

PLATE 4.

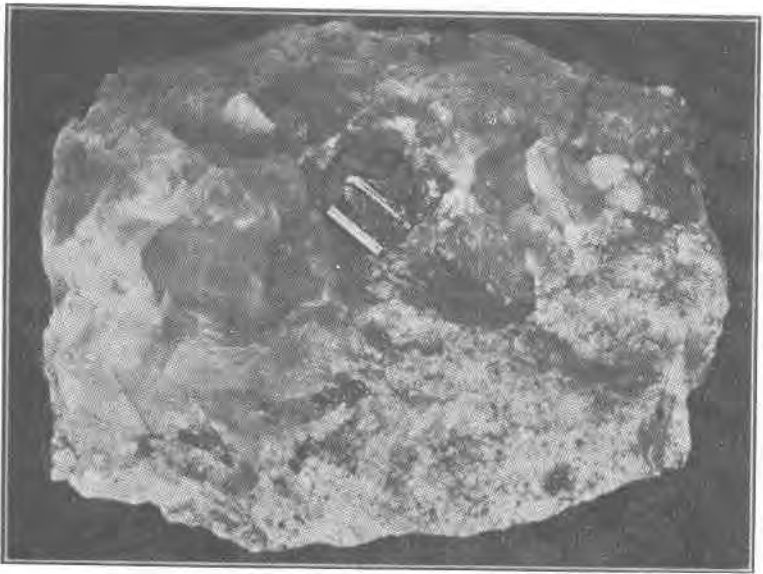


FIG. 1. PYRITE CRYSTAL ON LIMESTONE.
Collection of Mr. James G. Manchester.

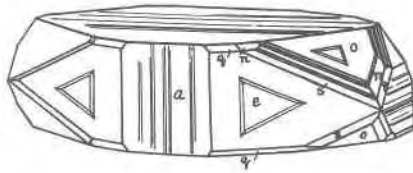


FIG. 2. DIAGRAM OF PYRITE CRYSTAL.
For description see page 31.

PYRITE FROM BROADWAY AND 207TH STREET, NEW YORK CITY.

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PYRITE CRYSTALS FROM BROADWAY AND 207TH STREET, NEW YORK CITY

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The material for this study was obtained thru the courtesy of Mr. James G. Manchester, who collected a number of specimens of dolomitic limestone from the above locality which yielded on solution highly modified pyrite crystals of somewhat unique development. The crystals, which show a considerable variation in size, are in every instance distorted by a flattening parallel to one cube direction which in several cases results in the suppressing of the modifying planes adjacent to these two cube faces; this is brought out in the frontispiece, in which figure 1 represents a photograph of one of the specimens, and figure 2 a drawing of one of the crystals measured. Another characteristic which distinguishes these crystals is the presence of prominences on planes of the pyritohedron (210) and the octahedron. One rare trapezohedron (766) and several rare diploids were observed, one of the latter constituting a new form for pyrite. All five diploids appear in the upper right hand forward octant of the crystal figured, the new one being next above *s*. The distribution of the forms on the ten crystals measured is given below:

TABLE 1. DISTRIBUTION OF FORMS ON PYRITE FROM NEW YORK CITY

Letter	Symbol	1	2	3	4	5	6	7	8	9	10
<i>a</i>	100	×	×	×	×	×	×	×	×	×	×
<i>a</i>	111	×	×	×	×	×	×	×	×	×	×
<i>e</i>	210	×	×	×	×	×	×	×	×	×	×
<i>n</i>	322					×			×		
<i>q</i>	211	×	×		×	×	×		×	×	×
	766	×	×		×	×	×			×	×
<i>s</i>	321	×	×	×	×	×	×	×	×	×	
<i>z</i>	654	×		×	×		×	×			
<i>x</i>	543	×	×				×	×		×	
*	10.7.4		×	×		×	×	×	×	×	
	753				×						×

The new diploid, (10.7.4), occurred on seven of the ten crystals, and was identified by its angular position in the zone [210: 111]. The reflections were for the most part of good quality and the faces, tho narrow, were bright and well defined.

The measurements which served to identify the modifying forms are as follows:

TABLE 2. ANGLES OF PYRITE FROM NEW YORK CITY

Letter	Angle	Number of measurements	Measured	Calculated	Limits
<i>a</i> : <i>q</i>	100 : 211	23	35° 17'	35° 16'	34° 55' - 35 42'
: <i>n</i>	: 322	3	43 21	43 19	43 15 - 43 31
:	: 766	16	49 25	49 24	48 50 - 49 57
<i>o</i> : <i>g</i> ₁	111 : 654	7	9 22	9 16½	9 8 - 9 32
: <i>x</i>	: 543	7	11 38½	11 32	11 14 - 11 57
: *	: 753	5	18 17½	18 5½	18 4 - 18 37
: <i>s</i>	: 10.7.4	21	19 1½	19 17	18 35 - 19 36
: <i>s</i>	: 321	32	22 21	22 12½	21 46 - 22 57

* New form.

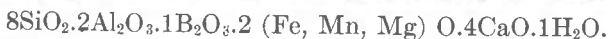
CRYSTALLOGRAPHY OF SOME CANADIAN MINERALS: 8. AXINITE

EUGENE POITEVIN

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The crystals here described were collected during the summer of 1908² by Charles Camsell of the Canada Geological Survey, from the western slope of the Nickel Plate Mountain, Osoyoos Mining Division, British Columbia, where the mineral occurs in hair-brown crystals and crystalline masses associated with crystalline mispickel, opaline quartz, and calcite at the contact of a gabbro porphyry and sedimentary beds.

An analysis made by R. A. A. Johnston of the Geological Survey³ from carefully selected crystal fragments gave the following results, which with the exception of the water content (which is too low) agree with the formula proposed by W. T. Schaller,⁴



¹ Published by permission of the Director of the Geological Survey of Canada. Continued from page 25.

² *Summary Rept. Geol. Survey*, 1910, 259; *Geol. Survey Memoir No. 2*, 148; *ECONOMIC GEOLOGY*, Ries, Ed. 4, 686, 1916.

³ *Summary Rept. Geol. Survey*, 1910, 259.

⁴ Mineralogical Notes, Series I. *U. S. Geol. Survey, Bull.* 490, 39.