

Geological and geophysical study of a gossanous outcrop near White lake, northern Saskatchewan

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The Glennie Domain in northern Saskatchewan is of major interest for base and precious metal exploration. Several gossans surrounding White and Steephill lake were previously trenched and or drilled to find insufficient mineralization for further investment. Bedrock mapping and magnetic survey revealed a gossanous unit displaying significant mineralization of magnetite and hematite. The quality of mineralization was inadequate to evaluate the economic significance. To determine the quality of mineralization outcrop RMo17-13-002 was mapped at 1:50 scale, magnetically surveyed, and sampled for petrographic and geochemical analysis. This poster presents the local geology observed in the study area. The central feature observed is a gossanous outcrop which produced magnetic readings up to $598 \text{ SI} \times 10^{-3}$ and had a mineralogy consisting of radial amphiboles, quartz stringers, garnet porphyroblasts with an underlying rusty mineralization. The morphology of the outcrop was mound shaped and bisected by faults and joints. In conclusion, the regional geological setting, magnetism, mineralization, and structure suggest the presence of a mafic intrusion that has since been altered. This type of mineralization may be interest for future exploration and study in the White and Steephill lake area.