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Heulandite with excess water: A correction

DR. ROSS F. GIESE, JR. has brought to my attention that the mineral identified and described as 'heulandite with excess water' (Wise, 1967) is in fact *stilbite*. The misidentification apparently originated in the optical properties (positive 2V) obtained from a thin section, in which heating changed the optic sign. The X-ray patterns for heulandite and stilbite are similar.

TABLE I. *Observed and calculated lattice spacings of stilbite from Skamania County, Washington. a* 13.595 ± 0.003 Å, *b* 18.306 ± 0.008 , *c* 11.238 ± 0.002 , β $127^\circ 32.5' \pm 1.6'$

<i>hkl</i>	<i>d</i> _{obs}	<i>d</i> _{calc}	<i>I</i>	<i>hkl</i>	<i>d</i> _{obs}	<i>d</i> _{calc}	<i>I</i>	<i>hkl</i>	<i>d</i> _{obs}	<i>d</i> _{calc}	<i>I</i>
020	9.15	9.15	50	131	4.058	4.057	100	$\bar{3}33$	3.103	$\left\{ \begin{matrix} 3.109 \\ 3.096 \end{matrix} \right\}$	6
$\left. \begin{matrix} 13\bar{1} \\ 130 \end{matrix} \right\}$	$\left. \begin{matrix} 5.31 \\ 5.32 \end{matrix} \right\}$	$\left. \begin{matrix} 5.32 \\ 5.32 \end{matrix} \right\}$	6	022	4.005	4.006	10	$\bar{3}30$			
222	4.66	4.66	26	$\bar{2}03$	3.736	3.736	9	151	3.035	3.036	46
$\left. \begin{matrix} \bar{3}12 \\ \bar{3}11 \end{matrix} \right\}$	$\left. \begin{matrix} 4.27 \\ 4.27 \end{matrix} \right\}$	$\left\{ \begin{matrix} 4.276 \\ 4.265 \end{matrix} \right\}$	6	$\bar{2}42$	3.497	3.496	3	241	2.885	2.885	4
				402	3.398	3.399	16	$\bar{3}14$	2.777	2.777	19
				422	3.187	3.186	21				

Table I lists the *d*-spacings from the earlier paper and the stilbite cell dimensions computed therefrom. The water content of the cell, calculated in the same way as before, is 32.8 water molecules per cell. This yields the structural formula



This water content is higher than the 28 listed in most mineralogy books but is in close agreement with the 32 given by Galli and Gottardi (1966).

The correct optical properties are α 1.487, β 1.498, γ 1.500, and $2V_\alpha$ 30–40°.

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REFERENCES

- GALLI (E.) and GOTTARDI (G.), 1966. *Min. et Petrog. Acta*, **12**, 1.
 WISE (W. S.), 1967. *Min. Mag.* **36**, 64.

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