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PRELIMINARY GEOLOGIC MAP OF THE
TIPPIPAH SPRING NW QUADRANGLE,
NYE COUNTY, NEVADA

By A. B. Gibbons, E. N. Hinrichs,
W. R. Hansen, and R. W. Lemke

Trace Elements Investigations Report 754

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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PRELIMINARY GEOLOGIC MAP OF THE TIPPIPAH SPRING NW QUADRANGLE,
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This report is preliminary
and has not been edited for
conformity with Geological
Survey format and nomenclature.

*Prepared by the U. S. Geological Survey on
behalf of the U. S. Atomic Energy Commission.

Figure 1. -- INDEX MAP OF NEVADA SHOWING THE TIPTOPAH SPRING NW.
QUADRANGLE (CROSS-HATCHED) WITHIN THE NEVADA TEST SITE,
NYE COUNTY.

Errata sheet

TEI-754, "Preliminary geologic map
of the Tippihah Spring NW quadrangle, Nye County, Nevada"

Map

1. At coordinates N. 893,400, E. 657,500 color of TW6 should match the color in the Color Key.
2. At coordinates N. 876,000, E. 636,600 color of T7 should match the color in the Color Key.
3. At coordinates N. 896,500, E. 657,500 and N. 896,850, E. 657,600 TW6 unit symbols should be Qc unit symbols.
4. At coordinates N. 880,300, E. 626,850 the part of the T7₁ color that extends beyond the contact into Qc color should be removed.
5. At coordinates N. 898,600, E. 631,700 the omitted value of dip on outcrop of ~~Es~~ should be 29°.
6. At coordinates N. 891,350, E. 654,500, small patch of TW2 should match the color of TW2 in the Color Key.
7. At coordinates N. 884,950, E. 621,500, obscured unit symbol should be T7.
8. At coordinates N. 887,100, E. 621,600 a T7 unit symbol should be connected by a leader line to the outcrop of T7 at coordinates N. 887,600, E. 621,450.
9. At coordinates N. 886,500, E. 647,900, a northeast-trending fault separating Mea on the northwest from Meq on the southeast should be continued northeastward between Mea and Meq as far as the next northwestward-trending cross-fault, which cuts off the Mea outcrop.

Explanation

1. The word "deposits" is misspelled in "Surficial deposits."
2. The word "argillite" is misspelled at the end of the second line of the unit description under "Eleana formation."
3. The symbol "Meg" at the beginning of the third line of the unit description under "Eleana formation" should be "Meq."

EXPLANATION ^{1/}

Qal	Qp	Qc	Qs
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Surficial deposits
Qal, alluvium; Qp, pediment gravels; Qc, colluvium and talus; Qs, landslide

Tuff, welded, sillicic, dark-brown and gray, one to four flows; cliff-former. 270-500 feet thick

T7, bedded tuff ^{2/}, fine to lapilli, very pale gray and brown, chiefly vitric but locally zeolitic ^{3/}, very thin to very thick bedded. T71 and T72, nonbedded fine vitric tuff, locally welded. Thickness of T7: 100-1,000 feet. Top 40-85 feet is nonbedded friable pale-brown that grades upward to T8

Tuff, welded, lenticular, locally at base conglomerate of cobbles; cliff-former. Up to 70 feet thick

Tuff, bedded, typically zeolitic greenish-yellow base, and vitric bluish-gray top 45-120 feet thick

CAPTAIN JACK SPRING

Tc1, bedded pale-gray and red zeolite tuff; forms steep ledges. Tc1j, nonbedded lenticular zeolite pale-gray and tan tuff; common pumice fragments to 3/8 inch; at base fragments of dense dark volcanic rock to 3/8 inch are very common; at top a mottled red zone with clusters to 2 feet diameter of volcanic fragments to 3 inches; thickness up to 160 feet. Tc1j, nonbedded lenticular zeolite pale-yellow and orange tuff with many voids from weathered out pumice fragments to 3 inches; fragments to 1-1/2 inches of pumice and dark volcanics common in basal 50 feet, sparse above; thickness up to 130 feet. Two pisolite beds in Tc1 between Tc1j and Tc1j. Tc1j, nonbedded zeolite pale-pink and gray tuff with many flattened voids to 4 inches, white pumice fragments to 1-1/2 inches; feldspar, quartz, and biotite crystals, many small vesicles common forms low slopes; thickness up to 40 feet.

GROUSE CANYON

Tg2, bedded zeolite tuff; basal 95 feet is red brown, pale purple with a few pale-gray and yellow beds; cobbles of Eleana quartzite about 10 feet above base. Tg2m, lens of nonbedded zeolite pale-pink tuff contains many voids, fragments of very pale gray pumice and up to 25 percent crystals of feldspar, quartz, and biotite. Uppermost 150 feet is bedded pale gray, red brown, thinly laminated; contains two pisolite beds probably equivalent to beds between Tc1j and Tc1j

Tuff, welded, pale-gray to moderate-red. Common aligned small lenses of chalky mineral aggregates; very sparse to sparse potassic feldspar, quartz, and biotite. Forms irregular ledges and benches with much slabby float. Maximum thickness 40 feet

RAINIER MESA

Tuff, bedded, zeolitic mostly pale gray but many continuous red beds and gray grit beds. Fairly resistant rounded ledges. Thickness 265-375 feet.

Tuff, bedded, zeolitic At base and top are prominent red beds, between are pink and pale-gray discontinuous beds and color bands. Thickness 100-200 feet

T2, bedded zeolitic mostly pale-gray tuff but with many thin red and purple beds. Contains two pisolite beds. T2w, thin welded tuff local at top. Thickness about 120 feet

Tuff, bedded, zeolitic mostly purplish to pinkish red with a few thin gray beds. Prominent red ledges at top and 50 feet below. Thickness 200-210 feet

WHITEROCK SPRING

Tw7, bedded fine and coarse zeolitic and vitric pale-gray and brown tuff; beds 2 to 8 feet thick. Tw7m, nonbedded chiefly fine vitric tuff; top 8 feet firmly welded, cavernous; maximum thickness Tw7, 142 feet. Maximum thickness of entire unit 280 feet

Tuff, zeolitic nonbedded except basal 30 feet. Above 65 feet are abundant fragments of dark volcanics, argillite and quartzite. At base is thin local conglomerate of quartzite, schist, and gneiss. Thickness about 270 feet

Tuff, zeolitic nonbedded above basal 17 feet, pale-gray to orange-red sparse scattered fragments to 1-1/2 inches of quartzite, dense lava, gneiss and schist. Thickness 70 feet

Tuff, zeolitic greenish-gray and pale-red, fine to coarse-grained. Distinctive curved and discontinuous bedding, 35 feet thick

Tuffaceous siltstone, very pale gray, opaline, and interbedded fine to coarse tuffaceous sandstone and tuff. Thin lignitic shale lenses toward base contain plant fossils, 65 feet thick

Olivine basalt. About 50 feet thick

Tuff, welded, dark-brown with sparse black biotite phenocrysts. Grades upward into pinkish-gray welded tuff. Thickness at least 40 feet, base concealed

GOLD MEADOWS

Tgo, bedded zeolite fine and coarse pale-gray and yellow tuff; beds as thick as 10 feet, some laminated; locally contains cobbles of rhyolite and vitrophyre; probably equivalent to T1 through T4. Tgor, gray, brown, and black dense to vesicular flow-layered rhyolite and vitrophyre; phenocrysts of quartz and sanidine feldspar make up as much as one-third of the rock; flows and dikes

^{1/} To make the explanation more usable boxes from the COLOR KEY on geologic map may be pasted on matching boxes in the Explanation.

^{2/} Tuff is indurated pyroclastic material of the following sizes:

volcanic or tuff breccia	32 mm
lapilli tuff	4
coarse tuff	.25
fine tuff	

^{3/} Chiefly heulandite, clay minerals and beta-cristobalite

Tippipah limestone
Gray medium to coarsely crystalline fossiliferous limestone. Some argillite, chert and shale

Eleana formation
Mec, chiefly gray and pale-red argillite and gray fine limestone. Mea, mainly red, tan, and gray argillite. Meg, chiefly yellowish-brown and gray quartzite and conglomerate. Partial thickness about 3,000 feet, base concealed

Dc, dolomite, dense finely crystalline, in alternating medium-gray and black beds, 1 to 20 feet thick. Contains fossil algae and corals. Unit 1,200+ feet thick. Db, dolomite, finely laminated, brown, somewhat sandy. 260 feet thick. Da, dolomite, mostly medium gray with a few poorly defined black beds. At least 307 feet thick, base concealed. Probably equivalent to Devils Gate and Nevada formations

Pale-gray indistinctly bedded and dark smoky blue-gray thinly laminated dolomitic limestone. Contains crinoid stems at many horizons. Bedded chert near base of exposed section

Stirling? quartzite
Gray and brown medium-grained quartzite, prominently crossbedded

Quartz monzonite, mostly medium crystalline, locally porphyritic. Mode is perthite, plagioclase, quartz, and accessory biotite. Small apilite and pegmatite dikes

Contact
Long dashed where approximate, short dashed where inferred

Dashed where probable, dotted where concealed; U, upthrown side; D, downthrown side; queried where doubtful. Measured displacement in feet. Arrow shows plunge of slickensides

Thrust fault
T, upper plate

Strike and dip of beds

Strike of vertical beds

Strike and dip of overturned beds

Strike and dip of bed whose top cannot be identified

Strike and dip of joint

Axis and plunge of minor anticline

Vertical shaft

Adit

Strike of vertical flow lamination

Strike and dip of flow lamination

Horizontal flow lamination

Axis of anticline, showing plunge

Dashed where approximately located

Axis of syncline, showing plunge

Dashed where approximately located

Axis of minor syncline

Axis of minor syncline

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