Partially funded by the National Science Foundation, the U.S. Geological Survey National Cooperative Geologic Mapping Program, the Geological Society of America, and the Geological Society of Nevada.

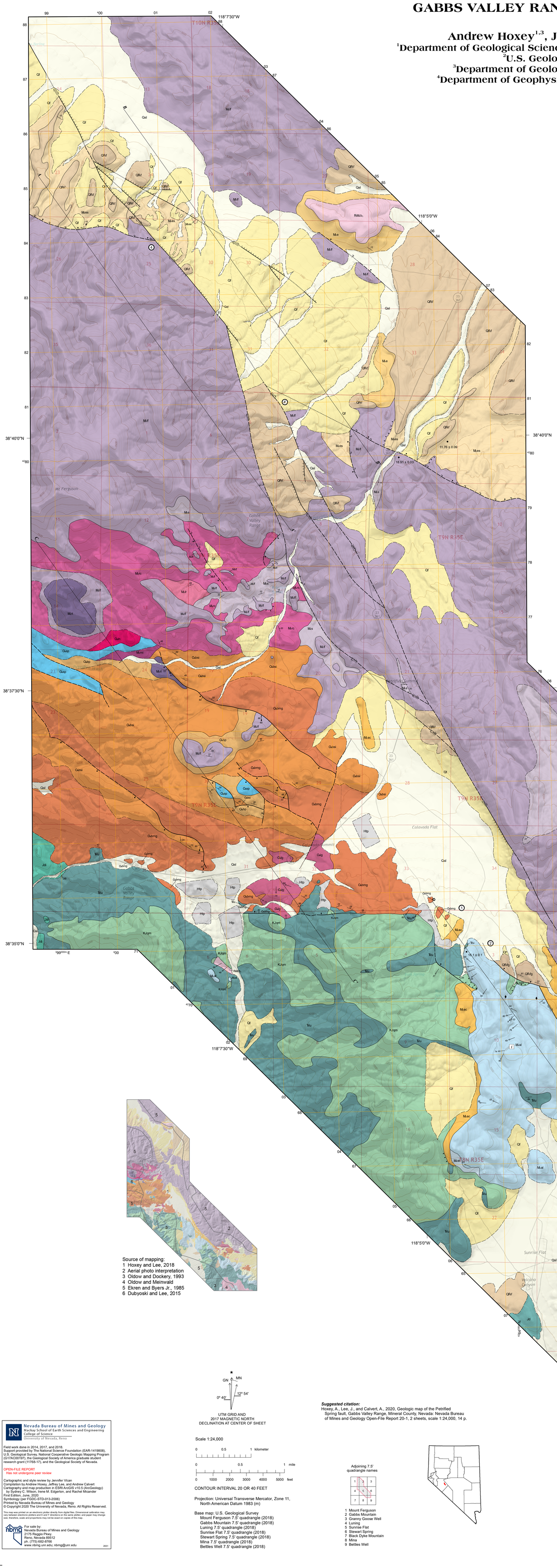
OPEN-FILE REPORT 20-1
SHEET 1 OF 2
GEOLOGIC MAP OF THE PETRIFIED SPRING FAULT, GABBS VALLEY RANGE, MINERAL COUNTY, NEVADA
Text accompanies map

GEOLOGIC MAP OF THE PETRIFIED SPRING FAULT, GABBS VALLEY RANGE, MINERAL COUNTY, NEVADA

Sheet 1 of 2

Andrew Hoxey[1,3], Jeffrey Lee[1,4], and Andrew Calvert[2]
[1]Department of Geological Sciences, Central Washington University, Ellensburg, WA
[2]U.S. Geological Survey, Menlo Park, CA
[3]Department of Geology, University of Kansas, Lawrence, KS
[4]Department of Geophysics, Colorado School of Mines, Golden, CO

2020



ANTHROPOGENIC DEPOSITS

- Htp — Tailings pile (Holocene)

RECENTLY ACTIVE ALLUVIAL, FLUVIAL, AND COLLUVIAL DEPOSITS

- Qal — Alluvium (Holocene to Pleistocene)
- Qls — Landslide deposits (Holocene to Pleistocene)
- Qf — Alluvial-fan deposits (Holocene to Pleistocene)

REMNANT ALLUVIAL-FAN DEPOSITS

- QRf — Older alluvial-fan deposits (Pleistocene to Pliocene)
- QRfg — Fanglomerate (Pleistocene to Pliocene)

PLIOCENE-MIOCENE VOLCANIC AND INTRUSIVE ROCKS

- RMmi — Mafic intrusive rocks (Pliocene to Miocene)
- RMb$_1$ — Basalt lava flow (Pliocene to Miocene)
- RMb$_2$ — Aphanitic basalt lava flow (Pliocene to Miocene)

MIOCENE SEDIMENTARY ROCKS

- Mes — Esmeralda sands, massive volcanic ash and sands. $^{40}Ar/^{39}Ar$ 11.8 ± 0.1 Ma (Miocene)
- Me — Esmeralda Formation (Miocene)

MIOCENE BASALTIC AND ANDESITIC VOLCANIC ROCKS

- Mb — Basalt lava flow. $^{40}Ar/^{39}Ar$ age of 15.71 ± 0.03 (Miocene)
- Mal — Andesite lava flow. $^{40}Ar/^{39}Ar$ 15.99 ± 0.05 Ma (Miocene)
- Mat — Andesite tuff (Miocene)

OTHER MIOCENE SEDIMENTARY ROCKS

- Mac — Alluvium (Miocene)

RHYOLITE LAVA FLOWS

- Mrl — Rhyolite of Gabbs Valley Range. $^{40}Ar/^{39}Ar$ 20.194 ± 0.265 Ma (Miocene)

MOUNT FERGUSON VOLCANIC AND SEDIMENTARY ROCKS

- Mlf — Lavas of Mount Ferguson, undivided. K/Ar 15-22 Ma, $^{40}Ar/^{39}Ar$ 18.91 ± 0.03 Ma (Miocene)
- Ms — Mount Ferguson volcaniclastic rocks (Miocene)

OTHER MIOCENE VOLCANIC AND INTRUSIVE ROCKS

- Mmi — Mafic intrusions. $^{40}Ar/^{39}Ar$ 23.96 ± 0.23 Ma (Miocene)
- Mrc — Tuff of Redrock Canyon. $^{40}Ar/^{39}Ar$ 22.95 ± 0.04 Ma (Miocene)
- Mlr — Hu-pwi Rhyodacite (Miocene)

OLIGOCENE TUFFS

- Ouln — Lavas of Nugent Wash (Oligocene)
- Ousp — Blue Sphinx Tuff. $^{40}Ar/^{39}Ar$ 24.30 ± 0.05 Ma (Oligocene)

BENTON SPRING GROUP

- Oubp — Petrified Spring Tuff of Benton Spring Group (Oligocene)
- Oubsi — Singatse Tuff of Benton Spring Group. $^{40}Ar/^{39}Ar$ 26.85 ± 0.02 Ma (Oligocene)
- Oubmg — Guild Mine Member of Mickey Pass Tuff of Benton Spring Group. $^{40}Ar/^{39}Ar$ 27.24 ± 0.04 Ma (Oligocene)

OLIGOCENE LAVA FLOWS

- Oulg — Lavas of Giroux Valley (Oligocene)

MESOZOIC ROCKS

- KJqm — Quartz monzonite (Cretaceous to Jurassic)
- Jdi — Diorite (Jurassic)
- Jd — Dunlap Formation (Jurassic)
- Tlu — Lunning Formation (Triassic)

Contact Solid where certain and location accurate, dashed where approximately located. Diamond pattern shows location of paleosol exposure stratigraphically below contact.

Fault Dashed where approximately located, dotted where concealed.

Normal fault Solid where certain and location accurate, dashed where approximately located, dotted where concealed; queried if identity or existence uncertain. Hachures on relative downthrown side of fault scarp. Showing dip value and direction; ball on downthrown side, diamond-head arrow shows trend and plunge of slickenline.

Strike-slip fault Solid where certain and location accurate, dashed where approximately located, dotted where concealed. Arrows show relative motion. Hachures on relative downthrown side of fault scarp. Showing dip value and direction; diamond-head arrow shows trend and plunge of slickenline.

A — A′ **Line of cross section**

Strike and dip of bedding
Inclined

Strike and dip of flattened fiamme

Strike and dip of flow foliation
Inclined

Trend and plunge of intersection of cooling joints

Trend and plunge of hornblende mineral lineation

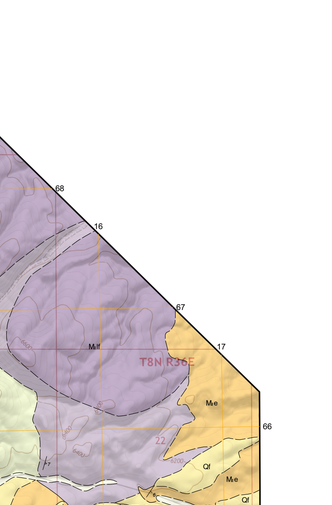
Fault block

Dextrally offset geologic marker
- Paleovalley of the Guild Mine Member of the Mickey Pass Tuff (Oubmg)
- Paleovalley of hornblende andesite lava (Mal)
- Paleovalley of basalt lava (Mb)
- Miocene basin-bounding normal fault

Small exposure of unit Mat

$^{40}Ar/^{39}Ar$ sample location and age

CENOZOIC	Quaternary	Holocene			Anthropogenic Deposits: Htp
					Alluvial, Fluvial, Colluvial, and Landslide Deposits: Qal, Qls, Qf
		Pleistocene			Remnant Alluvial-Fan Deposits: QRf, QRfg
	Neogene	Pliocene			Pliocene-Miocene Volcanic and Intrusive Rocks: RMmi, RMb$_1$, RMb$_2$
		Miocene			Miocene Sedimentary Rocks: Me, Mes; Miocene Basalt Flow: Mb
					Andesitic Volcanic Rocks: Mal, Mat
					Other Miocene Sedimentary Rocks: Mac
					Mount Ferguson Volcanic and Sedimentary Rocks: Mlf, Ms; Ryholite Lava Flows: Mrl
					Other Miocene Volcanic and Intrusive Rocks: Mmi, Mrc, Mlr
		Oligocene			Oligocene Tuffs: Ouln, Ousp
					Benton Spring Group: Oubp, Oubsi, Oubmg
					Oligocene Lava Flows: Oulg
	Paleogene				
MESOZOIC	Cretaceous				Mesozoic Rocks: KJqm
	Jurassic				Jdi, Jd
	Triassic				Tlu



See accompanying text for full unit descriptions and references for this map.

Source of mapping:
1 Hoxey and Lee, 2018
2 Aerial photo interpretation
3 Oldow and Dockery, 1993
4 Oldow and Meinwald
5 Ekren and Byers Jr., 1985
6 Dubyoski and Lee, 2015

UTM GRID AND
2017 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

Scale 1:24,000

0 0.5 1 kilometer

0 0.5 1 mile

0 1000 2000 3000 4000 5000 feet

CONTOUR INTERVAL 20 OR 40 FEET

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

Base map: U.S. Geological Survey
Mount Ferguson 7.5' quadrangle (2018)
Gabbs Mountain 7.5' quadrangle (2018)
Luning 7.5' quadrangle (2018)
Sunrise Flat 7.5' quadrangle (2018)
Stewart Spring 7.5' quadrangle (2018)
Mina 7.5' quadrangle (2018)
Bettles Well 7.5' quadrangle (2018)

Adjoining 7.5' quadrangle names

1 Mount Ferguson
2 Gabbs Mountain
3 Granny Goose Well
4 Luning
5 Sunrise Flat
6 Stewart Spring
7 Black Dyke Mountain
8 Mina
9 Bettles Well

Suggested citation:
Hoxey, A., Lee, J., and Calvert, A., 2020, Geologic map of the Petrified Spring fault, Gabbs Valley Range, Mineral County, Nevada: Nevada Bureau of Mines and Geology Open-File Report 20-1, 2 sheets, scale 1:24,000, 14 p.

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University of Nevada, Reno

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Has not undergone peer review

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Compilation by Andrew Hoxey, Jeffrey Lee, and Andrew Calvert
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Nevada Bureau of Mines and Geology
2175 Raggio Pkwy.
Reno, Nevada 89512
ph. (775) 682-8766
www.nbmg.unr.edu; nbmg@unr.edu
2651