



## Occurrence Details

**Occurrence Number:** 116C 186

**Occurrence Name:** Magnum

**Occurrence Type:** Hard-rock

**Status:** Prospect

**Date printed:** 12/16/2025 3:56:48 AM

## General Information

**Primary Commodities:** copper, gold, lead, silver, zinc

**Deposit Type(s):** Volcanogenic Sulphide - type not determined

**Location(s):** N - W

**NTS Mapsheet(s):** 116C07

**Location Comments:** Location from map in AR 096698

**Hand Samples Available:** No

**Last Reviewed:**

### Capsule

#### History

Exploration and mining activities in the Forty Mile River area are documented as far back as 1886, following the discovery of placer gold. Within a year, 14,000 ounces of gold had been mined in the area and the historical town of Forty Mile was established at the confluence of the Forty Mile and Yukon rivers.

In 1890, William Ogilvie made the first 'lode' discovery in Yukon when he found a piece of massive galena at the mouth of the Forty Mile River. This sample assayed 1322 g/t silver and trace gold (McConnell, 1890). Additional lead and silver mineralization was identified by placer miners in two shafts dug about one kilometre west of the Forty Mile town site.

Prior to 1887, asbestos was noted in the Forty Mile area by placer miners but the first asbestos showing was not staked until 1957. Subsequent exploration led to the discovery of the Clinton Creek Deposit, 9 km west of the Magnum occurrence, in 1963. The Clinton Creek asbestos mine operated from 1966 to 1978.

Although lode gold exploration has been conducted sporadically by various parties near the Magnum occurrence since the late 1890s, it is generally poorly documented. From 1979 to 1981, The Teslin Joint Venture (TJV) explored the region for asbestos, but also analysed samples for base metals, gold and arsenic (Murray et al., 1981).

In 1979, a representative sample taken from a dump next to one of the historical shafts near the Forty Mile prospect (Minfile 116C 118) at the Forty Mile town site returned 96 g/t silver, 3.4 g/t gold, 5.7% lead, 3.4% zinc and 0.3% copper. However, no follow-up work was performed.

In 1988, Homestake Mineral Development Company conducted an exploration program consisting of geological mapping, prospecting and soil geochemical sampling, from the junction with the Yukon River 10 km up the Forty Mile River (McIvor, 1988). Very little outcrop was encountered during this mapping and the majority of the bedrock exposures are along the banks of the Forty Mile River.

Homestake identified a VMS prospect (Magnum Zone) about two kilometres downstream from the confluence of the Forty Mile and Yukon rivers. This zone was reported to be a poorly exposed section of iron formation containing semi-massive magnetite interbedded with thin sucrosic quartz bands and highly weathered pyritic carbonate lenses. Subsequent to this program, Homestake allowed its claims to lapse.

In 2000, the Eureka Joint Venture (Expatriate Resources Ltd. and Strategic Metals Ltd.) conducted a program of mapping, prospecting and contour soil sampling designed to search for the Magnum discovery.

In 2003, Strategic Metals staked the Magnum 1 to 46 claims to cover geochemically anomalous areas identified in 2000; and in 2005, expanded the property by adding the Magnum 47 to 70 claims. In spring 2006, Strategic perform ground magnetic and very low frequency (VLF) geophysical surveys. These surveys identified laterally continuous magnetite-bearing stratigraphy, which was traced into heavily vegetated and overburden covered areas adjoining the Magnum zone exposures.

In 2006, the property was optioned Klondike Silver Corp., which conducted prospecting, soil sampling, airborne geophysical surveys and drilled 2 holes for 368.81 m (Wengzynowski and Nunez, 2006).

The option was later dropped and from 2007 to 2011, the property was dormant.

In 2012, Strategic Metals staked more claims and conducted soil sampling on the east-central part of the property and in 2013 they contracted Condor Consulting Inc. to perform a detailed interpretation of the airborne geophysical data.

In 2017, Strategic conducted more soil geochemical sampling, hand trenching and rock sampling.

#### Regional Geology

The Magnum occurrence lies within the Yukon-Tanana Terrane (YTT), approximately five kilometres southwest of the Tintina Fault. YTT comprises a variety of Late Devonian to Early Mississippian metavolcanic and metasedimentary rocks, and represents both arc and back-arc environments (Colpron and Nelson, 2011; Piercey et al., 2006). The Tintina Fault is a transcurrent structure that experienced about 450 km of dextral strike-slip movement during the Eocene. This movement offset a segment of YTT in the Finlayson Lake District of southeastern Yukon from the main body of YTT, which lies southwest of the fault.

YTT rocks of back-arc affinity occur mainly in the Finlayson Lake District where they are host to four major VMS deposits –Wolverine, Kudz Ze Kayah, Fyre Lake and GP4F. Back-arc facies are dominated by bimodal metavolcanic rocks associated with fine grained carbonaceous metaclastic rocks.

YTT rocks are often overlain, or intruded, by Anvil Assemblage rocks, which comprise mafic volcanics, oceanic sediments and related mafic to ultramafic intrusions formed in a back-arc setting during the Carboniferous to Permian.

Southwest of Tintina Fault, the YTT assemblage comprises mostly intermediate to mafic metavolcanic and metavolcaniclastic rocks of arc affinity, and fringing metasedimentary rocks (Colpron and Nelson, 2011). Some Anvil Assemblage rocks are stratigraphically and structurally interdigitized with the YTT assemblage.

The Magnum occurrence area is underlain by Devonian, Mississippian and older (?) Nasina Assemblage quartz-muscovite schist, which is overlain and intruded by Carboniferous to Permian Anvil Assemblage oceanic sedimentary and volcanic rocks and sills of mafic to ultramafic composition. Anvil Assemblage rocks are mapped as wavy, east-trending bands in the central part of the property and appear to cap the Nasina Assemblage in the southwestern part.

#### Property Geology

The Magnum occurrence is primarily underlain by muscovite±quartz schist that is interlayered with quartz-biotite-chlorite schist and lesser chlorite schist and phyllite belonging to the Nasina Assemblage. This package is in contact with sections containing younger Anvil Assemblage rocks in the northern and southern parts of the property.

In the northeastern part of the area, a northwesterly-oriented strike-slip fault separates a predominantly metavolcanic package to the south from a mixed sequence of clastic metasedimentary and Anvil rocks to the north.

The Magnum occurrence is hosted within a sequence of felsic and mafic schist, and it comprises a 5 to 20 m thick section of iron formation that has been traced in outcrop and float for over 1600 m along strike (Wengzynowski and Nunez, 2006). This formation appears to be a continuous horizon situated about 70 m below the contact between the schists and a partially delineated diorite body.

Two additional iron formation horizons have been identified, both of which are poorly exposed, but occur stratigraphically below the Magnum occurrence horizon. An andesite porphyry dyke outcrops near a ridge crest in the centre of the property.

The VMS style mineralization has been identified in three outcrop showings and several float occurrences, which are collectively referred to as the Magnum Zone. In 2013, two more exhalite horizons were discovered in subcrop stratigraphically lower than the Magnum Zone. All three exhalite horizons are composed of semi-massive to massive magnetite with varying amounts of carbonate, barite, coarse cubic pyrite and limonite after pyrite. In 2001, a VMS-type float specimen consisting of muscovite-quartz schist with pyrite, arsenopyrite, chalcopyrite, sphalerite and galena disseminated on foliation planes, and limonite on weathering surfaces, was discovered in a creek bed downstream from the trace of the exhalite horizons. It graded 0.09 g/t gold, 554 ppm copper, 18,300 ppm lead (1.83%) and 7010 ppm zinc (Wengzynowski, 2001).

In 1988, Homestake discovered a number of narrow veins on the bank of the Forty Mile River, in the southwestern part of the property. These veins yielded significant lead (up to 4320 ppm), zinc (up to 2262 ppm), and arsenic (up to 47,631 ppm), but low gold values. No work was done in 2013 to re-locate or re-sample these veins. The relationship between these veins and the mineralization collected from the shaft dump 1000 m to the south is uncertain. A well mineralized specimens from the shaft dump returned 96 g/t silver, 3.4 g/t gold, 5.7% lead, 3.4% zinc and 0.3% copper.

Rock and chip samples collected in 2013 in the immediate vicinity of the iron formation outcrops returned somewhat elevated values for gold (up to 0.18 g/t), copper (up to 216 ppm) and molybdenum (up to 32.3 ppm), but subdued values for other elements of interest. Rocks collected along-strike to the south of the exhalite horizons yielded moderately anomalous values for copper (up to 370 ppm) and zinc (up to 1335 ppm). Rock samples collected from soil in hand pits dug stratigraphically above, and uphill of, the Magnum Zone returned anomalous gold (0.415 g/t) and zinc (3000 ppm) values,

but low values for other VMS indicator metals.

In 2013, gold-silver enriched vein talus was discovered south of the major northwesterly-trending strike-slip fault, in the northeastern part of the property. This vein material is characterized by white to grey chalcadonic quartz containing muscovite schist wallrock fragments and blebby to heavily disseminated galena, arsenopyrite and pyrite. A composite grab sample of quartz vein talus, which was collected from a 20 m diameter area immediately south of the fault yielded 1.34 g/t gold, 11.95 g/t silver, 1710 ppm arsenic and 3690 ppm lead. The relationships between the metamorphic country rocks, the quartz vein and the fault are unknown, and no attempt was made to trace this mineralization to source.

## Work History

Date	Work Type	Comment
6/1/2017	Geochemistry	
6/1/2017	Geochemistry	
6/1/2017	Trenching	
6/1/2013	Geochemistry	
6/1/2013	Geochemistry	
6/1/2013	Geochemistry	
6/1/2013	Geology	
6/1/2013	Other	
6/1/2012	Geochemistry	
6/1/2012	Pre-existing Data	
6/1/2006	Airborne Geophysics	
6/1/2006	Geochemistry	
6/1/2006	Drilling	2 holes, 368.81 m
6/1/2006	Geochemistry	
6/1/2006	Geochemistry	
6/1/2006	Ground Geophysics	
6/1/2006	Ground Geophysics	
6/1/2006	Airborne Geophysics	
6/1/2006	Geochemistry	
6/1/2006	Other	
6/1/1988	Geochemistry	
6/1/1988	Geology	
6/1/1988	Other	

## Related References

Number	Title	Page(s)	Reference Type	Document Type
<a href="#">2011 Terranes</a>	A digital atlas of terranes for the northern Cordillera		Yukon Geological Survey	Open File (Geological - Bedrock)
<a href="#">Contrib2006-7</a>	Paleozoic magmatism and crustal recycling along the ancient Pacific margin of North America, northern Cordillera		Yukon Geological Survey	Contribution