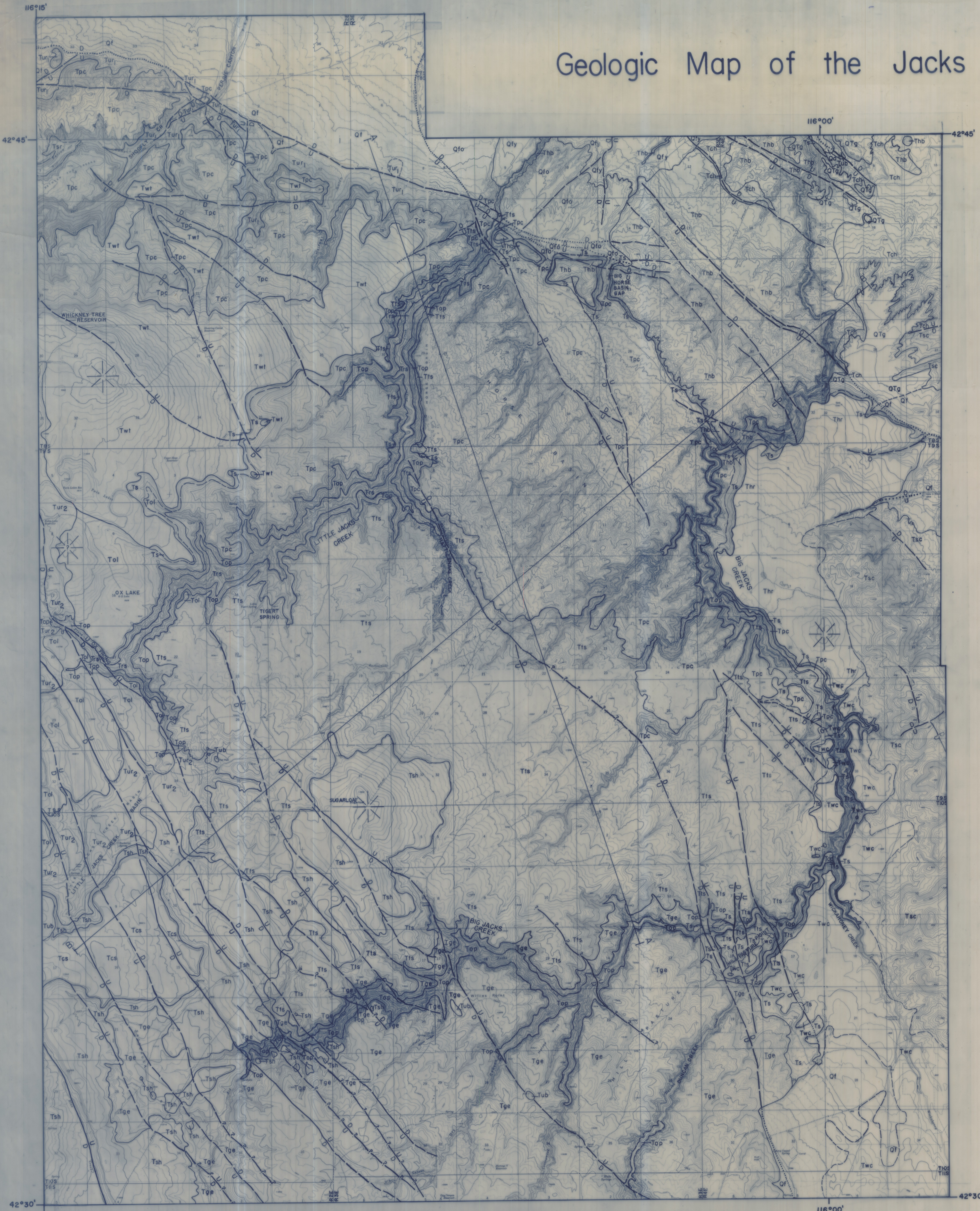


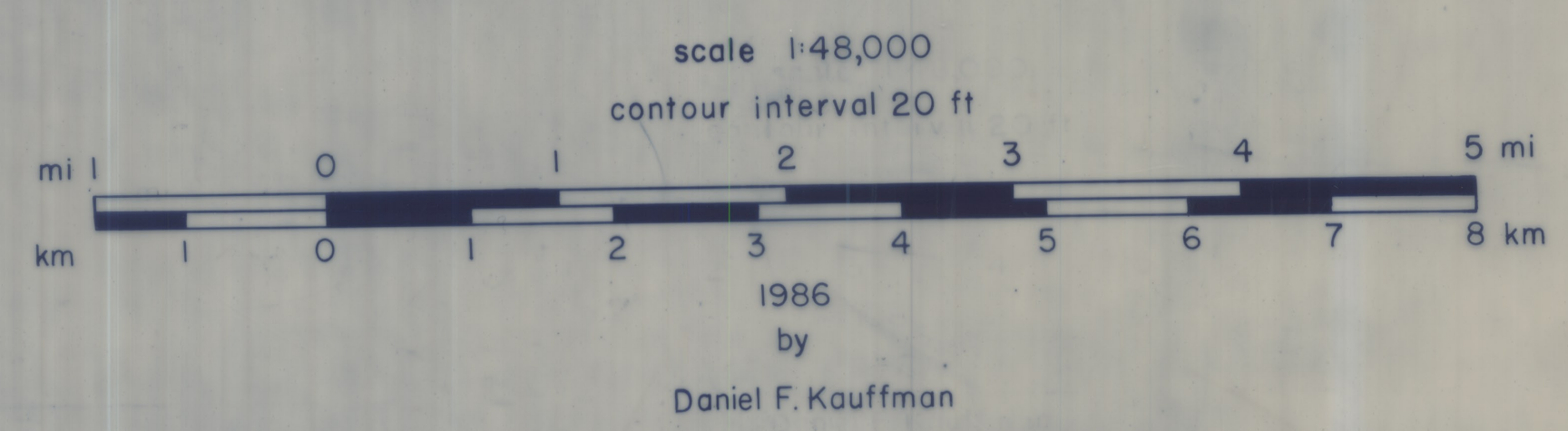
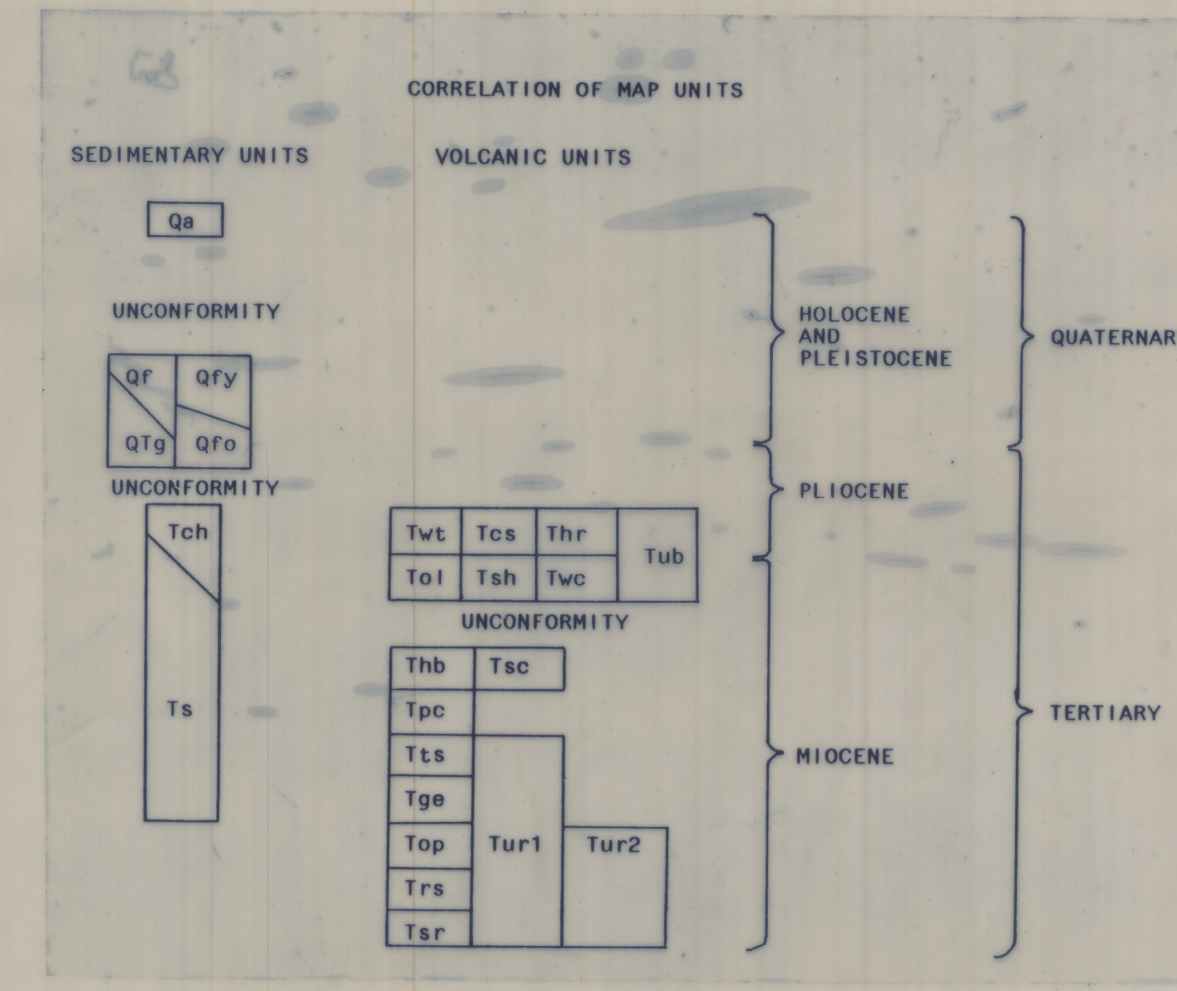
Geologic Map of the Jacks Creek Area, Owyhee County, Idaho

Plate I in Daniel F. Kauffman, 1987, Geology of Jacks Creek Area, Owyhee County, Idaho, M.S. thesis, University of Idaho, 93 p.

Idaho Geological Survey
Moscow, Idaho 83843
Technical Report 87-2
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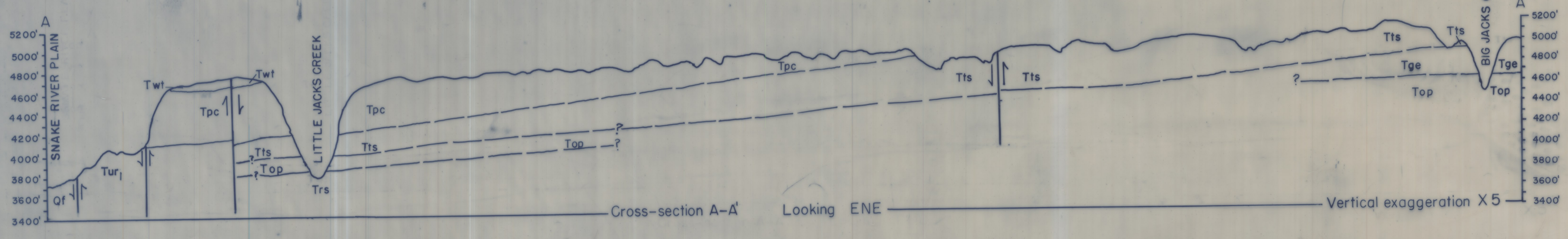


- ### STRATIGRAPHY OF THE JACKS CREEK AREA
- #### QUATERNARY
- SEDIMENTARY UNITS**
- Qa** Alluvium-Unconsolidated, light brown to gray gravel, sand, silt, and clay. Deposits occur at the bottom of the northern portion of Big Jacks Creek canyon. Thickness: 1-10 m (3-33 ft).
 - Qf** Fan Alluvium-Unconsolidated reddish-brown to light-gray, poorly sorted gravel, sand, and silt. Locally divided into the upper **Qf1** - younger fan alluvium and the lower **Qf2** - older fan alluvium. Thickness: 7-30 m (23-98 ft).
- #### QUATERNARY AND TERTIARY
- SEDIMENTARY UNITS**
- Qtc** Gravel of Deadman Gulch-Unconsolidated reddish to light brown, poorly sorted cobbles, gravels, and sands. Forms slope-mantling deposits derived from nearby rhyolite units. Thickness: 8-30 m (30-98 ft).
 - Ts** Undifferentiated Sediments-White, tan, and brown lacustrine and fluvial deposits of silt, clay, and sand that occur between individual rhyolite units, and between rhyolite and overlying basalt units. Thickness: 4-40 m (13-131 ft).
- #### TERTIARY
- PLIOCENE AND MIOCENE**
- SEDIMENTARY UNITS**
- Tch** Chalk Hills Formation-White, brown, pink, and gray lacustrine and fluvial deposits of clay, silt, sand, and diatomite with numerous thin beds of vitric ash and sparse beds of basaltic tuff. Thickness: 9-50 m (30-164 ft).
 - Ts** Undifferentiated Sediments-White, tan, and brown lacustrine and fluvial deposits of silt, clay, and sand that occur between individual rhyolite units, and between rhyolite and overlying basalt units. Thickness: 4-40 m (13-131 ft).
- #### BASALT UNITS
- Several plagioclase-olivine-phyric basalt flows erupted from shield volcanoes within or near the study area. Basalt occurs in three separate areas but the stratigraphic relations from area to area among these units are unclear. These basalt units include sedimentary materials which lie below the basalt flows but are too thin to be shown as separate units.
- Twt** Basalt of Whickney Tree Reservoir-Overlies the basalt of O X Lake along the southern edge of its exposure but lies on sediments (Ts) at its eastern edge. The volcano source is Hill 6062 (elev.) in sec. 29, T. 8 S., R. 2 E. Thickness: 4.5-35 m (15-115 ft).
 - Tol** Basalt of O X Lake-Overlain by the basalt of Whickney Tree Reservoir along its northern edge. A volcanic source is Hill 5910 (elev.) in sec. 8, T. 9 S., R. 2 E. Thickness: 14-35 m (46-115 ft).
 - Tcs** Basalt of Crab Springs Butte-Lies above the basalt of Sugarloaf Hill. The source volcano is Crab Springs Butte in sec. 19, T. 10 S., R. 2 E. Thickness: 10-30 m (33-98 ft).
 - Tsh** Basalt of Sugarloaf Hill-Lies below the basalt of Crab Springs Butte. The source volcano is Sugarloaf Hill in sec. 31, T. 9 S., R. 3 E. Thickness: 5-18 m (16-59 ft).
 - Thr** Basalt of Hole in Rock-About 27 m (89 ft) of sediments lie beneath the unit in most places. Along its southern edge, this basalt lies on basalt at Whickahoney Creek. The source volcano is Hill 4640 (elev.) in sec. 21, T. 9 S., R. 4 E. Thickness: 11-20 m (36-66 ft).
 - Twc** Basalt at Whickahoney Creek-Along its northern edge, overlies the basalt of Hole in Rock. This unit consists of two sequences of flows separated by as much as 2 m (7 ft) of sedimentary material. The two groups of flows are considered to have different sources, both located southeast of the mapped area. Individual flows are less than 30 m (98 ft). Total thickness: 5-65 m (16-213 ft).
 - Tub** Undifferentiated Basalt-Isolated basalt outcrops are scattered throughout the mapped area. Their sources are not known and their stratigraphic relations to other units are unclear. Thickness: 2-15 m (7-49 ft).
- #### Miocene
- RHYOLITE UNITS**
- Tsc** Sheep Creek Rhyolite-Lava flow which lies above the Perju Canyon rhyolite, the Sheep Creek Rhyolite, and beneath the basalt of Hole in Rock and the basalt at Whickahoney Creek. Phenocrysts include plagioclase, augite, pigeonite, opaque oxides, and sparse grains of quartz. Thickness: 33-150 m (100-495 ft). Normal paleomagnetic polarity.
 - Tthb** Horse Basin Rhyolite- Source of this lava flow exposed in Big Jacks Creek canyon where it disrupts the overlying Perju Canyon Rhyolite. It lies below sediments, the Sheep Creek Rhyolite and the basalt of Hole in Rock. Phenocrysts include plagioclase, pigeonite, and opaque oxides. Thickness: 11-50 m (36-164 ft). Normal paleomagnetic polarity.
 - Tpc** Perju Canyon Rhyolite-Northern edge of this lava flow is downfaulted north and west of Horse Basin and is covered by fan alluvium or the Horse Basin rhyolite. Phenocrysts in this flow are plagioclase and pigeonite. Thickness: 12-150 m (39-495 ft). Reverse paleomagnetic polarity.
 - Tts** Tigert Springs Rhyolite- Lava flow that lies below the basalt at Whickahoney Creek and the Perju Canyon rhyolite. Between Little Jacks Creek and Shoofly Creek, rhyolite in the same stratigraphic position as the Tigert Springs rhyolite shows an undifferentiated rhyolite (Tur-1) because poor exposures make correlation uncertain. Phenocrysts include sandine, plagioclase, pigeonite, augite, and sparse grains of olivine. Thickness: 33-110 m (108-361 ft). Reverse paleomagnetic polarity.
 - Tge** Rhyolite of Grasmere Escarpment- Lies below the Tigert Springs rhyolite and above the O X Prong rhyolite. It is probably not a lava flow. The phenocryst mineralogy consists of plagioclase, sandine, pigeonite, and opaque oxides. Thickness: 25-150 m (83-495 ft). Reverse paleomagnetic polarity.
 - Tog** O X Prong Rhyolite- Exposed at four separate locations and is considered one unit on the basis of stratigraphic position, chemistry, mineralogy, and magnetic polarity. While the base of the flow is not observed at every location, its physical characteristics suggest this unit may be a lava flow. At each separate exposure, it is overlain by different stratigraphic units. This unit may extend south of the head of Little Jacks Creek but tracing its continuity is difficult, and therefore it is mapped in that area as Tur-2. Phenocrysts include plagioclase, sandine, and pigeonite. Thickness: 60-120 m (196-394 ft). Erratic paleomagnetic polarity.
 - Lr2** Rattlesnake Creek Rhyolite- Lowest unit in Big Jacks Creek canyon, it is uncertain if this unit is a welded tuff or a rhyolite lava flow. It is overlain by the O X Prong rhyolite. Thickness: minimum 100 m (328 ft). Normal paleomagnetic polarity.
 - Tsr** Tuff of Swisher Mountain- Oldest unit exposed in the mapped area, this unit underlies the Perju Canyon rhyolite. The phenocryst mineralogy includes sandine, plagioclase, quartz, pigeonite, and opaque oxides. Thickness: 30-105 m (98-334 ft). Normal paleomagnetic polarity.
 - Tur** Undifferentiated Rhyolite-This unit includes occurrences of rhyolite with uncertain stratigraphic or chemical relations to the other rhyolite units. Divided into two subunits based on geographic separation.
 - Tur1**-The rhyolite west of Little Jacks Creek that lies below the Perju Canyon rhyolite may be the Tigert Springs rhyolite, but the faulting and cover west of Little Jacks Creek makes this correlation uncertain. Thickness: 75-120 m (246-394 ft).
 - Tur2**-This unit may correlate with the O X Prong rhyolite since it extends south of the head of Little Jacks Creek canyon in Little Jacks Creek Basin and in the O X Prong of Little Jacks Creek. Thickness: 33-75 m (108-246 ft).



APPROXIMATE MAGNETIC DECLINATION 1970

- CONTACT**-Dashed where approximately located and queried where uncertain.
- FAULT**-Dashed where approximately located, queried where existence is uncertain, and dotted where concealed. For many faults, displacements of contacts are too small to be seen at this map scale.
- VOLCANO**-Indicates approximate location of vent area for shield volcano.



TOPOGRAPHIC BASE MAPS
(U. S. G. S. 7 1/2' QUADRANGLES)

Perju Canyon	1947
Hole in Rock	1980
Big Horse Basin Gap	1972
O X Lake	1972
Snow Creek	1972
Whickahoney Crossing	1980
Hill Pasture	1972
Sugarloaf	1972
Whickahoney Point	1972

