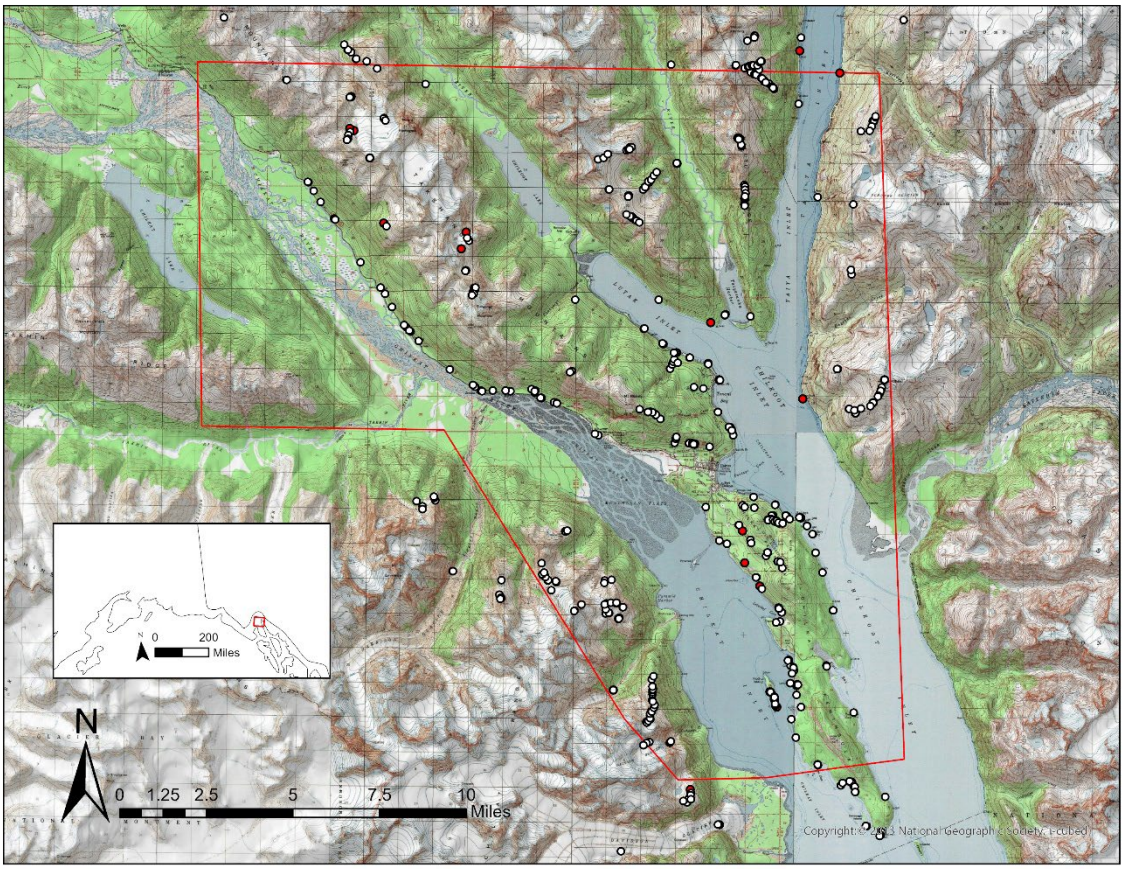
THIN SECTION ANALYSIS OF SAMPLES FROM THE HAINES–TAKSHANUK MOUNTAINS–CHILKAT PENINSULA AREA STATEMAP PROJECT, SOUTHEAST ALASKA, COLLECTED 2022 AND 2023

Conner M. Truskowski, Katharine F. Bull, Cathy Hamel, and Simone Montayne

Raw Data File 2025-6



Map showing the location of Haines data stations and field area. Stations with thin section analysis are marked in red.

This report has not been reviewed for technical content or for conformity to the editorial standards of DGGS.

2025
STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
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THIN SECTION ANALYSIS OF SAMPLES FROM THE HAINES–TAKSHANUK MOUNTAINS–CHILKAT PENINSULA AREA STATEMAP PROJECT, SOUTHEAST ALASKA, COLLECTED 2022 AND 2023

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INTRODUCTION

During July 2022, May 2023, and August 2023, geologists from the Alaska Division of Geological & Geophysical Surveys (DGGS) conducted fieldwork supporting surficial and bedrock mapping for the Haines–Takshanuk Mountains–Chilkat Peninsula area STATEMAP project near Haines, Alaska. The project area includes portions of the Skagway A-1, A-2, B-1, B-2, and B-3 15-minute quadrangles, an area of approximately 300 square miles. This report provides detailed petrographic descriptions of rock samples collected from stations visited during fieldwork.

On December 2, 2020, a landslide triggered by an atmospheric river weather phenomenon at Beach Road in Haines, Alaska, claimed two lives. During the same rain event, numerous debris flows were recorded around town, especially along Lutak Spur Road (Nicolazzo and Larsen, 2025).

The goal of the Haines–Takshanuk Mountains–Chilkat Peninsula area STATEMAP project is to construct a comprehensive 1:50,000-scale geologic map using modern analytical methods to assist land managers and residents in making informed decisions when planning future development and evaluating risks to infrastructure.

Data provided by this report are available at doi.org/10.14509/31517. Images are archived in the Geologic Photos of Alaska database (Athey and others, 2017, https://maps.dggs.alaska.gov/photodb/#search=rdf2025-6).

METHODS

We cut thin section billets for 55 rock samples for thin section analysis at the DGGS office. The cut samples were sent to Vancouver Petrographics Ltd. for final cutting, impregnation, and mounting. Vancouver Petrographics Ltd. retained 45 thin sections for further staining, photography, and analysis. The remaining thin sections were returned to DGGS in Fairbanks, where they were photographed and analyzed in-house.

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[2] Vancouver Petrographics Ltd, 8080 Glover Rd, Langley Twp, BC V1M 3S3, Canada

Vancouver Petrographics Ltd's Cathy Hamel annotated features of interest in the photomicrographs using the following notations:

Photomicrograph Notes:	
Upper Left Corner	Sample#
Lower Left Corner	Photo#
Lower Right Corner	**P** = plane-polarized light
	X = crossed-nicols
	RX= reflected light in nearly crossed-nicols and incident crossed-nicols

Mineral Abbreviations/Names		
ac = actinolite	an = andesite	ap = apatite
bi= biotite	ca= calcite	cl = chlorite
cz - clinozoisite	di = diopside	ep = epidote
hb = hornblende	hm = hematite	il = ilmenite
ks = K-feldspar	lm = limonite	mt = magnetite
pl = plagioclase	pxq = polycrystalline quartz	py = pyrite
	qz = quartz	ru = rutile
se = sericite	tr = tremolite	
po - pyrrhotite	qz = quartz	qrf = quartz-rich sedimentary fragments
ru = rutile	se = sericite	srf = sedimentary rock fragments
tr= tremolite	vrf= volcanic rock fragments	zr = zircon

ACKNOWLEDGMENTS

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Athey, J.E., Seitz, S.S., and DGGS Staff, 2017, Geologic Photos of Alaska: Alaska Division of Geological & Geophysical Surveys Digital Data Series 14, https://doi.org/10.14509/photodb, https://doi.org/10.14509/29735

Nicolazzo, J.A., and Larsen, M.C., 2025, Landslide hazard susceptibility mapping in Haines, Alaska: Alaska Division of Geological & Geophysical Surveys Report of Investigation 2024-8, 16 p., 3 sheets, scale 1:25,000. https://doi.org/10.14509/31309