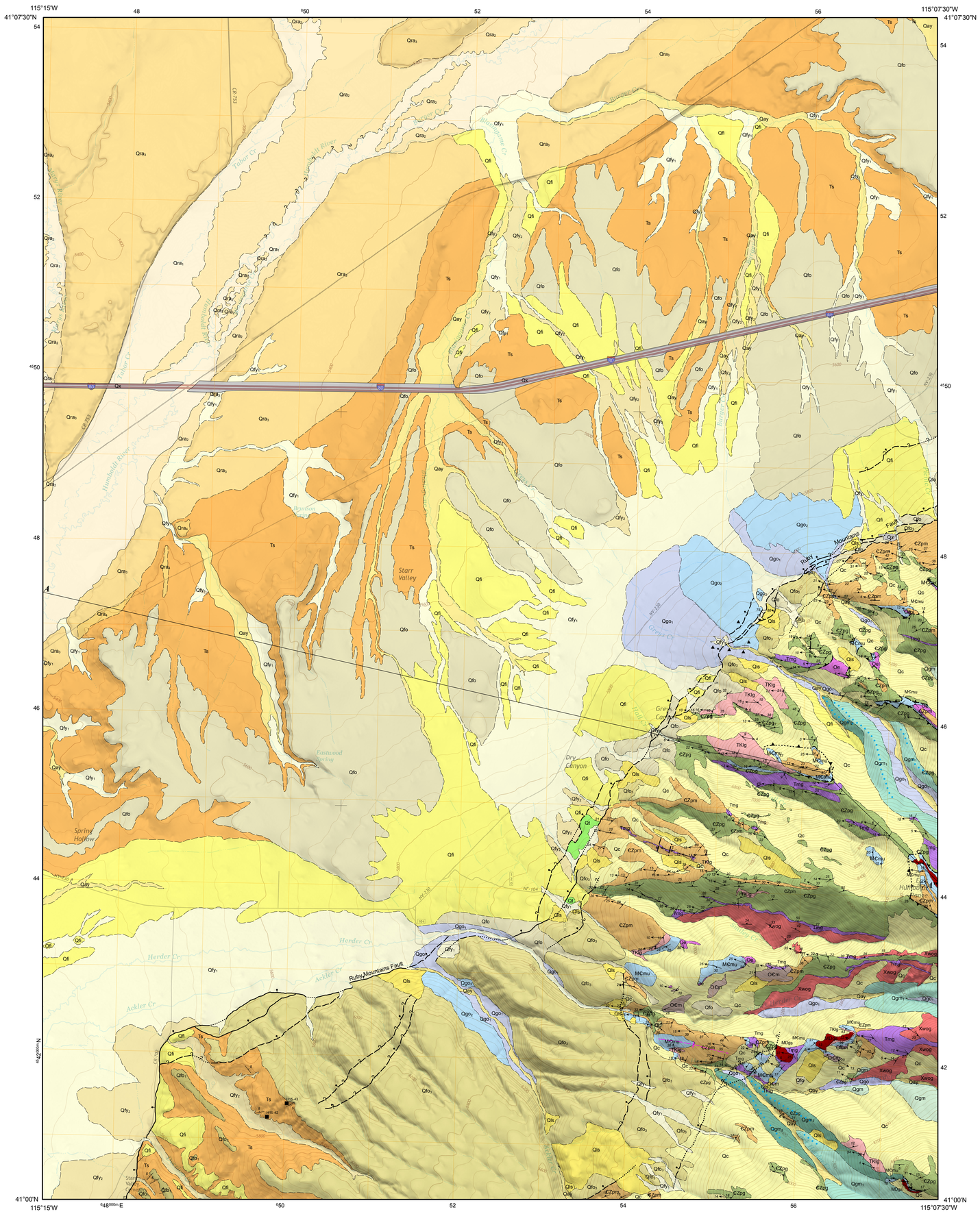
This geologic map was funded in part by the USGS National Cooperative Geologic Mapping Program under STATEMAP award number G15AC00240, 2016.



PRELIMINARY GEOLOGIC MAP OF THE HERDER CREEK QUADRANGLE, ELKO COUNTY, NEVADA

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2016

QUATERNARY DEPOSITS

- Qx — Anthropogenic (Historic)
- Qc — Colluvium (Holocene)
- Qls — Landslide deposit (Holocene to Pleistocene)
- Qay — Active alluvium (late Holocene)
- Qt — Travertine (Holocene)
- Qfy_1 — Youngest alluvial-fan deposits (late Holocene)
- Qfy_2 — Young alluvial-fan deposits (early to middle Holocene)
- Qfi — Intermediate-age alluvial-fan deposits (late Pleistocene)
- Qgo — Glacial outwash deposits, undivided (late Pleistocene)
- Qgm — Glacial moraine deposits, undivided (late Pleistocene)
- Qgo_1 — Glacial outwash deposits (late Pleistocene)
- Qgm_1 — Glacial moraine deposits (late Pleistocene)
- Qgo_2 — Glacial outwash deposits (middle Pleistocene)
- Qgm_2 — Glacial moraine deposits (middle Pleistocene)
- Qra_1 — Active floodplain alluvium (late Holocene)
- Qra_2 — Recently abandoned floodplain alluvium (late to early Holocene)
- Qra_3 — Abandoned floodplain alluvium (late Pleistocene)
- Qra_4 — Older floodplain alluvium (late Pleistocene)
- Qfo — Older alluvial-fan deposits, undivided (middle Pleistocene)
- Qfo_1 — Older alluvial-fan deposits (middle Pleistocene)
- Qfo_2 — Older alluvial-fan deposits (middle Pleistocene)
- Qfo_3 — Older alluvial-fan deposits (middle Pleistocene)

TERTIARY SEDIMENTARY ROCKS

- Ts — Tertiary sediments, undivided (Pliocene to Miocene)

INTRUSIVE ROCKS

- Tmg — Biotite monzogranite orthogneiss (early Oligocene to middle Eocene)
- TKlg — Leucogranite and leucogranitic orthogneiss (Paleogene to Cretaceous)

METAMORPHOSED SEDIMENTARY ROCKS

- MCmu — Calcite and dolomite marble, undivided (Mississippian to Cambrian)
- MDqs — Graphitic schist (Mississippian to Devonian)
- Oe — Metamorphosed Eureka Quartzite (Ordovician)
- OCm — Marble of Verdi Peak (Ordovician to Cambrian)
- CZpm — Metamorphosed Prospect Mountain Quartzite (Cambrian to Neoproterozoic) and McCoy Creek Group (Neoproterozoic), undivided

GNEISS COMPLEX OF ANGEL LAKE

- CZpg — Paragneiss (Cambrian to Neoproterozoic)
- Xwog — Orthogneiss (Paleoproterozoic to Neoarchean)

Contact Solid where certain and location accurate, dashed where approximate; queried if identity or existence uncertain.

Normal fault Solid where certain and location accurate, dashed where approximate, dotted where concealed; queried if identity or existence uncertain. Ball on downthrown side. *In cross section approximately located faults shown as solid, arrows show relative motion.*

Thrust fault Dashed where approximate, dotted where concealed. Sawteeth on upper plate.

Syncline Dashed where approximately located.

Crest of moraine

Metamorphosed Eureka Quartzite Approximately located.

Line of cross section

Strike and dip of bedding

Strike and dip of foliation in metamorphic rock

Bearing and plunge of stretching or mineral lineation
Symbol may be combined with foliation symbol.

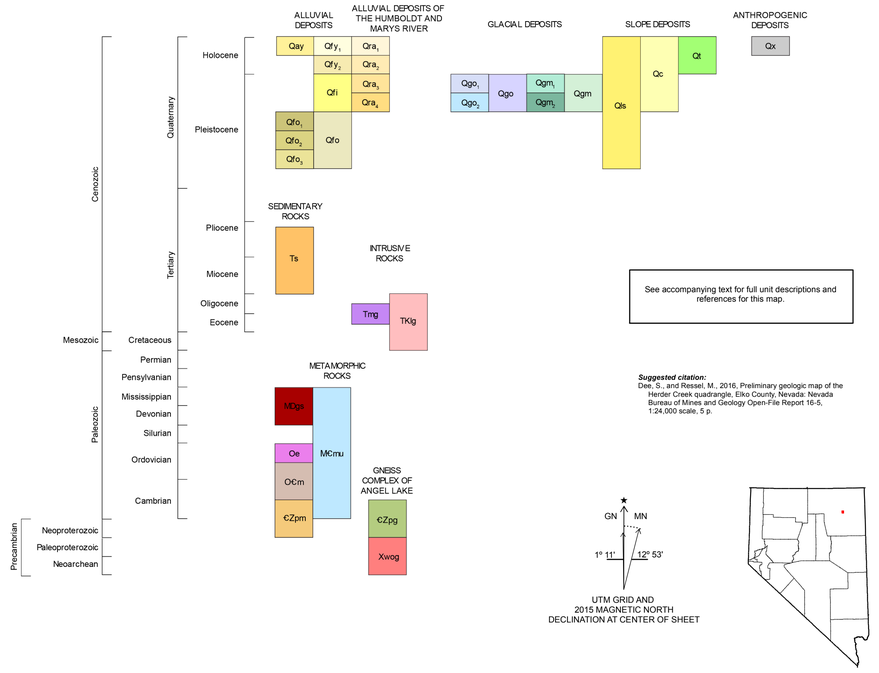
Geochronological sample location (see Table 1)

Sample location, pending analysis
▲ ^{10}Be surface exposure dating

Table 1.

Sample	Latitude NAD 83	Longitude NAD 83	Analysis	Age (Ma)	±1 sigma
H15-43	41.01018	-115.21594	$^{40}Ar/^{39}Ar$	5.15	1.82
H15-42	41.00875	-115.21871	$^{40}Ar/^{39}Ar$	30.3	2.90

Some thin Quaternary units omitted



Suggested citation:
Dee, S., and Ressel, M., 2016, Preliminary geologic map of the Herder Creek quadrangle, Elko County, Nevada: Nevada Bureau of Mines and Geology Open-File Report 16-5, 1:24,000 scale, 5 p.

UTM GRID AND
2015 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

Adjoining 7.5' quadrangle names

1	2	3
4	5	6
7	8	9

1 Twin Buttes
2 Tabor Flats
3 Metropolis
4 Deeth
5 Herder Creek
6 Welcome
7 Heelfly Creek
8 Tent Mountain
9 Humboldt Peak

Scale 1:24,000

0 0.5 1 kilometer

0 0.5 1 mile

0 1000 2000 3000 4000 5000 feet

CONTOUR INTERVAL 40 FEET

Projection: Universal Transverse Mercator, Zone 11, North American Datum 1983 (m)

Base map: U.S. Geological Survey Herder Creek 7.5' quadrangle (2015)

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Field work done in 2015–2016
This geologic map was funded in part by the USGS National Cooperative Geologic Mapping Program under STATEMAP award number G15AC00240, 2016.

DRAFT
Preliminary geologic map
Has not undergone office, field review, or full editing
Will be revised before publication

Compilation by Seth Dee and Michael W. Ressel
Cartography and map production in ESRI ArcGIS v10.3 (ArcGeology v1.3) by Rachel E. Micander, Irene M. Seelye, and Jennifer Vlcan
First Edition, December 2016
Symbology (per FGDC-STD-013-2006)
Printed by Nevada Bureau of Mines and Geology

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