



U.S. DEPARTMENT OF THE INTERIOR
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SCIENTIFIC INVESTIGATION MAP 2957
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GEOLOGIC MAP OF OASIS VALLEY SPRING-DISCHARGE AREA AND VICINITY, NYE COUNTY, NEVADA

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Base from U.S. Geological Survey; Pahute Mesa, Nev., 1979 and Beatty, Nev., 1986
Projection and 10,000-meter grid, zone 11,
Universal Transverse Mercator
25,000-foot grid ticks based on Nevada coordinate system, central zone
1927 North American Datum

Bedrock geology mapped by S.A. Minor from 1991 to 1995,
C.J. Fridrich from 1992 to 1998, and P.L. Ryder from 1997 to 1998
Surficial geology mapped by J.L. Slate and M.E. Berry from 1998 to 1999
GIS map database prepared by P.L. Ryder, D.J. Grunwald, and K.J. Turner

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This map was produced on request, directly from
digital files, on an electronic plotter

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ArcInfo coverages and a PDF for this map are available at
<http://pubs.usgs.gov/sim/2007/2957/>

EXPLANATION

Contact

Bedding trace

Fault

Normal—Showing fault dip (arrow) and rake (diamond-headed arrow) where known. Dashed where approximately located; dotted where concealed. Bar and ball on downthrown side. Queried where inferred

Oblique-slip and (or) strike-slip—Dashed where approximately located; dotted where concealed. Bar and ball on downthrown side. Arrows show relative direction of lateral offset

Thrust—Sawteeth on upper plate; dashed where approximately located; dotted where concealed

Detachment—Half-circles on upper plate; dashed where approximately located; dotted where concealed

Located by geophysical method

Syncline—Showing axis; dashed where approximately located; dotted where concealed

Strike and dip of bedding

Horizontal

Inclined

Vertical

Overturned

Flow foliation

Horizontal

Inclined—Showing strike and dip

Vertical or near-vertical—Showing strike

Landslide slip surface—Hachures point into slide mass

Volcanic features

Caldera margin (topographic wall)—Dashed where approximately located; dotted where concealed

Ring fracture zone—Dashed where approximately located or inferred

Volcanic fissure—Concealed

Drill hole

LIST OF MAP UNITS

[Detailed descriptions of map units are in the accompanying pamphlet]

Young alluvial deposits (Holocene)

Playa deposits (Holocene)

Eolian sand deposits (Quaternary)

Lacustrine beach deposits (Holocene and late Pleistocene)

Middle alluvial deposits (Pleistocene)

Colluvium (Holocene to Pliocene)

Old alluvial deposits (early Pleistocene and Pliocene)

Pleistocene basalt

Basalt of the Thirsty Mountain shield volcano (Pliocene)

Older gravels (lower Pliocene and Miocene)

Younger bedded tuffs (Miocene)

Spearhead Member of Stonewall Flat Tuff (Miocene)

Basalts generally of Thirsty Canyon age (Miocene)

Rhyolite of Obsidian Butte (Miocene)

Thirsty Canyon Group (Miocene) (cross section only)

Gold Flat Tuff

Trachyte lavas of Pillar Spring

Trail Ridge Tuff

Pahute Mesa Tuff

Comendite of Ribbon Cliff

Andesite of Sarcobatus Flat (Miocene)

Volcanic units intervening between the Ammonia Tanks and Pahute Mesa

Tuffs in Oasis Valley basin (Miocene) (cross section only)

Rhyolite of Oasis Valley (Miocene)

Lavas of Dome Mountain (Miocene)

Upper lava of Springdale Mountain (Miocene)

Lower lava of Springdale Mountain (Miocene)

Tuffaceous sedimentary breccia of Springdale Mountain (Miocene)

Trachyte of Donovan Mountain (Miocene)

Beatty Wash Formation (Miocene)

Rhyolite Lavas of Rainbow Mountain (Miocene)
Rhyolite Tuffs of Rainbow Mountain (Miocene)
Felsic intrusions related to rhyolite of Rainbow Mountain (Miocene)
Younger landslide breccias (Miocene)
Basalts (Miocene)
Gabbro dikes (Miocene?)
Timber Mountain Group (Miocene)
Tuff of Cutoff Road
Upper tuff of Fleur-de-Lis Ranch
Lavas of Fleur-de-Lis Ranch and West Cat Canyon
Lower tuff of Fleur-de-Lis Ranch
Subcaldera intrusion of Ammonia Tanks caldera (cross section only)
Rhyolite of Coffers Well
Ammonia Tanks Tuff
Subcaldera intrusion of Rainier Mesa caldera (cross section only)
Rhyolite of Tannenbaum Hill
Tuffs and lavas of Twisted Canyon caldera
Rainier Mesa Tuff
Pre-Rainier Mesa rhyolite
Lake sediments of Oasis Mountain
Basalts of Timber Mountain age
Breccia associated with Timber Mountain tuffs
Older landslide breccia (Miocene)
Sedimentary fill of Claim Canyon caldera (Miocene)
Paintbrush Group (Miocene) (cross section only)
Rhyolite of Windy Wash
Intrusive facies of rhyolite of Windy Wash
Tiva Canyon Tuff
Tuff of Pinyon Pass
Crystal-rich trachyte
Crystal-poor rhyolite
Yucca Mountain Tuff
Rhyolite of Echo Peak
Pah Canyon Tuff
Topopah Spring Tuff
Breccia associated with tuffs of Paintbrush Group
Calico Hills Formation (Miocene)
Crater Flat Group (Miocene) (cross section only)
Bullfrog Tuff
Rhyolite of Prospector's Pass
Tram Tuff
Grouse Canyon Tuff of Belted Range Group (Miocene)
Older basalts (Miocene)
Lithic Ridge Tuff (Miocene)
Lavas and associated tuffs, Rhyolite of Picture Rock
Intrusive facies, Rhyolite of Picture Rock

Volcanic rocks of Quartz Mountain (Miocene)
Late rhyolite of Quartz Mountain
Tuff of Sleeping Butte
Middle rhyolite of Quartz Mountain
Tuff of Tolicha Peak
Older tuffs and intercalated sediments
Rocks of Pavits Spring (Miocene)
Older fluvial conglomerates (Miocene and Oligocene)
Granite (Cretaceous)
Pre-Cenozoic sedimentary rocks, undivided (Paleozoic and Late Proterozoic) (cross section only)
Eleana Formation (Mississippian and Upper Devonian?)
Fluorspar Canyon Formation (Devonian)
Lone Mountain Dolomite (Silurian)
Roberts Mountain Formation (Silurian)
Ely Springs Dolomite (Ordovician)
Eureka Quartzite (Ordovician)
Pogonip Group (Ordovician)
Antelope Valley Formation
Ninemile Formation
Goodwin Limestone
Nopah Formation, undivided (Cambrian)
Smoky Member
Halfpint Member
Dunderberg Shale Member
Bonanza King Formation, undivided (Cambrian)
Banded Mountain Member, upper part
Banded Mountain Member, lower part
Papoose Lake Member
Carrara Formation, undivided (Cambrian)
Upper part
Middle part
Lower part
Zabriskie Quartzite (Cambrian)
Wood Canyon Formation (Cambrian and Late Proterozoic)
Upper member (Cambrian)
Lower member (Late Proterozoic)
Unit D
Unit C
Unit B
Unit A
Stirling Quartzite (Late Proterozoic)
E member
D member