



Occurrence Details

Occurrence Number: 106E 001

Occurrence Name: Otis

Occurrence Type: Hard-rock

Status: Prospect

Date printed: 12/16/2025 5:59:56 AM

General Information

Secondary Commodities: barite, copper, iron, uranium

Deposit Type(s): Iron Oxide Breccias & Veins (Wernecke Breccias)

Location(s): 65°1'58" N - 134°23'21" W

NTS Mapsheet(s): 106E01

Location Comments: .5 Kilometres

Hand Samples Available: No

Last Reviewed:

Capsule

Work History

Staked as Otis cl (Y97426) in Jun/75 by Wernecke JV (Chevron Can L & Aquitaine) which performed soil sampling, mapping and radiometric surveys in 1975 and additional radiometric surveys in 1976 under a brief option to Eldorado Nuclear L. Wernecke JV conducted an airborne radiometric survey in 1978 and drilled one hole (137.2 m) in 1979. In 1982, Eldorado changed its name to Eldor Res L.

Fringe staking included Slat's cl (Y97408) to the south in Jun/75 by Norcen Energy Res L (Great Plains) and Kerr Addison ML, which explored with soil sampling and mapping in 1975; GSTD cl (YA1818) to the north in Feb/76 by Golden Standard ML, which explored with reconnaissance geochem sampling in 1976; and Orion cl (YA1703) to the east in Feb/76 by Nuspar Res L, which explored with mapping, geochem and radiometric surveys in 1976 and 1977.

Capsule Geology

The region is underlain by a metamorphosed and altered sequence of Early Proterozoic Wernecke Supergroup clastic and carbonate rocks (Fairchild Lake Group, Quartet Group and Gillespie Lake Group, from oldest to youngest) that are intruded by Early to Middle Proterozoic mafic sills and dykes, and cut by Middle Proterozoic Wernecke Breccia. To the east, Wernecke Supergroup rocks are unconformably overlain by Middle Proterozoic Pinguicula Group rocks. According to Thorkelson (2000), Wernecke Breccia development is best modeled as a set of hydrothermal and/or phreatic breccias; brecciation being caused by explosive expansion of volatile-rich fluids. Hunt (2005) attributed Wernecke Breccia formation to periodic overpressuring of dominantly basinal fluids, which lead to repeated brecciation of host strata and mineral precipitation.

The claims are underlain by Early Proterozoic Quartet Group slate, limy argillite and dolomite cut by breccia bodies. The Otis claims cover major north and east trending faults weakly mineralized with coarse disseminated brannerite. Soil sampling and radioactive surveys located only small erratic uranium anomalies.

Prospecting on the Slat's claim group located specular hematite along a breccia contact plus chalcopyrite-bornite in float boulders. Specimens of brannerite-bearing float assayed up to 0.16% U3O8 but the drill hole intersected only a 60 cm wide, non-radioactive gouge zone associated with a north-trending fault.

Specimens of brannerite from east- and north-trending faults gave U/Pb ages of 623 and 929 Ma, respectively. These ages are significantly younger than either the Wernecke Breccia or Wernecke Supergroup rocks, and likely reflect later remobilization of uranium by a thermal or tectonic event.

References

ELDORADO NUCLEAR LTD, 1976. Assessment Report #061616 by C. Riley.

ELDORADO NUCLEAR LTD, 1976. Assessment Report #061623 by C. Riley and D.F. Schutz.

ELDORADO NUCLEAR LTD, 1976. Assessment Report #061624 by C. Riley.

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).

GREAT PLAINS DEVELOPMENT COMPANY OF CANADA LTD, 1975. Assessment Report *#090129 by B.D. Farion.

HUNT, J., 2005. The geology and genesis of iron oxide-copper-gold mineralisation associated with Wernecke Breccia, Yukon Canada, PhD thesis, James Cook University, Australia, 2 volumes, 120 p.

MINERAL INDUSTRY REPORT 1975, p. 64; 1976, p. 126-127; 1977, p. 45-46; 1978, p. 18.

THORKELSON, D.J. AND WALLACE, C.A., 2000. Geology and mineral occurrences of the Slat's Creek, Fairchild Lake and  Dolores Creek  areas, Wernecke Mountains, Yukon (106D/16, 106C/13, 106C/14). Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada, Bulletin 10, 73 p.

WERNECKE JOINT VENTURE, 1975. Assessment Report *#090097 by A.R. Archer.

WERNECKE JOINT VENTURE, 1978. Assessment Report *#090310 by A.R. Archer.

WERNECKE JOINT VENTURE, 1978. Assessment Report *#090373 by A.R. Archer.

WERNECKE JOINT VENTURE, Jan/80. Assessment Report #090580 by A.R. Archer.

YUKON GEOLOGY AND EXPLORATION 1979-80, p. 246-247.

Work History		
Date	Work Type	Comment
12/31/1979	Drilling	One hole, 137 m.
12/31/1978	Airborne Geophysics	
12/31/1977	Geology	
12/31/1977	Geochemistry	
12/31/1976	Ground Geophysics	
12/31/1976	Geology	
12/31/1976	Geochemistry	
12/31/1976	Other	
12/31/1976	Trenching	
12/31/1975	Ground Geophysics	Ground survey .
12/31/1975	Geology	
12/31/1975	Geochemistry	

Assessment Reports that overlap occurrence					
Report Number	Year	Title	Worktypes	Holes Drilled	Meters Drilled
095646	2007	2007 Geological, Geochemical and Geophysical Report on the Werneckes Project	Diamond - Drilling, Rock - Geochemistry, Silt - Geochemistry, Soil - Geochemistry, Detailed Bedrock Mapping - Geology, Regional Bedrock Mapping - Geology, Magnetics - Ground Geophysics, Scintillometer - Ground Geophysics, Prospecting - Other, Backhoe - Trenching, Hand - Trenching, Handblast - Trenching	28	6537.96
094956	2006	2006 Geological, Geochemical and Geophysical Report on the Werneckes Project	Reverse Circulation - Airborne Geophysics, Rock - Geochemistry, Soil - Geochemistry, Bedrock Mapping - Geology, Scintillometer - Ground Geophysics, Prospecting - Other		
090969	1981	Geological, Geochemical and Geophysical Report on the Pike Claims	Rock - Geochemistry, Soil - Geochemistry, Bedrock Mapping - Geology, Gamma-ray Spectrometry - Ground Geophysics, Hand - Trenching		
090820	1980	Assessment Report on the Rad 1-24 and Break 1-32 Mineral Claim Group	Rock - Geochemistry, Bedrock Mapping - Geology, Prospecting - Other, Hand - Trenching, Handblast - Trenching, Mechanical - Trenching		
090373	1978	Report on Airborne Radiometric Survey Otis 11-20 Claims	Gamma-Ray Spectrometry - Airborne Geophysics		
090310	1978	Assessment Report on Orthophoto Mapping, Otis 1-64 Claims	Orthophoto - Airphotography		
090287	1977	Preliminary Geological Report on the Rad 1-24 Mineral Claims	Rock - Geochemistry, Water - Geochemistry, Bedrock Mapping - Geology		
061572	1976	[1976 U/Pb Assay Results for Igor, Gnuclles, and Otis Claims in the Wernecke Range]	Silt - Geochemistry		
061616	1976	Report on Prospecting, Trenching, and Radiometric Survey, Otis 1-60 Claims	Gamma-ray Spectrometry - Ground Geophysics, Prospecting - Other, Hand - Trenching		
061623	1976	Report on Prospecting, Trenching, and Radiometric Survey, Otis 1-60 Claims	Gamma-ray Spectrometry - Ground Geophysics, Prospecting - Other, Hand - Trenching		
090097	1976	Report on Soil Geochemistry, Geology, and Radiometric Survey, Otis 1-64 Claims	Soil - Geochemistry, Bedrock Mapping - Geology, Gamma-ray Spectrometry - Ground Geophysics		

Drill core at YGS core library					
Number	Property	Year Drilled	Core Size	Photos	Data
79-O-1	Otis	1979	BQ	0	1