



Occurrence Details

Occurrence Number: 105G 099
Occurrence Name: Brendex
Occurrence Type: Hard-rock
Status: Prospect
Date printed: 4/29/2025 4:57:40 AM

General Information

Secondary Commodities: barite, copper, gold, lead, silver, zinc
Deposit Type(s): Volcanogenic Sulphide - type not determined
Location(s): 61°48'28" N - -131°24'14" W
NTS Mapsheet(s): 105G14
Location Comments: .5 Kilometres
Hand Samples Available: No
Last Reviewed:

Capsule

Work History

*Previous versions of Yukon Minfile reported the occurrence location to the southwest.

The occurrence was staked as Leach cl 1-96 (YA12058) and Fault cl 1-18 (YA12154) in Nov/76 by A. Carlos, who subsequently optioned them to Brendex Resources Ltd, which carried out mapping and a geochemical survey in 1977. The company also staked Czar cl 1-8 (YA26791) on the northeast side of the Leach claims to protect the strike projection of a soil anomaly. During 1978, Tenas Joint Venture (Du Pont of Canada Exploration Ltd & Western Mines Ltd) conducted airborne and ground mag/EM surveys, mapping and a gravity survey and drilled 5 holes (305 m) under a brief option. G. Harris staked Patches cl 1-24 (YA28476) on the east side of the Fault claims in Apr/78 and performed line cutting in 1981. Restaked as Rab cl 1-136 (YA67577) in Feb/82 by Hudson Bay Exploration and Development Company Ltd following a regional airborne electromagnetic and magnetic survey. The property was explored with mapping and Max-Min and magnetic geophysical surveys later in the year. B. Harris staked the Eagle 1-6 cl (YB35383) south of the occurrence Jun/93. Expatriate Resources Ltd staked Ref cl 1-16 (YB59183) 1.5 km to the west in Feb/96 and restaked the occurrence within Ref cl 17-152 (YB79593) in Mar/96. The Ref claims were staked as part of an expansion of Expatriate's neighboring Play claims (Minfile Occurrence #105G 051). The company flew an airborne geophysical survey over both claim groups in Feb/96 and the following summer carried out grid soil sampling and ground magnetic and HLEM geophysical surveys on the Ref claims. The Ref claims were surrounded on the south, east and north by the Small, (YB80519), Big (YB82954), and No (YB82898) claims (staked with various non-consecutive numbers) in Apr/96 by Lawrence Barry who optioned them to Condor International Resources Limited in Jun/96. These claims, along with others contiguous to the east, were explored as part of Condor's Lip property. During the summer of 1996, Condor carried out airborne geophysics, prospecting, preliminary geological mapping and silt and soil sampling. In Dec/96 Expatriate optioned Condor International's Lip property and in the summer of 1997 carried out extensive soil sampling, followed by limited prospecting and geological mapping. In Nov/97 Expatriate dropped its option on the Lip property. In May/99 Condor International re-organized and changed its name to Northern Empire Minerals Ltd. In 2002 Expatriate re-evaluated data obtained from the airborne geophysical program flown in 1996 and carried out geological mapping, rock sampling and soil sampling programs in order to fill in data gaps and verify results obtained in previous exploration programs. In Dec/2004 shareholders of Expatriate approved a re-organization plan whereby all of Expatriate's non-Finlayson District exploration properties were transferred to a new company, Pacific Resources Ltd. Upon completion of the re-organization Expatriate changed its name to Yukon Zinc Corporation. Yukon Zinc's focus will be the development of company's Wolverine Deposit (Minfile Occurrence #105G 072) and its large surrounding claim holdings including the Ref claims (this occurrence).

Capsule Geology

The area surrounding the occurrence is covered by deep deposits of overburden. Scattered outcrops can be found on ridge tops and some deeply incised drainages. Murphy et al. (2001) of the Yukon Geological Survey have completed preliminary mapping in the area, however changes are expected in future updates as more detailed mapping is completed. Based on geological work by Expatriate and Murphy of the Yukon Geological Survey, the actual occurrence is located in the footwall of the Money Creek thrust while the majority of the claim block is located in the hanging wall of the thrust. The actual occurrence is underlain by Upper Devonian meta-volcanic rocks assigned to Murphy's Fire Lake unit (unit DF). Murphy described the unit as a mafic meta-volcanic unit composed mainly of chloritic phyllite, but also including carbonaceous phyllite and rare muscovite-quartz phyllite of probable felsic meta volcanic protolith. The Fire Lake unit is overlain to the north by carbonaceous phyllite, lesser quartz-feldspar grit and pebble meta-conglomerate, and feldspar-muscovite-quartz-phyllite and augen phyllite of the Upper Devonian Kudzu Ze Kayah unit (unit DK). Geological mapping completed by Expatriate suggests that on the hanging wall side of the Money Creek thrust, the claims are overlain by undifferentiated layered rocks of Murphy's unit CMCu. Murphy described the unit as Upper Devonian to Pennsylvanian in age, and consisting of undifferentiated layered rocks lying in the hanging wall of Money Creek Thrust. The unit contains some unit Pd rocks (Pennsylvanian in age), and includes intermediate to felsic metavolcanic rocks, carbonate, and dark chert, greywacke and phyllite. This unit is unconformably overlain to the north by massive basalt assigned to the Early Permian Campbell Range succession (unit PCb). The contact between the Campbell Range succession and the underlying layered metamorphic rocks is obscured by deep overburden which early drilling indicated ranged from 10 - 20 m. Early geological mapping suggested that the meta-basalts belonged to the Slide Mountain Terrane however, recent work by Murphy and Piercey (1999) suggests that this contact is depositional in nature and that the entire package, including Campbell Range belt meta-basalts, represents a transitional island arc/continental arc to marginal basin/ocean (back-arc?) basin environment and together constitute Yukon-Tanana Terrane. Prior to 1996 the majority of exploration in the Finlayson Lake district was focussed on identifying and exploring Devonian to Mississippian age layered metamorphic rocks. In 1996, Expatriate Resources Ltd announced the discovery of the Ice VMS deposit (Minfile Occurrence #105G 118) 5 km to the north. The Ice deposit is hosted in pillowed basalts, basalt breccias and ferruginous sediments of the Campbell Range succession. Exploration companies immediately included Campbell Range succession rocks as potential hosts for VMS deposits. The original occurrence consisted of Zn soil anomalies associated with sulphide-bearing quartzite, phyllite and carbonaceous phyllite with minor breccia and quartz veining. Follow-up geophysical surveys conducted by Du Pont outlined four small amplitude gravity high residuals. The gravity anomalies are coincident with an EM conductivity high and zinc geochemical anomalies. The company tested the best anomalies with five vertical drill holes (305 m). All of the holes intersected graphitic phyllite with varying silica content and the best intersection returned 2.62% Zn over 1.53 m from faulted carbonaceous phyllite (hole LFC 78-3). The company also reported several other intersections of greater than 2 000 ppm zinc over five metre intervals. The Rab claims were staked to cover an airborne magnetic and EM anomaly. Ground magnetic and EM geophysical surveys and geological interpretation resulted in the delineation of several target areas on the property. The collapse of base metal prices in 1983 resulted in the suspension of exploration activity and the claims were allowed to lapse. In 1996, Expatriate Resources established three soil sampling grids on the Ref claims. Grid 2 which covered the site of Brendex's 1977 soil anomaly and Du Pont's 1978 drilling program, identified an anomalous area, measuring approximately 500 m square, which returned Zn values of 200 ppm or higher (peak value 2 470 ppm). The anomaly coincides approximately, with weak molybdenum values and is fringed on the north side by erratic, weak to moderately anomalous Cu values. Ground magnetic/HLEM geophysical surveys identified a positive, but weak, magnetic signature at the north (up hill) end of the geochemical anomaly and a corresponding HLEM conductor of moderate strength. The geophysical survey also identified five other less significant conductors on grid 2.

Prospecting in 1997 located numerous outcrops consisting of tightly folded laminated cherts with thin sericitic interbands. In some areas massive sugary barite forms up to 3 cm lenses and bands within the sericitic cherts. Grab samples collected north (up slope) of the soil anomaly on grid 2 and consisting of baritic exhalite horizons within sericitic schist, returned values up to 17% barium and 1 835 ppm Cu. Expatriate considered these results important as the Wolverine deposit (Minfile Occurrence #105G 072) and VMS occurrences in general often have closely associated silica-barite exhalites.

Expatriate established grid 3 in the south-central portion of the Ref claims to cover the various geophysical anomalies delineated by Hudson Bay Exploration. Soil sampling returned weakly to moderately anomalous values for Cu, Zn and Mo with little Pb or Ag support. Airborne geophysics identified a conductor in the same area as Hudson Bay but the geophysicist could not differentiate between the response from very conductive sediments and a massive sulphide body. Grid 1 located north of grid 3 returned similar soil geochemical and geophysical results as grid 3.

Condor International's 1996 work program was reconnaissance in nature. The airborne geophysical survey identified an EM conductor with magnetic association, south of Cap Lake and east of Expatriate's grid 2. Follow-up prospecting uncovered an area which Condor interpreted as hosting siliceous exhalite. This area appears to be the eastern extension of a similar area found on the adjoining Ref claims. Grab samples collected from this area returned 1.9 % and greater than 5 % Ba, as well as 314 ppm and 468 ppm Cu. A single line of soil samples collected in this area identified a weak Ba, Zn and Au soil anomaly.

Prospecting by Condor, in the Beaverdam Creek area, uncovered minor chalcopyrite mineralization hosted in quartz-siderite-ankerite veins associated with pervasive zones of quartz-carbonate +/- fuchsite alteration. Near these veins, massive conformable bands of chalcopyrite up to 15 cm thick were found in locally derived sericitic schist talus spread over a small area. A single sample of this mineralization returned an assay of 12 % Cu and 100 ppb Au. Two lines of soil samples collected in the general area of Hudson Bay Exploration's earlier ground geophysical survey returned coincident Cu, Zn and silver anomalies in an area underlain by carbonaceous sediments.

In 1997 Expatriate explored Condor's claims by collecting soil samples along claim lines, that for the most part, run perpendicular to stratigraphy. The company also carried out limited mapping and prospecting in the Hookworm and Cap Lake areas. Soil sampling outlined a series of individual anomalies that form a distinct northwest trend from the broad knob 5 km southeast of Cap Lake through to the barite mineralized hill 1.5 km west of Cap Lake. The south end of the anomaly is defined by Cu, Pb, Zn, Ba and Ag with spotty Au, whereas to the northwest the anomalies are primarily Cu, Ba, and locally Ag. No evidence for mineralization has been found in the southeast, however, baritic samples, some containing anomalous Cu, have been found in association with the Cu-Ba soil anomalies.

In the Hookworm Lake area, soil sampling outlined an anomaly which lies 1 km south of the lake and trends to the southeast. The anomaly is strongly anomalous in Pb and Zn and weakly anomalous in Cu, Ba and Ag. No significant mineralization was found in this area, but there are several extensive exposures of strong quartz ankerite alteration that is locally anomalous and weakly mineralized in Pb, Zn, and minor Cu. Expatriate dropped its option on the Lip property at the end of 1997 in order to concentrate its efforts in exploring the Ice VMS deposit (Minfile Occurrence #105G 118) and other prospects owned by the company in the Finlayson Lake area.

The re-evaluation of the geophysical data was undertaken to correlate geophysical anomalies to known geological units, mineralization and geological structures. The company also checked for any anomalies that might have been missed in the original evaluation of data. Soil and rock sampling confirmed results obtained in previous years.

References

BRENDEX RESOURCES LTD, Feb/77. Assessment Report #062083 by C.L. Smith.

BRENDEX RESOURCES LTD, Dec/77. Assessment Report #090250 by C.K. Ikona and M. Stammers.

BRENDEX RESOURCES Ltd, Oct/78. Assessment Report #090383 by C.A. Ager.

CANADIAN MINES HANDBOOK 1997-98, p. 123; 1999-2000, p. 115, 311.

CONDOR INTERNATIONAL RESOURCES INC, Feb/98. Assessment Report #093668 by M.E. Baknes.

DU PONT OF CANADA EXPLORATION LTD, Oct/78. Assessment Report #091165 by A. Carlos and G. Harris.

DU PONT OF CANADA EXPLORATION LTD, Feb/79. Assessment Report #090438 by W.P. Boyko and R.F. Sheldrake.

EXPATRIATE RESOURCES LTD, Apr/97. Assessment Report #093570 by B. Burgert.

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

EXPATRIATE RESOURCES LTD, Apr/98. Assessment Report #093785 T.C. Becker.

EXPATRIATE RESOURCES LTD, May/98. Assessment Report #093812 by M.E. Baknes.

EXPATRIATE RESOURCES LTD, Jun/2002. Assessment Report #094300 by J. Moore and J. Klein.

EXPATRIATE RESOURCES LTD, Jul/2003. Assessment Report #094384 by J. Moore and R. Duncan.

EXPATRIATE RESOURCES LTD, News Release, 15 Dec/2004.

EXPATRIATE RESOURCES LTD, Jan/2004. Web Site: www.expatriateresources.com

GEORGE CROSS NEWSLETTER, 18 Jul/96.

GORDEY, S.P. AND MAKEPEACE, A.J. 2003: Yukon Digital Geology, version 2.0, S.P. Gordey and A.J. Makepeace (comp); Geological Survey of Canada, Open File 1749 and Yukon Geological Survey, Open File 2003-9 (D).

HUDSON BAY EXPLORATION AND DEVELOPMENT COMPANY LTD, Feb/83. Assessment Report #091426 by R. Stroshein.

HUNT, J.A., 1998. The setting of volcanogenic massive sulphide deposits in the Finlayson Lake district. In: Yukon Exploration and Geology 1997, Exploration and Geological Services Division, Indian and Northern Affairs Canada, p. 99-104.

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.

MINERAL INDUSTRY REPORT 1977, p. 89; 1978, p. 67.

MURPHY, D.C., AND PIERCEY, S.J., 1999. 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, 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. ET AL., 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. ET AL., 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 AND GEOLOGY 1982, p. 128-129; 2002, p. 18, 25.

Work History

Date	Work Type	Comment
12/31/2002	Geochemistry	Rock sampling carried out to fill in gaps and verify earlier results.
12/31/2002	Geochemistry	Soil sampling carried out to fill in gaps and verify earlier results.
12/31/2002	Pre-existing Data	Re-evaluate data from 1996 airborne survey .
12/31/1997	Geology	
12/31/1997	Geochemistry	
12/31/1997	Other	
12/31/1996	Geology	
12/31/1996	Geochemistry	Also rock and silt sampling.
12/31/1996	Airborne Geophysics	Also VLF and magnetic surveys.
12/31/1982	Geology	
12/31/1982	Ground Geophysics	Max-min. Also magnetometer survey .
12/31/1981	Other	
12/31/1978	Drilling	Five holes, 305.1 m.
12/31/1978	Geology	
12/31/1978	Airborne Geophysics	Also magnetic survey .
12/31/1977	Geochemistry	
12/31/1977	Geology	
12/31/1977	Geochemistry	
12/13/1996	Other	
12/13/1982	Airborne Geophysics	Also magnetic survey. Flown in early 1982 or in 1981.
12/13/1978	Ground Geophysics	Also magnetic and gravity surveys.

Assessment Reports that overlap occurrence

Report Number	Year	Title	Worktypes	Holes Drilled	Meters Drilled
094384	2002	Geological, Geochemical and Prospecting Report Undertaken on the Play and Ref Properties	Soil - Geochemistry, Bedrock Mapping - Geology, Prospecting - Other		
093812	1997	Expatriate Resources Ltd. Geological and Geochemical Report on the Lip Property - Finlayson Project	Rock - Geochemistry, Soil - Geochemistry, Bedrock Mapping - Geology, Prospecting - Other		
093668	1996	Geological and Geochemical Report on the Lip and War Properties, Finlayson Project	Electromagnetic - Airborne Geophysics, Magnetic - Airborne Geophysics, Rock - Geochemistry, Silt - Geochemistry, Soil - Geochemistry, Regional Bedrock Mapping - Geology, Prospecting - Other		
091426	1982	Hudson Bay Exploration and Development Company Limited	EM - Ground Geophysics, Magnetics - Ground Geophysics, Line Cutting - Other		
090438	1978	Helicopter Magnetic and Electromagnetic Survey	Electromagnetic - Airborne Geophysics, Magnetic - Airborne Geophysics		
090250	1977	Geological and Geochemical Report on the Leach-Fault Claims	Rock - Geochemistry, Soil - Geochemistry, Bedrock Mapping - Geology		

Related References

Number	Title	Page(s)	Reference Type	Document Type
ARMC004938	Geophysical map - Gravity and EM survey - Leach-Fault-Czar claims		Property File Collection	Geophysical Map

ARMC004947	Tenas Creek joint venture compilation map - Leach, Fault, Czar claims		Property File Collection	Geoscience Map (General)
ARMC005023	Drill Hole Records - Leach-Fault-Czar option		Property File Collection	Drill Logs
ARMC013638	Pelly Banks syndicate (Carlos/Harris) holdings southeast of Ross River -With figures 1, 5, 8, 4		Property File Collection	Report
ARMC014117	Field sheet of Slate Rapids showing geochemistry overlay on geology		Property File Collection	Geochemical Map
ARMC014114	Field sheet of Slate Rapids with field notations		Property File Collection	Geochemical Map

Drill core at YGS core library					
Number	Property	Year Drilled	Core Size	Photos	Data
LFC 78-1	Brendex	1978	BQ	0	2
LFC 78-2	Brendex	1978	BQ	0	2
LFC 78-3	Brendex	1978	BQ	0	2
LFC 78-4	Brendex	1978	BQ	0	2
LFC 78-5	Brendex	1978	BQ	0	2