Myra Falls
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Tom Schroeter
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Massive Sulphide Deposits at Myra Falls Operations, Vancouver Island, British Columbia

Joint G.A.C.–M.A.C.–S.E.G. Field Trip
May 2003

Part A – Field Trip Guide

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Part B –Overview of Selected Topics on the Massive Sulphide Deposits at Myra Falls

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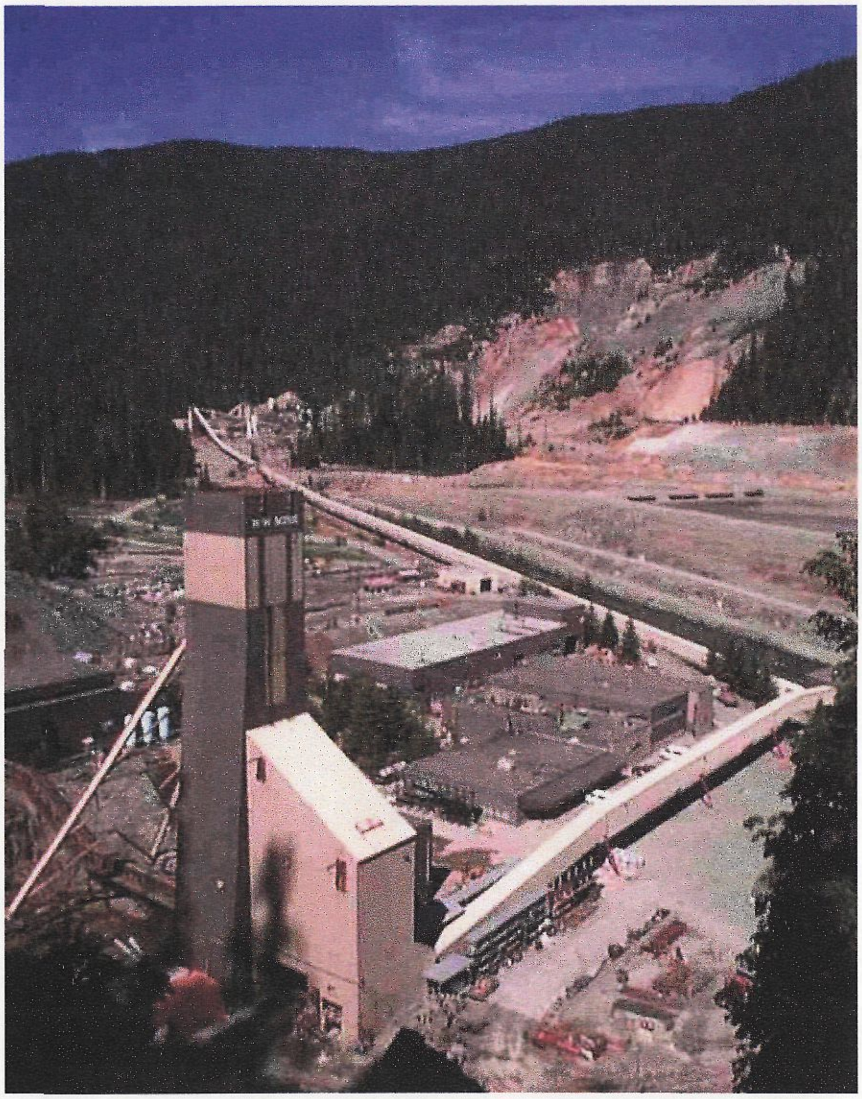

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JOINT GAC-MAC-SEG TOUR – MAY 2003

Introduction

Welcome to Boliden-Westmin's Myra Falls Operations. The property hosts numerous polymetallic Zn-Pb-Cu-Au-Ag rich volcanic hosted massive sulphide (VHMS) deposits. This paper is divided into two parts. The first part is a very brief description of the location, infrastructure, and general geology to quickly introduce the reader to the property. Included in this section is the itinerary and guide for the underground segment of the tour.

The second part delves into selected geological aspects by both academic researchers and company geologists. Studies have focused on characterizing the volcanic stratigraphy, paleotopography, lithogeochemistry, structure, specific individual massive sulphide deposits, metal zoning, and exploration strategy. Included in this paper is the rich exploration and mining history at Myra Falls, as well as summaries of research and observations describing the VHMS deposits at Myra Falls on a property scale. Topics include synvolcanic faults, footwall and hangingwall hydrothermal alteration, orebody geometries, ore reserves, and property scale metal zoning. For purposes of discussion, all directional references in the following text are relative to mine property grid that is rotated +48° east of true north unless otherwise noted. Tonnage and grade estimates mentioned in the text are based on pre-mining mineral resource estimates unless otherwise stated.

Part A – Field Trip Guide

By A. Chong, M. Becherer, R. Sawyer, K. Palmer, and F. Bakker

Location

Polymetallic Zn-Pb-Cu-Au-Ag rich VHMS deposits at Myra Falls Operations are located in central Vancouver Island, British Columbia, Canada 90 kilometers southwest of the town Campbell River. The property is situated within Strathcona (Class B) Provincial Park at the southern tip of Buttle Lake (Figure 1). The claim group is a total of 3,328 hectares and has dimensions of approximately 7.0 km long by 1.0 to 3.0 km wide on a northwest to southeast axis. Terrain is mountainous having over 1,200 m of vertical relief. The steep slopes are heavily wooded with fir, hemlock, and cedar. Precipitation is typically over 250 cm per year, and may include up to 5 m of snow in winter. Temperature ranges from 32 ^{0}C in summer to –18 ^{0}C in winter.

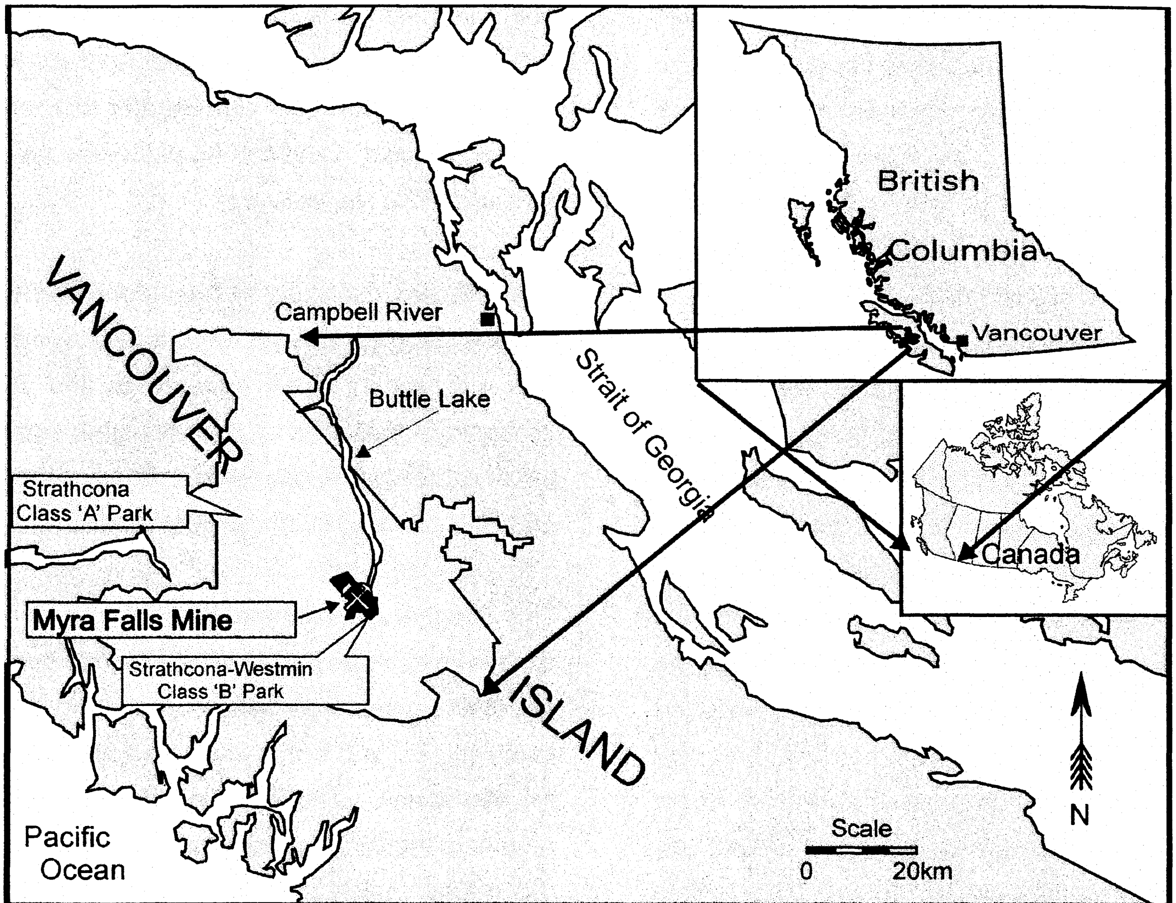

Figure 1 - Myra Falls Operations Location Map

Infrastructure

Approximately 1.2 M tonnes of ore is mined annually producing about 102,000 tonnes of Zn concentrate and 60,000 tonnes of Cu concentrate. Between 14,000 to 38,000 ounces of Au and 0.4 M to 1.3 M ounces of Ag is produced annually as well. Approximately 400 people are employed at Myra Falls Operations.

Mining

The Lynx and Myra mines are two past producing mines located within Myra valley. The Price mine is a deposit yet to be exploited. All three of these deposits outcrop at surface and are known in mine terminology as the Lynx-Myra-Price Horizon.

At depth, there are two distinct but integrated mining areas currently in production. These mining areas are centered about two VHMS deposits areas, the H-W (Harold Wright) deposit and the Battle-Gap deposits. The H-W mining area is accessed via a 716 m deep 6 compartment vertical shaft that is linked to the production areas by more than 14 km of ramps and lateral development. The Battle-Gap mining area is linked to the H-W shaft by two 1.8 km long drifts from 18 and 20 levels.

Current underground mining methods utilized at Myra Falls include drift and fill, cut and fill, drift, and sublevel longhole open stoping depending on ore body geometry. Some surface mining is still conducted within the Lynx open pit. Hydraulic backfilling uses pyritic mill cycloned tailings. Approximately 55% of the tailings are pumped underground for this purpose.

Ore is mined and then trammed by 5 and 8 yard LHD scoops or 10 to 20 tonne dump trucks to a series of ore passes positioned along the 3.1 km of developed strike length. Grizzlies positioned over the ore pass dumping locations size the muck to -60 cm. Ore is then transported on 24 level rail haulage and dumped into a 3,000 tonne coarse ore bin. Due to a wide variation in ore grade, the ore is blended through mucking rates from the individual stopes to the various ore passes as well as at ore pass chutes on 24 level. An underground jaw crusher reduces the muck to –15 cm. Muck is then hoisted to surface by two 11.5 tonne skips into a 100 tonne surge bin in the head frame.

Concentrator

The mill and concentrator have a capacity of 1.4 M tonnes per year. At surface, the muck is transported by a 1.4 km long conveyor belt. This belt discharges into a 3,600 tonne coarse ore bin at the concentrator. Secondary and tertiary cone crushing and screening reduces the mill feed to less than 16 mm x 28 mm size. Two 3,500 tonne fine ore bins receive this crushed material.

The concentrator has two parallel grinding and rougher circuits, each capable of treating 2,000 tonnes per day. Rod mill discharge is pumped to a pair of Krebs D20LB cyclones. Cyclone underflow is ball mill feed and is 80% to 85% solids. Product from the grinding circuit is 75% to 80% passing – 200 mesh. Cyclone underflow is then passed through a Knelson gold concentrator that recovers coarse free gold. Gold and Ag recoveries are about 53% and 77%, respectively.

The resultant mill slurry is then processed first by two Cu rougher flotation circuits producing a Cu final concentrate which reports to the 32' Cu concentrate thickener. Copper rougher scavenger tail and Cu cleaner scavenger tail are conditioned and then spit into two Zn rougher circuits.

Zinc rougher concentrate from both circuits are combined and pumped to the Zn regrind pump box where Cu sulfate and collector blend are added to reactivate Zn, and lime is added to adjust pH, aiding Fe depression. The Zn final column concentrate reports to the 32' Zn concentrate thickener whereas the column tail reports to the Zn regrind circuit. Zinc and Cu recoveries typically run at 90% and 86% respectively. Zinc and Cu concentrates are then pressure filtered to remove water.

Concentrate is transported from the property by truck 90 kilometers to Discovery Terminal, a deep-sea docking facility located in Campbell River. The concentrate is loaded onto barge or ship for smelters in Asia, Europe, and North America.

General Geology

Volcanic hosted massive sulphide (VHMS) deposits on Vancouver Island, including those at Myra Falls, are hosted by ancient island arc systems of the Paleozoic Sicker Group (Hoy, 1991). The Paleozoic Sicker Group is considered part of the allochthonous Wrangellia terrane, which in turn is part of the Insular Belt of the Canadian Cordillera (Jones et al., 1977).

VHMS deposits at Myra Falls are hosted by the 310 to 440 meter thick Myra Formation and are associated with two rhyolite horizons, the at-depth H-W Horizon and the near-surface Lynx-Myra-Price (L-M-P) Horizon (Fig. 2 and Fig. 3) (Pearson, 1993). VHMS mineralization associated with the H-W Horizon is typically at or proximal to the Price Formation andesite contact. VHMS deposits immediately overlying the Price Formation andesite contact are the 22 million tonne H-W deposit and the 6 million tonne Battle deposit. The H-W Horizon also has subordinate but economically significant mineralization within stacked lenses located 10 to 70 meters above the larger deposits. In mine terminology these stacked lenses are known as Upper Zone mineralization. In the Battle deposit area Upper Zone mineralization is hosted by felsic volcaniclastic rocks proximal to the base of or within quartz feldspar porphyry flow-dome complexes.

VHMS mineralization in the L-M-P Horizon is located in the upper portion of the Myra Formation. These deposits were the first to be exploited on the property due to their surface exposure. The L-M-P ore lenses are high-grade polymetallic VHMS deposits having spatial associations to rhyolite rocks in the stratigraphic footwall and a mafic sill located in the immediate hangingwall. The L-M-P Horizon has low tonnage per deposit, with an average size of 2.4 M tonnes and a combined total of 7.2 M tonnes overall.

There have been over 100 years of mineral exploration activity in central Vancouver Island and over three decades of active mining at Myra Falls. Mining at Myra Falls began in 1966 having an initial mining reserve of 1.9 M tonnes in the near surface Lynx deposit. Since that time, the Myra Falls VHMS property has reached an overall pre-minining mineral resource (all categories) of greater than 40 M tonnes grading 2.1 g/t Au, 49.0 g/t Ag, 1.8% Cu, 0.5% Pb, and 6.1% Zn (F. Bakker, 2002).

First pass definition diamond drilling on the Lynx, Myra, Price, H-W and Battle deposits is complete and current efforts are focused toward delineating new resources on the Extension and 43 Block lenses. Potential to improve on the current pre-mining geological inventory is considered good as exploration opportunity still exists to discover new resources at Myra Falls. There are three known rhyolite horizons within the Myra Formation. Two of the rhyolite horizons, the H-W and the L-M-P Horizons have associated VHMS mineralization and are open along strike. The third rhyolite horizon is highest within the Myra Formation stratigraphy and remains unexplored. Minimal exploration effort has been completed to date below the Myra Formation within the Price Formation andesite.

Poor economic demand and low metal prices for the main commodities of Cu and Zn has significantly reduced the current level of exploration activity at Myra Falls. A positive change in the metal prices and a renewed exploration effort will hopefully build on successes of the past.

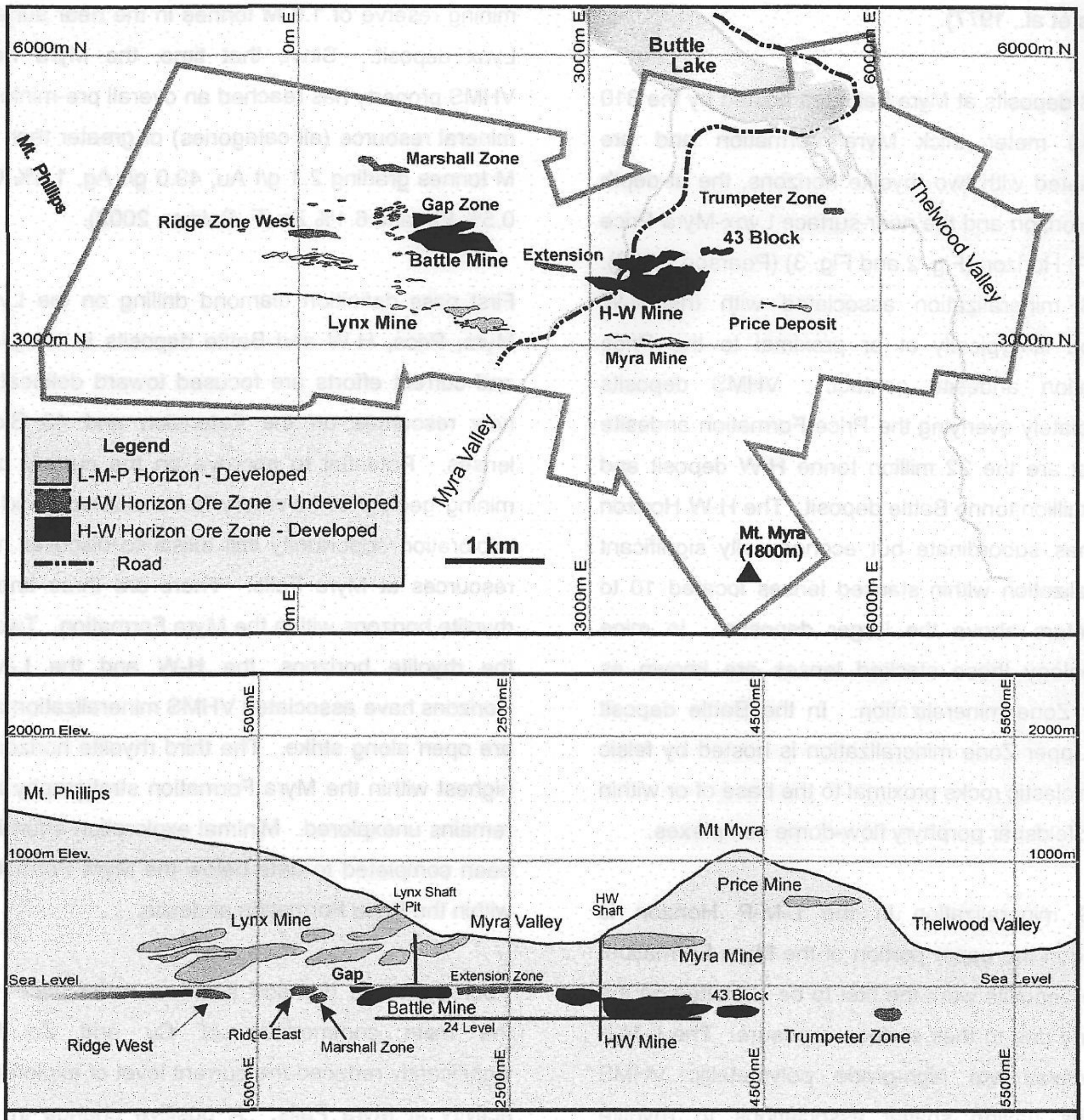

Figure 2: Location of VHMS deposits at Myra Falls Operations
(Top) Projected plan section
(Bottom) Projected vertical longitudinal section

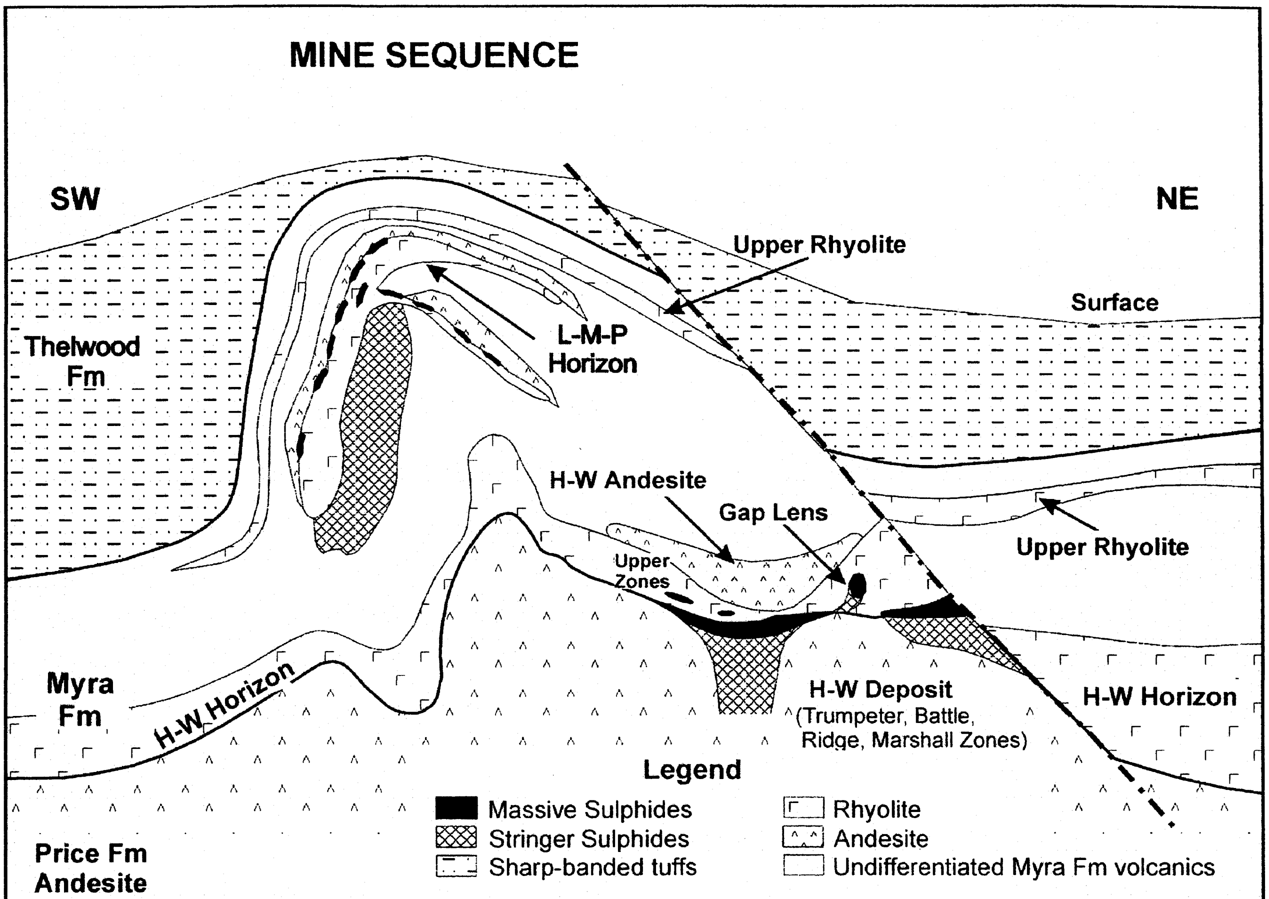

Figure 3: Myra Falls Composite Geology Section
(adapted after Walker, 1985)

Tour Itinerary

The tour will include stops at underground drift exposures, surface outcrops, and drill core. Rock types to be highlighted are from the footwall Price Formation andesite, Myra Formation VHMS mineralization, hangingwall chert, altered coarse volcaniclastic rocks, upper zone mineralization, ore clast breccia, and hangingwall andesite.

Note: Direction references will be relative to mine grid coordinates. Mine grid north is 48 degrees east of true north.

Tour Schedule			
Time	**Location**	**Tour**	**Comments**
Morning:	Training Trailer Underground	 Tour 1 - Battle Mine Tour 2 - H-W Mine	Introduction talk, change for underground South Trough Lens, Upper Zone, and stratigraphy 43 Block lens, stratigraphy, and structure
Noon:	Training Trailer		Lunch
Afternoon:	Core Shack Surface exposures		Drill Core Display Thelwood Formation Sharp Banded Tuff Lynx open pit (pending mining activity)

Tour 1: Battle-Gap Mine (South Trough and Upper Zone areas)

The South Trough and Upper Zone lenses are part of the Battle deposit area. The Battle deposit area is located approximately 1.0 km west of the H-W head frame (Fig. 2). There are a total of 6.0 M tonnes grading 1.4 g/t Au, 53.2 g/t Ag, 1,8% Cu, 0.7% Pb, and 12.5% Zn (Bakker, 2002) within the pre-mining mineral resource from a total of 7 different VHMS lenses.

The main areas anticipated as having good drift exposures are within the South Trough and Upper Zone lenses. South Trough location is immediately east of the higher tonnage Battle Main and Gopher lenses (Fig. 4). The main geological units from stratigraphic footwall to hangingwall are:

Price Formation Andesite

Footwall Andesite: The footwall andesite has texturally destructive, pervasive sericite-chlorite-silica hydrothermal alteration. There is a weak to moderate E-W foliation fabric with moderate to steep north dipping axial planar cleavage. In less altered areas, the Price Formation andesite is characterized as being a massive, coherent amygdaloidal flow. Pillowed flow facies have also been observed but is not common.

Myra Formation (H-W Horizon)

South Trough Ore Lenses: The South Trough sulphide lenses are located at or proximal to the Price Formation andesite contact. Mineralization is massive to semi-massive and stringer style sulphides with sphalerite, sphalerite-chalcopyrite-pyrite, and pyrite-chalcopyrite assemblages. Sulphides surround rhyolite and cherty fragments. Sulphide grain size ranges from very fine to coarse as a result of metamorphic recrystallization.

H-W Rhyolite: The volcaniclastic rocks are autoclastic breccias, resedimented syn-eruptive mass flow deposits and mudstones. Silicified mudstone (chert in mine terminology) is white to grey-white, massive to bedded and conformably overlies the main South Trough lenses. Small scale folding and subvertical strike-slip faulting is common.

Mafic Dykes: A continuous, E-W striking, north dipping, 6 to 8 m thick mafic dyke intrudes the South Trough lenses. The dyke occurs proximal to a massive pyrite-chalcopyrite pipe and displays moderate intensity vein style carbonate alteration.

Upper Zone Lenses: The Upper Zone lenses are positioned 10 to 70 m up-stratigraphy of the Price Formation andesite contact. These lenses typically have a mineral assemblage of sphalerite-galena-barite-chalcopyrite-tennantite+/-bornite+/-electrum. Individual lenses have been deformed and may display folded and lens shaped geometries.

Quartz Feldspar Porphyry: Quartz feldspar porphyry is located approximately 30 plus meters up-stratigraphy of the South Trough lenses and is proximal to or forms the immediate hangingwall for the Upper Zone lenses. This unit is typified by grey-white, aphanitic to quartz+/-feldspar phyric, massive rhyolite. Autobrecciated facies equivalents are present along the margins. Quartz and feldspar phenocrysts are millimeters-size, with subhedral forms. The quartz phenocrysts typically have a glassy reflectance. The feldspar phenocrysts are variably sericite altered.

Hangingwall Andesite – Ore Clast Breccia: This unit is a massive to brecciated feldspar+/-pyroxene phyric andesite. Jigsaw fit quench textures can be observed in drill core. Local fragments of bleached andesite, quartz-feldspar porphyry and massive sulphides are minor components of the unit. A weak patchy to vein style epidote-chlorite alteration is also present.

South Trough Discussion:

Deposition of the South Trough Zone occurred within a paleo-topographic depression having overall dimensions of 250 m along strike, 100 m perpendicular to strike, and thickness ranging between 15 to 53 m. Section 1780E shows a folded sequence of rocks with steep, brittle offsets (Fig. 5). There are two main massive to semi-massive sphalerite-pyrite-chalcopyrite rich sulphide lenses along with an upper zone lens located higher in the stratigraphic column. A subvertical, massive pyrite-chalcopyrite rich massive sulphide pipe and a steep north dipping mafic dyke bisect the South Trough area into north and south lenses. The massive to semi-massive sphalerite rich portions of the lenses are found concentrically outward from the pyrite-chalcopyrite pipe. Reconstruction of the lenses reveals a low aspect (aspect ratio = 0.4), sheet geometry for both north and south lenses.

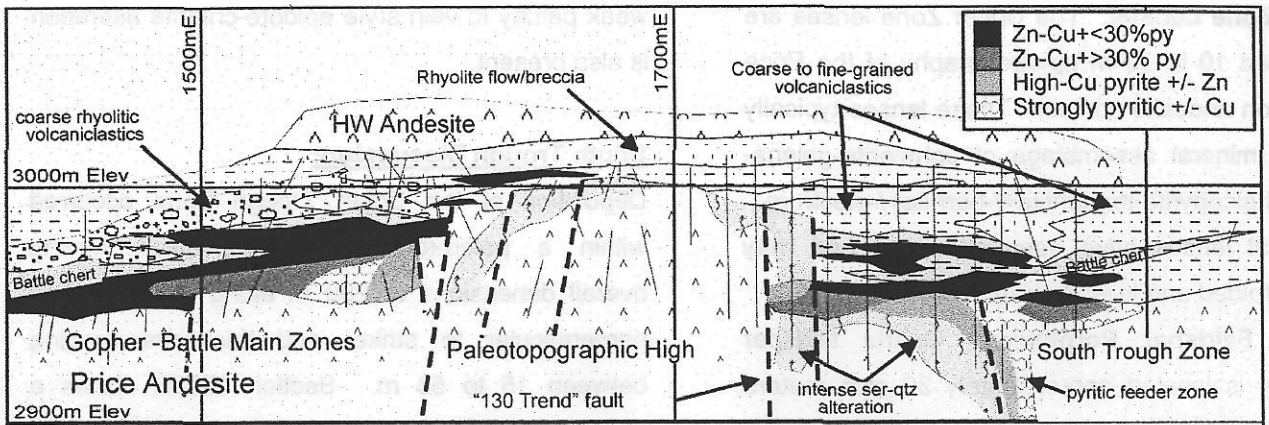

Figure 4: Battle Deposit - Geology Longitudinal Section - 4075mN
(from McKinley et al., 1997)

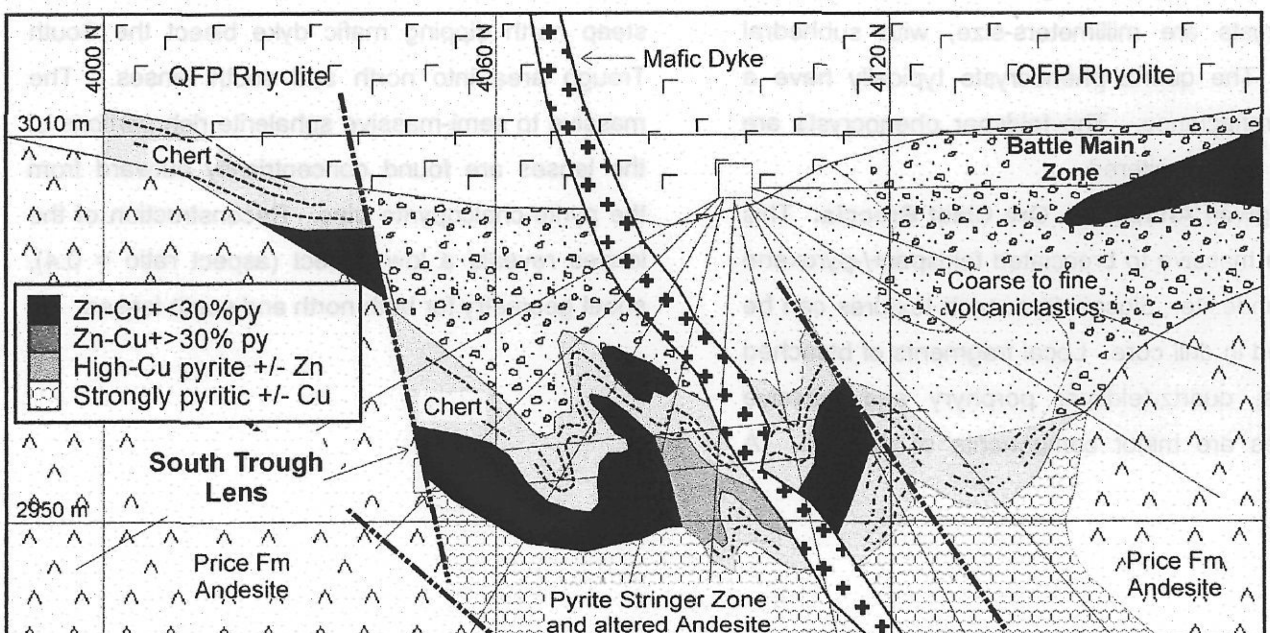

Figure 5: Battle Deposit - South Trough Lens Geology Section 1780 E

Tour 2: H-W Mine (43 Block)

This tour is an alternate in the event Tour 1 is not possible.

The 43 Block mining area lies northeast of the H-W main zone and along strike of the North Lens (Fig. 2). There is a mineral resource (all categories) of 971,000 tonnes grading 2.6 g/t Au, 52.8 g/t Ag, 1.7% Cu, 0.5% Pb, and 5.8% Zn. The ore lens has a strike length of about 400 m and an average height of 20 m. On N-S cross-section, the orebody displays a wedge or triangular shape. The hangingwall contact is defined by a 45 degree, NNW dipping gouge fault zone (Fig. 6). The main geological units from stratigraphic footwall to hangingwall are:

Price Formation Andesite

Footwall Andesite: The footwall andesite unit is characterized by massive coherent, feldspar phyric andesite with breccia facies. The breccia facies has both monomict andesite breccias as well as polymict andesite – rhyolite breccia.

Myra Formation (H-W Horizon)

Rhyolite Fragmental: The rhyolite fragmental contains lapilli to block size angular fragments set in a sericite-pyrite altered matrix. Millimeter scale quartz + feldspar phenocrysts may be observed within individual fragments.

Ore Clast Breccia: The ore clast breccia unit is characterized by a gradual transition from footwall andesite to the rhyolite fragmental and is marked by an increasing presence of sulphide fragments, with pyrite and chalcopyrite stringers.

Main Ore Lens: The main ore lens consists of semi-massive to locally well-banded pyrite, sphalerite, and chalcopyrite; sulphides enclose rhyolite fragments. Massive sulphides are also intercalated with pyrite-rhyolite fragmental units.

Hangingwall Fault: The hangingwall fault is defined by a clay and gouge rich fault zone up to 10 m thick. The fault zone incorporates ore lens material, andesite, rhyolite, and argillite.

Hangingwall Assemblage: This assemblage includes massive and feldspar phyric andesite, rhyolite fragmental, rhyolite quartz-feldspar porphyry, and locally black argillite.

43 Block Discussion:

Three major brittle-ductile fault groups have structurally deformed the 43 Block area (Jones, 2001). NNE striking normal faults have displaced steep dipping N-E striking faults. The geology has been offset up to 10 m locally, with an accumulated upward displacement of the orebody by 100 m from west to east. Major offsets occur about every 20 m along strike. The hangingwall gouge fault is interpreted to be part of a late stage thrust fault set which strikes E-W and dips 45 to 55^0 NNW (Fig. 6).

It is unclear how sulphides were deposited in the 43 Block lens. One interpretation is a transported deposit type, based on the large volume of polymict nature fragmental material and sulphide fragments having sharp contacts. However, the nature of the semi-massive sphalerite ore and location of possible footwall stringer zones support an insitu emplacement of the sulphides with a possible sub-seafloor replacement process in tandem with localized sulphide remobilization.

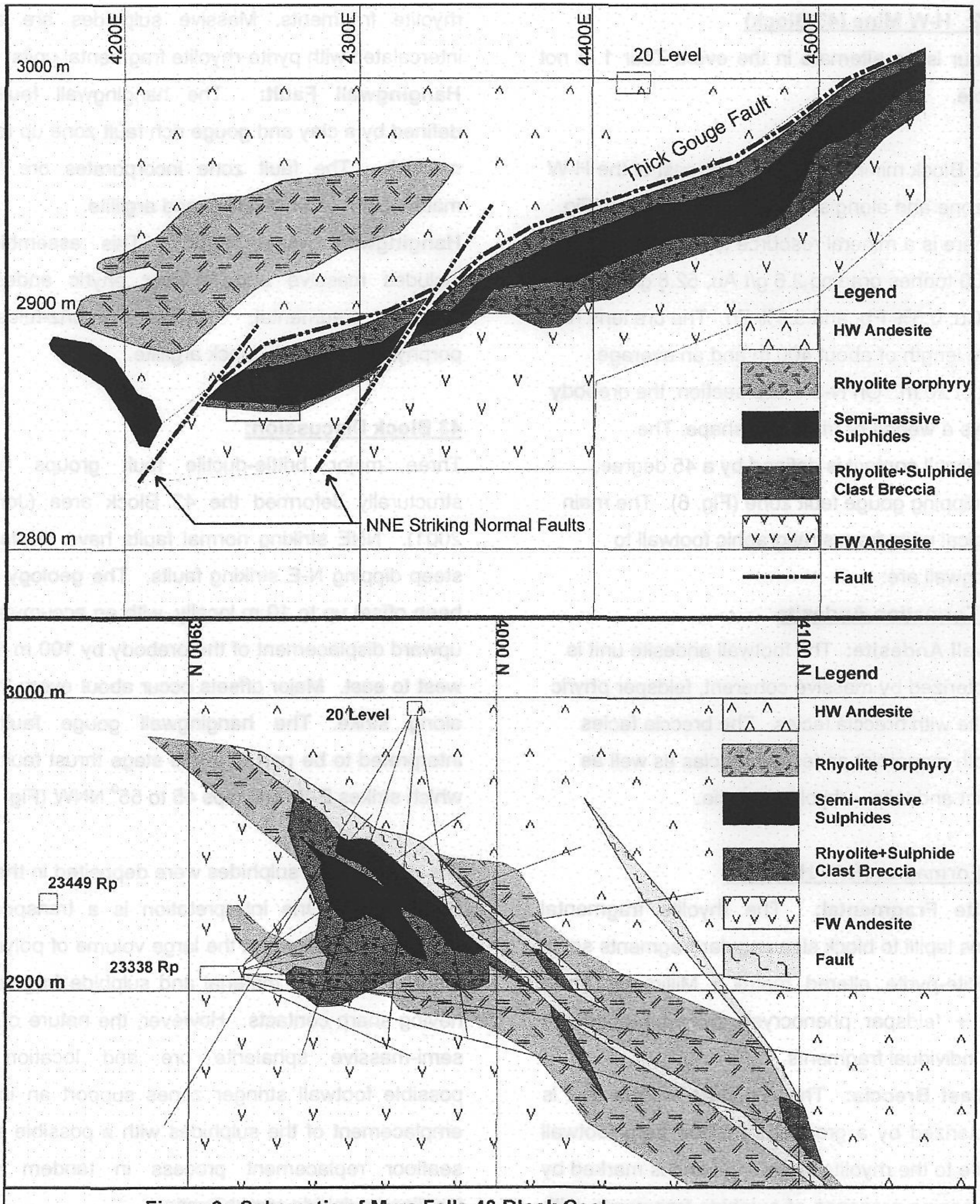

Figure 6: Schematic of Myra Falls 43 Block Geology
(Top) 43 Block Longitudinal Section 3975 N (view north)
(Bottom) Section 4405E geology (view west)

PART B - Overview of Selected Topics on the Massive Sulphide Deposits at Myra Falls

By Albert Chong

History

The Early Years

The first documented exploration and mineral prospecting in central Vancouver Island began in 1865 with the John Buttle expedition. The expedition ventured from the west coast fishing village of Tofino, up Bedwell Sound and Bedwell River valley into what is now the southern margin of Strathcona Park. This was the first recorded sighting of what is now Buttle Lake. In 1910, the Price Ellison Expedition ventured into the Buttle Lake area. Ellison's recommendation to the provincial legislature led to the Strathcona Park Act in 1911, protecting the first and oldest provincial park in British Columbia. Mineral prospecting and staking was opened up shortly afterwards and the first claims were staked in 1917. The outcome was discovery of the surface expressions for the Lynx, Myra, and Price deposits in Myra and Thelwood valleys (Fig. 2). Sporadic exploration continued until 1961.

In 1961, Western Mines Limited acquired the property from the Reynolds Syndicate. Exploration and ore definition drilling focused on the Lynx showings in Myra valley outlining an initial mining reserve of 1.9 M tonnes. Mining started in the Lynx open pit in 1966 and was quickly followed by underground mining.

Since the opening of the Lynx mine, there have been four subsequent phases of exploration, development and mining (E-D-M) from four past and current producing mines. Each cycle has taken about a decade to run its course, with some minor overlap (Table 1). Initiation of each cycle commenced with the need to discover new resources, as existing resources were being depleted. Much of the detailed historical information between 1966 and 1993 has been described by Pearson (1993). The following text has taken the information by Pearson (1993) and summarized it in the context of the E-D-M cycle perspective. Pre-mining mineral resource values summarized in this paper are from Bakker (2002).

The 1960's

Near surface Exploration-Development-Mining (E-D-M) Cycle

(Lynx mine commissioning)

The L-M-P Horizon is associated with a sequence of sericite schist and associated volcanic rocks of both rhyolitic and andesitic composition. Footwall rocks are typically of rhyolite composition. The hangingwall has rocks of rhyolitic composition as well as a komatiitic sill unit known as the G-flow in mine terminology.

Exploration emphasized the near surface Lynx showings (Fig. 2). Development and mining began on the Lynx open pit in 1966 at a rate of 600 to 900 tons per day. Underground mining followed shortly thereafter, with an original mining reserve estimate of 1.9 M tonnes. Boat access to the property was upgraded with the building of a road along the east shoreline of Buttle Lake. The road connected the mine site to the town of Campbell River. Surface infrastructure facilities were constructed with much of the raw material being logged, milled, or excavated on site.

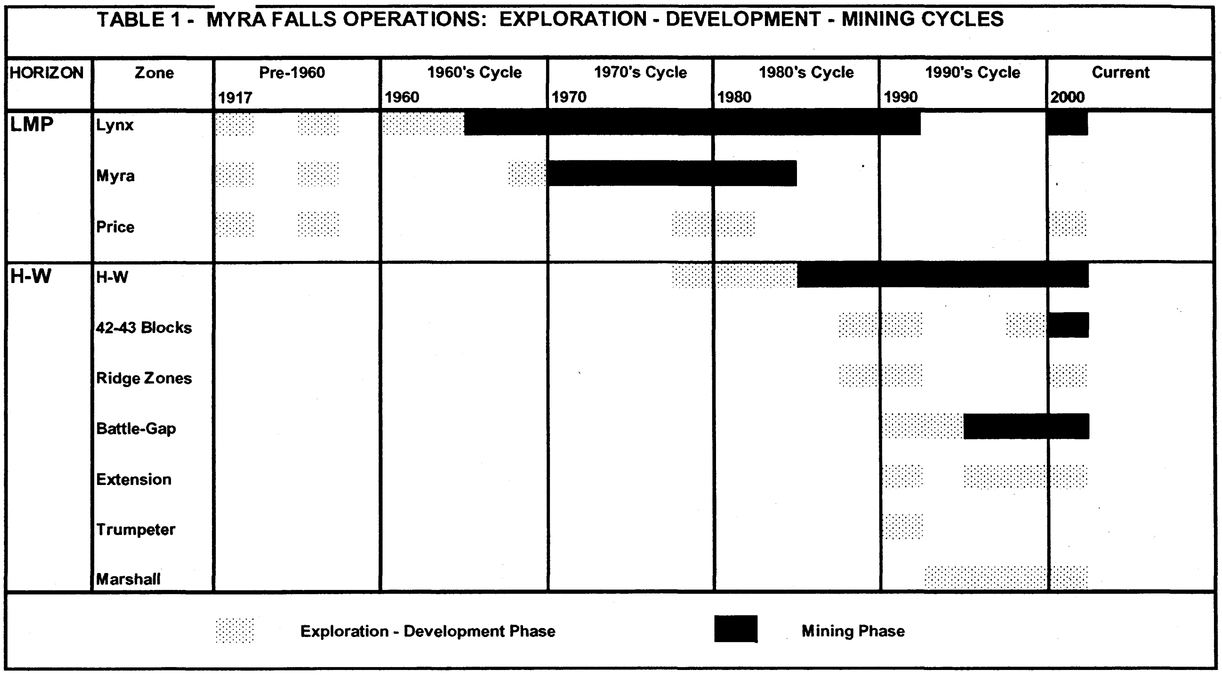

TABLE 1 - MYRA FALLS OPERATIONS: EXPLORATION - DEVELOPMENT - MINING CYCLES

The 1970's

L-M-P Horizon E-D-M and at-depth Exploration (Myra Deposit commissioning and H-W Horizon Discovery)

Exploration, development, and mining continued on the near surface L-M-P Horizon showings and deposits. The Lynx mine continued to operate and production began at the Myra mine during 1972 at a rate of 200 to 400 tons per day. Total production from the Myra mine was 1.0 M tonnes at 3.0 g/t Au, 160.0 g/t Ag, 1.0% Cu, 1.5% Pb, and 9.5% Zn.

In 1976, Brascan Ltd. acquired control of Western Mines Limited and formed Westmin Resources Ltd. Recognizing a decline in the mineral inventory, an aggressive exploration program was launched. The exploration program utilized recent developments in the understanding of volcanic hosted massive sulphide (VHMS) deposits from the Canadian Shield. One key development was the understanding that deposits are hosted in relatively thick, multi-cyclic volcanic piles, and sulphide mineralization is found in the second or higher cycle, at or near the base of the host cycle (Franklin and Thorpe, 1982). The base of the host Myra Formation for the L-M-P deposits was not defined at the time. Following assessment of the property for its volcanic stratigraphy, structural deformation, style of mineralization and hydrothermal alteration, a decision to drill the north limb of the Myra anticline below the L-M-P Horizon was made. This decision was rewarded by discovery of the large tonnage H-W deposit 400 m below the Myra valley floor in December, 1979.

The 1980's
L-M-P Horizon and H-W Horizon E-D-M
(Along strike discoveries; Commissioning of the H-W Mine)

H-W deposit delineation, development, and production was the focus for in the 1980's, concurrent with exploration of both the Lynx-Myra-Price Horizon and the newly discovered H-W Horizon. Accelerated diamond drilling on the H-W deposit resulted in a positive production decision and the H-W mine was commissioned in 1985. Continued exploration lead to the discovery of along strike equivalents of both mineralized horizons. Discoveries were made on the West G and S Zones of the L-M-P Horizon. On the new H-W Horizon, discoveries were made immediately northeast of the H-W deposit on the 42 and 43 Block lenses.

Approximately 3 km west of the H-W deposit, crosscuts spaced 150 m apart were driven north of the existing Lynx mine workings during 1988. These crosscuts provided diamond drill platforms to explore the newly interpreted H-W Horizon trend. As a result of exploration diamond drilling in 1989 and 1990, over fifty ore grade mineralized intersections were cored on what is now knoì¥Á□5@

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Following confirmation of strike length continuity of the H-W Horizon westward for at least 3 km and availability of new diamond drill platforms, an exploration program was launched to target the H-W Horizon between the Ridge Zones and the main H-W deposit (Fig. 2). In 1991, this program intersected 33.1 m of ore grade massive sulphide mineralization in the Gap lens. Subsequent discoveries of this exploration program were the Battle and the Extension deposits. Other peripheral discoveries on the H-W horizon during this time frame included the Trumpeter Zone, located approximately 1 km east of the H-W deposit. In 1995, the Marshall Zone was discovered approximately 1 km northwest of the Battle deposit lenses.

A positive production decision was made subsequently made for the Battle and Gap deposits; production began in 1995. Underground production from the Lynx mine was terminated in 1992 due to poor economics, however, limited access is still available for ventilation and exploration purposes. Ownership of the property changed hands during 1998, when Boliden Limited acquired Westmin Resources Limited to form Boliden-Westmin Limited, Canada, the current owners and operators of Myra Falls Operations.

The Current E-D-M Cycle
(2000 to present):

Recent exploration efforts have been directed towards upgrading indicated and inferred resources of the Ridge Zone West and Marshall Zones, located 1 km west and northwest of the current infrastructure. The Price deposit, located to the east in Thelwood valley, has also been revisited. Diamond drilling for new undiscovered VHMS deposits has yet to be successful during the current E-D-M cycle. Based on financial constraints, an interim decision has curtailed development of strategically positioned underground diamond drill platforms for targets on the western and northern portions of the property. Development of diamond drill platforms is essential as the western half of the property lies under the 1,520 m high Phillips Ridge.

Definition diamond drilling is currently delineating the Extension Zone and 43 Block. The Extension Zone is located between the H-W and Battle Zone deposits and extends over a 1 km strike length. Current pre-mining mineral resource estimate is 1.1 M tonnes. 43 Block definition diamond drilling is nearing completion; mining of initial stoping blocks on this structurally deformed lens commenced in 2001. Near surface resources of the high-grade Lynx deposit S-Zone of the L-M-P Horizon have also been outlined.

Active mining at Myra Falls Operations is currently based out of the H-W head frame and the majority of the mining activity comes from the H-W, 43 Block, and Battle-Gap deposits. Minor supplemental ore is being extracted from the Lynx open pit. Current production rates are 1.2 M tonnes annually at rates ranging between 2,800 and 3,400 tonnes per day.

Regional Geology and Metallogeny

VHMS deposits on Vancouver Island, including those at Myra Falls, are hosted by ancient island arc systems of the Paleozoic Sicker Group (Hoy, 1991). The Paleozoic Sicker Group is considered part of the allochthonous Wrangellia terrane, which is a portion of the Insular Belt of the Canadian Cordillera (Jones et al., 1977).

The Wrangellia terrane has three major volcano-sedimentary cycles and can be traced for 2,000 km from the southern tip of Vancouver Island northward to south-central Alaska (Jones et. al, 1977). At Myra Falls, the oldest volcanic cycle is the Devonian to Mississippian aged Sicker Group volcanic rocks, which are conformably overlain by limestone of the Permian aged Buttle Lake Formation (Fig. 7). The second volcanic cycle is the Vancouver Group; comprised of Triassic aged Karmutsen Formation tholeiitic volcanic rocks, overlain by limestone of the Quatsino Formation. The third cycle is the Bonanza Group volcanic rocks (Fig. 7).

The Sicker Group is exposed on Vancouver Island in several fault-bounded uplifts. At Myra Falls, the Sicker Group, in order of decreasing age, comprises the basement Price Formation andesite, Myra Formation felsic to mafic volcanic rocks, Thelwood Formation mafic fine volcaniclastic rocks, Flower Ridge Formation mafic breccias and sills, and Buttle Lake limestone (Muller, 1980; Juras, 1987). The footwall Price Formation andesite rocks and Myra Formation felsic to mafic volcanic rocks are the host strata to VHMS deposits at Myra Falls.

On Vancouver Island, two major metallogenic groups were classified by Northcote and Muller (1972), volcanic and plutonic. Massey (1992) has further subdivided the two groups based on timing relative to pre and post accretion. The plutonic group deposits are skarn, vein, Sooke-type Cu and porphyry Cu. Two main VHMS areas occur on Vancouver Island. They are centered about the past producing Twin J mine in the Cowichan-Horne

Lake Sicker Group uplift and the Myra Falls deposits in the Buttle Lake Sicker Group uplift.

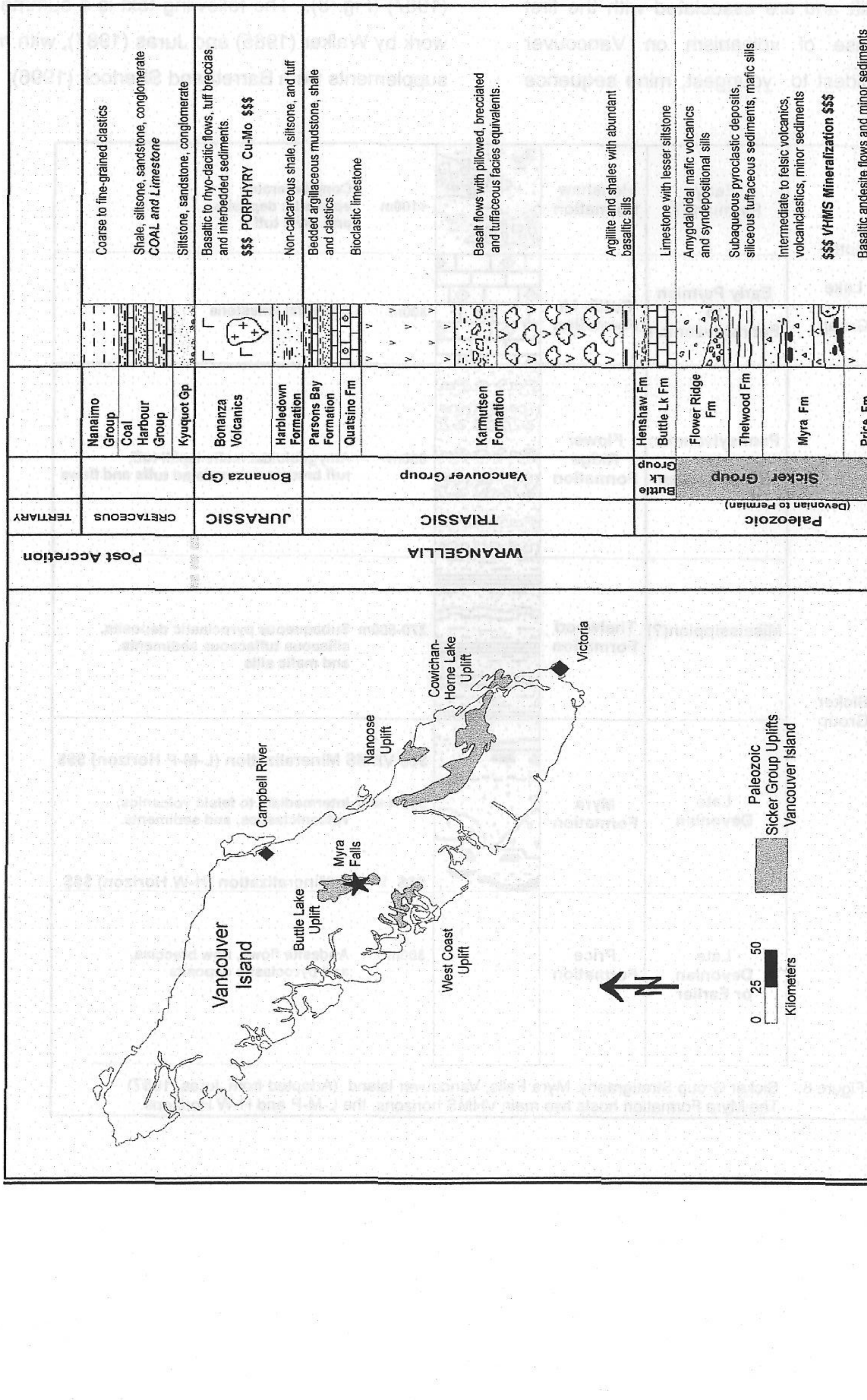
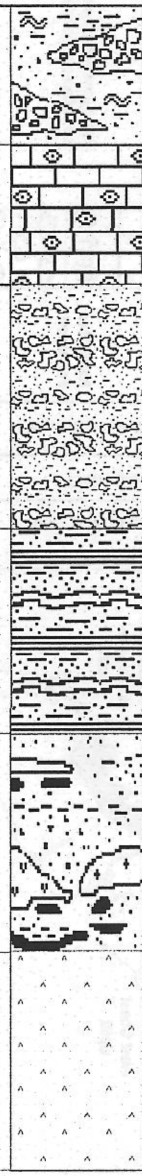


Figure 7: Left - Sicker Group location map on Vancouver Island (modified after Juras, 1987). The Sicker Group is host to VHMS mineralization on Vancouver Island. Right - Schematic stratigraphic column of Vancouver Island (modified after Muller, 1980 and Nixon et al., 1994)

Mine Geology

The Myra Falls VHMS deposits occur at or near the base of Paleozoic Sicker Group rocks within the Buttle Lake uplift and are associated with the first recognized phase of volcanism on Vancouver Island. From oldest to youngest, mine sequence geology specific to the H-W and Battle-Gap mining areas are the Price Formation, Myra Formation, and Thelwood Formation, as established by Juras (1987) (Fig. 8). The following text is a summary of work by Walker (1985) and Juras (1987), with minor supplements from Barrett and Sherlock (1996).



Buttle Lake Group	Early Permian (?)	Henshaw Formation	<100m	Conglomerate, epiclastic deposits, and vitric tuff
	Early Permian to Pennsylvannian	Buttle Lk Formation	300m	Crinoidal limestone
Sicker Group	Pennsylvannian or Mississippian	Flower Ridge Formation	650m+	Amygdaloidal mafic lapilli tuff, tuff breccia, intercalated tuffs and flows
	Mississippian(?)	Thelwood Formation	270-500m	Subaqueous pyroclastic deposits, siliceous tuffaceous sediments, and mafic sills
	Late Devonian	Myra Formation		$$$ VHMS Mineralization (L-M-P Horizon) $$$
			310-440m	Intermediate to felsic volcanics, volcaniclastics, and sediments.
				$$$ VHMS Mineralization (H-W Horizon) $$$
	Late Devonian or Earlier	Price Formation	300m +	Andesite flows, flow breccias, and pyroclastic deposits

Figure 8: Sicker Group Stratigraphy, Myra Falls, Vancouver Island (Adapted from Juras, 1987) The Myra Formation hosts two main VHMS horizons, the L-M-P and H-W Horizons.

Price Formation

The Price Formation is the stratigraphic basement within the Buttle Lake uplift and is at least 300 m thick consisting of feldspar +/- pyroxene porphyritic basaltic andesite flows and flow breccias with lesser volcaniclastic deposits. Rocks from this unit are moderate to strongly altered with chlorite + epidote + albitic plagioclase +/- actinolite assemblages.

A conspicuous feature of this formation is the presence of medium to very coarse grained, black to dark green pyroxene phenocrysts pseudomorphed by actinolite. However, the presence of pyroxene grains is not diagnostic of the Price Formation as pyroxene phenocrysts and crystals also occur within overlying formations. The top of the Price Formation is defined as the lower contact of the first, widespread appearance of rhyolitic volcanic rocks of the overlying Myra Formation. Juras (1987) postulates that the Price Formation represents an early phase of island arc volcanism in a marginal basin or volcanic arc setting.

Myra Formation

The Myra Formation is 310 to 440 m thick and conformably overlies the Price Formation (Pearson, 1993). The Myra Formation consists of rhyolitic volcanic flows, volcaniclastic, and intrusive rocks with lesser sedimentary units. The volcanic rocks are predominantly intermediate in composition, consisting of flows and flow breccias, and subaqueous volcaniclastic rocks emplaced by sediment gravity flow processes. Sedimentary units include heterolithic volcaniclastic breccia and lesser sandstone, siltstone, argillite, and chert. The Myra Formation hosts VHMS mineralization. Individual units are continuous on a northwest to southeast trend but have abrupt facies changes on a northeast to southwest orientation (Walker, 1985).

Juras (1987) postulates that the Myra Formation represents a phase of island arc rifting and basin development, as reflected by three general geologic settings: a volcanic arc setting consisting of andesitic to rhyoitic flows and volcaniclastic deposits; a rift basin setting comprising volcanogenic sediments, pelagic deposits, hydrothermal mineralization, and intermediate volcanic flows; and lastly, an intra–arc or back–arc rift setting consisting of mafic flows and volcaniclastic deposits.

In their study of the H-W mine volcanic stratigraphy, Barrett and Sherlock (1996) avoid the stratigraphic terminology and summarized the Myra Formation in terms of lithological composition, stratigraphic position, and volcanic facies associations. These intervals are the massive sulphides immediately above or proximal to the footwall andesite Price Formation, the Lower level felsic stratigraphy, the Middle stratigraphy intrusive mafic unit, and the heterogeneous Upper portion of felsic to mafic volcaniclastic units with lesser felsic and mafic flows and sills. The Upper portion is also host to the Lynx, Myra, and Price massive sulphide deposits.

Thelwood Formation

The Thelwood Formation conformably, and in places unconformably, overlies the Myra Formation. The Thelwood Formation is 270 to 500 m thick and is characterized by thin-bedded, fine-grained mafic volcaniclastic turbidites, tuffs, volcaniclastic debris flows, and penecontemporaneous mafic sills.

Turbidite beds are 5 to 30 cm thick and grade upward from coarse-grained crystal-lithic mafic sandstone to pale green, laminated siltstone-mudstone. Volcanic debris flows are 1 to 10 cm thick, moderately well sorted, crudely stratified, and consist mainly of gravel to pebble-sized mafic clasts. Mafic sills are 1 to 10 m thick (Walker, 1985; Juras, 1987).

Geochronology

Juras (1987), Parrish and McNicoll (1992), and Barrett and Sherlock (1996) report U-Pb zircon age determinations on rhyolite from the Myra Formation. Juras (1987) sampled a rhyolite unit in the upper part of the Myra Formation and he estimates an age of 370+18/-6 Ma for the upper rhyolite unit. Parrish and McNicholl (1992) sampled a rhyolite from the lower part of the Myra Formation and estimate a minimum age of 366+/-4 Ma for the Myra Formation, interpreted as the probable age of crystallization of the rhyolite. Barrett and Sherlock (1996) sampled felsic volcanic strata near the H-W deposit and report an age estimate of 365+/-4 Ma (weighted mean age of 5 fractions) or 369+12/–7 Ma (best fit line) that confirmed the work of Parrish and McNicholl (1992). These dates indicate a Late Devonian to Early Mississippian age.

Jones (2001) identified radiolaria in the sediments immediately overlying the H-W and Battle deposits. Muller (1980) identified radiolaria in a sediment-sill unit at the top of the Myra Formation. Radiolaria from both locations indicate an Early Mississippian age.

Metamorphism

The most extensive work on metamorphism in the Buttle Lake uplift was by Juras (1987). Regional metamorphism in the Buttle Lake uplift is lower greenschist facies in the Price and Myra Formations and lower greenschist to subgreenschist pumpellyite-actinolite in the younger Thelwood and Flower Ridge Formations, respectively. Metamorphic mineral assemblages are diverse, reflecting the original bulk composition of rock types present (Table 2). In the Thelwood Formation, Juras (1987) attributes silicification as alteration from the penecontemporaneous emplacement of thick mafic sills. Moderate to strong irregular veining and disseminations of epidote is attributed to hydrothermal activity.

Early Mesozoic metamorphism was caused by burial. This interpretation is based on the resetting of K-Ar and Rb-Sr isotopic dates as a result of emplacement of the Early Jurassic Island Intrusions (Walker, 1985 and Juras, 1987). Phyllosilicate phases have been recrystallized to coarser grain sizes and there is some pressure shadow development. These effects are most pronounced in the hinge areas of Mesozoic structures and in schist zones related to faulting. The recrystallization is not prevalent in the Price and Myra Formations.

Table 2: Myra Falls: Metamorphic Mineral Assemblages (from Juras, 1987)		
Price Fm	Basaltic andesite, andesite (mid-ocean ridge analogy)	chl+ep+ap+q+cc+/-act
Myra Fm	High MgO basalt	act+chl+ab+ep chl+cc+ser+hem
Basalt		chl+q+ab chl+ep+ab+q+/-act+/-cc ep+q+ab+cc+/-act
Basaltic andesite, andesite		ep+ab+q+/-chl+/-cc+/-act chl+ab+q+/-ep+/-cc
Feldspar porphyritic felsic volcanic		ab+q+ep+ser+/-chl+/-hem
Quartz feldspar porphyritic rhyolite		ser+q+ab+/-chl
Thelwood Formation	Intermediate tuffs Mafic sills	chl+ep(+/-clz)+q+ab chl+ab+ep
Flower Ridge Formation	basalt	chl+ep(+/-clz)+ab+q+act+/-cc+/-pp chl+ep(+/-clz)+ab+q+act+/-cc
Actinolite - act; Albite - ab; Apatite - ap; Calcite - cc; Chlorite - chl; Clinozoisite - clz; Epidote - ep; Hematite - hem; Prehnite-pumpellyite - pp; Quartz - q; Sericite - ser		

Structure

Five phases of deformation have been interpreted at Myra Falls. Walker (1985) and Juras (1987) document two early ductile deformation events; a large scale, upright, open fold referred to as the Myra anticline; and a ductile event that has resulted in broad zones of shearing. Reid (1993), Berry (2000), and Jones (2001) focused on subsequent property wide brittle deformation events. Berry (2000) and Jones (2001) propose a 5 stage structural history for Myra Falls as outlined in Table 3 and Figure 9. Orientations noted in Table 3 and the following text are relative to true north, facilitating correlations between both property and regional scale observations.

Table 3:	**Myra Falls District: Deformation History** (Berry, 2000; Jones, 2001)
Event	**General Description**
D_0	Early extension and formation of syn-depositional growth faults.
D_1	NE-SW compression; folding and development of an NW-SE foliation; shallow plunges to the NW and SE.
D_2	Shear zones.
D_3	NE-SW compression; a two-stage generation of steep strike-slip faults; followed by shallow-dipping NE-SW dipping thrust faults.
D_4	Extension with planar normal faults.
D_5	NE-SW compression resulting in NE-SW dipping gouge-rich thrust faults and coeval, steep E to SE trending sinistral strike-slip faults.

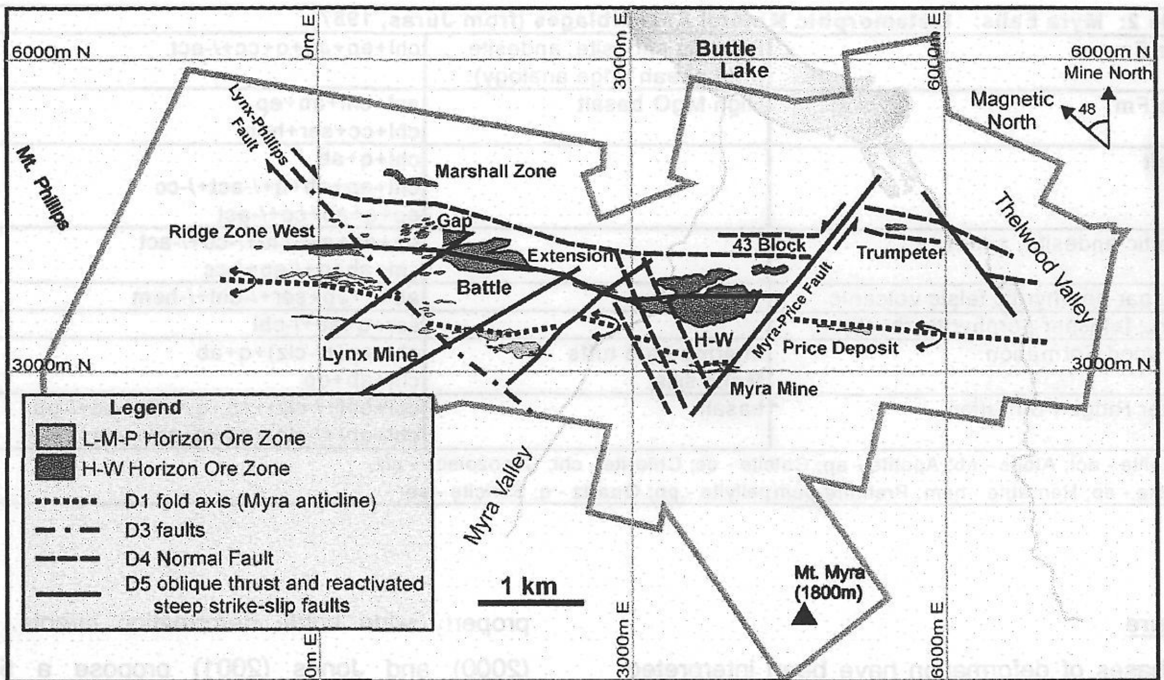


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Figure 9: Projected Plan Map - Location of Major Faults and VHMS deposits at Myra Falls Operations (modified after Jones, 2001)

Jones (2001) interprets the structural history at Myra Falls within a regional context, incorporating observations from structural studies in northern Vancouver Island around the Quatsino-Port McNeill area (Nixon et al., 1994), central Vancouver Island (Muller, 1980), and south Vancouver Island around the Cowichan Uplift (England and Calon, 1991; Massey, 1992; Yorath et al., 1999). Jones (2001) concludes that the ductile D1 folding is a result of NE-SW compression. Structures resulting from this event have been mapped in Sicker Group rocks throughout Vancouver Island. The D1 folding event is believed to have occurred within the Wrangellia terrane prior to collision with the ancient North American craton.

The D3 faults at Myra Falls result from a two- stage evolution of strike slip and thrust faults. A similar two-stage strike-slip and thrust faulting event has been documented in northern Vancouver Island and it is believed to have occurred during the post-Mid to pre-Late Cretaceous time (Nixon et al., 1994).

Large scale, gouge-rich D5 thrust faults at Myra Falls are likely related to the large NW oriented thrust faults that dominate the structural fabric of Vancouver Island. These thrust faults may be correlated to north dipping thrust faults in the Cowichan Uplift of southern Vancouver Island documented by England and Calon (1991), Massey (1992), and Yorath et al. (1999). The faults are inferred to have developed during crustal shortening caused by the collision and accretion of Wrangellia, Pacific Rim and Cresent terranes onto North America. Strike slip components of the D5 faults are due to NW movement of the Pacific Plate relative to the North American plate.

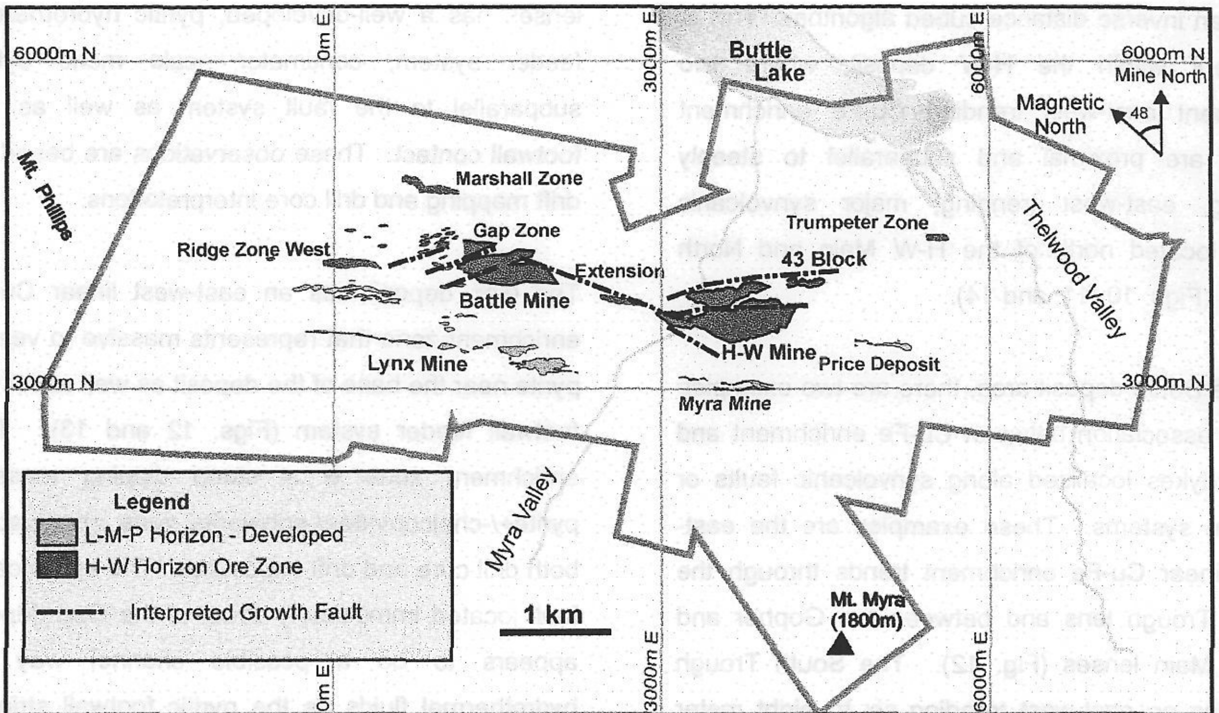

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Figure 10: Projected Plan Map - Location of Major Growth Faults and VHMS deposits at Myra Falls Operations (modified after Jones, 2001)

H-W Horizon Synvolcanic Faults and Cu-Fe Enrichment

Synvolcanic faults and fracture zones that formed the conduits for discharging hydrothermal fluids at Myra Falls are poorly preserved due to hydrothermal overprinting and reactivation from subsequent deformation. In a property wide study, Jones (2001) identified several large scale synvolcanic faults based on the following criteria: rapid changes in footwall elevation, elevation changes in the younger Thelwood Formation basal contact, stratigraphic thickness changes in the Myra and H-W Formations, and marked facies variation for fine grained facies and porphyry bodies (Fig. 10). Movements on these faults are interpreted to be greater than 30 m.

In addition to the criteria used by Jones (2001) outlined above, other possible indicators for synvolcanic fracture systems that may have been conduits for discharging hydrothermal fluids are an increase in altered and unaltered mafic dykes, as well as proximity of Cu-Fe enrichment in massive sulphide and footwall stringer mineralization. The dykes are indicative of structural conduits that have been used by magmatic and potential hydrothermal fluids. Copper-Fe enrichment represents the presence of chalcopyrite and pyrite formed at relatively high temperatures towards the base of a sulphide mound by metal zone refinement processes (Eldridge et al., 1983).

A number of the large-scale synvolcanic faults defined by Jones (2001) are spatially associated with anomalous Cu-Fe enrichment based on block modeling by Minesight software of the ore lenses using an inverse distance cubed algorithm. This is apparent within the H-W deposit, where two prominent east-west trending Cu-Fe enrichment zones are proximal and subparallel to steeply dipping, east-west trending, major synvolcanic faults located north of the H-W Main and North lenses (Figs. 10, 11, and 14).

For the Battle deposit area, there are two examples of the association between Cu-Fe enrichment and mafic dykes localized along synvolcanic faults or fracture systems. These examples are the east-west linear Cu-Fe enrichment trends through the South Trough lens and between the Gopher and Battle Main lenses (Fig. 12). The South Trough lens has an east-west trending six to eight meter wide steeply dipping mafic dyke and a steep dipping massive pyrite zone (Figs. 12 and 5). A fault system between the Gopher and Battle Main lenses has a well-developed, pyritic hydrothermal feeder system, centimeter scale mafic dykes subparallel to the fault system as well as the footwall contact. These observations are based on drift mapping and drill core interpretations.

The Gap deposit has an east-west linear Cu-Fe enrichment zone that represents massive to veined pyrite near the base of the deposit as well as for the footwall feeder system (Figs. 12 and 13). This enrichment zone is a steep dipping massive pyrite+/-chalcopyrite+/-sphalerite zone observed in both drill core and drift exposures. The synvolcanic fault located immediately south of the Gap deposit appears to be a possible channel way for hydrothermal fluids as the pyritic footwall stringer zone below the Gap deposit appears to originate along this fault system on section 1390E (Fig. 13).

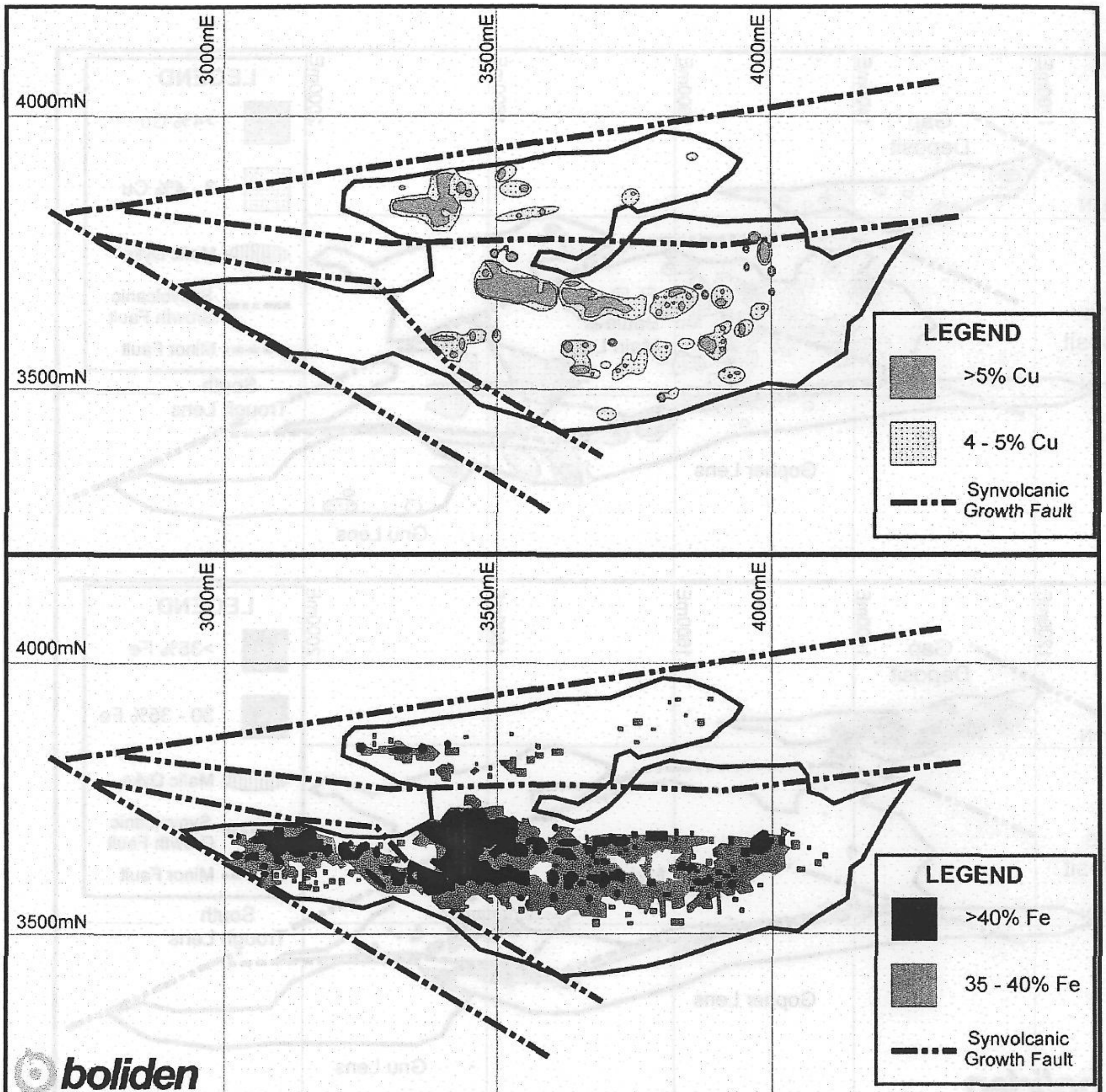

Figure 11: H-W Deposit - Cu and Fe Contours (Projected Plan View)
Top: Cu contours based on Minesight grade shells
Bottom: Fe contours based on Minesight grade shells
Synvolcanic growth faults are from Jones (2001). Three east-west linear clusters of both Cu-enrichment and Fe-enrichment represent possible location for synvolcanic fissures and vent sights.

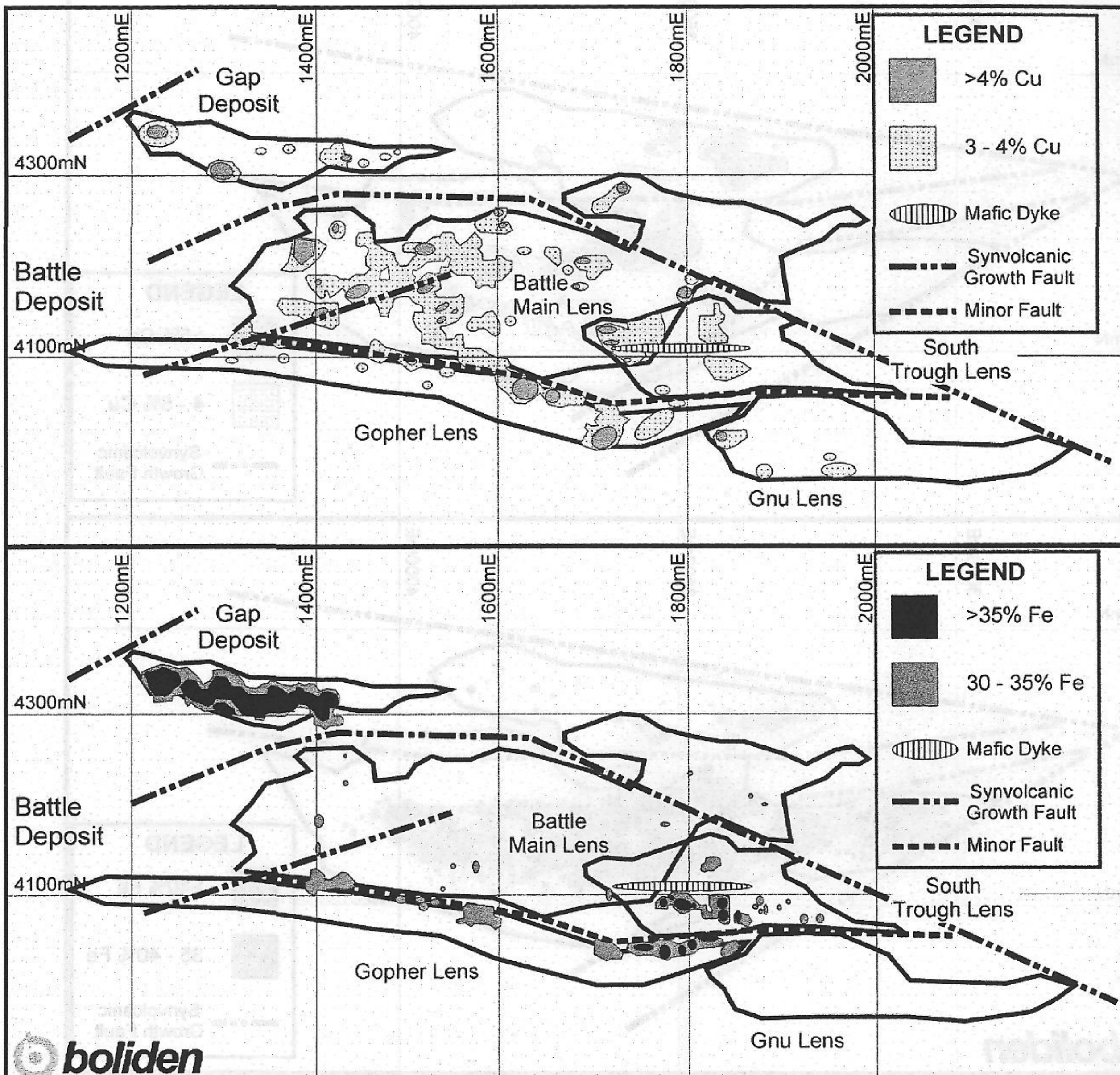

Figure 12: Battle and Gap Deposits - Cu and Fe Contours (Projected Plan View)
Top: Cu contours based on Minesight grade shells
Bottom: Fe contours based on Minesight grade shells

Synvolcanic growth faults are from Jones (2001). Three linear clusters of Cu and Fe-enrichment are associated with the Gap deposit, between the Gopher and Battle Main lenses, and for the South Trough lens. A fourth cluster of Cu-enrichment is located in the western portion of the Battle Main lens and is Fe poor. Mafic dykes and Cu and Fe-enrichment zones represent possible location for synvolcanic fissures and vent sights.

Alteration Mineralogy

The alteration mineralogy at Myra Falls includes sericite and silica with subordinate chlorite, albite, and carbonate. Sulphide mineralogy of pyrite+/-chalcopyrite+/-sphalerite+/-galena+/-tennantite is also present in varying modal percentages as disseminations and veinlets. The overall depth and lateral distribution of the hydrothermal system for the Myra Falls deposits has not yet been defined. Zones of pyrite stringer mineralization have been observed to underlie the H-W, Battle, Lynx and Myra deposits. A majority of the following discussion is based on hydrothermal alteration studies for deposits on the H-W Horizon, as little has been written about the L-M-P Horizon on this topic.

Footwall Price Formation Alteration: Alteration within the Price Formation andesite is not well defined at depth beneath the mineralized zones as diamond drill coverage is typically designed to primarily define the ore bodies. The most common alteration immediately below the ore lenses in the Price Formation andesite is a texturally destructive intense sericite-quartz-pyrite alteration. Hydrothermal alteration has been observed in the Price Formation andesite to depths of at least 80 m below the H-W deposit (Barrett and Sherlock, 1996). A zone of albite-quartz+/-sericite+/-chlorite alteration flanks the main hydrothermal alteration feeder system in the footwall of the H-W deposit (Juras, 1987).

The largest zone of hydrothermal pyrite stringer mineralization at Myra Falls underlies the H-W deposit, where the pyrite content ranges from several to more than 30% (Walker, 1985). The pyrite is coarsely crystalline (a few to several millimeters) in contrast to the overlying, typically fine-grained, massive pyrite. Individual stringers are composed of pyrite and quartz and range up to at least a meter thick (Walker, 1985). Generally, pyrite stringer mineralization is not economic.

Immediately below the Battle deposit, a similar texturally destructive intense sericite-quartz-pyrite alteration system exists. Localized intense Mg-chlorite alteration is also present within the sericite-quartz-pyrite alteration below the Battle deposit (Robinson, 1992; Sinclair, 2000). Thirty meters below the Battle deposits a sericite-chlorite-pyrite alteration assemblage becomes dominant (Sinclair, 2000).

A semi-conformable pyrite stringer mineralized zone has been observed to underlie the Battle Main lens for a few meters into the footwall rocks. A more extensive pyrite stringer zone with intense sericite-quartz alteration is spatially associated with an interpreted synvolcanic fault between the Gopher and Battle Main lenses. This Gopher-Battle Main stringer zone appears to have a subvertical orientation, possibly representing an alteration pipe that crosscuts the above mention semi-conformable alteration zone (Fig. 13). Below the Battle-Gopher-South Trough lenses, are disseminated to veined coarse-grained pyrite stringer zones.

H-W Horizon Hangingwall Alteration: Juras (1987) notes that at the property scale, felsic volcanic rocks in the Myra Formation form numerous mineral assemblages. Hydrothermal metamorphism of feldspar porphyritic felsic volcanic rocks yield the assemblage albite-quartz-epidote-sericite+/-

chlorite+/-hematite. Quartz-feldspar porphyritic rhyolite has an alteration mineral assemblage of sericite-quartz-albite+/-chlorite.

The hangingwall alteration in felsic volcanic rocks above the Battle deposit area is typically diffuse and unfocussed, but can be well developed in areas with Upper Zone style mineralization. The most common alteration minerals are a pervasive sericite-quartz assemblage. Intense hydrothermal silicification of fine-grained facies volcaniclastic deposits immediately above massive sulphide mineralization commonly produces a lithology referred to as "chert" in mine terminology (Jones, 2001). Dolomite, barite, and disseminated to veinlet style sulphides are also present. The dolomite alteration occurs as texturally destructive blebs and rhombs up to 2 cm in diameter. It has a restricted distribution and is interpreted to mark the edges of the hydrothermal system (Sinclair, 2000).

The current understanding is that much of the hangingwall alteration is the footwall alteration for the Upper Zones and Gap deposit (Robinson, 1992; Sinclair, 2000). Spatially overlying the Battle Main lens but underlying the Gap lens is a massive, well-defined, focused, massive pyrite stringer zone below the Gap lens with a pipe geometry (Fig. 13).

Lynx-Myra-Price Hydrothermal Alteration:

The following discussion on L-M-P hydrothermal alteration is from Walker (1985). Ore-related alteration has been metamorphosed and is now manifested by broad zones of pyrite-sericitic schist. Within the more extensive sericite schists, which contain a few percent disseminated pyrite, two separate zones of pyrite stringer mineralization have been recognized along the Lynx-Myra-Price Horizon. These pyrite stringer zones underlie the Lynx and Myra deposits. The Lynx deposit pyrite stringer zone conformably underlies the S-Zone lenses (Fig. 3).

A relatively smaller pyrite stringer zone underlies the Myra deposit. The Myra pyrite stringer zone has elevated Cu values, which have locally attained economic Cu concentrations sufficient to allow mining. Smaller zones of galena and sphalerite-bearing stringer mineralization are recognized peripheral to or away from the major pyrite stringer zones mentioned above.

Ore Body Geometry

The ore lenses at Myra Falls have been modified by varying degrees of deformation. Deposits such as the Lynx and Myra have been substantially folded making derivation of primary geometry difficult. Other lenses such as 43 Block have had at least 3 phases of brittle-ductile deformation, also making derivation of primary geometry difficult. Even though the Battle, Gap, and H-W deposits have had many phases of brittle and ductile deformation superimposed on their original geometries, the current gross overall geometries and thickness variations appear to be reasonably similar to their inferred original geometries prior to deformation. Therefore, a review of the ore body geometries of the Battle, Gap, and H-W deposits would be useful as a general guideline to the variety of geometry types for the H-W Horizon at Myra Falls.

Aspect ratios are typically calculated for primary undeformed lens geometries by the following formula: thickness / length. For purposes of discussion, the aspect ratios used in this document are for deformed, secondary aspect ratios. Lengths used are for N-S minor axis dimensions as this perspective provides the greatest variation for massive sulphide geometry.

The Battle main lens has a sheet style geometry measuring approximately 900 m long by 250 m wide by 3 to 30 m thick and has an aspect ratio below 0.2 (Fig. 11). The Gopher lens (approximately 1.0 M tonnes) appears to have an asymmetric mound geometry with an aspect ratio of approximately 1.0 at its thickest part on a N-S cross-section perspective. The Upper Zones, located 10 to 70 m above the main lenses are polymetallic disseminations, stockwork veins, and massive sulphide lenses with low aspect ratios. The Gap lens has a high aspect ratio of 2 and measures at least 330 m long by 30 m wide by 3 to 45 m thick. Sinclair (2000) documented the Gap lens as having a pipe shaped geometry.

The H-W main lens appears to have an asymmetric mound geometry at its thickest accumulation measuring 950 m long by 450 m wide by 1 to 60 m thick (Fig. 12). Further to the east at 3750E, the H-W main lens thins out and has a low aspect sheet geometry. The north lens appears to be a low aspect ratio mound or sheet style deposit on 3750E. Upper Zone style mineralization of disseminated to massive replacement style vein mineralization is prominent above the polymetallic southern fringe of the H-W main lens.

Based on the above discussion, there are currently four main types of ore lens geometries for the H-W Horizon at Myra Falls. These geometries are:

(1) Low aspect asymmetric mound deposits ranging between 1.0 to 10.0 M tonnes,
(2) Low aspect sheet (lens) deposits ranging between 0.01 to 6.0 M tonnes,
(3) Upper Zone disseminated to replacement vein and lens style mineralization, and
(4) High aspect pipe shaped deposits as per the Gap deposit, with tonnage potential of at least 700,000 tonnes.

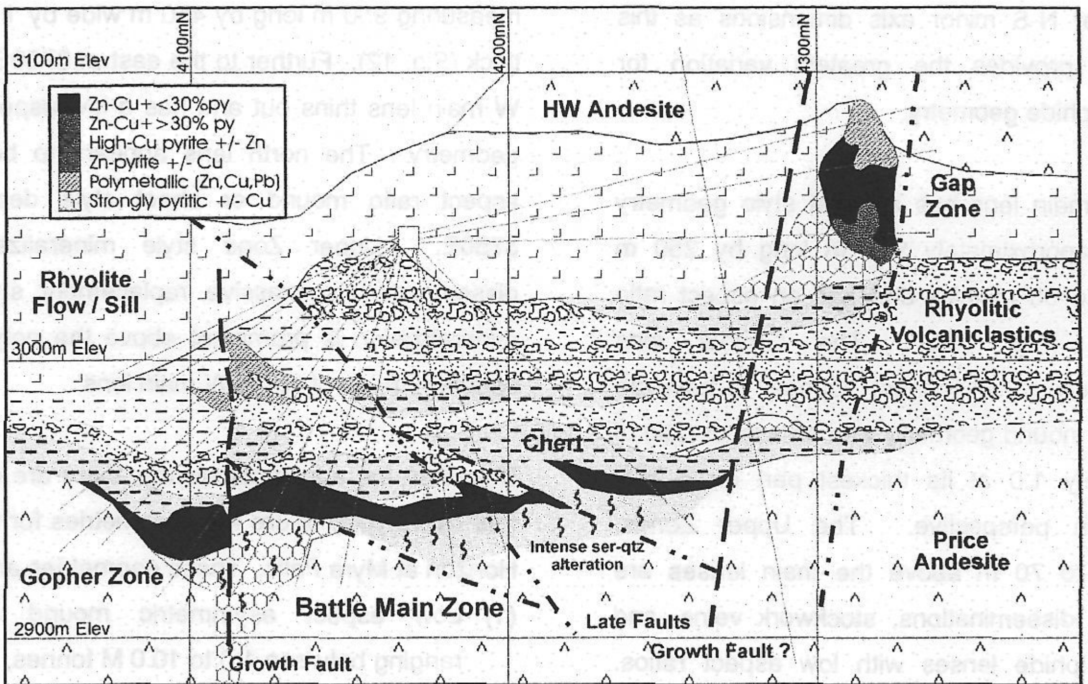

Figure 13: Battle Deposit - Geology Section 1390 E

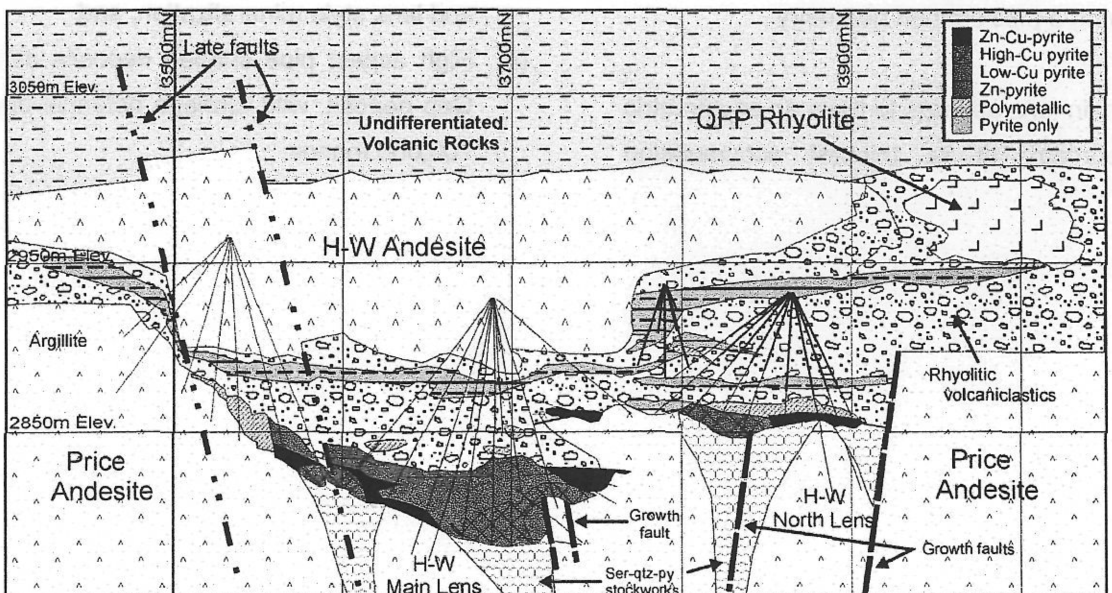

Figure 14: H-W Deposit - Geology Section 3505 E
(modified after McKinley et al., 1997)

Orebody Mineralogy

The following discussion on ore body mineralogy is taken largely from Walker (1985), Robinson (1992), Wilson (1993), and Sinclair (2000). Sulphide mineralogy at Myra Falls is typical of most VHMS deposits. The common sulphide minerals present in order of decreasing abundance are pyrite, sphalerite, chalcopyrite, and galena. Less common sulphides are pyrrhotite, arsenopyrite (Walker, 1985) and the Cu-rich sulphides bornite, renierite, and anilite (Robinson, 1992; Sinclair, 2000). Common sulfate and sulphosalt minerals present are barite and tennantite, respectively. A late stage Ag-Au rich mineral assemblage includes stromeyerite and electrum (Sinclair, 2000). Table 5 lists the orebody minerals present at Myra Falls, their general chemical formulas, and some of the more significant elemental associations.

Table 5: Myra Falls Ore Body Mineralogy

Assemblage	Type	Mineral	General Formula	Other elements	Inclusions - Impurities
Cu-Pb-Zn-Fe	Sulphides	Pyrite	FeS_2	Ni, As	Zn, Cd, Cu, Pb, As, Mn, Au
		Sphalerite	ZnS	Fe, Cd, Cu	
		Galena	PbS	Se, Te	Zn, Fe, Cu
		Chalcopyrite	$CuFeS_2$	Se, In	Ba, Zn, Au
		Pyrrhotite	$Fe_{1-x}S$		
		Arsenopyrite	$FeAsS$		
	Sulphosalts	Tennantite	$(Cu_{10}Ag)\ Zn_2Fe(As_3,\ Sb)S_{12}$	Fe, Se, Ag, Cd	
	Trace Minerals	Rutile	TiO_2		Si, Al, Fe
		Colusite	$Cu_3(As,Ge,V)S_4$	Ba, Sb	Ag, Mo, Zn, Fe
	Tellurides	Altaite	$PbTe$		
		Hessite	Ag_2Te_3		
		Pilsenite	Bi_2Te_3		
Cu-Rich	Sulphides	Bornite	Cu_5FeS_4	Ag, Ba	Zn, Cd
		Renierite	$Cu_{10}(Zn_{1-x}Cu)Ge_{2-x}As_xFe_4S_{16}$	V, Sb, Ba	
		Anilite	$Cu_2(Ag)S$	Ag, Ba	
Late Ag-Au Rich	Sulphides	Stromeyerite	$CuAgS$	Fe	
	Precious metals	Electrum	$AuAg$		
Gangue		Barite	$BaSO_4$		
		Quartz	SiO_2		
		Muscovite	$K_2Al_4(Si_6Al_2O_{20})(OH,F)_4$		
		Calcite	$CaCO_3$		

Data adapted after Walker (1985), Robinson (1992), Wilson (1993), and Sinclair (2000)
Assemblages from Battle-Gap study by Sinclair (2000)

Sinclair (2000) has identified three main mineral assemblages. These are a Cu-Pb-Zn-Fe rich mineral assemblage, a Cu-rich mineral assemblage, and a late stage Ag-Au rich assemblage for the Battle deposit. Since the Battle deposit has a similar but enhanced sulphide mineralogy relative to other deposits at Myra Falls, the assemblages outlined by Sinclair (2000) will be used to discuss the orebody mineralogy.

Cu-Pb-Zn-Fe rich mineral assemblage:
Common minerals for the Cu-Pb-Zn-Fe rich assemblage are pyrite, sphalerite, galena, chalcopyrite, and tennantite.

Pyrite has a wide range of textures ranging from microscopic framboids, ring structures, fine-grained disseminated euhedra, fine-grained spongy pyrite, and annealed coarse-grained porphyroblasts (Robinson, 1992; Sinclair, 2000). The framboids, ring structures, and fine-grained spongy pyrite are interpreted as primitive textures formed during VHMS mineral deposition (Sinclair, 2000). Coarse-grained porphyroblasts and cataclastic textures are interpreted to be the result of metamorphism and deformation. Pyrite has Au and As associations identified by ion microprobe (Wilson, 1993) with Au values between 25-1000 ppb.

In the Battle-Gap deposit and Upper Zone areas much of the sphalerite is a low-Fe variety averaging approximately 0.6 wt% (Robinson, 1992; and Sinclair, 2000) and is commonly referred to as "honey" sphalerite. In the H-W and Lynx deposits the sphalerite is darker grey in colour due to a relatively higher Fe content (Pers. Comm. M. Becherer, 2003). In thin section, sphalerite crystals exhibit textures resulting from metamorphism. These textures include coarsening of individual crystals, 120 degree triple points between sphalerite crystals, and the migration of chalcopyrite to triple point junctions and grain boundaries (Sinclair, 2000).

Galena at Myra Falls occurs as recrystallized anhedral masses and grains interlocked with tennantite and barite. Chalcopyrite is generally remobilized. The sulphosalt present is the As rich end member tennantite.

Cu-rich sulphides:
Bornite is common within the Gap deposit, Upper Zone mineralization, the Bornite lens and the NE portion of the H-W Main lens. Renierite, also known as orange bornite, occurs as rounded grains in bornite, or in sphalerite where bornite is abundant. Anilite is a "blue" copper rich sulphide that is part of the chalcocite group (Robinson, 1992; Sinclair, 2000).

Trace minerals are rutile, tellurides and colusite. The tellurides of altaite, hessite, and pilsenite commonly occur as microscopic inclusions in tennantite and galena. Colusite occurs exclusively in the Gap and Upper Zone ores as rounded blebs in sphalerite, pyrite, and bornite (Sinclair, 2000).

Au-Ag assemblage:
Gold within the Gap and Upper Zone mineralization above the Battle deposit occurs as submicroscopic inclusions at grain boundaries and scattered grains of gold or electrum (Sinclair, 2000). In 2000, a mine geology staff member observed a 1 m thick gold enriched barite bed with stromeyerite-tennantite-electrum (+/-manganese?) veining located in the immediate hangingwall to the polymetallic Zn-Pb-

Cu-Ba enriched portion of the H-W deposit (Fig. 15). This baritic bed sample had an outstanding total metallic precious metal assay of 5,000 g/t Au and 5,379 g/t Ag.

Mineral Chemistry:

Sulphide samples from the H-W deposit have been evaluated by electron microprobe and proton microprobe (Wilson, 1993). Silver occurs at significant levels in tennantite (0.1 to 1.2 wt%) and galena (60 to 250 ppm). Cadmium is present in sphalerite and tennantite at concentrations of 0.33 and 0.1 wt%, respectively. Chalcopyrite contains a few tens of ppm of Se and In, and tennantite contains up to 500 ppm Te. Pyrite and chalcopyrite can each contain tens of ppm Mo (Barrett and Sherlock, 1996).

In the Upper and Gap Zones of the Battle deposit area, Ag occurs at significant levels in tennantite, stromeyerite, and electrum (Sinclair, 2000). Cadmium in the Battle-Gap area is contained within sphalerite and tennantite. Probed chalcopyrite samples are pure and lack detectable Zn, Pb, Ag, As, and Sb (Sinclair, 2000).

There are two main associations for the occurrence of Au at Myra Falls (Barrett and Sherlock, 1996; Hayward, 2001). These associations are coarse free Au and electrum associated with galena, and fine free Au and electrum associated with pyrite grain boundaries. Barrett and Sherlock (1996) also suggest the possibility of submicroscopic Au in pyrite for the H-W deposit. This possibility has not been substantiated.

Chrysoullis (1989) investigated the Au mineralogy of the H-W deposit and the different ore types by optical and scanning electron microscopy, electron and ion probe analyses, diagnostic cyanidation and image analyses of the Au minerals. The principal Au carrier was electrum with 22-30 wt% Ag and native Au with approximately 13 wt% Ag. Electrum was more Au rich in bornite bearing ores where associated with galena and chalcocite. This work is supported by Sinclair's (2000) work on the Gap deposit.

Chrysoullis (1989) determined that the average concentration of solid solution Au was 1.78 and 0.67 ppm in galena and bornite respectively. Fine-grained electrum is found associated with pyrite and sphalerite, enclosed in tennantite. Average solid solution Au concentration in tennantite is 6.3 ppm.

<u>Sulphide Textures</u>

Sulphides may be texturally massive to semi-massive, banded, fragmental, or as stockwork veins ranging from millimeter to centimeter in width (Figs. 15, 16, and 17). Lower greenschist metamorphism has recrystallized almost all sulphides present, with the exception for microscopic, fine-grained primary pyrite with framboidal and ring structure forms (Sinclair, 2000). Fragments of host rock are included within massive to semi-massive sulphide in most deposits at Myra Falls.

Sulphide-bearing fragmental rock commonly referred to as "ore clast" breccia in mine terminology is found throughout the mine sequence stratigraphy (Walker, 1985). Sulphide fragment size is typically on a centimeter scale and may have sharp angular form to fluidal remobilized contacts (Fig. 17). Sulphide clast composition varies from pyrite to chalcopyrite-sphalerite rich. Many of the "ore clast" breccia occurrences are hosted by autobrecciated to massive mafic flow-dome complexes, or occasionally felsic complexes as in the 43 Block area. Peperitic textures are commonly observed at the margins of these flow-dome complexes and are interpreted to be formed by the interaction of a hot, magmatic complex with wet, unconsolidated sediments. Interestingly, many of the “ore clast” breccia occurrences are not necessarily within paleo-depressions downslope of massive sulphide lenses. Instead, many of the occurrences are located immediately adjacent to or enveloping massive sulphide mineralization. Examples of this are the Ridge Zone West and 43 Block respectively (Fig. 17).

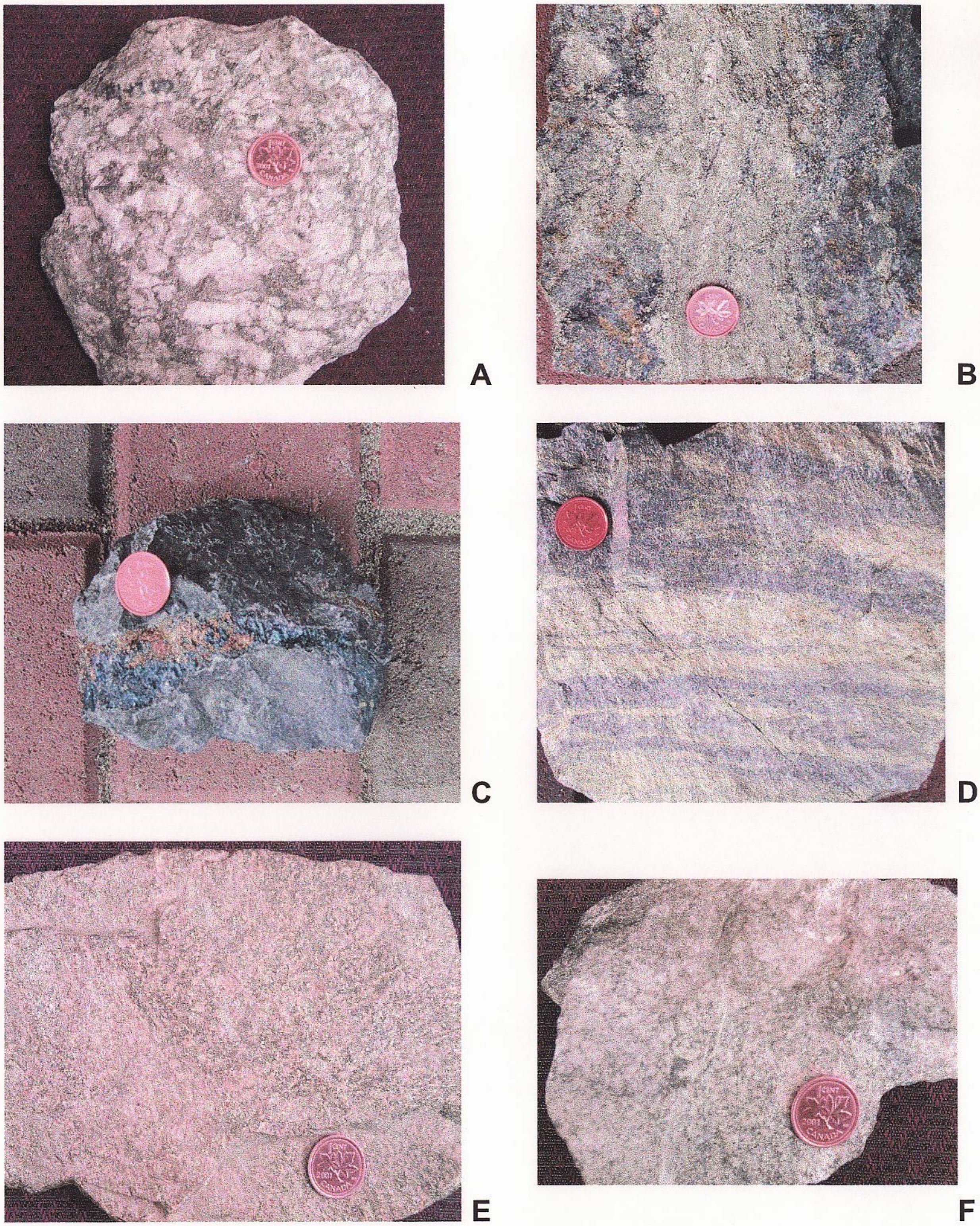

Figure 15: Sulphide mineral textures - Battle and Gap Deposits
A - Gap deposit: coarse barite laths with interstitial galena (coin is 9 mm)
B- Gap deposit: subvertical pyrite+chalcopyrite+bornite+sphalerite veining
C- Gap deposit: bornite and chalcopyrite vein within altered host rock
D- Battle deposit: banded sphalerite and chalcopyrite
E- Battle deposit: massive Fe-poor "honey" sphalerite
F- Battle deposit: polymetallic recrystallized massive green sphalerite and galena

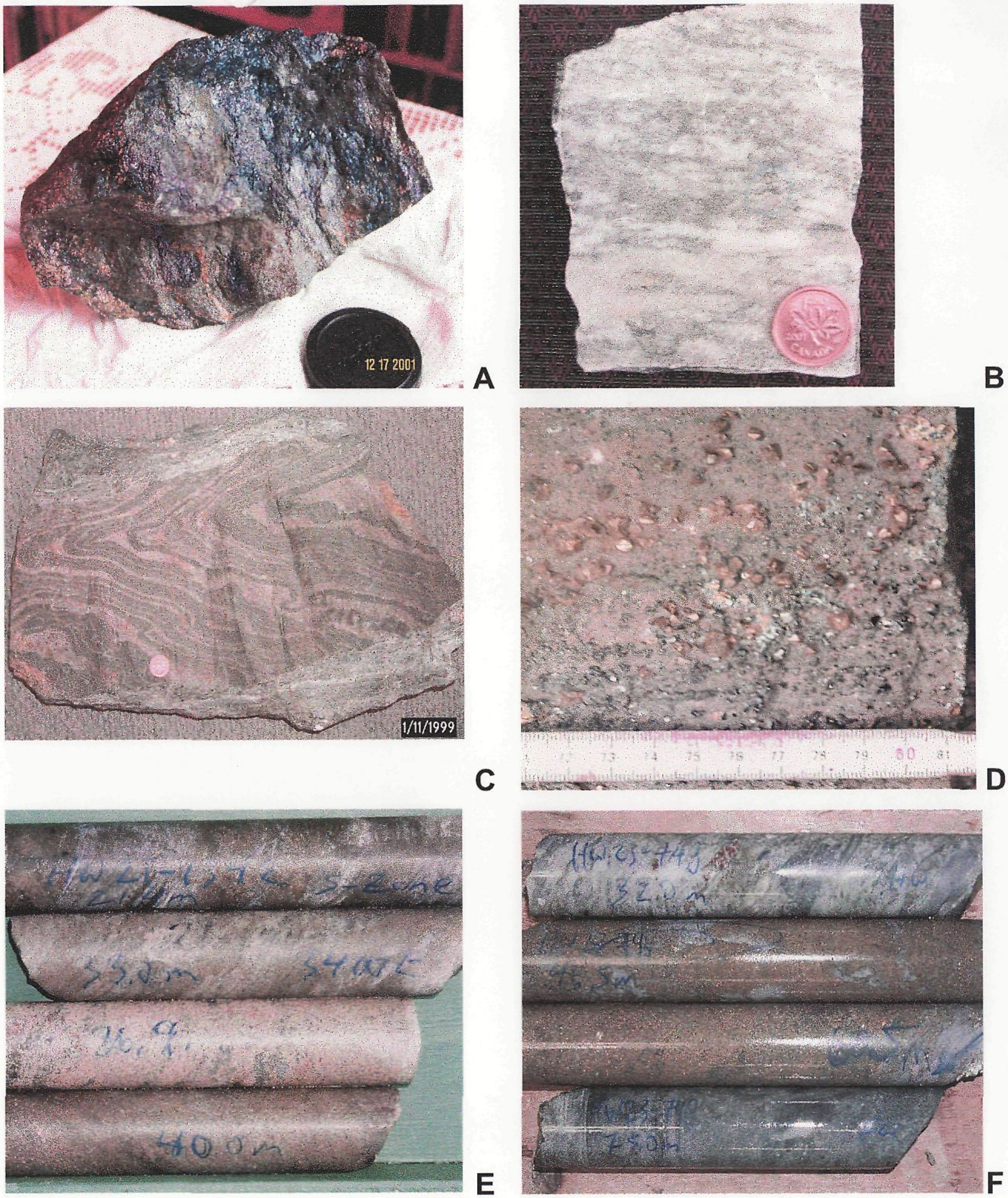

Figure 16: Sulphide Textures - H-W Deposit

A - B395 area - Bornite and chalcopyrite veins

B - polymetallic ore - massive barite with stromeyerite veins (grey) and electrum(blue circle) (coin is 9 mm)

C - folded pyrite (yellow bands) and silica+sphalerite (grey bands) with cross-cutting chalcopyrite veinlets

D - chalcopyrite crystals (yellow) and sphalerite crystals (grey) growing on massive pyrite (scale is in cm)

E - polymetallic ore south fringe - drill hole HW21-1342; (top to bottom; core is 30 mm in diameter)

21.4 m - pyrite veins within hangingwall siltstone
33.0 m - pyrite (yellow)+Fe-poor sphalerite (buff)+barite (white) polymetallic ore
26.9 m - massive honey Fe-poor sphalerite
40.0 m - semi-massive pyrite and chalcopyrite veinlets within a sericite altered host

F - pyrite core - drill hole HW23-748 (top to bottom; core is 30 mm in diameter)

32.0 m - hangingwall sericite altered, unsorted, polymict breccia adjacent north scarp fault;
45.5 m - semi-massive pyrite and disseminated chalcopyrite with silica altered matrix;
60.5 m - massive pyrite; 75.0 m - sericite+chlorite altered Price Formation andesite

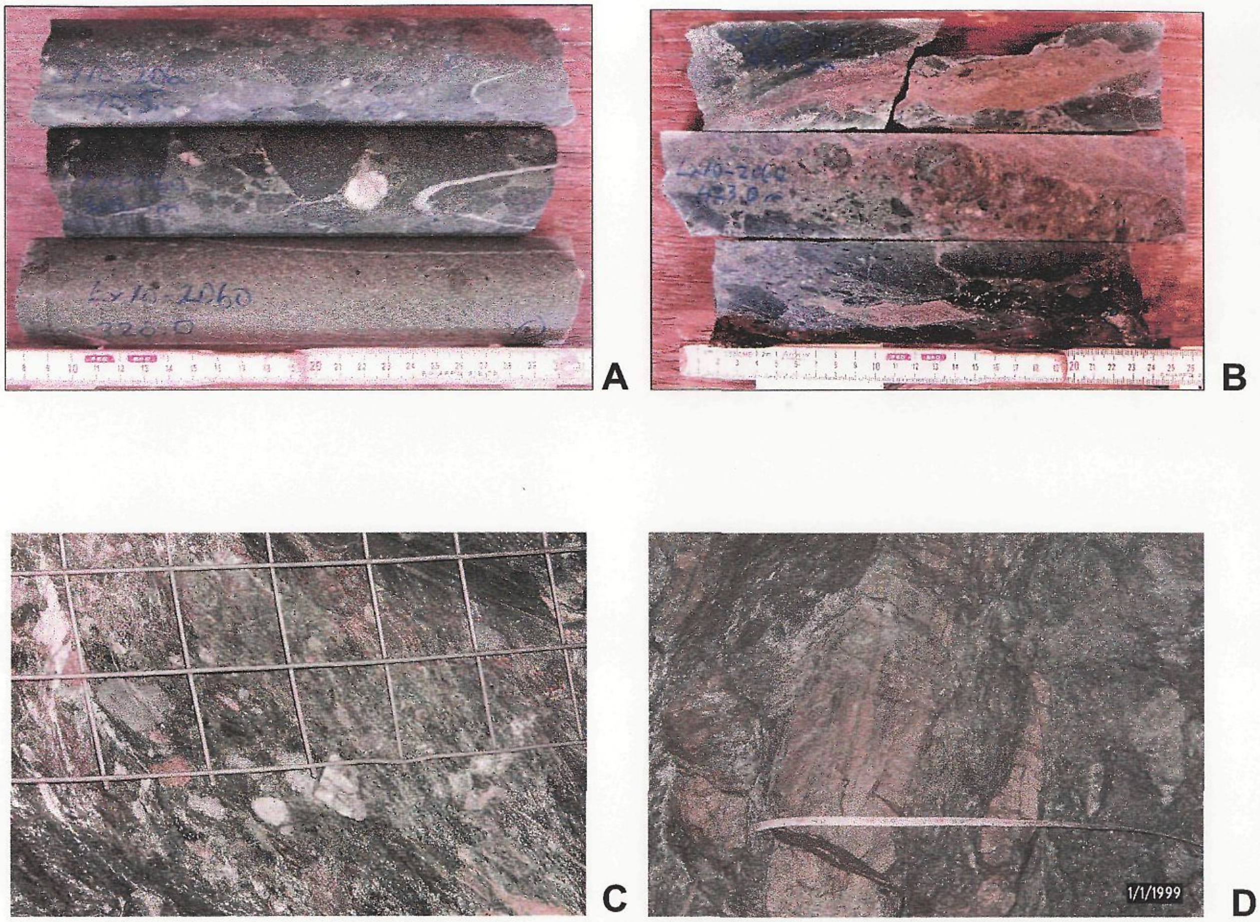

Figure 17: Sulphide Textures - Ore Clast Breccia

A - Ridge Zone West - LX10-2060
Transition from a massive mafic intrusion passing outward to monomict and sulphide fragment bearing polymict breccias (bottom to top; scale is in cm)
320.0 m - massive mafic
305.0 m - autobrecciated mafic breccia
310.5 m - polymict breccia with mafic, siliceous, and sulphide fragments (upper right)
Matrix is quartz crystal bearing (blue circles)

B - Ridge Zone West - LX10-2060, 417.5 to 424.0 m (top to bottom; scale is in cm)
Sulphide fragments within mafic breccia exhibiting minor remobilization textures

C - 43 Block ore clast breccia; K431c1 drift
Polymict breccia with pebble size sulphide fragments
(pyrite clast below bottom screen wire; middle left)

D - 43 Block ore clast breccia; K431c1 drift (scale is in decimeters)
Polymict breccia with cobble to boulder size sulphide rafts

Ore Reserves

Mining at Myra Falls began in 1966 with an initial mining reserve of 1.9 M tonnes at the near surface Lynx deposit. Since that time, the Myra Falls VHMS property has reached an overall pre-minining mineral resource of greater than 40 M tonnes grading 2.1 g/t Au, 49.0 g/t Ag, 1.8% Cu, 0.5% Pb, and 6.1% Zn (Table 6). To date, approximately 23 M tonnes have been mined and milled at the Myra Falls property since the beginning of production.

Ore reserves are calculated using the Mintec Inc. Minesite-Compass software. Three-dimensional block models are generated for each deposit area. Individual block sizes are 5 m along strike by 5 m perpendicular to strike by 4 m vertical. Grade estimation of blocks uses an inverse distance cubed algorithm. The search ellipsoid measures 50 m along strike, 25 m perpendicular to strike, and 15 m vertically. All precious metal and base metal assays are performed on site by the Myra Falls assay laboratory. Off-site independent assay laboratories perform check assays.

Table 6: 2002 MFO Pre-mining Geological Resource Estimate
(modified after Bakker, 2002)

Deposit	Tonnes	Average Deposit Size	Au g/t	Ag g/t	Cu %	Pb %	Zn %	Zn Ratio (1)	Cu Ratio (2)	Metal Content Classification(3)
lynx-mine	5,809,100		*2.5*	*90.4*	*1.6*	*1.0*	*7.5*	88	18	Zn-Pb-Cu
myra	1,037,000		3.0	160.0	1.0	1.5	9.5	86	10	Zn-Pb-Cu
price	380,600		2.1	73.2	1.4	1.3	9.2	88	13	Zn-Pb-Cu
L-M-P Horizon	**7,226,700**	**2,408,900**	**2.6**	**99.5**	**1.5**	**1.1**	**7.9**	**88**	**16**	**Zn-Pb-Cu**
hw-mine	22,137,300		*2.2*	*27.0*	*2.0*	*0.3*	*3.7*	93	35	Zn-Cu
43-block	971,400		*2.6*	*52.8*	*1.7*	*0.5*	*5.8*	92	23	Zn-Cu
trumpeter	211,440		2.4	57.7	3.4	0.3	3.9	93	47	Zn-Cu
extension	1,156,240		1.0	28.7	1.4	0.3	4.5	94	24	Zn-Cu
battle	5,965,300		*1.4*	*53.2*	*1.8*	*0.7*	*12.5*	95	13	Zn-Cu
gap	778,030		*2.0*	*121.3*	*2.0*	*1.0*	*13.8*	93	13	Zn-Cu
ridge-east	326,460		0.8	41.1	0.7	0.8	4.7	86	13	Zn-Pb-Cu
ridge-west	982,660		2.0	71.8	0.9	0.8	6.8	90	11	Zn-Pb-Cu
marshall	1,210,370		1.6	80.3	0.5	0.6	5.3	89	9	Zn-Pb-Cu
H-W Horizon	**33,739,200**	**3,748,800**	**2.0**	**38.2**	**1.8**	**0.4**	**5.7**	**93**	**24**	**Zn-Cu**
MFO TOTAL	**40,965,900**	**3,413,825**	**2.1**	**49.0**	**1.8**	**0.5**	**6.1**	**92**	**23**	**Zn-Cu**
*** italicized grades from January 2000 (pers. Comm. F. Bakker)*								**(1) Zn Ratio**		**100*Zn / (Zn+Pb)**
Feb - 2002 Undiluted Mining Reserve (from Bakker, 2002)								**(2) Cu Ratio**		**100*Cu / (Cu+Zn)**
MFO TOTAL	**7,086,870**		**1.7**	**53.8**	**1.52**	**0.64**	**8.28**	**(3) After Solomon (1976)**		

Ore Body Tonnage, Grade and Classification

The Myra Falls VHMS property has 12 known deposit areas. Each deposit area represents a cluster of individual lenses. Six of the twelve known deposits have tonnages greater than 1.0 M tonnes (Table 6). The overall average deposit size for the Myra Falls VHMS district is 3.4 M tonnes with grades of 1.8% Cu, 0.4% Pb, 5.7% Zn, 2.0 g/t Au, and 38.2 g/t Ag. Deposits within the mineral resource range from 211,000 tonnes for the relatively undefined Cu-rich Trumpeter Zone to 22.1 M tonnes for the pyrite rich polymetallic H-W deposit.

The near surface L-M-P Horizon has a 7.2 M tonne mineral resource with an average deposit size of 2.4 M tonnes. Based on their Zn and Cu ratios, the L-M-P deposits would fall under the Solomon (1976) metal content classification as Zn-Pb-Cu deposits (Table 6). There are an estimated 120 individual lenses within the Lynx deposit along a 2,750 meter strike length. The mineralization occurs as a folded and faulted array of individual lenses varying in size from 10,000 to 150,000 tonnes. Lens dimensions range from 3 to 6 m thick, 30-60 m dip length and 90 to 120 m strike length (Becherer, 1992).

The at-depth H-W Horizon has a current mineral resource of 33.7 M tonnes with an average deposit size of 3.7 M tonnes (Table 6). Deposits within the H-W Horizon are primarily classified as Zn-Cu type and include the H-W deposit and its adjacent lenses. Interestingly, the Battle and Gap deposits also fall within the Zn-Cu group in spite of their high Pb and Zn values relative to other deposits on the property. An explanation for this is that the Pb values are not sufficient enough to bring the Zn ratio below 90.

Zinc-Pb-Cu deposit types in the H-W Horizon are the Ridge Zone West, Ridge Zone East, and Marshall Zones. These deposits are located approximately 1.0 km west of the current infrastructure (Fig. 2). One possible explanation for the metal content of these deposits is that these deposits may represent distal mineralization peripheral to the main hydrothermal system (Gemmell, 1998). Wide-spaced exploration style diamond drilling has been carried out on these deposits. Hence, other Zn-Cu deposit types west of the Battle deposit area may remain to be discovered.

Myra Falls compared to other VHMS Regions

Numerous workers have conducted statistical analysis characterizing VHMS deposits and mining camps around the world. Sangster (1980) calculated the average area occupied by a cluster or mining district to be about 850 km^2, equivalent to a circular diameter of about 32 km and host betweem 4 and 20 deposits. Boldy (1977) estimated that approximately 80% of the VHMS deposits fall in the size range of 0.1 to 10 M tonnes with about 50% being less than 1.0 M tonnes for Canadian Archean VHMS deposits. From a grade perspective, Gibson and Kerr (1992) state that 88% of Canadian deposits have combined Cu+Pb+Zn grades of less than 10%.

The Myra Falls property covers an area of approximately 33 km^2. Compared to Sangster's (1980) estimate of 850 square kilometers for an average VHMS district, the Myra Falls property is approximately 1/25th the size. Since the extent of the Myra Falls VHMS mineralization is not defined, the amount of prospective ground both on and off the property within Sicker Group volcanic rocks on Vancouver Island is considered high.

In terms of tonnage, the 22.0 M tonne H-W deposit would be considered within the upper 20% of VHMS deposits with a significant Au content (> 1.0 M contained ounces). Though not considered to be large deposits, the Lynx, Myra, Price, Battle and Gap deposits have combined Cu+Pb+Zn grades greater than 10% and are considered high grade. Table 7 compares the Myra Falls VHMS deposits mean tonnes and grades to other selected VHMS regions around the world.

Table 7: Mean Tonnage and Grade Data for Selected VHMS Deposit Types

Deposit Type	Number of Deposits	Tonnes (millions)	Cu (%)	Pb (%)	Zn (%)	(1)	Au (g/t)	Ag (g/t)	Zn ratio (2)	Cu ratio (3)	Au Tonnes
Australian deposits											
Cu	16	12.6	1.3	0.0	0.2	14.0	1.6	8.0	85	85	20.2
Zn-Cu	4	8.6	1.6	0.5	6.9	3.0	0.8	61.0	93	19	6.9
Zn-Pb-Cu	10	7.6	1.0	4.7	11.8	10.0	2.0	117.0	72	8	15.2
Canadian Archean deposits											
Cu	7	5.4	1.8	0.0	0.8	6.0	0.4	9.0	100	69	2.2
Zn-Cu	36	15.7	1.5	0.1	3.7	34.0	0.8	38.0	98	28	12.6
Zn-Pb-Cu	1	2.0	2.7	1.4	10.0	1.0	0.8	214.0	88	21	1.6
Cdn Bathurst District (Paleozoic)											
Zn-Pb-Cu	20	14.3	0.6	2.2	5.5	19.0	0.5	62.0	71	9	7.2
Cdn Myra Falls (Paleozoic)											
Zn-Cu	6	5.2	1.9	0.4	5.7	6.0	2.0	35.4	93	25	10.5
Zn-Pb-Cu	6	1.6	1.3	1.0	7.3	6.0	2.3	92.4	88	15	3.7
Japanese Green Tuff Belt(4) (Tertiary)											
Cu	4	3.4	1.1	0.0	0.2	2.0	0.5	5.0	87	84	1.7
Zn-Cu	2	3.3	1.3	0.0	3.8	1.0	1.4	59.0	100	26	4.6
Zn-Pb-Cu	11	12.4	1.7	1.1	4.7	3.0	3.0	97.0	82	27	37.2

Modified after Large (1992)

(1) Number of deposits for which data was available to calculate average Au and Ag grades

(2) Zn Ratio 100 * Zn / (Zn+Pb)

(3) Cu Ratio 100 * Cu / (Cu+Zn)

(4) Close clusters or unit orebodies of kuroko deposits are grouped as single deposits in this tabulation

There does not appear to be any consistent trends between the deposits currently known at Myra Falls relative to any of the other VHMS regions listed in Table 7. The most significant comparisons are:

(1) The Myra Falls mean tonnages for both Zn-Cu and Zn-Pb-Cu deposit types appear to be considerably less than those listed for the Australian and other Canadian VHMS categories,

(2) The cumulative Cu+Pb+Zn grade for the six Zn-Cu type deposits at Myra Falls (8.0%) is substantially higher than the other areas listed with the exception of four Australian deposits,

(3) The cumulative Cu+Pb+Zn grade for the six Zn-Pb-Cu type deposits at Myra Falls (9.6%) is lower than the Australian and Canadian Archean deposits selected but of higher cumulative grade than the Zn-Pb-Cu deposits of the Bathurst district and the Japanese Green Tuff Belt,

(4) The mean Au grades for both the Zn-Cu and the Zn-Pb-Cu deposit types at Myra Falls are similar to or significantly higher than the other areas listed, and

(5) The mean Ag grade for the Zn-Pb-Cu type deposits at Myra Falls is similar to the other VHMS areas listed, except for the Canadian Archean Zn-Pb-Cu deposits. The mean Ag grade for Myra Falls Zn-Pb-Cu deposits is less than half that for the mean Ag grade for the Zn-Pb-Cu deposits of the Canadian Archean.

Concluding Remarks

There have been over 100 years of mineral exploration activity in central Vancouver Island and over three decades of active mining at Myra Falls. Much effort has been focused on establishing the volcanic setting, synvolcanic growth faults, paleoseafloor depressions, and structural deformation of the Myra Falls property. Other studies and data obtained from exploration and mining have aided in characterizing disposition, geometry, mineralogy, metal zoning, and hydrothermal alteration of the various VHMS deposits at Myra Falls.

VHMS deposits at Myra Falls are associated with the rhyolite dominated L-M-P and H-W Horizons within the Myra Formation of the Sicker Group. Mineralization in the L-M-P horizon is a series of stacked lenses with a felsic footwall. Mineralization in the H-W Horizon is focused at the contact with the footwall Price Formation andesite. H-W Horizon stacked upper zone vein systems and lenses are located within rhyolitic rocks above the Price Formation contact. Both the L-M-P and the H-W horizons have mafic flow-sill complexes in direct contact with or proximal to the hangingwall of massive sulphide mineralization.

The L-M-P and H-W horizons are host to 12 known deposits with a variety of geometries, tonnages, and metal contents. The common ore body geometries found at Myra Falls are low aspect sheet, low aspect asymmetric mound, upper zone vein and lens, and high aspect pipe. The H-W deposit is a large tonnage Cu-Zn VHMS deposit. The Battle, Gap, Lynx, Myra, and Price deposits have high Zn+Pb+Cu metal grades.

The Myra Falls property has only had 50% of its current claim explored. The lateral extents of the L-M-P and the H-W Horizons have not been fully defined. A third rhyolite horizon remains untested. Compared to other VHMS regions in the Canada Archean and the world, the Sicker Group rocks on

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Vancouver Island have strong potential to host additional VHMS deposits. Based on the above observations and comparisons, exploration potential at Myra Falls and Vancouver Island is considered to be very good.

The studies and observations mentioned earlier are the foundation for future discoveries of VHMS deposits at Myra Falls and the Sicker Group volcanic rocks on Vancouver Island. The questions to be answered are, what is the true maximum potential of the property and how do we realize that potential?

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