FIELD STATION LOCATIONS AND MAGNETIC SUSCEPTIBILITY DATA COLLECTED IN 2020-2021 FOR THE WESTERN TANACROSS PROJECT, TANACROSS AND EAGLE QUADRANGLES, ALASKA

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FIELD STATION LOCATIONS AND MAGNETIC SUSCEPTIBILITY DATA COLLECTED IN 2020-2021 FOR THE WESTERN TANACROSS PROJECT, TANACROSS AND EAGLE QUADRANGLES, ALASKA

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INTRODUCTION

During the 2020 and 2021 field seasons, geologists from the Alaska Division of Geological & Geophysical Surveys (DGGS) conducted 1:100,000-scale bedrock geologic mapping of ~2600 mi^2 (~6900 km^2) within the Tanacross and Eagle quadrangles. The field areas for the Western Tanacross project are approximately 20 miles north and southwest of Tok. The project area is of current and historic interest for potential mineral resource development, including quartz vein Au mineralization, placer Au deposits, granite-hosted tin mineralization, and intrusion-related Cu-Au deposits. Prospects in the area include Triton, Tushtena, Taurus, and others. Much of the field area was mapped at 1:250,000 scale by the USGS in the 1960s (Foster, 1970; 1972). This project aims to produce more accurate and modern geologic maps and supporting datasets that will promote mineral resource exploration in eastern Interior Alaska.

This report provides locations, field descriptions of rocks, and magnetic susceptibility measurements from rock outcrop and/or hand samples throughout the map area. The data associated with this report are available in digital format as a comma-separated value (CSV) file. All files can be downloaded from the DGGS website: https://doi.org/10.14509/30838.

DOCUMENTATION OF METHODS

Location data for field stations were collected using GPS-enabled tablets or smartphones running the ESRI Field Maps App. Data were merged into an ArcGIS geodatabase. The devices have a reported error between 10–12 m. Latitude and longitude are reported in the WGS84 datum.

Field rock descriptions are composed of observations and interpretations made by project geologists in the field or in the field office, and may not be updated to reflect further observations, geochemical data, microscopic investigation, or other information. Field observations and rock descriptions in this data file have not been reviewed for technical content and should be considered preliminary. As the project commences, further observations, geochemical data, microscopic investigation, or other information may provide additional insights into sample and station lithology or features. Revised descriptions may become available in the future through new publications, DGGS web services, or division databases.

Magnetic susceptibility measurements were collected using Terraplus KT-10 model handheld magnetic susceptibility meters. The KT-10 meters have a maximum sensitivity of 1×10^{-6} SI units on smooth surfaces and a measurable susceptibility range between 0.001×10^{-3} and 1999.99×10^{-3} SI. The values reported

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here are for individual measurements performed on representative surfaces of the sampled rock outcrop and/or hand samples. Up to twelve susceptibility readings were recorded at each field station. Efforts were made to avoid atmospheric effects by measuring multiple sides of outcrops and/or hand samples whenever possible. Magnetic susceptibility was not measured at a minority of field stations because hand samples were intensely weathered or not large enough to cover the coil of the KT-10 meter for accurate measurement. These stations are presented with zero measurements for completeness.

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REFERENCES

Foster, H.L., 1970, Reconnaissance geologic map of the Tanacross Quadrangle, Alaska: U.S. Geological Survey Miscellaneous Geologic Investigations Map 593, 1 sheet, scale 1:250,000.

Foster, H.L., comp., 1972, Preliminary geologic map of the Eagle Quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map 358, 1 sheet, scale 1:250,000.