Jolliffeite

Crystal Data:  Cubic.  Point Group:  $2/m \overline{3}$.  Grains, to 240 $\mu$m.

Physical Properties:  Hardness = $>3$ (harder than clausthalite).  D(meas.) = n.d.  
D(calc.) = 7.10

$R_1$–$R_2$: (400) 50.1–50.4, (420) 50.3–50.6, (440) 50.5–50.7, (460) 50.7–50.8, (480) 50.8–50.9, (500) 50.9–51.0, (520) 51.0–51.1, (540) 51.1–51.2, (560) 51.1–51.2, (580) 51.2–51.3, (600) 51.3–51.3, (620) 51.3–51.4, (640) 51.4–51.5, (660) 51.4–51.5, (680) 51.3–51.3, (700) 51.2–51.3.

Cell Data:  Space Group:  $Pa\bar{3}$.  $a = 5.831(1) \quad Z = 4$

X-ray Powder Pattern:  Shirley Peninsula, Canada.  
2.602 (100), 2.378 (80), 1.757 (80), 2.916 (50), 1.559 (50), 1.617 (40), 2.062 (30)

Chemistry:  

<table>
<thead>
<tr>
<th>Element</th>
<th>Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ni</td>
<td>22.6</td>
</tr>
<tr>
<td>Co</td>
<td>6.0</td>
</tr>
<tr>
<td>As</td>
<td>36.9</td>
</tr>
<tr>
<td>Se</td>
<td>34.9</td>
</tr>
<tr>
<td>S</td>
<td>0.51</td>
</tr>
</tbody>
</table>

Total 100.9

(1) Shirley Peninsula, Canada; by electron microprobe, corresponds to $(Ni_{0.81}Co_{0.21})_{\Sigma=1.02}$
$As_{1.03}(Se_{0.92}S_{0.03})_{\Sigma=0.95}$.

Mineral Group:  Cobaltite group.

Occurrence:  From a drill core in a fracture zone near a dolomite–peridotite contact.

Association:  Clausthalite, Pb–Bi–Ag selenides, gold, “pitchblende”.

Distribution:  From the Fish Hook Bay area, Shirley Peninsula, north shore of Lake Athabaska, 18 km south of Uranium City, Saskatchewan, Canada [TL].

Name:  To honor Professor Alfred Watson Jolliffe (1907–1988), Canadian geologist, Queen’s University, Kingston, Ontario, Canada, for his contributions to mineral exploration of northern Saskatchewan, Canada.

Type Material:  Canadian Geological Survey, Ottawa, Canada, 65747.