Delrioite  
CaSrV$_2^{5+}$O$_6$(OH)$_2$•3H$_2$O

Crystal Data: Monoclinic.  
Point Group: m or 2/m.  
As radial aggregates of tiny acicular crystals, intimately intergrown in parallel orientation with metadelrioite.  
Twinning: On {100}, not uncommon.

Physical Properties:  
Hardness = ~2  
D(meas.) = 3.1(1)  
D(calc.) = 3.16  
Readily soluble in H$_2$O; reversibly dehydrated.

Optical Properties:  
Translucent.  
Color: Pale yellow-green to darker green on exposed surfaces, probably the result of photoreduction of some of the vanadium.  
Luster: Vitreous to pearly.

Cell Data:  
Space Group: Ia or I2/a.  
$\alpha = 17.170(3)$  
$\beta = 7.081(1)$  
$c = 14.644(4)$  
$\beta = 102^{°}29(1)^{°}$  
$Z = 8$

X-ray Powder Pattern:  
Jo Dandy mine, Colorado, USA.  
6.52 (vs), 3.54 (s), 4.39 (ms), 3.26 (ms), 2.794 (ms), 2.174 (m), 4.19 (w)

Chemistry:  

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>V$_2$O$_5$</td>
<td>46.6</td>
<td>43.97</td>
</tr>
<tr>
<td>CaO</td>
<td>13.5</td>
<td>13.56</td>
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<tr>
<td>SrO</td>
<td>24.8</td>
<td>25.05</td>
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<tr>
<td>H$_2$O$^+$</td>
<td>5.7</td>
<td>17.42</td>
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<tr>
<td>H$_2$O$^-$</td>
<td>9.4</td>
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<tr>
<td>Total</td>
<td>[100.0]</td>
<td>100.00</td>
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</tbody>
</table>

(1) Jo Dandy mine, Colorado, USA; an estimated 5:1 mixture with metadelrioite, CaSrV$_2$O$_6$(OH)$_2$, recalculated to 100% after deduction of quartz 1.30%.

(2) CaSrV$_2$O$_6$(OH)$_2$•3H$_2$O.

Occurrence:  
An efflorescence on sandstone of the Salt Wash member of the Jurassic Morrison Formation associated with a U–V deposit.

Association:  
Metadelrioite, rossite, metarossite, quartz.

Distribution:  
From a dump at the Hummer portal of the Jo Dandy mine, Bull Canyon district, Paradox Valley, Montrose Co., Colorado, USA.

Name:  
For Mexican mineralogist Andrés Manuel del Río (1764–1849), who first discovered vanadium in North America.

Type Material:  

References:  