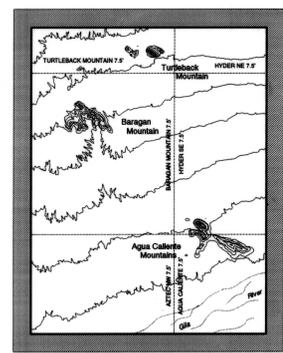
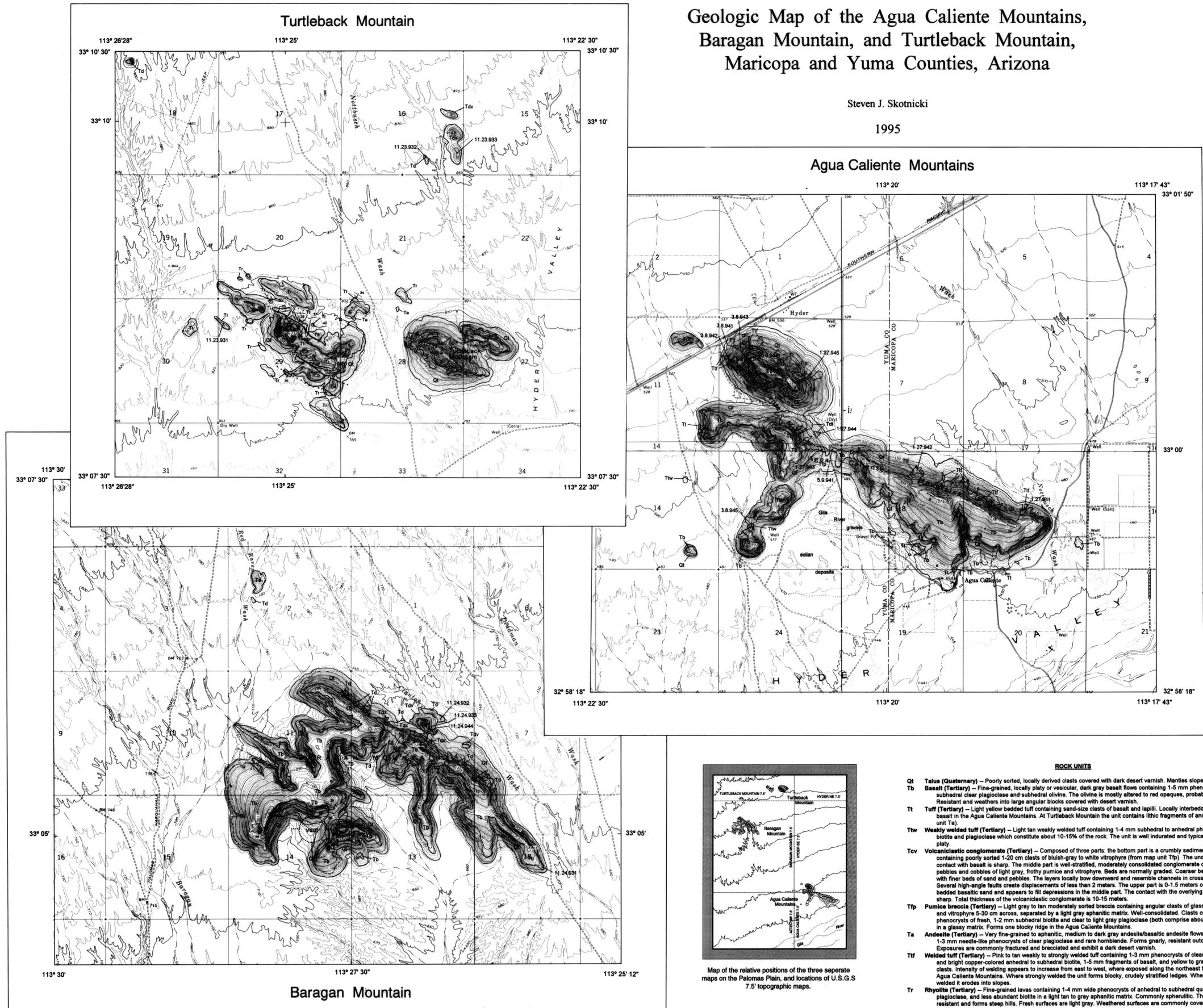


Geologic Map of the Agua Caliente Mountains, Baragan Mountain, and Turtleback Mountain, Maricopa and Yuma Counties, Arizona

Steven J. Skotnicki

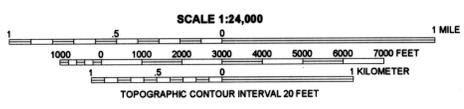
1995



Map of the relative positions of the three separate maps on the Palomas Plain, and locations of U.S.G.S 7.5 topographic maps.

ROCK UNITS

- Qt** **Talus (Quaternary)** – Poorly sorted, locally derived clasts covered with dark desert varnish. Mantles slopes.
- Tb** **Basalt (Tertiary)** – Fine-grained, locally platy or vesicular, dark gray basalt flows containing 1-5 mm phenocrysts of subhedral clear plagioclase and subhedral olivine. The olivine is mostly altered to red opaques, probably iddingsite. Resistant and weathers into large angular blocks covered with desert varnish.
- Tt** **Tuff (Tertiary)** – Light yellow bedded tuff containing sand-size clasts of basalt and lapilli. Locally interbedded with basalt in the Agua Caliente Mountains. At Turtleback Mountain the unit contains lithic fragments of andesite (map unit Ta).
- Ttw** **Weakly welded tuff (Tertiary)** – Light tan weakly welded tuff containing 1-4 mm subhedral to anhedral phenocrysts of biotite and plagioclase which constitute about 10-15% of the rock. The unit is well indurated and typically dense and platy.
- Tcv** **Volcaniclastic conglomerate (Tertiary)** – Composed of three parts: the bottom part is a crumbly sedimentary breccia containing poorly sorted 1-20 cm clasts of bluish-gray to white vitrophyre (from map unit Ttp). The underlying contact with basalt is sharp. The middle part is well-sorted, moderately consolidated conglomerate containing pebbles and cobbles of light gray, frothy pumice and vitrophyre. Beds are normally graded. Coarser beds alternate with finer beds of sand and pebbles. The layers locally bow downward and resemble channels in cross-section. Several high-angle faults create displacements of less than 2 meters. The upper part is 0-1.5 meters of finely bedded basaltic sand and appears to fill depressions in the middle part. The contact with the overlying basalt is sharp. Total thickness of the volcaniclastic conglomerate is 10-15 meters.
- Tfp** **Pumice breccia (Tertiary)** – Light gray to tan moderately sorted breccia containing angular clasts of glassy pumice and vitrophyre 5-30 cm across, separated by a light gray aphanitic matrix. Well-consolidated. Clasts contain phenocrysts of fresh, 1-2 mm subhedral biotite and clear to light gray plagioclase (both comprise about 5% of rock) in a glassy matrix. Forms one blocky ridge in the Agua Caliente Mountains.
- Ta** **Andesite (Tertiary)** – Very fine-grained to aphanitic, medium to dark gray andesite/basaltic andesite flows containing 1-3 mm needle-like phenocrysts of clear plagioclase and rare hornblende. Forms gnarly, resistant outcrops. Exposures are commonly fractured and brecciated and exhibit a dark desert varnish.
- Ttf** **Welded tuff (Tertiary)** – Pink to tan weakly to strongly welded tuff containing 1-3 mm phenocrysts of clear plagioclase and bright copper-colored anhedral to subhedral biotite, 1-5 mm fragments of basalt, and yellow to gray lapilli clasts. Intensity of welding appears to increase from east to west, where exposed along the northeast face of the Agua Caliente Mountains. Where strongly welded the unit forms blocky, crudely stratified ledges. Where weakly welded it erodes into slopes.
- Tr** **Rhyolite (Tertiary)** – Fine-grained lavas containing 1-4 mm wide phenocrysts of anhedral to subhedral quartz, plagioclase, and less abundant biotite in a light tan to gray aphanitic matrix. Commonly spherulitic. The unit is resistant and forms steep hills. Fresh surfaces are light gray. Weathered surfaces are commonly covered with dark desert varnish.
- Td** **Dacite (Tertiary)** – Tan-colored dacite lava containing 1-3 mm phenocrysts of subhedral clear plagioclase, and fresh biotite and hornblende. Resistant and weathers into steep blocky, orange-tan slopes and cliffs. Locally, the unit is covered by dark desert varnish.
- Tdv** **Dacite vitrophyre (Tertiary)** – This unit contains about 10-15% phenocrysts of fresh plagioclase, sanidine(?), biotite, and hornblende in a black to dark blue-gray glassy matrix. Forms resistant hills and cliffs.
- Tdx** **Dacite breccia (Tertiary)** – Light yellow breccia composed of poorly sorted angular clasts of yellow dacite surrounded, and cemented together, by a yellow matrix also containing phenocrysts of plagioclase, biotite and hornblende. The unit grades upward into dacite and is underlain by thinly-bedded yellow tuff (mapped separately). Crops out at Baragan Mountain and may be equivalent to a similar unit in the Palomas Mountains.
- Tdi** **Lower dacite (Tertiary)** – Purple to dark pink to tan dacite/andesite flows containing 1-2 mm phenocrysts of plagioclase, and variable amounts of biotite and hornblende. The unit is mostly fine-grained and commonly brecciated, though locally it is flow-banded and contains up to about 10% phenocrysts. The phenocrysts are locally fresh, but commonly the mafic minerals are altered to iron oxides and the plagioclase is white. Where brecciated, some of the smaller fractures are filled with dark calcite. This unit resembles the oldest felsic rocks in the Tank Mountains, the Palomas Mountains, and the Painted Rock Mountains. In the Agua Caliente Mountains, in the saddle north of latitude 33 degrees, the unit may be a welded tuff.



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Agua Caliente Mountains	Baragan Mountain	Turtleback Mountain
Tb	Tb	Tr
Tt		Tt
Tcv		Ta
Tfp	Td	Td
Ta	Tdv	Tdv
Ttf	Tdx	

