

MEDAL AWARDED AT WORLD'S FAIR, CHI-CAGO, 1894, FOR COLLECTION OF CANADIAN MEDAL
AWARDED AT
WORLD'S FAIR, CHICAGO, 1894, FOR
COLLECTION OF POL
ISHED MINERALS
OF CANADA.

Under Vice-Regal Patronage

@ P. WILLIMOTT & CO.,



MINERALOGISTS AND LAPIDARIES,

CARADIAN GEMS,

0

O PRECIOUS STONES

-AND-

COLLECTIONS OF MINERAILS.

94 QUEEN STREET,

OTTAWA. - ONTARIO.

. CANADA. . .

1894.

MEDAL AWARDED AT WORLD'S FAIR, CHI-CAGO, 1894, FOR AGATE JEWEL-LERY.

BATTERTON & MIKENNA, PRINTERS, OTTAWA.

MEDAL AWARDED AT WORLD'S FAIR, CHI-CAGO, 1894, FOR COLLECTIONS OF CANADIAN MIN-ERALS.

ARIBHATANA.

ME THE STATE OF THE STATE OF

And the second

responding the second

1993 of the work that Williams

COLUMN THURSDAY OF

THE PARTY OF THE

C. P. Wiffimott & Co.,

Mineralogists & Lapidaries,

94 Queen St., Cor. Metcaffe,

Ottana, - - - Gapada



RE you interested in the development of the great Mineral Resources of Canada? If you are you cannot afford to be without a Collection The Collections we OF CANADIAN MINERALS. make up are arranged with great care, only freshly broken and typical specimens are used. You can make yourself familiar with certain properties of a mineral, such as colour, lustre, hardness, crystallization, etc., and during your trips into the country you may often identify, or at least, be the means of bringing to light, some interesting mineral which may not only prove a source of pleasure to yourself and the scientific public, but it may also prove to be of economic value and pecuniary advantage to yourself.

C. P. Willimott & Co.

WE would particularly solicit the patronage of Scientific Institutions, feeling assured we can supply their wants as well as any house on the Continent. We would request any persons interested in Mineralogy to write to us if they do not see what they want in our Catalogues.

AFTER thanking those Institutions that have so liberally patronized us for the past three years, we hope, by continued efforts on our part in securing the best material, that we shall add during the next year many more of our Colleges, Schools and Institutions to our list of customers.

WE here add a few testimonials that we have received during the past year, which will speak for us better than we could otherwise convey to the public, the appreciation in which our Collections are held by some of our most Eminent Scientists.

OUR Collections are used in McGill and Toronto Universities, Royal Military College, Kingston, &c.





ROYAL MILITARY COLLEGE, Kingston, Ont.

I have seen a number of your Collections of Minerals and consider them admirable. They are excellent in giving the student a knowledge of the Minerals which are found in our country. They are well chosen, and I am in doubt whether the smaller or the larger Collections are the greater bargain.

A number of cadets in the Royal Military College have made use of them and have found them very serviceable. I have no doubt that your Collections will come into more and more common use throughout the country, and will tend to modify the courses in Mineralogy in our high schools and colleges.

JOHN WADDELL, Ph. D. D. Sc., Prof. of Science, R. M. C.

McGill College, Montreal, Que.

It is an exceedingly good Collection for the money.

B. J. HARRINGTON, Ph. D., &c.

TORONTO, ONT.

Received collections in good time and good form. Am much pleased with them. The labels are most serviceable. Have them on Exhibition. Had I known where to procure them would have ordered long ago; other students have intimated the same.

A. J. SHIELDS.

TORONTO, ONT.

Cases of Minerals arrived in good condition. Students are well satisfied with them. You will probably receive more orders in the future.

J. W. WHEATON,
Toronto University.

TORONTO, ONT.

Having seen your cases of Minerals, and as they have been reduced in price for a club of twelve or more, and being highly recommended by Professor Chapman, I was instructed by the students to order thirteen such cases.

W. RUSSELL, School of Practical Science.

TORONTO, ONT.

Your fifteen boxes of Minerals arrived yesterday all right. We are satisfied with them. Enclosed please find P. O. order for seven more boxes.

W. F. ROACH, Teronto University. WES. THEO. COLLEGE, Montreal, Que.

Those specimens designated E came in good condition and in due time.

E. L. FLAGG.

McGill College, Montreal.

I beg to inform you that the ten boxes of Minerals arrived safely last week, and, as far as I have been able to ascertain, have given satisfaction.

E. G. HIPP.

TORONTO, ONT.

Many thanks for your Catalogue. I also wish to say that I am much pleased with the collection you sent me. The only thing I regret is that I did not have it long ago. It is the only way to get up Minerals thoroughly, and becomes a pleasure instead of hard work.

C. LEHMANN.

WINERAL RESOURCES OF THE PRO-VINCE OF QUEBEC, 1890.

By R. W. Ells, LL.D., F.G.S.A.

Under the heading of "Materials for Ornamental Purposes," attention is directed in the Geology of Canada to the occurence of various Minerals sometimes occurring in large masses, as the Porphyries, Serpentine and Labradorites, but in others in comparatively limited quantity. These, when

cut and polished, furnish stones well adapted to ornamentation on a large scale, as for table tops, mantels, etc., while of some of the rarer Minerals, it may be said that at times specimens of great beauty occur, which, when cut and polised, constitute gems of considerable value. Attention has been called to this branch of industry by the establishment in Ottawa, within the last year, of the Lapidary firm of C. P. Willimott & Co., which, in showing what material Canada can furnish for decorative purposes, is doing a very excellent work.

KANSAS CITY, Mo., U. S.

Your favour, also box of polished specimens, came to hand. The work is very nice. I send you nine specimens more to be done in the same way.

D. H. TODD.

CANADA AT CHICAGO.

(Montreal Gazette, August 1st, 1893.)

In the court assigned to the Geological Survey of Canada, in the Mines and Mining Building, is a collection of Minerals that is constantly surrounded by a crowd of interested and appreciative spectators. Here is a collection of precious stones, most artistically arranged, exhibited by C. P. Willimot & Co., Ottawa, that are admired by everyone, and the exhibition of which has done much to reveal to strangers, and to many Candians, too, the great Mineral wealth in this line of the many localities in the Dominion.

This live firm have pierced the stygian darkness here and have brought out before us Canadian gems and precious stones that but few ever dreamed were stored away in the bowels of the earth. We need no longer chase over the globe to gather up our ornamental gems and rich stones; we have them right here in Canada, right under our hands. Push and perseverence and scientific knowledge combined, have spread these things out in rich profusion before us. Scientific men of the highest standing in their profession have been unstinted in their praise of the unrivalled assortment of gems and precious stones that are attractively shown at the World's Fair.

The \$8,000 we spend each year in the importation of precious stones could easily be saved to the country if our people were only acquainted with the beauty and utility of Canadian Gems as they appear arranged in attractive form at this World's Columbian Exposition.





Gollections of Minerals.



	Number of			
No.	Specimens.			
$_{_{2}}A$	30	Canadian Min'ls in Box\$	1	00
В	30	" larger	2	50
C	30	Apatite and Associated Min-		Ū
	Ü	erals in Box	1	00
D	30	Apatite and Associated Min-		
		erals in Box, larger	2	50
${f E}$	30	Canadian Minerals in Box	2	50
\mathbf{F}	60	"	3	00
G	60	" larger "	5	50
H	100	" " …	7	00
I	100	" larger "	12	00
I	100	" in Cabinet	25	00
J K	120	66 66	50	00
L	210	" including	50	
		73 ' 35' 1 ' 0 1 '	00	00
\mathbf{M}	30	Ores (Canadian) in Box	I	
N	60	" Canadian & Foreign, in Box		50
Ô		Economic Minerals (Canad'n)	5	00
O	00	in Box	4	00
P	100	Economic Minerals (Canadian	4	00
*	100			
0	20	and Foreign) in Box	10	00
Y	30	Precious and Ornamental		
•		Stones (Canadian) in Box	3	50

Mineralaçists & Lapitar

GOLLEGTIONS OF MINERALS.—Concluded.

No.	Number of Specimens.	
R	60	Precious and Ornamental
		Stones (Canadian & For-
		eign) in Box 10 00
\mathbf{S}	30	Cut Precious and Ornamental
		Stones (Canad'n) in Box, \$10 to 50 00
T	60	Cut Precious and Ornamental
		Stones(Canadian & Foreign)
		in Cabinet \$30 to 100 00

In addition to the above we will make up sets of Minerals to conform with "Dana's Manual," or the work of any other author, also scale of hardness, fusibility, etc.

GABINET & MUSEUM MINERALS.

We can supply single specimens of a great number of Canadian and Foreign Minerals. For a partial list see pages 19, 20, 21.

If you want something especially good let us know, and if we have not got it we will book your order and advise you when we secure it.





This Department is thoroughly equipped with all modern machinery for the cutting of high class faceted Gems, as well as all kinds of Lapidary work.

This branch is under the skilful superintendence of one of the best facet-cutters in America, late of Messrs. Tiffany & Co., New York.

We have spared neither time or expense to place our establishment on the best footing in this line on the Continent. We would particularly solicit the patronage of jewellers and others, feeling assured we can please them both in quality and price; give us a trial and we will convince you what we can do.

As our available material is for the most part Canadian, we hope the enthusiasm which characterizes true patriotism will afford us some assistance in building up a national industry for the devlopement of our extensive and valuable Canadian Minerals. Apart from our large stock of Canadian Minerals, we are prepared to undertake the cutting of Rubies, Sapphires, etc., and all kinds of foreign stones. If you possess a valuable Gem that has become dull by wear, or has a corner chipped off, get a jeweller to take it out for you, and send it to us. We will re-cut and polish it.

If you have a valuable piece of jewelery from which you have lost one of the stones, send it to us and we will match it for you.

If you have Agate or other stones picked up during your travels, send them to us and get them polished. They make nice souvenirs, of which the eye never tires.

We direct your attention to the following price lists of Gems and Precious Stones, giving their lowest and highest prices, intermediate prices depending on size, perfection, brilliancy, etc.

GEMS.

For the convenience of persons living in remote regions, and others who are not acquainted with the size of the carat weight of a Gem, we would direct their attention to the following scale, taking Diamond as the standard. Stones of less specific gravity will be proportionately larger: $-\frac{1}{32}$ carat will be about $\frac{1}{16}$ inch diameter: $\frac{1}{8}$ carat is $\frac{1}{8}$ inch; $\frac{1}{4}$ carat is $\frac{1}{96}$ inch; $\frac{1}{4}$ carat is $\frac{1}{16}$ inch, and so forth.

Almandite	\$	50	to	\$ 1	50
Amethyst		10	٤	2	00
Aquamarine		15	6.6	6	00
Balas Ruby	5	00	44	30	00
Beryl	1	00	44	10	00
Cairngorm		10	44		50
Carbuncle	•	50	4 6	ĭ	50
Cat's-Eye Quartz		10	4.6	1	00
Chrysoberyl	3	50			
Chrysolite	2	00			
Citrine		10	66		35
Diagrand	60	00	6.6	150	OO
Diopside	1	50	66	5	00

GEMS. —Concluded.

	PER CARAT.					
Emerald		25	00	to	100	00
Essonite	\$	I	00	"	\$ 3	50
Fire Opal	·		50	"	6	00
Garnet (Almandite)			50	64	I	50
" (Pyrope)			50	66	I	50
" (Grossularite)		2	00	"	8	00
Hiddenite						
Jacinthe		4	00	"	8	00
Moonstone			25	"	I	50
Obsidian			25	"	1	00
Oligoclase			75	"	2	50
Opal			25	"	25	00
Peridote						
Quartz-Asteria			35	"		50
" Rose			50	"		50
" Crystal			50	"		75
"Smoky			25	6.6	I	00
Rubellite		3	00	"	I 2	00.
Ruby		5	00	"	40	00
Sapphire		4	00	"	20	00
" (Montana)		3	00	"	IO	00
Sphene		4	00	"	20	00
Topaz			25	"	5	00
Tourmaline		3	00	"	I 2	00
Turquoise		3	00	"	. 10	00
Vesuvianite		2	50	"	7	00
Zircon		4	00	"	8	00



PREGIOUS STONES.

May be had either cut and polished ready for mounting or in polished specimens. Any of which, including the above list of Gems, we will also cut to order.

	PER SPECIMEN.				
Agalmatolite	\$	25	to	\$4	00
Agate, many varieties		10	4.4	3	50
Alabaster		10	4.4		7.5
Albite		25	11	5	00
Amazon Stone		10	11	2	50
Amber		25	14	2	00
" Canadian		25	11	1	00
Andalusite		50	11		
Aragonite		10	1.6	2	00
Aventurine Feldspar		25	11	5	00
Azurite		25	11	5	00
" & Malachite		25	14	5	00
Bloodstone		25	4.4	5	00
Carnelian		25	4.	2	00
Chalcedony		25	11	I	50
Chlorastrolite		25	11	5	, 00
Chrysoprase		25	11	2	50
Crocidolite (Pseudo)		10	11	3	00
Gold Quartz	I	00	11	10	OO
Hematite		25	11	2	00
Hornstone		25	4.6	1	00
Hypersthene		50	4.4	5	00
Jade		50	4.1	10	00
Jasper (many varieties)		10	11	5	00
Jasperized Wood		25	4.4	2	00
Jet		50	1 4	3	00

PREGIOUS STONES.—Concluded.

			31 1717	
Labradorite	\$0	25 to	\$10	00
Lapıs Lazuli		25 "		00
Lepidolite		25 "	_	00
Malachite		25 "	5	00
Obsidian		25 11	I	00
Onyx		25 "	3	00
Colite		25 "	I	00
Opal Agate		25 "	2	50
Opalized Wood		25 11	2	00
Peristirite		25 "	5	00
Perthite		25 "	1	00
Tetrified Wood		25 11	5	00
Porphyry		25 11	1	00
Prehnite		25 "	2	00
Rhodonite		25 "	3	00
Sardonyx		25 "	I	50
Satin Spar		10 11	Ī	00
Serpentine		10 11	I	50
Sodalite		25 11	10	00
Sunstone		50 "	I	50
Thomsonite		50 "	I	50
Thulite		25 "	ī	00
Variscite		25 "		00
Venus Hair Stone		50 "	-	50
Wernerite		50 "		00
Wilsonite		25 11	2	50
Willemite		50 "	2	50
		J.	-	20





GANADIAN SOUVENIRS.

WHOLESALE & RETAIL.

For the convenience of those persons who wish to take away with them from this country some souvenir of Canadian Stones, we have arranged all our goods in groups according to the countries that supplied the Stone.

CANADIAN.

MOSS AND OTHER AGATE.

Paper Cutters,	\$1.60	Glove Hooks, \$		75
Blotters,	2 75	Tablets,	2	60
Button Hooks,	1 00	Pencils, Telescopic	1	25
Match Boxes,	1 25	Ink Wells,	2	60
" " automa	itic i 50	Paper Weights,	2	25
Watch Charms, 5	oc 1 50	Bar Pins, 40 cts.	ľ	25
Desert Knives,	2 50	Sleeve Buttons,	Ī	25
StampBoxes,\$1	00 1 25	" Links,	2	50

RED JASPER.

Match Boxes,	\$1 25	Stamp Boxes,	\$1	10
		• / / /		

PORCELLANITE.

Button Hooks, Sleeve Links,		Watch Charms, \$1, 2 Glove Hooks,	00 80

SODALITE.

Match Boxes, auto-	Sleeve Links,\$2 50\$5 00
matic, \$1 75 \$3 00	Scarf Pins, 25 cts., 1 50
Stick Pins, 20 cts., 1 00	

AGATE DEPARTMENT—Continued.

PERTHITE.

Stamp Boxes, \$1 25 Sleeve Buttons, \$1 \$1 75 AVENTURINE.

Stamp Boxes, \$1 \$2 00 Watch Charms, 50c 1 50 Scarf Pins, 50 cts. 1 50 Sleeve Buttons, Sleeve Links, \$2 5 00 \$1.502 50

PERISTERITE.

Paper Weights, \$2, \$3 00 Sleeve Buttons, Scarf Pins, 75c 1 50 \$1 50 \$2 50 Bar Pins, \$1, \$2 50

LABRADORITE.

Sleeve Buttons { \$1 50 Watch Charms, 75c \$1 00 Bar Pins, small, \$1, 2 00 Scarf Pins, \$1 1 50 Sleeve Links, \$3 50 5 00

AMAZON STONE.

Waistcoat Buttons, \$0 30 Stick Pins, 15c \$0 75 BRAZIL.

AGATE AND ONYX.

Paper Cutters, 75c \$3 00 Blotters, \$2 50 \$3 50 Glove Hooks, 55c 75 Glove Fasteners, 35c 5c Stamp Boxes, \$r 2 00 Tablets, Sleeve Buttons, 75c 1 25 Collar Buttons, 35 Watch Charms, 50c 3 00 Silver, 50 Stylo' Pencils, Gold, 2.00 75 Pickle Forks. Shoe Horns, ____ 3 00 1 50 Seals, 75c 2 50 Bon Bon Boxes, Bracelets, 9 stones, 1 00 \$1 75 3 00

AGATE DEPARTMENT—Continued.

Button Hooks, 90C 1 25	Purses, 2 50
Match Boxes, 150 175	Book-Markers, 50c 75
Bar Pins, 50 c 1 50	Cane Heads, \$1 00 2 00
Sleeve Links, \$1 00 2 00	Bangles, 2 00
Fob Chains, \$2 50	_

AMETHYST.

Scarf Pins, \$1, \$1 50 Scarf Pins, Scotch Thistle, \$2 TOPAZ.

Scarf Pins, \$1 25 AFRICA.

TIGER EYE (Pseudo Crocodolite.)

Button Hooks, \$1 \$1 25	Collar Buttons,	
Match Boxes, 1 75	" Silver,	60
" " automatic 1 60	" Gold, 2	00
Pin Rolls, 1 25	Glove Fasten'rs, 6oc	90
Cigar Lamps, \$2 2 50	Bar Pins, 50c 1	
Fob Chains, 2 75	Scarf Pins, 50c 1	00
Glove Hooks, 50c 75	Stick Pins, 60c	90
Stamp Boxes, \$1 2 50	Pencils, Telescopic 1	25
Sleeve Links, \$1 25 1 50	Watch Charms, 75c 2	00

HUNGARY.

CAT'S EYE.

Fob Chains, \$3 50 Scarf Pins, \$1 \$2 50 Sleeve Links, 3 10

INDIA.

MOSS AGATE.

Pencils, 65c \$2 50 Paper Cutters, \$2 50 Book Markers, 60c 80 Watch Charms, 75c 1 50

AGATE DEPARTMENT—Concluded.

Bar Pins,	\$1	\$1	50	Sleeve Buttons, \$1 25	1	50
Match Boxes,		1	50	Collar Buttons,		35
Stamp Boxes,	\$1	2	59	Silver,		55
Purses,		2	50			

For the above Agate goods we have given the lowest and highest prices, although many of the same may be had of intermediate prices, depending on size, perfection, etc.

Any of the above articles will be sent on receipt of price to any part of Canada or the United States, postage paid. We will also refund the money if any article sent from our establishment should prove unsatisfactory, if the article is returned to us within one week.





Manufacturers, chemists and others, can be supplied with Minerals in large or small quantities. If you do not see all that you want in the following list, write us, as we are continually receiving new supplies. Our material is as pure as can be obtained, except when otherwise stated.

* Minerals marked with an asterisk are associated with a small percentage of rock.

	POUND.	OUNCE.		POJNO.	OUNCE.
	cts.	cts.		\$ cts.	\$ cts.
Acadialite		10	Apatite	. 5	
Actinolite	15		Apophyllite		0 25
Agate	. 15		Aragonite	50	
Alabandite	,	5	Argentite		I 75
Alabaster	to	,	Arsenopyrite*	25	, ,
Albertite	75		Astrophyllite*	,	5
Albite	10		Azurite	75	• *
Allanite		5		, ,	
Almandite		5	Barite	5	
Alunite	50		Beryl, Canadian	·	3
Amazon Stone, light	t io		" American	30	.,
" darl			Biotite	20	
Amber		20	Bismuthinite		
Amblygonite		5	Blende	20	
Amethyst		5	Bog Iron Ore	15	
Amphibole	. 10	•	" Manganese	20	
Analcite		10	Bornite*	75	
Anglesite		20	Bournonite*		5
Anhydrite	to		Brucite		5
Ankerite	20				
Anorthite		10	Cacoclasite		10
Anthracite	ot		Calamine, Extra	60	
Anthraxolite		.10	Calcite	10	
Antimony, Native	*	20	" Blue	50	
Anthophyllite	. 25		" IcelandSpar.	75	

MINERALS—Continued.

	POUND.	OUNCE.		POUND.	OUNCE.
	5 cts.	\$ cts.		\$ cts.	\$ cts
Cancrinite*		. 5	Franklinite	20	Ψ στ
Cassiterite*	23		Fluorite	20	
Celestite					
" with Tremolite	2 15		Galenite	10	
Cleavable		5	Garnet	\$0 10	
Cerite		10	" Grossularite.	75	\$ 0 5
Chabazite		10	" Essonite*	50	5
Chalcocite			" Spessartite	J	20
Chalcopyrite			" Almandite	75	5
Chalcopyrite, with	1 '		Garnierite		5
Nickeliferous			Gibbsite	25	
Pyrrohtite	20		Gilsonite		5
Chalcophanite	30		Gothite		5
Chemawinite		35	Graphite, Dissemin-		
Chiastolite		10	ated	15	
Chlorite	25		Graphite, Foliated.	30	
Chloritoid			Columnar	7 5	
Chromite	IO		Gypsum	5	
Chrysotile	20		" with Anhydrite	10	
Chrome Garnet	75				
Cinnabar	1 00		Halite	10	
Colcolities		5	Hematite	10	
Cobaltite		25	Hornblende	10	
Columbite		10	Huronite*		10
Copper, Native		5	Hypersthene		10
Corundum,		5			
Cryclite Cuprite	50	_	Iceland Spar	7 5	
Capine		5	Idocrase*	25	
Damourite			" Pure		5
Diaspore*		5	Ilmenite	10	
Dolomite	IQ	5	Infusorial Earth	30	
Diopside	15		Iron Pyrites	10	
Dufrenite	13	5	Iron Stone, Clay	15	
		3	Lagran		
Elœolite	25		Jasper	10	
Embolite*	23	20	V. ronito*		
Enargite		10	Kyanite*		5
Enstatite	35		Labradorite		
Epidote	33	5	" Opalescent	10	
Essonite*	50	٦	Lapis Lazuli*	1 50	10
" Pure	3	20	Lepidolite	0.5	10
			Lepidomelane*	25	
Feldspar, Cleavable	10		Lignite	30	
" Aventurine			Limonite	30	
Fibrolite	25			10	
Fowlerite*		5 (Magnesite	10	
		-	-		

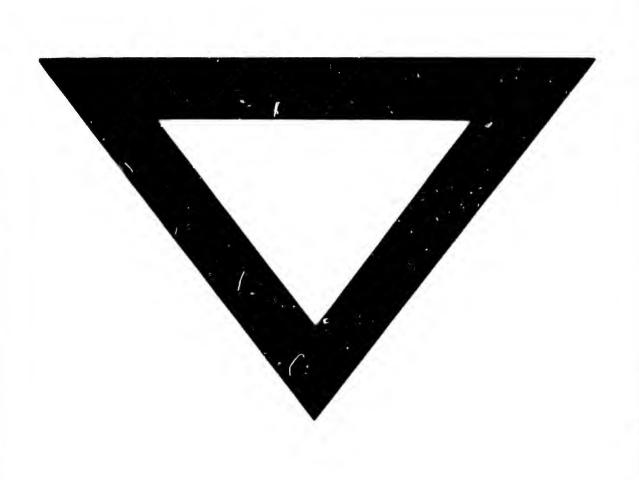
MINERALS— Continued.

\$ cts. \$ cts. \$ cts. \$	cts.
Mignetite 1	
Malachite Pyromorphite	10
Manganite Pyroxene Lamellar,	
Marchite 25 green 15	
Margarite 50 Pyroxene granular,	
Margarodite 5 green 10	
Murtine 5 Pyroxene Crystal 6	
Managaenite* to grey 149	
Mea (Muscovite) . 10. Pyrrhotite* . 10	
" (Rose) (25) " Nickeliferous 20	
" (Palogopice). ro	
(1 / 1) ·	
Minne Min.	
31.11	
Millerite 25 " Rose, 45	
Mispickel*	
Mobybdenite, pure. 1 00 10 Realgar.	1.5
Raphillite 60	
Monazate, pare . /5 Phodonica	
Mountain cork. 10 Rhodonite, purc. 50	
Photographic *	5
Rubellite in Lepido-	
Nepheme 25	ő
Niccolite 20 Rutile	
Obsidian. 50	
Oli zoclase	
translucent 15 "Yellow 50	
Orivene 75 Selenite. 20	
Ontariolite	
Opal, precious, in Siderite 15	
Rock	
Opal, Common 5 Sodalite* 59	
Opalized Wood 35 Pure.	1.0
Orpiment, 10 Specular Iron, 10	
Orthoclase Crystal. 13 Sperrylite	
Ozocerite 5 Spessartite, Pure	36,1
Sphalerite 20	
Peristerite 40 Sphene 10	
Perthite, 40 Spodumene 25	
Phlogopite 10 Spinel in Rock. 100	
The state of the s	
The Late of the La	
0.9 3	
The state of the s	:
1) 11 1	
Pyrite 10 Sulphur. 25	

MINERALS—Concluded.

F	OUND.	OUNCE.	P	POUND.	OUNCE.
	\$ cts.	\$ cts.		\$ cts.	\$ cts.
Tale, extra	15	Ψ 01	Vesuvianite, in rock	25	
Tennantite*		10	of pure		5
Thulite		5	Vivianite		10
Titanite	10	,	Wernerite	10	
	• • •	5	" yellow	50	
Topaz Tourmaline, black.	10	3	Willemite	•	5
" green.	75		Witherite		5
Triphyllite	. 3	15	Wolframite	40	5
		- 3	Wollastonite	io	_
Triplite	10	5	Wulfenite		15
	10	E	Zincite, Pure		5
Troostite*		5 5	" with Frank-		
Turgite		10	linite	35	
Ulexite			Zircon	1 00	
Ullmannite		15	Zoisite*.	50	
Valentinite		25	Z.Disite	20	

W(10)



S