quoted also in FJN (1917)

1" 141 SO 24 11

CEFN PWLL DU, nr. Ruperra, Mon.

FJN (1962), 27 Roman coins etc assoc. w. lead slag in an old excavation on Cefn Pwll Du, where lead ore occurs.

TMH (1868), 64: Galena

1" 155 ST 53 93

CHEPSTOW, Mon.

See also PIERCEFIELD

M. & G. Tucker, Bull PDMHS 6 [1] 15-27 (1975) "The lead mines of Southeast Wales".

A deed (Mon. Record Office E & E 0736) refers to a lead mine at GALLOW HILL (Now called Vauxhall Crescent). There was a limestone quarry here from at least 1707. The small quarry visible at junct. of Vauxhall Crescent & Vauxhall Road at ST 530 936, is now shallow (infill?).

CWMLEYSHON Q'y, nr. Machen, Mon.(?)

See under GLAM.

1" 141, 154 SO 17 09

EBBW VALE, Mon.

See also EBBW VALE IRON WORKS.

TMH (1868), 64: "Chalybite [Siderite]; coal; hatchettine; millerite; rutile [? error for millerite]

North FJ & Howarth WE Proc S Wales Inst Eng (1928) 325
Millerite, assoc. with Three Quarters Vein (H. K. Jordan, Proc. S. Wales Inst Eng (1876) xi, 250-270)

GeL (1858) Millerite; hatchettine, described by Conybeare (1821).

FJN (1917) Millerite in Three Quarters or Elled "Mine Balls"

1" 141, 154 SO 17 09

EBBW VALE IRON WORKS, ? Ebbw Vale, Mon.

See also EBBW VALE

GM Spec. Millerite, in clay ironstone nodule, "Ebbw Vale Iron Works, Merthyr Tydvil"

F&N (1962) 89 notes a model of clay ironstone (ie siderite) workings nr Ebbw Vale, made by T. Sopwith in 1840. Is in Nat Mus Wales.

RSWB e R Lamb 4/84 Looked at old slag tips - found small orange x/s sol/dec by warm water (e looking like laueite) giving only OH/H_2O on IR; black ppt w. Ag^+ e w. Pb^{2+} — a (poly?) sulphide, hydrated, of Gp I (or II?). Also primary x/s

Effer w. NaN_3/I_2

∂ clear yellow-brown ν square section
IR = α-pyroxene near hedenbergite. G ≈ CH_2I_2
n < CH_2I_2 (∴ hedenb. rather than ferrosilite)
Despite careful search, no Ti (N, C)
found.

(GALLOW)
GALLEY HILL MINE, Chepstow, Mon.

See CHEPSTOW

1" 155 ca ST 37 83

GOLD CLIFF, Newport, Mon.

TMH (1868), 64: In Limestone: Mica; pyrite.

MACHEN, Lower Machen, Mon. (IV)

RSN(2000) 37, 15, 20.

7/5/00. Coll. from ~~level~~ 9 → 6 e new Level 10 gal, hemim, h'zinc, aurich, cerussᵥ, ?anglesᵥ, Ba, calcite. Some yellow cerᵥ on larger galena samples – ? bindheimite, also more xlline – ? sulphur. Minor malᵥ.

11/6/00 2nd bench gave vg hemim, minor auric e h'zinc. Small nods of clay-cov'd gal gave nice cerussᵥ e rarer anglesᵥ.

RSN(2001) 38, 12. gal, cerussᵥ, hemim, anglesᵥ, a little aurichalc, poss ? bindheimite. Bargte, "nail-head" calcite.

RSN('02) 40, 27. Visit (5/01) goethite ψ-after marcas & pyrite; usual minerals, good hemim. sprays; "covellite reported"

RSN('03) 42, 27 Visit (9/02) Nothing new.

RSN('04) 44, 22. Visit. vg anglesite, none of pink unident found before

RSN('04) 45 39 Visit. Also p41 Vist. "Fine linarite xls"

1" 154 ST 233 895

MACHEN, Lower Machen, Mon. (I)

See also RUDRY (Glam.); DRAETHEN (Glam.); RISCA

FJN (1962), 27, 85 Lead ore (? Roman worked) near Machen from shallow opencast & shafts.

Cox (1937) Impersistent veins of galena with baryte, worked ca 1850 near Machen [Mon]; Rudry & Draethen [Glam]

FJN (1917) galena in carb Lim between Machen & Rudry, in baryte/calcite gangue.

M & G Tucker (1975) Bull PDMHS 6 [1] 15-27 "The Lead Mines of Southeast Wales". At ST 233 895. Worked 1665, mid-18th cent. Silver-lead mines (Lewis WJ

"Lead Mining in Wales" (1965) p 70. Site marked on old OS maps as "Old Lead Mine". An old lead mine said to have been destroyed by blasting in the face of Machen Dolomite quarry.

TF Bridges (1990) J. Russ Soc. 3, 85. MACHEN QUARRY, at ST 222 886 works. dolomitised limestone. A NW-SE fault has galena separated from rock by a thin layer of baryte. The gal. is partly ox., & cavities contain cerussite, anglesite, a mixture of antimony oxides & rodd cinnabar.

MACHEN, Lower Machen, Mon (II)

RSN (1992) 23

Machen Quarry, Machen, Glamorgan
26th April 1992

Fourteen members assembled at the quarry entrance at 11.00am in good weather. After the long uphill walk to level 9, minerals were soon to hand. Some good specimens of aurichalcite were found and most members collected some. Calcite crystals were found with quite a variation of colours and habit, from clear transparent to reddish brown. Malachite was not as plentiful as on previous visits, but an excellent linarite (50x30mm) was found (identification to be confirmed). Small amounts of galena with cerussite and anglesite were collected but the main galena vein was not in evidence.

MACHEN is in Monm.

RSN (1991) 22

galena was collected by myself.

We departed Cwmleyshon at mid-day for the main quarry at Machen. After the long haul up to the 7th bench some calcite crystals were found containing goethite pseudomorphs after pyrite crystals. A large clay-infilled fissure containing a fair amount of galena was investigated, but unfortunately it did not carry any of the secondary minerals we had seen in past years.

Cockscomb baryte crystals were plentiful and some of the pieces were edged with very small sprays of blue aurichalcite. Sphalerite crystals were noted and small amounts of a yellow mineral were found, as yet unidentified. Native sulphur has been recorded at Machen; we will have to wait and see.

G.B.

[The yellow mineral referred to here is probably bindheimite ($Pb_2Sb_2O_6(O,OH)$) which is far more abundant than native sulphur at Machen. I've yet to find native sulphur and I would be interested to have a sample from this locality. Monica Price]

Machen Quarry, Gwent RSN(1994) 24

To a micromounter like myself, a limestone quarry did not seem to offer much promise. However, apart from a great variety of calcite forms and baryte, there was another feature of interest. On level 8 (a long way up!) a broad fault about 4 m wide was exposed. It was filled with limonitic clay and in this there were occasional nodules of partly decomposed galena. Trevor Bridges described a galena vein in *J.Russ.Soc.* 3(2)85. He referred particularly to the cinnabar found in cavities in the galena with cerussite and anglesite. In the present exposure the galena nodules were not part of a distinct vein and not near the wallrock. Strangely most nodules were enclosed in a thick layer of coarse, radiating hemimorphite crystals even though there was no associated sphalerite. Some cavities contained a white, powdery material believed to be hydrozincite in view of its strong fluorescence and association. Cerussite and cinnabar were also present as described by Bridges but no anglesite was found.

20 June 1993 Machen Quarry, Machen, Gwent RSN (1994) 24

Seventeen members assembled for this trip on a cool June day. However, heat was soon provided on the top bench as collecting got under way.

The zinc, copper and lead mineralisation was still in evidence. Cerussite was not very plentiful but the main finds of the day were aurichalcite, malachite and also hydrozincite. Aurichalcite was fairly plentiful with vughs up to 25mm across, some with small transparent crystals of hemimorphite (to 3-4mm) in them as well as small cubes of pyrite. Malachite was of a good dark colour with radiating and botryoidal habits. On this visit, the usual calcite and baryte were not as plentiful as on our previous visits. However, this was altogether a very successful trip.

Little was found in the lower levels and it will be interesting to see if the mineralisation continues where the very top of the quarry is now being worked.

MACHEN, Lower Machen, Mon. (IW)

R. Soc. N. (1994) 25

Machen Quarry, Machen, Mid-Glamorgan [Grid Ref: ST 222 887] - 8 May 1994

SB, Leader: Jim Goulding

Fourteen members attended this field trip to one of Southern Branch's favourite sites. After two dismally wet days, the weather for our visit was generally good, with much sunshine until early afternoon when some heavy showers edged past Machen. We didn't get too wet, and the showers were short-lived.

Machen Quarry is a very interesting place, with lead, zinc and copper mineralisation together with traces of other elements. On this occasion the quarry was disappointing, although most members found something of interest. Minerals reported during this visit included galena, hemimorphite, smithsonite, baryte, aurichalcite, calcite, malachite, small traces of cinnabar, possible bindheimite (bright yellow on fresh galena), probable greenockite, sphalerite, cerussite and hydrozincite. Much galena was in evidence, including some very large pieces given to us by one of the JCB drivers. The upper levels at Machen Quarry expose at least two vertical lead veins, which extend from Level 9 down to Level 7, and these are always worth excavating. Most of the minerals listed above were obtained from these veins.

Towards the end of the visit Dave Ferris collected some large calcite crystal groups from fissures on Level 7. Possibly the best specimens of the day were baryte or calcite extensively covered by transparent hemimorphite crystals. On this v[illegible]

R. Soc. N. (1994) 25

Machen Quarry, Machen, Gwent [Grid Ref: ST 222 885] - 24 July 1994

WWB, Leader: Gwyn Billington

We were blessed with beautiful weather, if somewhat hot for the long climb up to the top bench (now level 9). Twelve members attended the meeting and we did not leave the quarry until 7.00pm - and then only because of weariness!

Three mineralised veins were exposed on the top bench, one with copper mineralisation. A 45cm

wide vein of galena was found on level 7, and level 8 yielded good calcite crystals and pseudomorphs of goethite after pyrite up to 3mm.

Minerals collected included galena, cerussite, anglesite, chalcopyrite, malachite, hemimorphite, smithsonite, hydrozincite, calcite, baryte, sphalerite, and cinnabar. Chris Alabaster collected some 'cadmium rich calamine' which requires verification. Ian Jones found a splendid specimen of anglesite with crystals 10-12mm long. The copper vein produced some good malachite, both botryoidal and acicular crystals, up to hand specimen size.

Altogether it was a good day, but as usual the best material was found late in the day. The top level seems to be cutting through old mine workings, and given the potential for the quarry to extend back a further 200-300 metres, interesting material should be in evidence for some time to come.

Aurichalcite with rosasite was also one of the major finds at Machen on 5 September 1993. Examination of material back at base revealed unusual pale greenish pseudohexagonal crystals amongst galena and secondary lead minerals. Much to the delight of Jim Goulding subsequent analysis at Oxford University Museum confirmed fraipontite, $(Zn,Al)_3(Si,Al)_2O_5(OH)_4$, a rare zinc-rich sheet silicate from the kaolinite-serpentinite group. This is believed to be the first recorded occurrence in Wales and only the third in the British Isles. A paper is in preparation.

RSN (1994) 166

RSN (2000), 36, 25. Visit

Entered from top (saves climb). Top: good Ca, Ba. Central part of next bench had a vg patch, with exall x/s hemim, cerussite, anglesite, a little aurich. Gal, sphal. Now run by Hansons (was ARC); new manager Mr. Ashurst.

1" 154 SO 16 01

MARKHAM, Mon.

Crystal Vine Cat. 6/01. Millerite with quartz, dickite, siderite in clay ironstone

1" 141 SO 19 10

NANT-Y-GLO, Tredegar, Mon.

TMH(1868), 64: In Coal-measures: Millerite.

North FJ e Howarth WE Proc S Wales Instr Eng (1928) 325:
Millerite, assoc. with Three Quarters Vein (Iron Ores of S. Wales (1861) 207) Quoted in FJN(1917)

FJN (1962) 89 also Plate V. Clay-ironstone (mainly siderite) worked from a mid 19th Cent patchwork called the "Elled Patch" on the shoulder of a hill between Nant-y-glo e Beaufort [ie near SO 180 110] with shale e coal

1" 154 ST 21 97

NEWBRIDGE, Mon.

→ [Prob. = siegenite, q.v.]

Howarth, W.E., Geol Mag. (1928) 65, 517-8. Linnaeite (Co_3S_4) in minute octahedra, on dolomite, lining septarian cracks in clay ironstone accompanying the Black Vein, or on millerite, with quartz; galena; chalcopyrite; ?hattchettine.

North FJ & Howarth WE Proc S Wales Inst Eng (1928) 325: Millerite in septarian cracks in clay ironstone assoc with Black Vein, with dolomite; quartz; galena; chalcopyrite, "linnaeite", ?hattchettine Spec. in Nat Mus Wales- donor Mr W.G. Lloyd.

1" 155 ST 52 95

PIERCEFIELD, Chepstow, Mon.

See also CHEPSTOW

M. Morris, Phil. Trans. Roy. Soc. 13 (1770-6), 369

"On some specimens of native lead found in a mine of Monmouthshire".

In 1772, 3 specimens of lead ore dug up by V. Morris of Piercefield, Mon., in one of his fields, at small depth. On powdering for assay, some small bits of native lead

found, flattened by pestle.
[NB Piercefield is ~ 1mi N of
Galley Hill, Chepstow].

1" 154 ST 23 90

RISCA, Mon

See also MACHEN, etc.

WJL (1967) Map, p 237 Lead mine – Risca.

1" 154 ST 21 79

RUMNEY, Mon.

FJN (1917) "The Minerals of Glam." Trans Cardiff Nat. Soc. 49

Goethite, thin strings in Ludlow sandstones

1"154 ST 18 92

YNYSDDU, Mon.

North FJ & Howarth WE, Proc S. Wales Inst Eng (1928) 325:
Millerite, one spec in Nat Mus Wales (Donor- Mr. R. Lewis), from septarian concretion assoc. with Black Vein. Some millerite "oxidised to sulphate" [?morenosite], also quartz; kaolinite; blende; ankerite; chalcopyrite.