



- QUATERNARY DEPOSITS**
- Piedmont and Hillslope Deposits**
- Qa Alluvium in recently active washes (late Holocene to historic)
 - Qay Young alluvial flat deposits (late Holocene)
 - Qly Young alluvial fan deposits (undivided)
 - Qly1 Young alluvial fan deposits (late to middle Holocene)
 - Qly2 Young alluvial fan deposits (middle to early Holocene)
 - Qlyw Alluvial fan deposits of the Wyemaha alloformation (late Pleistocene)
 - Qlp Alluvial fan deposits of the Paiute alloformation (middle to early Pleistocene)
 - Qf Alluvial fan deposits (undivided)
 - Qfb Basalt-dominated alluvial fan deposits (undivided)
 - Qc Colluvial deposits
 - Qlbc Colluvial and Lake and lesser lacustrine deposits
- Quaternary Lacustrine Deposits**
- Qle Eolian deposits of the Fallon alloformation (late to middle Holocene)
 - Qsu Upper Seho member (early Holocene? to late Pleistocene)
 - Qss Upper Seho member, silicified sands (early Holocene? to late Pleistocene)
 - Qsub Upper Seho member, beach deposits (late Pleistocene)
 - Qsm Middle Seho member (late Pleistocene)
 - Qsm1 Middle Seho member, silt deposits (late Pleistocene)
 - Qsm2 Middle Seho member, gravel deposits (late Pleistocene)
 - Qsm3 Middle Seho member, beach deposits (late Pleistocene)
 - Qsm4 Middle Seho member, tufa capped dendritic terrace (late Pleistocene)
 - Qsm5 Middle Seho member, tufa deposits (late Pleistocene)
 - Qsm6 Middle Seho member, silicified sands (late Pleistocene)
 - Qe Eetza member (late? to middle Pleistocene)
 - Qes Eetza member, silicified sands (late? to middle Pleistocene)
 - Qsa Silicified muds and silts
- Other Units**
- Qx Anthropogenic deposits (recent)
 - Qem Eolian reworked diatomite mine waste (recent)
 - Qm Mine waste (recent)
 - Qsp Spring deposits (recent)
 - Qp Playa deposits (recent to late Holocene)
- Pliocene-Early Pleistocene Strata**
- Qtlb Coarse alluvial fan deposits composed primarily of basalt cobbles and boulders
 - Qtlf Sandstone intercalated in Qtlb
 - Qtr Probable rock avalanche deposit composed primarily of large angular basalt boulders
- MIOCENE-EARLY PLIOCENE STRATA**
- Tbc Limestone commonly containing basalt-rich detritus enveloped by carbonate
 - Tg Roundstone fluvial gravels (late Miocene to early Pliocene)
 - Tg1 Roundstone gravels with abundant large dacite boulders (late Miocene to early Pliocene)
 - Tsc Sandstone and lesser fluvial gravels (late Miocene to early Pliocene)
 - Tby Younger aphanitic basalt lavas (late Miocene)
 - Tds Silicified diatomaceous shale (late Miocene)
 - Tt Tephra (late Miocene)
 - Tds Diatomaceous shale (late Miocene)
 - Tfs Tuffaceous sedimentary rocks and lesser tuffs
 - Tss Massive, commonly tuffaceous sandstone (late Miocene)
 - Tdss Diatomaceous shale and lesser sandstone, siltstone (late Miocene)
 - Td Diatomaceous shale, limestone, and siltstone (late Miocene)
 - Tst Tufa-rich limestone, locally distinguished from Tt (late Miocene)
 - TL Limestone, commonly tufa-rich (late Miocene); TL/Qu, limestone covered by abundant Quaternary tufa
 - Tls Limestone and sandstone (late Miocene)
 - Tbls Limestone and basalt (bouldery detritus and lesser thin flows)
 - Tst Siltstone (late Miocene)
 - Tbcg Basaltic conglomerate (late Miocene); Tbcg/Qu, basaltic conglomerate covered by abundant Quaternary tufa
 - Tsr Siltstone and tuffs (late Miocene)
 - Tb Aphanitic basalt lavas and breccia (late Miocene); Tb/Qu, basalt lavas covered by abundant Quaternary tufa
 - Tbb Basaltic breccia (late Miocene)
 - Tba Basaltic andesite lavas and intrusions (late Miocene); Tba/Qu, basaltic andesite covered by abundant Quaternary tufa
 - Tpba Porphyritic basaltic andesite (late Miocene)
 - Tyb Altered yellowish basalt (late Miocene)
 - Tr Rhyolite lavas (Miocene)
 - Trt Rhyolite lavas and tuffs and tuffaceous sedimentary rocks (Miocene)
- MIOCENE INTRUSIONS**
- Tcv Calcite veins (late Miocene)
 - Tsv Silica veins (late Miocene)
 - Tsl Silicified ledges, commonly jasperoidal (late Miocene)
 - Tbi Basalt intrusions (late Miocene)
 - Tba Basaltic andesite intrusions (late Miocene)
- MESOZOIC BASEMENT**
- Jd Diorite of probable Jurassic age
- Symbology (per FGDC-STD-013-2006)**
- Contact Solid where certain and location accurate, long-dashed where approximate, queried if identity or existence uncertain.
 - Normal fault Solid where certain and location accurate, long-dashed where approximate, dotted where concealed; queried if identity or existence uncertain. Showing dip; ball on downthrown side.
 - Strike-slip fault Long-dashed where approximate, dotted where concealed. Arrows show relative motion.
 - Oblique-slip fault Solid where certain and location accurate, long-dashed where approximate, dotted where concealed; queried if identity or existence uncertain. Arrows show relative motion.
 - Syncline Long-dashed where approximate, dotted where concealed; queried if identity or existence uncertain.
 - Aggradational shoreline Solid where certain and location accurate, long-dashed where approximate. Triangles point off-shore.
 - Erosional shoreline Solid where certain and location accurate, long-dashed where approximate. Triangles point on-shore.
 - Calcite vein Long-dashed where approximate.
 - Quartz vein Long-dashed where approximate.
 - Quartz ledge Long-dashed where approximate.
 - Form line in lava flow
- Strike and dip of bedding**
- 45° Inclined
 - 33° Inclined
- Strike and dip of foliation in igneous rocks**
- Vertical
- Strike and dip of joints**
- Well
 - Geothermal well
 - Spring
 - Hydrothermal crater
 - Tufa mound
 - Sample locality
 - 9.8 Ma
 - 8.98±0.05 Ma
 - Ar sample locality

Scale 1:24,000

0 0.5 1 kilometer

0 0.5 1 mile

0 1000 2000 3000 4000 5000 feet

CONTOUR INTERVAL 10 METERS

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

Base map: U.S. Geological Survey Hazen 7.5' quadrangle (1985)

PRELIMINARY GEOLOGIC MAP OF THE HAZEN QUADRANGLE, LYON AND CHURCHILL COUNTIES, NEVADA

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2011

Adjoining 7.5' quadrangle names

1	2	3
4	5	6
7	8	9

Map location

1 Two Tips
2 Eagle Rock
3 Soda Lake NW
4 Fernley East
5 Hazen
6 Soda Lake West
7 Silver Springs North
8 Lahontan Dam
9 Sheckler Reservoir

UTM GRID AND 1980 MAGNETIC NORTH

1° 19' 16" N
116° 30' W

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

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