Location/Identification

MINFILE Number: 092F 071
National Mineral Inventory Number: 092F12 Zn1
Name(s): **LYNX (MYRA FALLS)**
MYRA FALLS (LYNX), LYNX MINE, WEST G, G, S, SOUTH WALL, LYNX WEST, RIDGE WEST, MARSHALL

Status: Past Producer
Mining Division: Alberni
Mining Method Underground, Open Pit
Electoral District: North Island
Regions: British Columbia, Vancouver Island
Resource District: Campbell River Forest District
BCGS Map: 092F052
NTS Map: 092F12E
UTM Zone: 10 (NAD 83)
Latitude: 49 34 03 N
Northing: 5493805
Longitude: 125 36 18 W
Easting: 311648
Elevation: 427 metres
Location Accuracy: Within 500M
Comments: The Lynx portal is located on the boundary of Lots 1659 and 1660, 0.5 kilometre north of Myra Creek, 3 kilometres west of Buttle Lake (from Wright Engineers in Property File, 092F 072 (Myra deposit)). See also H-W (092F 330), Myra (092F 072) and Price (092F 073). The Lynx also includes Myra production (1972-1985); see H-W for Lynx production after 1985.

Mineral Occurrence

Commodities: Copper, Zinc, Lead, Gold, Silver, Cadmium

Minerals
Significant: Chalcopyrite, Sphalerite, Galena, Pyrite, Tennantite, Bornite, Stromeyerite, Digenite, Covellite
Associated: Quartz, Sericite, Chlorite, Talc, Pyrrhotite, Barite
Alteration: Sericite, Quartz, Pyrite
Alteration Type: Sericitic, Silicific'n, Pyrite
Mineralization Age: Upper Devonian
Isotopic Age: 370 Ma **Dating Method:** Rubidium/Strontium **Material Dated:** Whole rocks

Deposit
Character: Massive, Stratiform
Classification: Volcanogenic, Syngenetic, Exhalative
Type: G06: Noranda/Kuroko massive sulphide Cu-Pb-Zn
Shape: Tabular **Modifier:** Faulted
Dimension: 2500x700x12 metres **Strike/Dip:** 315/65W
Comments: Age date on the Myra Formation from Juras 1987, page 109. The four ore zones comprising the Lynx deposit occur over an area 2.5 by 0.7 kilometres. Lenses are up to 12 metres thick and 244 metres long.

Host Rock

Dominant Host Rock: Volcanic

Stratigraphic Age	Group	Formation	Igneous/Metamorphic/Other
Upper Devonian	Sicker	Myra	------
Upper Devonian	Sicker	Price	------
Jurassic	------	------	Island Plutonic Suite
Tertiary	------	------	Mount Washington Intrus. Suite

Isotopic Age	Dating Method	Material Dated
370 Ma	Rubidium/Strontium	370 Ma
------	------	------
166 +/- 8 Ma	Potassium/Argon	Biotite
39 Ma	Potassium/Argon	Biotite

Lithology: Quartz Feldspar Rhyolite Tuff, Chert, Dacite Flow Breccia, Tuff, Andesite Flow, Rhyolite, Pillow Basalt, Pyroclastic, Felsic Rhyolite, Granitic Dike

Comments: Age dates from Geological Survey of Canada Paper 72-44 and Juras, 1987. Sicker Group is possibly as young as Pennsylvanian.

Geological Setting

Tectonic Belt: Insular
Physiographic Area: Vancouver Island Ranges
Terrane: Wrangell, Plutonic Rocks

Metamorphic Type: Regional
Grade: Greenschist
Comments: Located in the Buttle Lake uplift.

Inventory

Ore Zone: MARSHALL
Year: 1999
Category: Combined
Report On: Y
Quantity: 320,000 tonnes
NI 43-101: N

Commodity	Grade
Silver	105.6000 grams per tonne
Gold	2.5000 grams per tonne
Copper	0.7000 per cent
Lead	0.7000 per cent
Zinc	7.6000 per cent

Comments:
Reference: Northern Miner, June 28, 1999.

Ore Zone: LYNX
Year: 1993
Category: Combined
Report On: Y
Quantity: 315,300 tonnes
NI 43-101: N

Commodity	Grade
Silver	94.0000 grams per tonne
Gold	3.0000 grams per tonne
Copper	1.7000 per cent
Lead	1.1000 per cent
Zinc	10.0000 per cent

Comments: Proven and probable geological reserves.
Reference: George Cross News Letter No.30 (February 12), 1993.

Summary Production

		Metric		Imperial	
	Mined:	5,726,656	tonnes	6,312,557	tons
	Milled:	5,751,251	tonnes	6,339,669	tons
Recovery	Silver	505,139,451	grams	16,240,610	ounces
	Gold	10,710,031	grams	344,335	ounces
	Zinc	375,790,188	kilograms	828,475,550	pounds
	Copper	77,016,815	kilograms	169,793,013	pounds
	Lead	48,706,774	kilograms	107,380,056	pounds
	Cadmium	1,348,178	kilograms	2,972,224	pounds

Capsule Geology

The Myra Falls Operation includes the Lynx (092F 071), Myra (092F 072), Price (092F 073) and H-W (092F 330) deposits and associated zones. The Lynx volcanogenic massive sulphide deposit occurs within the southern part of the Buttle Lake uplift. This discreet belt of northwest striking

Upper Paleozoic rocks is bounded on the east by Upper Triassic Karmutsen Formation volcanics (Vancouver Group) and on the west by the Early to Middle Jurassic Island Plutonic Suite. The geology of the uplift has recently been reinterpreted and the stratigraphy has been reassigned to several new formations of a redefined Sicker Group and the new Buttle Lake Group (formerly the upper part of the Sicker Group), (Juras, 1987; Massey, Personal Communication, 1990).

The Buttle Lake Group consists of: (1) the Lower Permian(?) Henshaw Formation composed of conglomerate, epiclastic deposits and vitric tuffs; and (2) the Lower Permian to Pennsylvanian Azure Lake Formation (formerly Buttle Lake Formation) consisting of crinoidal limestone and minor chert.

The Sicker Group consists of: (1) the Mississippian(?) or Pennsylvanian(?) Flower Ridge Formation largely comprising coarse mafic pyroclastic deposits; (2) the Lower Mississippian(?) Thelwood Formation, a bedded sequence of siliceous tuffaceous sediments, subaqueous pyroclastic deposits and mafic sills; (3) the Upper Devonian Myra Formation consisting of basaltic to rhyolitic flows and volcaniclastic rocks, lesser epiclastic sediments, argillites and cherts, and massive sulphide mineralization; and (4) the Upper Devonian or older Price Formation comprising feldspar-pyroxene porphyritic andesite flows, flow breccias and minor pyroclastic deposits.

The Buttle Lake uplift stratigraphy indicates deposition in a rift basin in an island arc environment. It has been intruded by granitic dykes related mainly to the Island Plutonic Suite. A 1- kilometre wide stock of Tertiary intrusives lies about 1 kilometre to the east. This stock (formerly called Catface Intrusions) is related to the new Mount Washington Intrusive Suite of Late Eocene to Early Oligocene age (Nick Massey, Personal Communication, May 1990).

The major occurrences in the Buttle Lake area lie along a northwest striking, 65 degree southwest to steeply northeast dipping zone that is approximately 6 kilometres long. The rocks have been metamorphosed to the lower greenschist facies, and have been deformed along northwest trending subhorizontal open folds. Several regional, west-northwest to north trending faults occur with maximum lateral displacements of about 850 metres. The faults are considered to be post-Mesozoic, and are probably related to Late Cretaceous uplift. The contact between the Myra Formation and the overlying Thelwood Formation is marked by a 2 to 40 metre wide zone of strong schistosity that may represent an Upper Paleozoic low angle fault.

The Myra Formation, dated at 370 million years (Juras, 1987), contains intermediate to felsic volcanics, volcaniclastics, minor argillite and is host to the massive sulphide horizons. The Lynx, Myra (092F 072) and Price (092F 073) deposits lie at the same stratigraphic level as the Myra Formation (the "Mine Sequence" of Juras). The H-W deposit (092F 330) lies below them at the base of the Myra Formation. Westmin Resources' Myra Falls Operations has developed these deposits as four mines. In 1990, the Lynx and H-W mines fed a 4000-tonne per day mill, the Myra mine is depleted and the Price deposit has yet to be used as a source of mill feed.

The major ore zones of the Lynx mine are the G, S, South Wall and the West G zones, all of which are located within an area of 2.5 by 0.7 kilometre.

The massive sulphide horizon lies within a zone of quartz- feldspar rhyolite tuff and minor chert. This tuff is underlain by dacite flow breccia and tuff. The breccia includes clasts of H-W mineralization, andesite flows, the rhyolitic H-W horizon, and the Price Formation. Rocks in the feeder zone below the massive sulphide horizon have undergone sericitization and silicification. Pyrite alteration is evident from disseminated pyrite and pyrite stringer zones.

Overlying the massive sulphide horizon are pillow basalts, mixed pyroclastics and tuffs, felsic rhyolite and flow breccia, all of which are overlain by the Thelwood Formation.

The lenses of massive sulphides occur in a gangue of quartz, sericite, chlorite and talc, and comprise chalcopyrite, galena, sphalerite, pyrite and pockets of barite. Minor tennantite, bornite, pyrrhotite, digenite, covellite and stromeyerite are present. The lenses are up to 12 metres thick and 244 metres long, pinching out along strike.

A significant new discovery of massive sulphides (Gap zone) located underground between the H-W and Lynx mines is believed to be in upper H-W mine stratigraphy. See H-W (092F 331) for further information.

The Lynx occurrence was mined by open pit methods from 1966 to 1976, then by underground mining techniques to the present. Between 1967 and 1988 (inclusive), combined milled production of the Lynx/Myra/H-W Mines totalled 9,162,835 tonnes containing 15,205,759 grams of gold, 615,419,293 grams of silver, 153,750 tonnes of copper, 56,670 tonnes of lead, 525,606 tonnes of zinc and 1,348 tonnes of cadmium (Mineral Policy data).

According to Westmin Resources Annual Report for 1988, up to the end of 1988, the Lynx mine contributed 53.8 per cent, or 4,933,790 tonnes, of a total of 9,170,609 tonnes milled at the Myra Falls Operations. The overall grade of the total ore milled was 2.16 grams per tonne gold, 81.0 grams per tonne silver, 1.83 per cent copper, 0.78 per cent lead and 6.58 per cent zinc. During 1988, the Lynx mine contributed only 9.5 per cent of all ore processed at the mill, the bulk coming from the H-W mine (Westmin Resources Limited Annual Report 1988, page 8).

Proven and probable geological reserves at the Myra Falls operations as of January 1, 1993 are:

Name	Tonnes	Grades				
		Gold g/t	Silver g/t	Copper %	Lead %	Zinc %
H-W Mine	8,955,100	2.2	39.6	1.7	0.4	4.3
Lynx Mine	315,300	3.0	94.0	1.7	1.1	10.0
Price Mine	185,000	1.5	66.4	1.4	1.3	10.4
Gap Zone	634,400	3.2	151.5	1.8	1.1	13.3
Battle Zone	2,013,700	1.1	24.2	2.6	0.5	12.7
Extension (W37) Zone	231,100	1.2	60.4	1.7	0.4	3.8
Trumpeter Zone	61,200	3.2	68.9	6.3	0.3	4.6
6 Level	120,500	1.3	91.4	0.4	0.9	6.0
Total	12,516,100	2.1	45.6	1.9	0.5	6.3

Compiled from George Cross News Letter No. 30 (February 12), 1993. Westmin plans to drill the Marshall zone (discovered in 1993) from 10 level in the Lynx mine and it has started to drive an 800-metre crosscut to provide access. The company completed the first 400 metres in 1997. It will complete the remainder and start drilling in 1998. Elsewhere on 10 level, the company completed five diamond-drill holes (aggregate depth of 3505 metres), looking for detrital sulphide in fine-grained sediment in a local palaeotopographic depression between the H-W and Ridge zones. The holes intersected sulphide; however the results were erratic and grades inconsistent.

Resources in the Marshall zone, situated on the H-W horizon, stand at 320,000 tonnes averaging 7.6 per cent zinc, 0.7 per cent copper, 0.7 per cent lead, 2.5 grams per tonne gold and 105.6 grams per tonne silver. The zone remains open to the east, west and to the north (Northern Miner, June 28, 1999).

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Date Coded:	1985/07/24	**Coded By:**	BC Geological Survey (BCGS)	**Field Check:**	N
Date Revised:	2008/01/31	**Revised By:**	Laura deGroot (LDG)	**Field Check:**	N