NORTHANTS.

Davies (1888) "Recently discovered" deposits of iron ore in Jurassic (Lr. Oolite).

Gel (1858) Chalybite [siderite] (clay ironstone) lately in Northants.

1" 126

TG 2440 2540

OVERSTRAND

Norfolk

M. Stolworthy & B. Belson, BMS Newsl (1999) 54, 11.

In flints from the Stone Bed at TG 256 405, cavities with baryte clear prismatic flattened blades & small groups; calcite, tiny clear x/s.; gypsum, small clear blades; pyrrhotite, brassy hex-plates & rosettes w. siderite & baryte. "Pyrite/marcasite" brassy yellow x/s on baryte & cav. walls; siderite, tiny pale yellow to brown rhombohedra on walls & on baryte x/s.

1" 125

TF 9441

WARHAM, Norfolk.

K Pye, MM (1988) 125-6 Akaganéite (β-FeO(OH,Cl)) in oxidised sidenite-calcite-iron sulphide concretions in reduced intertidal sandflat sediments. ED Microprobe cores & Recent shows significant Cl.

Difficult to
distinguish genuine
abs's from noise
& background effects

Tiny weight & pure
culled samples, a weak
spectrum material plant

Difficult to
distinguish genuine
abs's from noise
& background effects.

Tiny weight & pure material
~~cullet~~ sampled, a weak
spectrum material & unstable

? Barsh Lit (Ger, Russ)

3643 m, $\overset{v}{sp}$ (T) · ν3420 (3440, 3300)

ν1625 (1620, 1630); 1119 (1130, 1100)

1025 (995 –); 819 (810, 810);

633 (630 –); 577 (580 –);

502 (495 –)

25/9/02 Off 02-137

1" 126

WEST RUNTON, ~~Norfolk~~ Runton, Norfolk. (I) TG 18 42

BMS Newsl. (1996) 45, 2. Peter Smith has "quite a lot" of slag ... containing thiosulphates etc. from West Runton beach

P. Smith ~~Pers~~ comm (2002). Spec. sent for IR to RSOB from site of demolished water-treatment plant at W. Runton beach, containing ~~leaves~~ w. small yellow blades: ~ IR: [02-137] near bazhenovite (weak spec, tiny sample; extra sharp O-H at 3643 cm^{-1}).

P. Smith notes similarity of grey matrix to matrix of Belgrain bazhenovite; also reports somebody also detected portlandite ($Ca(OH)_2$) mixt w. the bazhenovite [Poss the source of the 3643 cm^{-1} band]

P. Smith, BMSN (102) 63 16-18 "Bazhenovite".
X/s → 8 mm. IR (RSWB). Also portlandite, ettringite. Site of water/sewage treatment plant, dismantled 1995 - old concrete holding tanks.

v. infra

Bazherovicke

Norwich

Peter Smith

01603 471 536

+ Portlandite

$Ca(OH)_2$

Ericss Mackelvey ck

cuproauride

Auricup

CuF_3

WEST RUNTON, Runton, Norfolk (II)

Richard Belson, Priv comm ('phone), 6/03. The source of the bazhenovite-ete containing material has now been traced to a steel-works at Dunkirk, France.

Allophane

Northants

4

Irchester

Alumohydrocalcite

Northants

Weston Favell

Aragonite

Northants

Irchester

Basaluminite

Northants

Irchester

Weldon

Chamosite

Northants

Corby

Goethite

Northants

Irchester

gypsum

Northamb

Irchester

Weldon

Halloysite

Northants

Irchester
Weston Favell (?)

Hydrobasaluminite Northants

Irchester

Iron mins, misc

OCHRE NORTHANTS

Thingdon, Wellingborough (ochre)

Northamptonshire (iron ore; clay ironstone).

Hydroscarbroute Northanb

Weston Favell

Iron Ore, unspecified Northants

Weldon

"Limonite" Northants

Frechester

Metabasaluminite Northants

Irchester

Scarbrotte

Weston Favell

Northants

Sidenote

Northants.

Northamptonshire
Irchester

1" 133 SP 89 88

CORBY, Northants.

Brindley & Youell, MM (1953) 30, 57. Study of chamosite from STANTON LANE PIT. [STANION is at SP 9187]

1" 133 SP 92 65

IRCHESTER, Northants

BM: Basaluminite; hydrobasaluminite; metabasaluminite

FA Bannister & SE Hollingworth, Nature (1948) 162 565, also SE Hollingworth & FA Bannister, MM (1950) 29 1.

Type loc for new minerals: Basaluminite, hydrobasaluminite & metabasaluminite, assoc. with allophane, goethite, limonite, gypsum, siderite, halloysite. In Northampton ironstone at Lodge Pit.

C. Rogers, Priv Comm 6/71: Lodge Pit, Little Irchester Map 1" 133, 906 652: goethite, gypsum, aragonite, basaluminicite, "etc".

SP 89 68

THINGDON, Wellingborough, Northants.

TMH(1868), 64. Yellow ochre in Lr Oolite & Lias.

SP 92 90

WELDON, Northants. (I)

P.S. Jackman. The Russ Soc Newsl. (1991) 22, 11-12. "Basaluminite $Al_4SO_4(OH)_{10}.5H_2O$ from Priors Hall Quarry, Weldon, Northamptonshire".

PRIORS HALL Q'y, opencast iron-ore working Jurassic Northants Sand Ironstone, 1940-1980. Gypsum x/s. Weathered white powdery coatings on some vert. joint faces on limestone. Sample from SP 928 907 analysed (EDAX, XRD) → mixt of gypsum and basaluminite.

BASALUMINITE $Al_4SO_4(OH)_{10}.5H_2O$ FROM PRIORS HALL QUARRY, WELDON, NORTHAMPTONSHIRE

RSN(1991) 22 → P.T.O.

Philip S. Jackman

Priors Hall Quarry, Weldon was an open-cast iron-ore mine working the Jurassic Northamptonshire Sand Ironstone. After 40 years operation it ceased working in 1980 on the closure of the Corby Steelworks. Since 1980 a limestone exposure was exploited for a short time for metalling. In 1990 the site comprised a face of sandy limestone about 4 metres high running roughly NW-SE and overlain by boulder clay. From the base of this face a graded surface of clay and debris from the quarrying operations ran eastward for about 1.2km. This graded surface was largely occupied by an established golf-course. The remainder of the former quarry was promised to be developed as a 'Wonderworld' theme park (still a promise in 1991).

The boulder clays contain many fossils derived largely from Jurassic deposits together with flints, chalk pebbles and other rock fragments from distant but unknown locations (e.g. garnet schist and plutonic rocks). There are patches containing gypsum single crystals as well as gypsum in stellate interpenetrating clusters, fish- tail twins and combinations of the single crystal and the fish-tail twin. None of the single crystals are very large (less than 70mm long).

On occasional vertical joint faces on the limestone exposure there is a weathered white powdery coating. The best example of this in 1990 was at grid.ref. SP928907. A sample from this location has been examined using EDAX analysis on a Cambridge 600 scanning electron microscope and by x-ray diffraction analysis. EDAX analysis on the stated equipment is unable to detect the lighter elements such as hydrogen, carbon, nitrogen, oxygen or fluorine.

Examination of the joint surface using optical microscopy showed a coating of tiny, irregular, colourless, transparent to translucent striated crystals on the sandy limestone. Qualitative EDAX analysis showed the presence of calcium and sulphur with minor aluminium and silicon indicating a very approximate quantitative composition of $Ca_{11} S_{12} Al_4 Si$. X-ray diffraction analysis confirmed that the crystals were gypsum. It is probable that the aluminium and silicon detected by the EDAX analysis were contamination.

Overlying the gypsum crystals there were irregular patches of the white powdery deposit already noted. Examination opticaly and using the scanning electron microscope revealed no apparent crystal form to the powder. Qualitative EDAX analysis of a sample of the powder removed from the matrix again revealed calcium, sulphur, aluminium and silicon but in differ-

WELDON, Northants. (II)

ent proportions giving an approximate composition of $CaS_{10}Si_{10}Al_{60}$. It should be remembered that lighter elements are not detected by this analysis technique.

To clarify the composition of the white powder x-ray diffraction analysis was carried out. This produced a diffraction pattern which had sharp peaks but which indicated a mixture of minerals. A computer search was carried out which showed that the powder was a mixture of gypsum and basaluminite.

Basaluminite was first described in the U.K. from the Northamptonshire Sand Ironstone at Little Irchester by Bannister and Hollingsworth (1948) (see also Taylor 1949) and has since been mentioned by King (1982). Bannister and Hollingsworth (1948) found the basaluminite to be associated with allophane, halloysite, hydrobasaluminite, aragonite and gypsum. Apart from the gypsum no such associations were found in the present casae. King (1982) refers to the occurrence of basaluminite and hydrobasaluminite from "six other localitites in the iron-ore field of Northamptonshire" in addition to Little Irchester. While these aluminium-rich minerals are infrequently described they are probably relatively common in the area.

Quarrying activity in Northamptonshire is much reduced from the levels prior to the ending of steelmaking at Corby. However exploitation of sandy-limestone for agricultural and metalling purposes gives the opportunity for further occurrences to be noted.

References

Bannister, F.A. & Hollingworth, S.E. 1948 Two New British Minerals. *Nature* Vol clxii p.565

King, R.J. 1982 A new occurrence of scarbroite in Britain. *J.Russell Society* Vol.1 pp.9-18

Taylor, M.A. 1949 Petrology of the Northampton Sand Ironstone Formation. *Mem.Geol.Surv.GB*. pp.36-37

SP 78 62

Northampton,
WESTON FAVELL, Northants.

MA 82M/3325. RJ King, J. Russ. Soc (1982) 1, 9-18. Scarbroite in open solution joints in basal Northampton Sand at Weston Favell, as paleorange nodules, surr. by pellicles of hydroscarbroite Chem. anal.

GR (186) for J Russell Soc Alumohydrocalcite loose powdery aggs of <1mm soft white masses w. silky lustre, between nodules of

scarbroite in infill of solution pipes in Mid-Jurassic sandstone, with ?halloysite