

#### **Occurrence Details**

Occurrence Number: 105G 121

Occurrence Name: Net
Occurrence Type: Hard-rock

**Status:** Showing

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# **General Information**

Secondary Commodities: copper, lead, silver, zinc

Deposit Type(s): Volcanogenic Massive Sulphide (VMS) Kuroko Cu-Pb-Zn

Location(s): 61°18'7" N - -130°25'56" W

NTS Mapsheet(s): 105G08 Location Comments: .5 Kilometres Hand Samples Available: No

Last Reviewed:

#### **Capsule**

#### Work History

Originally staked as Lady Lee cl 1-6 (YB14908) in Aug/88 by J. Dodge who explored for nephrite jade and transferred the claims to Dodgex Ltd in Apr/89. Dodgex Ltd performed geochemical surveys and hand mined 317.5 kg of jade later that year (see Minfile Occurrence #105G 114).

Near the end of the 1989 field season, Dodge discovered a stratabound sulphide horizon (this occurrence) north of the jade showings. Dodge staked Sleeper cl 1-14 (YB16459) and Lady Lee cl 7 (YB16458) to cover the strike extent of the showing. The following year, Dodge carried out prospecting, geochemistry, VLF-EM surveys and sampling with a Boyles JKS-10 sampler core drill. In Jul/91 Dodge added Sleeper cl 15-19 (YB34120).

In Sept/94 Expatriate Resources Ltd restaked the occurrence within Net cl 1-34 (YB56095). In Mar/95 Expatriate staked Net cl 35-58 (YB59119) and in Aug/95 added Net cl 59-72 (YB60984) to their claim holdings. During the 1995 field season Expatriate carried out a preliminary exploration program on the claims. The Net claims constitute part of Expatriate's larger Goal Net property.

In Oct/95 Expatriate staked Net cl 73-200 (YB63472). In the spring of 1996, the company completed an airborne geophysical survey over their entire Goal Net property. In Mar/96 Expatriate added Net cl 201-214 (YB78696). During the 1996 field season the company carried out ground geophysical surveys, hand trenching, prospecting and grid based soil sampling programs. In 1997 the company continued systematic follow-up work on targets identified in previous years.

In December 2004, Expatriate reorganized and changed its name to Yukon Zinc Corporation.

### Capsule Geology

Geological mapping in the Finlayson Lake area (Murphy et al., 2001) shows the area is dominantly underlain by a layered sequence of Devonian to Early Mississippian metavolcanic and metasedimentary rocks belonging to the Yukon-Tanana Terrane (YTT). 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 including the Fyre Lake deposit (Minfile Occurrence #105G 034) in the Devonian to lower Mississippian(?) Fire Lake mafic metavolcanic unit, the Kudz Ze Kayah deposit (Minfile Occurrence #105G 117) in the Mississippian Kudz Ze Kayah felsic metavolcanic unit, and the Wolverine deposit (Minfile Occurrence #105G 072) within the Lower Mississippian Wolverine Succession.

The occurrence is located in the footwall of the Money Creek thrust and consists of a stratabound sulphide showing within quartz-biotite-muscovite schist). The Money Creek thrust is a reverse fault that was active during the evolution of Yukon-Tanana volcanism and that was re-activated as a thrust fault during Late Paleozoic or Mesozoic shortening. The stratified rocks of the Money Creek thrust sheet were previously considered to be allochthonous and unrelated to footwall rocks. Recent work by Murphy, Piercey and others, have shown that the stratified rocks of the thrust sheet resemble rocks in the immediately underlying footwall, both in composition and succession. Furthermore, U-Pb geochronological constraints affirm that the successions are coeval.

The footwall comprises a stratified sequence consisting of biotite-muscovite schist and marble (Unit Dq; Murphy et al., 2001), mafic Fire Lake metavolcanic rocks, and carbonaceous phyllite (unit DKcp) and felsic metavolcanic rocks (unit Dk) of the Kudz Ze Kayah felsic metavolcanic unit. On the northeast side of the Net claims a Mississippian granitic intrusion of the Grass Lakes Plutonic Suite intrudes the sequence at several stratigraphic levels. A Cretaceous granitic intrusion intrudes the footwall sequence along the northwest side of the claim block. The thrust sheet mainly comprises Fire Lake massive basalt (unit DF; Murphy et al., 2001) containing localized outcrops of Upper Devonian quartz-porphyritic rhyolite (DFr). A serpentinized ultramafic intrusion (unit Dum) intrudes along the base of unit DF. Research suggests that the ultramafic is part of a sill that flowed from dykes lying along the trend of thickness changes in unit DF. Unit DF also hosts a mafic-poor quartz porphyritic granite which is thought to be coeval with the quartz-porphyritic rhyolite (unit DFr).

Dodge, the discoverer of this occurrence, noted a 20 x 40 m zone, 300 m to the northeast of the original discovery, comprising brecciated phyllonite hosting a quartz-pyrite matrix which returned anomalous values up to 1220 ppb Au and 2270 ppm As. Beginning in 1995 Expatriate carried out a regional exploration program on the Goal Net property. In 1995 the company cut two grids on the Net claims and collected a total of 638 samples. On the southwestern grid (grid 1) Zn, Cu, Pb and As values are moderately to strongly coincident within a weakly to moderately anomalous zone some 1 500 m long, located along the northwest edge of the grid, near the valley bottom. Mo values are only weakly coincident with the above elements. Peak values for Cu and Zn coincide with the occurrence location. Two moderate Zn anomalies were outlined on the second grid. Strongly coincident Cu and Pb values were outlined within a 600 by 200 m area of one of the anomalies. Float specimens collected from a creek draining this anomaly returned up to 5.98% Zn, 1.55% Pb, 82 g/t Ag and 0.86 g/t Au and weakly anomalous Cu values. Mo and Mn values are moderately anomalous over most of the grid, and Sb response is confined to the southeast portion.

The airborne EM/magnetic survey flown over the claims in the spring of 1996 outlined 3 second order conductors and 3 magnetic highs on grid 1. One of the conductive highs coincides with anomalous geochemical results. Follow-up ground geophysics outlined several strong magnetic anomalies on the south end of the grid along with 'unusual Max-min anomalies' The magnetic anomalies were attributed to the presence of underlying ultramafic rocks.

Expatriate expanded both soil grids in 1996 and dug 6 trenches in the vicinity of the occurrence. Three of the trenches failed to reach bedrock, two were barren of mineralization and one encountered stratabound mineralization. The mineralized trench returned a 0.3 m wide interval containing up to 15% pyrite with minor sphalerite which assayed up to 2.7 % Zn but a 1.5 m long chip sample collected across the mineralization and adjacent wall rocks returned only 0.01% Zn.

In 1997 Expatriate continued soil sampling, prospecting and mapping the Net claims in an attempt to narrow down the sources of the various geochemical anomalies. On Grid 1, the company dug addition trenches in and around the occurrence. Two chip samples collected from one trench located adjacent to the occurrence averaged 3.8 g/t Ag, 0.05% Pb, 0.27% Zn and 0.12% Cu over 3.0 m while selected specimens returned up to 2.7% Zn. On Grid 2 the company focussed their efforts on three areas: F1, F2 and F3. Areas F1 and F2 appear to be underlain by the Kudz Ze Kayah felsic metavolcanic unit while F3 appears to be underlain by the Fire Lake mafic metavolcanic unit. Float samples returned up to 83.0 g/t Ag, 2.19% Pb and 5.98% Zn but no in situ mineralization was found at any of the three areas.

#### 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.

DODGE(?), J.S., Oct/89. Assessment Report #092753 by J.S. Dodge.

DODGE, J.S., Oct/90. Assessment Report #092877 by J.S. Dodge.

EXPATRIATE RESOURCES LTD, Apr/96. Assessment Report #093413 by W.A. Wengzynowski.

EXPATRIATE RESOURCES LTD, Apr/97. Assessment Report #093573 by A. Burgert.

EXPATRIATE RESOURCES LTD, May/97. Assessment Report #093655 by R.W. Woolham.

EXPATRIATE RESOURCES LTD, May/98. Assessment report #093788 by W.D. Eaton.

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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, 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, 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.

YUKON EXPLORATION 1989. p. 48.

YUKON EXPLORATION AND GEOLOGY 1997, p.16, 36

# **Work History**

Date	Work Type	Comment	
12/31/1997	Geochemistry		
12/31/1997	Trenching		
12/31/1997	Other		
12/31/1996	Geology		
12/31/1996	Geochemistry		
12/31/1996	Trenching		
12/31/1995	Geochemistry		
12/31/1995	Other		
12/31/1990	Geochemistry	Work carried out to evaluate sulphide occurrence.	
12/31/1990	Ground Geophysics	Also VLF survey. Work carried out to evaluate sulphide occurrence.	
12/31/1990	Other	Work carried out to evaluate sulphide occurrence.	
12/31/1989	Other	While exploring for jade discovered sulphide showing.	
12/13/1997	Geology		
12/13/1996	Ground Geophysics		
12/13/1995	Airborne Geophysics	Also magnetic survey.	
12/13/1995	Geology		

# **Assessment Reports that overlap occurrence**

Report Number	Year	Title	Worktypes	Holes Drilled	Meters Drilled
<u>094016</u>	1998	Assessment Report Describing Geological Mapping, Prospecting, and Soil Geochemistry on the Goal Net Property	Rock - Geochemistry, Soil - Geochemistry, Bedrock Mapping - Geology, Backhoe - Trenching		
093788	1997	Assessment Report Describing Geological Mapping, Prospecting, and Soil Geochemistry on the Goal Net Property	Rock - Geochemistry, Soil - Geochemistry, Soil - Geochemistry, Bedrock Mapping - Geology, Bedrock Mapping - Geology, Prospecting - Other, Backhoe - Trenching, Hand - Trenching		
093573	1996	Assessment Report Describing Geological Mapping, Prospecting, and Soil Geochemistry and Geophysical Surveys on the Goal Net Property	Electromagnetic - Airborne Geophysics, Magnetic - Airborne Geophysics, Soil - Geochemistry, Bedrock Mapping - Geology, Prospecting - Other		

<u>093655</u>	1996	Report on a Combined Helicopter-Borne Electromagnetic and Magnetic Survey, Goal Net, Hat Trick, League, Offside, Power Play, Shutout and Slapshot Properties	Electromagnetic - Airborne Geophysics, Magnetic - Airborne Geophysics		
093413	1995	Assessment Report Describing Prospecting and Geochemical Surveys on the Goal 1-24 Claims (YB56129-YB56152), Net 1-34 Claims (YB56095-YB56128), Net 35-58 Claims (YB59119-YB59142)	Soil - Geochemistry, Prospecting - Other		
092877	1990	Results of Preliminary Exploration Sleeper 1-14 and Lady Lee 7 Claims	Diamond - Drilling, Rock - Geochemistry, Soil - Geochemistry, EM - Ground Geophysics, Prospecting - Other, Hand - Trenching	1	1.46

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Relateu	References

Number	Title	Page(s)	Reference Type	Document Type
ARMC016590	Geochemical map - 105G/8 - Wolverine Lake		Property File Collection	Geochemical Map
ARMC016578	Geology map - 10G/8 - Wolverine Lake		Property File Collection	Geoscience Map (Geological - Bedrock)
ARMC017622	Geochemical map of Wolverine Lake - Cu, Pb, Zn, Mn, Mo.W		Property File Collection	Geochemical Map