Occurrence Details

Occurrence Number: 105O 001
Occurrence Name: Tom Main
Occurrence Type: Hard-rock
Status: Deposit
Date printed: 8/6/2025 12:42:36 AM

General Information

Primary Commodities: barium, lead, silver, zinc
Secondary Commodities: antimony, barite, copper
Aliases: Tom, Tom West
Deposit Type(s): Sediment hosted Sedimentary Exhalative Zn-Pb-Ag (Sedex)
Location(s): 63°9'42" N - -130°9'17" W
NTS Mapsheet(s): 105O01
Location Comments: Based on drill collar of DDH TS18-005 in AR 097296
Hand Samples Available: Yes
Last Reviewed:

Capsule

Work History

Staked as Tom cl 1-146 (60495) in Sep/51 by L. Seville and A. Lindsay for Hudson Bay Exploration and Development Company Ltd, which carried out geological mapping and hand trenching in 1951; drilled 37 holes (5435 m) from 1951-53; carried out geological mapping, geochemical sampling and magnetometer surveying in 1966; geochemical sampling and drilled 16 holes (3233 m) in 1968; carried out 1 809 m of drifting on the 1447.8 m (4750 foot) level, drilled 75 underground holes (3617 m), bulk sampling and metallurgical testing in 1970-71; geological mapping, geochemical sampling, EM and gravity surveying and bulldozer trenching from 1976-78; drilled 5 holes (587 m) in 1978 and drilled 15 holes (2295 m) in 1979. The claims were surveyed in 1953, leased in 1955 and renewed for a further 21 years in 1976.
Hudson Bay staked Tom cl 147-183 (YA45447) contiguously to the south in Aug/79 and carried out geological mapping, geochemical surveying in 1980 and 1981; magnetometer surveying and bulldozer trenching in 198l and 1983. The 1983 trenches, which failed to reach bedrock, were deepened in 1985. Hudson Bay also staked TS cl (YA42414) to the north in 1981 and explored with test pitting later in the year.
Between 1980 and 1982, Hudson Bay completed part of a major feasibility study which included 120 m of drifting to rehabilitate the adit portal, drilling of 12 surface holes (1457 m) and 18 underground holes (1 174 m), 923 m of decline, bulk sampling, engineering and environmental studies. Hudson Bay carried out minor trenching and a joint feasibility study with Aberford Resources Ltd on this and the adjoining Jason deposit (Minfile Occurrence #105O 019) in 1985.
Fringe staking included Star cl (Yl7754) to the east in Jun/67 by Spartan Exploration Ltd. This was restaked as Cree and Sioux cl (YA216) in Jul/76 by Welcome North Mines Ltd, which later entered a joint venture with Canico (Inco). Inco carried out geological mapping and a magnetometer surveying in 1977, before dropping the option in 1978. Yumac Syndicate (Giant Yellowknife Mines Ltd, Canada Southern Petroleum Ltd, Nemco Exploration Ltd and Highland Resources) tied on the Argo cl (YA6365) to the north in Aug/76 and ccarried out geological mapping and geochemical sampling in 1977 and 1978. In 1980, Welcome North optioned its claims to Charlotte Resources Ltd.
Cominco optioned the property in Jul/88 and staked Tome cl 1-192 (YB14942) to the east in Aug/88, Jerry cl 1-26 (YB15501) in Oct/88 to the south, Mac cl 1-12 (YBI2862) in Oct/88 to the north and carried out contour geochemical sampling of the Tome claims that year. Cominco remapped the property and began a program of surface drilling to test for extensions of the West and Southeast zones at depth. This program included 4 holes (2226 m) in 1988, 4 holes (2175 m) in 1989, 7 holes (3578 m) in 1990 and 8 holes (2882.7 m) in 1991. The 1991 holes tested peripheral geochemical and geological targets. More Jerry claims were added (YB33233) in Jul/90 and explored with contour soil sampling in 1991. Cominco dropped its option in Aug/92. See Work History table for more recent work.
Capsule Geology

The Tom stratibound lead-zinc deposits consist of galena, sphalerite and barite in fine-grained black clastic rocks of the Devono-Mississippian Earn Group. Mineralization occurs in three zones: Tom West (this MINFILE), Tom East (MINFILE pending) and Tom Southeast (MINFILE pending).
All mineralization at the Tom property occurs at or near the contact between conglomeratic submarine fan deposits (Macmillan Pass Member) and overlying blue-grey weathering carbonaceous cherty mudstone and radiolarian chert (Tom Sequence). The mineralization varies from well laminated and stratiform to brecciated stockwork adjacent to the Tom normal fault. Tom West and Tom East (MINFILE pending) are thought to have been a continuous lens prior to deformation of the Tom Sequence. The host rocks are believed to have been deposited in narrow grabens during Devonian rifting of the Cordilleran passive margin. The Tom deposits are confined to a small basin outlined by the outcrop pattern of chert-pebble conglomerates of the Macmillan Pass member and a thickened isopach of the Tom Sequence rocks.
Detailed mapping by Cominco has showed that the West zone and Southeast zone deposits occupy two separate troughs flanking a narrow horst block formed of chert pebble conglomerate. Flanking sediments wedge out against the horst block and substantial differences in stratigraphy exist between the two troughs.
The horst block separating the Tom West and Southeast zones coincides with a tightly folded north-south doubly-plunging anticline ('Tom anticline'). Detailed structural analysis by McClay (1983) revealed three phases of folding and faulting. The Tom anticline is a first phase structure which has been refolded by open second phase structures with east-west axes. Second phase folds are associated with low-angle thrust faults and have a well developed axial planar slaty cleavage. Third phase structures are open north-south folds which fold the second phase slaty cleavage. The deformation is related to folding and thrust faulting during the Late Jurassic and Early Cretaceous.
The Tom West zone is a tabular body 1000 m long and up to 40 m thick which dips 60 degrees southwest. It extends downdip for 360 m and is terminated at its south end by a brecciated vent complex. Metal zoning restricts economic mineralization to within 300 m of the vent, based on a 10% Zn + Pb cutoff. Four distinct ore facies are recognized in sequence away from the vent:

(1) The Vent facies consists of network pyrite-pyrrhotite-galena-sphalerite-ankerite-siderite-quartz veins with variable chalcopyrite, arsenopyrite and tetrahedrite. Brecciated sulphide textures and replacement of sedimentary barite, sphalerite and galena by pyrrhotite, pyrite and iron carbonate are characteristic, and grades of 15-30% Pb+Zn and 150-200 g/t Ag are common in the upper part. The lower parts are high in iron sulphides and siderite with 2-5% combined Pb-Zn.

(2) The Pink facies consists of interbedded barite, chert, cream coloured sphalerite, fine grained pyrite and black barium carbonate, silicified and overprinted by recrystallized multi-coloured sphalerite and coarse-grained galena and iron carbonate. Grades of 10-30% Pb+Zn are common in this facies.

(3) The Grey facies forms the largest part of the Tom West zone and consists of interbedded sphalerite, fine grained galena, pyrite, light grey chert, and abundant barite, barium carbonate and barium feldspar. The high barium content has diluted the lead and zinc grades, which typically run 0-2% lead, 4-5% zinc and negligible silver. The light grey colour reflects bleaching of organic matter from the chert.

(4) The Black facies consists of black chert and mudstone with fine laminae of sphalerite, galena, pyrite and barite-witherite. Grades are as low as 4-10% Zn+Pb in this zone, except for the upper few metres which grade low in silver and lead but contain 7-12% Zn and were included in Hudson Bay's ore calculations. The contact between the black facies rocks and the enclosing sediments is gradational, and pyrite and minor sphalerite and barite laminae extend hundreds of metres into the overlying chert and mudstone.

The Tom East zone consists of a series of contorted fault-bounded pods of high grade laminated barite, chert, sphalerite and galena, near the hinge of the Tom anticline. Grades are approximately 22% Zn+Pb, and 165 g/t Ag.
The Tom Southeast zone is thinner and higher grade than most of the west zone. It consists of a tabular body 400 m long and 0.5 to 6 m thick which dips 60-70 degrees east. The zone extends downdip for at least 350 m. Mineralization consists of finely laminated sphalerite, galena, pyrite and black cherty mudstone, with a much lower barium content than the west and east zones. Grades are approximately 8-13% Pb, 8-12% Zn and up to 277.7 g/t Ag. Barite content ranges from 0.6% at the south end close to the vent to 3.0% further north.

Geochemical studies of the West zone deposit have shown that copper, lead, silver, antimony and arsenic are concentrated in the Vent facies, zinc and mercury are most abundant in the Pink facies, and barium is enriched in the Pink and Grey facies. Lead and strontium isotope ratios indicate that the metals are derived from a radiogenic crustal source, probably the Canadian Shield to the east. Fluid inclusions in quartz and siderite yield homogenization temperatures in the range 157 to 335°C, and an average salinity of 9.1 wt-% NaCl equivalent. Primary depositional and early diagenetic textures are well preserved.

Trenching and hand pitting on the Tom South and TS claims in 1980 encountered only barren Upper Devonian stratigraphy. Canico discovered baritic, but otherwise barren, Upper Devonian shale horizons on the Cree and Sioux claims. Minor disseminated galena, sphalerite and stibnite were also discovered in a granodiorite dyke cutting Devonian strata on the southern part of the Sioux claims.

Work History

Date	Work Type	Comment
12/31/1991	Drilling	Eight holes, 2,883 m. Drilled peripheral to geochemical and geological targets.
12/31/1990	Drilling	Seven holes, 3,578 m.
12/31/1989	Drilling	Four holes, 2,175 m.
12/31/1988	Drilling	Four holes, 2,226 m. Drilling of the West and Southeast zones at depth.
12/31/1988	Geology	
12/31/1985	Trenching	
12/31/1982	Trenching	
12/31/1981	Geochemistry	
12/31/1981	Drilling	Thirty holes, 2,621 m. Twelve surface holes, 18 underground holes. Work started in 1980.
12/31/1981	Geochemistry	
12/31/1981	Trenching	
12/31/1980	Geochemistry	
12/31/1980	Geochemistry	
12/31/1980	Trenching	
12/31/1979	Drilling	Fifteen holes, 2,295 m.
12/31/1979	Geology	
12/31/1979	Ground Geophysics	
12/31/1978	Drilling	Five holes, 587 m.
12/31/1976	Geology	
12/31/1976	Geochemistry	
12/31/1976	Ground Geophysics	Also gravity surveys.
12/31/1976	Trenching	
12/31/1970	Geochemistry	Metallurgical testing.
12/31/1970	Drilling	Seventy-five holes, 3,617 m. Underground drilling.
12/31/1970	Development, Underground	Approximately 1,809 m.
12/31/1968	Drilling	Sixteen holes, 3,233 m.
12/31/1966	Geology	
12/31/1966	Geochemistry	Also rock sampling.
12/31/1966	Ground Geophysics	
12/31/1951	Drilling	Thirty-seven holes 5,435 m. Drilled between 1951 and 1953.
12/31/1951	Geology	
12/31/1951	Trenching	
12/1/2021	Geochemistry	
12/1/2021	Lab Work/Physical Studies	
12/1/2019	Ground Geophysics	
12/1/2019	Geochemistry	
12/1/2019	Drilling	10 holes, 1330.8 m
12/1/2019	Geology	

12/1/2019	Geochemistry	
12/1/2018	Ground Geophysics	
12/1/2018	Geochemistry	
12/1/2018	Drilling	20 holes, 5497 m
12/1/2018	Geochemistry	
12/1/2018	Geology	
12/1/2018	Geology	
12/1/2018	Studies	
12/1/2017	Airborne Geophysics	
12/1/2017	Drilling	14 holes, 2202 m
12/1/2017	Airborne Geophysics	
12/1/2017	Geochemistry	resampled historic drillcore
12/1/2017	Remote Sensing	
12/1/2011	Drilling	11 holes, 1823 m
12/1/2011	Geochemistry	
12/1/2007	Studies	

Assessment Reports that overlap occurrence

Report Number	Year	Title	Worktypes	Holes Drilled	Meters Drilled
097157	2017	Diamond Drilling, Geophysics and Geochemistry Work Completed on the Jason-Mac Claims, Yukon Territory, Canada	Magnetic - Airborne Geophysics, VTEM - Airborne Geophysics, Diamond - Drilling, Detailed Bedrock Mapping - Geology, LIDAR - Remote Sensing	14	2202
096771	2011	2011 Summary Report Diamond Drilling and Exploration at the Tom-Jason Property	Diamond - Drilling, Soil - Geochemistry	11	1823
097195	2007	2011 Summary Report Diamond Drilling and Exploration at the Tom-Jason Property	Preliminary Economic Assessment - Studies		
093827	1997	1997 Geological Assessment Report on Emerald Lake Claims	Rock - Geochemistry, Silt - Geochemistry, Soil - Geochemistry		
091790	1985	Feasibility Study on Tom/Jason Project	Environmental Assessment/Impact - Studies, Pre-feasibility - Studies		
090678	1980	Geological - Geochemical Assessment Report Tom 147-183	Rock - Geochemistry, Soil - Geochemistry, Detailed Bedrock Mapping - Geology		
092866	1976	[Orthophoto Survey MacMillan Pass]	Orthophoto - Airphotography		
060458	1971	Compilation Geology Map, Macmillan Pass Area, 105O01	Data Compilation - Pre-existing Data		
091709	1970	Drill Logs for Drilling on Tom property	Diamond - Drilling	128	13883.88
019035	1968	1968 Progress Report and Proposed Program 1969 Itsi Project	Silt - Geochemistry, Bedrock Mapping - Geology, Prospecting - Other		
092053	1953	[Diamond Drill Report on Tom Mineral Claims]	Diamond - Drilling	39	5435.80

Related References

Number	Title	Page(s)	Reference Type	Document Type
ARMC900009	Progress Reports - Selwyn Project 1973		Property File Collection	Miscellaneous Company Documents
ARMC016457	Geology map overlay - Hess project - Figure No.2		Property File Collection	Geoscience Map (Geological - Bedrock)
ARMC016458	Geochemical Results overlay map - 105O/1		Property File Collection	Geochemical Map
ARMC018177	Field map of 105O/3 with geological notations		Property File Collection	Geoscience Map (Geological - Bedrock)
ARMC018181	Geology and development of the Tom group - Notes on a talk, taken by Dave S. Jennings		Property File Collection	Report
ARMC018183	Field sheet map 105O/1 with notations - Tom group		Property File Collection	Geoscience Map (General)
ARMC018185	Field sheet map 105O/1 with geological notations		Property File Collection	Geoscience Map (General)
ARMC018191	Field sheet of 105O Niddery Lake with notations re: streams where silt samples have been taken		Property File Collection	Geoscience Map (General)
YEG1985_86	Yukon Exploration 1985-86	p. 278	Indian & Northern Affairs Canada/Department of Indian & Northern Development: Exploration & Geological Services Division	Annual Report

YEG1990	Yukon Exploration 1990	p.6	Indian & Northern Affairs Canada/Department of Indian & Northern Development: Exploration & Geological Services Division	Annual Report
YEG1991	Yukon Exploration 1991	p. 5, 9, 12	Indian & Northern Affairs Canada/Department of Indian & Northern Development: Exploration & Geological Services Division	Annual Report

Resource/Reserve

Year	Zone	Type	Commodity	Grade	Tonnage	Amount	Reported Amount	43-101 Compliant	Cut-off
2007	TOM - TOTAL RESERVES (UNDERGROUND)	Inferred	lead	3.1 %	13,555,000		No	Yes	Unknown
Cut-off grades equal US$0.57/lb Zinc, US$0.35/lb Lead and US$7.00/oz Silver. Metal prices were provided by HudBay.; Technical Report on the Tom and Jason Deposits, Yukon Territory, Canada. Prepared for Hudbay Minerals Inc. by D.W. Rennie - Scott Wilson Roscoe Postles Associates Inc. Available on Sedar. (tonnage figure rounded off). As reported on Hudson Bay Minerals website.									
2007	TOM - TOTAL RESERVES (UNDERGROUND)	Indicated	lead	4.36 %	4,980,000		No	Yes	Unknown
Cut-off grades equal US$0.57/lb Zinc, US$0.35/lb Lead and US$7.00/oz Silver. Metal prices were provided by HudBay.; Technical Report on the Tom and Jason Deposits, Yukon Territory, Canada. Prepared for Hudbay Minerals Inc. by D.W. Rennie - Scott Wilson Roscoe Postles Associates Inc. Available on Sedar. (tonnage figure rounded off). As reported on Hudson Bay Minerals website.									
2007	TOM - TOTAL RESERVES (UNDERGROUND)	Inferred	silver	31.8 g/t	13,555,000		No	Yes	Unknown
Cut-off grades equal US$0.57/lb Zinc, US$0.35/lb Lead and US$7.00/oz Silver. Metal prices were provided by HudBay.; Technical Report on the Tom and Jason Deposits, Yukon Territory, Canada. Prepared for Hudbay Minerals Inc. by D.W. Rennie - Scott Wilson Roscoe Postles Associates Inc. Available on Sedar. (tonnage and grade figure rounded off). As reported on Hudson Bay Minerals website.									
2007	TOM - TOTAL RESERVES (UNDERGROUND)	Indicated	silver	47.8 g/t	4,980,000		No	Yes	Unknown
Cut-off grades equal US$0.57/lb Zinc, US$0.35/lb Lead and US$7.00/oz Silver. Metal prices were provided by HudBay.; Technical Report on the Tom and Jason Deposits, Yukon Territory, Canada. Prepared for Hudbay Minerals Inc. by D.W. Rennie - Scott Wilson Roscoe Postles Associates Inc. Available on Sedar. (tonnage and grade figure rounded off). As reported on Hudson Bay Minerals website.									
2007	TOM - TOTAL RESERVES (UNDERGROUND)	Inferred	zinc	6.68 %	13,550,000		No	Yes	Unknown
Cut-off grades equal US$0.57/lb Zinc, US$0.35/lb Lead and US$7.00/oz Silver. Metal prices were provided by HudBay.; Technical Report on the Tom and Jason Deposits, Yukon Territory, Canada. Prepared for Hudbay Minerals Inc. by D.W. Rennie - Scott Wilson Roscoe Postles Associates Inc. Available on Sedar. (tonnage figure rounded off). As reported on Hudson Bay Minerals website.									
2007	TOM - TOTAL RESERVES (UNDERGROUND)	Indicated	zinc	6.64 %	4,980,000		No	Yes	Unknown
Cut-off grades equal US$0.57/lb Zinc, US$0.35/lb Lead and US$7.00/oz Silver. Metal prices were provided by HudBay.; Technical Report on the Tom and Jason Deposits, Yukon Territory, Canada. Prepared for Hudbay Minerals Inc. by D.W. Rennie - Scott Wilson Roscoe Postles Associates Inc. Available on Sedar. (tonnage figure rounded off). As reported on Hudson Bay Minerals website.									
1985	TOM - TOTAL RESERVES (UNDERGROUND)	Historical Estimate	lead	7.25 %	6,687,286		No	No	Unknown
Study reported two figures which for these purposes have been classified as follows: Geological Reserves, Proven = Indicated Mineral Resource and Geological Reserves, Probable = Inferred Resource.; HUDSON BAY MINING AND SMELTING COMPANY LTD and ABERFORD RESOURCES LTD, Mar/86. Assessment Report #091791 by G. Brown et al.									
1985	WEST ZONE (UNDERGROUND)	Historical Estimate	lead	4.6 %	4,350,181		No	No	Unknown
Study reported two figures which for these purposes have been classified as follows: Geological Reserves, Proven = Indicated Mineral Resource and Geological Reserves, Probable = Inferred Resource.; HUDSON BAY MINING AND SMELTING COMPANY LTD and ABERFORD RESOURCES LTD, Mar/86. Assessment Report #091791 by G. Brown et al.									
1985	EAST ZONE (UNDERGROUND)	Historical Estimate	lead	12.8 %	2,337,105		No	No	Unknown
Study reported two figures which for these purposes have been classified as follows: Geological Reserves, Proven = Indicated Mineral Resource and Geological Reserves, Probable = Inferred Resource.; HUDSON BAY MINING AND SMELTING COMPANY LTD and ABERFORD RESOURCES LTD, Mar/86. Assessment Report #091791 by G. Brown et al.									
1985	TOM - TOTAL RESERVES (UNDERGROUND)	Historical Estimate	silver	88.97 g/t	6,687,286		No	No	Unknown
Study reported two figures which for these purposes have been classified as follows: Geological Reserves, Proven = Indicated Mineral Resource and Geological Reserves, Probable = Inferred Resource.; HUDSON BAY MINING AND SMELTING COMPANY LTD and ABERFORD RESOURCES LTD, Mar/86. Assessment Report #091791 by G. Brown et al.									
1985	WEST ZONE (UNDERGROUND)	Historical Estimate	silver	46.98 g/t	4,350,181		No	No	Unknown
Study reported two figures which for these purposes have been classified as follows: Geological Reserves, Proven = Indicated Mineral Resource and Geological Reserves, Probable = Inferred Resource.; HUDSON BAY MINING AND SMELTING COMPANY LTD and ABERFORD RESOURCES LTD, Mar/86. Assessment Report #091791 by G. Brown et al.									
1985	EAST ZONE (UNDERGROUND)	Historical Estimate	silver	167.12 g/t	2,337,105		No	No	Unknown
Study reported two figures which for these purposes have been classified as follows: Geological Reserves, Proven = Indicated Mineral Resource and Geological Reserves, Probable = Inferred Resource.; HUDSON BAY MINING AND SMELTING COMPANY LTD and ABERFORD RESOURCES LTD, Mar/86. Assessment Report #091791 by G. Brown et al.									
1985	TOM - TOTAL RESERVES (UNDERGROUND)	Historical Estimate	zinc	8.43 %	6,687,286		No	No	Unknown
Study reported two figures which for these purposes have been classified as follows: Geological Reserves, Proven = Indicated Mineral Resource and Geological Reserves, Probable = Inferred Resource.; HUDSON BAY MINING AND SMELTING COMPANY LTD and ABERFORD RESOURCES LTD, Mar/86. Assessment Report #091791 by G. Brown et al.									
1985	WEST ZONE (UNDERGROUND)	Historical Estimate	zinc	7.76 %	4,350,181		No	No	Unknown
Study reported two figures which for these purposes have been classified as follows: Geological Reserves, Proven = Indicated Mineral Resource and Geological Reserves, Probable = Inferred Resource.; HUDSON BAY MINING AND SMELTING COMPANY LTD and ABERFORD RESOURCES LTD, Mar/86. Assessment Report #091791 by G. Brown et al.									
1985	EAST ZONE (UNDERGROUND)	Historical Estimate	zinc	9.68 %	2,337,105		No	No	Unknown
Study reported two figures which for these purposes have been classified as follows: Geological Reserves, Proven = Indicated Mineral Resource and Geological Reserves, Probable = Inferred Resource.; HUDSON BAY MINING AND SMELTING COMPANY LTD and ABERFORD RESOURCES LTD, Mar/86. Assessment Report #091791 by G. Brown et al.									
1985	TOM - TOTAL RESERVES (UNDERGROUND)	Historical Estimate	lead	5.99 %	2,282,410		No	No	Unknown
Study reported two figures which for these purposes have been classified as follows: Geological Reserves, Proven = Indicated Mineral Resource and Geological Reserves, Probable = Inferred Resource.; HUDSON BAY MINING AND SMELTING COMPANY LTD and ABERFORD RESOURCES LTD, Mar/86. Assessment Report #091791 by G. Brown et al.									
1985	WEST ZONE (UNDERGROUND)	Historical Estimate	lead	5.99 %	2,282,410		No	No	Unknown
Study reported two figures which for these purposes have been classified as follows: Geological Reserves, Proven = Indicated Mineral Resource and Geological Reserves, Probable = Inferred Resource.; HUDSON BAY MINING AND SMELTING COMPANY LTD and ABERFORD RESOURCES LTD, Mar/86. Assessment Report #091791 by G. Brown et al.									

1985	TOM - TOTAL RESERVES (UNDERGROUND)	Historical Estimate	silver	53.05 g/t	2,282,410		No	No	Unknown
Study reported two figures which for these purposes have been classified as follows: Geological Reserves, Proven = Indicated Mineral Resource and Geological Reserves, Probable = Inferred Resource.; HUDSON BAY MINING AND SMELTING COMPANY LTD and ABERFORD RESOURCES LTD, Mar/86. Assessment Report #091791 by G. Brown et al.									
1985	WEST ZONE (UNDERGROUND)	Historical Estimate	silver	53.05 g/t	2,282,410		No	No	Unknown
Study reported two figures which for these purposes have been classified as follows: Geological Reserves, Proven = Indicated Mineral Resource and Geological Reserves, Probable = Inferred Resource.; HUDSON BAY MINING AND SMELTING COMPANY LTD and ABERFORD RESOURCES LTD, Mar/86. Assessment Report #091791 by G. Brown et al.									
1985	TOM - TOTAL RESERVES (UNDERGROUND)	Historical Estimate	zinc	8.8 %	2,282,410		No	No	Unknown
Study reported two figures which for these purposes have been classified as follows: Geological Reserves, Proven = Indicated Mineral Resource and Geological Reserves, Probable = Inferred Resource.; HUDSON BAY MINING AND SMELTING COMPANY LTD and ABERFORD RESOURCES LTD, Mar/86. Assessment Report #091791 by G. Brown et al.									
1985	WEST ZONE (UNDERGROUND)	Historical Estimate	zinc	8.8 %	2,282,410		No	No	Unknown
Study reported two figures which for these purposes have been classified as follows: Geological Reserves, Proven = Indicated Mineral Resource and Geological Reserves, Probable = Inferred Resource.; HUDSON BAY MINING AND SMELTING COMPANY LTD and ABERFORD RESOURCES LTD, Mar/86. Assessment Report #091791 by G. Brown et al.									
1985	TOM - TOTAL RESERVES (UNDERGROUND)	Historical Estimate	lead	6.19 %	9,283,700		No	No	Unknown
Summary reported two figures which for these purposes have been classified as follows: Geological Reserves = Inferred Mineral Resource and Mining Reserves = Indicated Resource.; MCCLAY, K.R. AND BIDWELL, G.E., 1986. Geology of the Tom deposit, Macmillan Pass, Yukon. In: Mineral Deposits of the Northern Cordillera, J.A. Morin (ed.), Canadian Institute of Mining and Metallurgy Special Volume 37, p. 100-115.									
1985	TOM - TOTAL RESERVES (UNDERGROUND)	Historical Estimate	lead	4.61 %	15,722,500		No	No	Unknown
Summary reported two figures which for these purposes have been classified as follows: Geological Reserves = Inferred Mineral Resource and Mining Reserves = Indicated Resource.; MCCLAY, K.R. AND BIDWELL, G.E., 1986. Geology of the Tom deposit, Macmillan Pass, Yukon. In: Mineral Deposits of the Northern Cordillera, J.A. Morin (ed.), Canadian Institute of Mining and Metallurgy Special Volume 37, p. 100-115.									
1985	EAST ZONE (UNDERGROUND)	Historical Estimate	lead	11.13 %	2,418,900		No	No	Unknown
Summary reported two figures which for these purposes have been classified as follows: Geological Reserves = Inferred Mineral Resource and Mining Reserves = Indicated Resource.; MCCLAY, K.R. AND BIDWELL, G.E., 1986. Geology of the Tom deposit, Macmillan Pass, Yukon. In: Mineral Deposits of the Northern Cordillera, J.A. Morin (ed.), Canadian Institute of Mining and Metallurgy Special Volume 37, p. 100-115.									
1985	WEST ZONE (UNDERGROUND)	Historical Estimate	lead	4.44 %	6,864,800		No	No	Unknown
Summary reported two figures which for these purposes have been classified as follows: Geological Reserves = Inferred Mineral Resource and Mining Reserves = Indicated Resource.; MCCLAY, K.R. AND BIDWELL, G.E., 1986. Geology of the Tom deposit, Macmillan Pass, Yukon. In: Mineral Deposits of the Northern Cordillera, J.A. Morin (ed.), Canadian Institute of Mining and Metallurgy Special Volume 37, p. 100-115.									
1985	EAST ZONE (UNDERGROUND)	Historical Estimate	lead	12.8 %	2,337,100		No	No	Unknown
Summary reported two figures which for these purposes have been classified as follows: Geological Reserves = Inferred Mineral Resource and Mining Reserves = Indicated Resource.; MCCLAY, K.R. AND BIDWELL, G.E., 1986. Geology of the Tom deposit, Macmillan Pass, Yukon. In: Mineral Deposits of the Northern Cordillera, J.A. Morin (ed.), Canadian Institute of Mining and Metallurgy Special Volume 37, p. 100-115.									
1985	WEST ZONE (UNDERGROUND)	Historical Estimate	lead	3.19 %	13,385,400		No	No	Unknown
Summary reported two figures which for these purposes have been classified as follows: Geological Reserves = Inferred Mineral Resource and Mining Reserves = Indicated Resource.; MCCLAY, K.R. AND BIDWELL, G.E., 1986. Geology of the Tom deposit, Macmillan Pass, Yukon. In: Mineral Deposits of the Northern Cordillera, J.A. Morin (ed.), Canadian Institute of Mining and Metallurgy Special Volume 37, p. 100-115.									
1985	TOM - TOTAL RESERVES (UNDERGROUND)	Historical Estimate	silver	69.4 g/t	9,283,700		No	No	Unknown
Summary reported two figures which for these purposes have been classified as follows: Geological Reserves = Inferred Mineral Resource and Mining Reserves = Indicated Resource.; MCCLAY, K.R. AND BIDWELL, G.E., 1986. Geology of the Tom deposit, Macmillan Pass, Yukon. In: Mineral Deposits of the Northern Cordillera, J.A. Morin (ed.), Canadian Institute of Mining and Metallurgy Special Volume 37, p. 100-115.									
1985	TOM - TOTAL RESERVES (UNDERGROUND)	Historical Estimate	silver	49.1 g/t	15,722,500		No	No	Unknown
Summary reported two figures which for these purposes have been classified as follows: Geological Reserves = Inferred Mineral Resource and Mining Reserves = Indicated Resource.; MCCLAY, K.R. AND BIDWELL, G.E., 1986. Geology of the Tom deposit, Macmillan Pass, Yukon. In: Mineral Deposits of the Northern Cordillera, J.A. Morin (ed.), Canadian Institute of Mining and Metallurgy Special Volume 37, p. 100-115.									
1985	EAST ZONE (UNDERGROUND)	Historical Estimate	silver	145.4 g/t	2,418,900		No	No	Unknown
Summary reported two figures which for these purposes have been classified as follows: Geological Reserves = Inferred Mineral Resource and Mining Reserves = Indicated Resource.; MCCLAY, K.R. AND BIDWELL, G.E., 1986. Geology of the Tom deposit, Macmillan Pass, Yukon. In: Mineral Deposits of the Northern Cordillera, J.A. Morin (ed.), Canadian Institute of Mining and Metallurgy Special Volume 37, p. 100-115.									
1985	WEST ZONE (UNDERGROUND)	Historical Estimate	silver	42.6 g/t	6,864,800		No	No	Unknown
Summary reported two figures which for these purposes have been classified as follows: Geological Reserves = Inferred Mineral Resource and Mining Reserves = Indicated Resource.; MCCLAY, K.R. AND BIDWELL, G.E., 1986. Geology of the Tom deposit, Macmillan Pass, Yukon. In: Mineral Deposits of the Northern Cordillera, J.A. Morin (ed.), Canadian Institute of Mining and Metallurgy Special Volume 37, p. 100-115.									
1985	EAST ZONE (UNDERGROUND)	Historical Estimate	silver	167.3 g/t	2,337,100		No	No	Unknown
Summary reported two figures which for these purposes have been classified as follows: Geological Reserves = Inferred Mineral Resource and Mining Reserves = Indicated Resource.; MCCLAY, K.R. AND BIDWELL, G.E., 1986. Geology of the Tom deposit, Macmillan Pass, Yukon. In: Mineral Deposits of the Northern Cordillera, J.A. Morin (ed.), Canadian Institute of Mining and Metallurgy Special Volume 37, p. 100-115.									
1985	WEST ZONE (UNDERGROUND)	Historical Estimate	silver	28.5 g/t	13,385,400		No	No	Unknown
Summary reported two figures which for these purposes have been classified as follows: Geological Reserves = Inferred Mineral Resource and Mining Reserves = Indicated Resource.; MCCLAY, K.R. AND BIDWELL, G.E., 1986. Geology of the Tom deposit, Macmillan Pass, Yukon. In: Mineral Deposits of the Northern Cordillera, J.A. Morin (ed.), Canadian Institute of Mining and Metallurgy Special Volume 37, p. 100-115.									
1985	TOM - TOTAL RESERVES (UNDERGROUND)	Historical Estimate	zinc	7.49 %	9,283,700		No	No	Unknown
Summary reported two figures which for these purposes have been classified as follows: Geological Reserves = Inferred Mineral Resource and Mining Reserves = Indicated Resource.; MCCLAY, K.R. AND BIDWELL, G.E., 1986. Geology of the Tom deposit, Macmillan Pass, Yukon. In: Mineral Deposits of the Northern Cordillera, J.A. Morin (ed.), Canadian Institute of Mining and Metallurgy Special Volume 37, p. 100-115.									
1985	TOM - TOTAL RESERVES (UNDERGROUND)	Historical Estimate	zinc	7 %	15,722,500		No	No	Unknown

Summary reported two figures which for these purposes have been classified as follows: Geological Reserves = Inferred Mineral Resource and Mining Reserves = Indicated Resource.; MCCLAY, K.R. AND BIDWELL, G.E., 1986. Geology of the Tom deposit, Macmillan Pass, Yukon. In: Mineral Deposits of the Northern Cordillera, J.A. Morin (ed.), Canadian Institute of Mining and Metallurgy Special Volume 37, p. 100-115.									
1985	EAST ZONE (UNDERGROUND)	Historical Estimate	zinc	8.42 %	2,418,900		No	No	Unknown
Summary reported two figures which for these purposes have been classified as follows: Geological Reserves = Inferred Mineral Resource and Mining Reserves = Indicated Resource.; MCCLAY, K.R. AND BIDWELL, G.E., 1986. Geology of the Tom deposit, Macmillan Pass, Yukon. In: Mineral Deposits of the Northern Cordillera, J.A. Morin (ed.), Canadian Institute of Mining and Metallurgy Special Volume 37, p. 100-115.									
1985	WEST ZONE (UNDERGROUND)	Historical Estimate	zinc	7.16 %	6,864,800		No	No	Unknown
Summary reported two figures which for these purposes have been classified as follows: Geological Reserves = Inferred Mineral Resource and Mining Reserves = Indicated Resource.; MCCLAY, K.R. AND BIDWELL, G.E., 1986. Geology of the Tom deposit, Macmillan Pass, Yukon. In: Mineral Deposits of the Northern Cordillera, J.A. Morin (ed.), Canadian Institute of Mining and Metallurgy Special Volume 37, p. 100-115.									
1985	EAST ZONE (UNDERGROUND)	Historical Estimate	zinc	9.68 %	2,337,100		No	No	Unknown
Summary reported two figures which for these purposes have been classified as follows: Geological Reserves = Inferred Mineral Resource and Mining Reserves = Indicated Resource.; MCCLAY, K.R. AND BIDWELL, G.E., 1986. Geology of the Tom deposit, Macmillan Pass, Yukon. In: Mineral Deposits of the Northern Cordillera, J.A. Morin (ed.), Canadian Institute of Mining and Metallurgy Special Volume 37, p. 100-115.									
1985	WEST ZONE (UNDERGROUND)	Historical Estimate	zinc	6.53 %	13,385,400		No	No	Unknown
Summary reported two figures which for these purposes have been classified as follows: Geological Reserves = Inferred Mineral Resource and Mining Reserves = Indicated Resource.; MCCLAY, K.R. AND BIDWELL, G.E., 1986. Geology of the Tom deposit, Macmillan Pass, Yukon. In: Mineral Deposits of the Northern Cordillera, J.A. Morin (ed.), Canadian Institute of Mining and Metallurgy Special Volume 37, p. 100-115.									

Drill core at YGS core library

Number	Property	Year Drilled	Core Size	Photos	Data
TYK-002	Tom	2011	HQ	24	4
T-91-14	Tom	1991		12	1
TU-79	Tom	1979	NQ	12	1
DDH U-58	Tom	1971	BQ	8	2
DDH U-60	Tom	1971	NQ-BQ	2	3
DDH U-61	Tom	1971	BQ	2	3
DDH U-63	Tom	1971	BQ	12	2
DDH U-1	Tom	1970	BQ	0	4
DDH U-10	Tom	1970	BQ	8	3
DDH U-11	Tom	1970	BQ	4	2
DDH U-12	Tom	1970	BQ	2	3
DDH U-13	Tom	1970	BQ	2	3
DDH U-14	Tom	1970	BQ	2	3
DDH U-15	Tom	1970	BQ	0	4
DDH U-16	Tom	1970	BQ	2	3
DDH U-17	Tom	1970	BQ	0	4
DDH U-18	Tom	1970	BQ	2	3
DDH U-19	Tom	1970	BQ	2	3
DDH U-2	Tom	1970	BQ	0	3
DDH U-20	Tom	1970	BQ	2	3
DDH U-21	Tom	1970	BQ	6	3
DDH U-22	Tom	1970	BQ	0	2
DDH U-23	Tom	1970	BQ	2	3
DDH U-24	Tom	1970	BQ	6	4
DDH U-25	Tom	1970	BQ	2	3
DDH U-26	Tom	1970	BQ	6	3
DDH U-27	Tom	1970	BQ	2	3
DDH U-28	Tom	1970	BQ	2	3
DDH U-29	Tom	1970	BQ	2	2
DDH U-3	Tom	1970	BQ	0	2

DDH U-30	Tom	1970	BQ	4	3
DDH U-31	Tom	1970	BQ	4	3
DDH U-32	Tom	1970	BQ	4	3
DDH U-33	Tom	1970	BQ	2	3
DDH U-34	Tom	1970	BQ	4	3
DDH U-35	Tom	1970	BQ	2	3
DDH U-36	Tom	1970	BQ	2	2
DDH U-37	Tom	1970	BQ	2	3
DDH U-38	Tom	1970	BQ	2	2
DDH U-39	Tom	1970	BQ	6	3
DDH U-4	Tom	1970	BQ	0	3
DDH U-40	Tom	1970	BQ	6	4
DDH U-41	Tom	1970	BQ	3	2
DDH U-42	Tom	1970	BQ	2	2
DDH U-43	Tom	1970	BQ	2	3
DDH U-44	Tom	1970	BQ	3	2
DDH U-45	Tom	1970	BQ	2	3
DDH U-46	Tom	1970	BQ	8	3
DDH U-47	Tom	1970	BQ	6	3
DDH U-48	Tom	1970	BQ	4	2
DDH U-49	Tom	1970	BQ	2	3
DDH U-5	Tom	1970	BQ	0	3
DDH U-50	Tom	1970	BQ	2	3
DDH U-51	Tom	1970	BQ	4	3
DDH U-52	Tom	1970	BQ	6	2
DDH U-53	Tom	1970	BQ	2	4
DDH U-54	Tom	1970	BQ	2	3
DDH U-55	Tom	1970	BQ	2	3
DDH U-56	Tom	1970	BQ	2	3
DDH U-57	Tom	1970	BQ	2	3
DDH U-59	Tom	1970	BQ	2	2
DDH U-6	Tom	1970	BQ	0	3
DDH U-62	Tom	1970	AQ	16	3
DDH U-7	Tom	1970	BQ	0	3
DDH U-8	Tom	1970	BQ	0	3
DDH U-9	Tom	1970	BQ	0	3
U63-W-1	Tom	1970	AQ	22	3
TOM-60	Tom	1968	BQ	0	1