UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

BULLETIN 1112
PLATE 16

GEOLOGY OF THE AREA SOUTH OF TELLURIDE, COLORADO

EXPLANATION

SEDIMENTARY AND EXTRUSIVE ROCKS

QUATERNARY

Pleistocene and Recent

Qal — **Alluvium**
Includes some talus and glacial deposits

Qt — **Talus, landslide, rock streams, and glacial deposits**
Includes some alluvium and thick soil cover in places

Miocene or Pliocene

Tps — **Potosi volcanic series**
Tp$_5$, *massive dark-colored andesite flow; found only on top of Lookout Peak, 30–50 ft thick*
Tp$_4$, *massive light-colored rhyolite flows, 175–250 ft thick*
Tp$_3$, *red quartz latite flows and breccia; 75–100 ft thick*
Tp$_2$, *massive glassy-banded rhyolite flows; 250–300 ft thick*
Tp$_1$, *gray quartz latite flow with small dark bands and in places 5- to 10-in. hard balls of similar flow rock; 50–100 ft thick*
Tp$_0$, *massive pinkish-gray quartz latite flows with abundant brown biotite phenocrysts; in places weathers fissile; 300–350 ft thick*

EROSION SURFACE

Miocene

Silverton volcanic series

Tta, Ttl, Ttb — **Burns latite**
(Mapped north of San Miguel River as part of Picayune volcanic group of Silverton volcanic series, Burbank, 1941)
Tta, *fine lens-shaped pyroxene andesite flows in southeast side of Bridal Veil Basin; as much as 400 ft thick; may be equivalent of pyroxene andesite of Silverton volcanic series farther east.*
Ttl, *dark-greenish- and reddish-gray latite flows; fissile and mottled in lower part, more massive in upper part; 70–200 ft thick; includes breccia, Ttb, not separately mapped.*
Ttb, *breccia and tuff; 0–150 ft thick; in many places has volcanic con- cmente at base; rests on uneven erosion surface; not mapped separately everywhere*

EROSION SURFACE

Teb, Tpf, Tea — **Eureka rhyolite**
Mapped north of San Miguel River as part of Picayune volcanic group of Silverton volcanic series, Burbank, 1941)
Teb, *breccia and tuff; contains many rock types but very little rock like the underlying flows of the Eureka, 250–400 ft thick.*
Tef, *many thin flows of reddish- and greenish-gray latite containing many flattened amygdules; 10–100 ft thick.*
Tea, *dark-gray, vesicular andesite flow overlain by a little breccia; 0–25 ft thick. Not present everywhere; may be equivalent to part of Picayune volcanic group farther east, separated by erosion surface from overlying flows*

EROSION SURFACE

Miocene(?)

Tsb, Tsf — **San Juan breccia**
Breccia and tuff containing many types of volcanic rock, Tsb, laid down in considerable part by mudflows; 1200–2100 ft thick; basal 200 ft is well-bedded water-laid tuff. Dark-green andesite(?) flow, Tsf, 0–30 ft thick, in Bear Creek area, 450 ft above base of formation

Oligocene(?)

Tt — **Telluride formation**
Massive conglomerate, 300–400 ft thick, composed mainly of Precambrian and Paleozoic rocks; bottom few feet includes fragments of immediately underlying rock; top 15 ft is a pinkish-gray coarse arkose

EROSION SURFACE

CRETACEOUS

Upper Cretaceous

Km — **Mancos shale**
Black and gray shale, some sandy or calcareous shale, calcareous nodules, few beds of fine sandstone

Middle(?) and Upper Cretaceous

Kd — **Dakota sandstone**
Upper part gray shale, siltstone, and some sandstone; lower cliff-forming yellow sandstone

JURASSIC

Upper Jurassic

Jmb, Jms — **Morrison formation**
Brushy Basin member, Jmb; shale, calcareous in places, and a few nonresistant sandstone beds. Salt Wash member, Jms; irregularly bedded sandstone

Jw, Jwp — **Wanakah formation**
Upper part, Jw; well-bedded sandstone (possible Junction Creek sandstone equivalent) at top; calcareous shale (marl member) in middle; and sandstone at bottom (Bilk Creek sandstone member). Pony Express limestone member, Jwp; thinly laminated limestone overlain by limestone breccia, in places, and massive limestone

Je — **Entrada sandstone**
Yellow sandstone, some gray shale, and pinkish sandstone

TRIASSIC

Rd — **Dolores formation**
Thin-bedded brick-red sandstone, shale, and thick-bedded mudstone, for the most part somewhat calcareous. Few feet of light-gray sandstone or conglomerate at base

PERMIAN

Pc — **Cutler formation**
Maroon and gray conglomerate, sandstone, and shale; generally thin- to medium-bedded; lower part of formation not exposed

METAMORPHOSED ROCKS

TERTIARY

Tss — **Hydrothermally altered rocks on slopes northeast of Ophir which were not separable into different volcanic formations**
Equivalent to the Silverton volcanic series and San Juan breccia; includes some intrusive porphyritic rock

TRIASSIC AND JURASSIC

Jkm — **Metamorphosed Triassic and Jurassic rocks where separate formations are not distinguishable**

INTRUSIVE ROCKS

TERTIARY

Tbd — **Andesitic or latitic dikes; includes some porphyritic and vesicular types**

Tdm — **Diorite, monzonite, and quartz monzonite in stocks**

Tdfp — **Quartz-feldspar porphyry, with phenocrysts of quartz or feldspar; in stocks and pipes**

Tbp — **Breccia pipes**
Masses of angular rock fragments, usually associated with intrusive pipe, and generally conspicuously altered; contains sericite and pyrite

Tqs — **Quartz-sericite breccia pipe**

Contact
Dashed where approximately located; dotted where concealed

Intraformational contacts
Boundaries between flows and breccia within formations

Fault, showing dip, relative movement and amount in feet where known
Dashed where approximately located; dotted where concealed. As many faults have dikes, altered zones, or mineralized zones along them, relative movement and amount can be shown along such structural features where the fault symbol has been omitted for clarity

Strike and dip of beds

Mineralized zone or vein, showing dip
Quartz and other introduced material is over half an inch wide. Dashed where approximately located

Alteration zone, or vein, showing dip
Less than half an inch wide. Dashed where approximately located

Veins or altered zones along dike

Triangulation station

USBM — U.S. Mineral Monuments

USLM — U.S. Land Monuments

Altitude, in feet above sea level

Adits

Shafts

APPROXIMATE MEAN DECLINATION, 1952

Base from parts of U. S. Geological Survey Topographic Division advanced quadrangle maps, subject to corrections. Modified by J. S. Vhay and E. H. Bailey, 1955

INTERIOR—GEOLOGICAL SURVEY, WASHINGTON, D. C.—10196

1000 0 1000 2000 3000 4000 FEET
DATUM IS MEAN SEA LEVEL

INDEX TO MAPPING

Geology by J. S. Vhay, assisted by the men named in the separate areas indicated on this sketch map

TELLURIDE
L. T. Silver, 1947
H. P. Darley and G. P. Prichard, 1941
E. H. Bailey, L. A. Warner and S. A. Fiebler, 1939
E. H. Bailey, 1940
E. H. Bailey, 1938
1941 H. P. Darley and G. P. Prichard
L. T. Silver, 1947
D. J. Varnes, J. W. Odell and J. W. Gabelman, 1942
Ophir Loop
Ophir