Indigirite

\[ \text{Mg}_2\text{Al}_2(\text{CO}_3)_4(\text{OH})_2 \cdot 15\text{H}_2\text{O} \]

Crystal Data:  
Point Group: n.d.  
As plates and fibers to 1 mm; in radiating rosettelike aggregates.

Physical Properties:  
Tenacity: Flexible.  
Hardness = \( \sim 2 \)  
\( D(\text{meas.}) = 1.6(1) \)  
\( D(\text{calc.}) = \text{n.d.} \)

Optical Properties:  
Semitransparent.  
Color: Snow-white.  
Luster: Vitreous to silky.  
Optical Class: Biaxial.  
Orientation: Positive elongation, parallel extinction.  
\( \alpha = 1.472(2) \)  
\( \beta = \text{n.d.} \)  
\( \gamma = 1.502(2) \)  
\( 2V(\text{meas.}) = \text{n.d.} \)

Cell Data:  
Space Group: n.d.  
\( Z = \text{n.d.} \)

X-ray Powder Pattern:  
Sarylakh deposit, Russia.  
5.80 (10), 7.62 (9), 5.24 (9), 2.70 (9), 2.60 (9), 4.56 (8), 1.625 (5)

Chemistry:  
\[
\begin{array}{c|cc}
\text{Component} & (1) & (2) \\
\hline
\text{SO}_3 & 0.45 & \\
\text{CO}_2 & 24.18 & 27.22 \\
\text{Al}_2\text{O}_3 & 14.58 & 15.76 \\
\text{Fe}_2\text{O}_3 & 0.64 & \\
\text{MgO} & 12.08 & 12.46 \\
\text{CaO} & 0.45 & \\
\text{H}_2\text{O} & 44.36 & 44.56 \\
\text{insol.} & 1.60 & \\
\hline
\text{Total} & 98.34 & 100.00 \\
\end{array}
\]

(1) Sarylakh deposit, Russia; \( (\text{CO}_3)^{2-}, \text{(OH)}^{-1}, \text{H}_2\text{O} \) confirmed by IR; after deduction of insoluble as quartz, CaO and SO\(_3\) as gypsum, and Fe\(_2\)O\(_3\) as “limonite”, corresponds to \( \text{Mg}_{2.00}\text{Al}_{2.00}\text{(CO}_3\text{)}_{3.86}\text{(OH)}_{2.00}\cdot 15\text{H}_2\text{O} \).  
(2) \( \text{Mg}_2\text{Al}_2(\text{CO}_3)_4(\text{OH})_2 \cdot 15\text{H}_2\text{O} \).

Occurrence:  
A rare filling in cracks in shale in the oxidized portions of a hydrothermal vein Au–Sb deposit.

Association:  
Gypsum, gibbsite, kaolinite, hexahydrite, melanterite, amorphous Fe oxide, stibnite, quartz.

Distribution:  
From the Sarylakh Au–Sb deposit, upper Indigirka River, northeast Sakha, Russia.

Name:  
For the Indigirka River, Russia, near where the first specimens were collected.

Type Material:  
Geological Museum, Yakutsk Scientific Center, Yakutsk, mk-192;  
A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, 76565, 76566.

References:  
(2) (1972) Amer. Mineral., 57, 326–327 (abs. ref. 1).