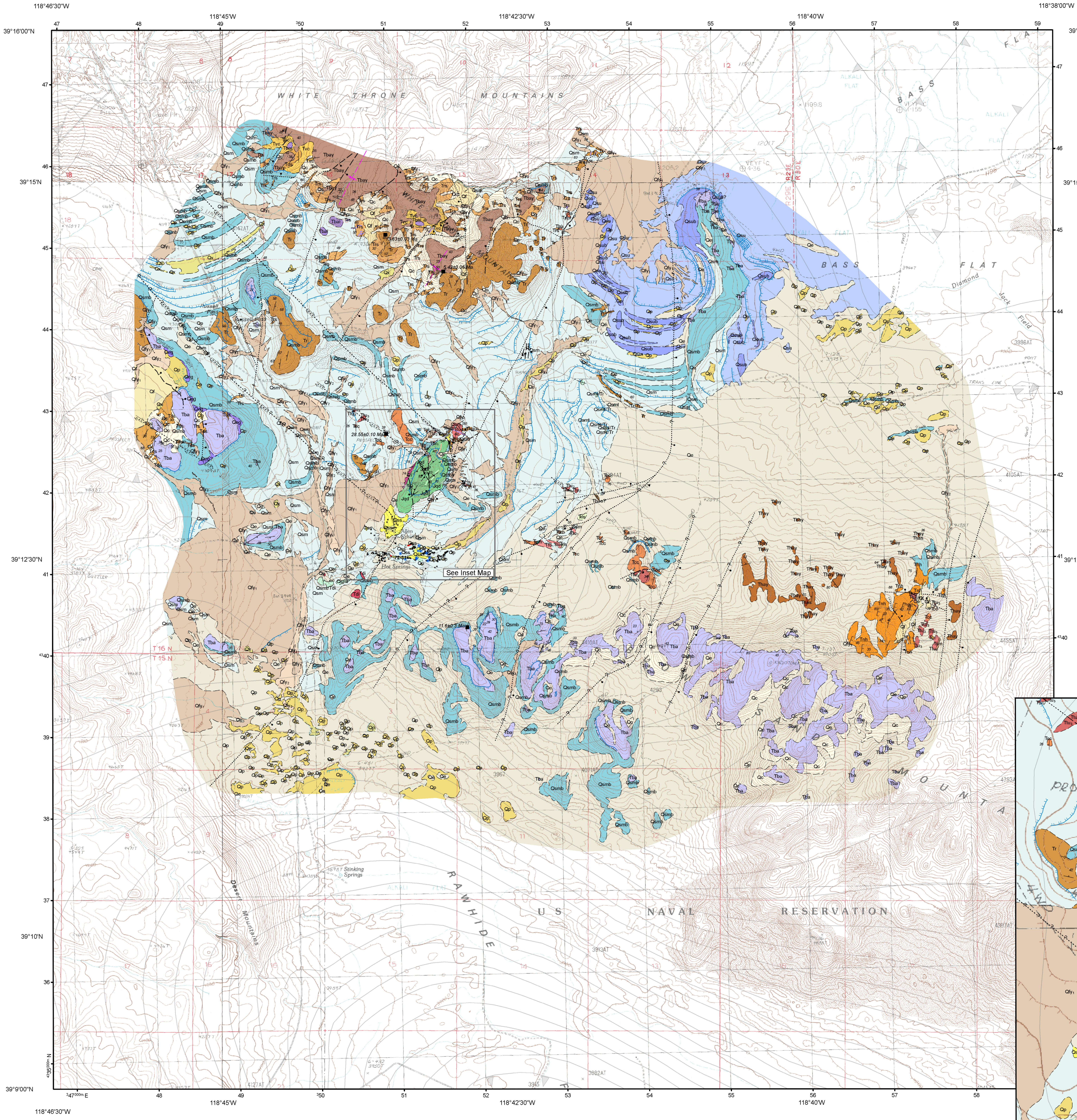

PRELIMINARY GEOLOGIC MAP OF THE LEE-ALLEN GEOTHERMAL AREA, CHURCHILL COUNTY, NEVADA

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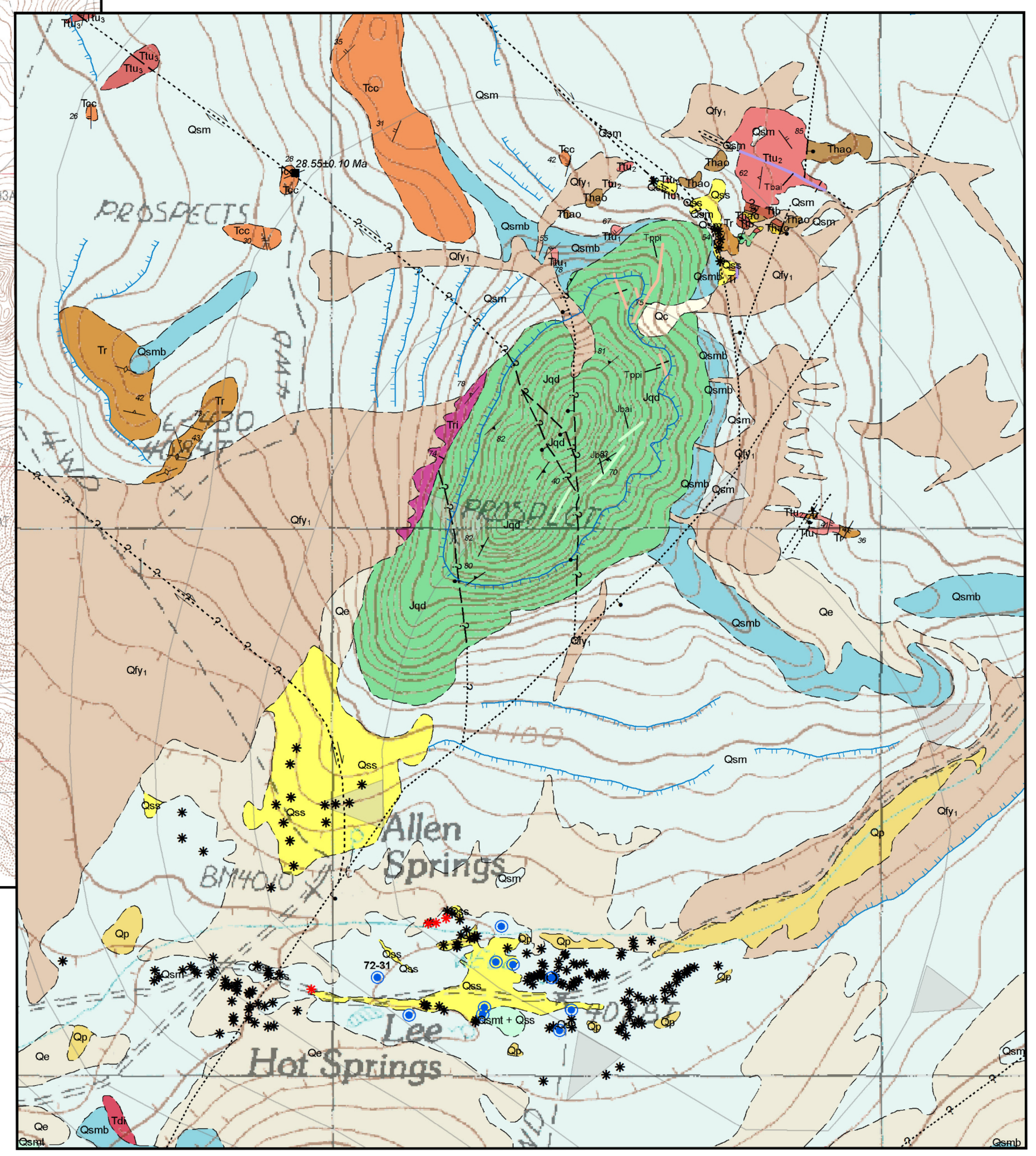
2010



Inset Map Scale 1:8,000

QUATERNARY DEPOSITS

Alluvial, fluvial, aeolian, and other deposits

- Qx Anthropogenic deposits
- Qp Ephemeral playa deposits
- Qc Colluvium
- Qe Aeolian sand deposits
- Qf Alluvial fan deposits, undivided of Holocene to Pleistocene age
  - Qfy_2 Young active fan alluvium
  - Qfy_1 Young fan alluvium of late to early Holocene age
- Qss Silicified lacustrine deposits of late Pleistocene age

Sehoo Alloformation

- Qsu Lacustrine sediments of the upper Sehoo Alloformation
  - Qsub Beach deposits associated with Qsu sediments
- Qsm Lacustrine sediments of the middle Sehoo Alloformation
  - Qsmb Beach deposits associated with Qsm sediments
  - Qsmt Tufa deposits of the middle Sehoo Alloformation

Eetza Alloformation

- Qeg Gravelly beach deposits of the Eetza Alloformation

TERTIARY VOLCANIC ROCKS AND SEDIMENTARY DEPOSITS

- Tbay Basaltic andesite lavas, include an age of 5.4 Ma
- Tvc Basaltic andesite, cinder-dominated breccia associated with Tbay
- Tds Diatomite interbedded within Tba and Tbay
- Tba Basaltic andesite lavas, include an age of 11.6 Ma
- Trs Rhyolitic breccias, sands and gravels of late to middle Miocene age
- Tr Rhyolite domes and flows, include an age of 13.8 Ma
- Tha Hornblende andesite lavas, undivided of Miocene to Oligocene age
  - Thas Conglomerate and sandstone interbedded with Thay
  - Thay Hornblende andesite lavas of early Miocene to late Oligocene age
  - Thao Hornblende andesite lavas of early Oligocene age
- Tnh Nine Hill Tuff, 25.3 Ma
- Tc_2 Conglomerate 2
- Ttu_3 Unknown tuff 3
- Ttb Tuff breccia
- Tc_1 Conglomerate 1
- Tcc Tuff of Cambell Creek, 28.8 Ma
- Ttu_2 Unknown tuff 2
- Ttu_1 Unknown tuff 1
- Tsm Silcified sediments

TERTIARY INTRUSIONS

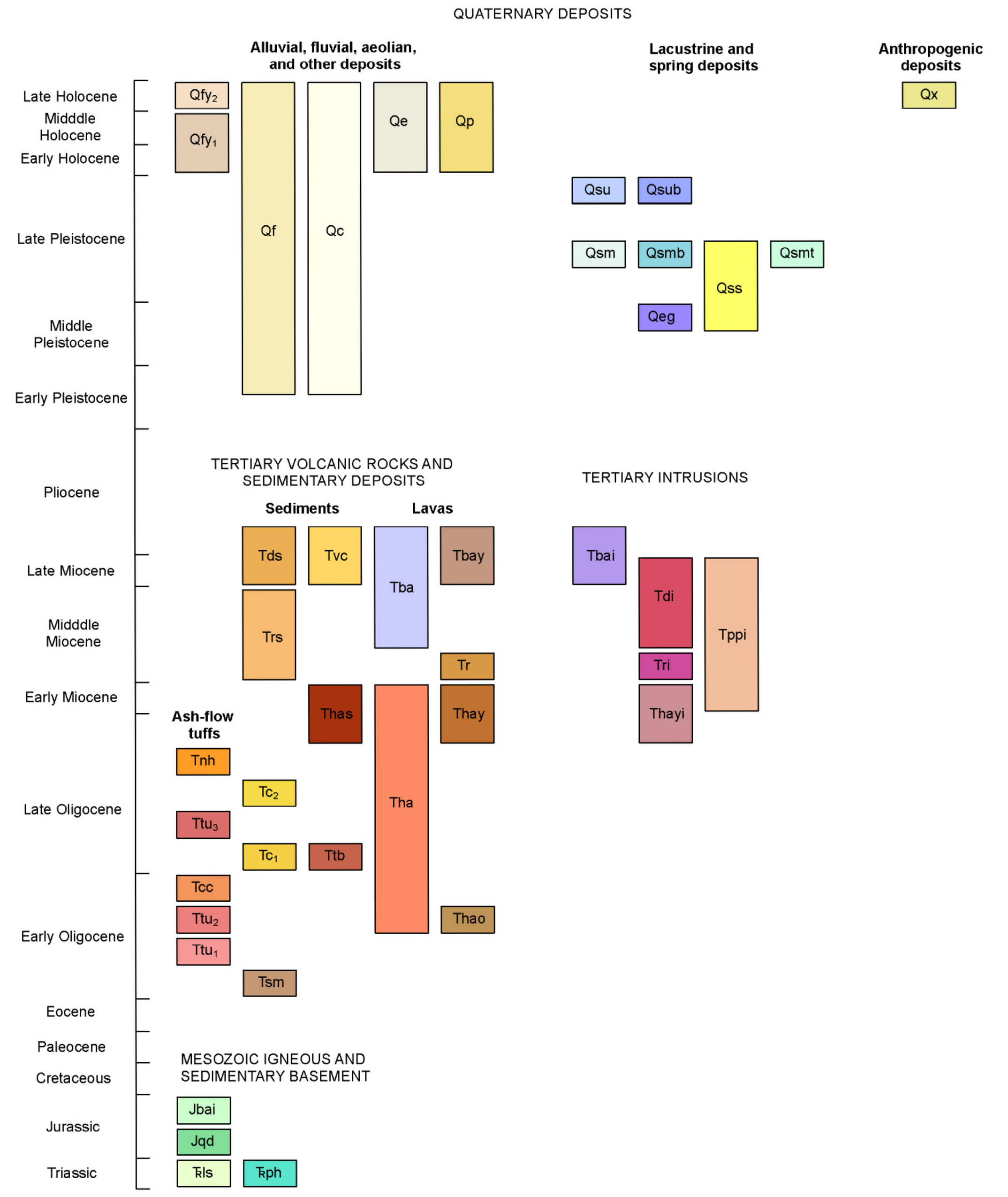
- Tbai Basaltic andesite plugs and dikes of early Pliocene to late Miocene age
- Tdi Dacite plugs(?) and or domes(?) of Miocene age
- Tri Rhyolite dikes of middle Miocene age
- Tppi Porphyritic plagioclase-bearing basaltic andesite dikes of Miocene age
- Thayi Hornblende andesite dikes of early Miocene to late Oligocene age

MESOZOIC IGNEOUS AND SEDIMENTARY BASEMENT

- Jbai Basaltic andesite dikes of Jurrasic age
- Jqd Quartz diorite, tonalite, and gabbro of Jurassic age
- Ŧls Limestone of Triassic age
- Ŧph Phyllite of Triassic age

Suggested citation:

Hinz, N.H., Faulds, J.E., Oppliger, G.L., 2010, Preliminary geologic map of the Lee-Allen geothermal area, Churchill County, Nevada: Nevada Bureau of Mines and Geology Open-File Report 10-6, 1:24,000 scale, with inset map, scale 1:8,000.



Symbology (per FGDC-STD-013-2006)

Contact Dashed where approximate.

Normal fault Solid where certain and location accurate, dashed where approximate, dotted where concealed; queried if identity or existence uncertain. Showing dip; ball on downthrown side.

Mainly strike-slip fault Dashed where approximate, dotted where concealed; queried if identity or existence uncertain. Arrows show relative motion.

Syncline Long-dashed where approximate.

Former shorelines of Lake Lahontan

Lacustrine scarp Solid where certain.

High shoreline Soild where certain.

Gravity contour 1mGal Arrows point down gradient.

Dikes

Jbai, Tbai, Thayi, Tppi

Strike and dip of bedding

Inclined

Strike and dip of compact foliation in ash-flow tuff

Inclined

Primary dips associated with rheomorphic flow in ash-flow tuff

Inclined

Strike and dip of flow banding or flow foliation in volcanic rocks

Inclined Vertical

Strike and dip of foliation in metamorphic rocks

Inclined Vertical

Tufa Mound

Sinter >50 m^2

72-31 Wells *(Named if known)*

$^{40}Ar/^{39}Ar$ Age sample

Overlay

Landfill

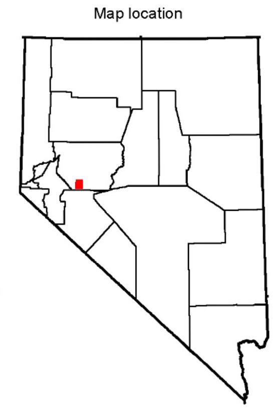
GN MN
1° 04' 15° 30'
UTM GRID AND 1987 MAGNETIC NORTH

Adjoining 7.5' quadrangle names

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16

1 Sheckler Reservoir
2 Fallon
3 Grimes Point
4 Lahontan Mountains
5 Salt Cave
6 South of Fallon
7 Carson Lake
8 Bunejug Mountains
9 Wild Horse Basin
10 Russell Spit
11 Allen Springs
12 Diamond Field Jack Wash
13 Weber Reservoir
14 Weber Dam
15 Terrill Mountains
16 Red Ridge

Map location



Scale 1:24,000

0 0.5 1 kilometer

0 0.5 1 mile

0 1000 2000 3000 4000 5000 feet

CONTOUR INTERVAL 2 METERS (South of Fallon quadrangle and Carson Lake quadrangle) 20 FEET (Allen Springs quadrangle) or 40 FEET (Russell Spit quadrangle)

Projection: Universal Transverse Mercator, Zone 11, North American Datum 1927 (m)

Base map: U.S. Geological Survey South of Fallon 7.5' quadrangle (1985), Carson Lake quadrangle (1985), Allen Springs (1987), and Russell Spit (1987)

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

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Cartography and map production in ESRI ArcGIS v9.3 (ArcGeology v1.3) by Matthew Richardson
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