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Westmin Resources Ltd. Massive Sulphide Deposits, Buttle Lake, Vancouver Island, B.C.

RICHARD WALKER, Westmin Resources Ltd., Campbell River, B.C.

Westmin Resources Ltd. (formerly Western Mines Ltd.) currently produce 965 short tons of ore per day from Myra and Lynx mines, located at the south end of Buttle Lake in central Vancouver Island. Two new mines, the Price and the H-W, were discovered in the latter part of 1979 and are currently under development. All production since start-up in 1967 has been from the Myra and Lynx mines. Ore produced to the end of 1980 totalled 4,616,000 short tons averaging 0.06 ounce Au/ton, 2.8 ounces Ag/ton, 1.6% Cu, 1.0% Pb and

7.6% Zn with by-product cadmium. Proven reserves in Myra and Lynx mines at the end of 1980 were 1,092,000 tons grading 0.07 ounce Au/ton, 3.3 ounces Ag/ton, 1.1% Cu, 1.0% Pb and 7.7% Zn.

Sinking of a 2500-ft shaft is in progress to gain access to the H-W deposit, which was first intersected by a surface drill hole at a depth of 1400 ft below the floor of Myra valley. Based on surface holes drilled in 1980, an independent consulting firm estimated a reserve in the H-W deposit of 5,314,400 tons "drill indicated" and 2,714,600 tons "possible" with an average grade of 0.07 ounce Au/ton, 1.0 ounce Ag/ton, 2.1% Cu, 0.3% Pb and 4.9% Zn. Continuing exploration has expanded the known dimensions of the deposit, which is still open.

The Westmin Resources' ore deposits occur within volcanics, volcanoclastics and sediments of the Myra Formation. The most probable age of the Myra Formation is late Silurian to Devonian. The Myra Formation is underlain by the mafic volcanic Nitinat Formation and overlain by limestone of the Buttle Lake Formation, which is middle Pennsylvanian to Permian in age. The above three formations comprise the Sicker Group. The Sicker Group, along with the overlying Vancouver Group and Bonanza Group, comprise a segment of allochthonous terrane termed Wrangalia which was accreted on the west coast of British Columbia in the Jurassic.

The Myra Formation is composed of volcanoclastic and sedimentary rocks thought to have formed in a submarine island-arc environment. The volcanics include basaltic, andesitic and felsic rocks of predominantly calc-alkaline character. The massive sulphide deposits of Buttle Lake are closely associated with felsic volcanic rocks. All known ore deposits and felsic volcanics are limited to a stratigraphic zone approximately 1200-1500 feet thick which is characterized by massive volcanic rocks, heterolithic volcanoclastics which range from coarse breccias to fine tuffs or greywackes, and subordinate chemical sediments which include massive sulphide, barite, chert, jasper and carbonaceous chert to argillite. Large zones of altered rocks occur principally beneath the ore zones. The altered rocks have been metamorphosed and are recognized as sericitic, siliceous and pyritic. Sulphitic alteration beneath ore includes major zones of stringer and disseminated pyrite and minor base metal sulphides. Only a small amount of pyrite stringer zone material has been mined for its chalcopyrite content.

The Myra Formation in the mine area has been affected by dynamothermal metamorphism of the lower greenschist facies. Deformation has been inhomogeneous and has led to the development of schistose and stretched rock fabrics. Schistosity is localized primarily in sericitic altered rocks associated with the ore zones.

The Lynx, Myra and Price mines are segments of a single elongate zone of rhyolite, altered rocks and ore. This zone is coincident with a large asymmetrical anticlinal "shear fold" with a flat plunge, northwest strike, steep northeast-dipping axial plane, axial-plane schistosity and a prominent b-lineation in the rock fragment. Amplitude is at least 1500 feet and the southwest limb is in part overturned. The ore zone and structure have been traced over a strike length of 18,000 feet. The H-W deposit lies at a lower stratigraphic level and occupies a parallel elongate trough or syncline with an axis 2000 feet northeast. There is evidence that both structure and paleotopography may have influenced its present form. Smaller-scale fold structures, including folded schistosity, are present, especially in the strongly schistose incompetent rocks of Lynx mine.