Occurrence Details

Occurrence Number: 105C 038
Occurrence Name: Mindy
Occurrence Type: Hard-rock
Status: Prospect
Date printed: 5/31/2025 2:54:47 AM

General Information

Secondary Commodities: barite, lead, silver, tin, tungsten, zinc
Deposit Type(s): Skarn Sn
Location(s): 60°37'31" N - -132°19'40" W
NTS Mapsheet(s): 105C09
Location Comments: .5 Kilometres
Hand Samples Available: Yes
Last Reviewed:

Capsule

Work History

Staked as Mindy cl 1-16 (YA45007) (Group I) in Jul/79 by Newmont Exploration of Canada. In 1980 the company staked Mindy cl 17-32 (YA56389)(Group II) to the northwest, cut a grid and carried out rock and soil sampling programs on the newly staked claims. The company also added Mindy cl 33-64 (YA66611) to the original Mindy (Group I) claim block.
Newmont collared 9 diamond drill holes (1 024 m) on the original 16 Mindy claims (part of Group I) in 1981. The following year the company staked Mindy cl 65-89 (YA68598) (Group III) northwest of the Mindy Group I claim block and formed a joint venture with Placer Development Ltd. The joint venture carried out an extensive electromagnetic and magnetic geophysical program later in the summer. In Sep/82 Newmont added Mindy cl 90-97 (YA69120) to Mindy Group III. Little work was completed after 1982 and the 3 groups of Mindy claims were allowed to expire.
T. Liverton remapped the area as part of a Ph.D. program in 1989 and 1990.
Restaked as Min cl 1-4 (YB84647) in Jun/96 by T. Liverton and H. Hibbing. In the late 1990¿s the area surrounding the occurrence was chosen by the Teslin Tlingit First Nation as part of their Land Claims Agreement and the occurrence is now located within the First Nation¿s Category B land selection.

Capsule Geology

The area is located on the east side of the Thirtymile Range in south Yukon about 50 km northeast of Teslin. Reconnaissance geology was carried out by the Geological Survey of Canada (Mulligan, 1963) and the area was remapped by Gordey and Stevens (1994), at 1:250 000 scale. Several units of siliciclastic rocks and minor volcanic rocks of Mississippian age and older, were assigned by the latter authors to the Cassiar Terrane. North of the occurrence the mid-Cretaceous Thirtymile Stock intrudes the sequence.
In recent years Gordey and Steven¿s interpretation has been debated. Liverton completed his thesis on the Thirtymile Range in 1992 and has maintained interest in the area. Revision mapping along structural grain to the southeast by the Ancient Pacific Margin NATMAP group (Roots et al., 2000) showed that the siliciclastic and volcanic rocks are probably part of the Yukon ¿Tanana Terrane. The relationship between the metamorphic map units remains uncertain, although these have been resolved 80 km to the southeast (e.g. Roots et al., 2004).
Tin borates and fluorides and tungsten occur with lead, zinc, tourmaline and fluorite in shallow-dipping skarn of Mississippian Englishman¿s Group. Granitic rocks are not exposed in the vicinity, although, miarolitic granite and pegmatite dykes occur 2 km west on the Ork claims (Minfile Occurrence #105C 054). Biotite hornfels at the Mindy occurrence yielded a K-Ar date of 99+/-3 Ma whole-rock date (Hunt and Roddick, 1988), implying a genetic connection between the Cretaceous granite and the skarn occurrence.
Although Newmont Exploration with Placer Development carried out exploration programs on all three groups of Mindy claims, the majority of work and best results were obtained from two main showings (A & B). The property was originally staked as a tungsten prospect but subsequent assays revealed significant tin content leading the companies to shift their exploration focus towards identifying possible tin mineralization.
At the first showing (A), mineralization consists of scheelite and chalcopyrite in massive pyrrhotite lenses. At the discovery outcrop, chip samples across a thick layer of diopside-actinolite-calcite skarn containing pyrrhotite, fluorite and scheelite averaged better than 0.3% WO3 over 15 m. Diamond drilling in 1981 intersected numerous skarn layers measuring up to 18 m thick and assaying up to 0.47% Sn over 6.8 m and 0.54% Sn across 7.6 m.
Subsequent re-mapping by Liverton in 1989 identified an upper and lower skarn horizon. Further analysis by Liverton indicated that the drillholes did not penetrate (topographically) deeper than the northernmost carbonate/skarn outcrop of the lower skarn horizon, since all holes were collared on top of the Mindy Plateau. Thus the upper horizon was never tested and most of the lower horizon was missed due to cataclasis and small scale faulting.
The second showing (B) is located approximately 5 km to the northwest and consists of disseminated and locally banded sphalerite, galena and arsenopyrite. The host skarn consists of coarse radiating crystals of brown vesuvianite, pale pink garnet and almost white diopside. The best grab sample from the 1980 exploration season returned 10.0% Pb, 0.02% Zn, 209 g/t Ag, 0.1% Ba and trace Sn and W.
According to Liverton (1992), extensional tectonics probably controlled emplacement of the granite and formed conduits for the movement of tin and tungsten-bearing fluids into the overlying sedimentary rocks. Liverton noted the inverse relationship between the presence of tungsten and tin, and reported that scheelite is related to the first retrograde skarn assemblage, while boron and fluorine are associated with later stages of mineralization.
The 1982 geophysical program carried out on Mindy Group III claims outlined two magnetic conductors neither of which appear to have ever been followed up on.

References

GORDEY, S.P. and STEVENS, R.A. 1994. Preliminary interpretation of bedrock geology of the Teslin area (105C), southern Yukon. Geological Survey of Canada Open File 2886 (map, scale 1:250 000).

HUNT, P.A. and RODDICK, J.C., 1988. A compilation of K-Ar ages, Report 18. In Radiogenic Age and Isotopic Studies, Report 2, Geological Survey of Canada, Paper 88-2, p. 137.

LIVERTON, T., 1992. Tectonics and metallogeny of the Thirtymile Range, Yukon Territory, Canada. Unpublished Ph.D. thesis, Royal Holloway, University of London, U.K. (Available in Energy Mines and Resources Library, Whitehorse, Yukon).

LIVERTON, T., 1992. Tin-bearing skarns of the Thirtymile Range, NTS Sheet 105 C 9: a progress report. In: Yukon Geology Vol. 3, Exploration and Geological Services Division, DIAND, p. 52-70.

LIVERTON, T., ET AL., 2001. Tectonic significance of plutonism in the Thirtymile Range, southern Yukon. In: Yukon Exploration and Geology 2000, D.S. Emond and L.H. Weston (eds.), Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, p. 171-180.

MULLIGAN, R., 1963. Geology of Teslin Map area, Yukon Territory (105C). Geological Survey of Canada, Memoir 326 (includes regional map 1125A, 1:253 440 scale).

NEWMONT EXPLORATION OF CANADA, Sep/79. Assessment Report #090647 by H. Limion.

NEWMONT EXPLORATION OF CANADA, Jan/8l. Assessment Report #090776 by J. Nebocat.

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NEWMONT EXPLORATION OF CANADA, Nov/82. Assessment Report #091415 H. Limion

ROOTS, C.F., de KEIJZER, M., NELSON, J.L. and MIHALYNUK, M.G., 2000. Wolf Lake project: Revision mapping of Dorsey Terrane assemblages in the upper Swift River area, southern Yukon and northern B.C. In: Yukon Exploration and Geology 1999, D.S. Emond and L.H. Weston (eds.), Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, p. 115-125.

ROOTS, C.F., NELSON, J. and STEVENS, R., Bedrock Geology, Morris Lake (105B/5) and Seagull Creek (105B/3) Yukon Territory. Geological Survey of Canada Open Files 4631, 4632, and Yukon Geological Survey Open Files 2004-3 and 2004-1, 1:50 000 scale.

YUKON EXPLORATION AND GEOLOGY 1981, p. 110; 1982, p. 107.

YUKON GEOLOGY AND EXPLORATION 1979-80, p. 162.

Work History

Date	Work Type	Comment
12/31/1990	Geology	T. Liverton remapped the area as part of a Ph.D program.
12/31/1989	Geology	T. Liverton remapped the area as part of a Ph.D program.
12/31/1983	Ground Geophysics	Also I.P. survey.
12/31/1983	Trenching	
12/31/1982	Geology	
12/31/1982	Ground Geophysics	Also Max-min survey.
12/31/1981	Drilling	Nine holes, 1,024 m.
12/31/1981	Geology	
12/31/1980	Geology	
12/31/1980	Geochemistry	Also rock sampling.
12/31/1980	Ground Geophysics	Also magnetic survey.

Assessment Reports that overlap occurrence

Report Number	Year	Title	Worktypes	Holes Drilled	Meters Drilled
096740	2015	A Re-Evaluation of the Mineralogy of the Mindy Tin Prospect, Thirtymile Range by Petrography and Mineragraphy	Petrographic - Lab Work/Physical Studies		
090987	1981	Drill Logs for Drilling on Mindy 13 Claim	Diamond - Drilling	9	1024.80
090647	1979	Report on Geophysical Surveys, Mindy Claims	Bedrock Mapping - Geology, EM - Ground Geophysics, Magnetics - Ground Geophysics		

Drill core at YGS core library

Number	Property	Year Drilled	Core Size	Photos	Data
MINDY 81-1	Mindy	1981	BQ	4	2
MINDY 81-2	Mindy	1981	BQ	4	2
MINDY 81-3	Mindy	1981	BQ	6	2
MINDY 81-4	Mindy	1981	BQ	6	2
MINDY 81-5B	Mindy	1981	BQ	8	2
MINDY 81-8	Mindy	1981	BQ	4	2