TEI-852

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GEOLOGIC MAP OF THE
BUCKBOARD MESA QUADRANGLE,
NYE COUNTY, NEVADA

By F. M. Byers, Jr., C. L. Rogers, and S. J. Luft

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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GEOLOGIC MAP OF THE BUCKBOARD
MESA QUADRANGLE, NYE COUNTY,
NEVADA*

By

F. M. Byers, Jr., C. L. Rogers, and S. J. Luft

September 1964

Report TEI-852

This report is preliminary and
has not been edited for conformity
with Geological Survey format.

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Washington 25, D.C.

August 20, 1964

Mr. James E. Reeves, Manager
Nevada Operations Office
U.S. Atomic Energy Commission
P. O. Box 1676
Las Vegas, Nevada

Dear Mr. Reeves:

Transmitted herewith are two copies of TEI-852, "Geologic map of the Buckboard Mesa quadrangle, Nye County, Nevada," by F. M. Byers, Jr., C. L. Rogers, and S. J. Luft, September 1964.

We plan to release this map to the public in the open files, and to publish it in the Geologic quadrangle map series.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "V. R. Wilmarth", followed by the word "for" in a smaller, simpler script.

V. R. Wilmarth
Assistant Chief Geologist
Office of Engineering Geology

Enclosures

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DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

DESCRIPTION OF MAP UNITS
(for inferred relative ages see explanation)

- Qa1 ALLUVIUM (0-100 ft.)--yellowish-gray bouldery gravel.
Qa2 OLDER ALLUVIUM (0-20 ft.)--similar to alluvium except upper few feet cemented by caliche, and fragments on upper surface coated with manganese.
- Qc TALUS AND OTHER COLLUVIUM (0-50 ft.)--angular to subangular blocks, locally with interstitial windblown material. Landslide blocks of basalt as much as 100 feet long occur downslope from Buckboard Mesa.
- Qb TRACHYBASALT FLOWS OF BUCKBOARD MESA (0-200 ft.)--grayish-black trachybasalt flows containing olivine; cliff forming. Includes clinker beds beneath some flows.
- Tg1 GRAVEL, CONGLOMERATE, AND TUFAACEOUS SANDSTONE (0-500+ ft.)--upper part is bouldery gravel near eastern and western borders of quadrangle. Bedded silty sandstone with a few pebbles and cobbles along north-south line in east-central part of quadrangle. Lower part is very pale orange, grayish-orange pink, and light-brown thin-bedded friable sandstone, and grayish-orange pebble-cobble conglomerate, containing a few thin beds of light-gray pumice lapilli tuff and vitric sand tuff.
- Tts1 THIRSTY CANYON TUFF (0-150 ft.)--nonwelded ash-flow tuff.
- Tt1 TRAIL RIDGE MEMBER (0-100 ft.)--simple cooling unit; poorly welded to nonwelded ash-flow tuff, grayish orange pink grading downward a few larger. Weathers to light brown. Nonwelded base, very pale orange, abundant white pumice lapilli. Phenocrysts: alkali feldspar and sparse clinopyroxene(?). Locally includes pebbly tuffaceous sandstone at base.
- Ttsu SPURHEAD MEMBER (0-150 ft.)--only upper ash-flow tuff exposed. Simple cooling unit; poorly welded, upper-phase zone, pinkish gray, porous; grades downward into devitrified welded zone, grayish red, common alkali feldspar and rare clinopyroxene(?). Phenocrysts: dark feldspar as much as 10 cm long; grades downward to vitric nonwelded base, grayish-orange pink, common white pumice granules and lapilli.
- Tra RHYOLITE LAVA FLOWS OF SHOSHONE MOUNTAIN (0-500 ft.)--two similar flows separated by irregular surface. Upper part of flows light brownish gray to grayish orange pink, finely flow banded, devitrified, grading downward to dark-gray to black glass. Includes vitric tuff-breccia and tuff 20 to 30 feet thick at base. Phenocrysts: sparse alkali feldspar.
- Tdn MAFIC LAVA FLOWS OF DOME MOUNTAIN (0-1,000 ft.)--about 12 lava flows of basaltic appearance extending northeasterly into quadrangle from Dome Mountain in Topopah Spring NW quadrangle. Uppermost 8 or 9 flows are medium- to dark-gray olivine trachyandesite with coarse-grained plagioclase phenocrysts. Lower flows include trachybasalt with iddingsitic olivine, and have source vents exposed in Forty-mile Canyon. Local uppermost flow of lower part is olivine pyroxene basalt containing abundant mafic phenocrysts of clinopyroxene and olivine. Top and bottom of individual flows commonly red, rubbly, and scoriaceous.
- Tbd BASALT DIKES, PLUGS, AND SMALL FLOWS (0-50 ft.)--olivine-bearing dark basalt, iddingsitic alteration of olivine.
- Tfv RHYOLITE OF FORTYMILE CANYON:
RHYOLITE LAVA FLOW OF VENT PASS (0-200 ft.)--light-gray, vitric, with tuff breccia envelope at northern distal end of flow.
BEDDED TUFFS (0-100 ft.)--light-gray, white, and greenish-yellow air-fall tuff; underlain by front of rhyolite lava flow of Vent Pass.
- Tbo OLDER BASALT (0-150+ ft.)--mostly dark reddish gray basalt containing plagioclase and sparse olivine phenocrysts. Includes thin red scoriaceous flows, vent agglomerates, and palagonitic basalt of several vents.
- Tt Volcanic rocks on Timber Mountain DOME:
TUFFS AND TUFAACEOUS DEPOSITS (0-500 ft.)--exposed in western part of quadrangle on flank of Timber Mountain. Upper part is sporadically zeolitized thin porous bedded tuff; middle part, zeolitized white nonwelded ash-flow tuff that becomes vitric north of Cat Canyon; underlain by pastel-colored bedded ash-fall tuff that contains secretory lapilli. Locally base of middle part consists of crossbedded mottled light-gray and grayish red purple tuffaceous sandstone above unconformity. Lower part consists of nonwelded very pale orange pumice-rich ash-flow tuff.
- Tcd RHYOLITE LAVA FLOW (0-500 ft.)--grayish-red to grayish-brown with abundant white plagioclase phenocrysts as much as 5 mm in diameter; sparse pyroxene, biotite, and hornblende as much as 2 mm in diameter. Interior of flow more coarsely crystalline and lighter colored than margin; coarse rubble breccia locally around margin of flow.
- Tfg TUFF OF CAT CANYON:
UNITS r AND u (0-500 ft.)--upper part includes unit G locally, consisting of partly welded pink to gray thin ash-flow tuff capping unconformably on unit F. Lower part, unit F, is uppermost part of compound lower cooling unit; partly welded partly zeolitized moderate orange pink porous ash-flow tuff, grading downward to white to light-gray porous massive devitrified tuff that erodes to cavernous irregular land forms. Both units locally contain lithic fragments of welded biotite tuff (tbb) from ring fracture zone. Phenocrysts: feldspar and quartz.

PREPARED IN COOPERATION WITH THE
U.S. ATOMIC ENERGY COMMISSION

EXPLANATION

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