As part of the Metal Earth 2017 summer field program, geological mapping was undertaken in Skead Township, approximately 12 km southeast of the town of Larder Lake. The purpose of this targeted mapping was to provide further insight into the nature and timing of the Hearst assemblage clastic sedimentary rocks and their relationship to the Larder Lake assemblage, a predominantly older succession of mafic to ultramafic volcanic rocks.

**REGIONAL GEOLOGY**

The geology of the northern Skead township is dominated by older mafic and felsic volcanic rocks, mapped by Hewitt (1949) as the Keeewatin Formation, and correlated to the Larder Lake group by Jackson, that are overlain unconformably by younger sedimentary rocks ranging from conglomerates to mudstones. The volcanic rocks, consisting mainly of tholeiitic basalts and ultramafic komatiites, underlie the majority of the study area, with the Lincon-Nipissing shear zone trending west-northwest and zone is poorly exposed and is better seen as a pronounced magnetic feature on geophysical maps. The shear zone marks a stratigraphic boundary between the overlying conglomerates and sandstones to be analyzed for geochronology. Additional mapping of the contact and lithological units will aid in placing the sedimentary rocks into context within the local and regional stratigraphy.

**INTRODUCTION**

The sedimentary rocks in their northern Skead township have been the subject of varying interpretations and confusion. Although Hewitt recognized differences between the sedimentary rocks north of the Larder–Cadillac deformation zone (LCDZ) and those in Skead Township, he considered all sedimentary units as Timiskaming in age. This classification was revised by Ridler (1970) and Jensen (1985), who considered the sedimentary packages south of the LCDZ as part of the Larder Lake group. The rational for this distinction is the variation in clast composition, as there is a distinct lack of red jasperoid clasts and trachyte clasts in the sedimentary belts south of the LCDZ, suggesting different provenances. Jackson (1995) further divided the Larder Lake group and assigned the sedimentary rocks south of the LCDZ to the Hearst assemblage, which he described as turbiditic, in contrast to the Timiskaming aulacoidal-fluvial sedimentary units with associated alkali volcanic rocks (Jackson and Fyon 1991).

**SEDIMENTARY UNITS**

The sedimentary rocks in their northern Skead township have been the subject of varying interpretations and confusion. Although Hewitt recognized differences between the sedimentary rocks north of the Larder–Cadillac deformation zone (LCDZ) and those in Skead Township, he considered all sedimentary units as Timiskaming in age. This classification was revised by Ridler (1970) and Jensen (1985), who considered the sedimentary packages south of the LCDZ as part of the Larder Lake group. The rational for this distinction is the variation in clast composition, as there is a distinct lack of red jasperoid clasts and trachyte clasts in the sedimentary belts south of the LCDZ, suggesting different provenances. Jackson (1995) further divided the Larder Lake group and assigned the sedimentary rocks south of the LCDZ to the Hearst assemblage, which he described as turbiditic, in contrast to the Timiskaming aulacoidal-fluvial sedimentary units with associated alkali volcanic rocks (Jackson and Fyon 1991).

**FUTURE WORK**

Samples were collected from granitic boulders in the basal conglomerate as well as from surrounding conglomerates and sandstones to be analyzed for geochronology. Additional mapping of the contact and lithological units will aid in placing the sedimentary rocks into context within the local and regional stratigraphy.

**REFERENCES**