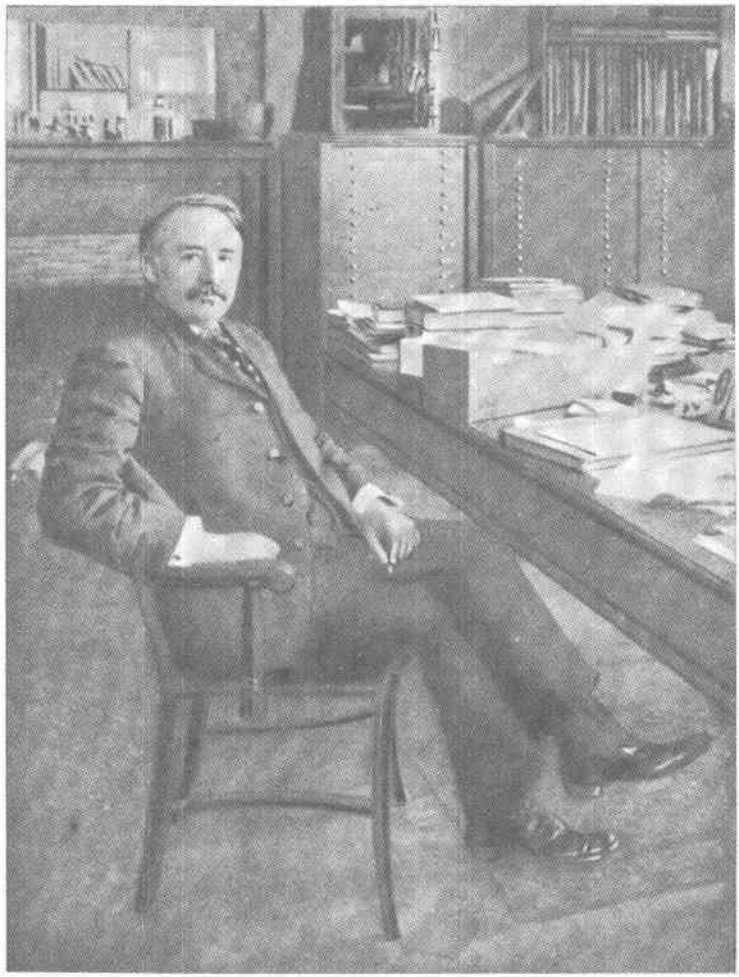
PLATE I



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SOME CANADIAN CERUSSITE CRYSTALS

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ALL of the crystals described in this article come from localities in British Columbia, and, so far as the author has been able to ascertain, there has been no previous detailed description of cerussite crystals from any of these western localities or indeed from any part of Canada. On this account, altho the crystals include no new forms, it was thought that a brief description of them would be of interest. The crystals measured are from three distinct localities in British Columbia, namely the North Star Mine near Kimberley, the Society Girl Mine near Moyie, and the Ymir and Yankee Girl Mines near Ymir, all of which are in the Kootenay District.

Altho these localities are separated by considerable distances, the cerussite crystals from all three show a marked similarity in form and appearance. In all, twenty-six crystals were measured —eight from the North Star Mine, eleven from the Society Girl Mine, one from the Ymir Mine, and six from the Yankee Girl Mine. All of the crystals are white, translucent to colorless, transparent, and most of them have a good luster. A great many twin crystals were encountered, but, with few exceptions, the crystals measured were single individuals. No particular attention was paid by the writer to the twin crystals; but in the half dozen twins observed, the twinning plane seemed to be invariably the unit prism. The crystals were for the most part rather poor in faces, although one showed thirty-two. A considerable number of them were developed on one side only, so that only a limited number were used for purposes of calculation. The crystals are of two types, one prismatic in habit and the other flattened in the direction of the macro-axis. The basal pinacoid is rare and is found on only one crystal out of the twenty-six. The minerals associated with cerussite in these localities include galena, sphalerite, chalcopyrite, malachite, pyromorphite, garnet, quartz, and calcite.

NORTH STAR MINE, KIMBERLEY

The crystals from this locality are comparatively simple, showing the following forms: $c = 0(001)$, $a = \infty\,0(100)$, $b = 0\,\infty\,(010)$, $m = \infty\,(110)$, $r = \infty\,3(130)$, $x = 0\frac{1}{2}(012)$, $k = 01(011)$, $i = 02(021)$, $v = 03(031)$, $y = \frac{1}{2}0(102)$, $p = 1(111)$. Of the eight crystals measured only four were used for the deter-

mination of the elements, the remainder lacking the symmetry necessary for an accurate determination. The average values obtained from these four crystals are as follows: $p_o = 1.1849$, $q_o = 0.7242$, which are in close agreement with the values in Professor Goldschmidt's Winkel-Tabellen, namely $p_o = 1.1853$, $q_o = 0.7230$. Fig. 1 represents an idealized composite drawing in plan and perspective of the crystals from this locality. The dimensions of these crystals vary from 2 x 1½ x ½ mm. to 5 x 4 x 2

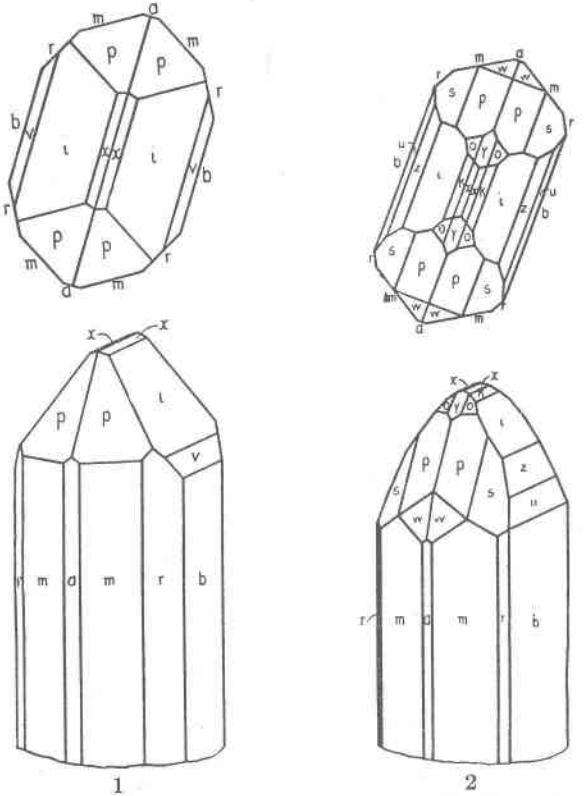

FIG. 1. Represents an idealized composite drawing in plan and perspective of the cerussite crystals from the North Star Mine, Kimberley, B. C.

FIG. 2. Represents a more or less idealized cerussite crystal type from the Society Girl Mine, Moyie, B. C.

mm. The forms *a*, *b*, *m*, *i*, and *p* are prominent, being found on all of the eight crystals, the forms *r*, *v*, and *x* somewhat less so, while the remaining forms *c*, *y*, and *k* each occur on one crystal only, and are consequently not shown in Fig. 1.

SOCIETY GIRL MINE, MOYIE

The crystals from this locality are characterized by an abundance of dome faces, chiefly brachydomes. The following forms

were encountered: $a = \infty\ 0(100)$, $b = 0\ \infty\ (010)$, $m = \infty\ (110)$, $r = \infty\ 3(130)$, $x = 0\frac{1}{2}(012)$, $k = 01(011)$, $i = 02(021)$, $v = 03(031)$, $z = 04(041)$, $n = 05(051)$, $t = 06(061)$, $u = 07(071)$, $y = \frac{1}{2}0(102)$, $p = 1(111)$, $0 = \frac{1}{2}(112)$, $s = 12(121)$, $w = 21(211)$. Altho eleven crystals were measured, only six were found to be sufficiently symmetrical to give accurate determinations of the elements. These averaged: $p_o = 1.1858$, $q_o = 0.7230$, which are in close agreement with the values as given by Goldschmidt. Fig. 2 represents a more or less idealized crystal type for this locality. The crystal is drawn both in plan and perspective and shows all of the forms encountered on the various crystals from this locality, with the exception of the forms *v*, *n*, and *t*, which were found to be too close to the forms *z* and *u* to be shown to advantage. The crystals measured vary in dimensions from 2 x 1 x ½ mm. to 10 x 7 x 2 mm. The forms *a*, *b*, *m*, *r*, *x*, *k*, *l*, and *p* are prominent, *y*, *o*, *z*, and *n* somewhat less so, while *t*, *u*, *s*, and *w* are comparatively rare.

Ymir and Yankee Girl Mines, Ymir

The Ymir crystals are intermediate in type, showing some forms characteristic of crystals from the North Star Mine and some of those from the Society Girl Mine, as well as forms that are common to all three localities. The dome faces are not so prominent as in the Moyie crystals, but are more abundant than in the crystals from the North Star Mine, while the only pyramid is the form $p = 1(111)$. Of the seven crystals measured only three were suitable for calculation of the elements. The average values for the latter from these three crystals are: $p_o = 1.1852$, $q_o = 0.7233$, which are also in close agreement with Goldschmidt's values. The crystals vary in size from 1 x ½ x ¼ mm. to 5 x 4 x 1½ mm. The forms *b*, *m*, *i*, and *p* are prominent, *a*, *r*, *x*, *k*, and *v* somewhat less so, while *z*, *n*, and *y* are comparatively rare.

Table 1. Habits of Cerussite Crystals

Locality.	Cryst No.	m	r	l	p	b	a	x	y	k	o	v	z	n	t	u	w	s	c
North Star Mine	7	*	*	*	*	*	*		*										
	8	*	*	*	*	*	*	*	*										
	1	*	*	*	*	*	*			*		*							
	2	*	*	*	*	*	*		*										*
Society Girl Mine....	9	*	*	*	*	*	*			*									
	14	*	*	*	*	*	*	*	*	*	*								
	16	*	*	*	*	*	*	*		*		*							
	10	*	*	*	*	*	*	*	*	*	*	*	*						
	18	*	*	*	*	*	*	*	*	*	*	*		*	*				
	12	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*			
	19	*	*	*	*	*	*	*	*		*		*	*	*	*	*		
	13	*	*	*	*	*	*	*	*	*	*						*	*	
Ymir and Yankee Girl Mines.....	20	*	*	*	*	*	*												
	21	*	*	*	*	*		*											
	22	*	*	*	*	*	*	*	*	*			*						