

A re-examination of uigite.

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Summary. Uigite from Uig in Skye described by M. F. Heddle in 1855 has proved on examination to be thomsonite (var. faröelite).

ON 28 February 1855 M. F. Heddle described before the Royal Physical Society in Edinburgh¹ what he thought to be a new mineral, which he had collected near Uig in the Isle of Skye. It occurred in radiating sheafy plates, somewhat resembling the structure of a plumose mica, in vesicular basalt. In general appearance it was intermediate between faröelite and gyrolite; colour white, slightly yellowish; lustre 'tremulous and pearly'; hardness 5·5; brittle; density 2·284. In 1877 T. A. Readwin² listed uigite as a doubtful mineral. This brought a reply from Heddle in 1880³ in which he pointed out that he had published full details of the occurrence of the mineral with two analyses in the 'Witness' newspaper⁴ (a Free Church Edinburgh periodical originally edited by Hugh Miller) on 12 March 1856. Here he describes the exact spot at which he found it with faröelite and analcime: 'Sixteen miles north of Portree, in Skye, lies the "farm town" of Uig. At about the fifteenth mile-stone, the road makes an abrupt turn to the east, before descending the hill; and just at this spot a small quarry has been opened for the purpose of obtaining road-metal.'

As I was staying in Uig this summer I thought it would be interesting to find the old uigite locality and sure enough there was a milestone just outside the village on the road in from Portree. All signs of mileage were obliterated from the milestones, but this turned out to be the fourteenth milestone and there was no sign of any quarry nor did the road take an abrupt turn. The fifteenth milestone is in the village but at the

¹ M. F. Heddle, Proc. Roy. Phys. Soc. (Edinburgh) for Thursday, 28 Feb. 1855, printed in Edin. New Phil. Journ., 1856, vol. 4 (new ser.), p. 162.

² T. A. Readwin, Min. Mag., 1877, vol. 1, p. 90.

³ M. F. Heddle, Min. Mag., 1882, vol. 5, p. 26 (read 23 Dec. 1880).

⁴ M. F. Heddle, 'Witness' (Free Church periodical, Edinburgh), 12 Mar. 1856 (Report of the Proc. Roy. Phys. Soc.).

sixteenth milestone there is a sharp hairpin bend turning south-west and then north-east uphill. Here I found a tiny roadside cutting in which the rock was not noticeably vesicular and yielded nothing in the way of minerals. However other exposures in the neighbourhood showed pockets of zeolites and gyrolite and just below the Free Church I found a weathered vein from which I collected an amount of material. This consisted of radiating thomsonite (var. faröelite) with gyrolite, sometimes quite intimately intermixed; also analcime.

On my return through Edinburgh I was allowed to borrow the one and only specimen of uigite (456.24) from the Heddle collection in the Royal Scottish Museum. This is a vesicular basalt containing in the largest cavity radiating prisms, which tend to become acicular. The colour is white becoming cream on the weathered surface and the lustre somewhat pearly. On optical examination the mineral was seen to consist of needles and plates which gave straight extinction and a refractive index $1.517 < \beta < 1.524$. The plates were found to be biaxial positive. This agrees very well with faröelite and the identity was confirmed by an X-ray powder photograph, which is identical with one of thomsonite (B.M. 94978) from Old Kilpatrick, Dunbartonshire (the type locality). Other cavities in the specimen contain faröelite and analcime.

As this is the only specimen available it would appear that uigite is merely faröelite and Heddle himself throws considerable doubt on its validity as a species. He says:¹ 'Mineralogy is in that stage when men of the present age have to draw the sponge through many of the works of those who have gone before them, to have their own, in turn, expunged by those who follow after. Fearing that this might be the fate of *Uigite* I do not thrust it into the world as a new mineral.' I personally think there was another specimen on which he did his analyses and as gyrolite is so often intimately associated with the faröelite he may have been examining a mixture.

Heddle's analyses are given below (cols. 1 and 2); in col. 3 are the molecular ratios corresponding to the mean of the two analyses. Assuming that all the alumina belongs to a zeolite, the ratios for Al, Ca, and Na in col. 5 (faröelite) are obtained, leaving the Ca figure under col. 4 for gyrolite; taking gyrolite as $\text{Ca}_2\text{Si}_3\text{O}_7(\text{OH})_2 \cdot \text{H}_2\text{O}$, col. 4 is completed and the ratios for Si and H_2O in col. 5 are obtained by subtraction. This corresponds to 25 % of gyrolite and 75 % of a faröelite of the composition given in col. 6, which is a highly siliceous faröelite, but corresponds

¹ 'Witness', 12 Mar. 1856 (but not copied in Min. Mag., vol. 5).

closely to Heddle's analysis¹ (1857) of a faröelite from Uig, 'associated with a (?) new mineral' (col. 7).

	1.	2.	3.	4.	5.	6.	7.
SiO ₂	46·320	45·980	0·7681	0·2300	0·5381	42·94	43·19
Al ₂ O ₃	21·348	21·928	0·4246	—	0·4246	28·74	29·16
CaO	16·361	16·150	0·2900	0·1533	0·1367	10·18	10·08
Na ₂ O	4·698	4·685	0·1513	—	0·1513	6·23	5·24
H ₂ O... ..	12·212	11·250	0·6516	0·1533	0·4983	11·91	12·43
	<u>100·939</u>	<u>99·993</u>				<u>100·00</u>	<u>100·10</u>

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¹ M. F. Heddle, *Phil. Mag.*, 1857, ser. 4, vol. 13, p. 53.