Barahonaite-(Fe)  
(Ca, Cu, Na, Fe$^{3+}$, Al)$_{12}$Fe$^{3+}$2(AsO$_4$)$_8$(OH, Cl)$_x$·$n$H$_2$O

Crystal Data: Monoclinic.  
Point Group: 2$/$m, 2 or m.  
As thin tabular composite crystals forming rosettes, to 0.2 mm.

Physical Properties: Cleavage: None.  
Fracture: n.d.  
Tenacity: Brittle.  
Hardness = 2-3 (possibly).  
D(meas.) = n.d.  
D(calc.) = 2.93-3.11

Optical Properties:  
Transparent to translucent.  
Color: Greenish yellow.  
Streak: White to pale yellow.  
Luster: Vitreous.

Optical Class: Biaxial (-).  
$\alpha = 1.664(2)$  
$\beta = \gamma = 1.677(2)$  
$2V$(meas.) = 45-80°

Cell Data:  
Space Group: n.d.  
$a = 10.161(7)$  
b = 22.39(2)  
c = 10.545(10)  
$\beta = 93.3(1)^\circ$  
$Z = 2$

X-ray Powder Pattern:  
Dolores prospect, Murcia province, Spain.
22.0 (100), 11.2 (70), 2.763 (30), 5.068 (20), 3.345 (20), 2.659 (20), 2.541 (20)

Chemistry:

(1)

<table>
<thead>
<tr>
<th>Element</th>
<th>Formula</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Na$_2$O</td>
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<tr>
<td>MgO</td>
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<td>CaO</td>
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<td>CuO</td>
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<td>SiO$_2$</td>
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<td>-O = Cl</td>
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<td>H$_2$O</td>
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<td>Total</td>
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<td>100.00</td>
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</table>

(1) Dolores prospect, Murcia province, Spain; average of 7 electron microprobe analyses, H$_2$O by difference; anionic groups confirmed by IR, corresponding to 
(Ca$_{4.95}$Cu$_{3.34}$Na$_{1.43}$Mg$_{0.07}$ Fe$^{3+}$$_{1.70}$Al$_{0.72}$)$_{5+}$Fe$^{3+}_2$.00[(As$^{0.96}$P$^{0.02}$S$^{0.01}$Si$^{0.01}$)O$_4$]$_8$
[(OH)$_{6.82}$Cl$_{0.55}$]$_{2-7.37}$·13.2H$_2$O.

Polymorphism & Series: Complete solid solution with barahonaite-(Al).

Occurrence: A secondary mineral in the oxidized zone of a sulfide deposit.

Association: Arsenocrandallite, arsenogoyazite, conichalcite, cobaltarthurite, chlorargyrite, olivenite, azurite, cornwallite, pharmacosiderite, zálesíite, lavendulan.

Distribution: Dolores prospect, near Pastrana, Murcia province, northern Spain.

Name: Honors Antonio Barahona (b. 1937) of Madrid who provided the original specimens. The suffix identifies the iron dominant member of the series.

Type Material: Canadian Museum of Nature, Ottawa, Ontario (85716).

References:  
(2) (2008) Amer. Mineral., 93, 1941-1942 (abs. ref. 1).