

# **Occurrence Details**

Occurrence Number: 105G 048 Occurrence Name: Pup Occurrence Type: Hard-rock Status: Showing Date printed: 6/16/2025 1:08:45 AM

## **General Information**

Secondary Commodities: asbestos, copper, gold, lead, zinc Aliases: Eldorado Deposit Type(s): Volcanogenic Massive Sulphide (VMS) Besshi Cu-Zn Location(s): 61°42'55" N - -131°42'45" W NTS Mapsheet(s): 105G12 Location Comments: .5 Kilometres Hand Samples Available: No Last Reviewed:

### Capsule

#### Work History

Staked as Pup cl (88395) in Aug/63 by Newmont Mining Corporation Ltd which completed a magnetometer survey later in the year. The company carried out bulldozer trenching and drilled two holes (193.6 m) in 1964.

Restaked as Eldorado cl 1-58 (YB11987) in May/88 by A. Carlos, and immediately optioned to Noranda Exploration Company Ltd. In Jun/88, the company staked Eldorado cl 59-78 (YB14223) on the east side of the claim block and carried out preliminary soil sampling and limited mag and VLF/EM surveys later in the summer. In Mar/89 Noranda cut a new grid and carried out a detailed EM and magnetic geophysical survey. In Jun/89 the company carried out geological mapping, soil sampling and trenching. Noranda relinquished its option in Mar/90. Northern Dynasty Explorations Ltd staked Lug cl 1-78 (YB14165) on the southern boundary of the Eldorado claims in Jun/88. The company mapped, soil sampled and conducted magnetic and EM surveys in 1989.

In Jun/94 Cominco Ltd staked Zoo cl 1-33 (YB49787) on the eastern side of the remaining Eldorado claims. In 1994 the company carried out a regional helicopter-borne, radiometric, and EM/magnetic geophysical survey over the entire area and in 1995 followed up the results with ground HLEM, magnetic and gravity geophysical surveys. The company carried out geological mapping, prospecting and drilled 1 diamond drill hole (96.9 m) in 1996.

In Oct/94 J. Dodge staked Midas cl 1-29 (YB56539) 2 km southwest of the occurrence. In Jun/95 Dodge transferred the claims to Dodgex Ltd and carried out mapping, prospecting and some geochemical sampling.

In Sep/95 Carlos optioned the remaining Eldorado claims to Mar-West Resources Ltd. In the fall of 1995 Mar-West purchased the results of a regional helicopter-borne, radiometric and EM/magnetic geophysical survey flown by Cominco Ltd over the Eldorado claims. In the spring of 1996 Mar-West carried out a ground EM/magnetic geophysical program to follow up 4 anomalies identified by the helicopter airborne geophysical survey the previous year. In Jun/96 the company staked Knee cl 1-12 (YB84086) north of the Eldorado claims to provide access between the claim block and the Robert Campbell Highway and in Jul/96 the company staked West cl 1-208 (YB85439) around the Eldorado, Zoo and Midas claim groups. Mar-West drilled 6 diamond drill holes (532 m) in the summer of 1996 to test the potential for exhalative massive sulphide mineralization associated with the geophysical anomalies and epigenetic gold mineralization present at the *E*Main¿ showing.

### Capsule Geology

Geological mapping (Murphy et al., 2001) shows the region is dominantly underlain by a layered sequence of Devonian to Early Mississippian metavolcanic and metasedimentary rocks of the Yukon-Tanana Terrane (YTT) that have been intruded by Mississippian granitic intrusions and later Cretaceous and Jurassic intrusions. The YTT is a volcanic-plutonic pericratonic arc assemblage that was strongly deformed and metamorphosed by Late Triassic time. Volcanic-hosted massive sulphide deposits exist at different stratigraphic positions within the YTT. The area is predominantly underlain by Devonian to Mississippian Fire Lake metavolcanic rocks overlain by Eocene mafic volcanic flows, although outcrop is sparse. Ultramafic rocks form distinct aeromagnetic anomaly of 150 gamma magnitude. Prospecting by Newmont Mining uncovered asbestos-bearing float in an area roughly coincident with the aeromagnetic anomaly. Examination of float and drill core samples revealed two types of serpentine: (1) a dark green barren variety, and (2) a light apple green type cut by numerous white veinlets containing slip fibre, mostly less than 0.6 cm in length.

On the Eldorado claims, Noranda obtained encouraging gold values from rusty weathering schist containing arsenopyrite with minor galena and chalcopyrite. Grab samples assayed up to 10 g/t Au. Ground electromagnetic surveys outlined several east-west trending conductors interpreted to be massive sulphides or graphite. Follow-up magnetic surveys outlined several high amplitude magnetic highs immediately north of the conductor axes. Soil sampling results were masked by deep glacial overburden which overlies the entire region. The best result was 560 ppb Au, which is coincident with an 800 m long EM conductor axis. Scattered arsenic values up to 1000 ppm were returned north of this conductor axis.

Mar-West's helicopter-borne electromagnetic, radiometric and magnetic survey identified five discrete anomalies. Four of these were selected for ground follow-up by HELM and total field magnetics. Mar-West drilled 6 holes (531.96 m) in 1996 to test three of the geophysical anomalies and gold bearing quartz-arsenopyrite mineralization at the 'Main' showing at Hoolio Creek. The majority of the holes intersected dark coloured, variably deformed, altered and metamorphosed black shale, argillite and phyllite. Hole 96-04 was drilled to test a coincident EM conductor/ magnetic high. It intersected 0.3 metres of massive sulphide, consisting of arsenopyrite-sphalerite in sharp contact with hanging wall graphitic shale interbedded with minor dacitic tuff and in gradational contact with foot wall green sericitic volcaniclastic sedimentary rocks. Hole 96-06, designed to test the strike extension of hole 96-04, intersected similar lithologies and returned anomalous gold values but failed to intersect massive sulphides.

On the adjoining Lug claims, veins with gold, arsenopyrite, chalcopyrite, pyrite and galena occur in Devonian to Mississippian limestone and schist, unconformably overlain by Eocene basalt. The Hoolio Creek showing immediately north of the property consists of small silicified arsenopyrite-pyrite lenses in sericite schist. A grab sample assayed 10.3 g/t Au and a 60 cm chip sample assayed 3.1 g/t Au.

Small lenses of disseminated sulphides were also found at several horizons in the upper schist layer along the Hoole River valley. The lenses typically contain up to 5% chalcopyrite and 15% pyrite, with up to 630 ppb Au. Small lenses of disseminated galena and sphalerite in the limestone do not appear to contain significant gold or silver. In outcrop, the phyllitic schists are rusty to buff weathering depending on the amount of pyrite. Hunt (field notes, 1996) describes the pyrite as being very fine-grained and disseminated throughout the massive, fine-grained grey phyllitic schists.

Dodge (1995) reports similar rocks underlying the Midas claim block. Specifically, he describes an exposure of chlorite schist along the banks of the Hoole River. Also described is a 25 metre interval of thin bedded, buff weathering, grey limestone with calcareous schists bounding the unit. An upper chlorite quartz phyllite and interfoliated chlorite muscovite quartz schist is exposed on a hillock in the southeastern corner of the claim block. Dodge located numerous cobbles and boulders of milky white, fine grained quartz with sheeted pyrite-chalcopyrite-chlorite. This material assayed up to 1378 ppb Au and 1.68% Cu. Dodge also describes one float boulder containing stratabound, syngenetic sphalerite in a calcareous metaquartzite which assayed 12%-16% zinc.

Cominco's 1995 geophysical survey identified an EM conductor which crossed three grid lines and is open to the east and west. No mineralization was observed in outcrop. A single drill hole (96.9 m) was drilled to test a moderate EM conductor with coincident magnetic high. The hole intersected minor disseminated grains of sphalerite and galena in 1-cm-thick quartzcalcite veins within the limestone and mafic tuff units. Samples of these veins returned 1217 ppm Pb and 1718 ppm Zn.

#### References

BOND, J.D., MURPHY, D.C., COLPRON, M., GORDEY, S.P., PLOUFFE, A., ROOTS, C.F., LIPOVSKY, P.S., STRONGHILL, G., AND ABBOTT, J.G., 2002. Digital compilation of bedrock geology and till geochemistry, northern Finlayson Lake map area, Southeastern Yukon (105G), Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada, Open File Report, 2002-7(D) and Geological Survey of Canada Open File 4243.

COMINCO LTD, Feb/95. Assessment Report #093340 by P. MacRobbie.

COMINCO LTD, Mar/96. Assessment Report #093392 by I. Jackish.

COMINCO LIMITED, Apr/98. Assessment Report #093714 by D.A. Senft.

DODGEX LIMITED, Feb/95. Assessment Report #093355 by J.S. Dodge.

DODGEX LIMITED, Nov/96. Assessment Report \*#093540 by J.S. Dodge.

GEOLOGICAL SURVEY OF CANADA, Paper 64-36, p. 42-43.

GEORGE CROSS NEWSLETTER, 14, Jun/96; 9 Jul/96.

HUNT, J.A., 1996. Field notes from property visits.

HUNT, J.A., 1997. Massive Sulphide deposits in the Yukon Tanana and adjacent Terranes. In: Yukon Exploration and Geology 1996, Exploration and Geological Services Division, Indian and Northern Affairs Canada, p.35-45.

HUNT, J.A., 2001. Volcanic-associated massive (VMS) mineralization in the Yukon-Tanana Terrane and coeval strata of the North American miogeocline, in the Yukon and adjacent areas. Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada, Bulletin 12, 107 p.

MAR-WEST RESOURCES LIMITED, Feb/96. Assessment Report #093552 by H.J. Keyser.

MORTENSEN, J.K., AND JILSON, G.A., 1985. Evolution of the Yukon-Tanana terrane: evidence from southeastern Yukon Territory. Geology, vol. 13, p. 806-810.

MURPHY, D.C., AND PIERCEY, S.J., 1999a. Finlayson project: Geological evolution of Yukon-Tanana Terrane and its relationship to Campbell Range belt, northern Wolverine Lake map area, southeastern Yukon. In: Yukon Exploration and Geology 1998, C.F. Roots and D.S. Emond (eds.), Exploration and Geological Services Division, Indian and Northern Affairs Canada, p.47-62.

MURPHY, D.C. AND PIERCEY, S.J., 1999. Geological map of parts of Finlayson Lake (105G/7, 8 and parts of 1, 2, and 9) and Frances Lake (parts of 105H/5 and 12) map areas, southeastern Yukon (1:100 000-scale). Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada, Open File 1999-4.

MURPHY, D.C. AND PIERCEY, S.J., 2000. Syn-mineralization faults and their re-activation, Finlayson Lake massive sulphide district, Yukon-Tanana Terrane, southeastern Yukon. In: Yukon Exploration and Geology 1999, D.S. Emond and L.H. Weston (eds.), Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada, p. 55-66.

MURPHY, D.C., COLPRON, M., GORDEY, S.P., ROOTS, C.F., ABBOTT, G., AND LIPOVSKY, P.S., 2001. Preliminary bedrock geological map of northern Finlayson Lake area (NTS 105 G) Yukon Territory (1:100 000 scale). Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada, Open File 2001-33.

MURPHY, D.C., COLPRON, M., ROOTS, C.F., GORDEY, S.P. AND ABBOTT, J.G., 2002. Finlayson Lake Targeted Geoscience Initiative (southeastern Yukon), Part 1: Bedrock geology. In: Yukon Exploration and Geology 2001, D.S. Emond, L.H. Weston and L.L. Lewis (eds.), Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada, p. 189-207.

NORTHERN DYNASTY EXPLORATIONS LTD, May/88. Assessment Report #092727 by G. Gorzynski.

NORANDA EXPLORATION COMPANY LTD, Jan/90. Assessment Report #092802 by J.L. Duke.

NORANDA EXPLORATION COMPANY LTD, Jul/89. Assessment Report #092741 by H. Copland.

NORTHERN MINER, 24 Jun/96.

PIERCEY, S.J., HUNT, J.A. and MURPHY, D.C., 1999. Lithogeochemistry of meta-volcanic rocks from Yukon-Tanana Terrane, Finlayson Lake region, Yukon: Preliminary results. In: Yukon Exploration and Geology 1998, C.F. Roots and D.S. Emond (eds.), Exploration and Geological Services Division, Indian and Northern Affairs Canada, p. 125-138.

YUKON EXPLORATION AND GEOLOGY 1996, p. 18, 30, 32.

YUKON EXPLORATION 1988, p. 89. 1989, p. 47.

### Work History

Date	Work Type	Comment
12/31/1996	Drilling	Seven holes, 628.9 m. Six holes (532 m) drilled by Mar-west on Eldorado claims, one hole (96.9 m) drilled on Zoo claims by Cominco.
12/31/1995	Ground Geophysics	Also HLEM and gravity surveys.
12/31/1994	Airborne Geophysics	Also Magnetic and radiometric surveys. Carried out by Cominco on Zoo claims.
12/31/1989	Geology	
12/31/1989	Geochemistry	
12/31/1989	Ground Geophysics	Also EM survey.
12/31/1988	Geochemistry	

12/31/1988	Ground Geophysics	Also VLF-EM survey. Limited in scope.	
12/31/1964	Drilling	Two holes, 193.55 m.	
12/31/1964	Trenching		
12/31/1963	Ground Geophysics		
12/13/1996	Geology		
12/13/1996	Ground Geophysics	Also magnetic survey on Eldorado claims.	
12/13/1996	Other		

## Assessment Reports that overlap occurrence

Report Number	Year	Title	Worktypes	Holes Drilled	Meters Drilled
<u>093552</u>	1996	Report on the 1996 Diamond Drilling Program on the Eldorado Property	Diamond - Drilling	6	531.96
<u>092802</u>	1989	Geochemical and Trenching Report on the Eldorado 1-58 Claims	Rock - Geochemistry, Soil - Geochemistry, Detailed Bedrock Mapping - Geology, EM - Ground Geophysics, Magnetics - Ground Geophysics, Mechanical - Trenching		
<u>092741</u>	1989	Geochemical and Geophysical Report on the Eldorado 1-78 Claims	Soil - Geochemistry, EM - Ground Geophysics, Magnetics - Ground Geophysics, Prospecting - Other		
<u>060148</u>	1972	Geology and Geochemistry, Hoo Occurrence	Silt - Geochemistry, Soil - Geochemistry, Bedrock Mapping - Geology		

Related References							
Number	Title	Page(s)	Reference Type	Document Type			
ARMC016583	Geology map - 105G/12 - Star Creek		Property File Collection	Geoscience Map (Geological - Bedrock)			