NOTES AND NEWS

LOPEZITE, A NEW MINERAL

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In 1935 the writer spent several months in Chile collecting minerals for the United States National Museum and the Mineralogical Museum of Harvard University. Suites of specimens were collected from several nitrate oficinas on both the Tocopilla and Iquique pampas.

Among the specimens from the oficina Maria Elena, near Tocopilla, and from the oficina Rosario on the Iquique pampa, were several that carried an orange red mineral in vugs with all the appearance of potassium dichromate. This mineral, occurring in very small amounts, insufficient for chemical investigation, was examined optically and found to have, indeed, properties identical with artificial potassium dichromate. The optical data on the natural and artificial minerals are given below.

Lopezite	Artificial $K_2Cr_2O_7$[1]
$\alpha = 1.714$	1.7202
$\beta = 1.732$	1.7380
$\gamma = 1.805$	1.8197
X = reddish yellow	red
Y = yellow	
Z = greenish yellow	yellow
$2V = 50°$	$2V = 51°53'$
$r > v$, medium	$r > v$
Color = orange red	Aurora red

The mineral is easily soluble in water to an orange solution, which yields characteristic microchemical tests for potassium and dichromate.

Natural potassium chromate, tarapacaite, has long been known from the Iquique pampa and the occurrence of potassium dichromate is entirely expectable.

As stated above the potassium dichromate occurs in vugs in massive caliche, implanted on tarapacaite and dietzeite (Maria Elena). It is found in the form of balls about a millimeter in diameter. Implanted on the potassium dichromate are small, radiating crystals of ulexite. Some areas of niter are faintly colored orange suggesting included dichromate, but the few small crystalline areas are confined to the vugs. Tarapacaite, on the other hand, is plentifully sprinkled through the niter mass.

The sequence relationships are: tarapacaite, potassium dichromate, with ulexite the last mineral to form. From the relationships between early potassium chromate and later potassium dichromate it appears that the solutions depositing the caliche minerals became enriched in

[1] Groth, P., *Chemische Krystallographie*, Part II, p. 587.

chromium oxide during crystallization. Other field relationships amply support this. The sequence relationships of dietzeite are not clear, suffice to say that it is later than the nitrate minerals and earlier than the bulk of the pure chromates.

There was not a sufficient quantity of the mineral to permit an analysis. Due to the intimate association with potassium chromate it would have required careful cleaning of a large quantity of material to obtain a satisfactory sample. Crystals were observed but were not suitable for measurement. A new mineral name is being suggested on the minimum of data, but due to the close parallel of properties with those of a well known artificial compound it is believed that there is little doubt as to its true nature and a species name is justified. It is with pleasure that the writer suggests the name *lopezite* in honor of Dr. Emiliano Lopez of Iquique, a mineral collector who has been associated with the nitrate industry in Chile for many years.

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