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NOTES ON UNRECORDED AND OTHER  
MINERALS OCCURRING IN TASMANIA.

By W. F. PETERD.

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THE following notes, in conjunction with a paper upon the subject published in the proceedings of the Royal Society of Tasmania, 1897, embrace the work done to elucidate the mineralogy of the State since the publication of the "Minerals of Tasmania, 1896."

They comprise many interesting substances of more recent discovery, including one, or perhaps two, which are quite new to mineralogical science. It will be found that 40 species hitherto unknown as occurring in this Island have been added to the already voluminous catalogue, and additional localities and associations are recorded for several previously known. An important feature is the record of several complete analyses of complex substances, for which I am indebted to Mr. S. Pascoe, of the Magnet Silver Mining Company, and Mr. O. E. White, of Hobart, to whom I return my sincere thanks for their ready and valuable assistance. Such work is invariably a welcome addition to mineralogical investigation, and I am sure it will be duly appreciated by those interested in this field of enquiry. In many cases it is only by such means, coupled with crystallographic characters, that the specific identity can be attained with reasonable certainty. It is almost needless to say that in this department much yet remains to be done before we can possess a comprehensive knowledge of the minerals known to occur in this State.

1 ANALCITE.—(*Hydrous silicate of sodium and aluminium.*)

Somewhat abundant in the hatyne phonolite of Port Cygnet.

2 ANORTHOCLASE.—(*Triclinic soda-potash-felspar.*)

In rhombic sections of a shining milky-white. Sölvbergites of Port Cygnet.

**3 ARSENOPYRITE.**—(*Sulph-arsenide of iron.*)

In peculiar minute crystal trillings implanted in cavities in hard gossan. Magnet Mine.

As minute needles abundantly scattered throughout siderite gangue. Block 291, Ringville.

*Analysis of this Mineral.*

Fe =	32.95,
As =	43.20,
S =	21.48,
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	97.63,

with about 2 per cent. of antimony.

**4 AUGITE.**—(*Variety of pyroxene.*)

The embedded crystals of the nephelinite of the Shannon Tier are of a shining black colour, and often of remarkably large dimensions, sometimes one inch and a half in length.

**5 BERESOWITE.**—(*Chromate and carbonate of lead.*)

Occurs as small, in many cases almost microscopic, lamellæ implanted in gossan. The colour varies from pale yellow to orange-red. It is sometimes changed to crocoisite. Magnet Mine.

**6 BERYL.**—(*Metasilicate of beryllium and aluminium.*)

At the Shepherd and Murphy Mine, Bell Mount, specimens have occurred several inches in length, wholly changed to gilbertite, fluor, and chlorite. At the same locality small slender crystals have been met with of a pale green colour, intermixed with quartz, topaz, molybdenite, and cassiterite. The crystals are commonly embedded in a thin film of pyrite.

**7 BOURNONITE.**—(*Sulphantimonite of lead and copper.*)

In bright well-developed orthorhombic crystals, which gave the following result upon analysis:—

S =	13.62	per cent.
Sb =	28.68	"
Pb =	42.39	"
Cu =	11.93	"
Fe =	1.97	"
	<hr/>	
	98.40	

- 8 BRUCITE.**—(*Magnesium hydrate.*)  
Radiating, massive, and white, near the workings,  
Mt. Bischoff.
- 9 CALCITE.**—(*Carbonate of calcium.*)  
Some remarkably fine crystals have been obtained at  
the Mt. Lyell limestone flux quarry at Queens-  
town. (H. W. Judd.)
- 10 CAMPYLITE.**—(*Lead arsenate.*)  
In very characteristic barrel-shaped crystals aggre-  
gated together. The colour is very pale, almost  
white. Britannia Mine, Zeehan.
- 11 CARMINITE.**—(*Arsenate of lead and iron.*)  
In minute orthorhombic groups of crystals coating  
fractures and vughs in gossan. It is of a reddish  
colour, and adamantine lustre. The Magnet  
Silver Mine.
- 12 CASSITERITE.**—(*Dioxide of tin.*)  
Pseudomorphous after orthoclase. Mt. Rex Mine,  
Ben Lomond.
- 13 CERUSSITE.**—(*Carbonate of lead.*)  
Analysis of the characteristic form of a yellowish-  
green colour from the Adelaide Proprietary Mine,  
Dundas, by Mr. J. C. H. Mingaye, F.C.S., of  
Sydney, N.S.W.:—
- |                               |   |        |           |
|-------------------------------|---|--------|-----------|
| Pb O                          | = | 83·07  | per cent. |
| C O <sub>2</sub>              | = | 15·97  | „         |
| C <sub>2</sub> O <sub>2</sub> |   | minute | trace.    |
| Gangue                        |   | ·62    | per cent. |
| <hr/>                         |   |        |           |
| 99·66                         |   |        |           |
- 14 CHALCOPHANITE.**—(*Hydrated manganese and zinc  
protoxide.*)  
As an amorphous black metallic brilliant substance,  
somewhat rare. Dundas.
- 15 CHALCOCITE.**—(*Copper sulphide.*)  
Occurs massive in several of the Mt. Lyell mines  
and at the King Jukes Mine, Mt. Jukes. Small  
crystals have been obtained disseminated in schist,  
with bornite, at the North Lyell Mine.

In slugs up to many pounds in weight, associated with native copper, at the King Lyell Mine. (H. W. Judd.)

**16 CLINOCHLORE.**—(*Basic magnesium and aluminium silicate.*)

In large masses and occasionally crystalline bunches of a pale metallic green colour. Near Mt. Heemskirk.

Abundant in fine groups of hexagonal crystals of a dark olive-green to black colour. The plates are often over one inch in diameter. Near the Hampshire Hills Silver Mine, Hampshire Hills.

At Anderson's Creek in minute, almost microscopic, radiating bunches of a dark colour. (W. H. Twelvetrees.)

**17 CHLORITE.**—(*Basic silicate of magnesium and aluminium.*)

In schist, and as beautiful bright green fan-shaped crystals in honey-combed quartz—Crown Lyell Mine—species undetermined. (H. W. Judd.)

Occurs pseudomorphous after felspar—Block 4891-93M, Ben Lomond. (Waller, "Report on the Ben Lomond District," 1901.)

**18 COPIAPITE.**—(*Hydrous basic ferric sulphate.*)

Results from the decomposition of pyrites, Colebrook Mine, Ringville, Khaki Mine, Whyte River, and at Barn Bluff. The rock from the last-named locality, when freshly broken out, soon becomes coated with this and other sulphates.

**19 CROCOISITE.**—(*Chromate of lead.*)

Rare as small crystals in gossan at the Silver Queen Mine and at the Colonel North Mine, Zeehan. (H. W. Judd.)

A full detailed description of the typical and well-known Dundas occurrence of this beautiful mineral, by C. Palache, may be found in the "American Journal of Science" for 1896, page 389.

**20 DEWEYLITE.**—(*Hydrous basic magnesium silicate.*)  
 In thin seams, sometimes reaching a foot in width,  
 traversing serpentine. Harman's Rivulet, near  
 the Parson's Hood Mountain.

**21 DOLOMITE.**—(*Carbonate of calcium and magnesium.*)  
 Analysis of the pure white form from the Magnet  
 Mine. (F. O. Hill.)

Ca O	31.72	per cent.	=	Ca Co <sub>3</sub>	56.64	per cent.
Mg O	15.60	"	=	Mg Co <sub>3</sub>	32.76	"
Fe	3.92	"	=	Fe Co <sub>3</sub>	8.26	"
Mn	1.80	"	=	Mn Co <sub>3</sub>	3.76	"
					101.42	

**22 DUNDASITE.**—(*Hydrous carbonate of lead and alu-  
 minium.*)

"Minerals of Tasmania," 1896, page 33.  
 Dana, "First Appendix to the Sixth Edition of the  
 System of Mineralogy," page 23.

The following is a complete analysis of this new  
 species:—

Pb = 38.84	per cent =	Pb O	41.86
		Al <sub>2</sub> O <sub>3</sub>	26.06
Fe = 3.85	"	= Fe <sub>2</sub> O <sub>3</sub>	5.50
		H <sub>2</sub> O + Co <sub>2</sub>	28.08
			101.50

Mr. Pascoe states that the Fe<sub>2</sub> and O<sub>3</sub>, or a portion  
 thereof, may be foreign to the substance, as it is  
 next to impossible to perfectly separate it, since it  
 almost invariably occurs as an incrustation on the  
 mineral from the original locality at Dundas. A  
 trace of P<sub>3</sub> O<sub>3</sub> was also found; this was certainly  
 obtained from an extremely thin coating or skin  
 of pyromorphite, which is often present, and gives  
 an external green colouration to the surface of the  
 mineral. At the Hercules Mine, Mt. Read, a  
 mass of snow-white cellular quartz has been  
 obtained, throughout which are scattered crystals  
 of cerussite, gibbsite, and numerous patches of  
 dundasite, the whole forming one of the most  
 attractive associations of minerals as yet obtained  
 in this State.

**23 DUFREYNOYSITE.**—(*Sulpharsenite of lead.*)

Analysis:—

Pb =	32.88
Cu =	9.08
As =	21.60
Sb =	8.53
Fe =	6.42
S =	21.79
Ag =	0.22 = 73 ozs. 3 dwts. 11 grs. per ton.

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 100.52

Occurs in thick orthorhombic crystals, which are deeply grooved longitudinally, colour lead-grey, highly polished, and implanted on and in the cavities of crystalline siderite. Many of the beautifully developed crystals exceeded 1'' in length and  $\frac{3}{8}$ '' in width. Locality, Block 291, North-East Dundas.

**24 ELÆOLITE.**—(*Orthosilicate of sodium, potassium, and aluminium.*)

Occurs as a constituent in the elæolite syenite of Port Cygnet.

**25 EPIDOTE.**—(*Basic silicate of calcium, aluminium, and iron.*)

Occurs very well crystallised and of good colour on the Melba Flat, North Dundas. (H. W. Judd.)

**26 EVANSITE.**—(*Basic phosphate of aluminium.*)

Analysis of this mineral from Zeehan, by Mr. H. G. Smith. (Proceedings Royal Soc., N.S.W., 1895.)

P <sub>2</sub> O <sub>5</sub> =	18.11
Al <sub>2</sub> O <sub>3</sub> =	40.19
H <sub>2</sub> O =	41.27

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 99.57
**27 GILBERTITE.**—(*Variety of potassium mica.*)

Of a yellow to green colour and glimmering lustre with tin ore in granite. Mt. Rex Mine, Ben Lomond, Anchor, Liberator, and other mines, Lottah.

**28 GIBBSITE.**—(*Hydrate of aluminium.*)

Apparently abundant in botryoidal masses, associated with native copper and earthy lode-material. It varies in colour from clear pellucid glassy to pale green, and more rarely to golden yellow with a bronze lustre. It decomposes to a white powder. Rio Tinto Mine, Savage River.

**29 GMELINITE.**—(*Hydrous sodium, calcium, and aluminium silicate.*)

A fine lot of perfect crystals of this zeolite have been obtained loose and coating a vugh in Tertiary basalt at Bell Mount. Middlesex.

**30 HAÜYNITE.**—(*Sodium, calcium, and aluminium orthosilicate with sodium sulphate.*)

In micro-crystals sparingly in the fayalite-melilite basalt from One Tree Point, near Hobart.

**31 HEMATITE.**—(*Sesquioxide of iron.*)

At Zeehan this occurs pseudomorphous after cubical pyrites. (R. F. Waller.)

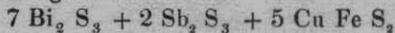
**32 HISTRIXITE.**—(*Sulphide of antimony and bismuth.*)

An apparently new substance occurring in radiating groups of prismatic crystals, which are occasionally in confused bunches, and commonly stained externally with a dark brown coating. The crystals are orthorhombic, with acute but indistinct terminations, and striated longitudinally. They sometimes reach over 2 in. in length by  $\frac{3}{4}$  in. in width. Slightly sectile, with a hardness of about 2. Lustre eminently metallic, shining on fresh crystalline surfaces. Colour and streak, steel-grey. When massive, it presents a foliated structure, and tarnishes to blue and purple iridescent colouration. The crystals occurred interpenetrating a vugh from a bedding of a mixture of iron and copper pyrites. It was found in a somewhat massive body of tetrahedrite, with which were associated bismuthinite and pyrites, and appeared to be of very exceptional occurrence.

Result of two analyses of the pure material:—

S = 24.05	S = 23.01
Bi = 55.93	Bi = 56.08
Sb = 10.08	Sb = 9.33
Cu = 6.86	Cu = 6.12
Fe = 5.18	Fe = 5.44
102.10	99.98

Answering to the formula—



(Locality, No. 1 Curtin-Davis Mine, Ringville.)

**33** HUASCOLITE.—(*Sulphide of lead and zinc.*)

A massive, fine-grained, dark-coloured and somewhat dull substance—Comstock Mine. Zeehan.

**34** HYDROMAGNESITE.—(*Basic carbonate of magnesium.*)

Occurs in solid, almost white, radiating bunches—Comstock Mine. Zeehan.

**35** HYPERSTHENE.—(*Magnesium and iron metasilicate.*)

In basalt, Circular Head; in granite, St. Mary's Pass.

**36** JAMIESONITE.—(*Sulphantimonite of lead.*)

Analysis of a sample from the Magnet Mine:—

Ag	= 0.12 per cent. = 39 ozs. 4 dwts. 10 grs. per ton.
Pb	= 40.82
As	= 2.44
Sb	= 21.48
Fe	= 4.91
S	= 17.51
Insol	= 11.51
	98.85

Analysis of a sample from the Silver Spray Mine, Zeehan, by W. F. Ward, Government Analyst:—

Pb	= 40
Sb	= 29
S	= 18
	87

Analysis of a columnar and striated sample from Mt. Bischoff:—

Ag	=	0.12
Pb	=	32.08
As	=	trace
Sb	=	26.74
Fe	=	5.56
S	=	17.82
Si O <sub>2</sub>	=	14.28
Al	=	trace
		<hr/>
		96.60

37 JOHNSTONOTITE.—(*A new manganese garnel. Pro. Roy. Soc., Tas., 1898-99.*)

Occurs abundantly distributed in the mica-sölvbergite of Port Cygnet. The cavities containing the garnet are often lined with a thin coating of purple fluor and arsenical pyrites.

38 KNOXVILLITE.—(*Hydrous basic sulphate of chromium, iron, and aluminium.*)

Occurs as a granular sugar-like substance of a pale green colour. From adit at the Victoria Gold Mine, Salisbury.

Analysis:—

SO <sub>3</sub>	=	30.32	per cent.
Cr <sub>2</sub> O <sub>3</sub>	=	8.47	"
Al <sub>2</sub> O <sub>3</sub>	=	2.48	"
Fe <sub>2</sub> O <sub>3</sub>	=	15.86	"
Loss on ignition	=	40.56	"
		<hr/>	
		97.59	

The identification is somewhat doubtful. Associated with this sulphate is another of a fibrous habit. It has been found in large compact felted masses, which are extremely tough under the hammer, and comparatively heavy from contained hygroscopic water. The fibres are minute, short, and silky-white; the surface often nodular and rough from protruding fine spiculæ.

An analysis of this substance gave the following result:—

$\text{S O}_3$	= 27.20
$\text{Fe}_2 \text{ O}_3$	= 14.0
$\text{Cr}_2 \text{ O}_3$	= 10.64
Loss on ignition over	39.19
Gangue	10.77
	<hr/>
	101.80

Before the blow-pipe the substance swells and forms a brown-coloured mass, which is easily powdered. With soda, after trituration, it leaves a loose powdery residuum, which is readily attracted by the magnet. The fused mass with borax bead gives reactions of iron and chrome oxides. It is readily soluble in water, and if kept in dry situation it gives up much of its hygroscopic moisture. If a new mineral species, which is highly probable, I propose it should be called "Sclerospathite."

- 39** LEUCHTENBERGITE.—(*A variety of chlorite poor in iron.*)  
In the variolite rock at the Magnet Mine.
- 40** LILLIANITE.—(*Sulphobismutite of lead.*)  
Found disseminated in association with bismuth, sulphide, and other minerals in a quartz matrix at the Osborn Blocks. Mt. Farrell.
- 41** MAGNETITE.—(*Sesquioxide and protoxide of iron.*)  
In bunches of well-formed crystals—Tenth Legion Mine, Zeehan. (H. Waller.)
- 42** MARGARITE.—(*Basic aluminium and calcium silicate.*)  
In irregular radiating bunches in schist. Locality, west slope of Hamilton Hill, near the Hercules Mine.
- 43** MELILITE.—(*Complex silicate.*)  
As microscopic rock-forming crystals in the melilite basalt of the Shannon Tier and One Tree Point, near Hobart.
- 44** MICROCLINE.—(*Triclinic potash soda felspar.*)  
Occurs abundantly in the hypersthene granite of St. Mary's Pass.

- 45 MILLERITE.—(*Sulphide of nickel.*)  
In the characteristic capillary patches in quartz, with pentlandite—near the Colebrook Mine. Ringville.
- 46 MONAZITE.—(*Phosphate of cerium metals.*)  
This mineral has been obtained in a fine granular form in alluvial at the following localities, in addition to those quoted in the "Minerals of Tasmania":—Stanley River, South Esk Tin Mine (Ben Lomond), Briseis Tin Mine (Derby), the Pioneer Tin Mine (Mt. Stronach), and at the Khaki Mine at the foot of the Meredith Range.
- 47 NATROLITE.—(*Hydrous sodium and aluminium silicate.*)  
Somewhat abundant in massive pure white masses and pockets, which often exhibit distinct rhombic crystals agglutinated together. Nephelinite, Shannon Tier.
- 48 NEPHELITE.—(*Orthosilicate of sodium, potassium, and aluminium.*)  
In microscopic crystals, as an essential constituent in the nephelinite of the Shannon River.
- 49 NONTRONITE.—(*Hydrated iron silicate.*)  
A green variety of chloropal. Occurs of a pale yellow-green colour. Middlesex.
- 50 OSMIRIDIUM.—(*Iridium and osmium in varying proportions.*)  
A fine nugget of this substance was recently obtained in the Whyte River, near its junction with the Pieman. The specific gravity was 19.5, and weight 60 grains.
- 51 PECTOLITE.—(*Metasilicate of sodium and calcite.*)  
Occurs in fibrous radiating bunches of a pure white silky subvitreous lustre—Upper Emu River. W. R. Bell.
- 52 PENNINITE.—(*Basic silicate of magnesium, aluminium, and iron.*)  
In dark, almost olive-green, masses and crystals, the latter sometimes over  $\frac{3}{4}$  across. It is invariably associated with quartz—Tharsis Copper Mine. Mt. Lyell.

- 53 PEROVSKITE.—(*Titanite of calcium.*)  
Microscopical crystals in the melilite basalt of the Shannon Tier.
- 54 PETTERDITE.—(*A new oxychloride of lead. Pro. Royal Soc., Tas., 1901.*)  
Occurs implanted and in bunches of pseudo-hexagonal crystals—Britannia Mine. Zeehan.
- 55 PHARMACOSIDERITE.—(*Hydrous basic iron arsenate.*)  
Found as coatings of microscopic cubic crystals of an intensely green colour and bright lustre—Magnet Mine. (R. F. Waller.)
- 56 PHOSGENITE.—(*Chlorocarbonate of lead.*)  
Some fine adamantine crystals of this somewhat rare mineral have been obtained at the Comet Mine, Dundas, with anglesite and cerussite.
- 57 PICOTITE.—(*Aluminate of magnesium and chrome.*)  
Chrome spinel is stated to occur in the vicinity of Zeehan. (Krausé, "Mineralogy," p. 245.) Abundant in the alluvial of the Heazlewood River.
- 58 PROSOPITE.—(*Hydrous fluoride of aluminium and calcium.*)  
Occurs as a granular powder, and often kaolinised. It is associated with decomposed green tourmaline (zeuxite), which is so characteristic of Mt. Bischoff Tin Mine.
- 59 RHODONITE.—(*Metasilicate of manganese.*)  
Massive, in a somewhat impure form as a boulder in a large asbestos seam in serpentine on the ground leased to the Australasian Asbestos Company at Anderson's Creek, west of Beaconsfield. Called "red quartz" by the miners. (W. H. Twelvetrees.)
- 60 SAPONITE.—(*Hydrous magnesium and aluminium silicate.*)  
Occurs in patches of a yellow to brown colour and glimmering lustre, with chrome ochre and quartz on the hanging-wall of a reef at the Duchess of York Mine, Salisbury.  
White and amorphous at Trial Harbour. West Coast.

**61 SCAPOLITE.**—(*Hydrous silicate of aluminium and calcium.*)

This mineral was found as loosened rounded boulders in a seam of asbestos occurring in the serpentine at Anderson's Creek, near Beaconsfield. It was mistaken by the miners for quartz, which it somewhat resembles. It has, however, a slightly greenish tinge, and its hardness is only between 5 and 6. It is soluble with difficulty in HCl.

*Microscopical characters.*—Confusedly crystalline, with the larger crystal faces obscurely divergent. The crystals often form rosettes. Double refraction, strong; interference colours higher than quartz; extinction straight in longitudinal sections; no sensible absorption.

Scapolite is mostly found in schists and gneiss. It also occurs in amphibolites and ophites. When it is found in gabbro, it has been derived from felspar, and this may have been the case here, though there is some reason to believe that the serpentine was originally pyroxenite. Scapolite is undeniably a secondary mineral, and was here formed during the hydro-metamorphic process of serpentinitisation. (W. H. Twelvetrees.)

**62 SCHEELITE.**—(*Tungstate of calcium.*)

Analysis of a sample of this mineral from Mt. Ramsay:—

W O <sub>2</sub>	=	79.77
M O <sub>3</sub>	=	trace
Ca O	=	19.65
		99.42

(Dana, "System of Mineralogy," page 987.)

**63 SCHRÖTTERITE.**—(*Hydrous aluminium silicate.*)

A soft brittle white to honey-yellow coloured gum-like substance, occurring as an incrustation and in patches in a fissure in Silurian slate. It decomposes to a white powder. Occasionally it is stalactitic or mamillated, and easily falls to pieces. Obtained near the Pieman River.

64 SIEGENITE.—(*Sulphide of cobalt and nickel.*)

Occurs massive, of a steel-grey colour, intermixed with magnetite, pyrite, and niccolite. Rocky River Mine.

65 SODALITE.—(*Chloro-silicate of sodium and aluminium.*)

In the elæolite syenite of Port Cygnet, changed to natrolite.

66 SPODUMENE.—(*Aluminium and lithium metasilicate.*)  
Variety, *triphane.*

Several thin flakes of this substance have been obtained in alluvial tin workings near Mt. Cameron, with quartz, topaz, and sapphire. It is of the very characteristic yellow-green colour, and quite indistinguishable from the clear samples found in Brazil. It might easily be mistaken for a variety of corundum—Oriental topaz—or even quartz; in fact, it is highly probable that it is more abundant than supposed, but has been overlooked from its resemblance to the minerals mentioned. Some minute bright green specks in granite from Ringarooma are probably the same mineral.

67 STILBITE.—(*Hydrous sodium, calcium, and aluminium silicate.*)

In large radiating masses of a yellow-brown colour imbedded in basalt vitrophyre. Bell Mount, Middlesex.

68 STRIGOVITE.—(*A basic silicate of iron and aluminium.*)

A chlorite-like mineral consisting of a black shining aggregate of minute plates, in the fractures decomposed to brown. Occurs as a narrow band a few inches wide in granite—near the Great Republic Tin Mine. Ben Lomond.

69 STROMÆYERITE.—(*Sulphide of copper and silver.*)

Analysis of an amorphous slug from the Mt. Lyell Mine:—

Ag = 13.80 = 4507 ozs. 19 dwts. 23 grs. per ton.

Pb = 1.60

Cu = 32.46

As = 3.17

Sb = trace

Fe = 19.26

S = 38.27

—————  
98.66

70 SULPHUR.—(*Native.*)

Found in minute blebs on crystallised and other galenite. Magnet Mine.

71 SYMPLESITE.—(*Hydrous iron arsenate.*)

Occurs thickly coating gossan in small radiating blue-green tufts, of great attractiveness under the lens. Magnet Mine.

72 TENNANTITE.—(*Sulpharsenite of copper.*)

Analysis of a sample from No. 4 adit, Mt. Lyell Mine:—

Ag	=	0.54
Cu	=	16.17
As	=	13.82
Sb	=	17.10
Fe	=	16.39
S	=	30.77

94.79

73 TEPHROITE.—(*Orthosilicate of manganese.*)

Occurs in crystallised masses of a dark reddish-brown colour and greasy lustre. Blyth River.

74 TETRAHEDRITE.—(*Sulphantimonite of copper.*)

Variety, *Freibergite.*

Analysis of a pure sample from the Hercules Mine, Mt. Read:—

Ag	=	9.82	per cent.	=	3201.32	ozs. per ton.
Au	=	.0019	„	=	13	dwts „
Cu	=	29.76				
As	=	2.69				
Fe	=	4.56				
S	=	27.21				

94.7319

Balance, insoluble matter.

Occurs in well developed crystals at the 650-ft. level, Western Mine, Zeehan.

75 THOMSONITE.—(*Hydrous sodium-calcium-aluminium silicate.*)

In bunches of white capillary fibres coating vughs in the nephelinite of the Shannon Tier.

10/16

- 76 VARISCITE.—(*Hydrous phosphate of aluminium.*)  
As incrustations, often with a uniform surface.  
General character somewhat dull, but of a bright emerald-green colour, and thus sometimes mistaken for an ore of copper.  
Associated with wavellite. Back Creek.  
Implanted in the cleavages of quartz. Lefroy.
- 77 VOLTZITE.—(*Oxysulphide of zinc.*)  
Formed as an incrustation of a thin lamellar structure and globular; colour, clove-brown. Very Rare. Silver Crown Mine, Zeehan.
- 78 WAVELLITE.—(*Hydrous basic phosphate of aluminium.*)  
Occurs in small white discs, with the characteristic radiating structure implanted in the cleavages of sandstone. Ballast Quarry, Zeehan—Comstock Line.
- 79 WOLFRAM.—(*Tungstate of iron and manganese.*)  
An unusual occurrence of this mineral is in small patches, associated with stannite and pyrite, at the Oonah Mine. Zeehan.  
Occurs in the form of small brown crystals in quartz. Mt. Bischoff Mine.
- 80 ZEUXITE.—(*A ferriferous tourmaline.*)  
A peculiar variety of tourmaline of a dark green colour, of remarkable habit. It is confined to and characteristic of the tin-deposits of Mt. Bischoff, where it occurs in great abundance, often forming rock masses of considerable size. Its common habit is in short acicular crystals, which are interlaced together into irregular bunches. Both colour and habit are very constant.