



MINFILE Detail Report
BC Geological Survey
Ministry of Energy, Mines and Petroleum Resources

Location/Identification

MINFILE Number: 092O 018 **National Mineral Inventory Number:** 092O2 WO1

Name(s): TUNGSTEN QUEEN
PHILLIPS' TUNGSTEN, PHILLIPS' CINNABAR

Status: Past Producer **Mining Division:** Lillooet

Mining Method: Underground **Electoral District:** Yale-Lillooet

Regions: British Columbia **Resource District:** Cascades Forest District

BCGS Map: 092O007

NTS Map: 092O02W **UTM Zone:** 10 (NAD 83)

Latitude: 51 02 10 N **Northing:** 5653869

Longitude: 122 45 17 W **Easting:** 517198

Elevation: 1356 metres

Location Accuracy: Within 500M

Comments: The deposit is adjacent to the Mud Lake road, 2.5 kilometres south- east of the Tyaughton and Relay creeks confluence.
The claims were originally known as the Phillips' Cinnabar showing.

Mineral Occurrence

Commodities: Tungsten, Antimony, Mercury, Gold

Minerals

Significant: Scheelite, Stibnite, Cinnabar, Realgar

Associated: Quartz, Carbonate, Ankerite, Chalcedony, Dolomite, Hematite

Alteration: Carbonate, Ankerite, Dolomite, Mariposite, Quartz, Serpentine

Alteration Type: Quartz-Carb., Serpentin'zn

Mineralization Age: Unknown

Deposit

Character: Vein, Discordant

Classification: Epithermal, Hydrothermal, Epigenetic

Type: I01: Au-quartz veins, I02: Intrusion-related Au pyrrhotite veins

Shape: Tabular **Modifier:** Faulted

Dimension: 22x0x0 metres **Strike/Dip:** 200/60E

Comments: Dimension and attitude of No. 6 vein which is the largest of at least eight veins.

Host Rock

Dominant Host Rock: Metaplutonic

| Stratigraphic Age | Group | Formation | Igneous/Metamorphic/Other |
|--------------------|--------------|---------------------|----------------------------|
| Paleozoic-Mesozoic | Bridge River | Undefined Formation | ----- |
| Paleozoic | ----- | ----- | Shulaps Ultramafic Complex |

| Isotopic Age | Dating Method | Material Dated |
|--------------|---------------|----------------|
| ----- | ----- | ----- |
| ----- | ----- | - |

Lithology: Listwanite, Serpentinite, Massive Amygdaloidal Greenstone, Chert, Feldspar Porphyry Dike, Carbonate Altered Feldspar Porphyry, Argillite

Geological Setting

Tectonic Belt: Intermontane **Physiographic Area:** Pacific Ranges

Terrane: Bridge River

Inventory

Summary Production

| | | Metric | Imperial |
|----------|----------|-----------------|---------------|
| Mined: | | 55 tonnes | 60 tons |
| Milled: | | 55 tonnes | 60 tons |
| Recovery | Tungsten | 7,896 kilograms | 17,408 pounds |

Capsule Geology

The Tungsten Queen deposit occurs near the south end of a large fault-bound body of quartz-carbonate altered serpentinite (quartz-carbonate-mariposite rock, or listwanite) assigned to the Shulaps Ultramafic Complex; these rock are within or adjacent to the steeply-dipping Relay Creek fault. Adjacent rocks are ribbon chert, argillite and massive to amygdaloidal greenstone of the Mississippian to Jurassic Bridge River Complex. All these rocks are cut by irregular bodies and dykes of (Tertiary ?) feldspar porphyry (brown-weathering and carbonate-altered).

The Tungsten Queen deposit consists of essentially eight scheelite-bearing veins of variable thickness and continuity. Almost all of the veins strike northeast with most terminated by faults and adjacent tectonically emplaced Bridge River rocks. The principal vein, number 6, which yielded most of the high grade ore, was up to 18 centimetres thick and continuous for 21 metres. Other scheelite-bearing veins are much smaller. The veins consist of massive, almost pure white scheelite, with stibnite, quartz and carbonate. Veins show a marked crustification (banding) wherein comb-textured scheelite is followed inward from both walls of the vein by chalcedony, then by coarsely crystalline comb-textured quartz, and then a central band of stibnite. The veins have a branched structure with sharp vein borders and show no foliation. It is reported that between 1940 and 1953, 7,896 kilograms of tungsten trioxide W_2O_3 were recovered from 55 tonnes of ore; 41 tonnes had been mined by 1943 with the remainder being mined in 1952 and 1953. Virtually all scheelite-bearing material has been mined out.

Approximately 137 metres southeast of the Tungsten Queen, massive to amygdaloidal greenstone contains minor cinnabar as thin sheets along shear planes and as rims around 0.5-centimetre wide carbonate-quartz amygdules in greenstone; very rare realgar was also identified. Feldspar porphyry adjacent to the area of the Tungsten Queen contains an unexpectedly high lithium content. In addition, the scheelite contains a notable fluorine content. These values indicate a moderately lithophile environment and suggest that the porphyry may have been involved in the hydrothermal system responsible for the deposition of the scheelite-stibnite veins.

The textures and structures of the scheelite-stibnite veins suggest deposition was at low temperatures and at relatively shallow depth, possibly an epithermal-type environment. Scheelite-stibnite veins contain up to 0.48 gram per tonne gold (Assessment Report 6287) and adjacent rocks contain up to 0.013 per cent arsenic (Open File 1988-9). The association of tungsten, antimony, mercury, gold and arsenic with listwanite within and adjacent to a major steeply-dipping fault is thought to be a near surface expression of a motherlode-type gold deposit.

Bibliography

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EMPR PF (Surface and underground geology maps; Traverse notes)

GSC EC GEOL REPORT *32, p. 46; pp. 104-105

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Date Coded: 1985/07/24

Coded By: BC Geological Survey (BCGS)

Field Check: N

Date Revised: 2012/11/30

Revised By: Larry Jones (LDJ)

Field Check: N