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Mineral localities on the Mendip Hills, Somerset.

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ALTHOUGH the Mendip Hills, as a district, have from time to time received the attention of geologists, details of the mineral occurrences are, on the whole, remarkably scarce. Mining was formerly carried on on the Hills for many centuries, but mineralogy as a science had not been sufficiently developed at the time when the mines were most active, and little interest was taken in the minerals other than those suitable or required for commercial and industrial purposes. Even in later years, when, in the course of treating old refuse and tailings left by earlier miners and of various attempts to resuscitate the mining industry, much material must have been available for examination, little attention seems to have been paid to it, or to the numerous quarries that were opened in the Carboniferous Limestone.

Mention of a few mineral species has been made by writers from time to time, but up to the beginning of last century, by which time practically all work at the mines had ceased, the majority of accounts give little detail and were still concerned more with the commercial aspect. Much interesting information about the old mines has been extracted from old records and put together by J. W. Gough in his book 'The mines of Mendip',¹ but apart from a few general remarks on the minerals, he is more interested in, and treats, the subject from an historical point of view.

The earliest descriptions, from the mineralogical aspect, that are of value, are those recorded by John Woodward (1665-1728) in his 'Catalogue of English fossils', published in 1728-9, in which he describes, among others, a number of mineral specimens obtained by him from

¹ J. W. Gough, Oxford (Clarendon Press), 1930. [M.A. 4-309.]

Mendip. These specimens have fortunately been preserved and are now at Cambridge.

After Woodward, no account of the minerals of this district would be complete without mentioning Spencer George Perceval (1838–1922) who was an ardent collector and greatly interested in the Mendips. Many of his specimens have been preserved, and among them are a number of good specimens from the district, including some of the best-known examples of mendipite and other rare minerals from one of the most interesting localities in the area, Higher Pitts farm, near Priddy.

Apart from these, the only other full accounts are two papers by Dr. L. J. Spencer, 'Leadhillite in ancient lead slags from the Mendip Hills',¹ in 1899, and 'New lead-copper minerals from the Mendip Hills (Somerset)',² in 1923. This latter paper deals chiefly with Higher Pitts farm, and describes in detail a number of new and rare species occurring there.

It has been said of the Mendips that, so far as minerals are concerned, this is a district of samples; unfortunately this is only too true, as the small extent of many of the mineral occurrences and the small size of specimens that can be collected has shown, but the number of species to be found is, even at the present time, considerable. Among these species are several rare minerals, and from the occurrence of these and other varieties, the district is of some interest from a topographical point of view.

The majority of the old workings are now very overgrown, with mounds of barren debris left from more recent treatment; and many have been obliterated by building and afforestation. For these reasons, much of the ground is difficult to examine without a great deal of time and energy being expended, and some of the old localities can no longer be traced.

During the last six years, the writer,³ in continuation and supplementation of the investigations already carried out by Dr. Spencer, has examined some of the localities formerly and more recently described, as well as a very large number of old workings and active and disused quarries. This examination has covered an area nearly 30 miles long, from Uphill on the west to Frome on the east, and 12 miles wide, from

¹ L. J. Spencer, Rep. Brit. Assoc. Adv. Sci., 1899, for 1898 (Bristol), p. 875; Geol. Mag. London, 1899, pp. 71–72.

² L. J. Spencer, Min. Mag., 1923, vol. 20, pp. 67–92.

³ A. W. G. Kingsbury, Notes on some recent finds of minerals on the Mendip Hills. Proc. Somersetshire Archaeol. Nat. Hist. Soc., 1935, vol. 80 (for 1934), pp. 51–56. [M.A. 6-355.]

the level of Chew Stoke on the north to Shepton Mallet on the south. Much of this area contains little or no mineral occurrences worthy of note, and the majority of the localities to be mentioned later are found in the central part.

A number of additional species, not previously recorded from the district, have been discovered, but only in small amounts: these comprise chalcosine, chalcopyrite, chrysocolla, cuprite, melakonite, covellite, rhodochrosite, fluorite, epidote, and laumontite. Further specimens of some of the rarer minerals already described from the district have also been found, and one of the old localities for pyromorphite from which Woodward obtained specimens, mentioned by him in his catalogue, has been re-located, after having been apparently lost sight of since his death.

A certain amount of time and attention has been given to examination of the material still available at Higher Pitts farm, by reason of the presence there of the interesting minerals described by Dr. Spencer. Several of these, namely crednerite ($\text{CuO} \cdot \text{Mn}_2\text{O}_3$), mendipite ($2\text{PbO} \cdot \text{PbCl}_2$), chloroxiphite ($2\text{PbO} \cdot \text{Pb}(\text{OH})_2 \cdot \text{CuCl}_2$), diaboleite ($2\text{Pb}(\text{OH})_2 \cdot \text{CuCl}_2$), hydrocerussite ($2\text{PbCO}_3 \cdot \text{Pb}(\text{OH})_2$), and wulfenite (PbMoO_4) are rare as British species. In view of this, particularly in the case of wulfenite, of which only three minute examples had been previously found, careful search for further specimens was made. This has resulted in a number of good specimens of all these minerals being collected, and in the case of wulfenite much larger and more numerous than those hitherto found. Perhaps the most interesting find during the period of investigation of the district was a very fine rough crystal of crednerite, considerably bigger than anything previously discovered.

As a mining district, the Mendips produced chiefly lead ore, in the form of galena, but of its forms and method of occurrence practically nothing can now be seen, except for the few small lumps of massive mineral and bits of veinstone with occasional traces, that can here and there be picked up among the overgrown workings. Practically all the latter seem to have been in the Carboniferous Limestone, and small amounts have been found in calcite veins and pockets of soft yellow iron oxides in one or two of the quarries. It is also intermixed with some of the zinc ore that occurs in the Triassic Conglomerate. Crystals are not common, and these are rough and poorly formed.

Zinc was of secondary importance to lead and was not developed till the lead-mining industry had practically ceased in the eighteenth century: the carbonate, smithsonite, occurs in some quantity in the district,

particularly in the Triassic Conglomerate, and a period of active mining temporarily flourished and then faded out. The area round Shipham and Rowberrow appears to have been the centre of operations, but it was also worked in small quantities round East Harptree and later attempts were made at various places near Chewton Mendip. The ore is generally cellular or massive and earthy, and often intermixed with yellow iron oxides: large pseudomorphous crystals after calcite were at one time recorded,¹ but only a few small and inferior specimens have been found recently and then at other localities. Little now remains at the chief workings, but mounds of earthy debris containing a few rough lumps of smithsonite.

From the examination of a large number of specimens, it appears that the whole of the so-called 'calamine' from the Mendips consists of the carbonate, smithsonite; and though the silicate, hemimorphite, was recorded by Greg and Lettsom (*loc. cit.*, p. 428), its occurrence has not been confirmed, and no specimens have been found by the writer, in spite of careful search, nor have any specimens from the district apparently been preserved in any collection. Blende occurs occasionally, in very small amounts, with the smithsonite and also in calcite veins in some of the quarries.

There are, in addition, a number of minerals whose occurrence in a limestone district is to be expected, and of which examples can be found at many places, but no specimens of sufficient mineralogical interest have been found to make it worth while enumerating the many localities where they occur: a brief mention of them will suffice.

In all the workings, calcite is abundant, as well as in the many limestone quarries in the district; it is usually as massive forms, but good crystals can be collected in some of the quarries. These crystals are generally scalenohedral, but rhombohedral and prismatic forms do occur. Baryte is often present, both in the old workings and in veins in the Carboniferous Limestone and Triassic Conglomerate, but in small amounts; most of it is massive or concretionary.

Iron oxides are widely distributed but usually in small amounts: they comprise haematite, hard and compact at some places, but more often soft and earthy; brown and yellow oxides coming under the general term limonite; and smaller amounts of crystalline and crystallized goethite. These oxides are sometimes accompanied by quartz.

Pyrite and marcasite have both been found, the former generally in

¹ R. P. Greg and W. G. Lettsom, *Manual of mineralogy of Great Britain and Ireland*, 1858, p. 425.

calcite veins, and the latter among the debris at one or two old workings, where it is much decomposed and accompanied by efflorescent growths of melanterite.

Pockets of manganese oxides, chiefly wad and pyrolusite, occur at several places at the junction of the Carboniferous Limestone and the Triassic Conglomerate, and many of the interesting minerals are associated with such deposits. Traces of manganese, as dendritic coatings and growths in veins and joints are also found at many places in the district.

Copper minerals are infrequent, and have been noticed only in very small quantities at one or two localities.

Chert occurs in bands in a number of quarries particularly round Frome, and hornstone is found among the debris at some of the old zinc workings.

Throughout the district, well-formed crystals are distinctly rare, except in the case of calcite, and when they do occur, they are generally very small.

Among the many localities visited are a number that may be mentioned in more detail, and in giving particulars of these, the method, used in working over the district, of taking it in sections, has been followed. In this, the area is divided into two sections, north and south, the northern section being dealt with first and the localities (nos. 1-11) taken from west to east; the southern section (localities nos. 12-15) being treated in the same way. References to the sheets of the 6-inch Ordnance Survey map of Somerset are given, and the approximate positions of the various localities, each of which is numbered, are shown on the accompanying sketch-map (fig. 1).

Locality No. 1.—Parish of Winscombe (Sheet XVII NE.), western end of Sandford Hill. At the north-western end of the upper part of a large quarry in the Carboniferous Limestone there is a series of large calcite veins. Several of these are manganiferous, and the following minerals occur in small quantities: pyrolusite, as dendritic coatings; galena, granular and as small rough cubo-octahedra; blende, in small stringer-veins; cellular smithsonite; pyrite; and small patches of malachite. Coarse cellular masses of brown iron oxides, often with a beautiful iridescent tarnish, occur in pockets in the limestone. Brown cuboid rhombohedra of calcite also occur in this quarry.

No. 2.—Parish of Compton Bishop (Sheet XVII SE.), on the north-east side of the south-eastern spur of Wavering Down, near Dunnett farm (south of the village of Compton Bishop) and 50 yards north-west

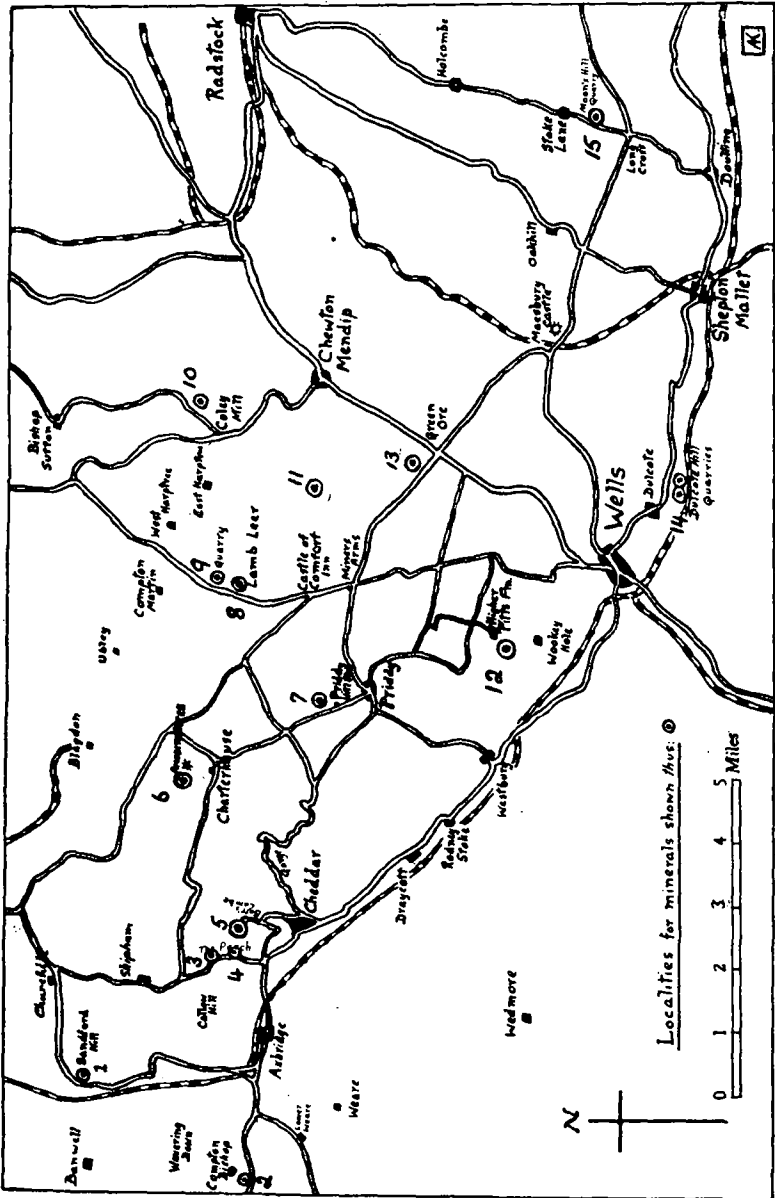


Fig. 1. Sketch-map showing mineral localities in the Mendip Hills, Somerset.

of the road to Loxton, whitish mamillated chalcedony occurs coating the brown iron oxide on the walls and floor of a small 'ochre cave'.

No. 3.—Parish of Cheddar (Sheet XVIII SW.), Bryant's quarry, one mile south-south-west of Shipham, on the east side of the road to Axbridge and in the part of Shipham Gorge known as The Perch (opposite the Callow Hill lime works). This is a large roadstone quarry in the limestone, and is at present disused.

Traces of fluorite were found here, for the first time in the district by the writer,¹ in November 1938, and some further and better specimens have since been collected. The mineral occurs as minute grains or thin veinlets, and as small crystals, up to 3 mm. across the faces, in rounded nodules of fine-grained granular calcite that are enclosed in the rock. The majority of the crystals are simple cubes (100), and tetrahexahedra of the general form ($hk0$), and combinations of the two forms. Many are well zoned, and range from colourless to very dark purple; the massive and granular material is dark in colour. In some cases the crystals are accompanied by tiny bright needles of goethite, little velvety-black hemispheres of haematite, or minute, but very brilliant, crystals of chalcopyrite. In one specimen, a number of very small brilliant orange-brown plates were present in a cavity; these were examined by Mr. F. A. Bannister of the Mineral Department of the British Museum of Natural History and found to be goethite with the form (010) and elongated parallel to the c -axis [001].

The fluorite is very scattered in its occurrence, and appears to be confined to the fine-grained calcite nodules, mainly in the south-eastern part of the quarry. So far, this is the only locality in the district where it has been found, and there are no records of its occurrence previously. A small patch has been noticed recently on one piece of limestone debris at the Waldegrave Lead Works, Priddy, but this is not *in situ*; and examination of the other debris and many of the neighbouring quarries has revealed nothing further.

No. 4.—Parish of Cheddar (Sheet XVIII SW.), just over $\frac{1}{2}$ mile south of Bryant's quarry, on the same side of the road, is another quarry, worked by the Axbridge Rural District Council. The main face is in Carboniferous Limestone, but at the western side the Triassic Conglomerate comes in and the junction is well exposed.

Calcite is abundant and good but small crystals can be collected; they are mainly scalenohedral, but rhombohedral and prismatic forms

¹ A. W. G. Kingsbury, A new British locality for fluorite in Somerset. *Nature*, London, 1939, vol. 144, p. 1013. [M.A. 7-503.]

also occur. In the conglomerate, small tufts of baryte are found, with dolomite, dendritic pyrolusite, and pyrite. Also very sharp and brilliant little pseudomorphs of goethite, with a thin skin of haematite, after pyrite; these occur, mainly in cavities implanted on granular dolomite, as cubo-octahedra, pyritohedra, and cubes, the last often as intergrown crusts. In several large cavities, at present exposed, malachite, pyrite, and chalcopyrite occur as inclusions in large rough scalenohedra of calcite.

No. 5.—Parish of Cheddar (Sheet XVIII SW.), Batt's Combe quarry, one mile north of Cheddar, on the west side of Batt's Combe. Calcite veins occur in the limestone and enclose small amounts of pyrite, chalcopyrite, malachite, and galena. In a large vertical vein at the southern end of the quarry face, one or two very small nests of pale yellowish-green pyromorphite have been found. This is a new locality on the Mendips for this mineral.

No. 6.—Parish of Blagdon (Sheet XVIII SE.), old workings $\frac{5}{8}$ to $\frac{3}{4}$ of a mile north-north-west of Charterhouse farm, and about 500 yards west-north-west of the Roman Amphitheatre, marked on the map as 'Lead Mine (disused)'.

The discovery in 1936 of a number of minute fragments of a green mineral among the debris scraped out by rabbits at these old overgrown workings led to the finding of a large number of small pieces of cellular pyromorphite; one or two fair-sized pieces have since been obtained, and, from the position and general lay-out of the workings, there is no doubt that this is the old locality from which John Woodward obtained the specimens mentioned in his catalogue (1728, vol. 2, part 1, p. 27) as from 'Green-hill, near Charter-house'. Hitherto beyond those in Woodward's collection now at Cambridge, no other specimens of this mineral from the Mendips seem to have been recorded or preserved (except the small specimens collected by the writer at Higher Pitts farm and Batt's Combe quarry, localities nos. 12 and 5). A number of minute prismatic crystals are present on some of the specimens lately found, and a few of the latter are of good colour; otherwise they are dull and generally coated with pinkish clay. The mineral occurs, apparently as ribs and impregnations, in the Old Red Sandstone. In spite of digging operations on the dumps made in company with Mr. Arthur Russell last year, in the hope of obtaining some better specimens, very little was found.

No. 7.—Parish of Priddy (Sheet XXVII NE.), Priddy Hill farm, $1\frac{1}{2}$ miles north-north-west of Priddy church. At an old pit about 600

yards north of the farm and about 200 yards east of the road, just outside a small plantation, iron and manganese oxides occur in the Triassic Conglomerate, and from the dump of this pit a small piece of mendipite was recorded by Dr. Spencer in 1923. Two further small pieces have since been found, but none of the other minerals that occur under similar conditions at Higher Pitts farm, near Priddy, seems to be present.

No. 8.—Parish of West Harptree (Sheet XIX SW.), Lamb Lair cavern (more properly Lamb Leer), on Gibbet's Brow, just over one mile south of Compton Martin, on the Wells road. The most interesting occurrence in this cave is a bed of white crystalline aragonite, which at one time sealed up the entrance passage down into the main chamber. The bed varies from 6 inches to about 2 feet in thickness and is of very fine grain with a laminated structure.

No. 9.—Parish of West Harptree (Sheet XIX SW.), limestone quarry 200 yards north of the entrance to Lamb Lair cavern. The north wall of this quarry, which is one side of a fissure extending across the working-face, is in places coated with a deposit of iron oxides, cavities in which are lined with crusts of brilliant velvety goethite needles and small bipyramido-prisms of quartz. These specimens of goethite, though small, are among the best found in the district.

No. 10.—Parish of Hinton Blewett (Sheet XIX SW.). During the excavation of some holes for the erection of a line of electricity pylons in 1937, about 400 yards north of Coley Mill, a number of fair-sized lumps of a whitish fibrous mineral were found in the Triassic marl. It was stated to be gypsum, but its weight was noticeable, and examination by Mr. Arthur Russell and the writer of some specimens recently obtained has proved it to be celestine. The mineral is opaque on the outside of the nodules, and, except for a thin layer stained pink from contact with the marl, is generally pure white; internally it is fresh and translucent, and in some specimens has a very pale bluish tinge. It is some of the finest fibrous celestine that has been found in the British Isles, where this form is not common.

No. 11.—Parish of Chewton Mendip (Sheet XXVIII NW.), old workings in a field known as 'All Eights' just west of Eaker Hill farm, $1\frac{3}{8}$ miles west-south-west of Chewton Mendip church. This locality is only of interest for the finding of a remarkable specimen of dendritic galena, which was picked up on the waste-heap of a pit about half-way along the north-west boundary fence. Only one small specimen was found.

No. 12.—Parish of St. Cuthbert Out (Sheet XXVII SE.), Higher Pitts farm, $1\frac{1}{2}$ miles south-south-east of Priddy church. The minerals found at this locality are numerous and comprise the following:

Haematite, goethite, and various brown and yellow iron oxides; quartz, generally as doubly terminated crystals on goethite; calcite; pyrolusite, earthy, fibrous, and granular; wad, earthy and botryoidal and, on one small dump near the farm-house, hard and compact; manganite, as small acicular crystals, granular, and as fibrous aggregates; psilomelane, one small specimen of thin columns penetrating mendipite; compact massive white manganocalcite; pink manganese dolomite; malachite as minute crystals and as stains and small earthy patches; chersylite, one or two minute patches of earthy material on calcite.

Cerussite, compact masses or loose rough crystals and nodules fill cavities in the manganese ores; three specimens of rather corroded but reasonably well-formed twinned crystals have been found, but their occurrence is unusual.

Hydrocerussite ($2\text{PbCO}_3 \cdot \text{Pb}(\text{OH})_2$) occurs in some quantity, embedded in the manganese oxides or with calcite, as compact masses or rough crystals, up to 6 cm. across.

Mendipite ($2\text{PbO} \cdot \text{PbCl}_2$) occurs under similar conditions as hydrocerussite and is often surrounded by and partly altered into hydrocerussite and/or cerussite, with small amounts of crednerite and malachite. Upwards of sixty specimens have been found, but the majority do not exceed 2 cm. in length; a few nodules up to 5 cm. were obtained and one really good one, which was some 16 cm. long and 4 cm. thick, and, freed from its matrix, weighed $2\frac{1}{2}$ lb.

Chloroxiphite ($2\text{PbO} \cdot \text{Pb}(\text{OH})_2 \cdot \text{CuCl}_2$) and diaboileite ($2\text{Pb}(\text{OH})_2 \cdot \text{CuCl}_2$), two rare minerals first described by Dr. Spencer in 1923, are found, often associated together, in the mendipite at this locality. The former usually occurs as thin blades or aggregates enclosed in mendipite, but diaboileite also occurs as minute crystals in hydrocerussite and cerussite. A further number of good specimens have been found in which the chloroxiphite is in aggregates up to 1 cm. in thickness and diaboileite is also present in some quantity.

Crednerite ($\text{CuO} \cdot \text{Mn}_2\text{O}_3$), a considerable number of specimens have been collected, but most of these are small, with the exception of two. In the first of these the crednerite plates cover an area about 4×2 cm. but are thin; in the second and larger specimen, the crednerite consists of a single large rough crystal, some $6 \times 3\frac{1}{2}$ cm. and 4 cm. thick, and is

probably one of the finest specimens of this mineral in existence. Both these were found in March last year.

Mimetite, numerous further specimens have been obtained but they are small. In one case a number of fine acicular prismatic crystals, of great brilliancy and lustre, occurred in a cavity. They are bright orange-yellow in colour and perfectly formed but do not exceed 2 mm. in length. The usual mode of occurrence is as rounded crystalline aggregates.

Wulfenite (PbMoO_4), the occurrence of three very small specimens of this mineral was recorded by Dr. Spencer in 1923. In view of its rarity as a British species, a careful search has been made and ten or eleven further specimens have been found. While in no way comparing with some foreign examples as mineral specimens, they are, for British specimens, reasonably good, and in two cases large. They consist of rough crystals, from 1 to 3 cm. across and up to 5 mm. thick, and pale wine yellow in colour. The best specimen was a nodule of pale massive material, some 4 cm. long and $2\frac{1}{2}$ cm. thick, at one end of which a crust of small intergrown tabular crystals project into a cavity in the matrix; though small, these crystals are bright and well formed and deeper in colour than the other specimens.

Aragonite is uncommon and has only been found in two specimens of any size. In these it formed the matrix of two large nodules, partly altered to calcite, on the outside of which most of the specimens of wulfenite were found. A few minute needles are occasionally associated with small nodules of hydrocerussite.

In addition to these minerals, the following have also been found and are new to the locality:

Pyromorphite, two small specimens, consisting of pale yellowish-green rounded crystalline aggregates lining cavities in calcite and wad.

Baryte, only one very small specimen has been noticed.

Rhodochrosite, this was first found in 1934 as a nodule of compact massive material, some 10 cm. long, embedded in the hard manganese ore on a small dump near the farm-house. Though pale in colour it is remarkably pure and contains hardly any calcium. Further small specimens have since been found, chiefly massive, but some are botryoidal crusts or rounded crystalline aggregates lining cavities. This mineral had not been previously recorded from the Mendip district.

Tetrahedrite has been found in very small amounts by Mr. Arthur Russell.

No. 13.—Parish of Chewton Mendip (Sheet XXVIII SW.), old work-

ings some 400 yards north-west of the hamlet of Green Ore, $2\frac{1}{2}$ miles south-south-west of Chewton Mendip on the main road to Wells. This ground, known as 'Miles's Lot', was at one time worked for zinc ores and the following minerals occur in small amounts on the waste-heaps: calcite, iron oxides, smithsonite, baryte, galena, quartz, and hornstone.

On a small dump towards the north-eastern corner there is a good deal of cellular smithsonite banded with layers and rounded nodules of baryte. Small veins of cadmiferous blende occur in this material, and in these veins of blende are occasional small patches and veinlets, up to 1 mm. thick, of a bright canary-yellow mineral very similar to that found at Mill Close mine, Darley Dale, Derbyshire. The colour is clearly due to cadmium, and the mineral may be a form of earthy greenockite;¹ but Mr. F. A. Bannister has not been able to confirm this by an X-ray powder photograph, which showed only the lines of smithsonite.

No. 14.—Parishes of Dinder and St. Cuthbert Out (Sheet XLI SW.), Dulcote Hill quarries, on the south side of Dulcote Hill, 2 miles south-east of Wells. This is a good locality for calcite as large well-formed crystals and massive varieties.

No. 15.—Parish of Stoke Lane (Sheet XLII NW.), Moonshill quarry, half a mile south of Stoke Lane, and three miles north-east of Shepton Mallet. This is a large roadstone quarry in the pyroxene-andesite of the eastern Mendip Silurian inlier. The rock contains pseudomorphs of bastite, with small veins and patches of quartz, dolomite, calcite, chlorite, and other decomposition products. Epidote also occurs as fine granular material coating faces of joints and as minute, but very brilliant, crystals in cavities, often accompanied by small crystals of quartz; and it is worthy of note as being the only occurrence of this mineral, not only in the Mendip district, but also over a very considerable area of this part of the country. Small amounts of a bright-red soft fibrous mineral also occur, generally much intermixed with chlorite. This has been examined by Mr. F. A. Bannister and found to be laumontite, which has not been recorded from the district before.

The chief interest, however, is in the occurrence of small amounts of copper minerals, in a ridge of rock that formerly separated the north and south parts of the quarry, but which has now been entirely worked away. These minerals comprise chalcosine, chrysocolla, cuprite, mel-

¹ A. W. G. Kingsbury and J. N. Friend, Occurrence of greenockite in the Mendips. *Nature*, London, 1939, vol. 144, p. 1013. [M.A. 7-503.]

conite, covellite, and malachite. They occur coating joint-planes or in thin veins and patches in the rock immediately adjoining the joints, but only in very small amounts. With the exception of malachite, none of these copper compounds appears to have been previously recorded from the district.

The writer would like to record his thanks to Lord Waldegrave, of the Priory, Chewton Mendip; Mr. A. E. Culliford of Higher Pitts farm; Mr. Symes of Green Ore, Chewton Mendip, and to all those many land-owners, quarry-owners, and others, too many to name individually, who have assisted, by giving permission to look over and work on their property, or in other ways; and also to express his great appreciation to the following: Dr. L. J. Spencer, for his valuable and encouraging help, especially in the first few years of these investigations; Dr. F. S. Wallis, of Bristol Museum; Mr. Arthur Russell, of Swallowfield Park, Reading; Lieut.-Colonel W. Campbell Smith and Mr. F. A. Bannister, of the Mineral Department of the Natural History Museum, London; and Dr. J. Newton Friend, of Birmingham Central Technical College, for their great help in identifying and confirming the identity of many specimens, and in various other directions; and to Mr. H. E. Balch of Wells Museum, for his valuable suggestions and help in tracing and bringing to the writer's notice many localities in the district for investigation.

To conclude, it may be of interest to give a list of all the species, including one or two varieties, that have been found in the district. With three exceptions, where the name of the authority for the occurrence is given, specimens of all of the following minerals have been collected recently by the writer. They are set out in chemical groups, according to Dana's classification.

SULPHIDES, &c.	OXIDES
Galena	Quartz
Chalcosine	Chalcedony
Blende	Cuprite
Covellite	Melaconite
Chalcopyrite	Haematite
Pyrite	Crednerite
Marcasite	Pyrolusite
Tetrahedrite (Mr. Arthur Russell)	Goethite
	Manganite
	Limonite
	Red and yellow ochre
	Psilomelane
	Wad
HALOIDS	
Fluorite	
Mendipite	
Chloroxiphite	
Diaboleite	

	CARBONATES		SILICATES (<i>cont.</i>)
Calcite		Chlorite	
Manganocalcite		Chrysocolla	
Dolomite			PHOSPHATES, &c.
Rhodochrosite		Pyromorphite	
Smithsonite		Mimetite	
Cerussite			SULPHATES, &c.
Aragonite		Baryte	
Malachite		Celestine	
Chessylite		Anglesite in slags (Dr. L. J. Spencer)	
Hydrocerussite		Leadhillite in slags (Dr. L. J. Spencer)	
	SILICATES	Melanterite	
Epidote		Wulfenite	
Laumontite			
