

## **Supracrustal Stratigraphy and Mineralisation within the Swayze Area of the Abitibi Greenstone Belt – A deposit scale investigation of the Jefferson Prospect**

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The Swayze Area of the Abitibi Terrane, Superior Province, is located SW of the Abitibi Greenstone Belt (AGB) and is the focus of a multi-year transect supported by Metal Earth and the Ontario Geological Survey. This study examines the Jefferson Prospect, Genoa Township, in order to determine its significance to the base metal metallogeny of the belt. The Jefferson prospect is hosted within and proximal to the Woman River banded ironstone; it has been interpreted as VMS style mineralisation by previous workers. A non 43-101 compliant resource estimate in 1948 indicated 30,100 tons at 7.05% Zn and 4.58% Pb. The mineralization was reported to consist of massive sulphides enriched in Zn and Pb over a strike length of 150m and to a depth of 30m. A 2014 drill program conducted by Red Pine returned its best intersection as 9.12 g/t Ag, 0.21% Cu, 1.66% Pb and 2.91%. Massive and semi-massive polymetallic mineralisation at Jefferson is hosted primarily within banded ironstone and stringer type mineralisation is observed in felsic units of the hanging wall. The Jefferson prospect is underlain by a basal bimodal volcanic sequence, principally the Chester group (amphibolite; 2636-2642 Ma) and overlying Rush River basal mafic unit. The Rush River formation is overlain by the Strata Lake felsic volcanoclastic unit and capped by the laterally continuous banded ironstone of the Woman River formation (WRF). The Rush River formation, Strata Lake formation and WRF form the Marion Group (~2729-2735 Ma) where the latter sequence is constrained to 2731 and 2735 Ma. Locally, a major mafic subvolcanic intrusion of the Rush River formation emanates dykes upwards into the base of the Strata Lake felsic succession; below the mafic intrusion is a major felsic intrusive complex composed of both alkalic and granodiorite-granite phases; however, it is largely unsubdivided. Ages for the felsic intrusive complex range from 2662 Ma to 2731 Ma. Previous work has provided evidence for VMS style mineralisation at the Jefferson prospect and will be expanded by the current study in order to enhance the understanding of controls on ore formation within this setting.