GEOLOGIC MAP OF FACE MOUNTAIN AND OATMAN MOUNTAIN, SOUTH-CENTRAL GILA BEND MOUNTAINS, MARICOPA COUNTY, ARIZONA

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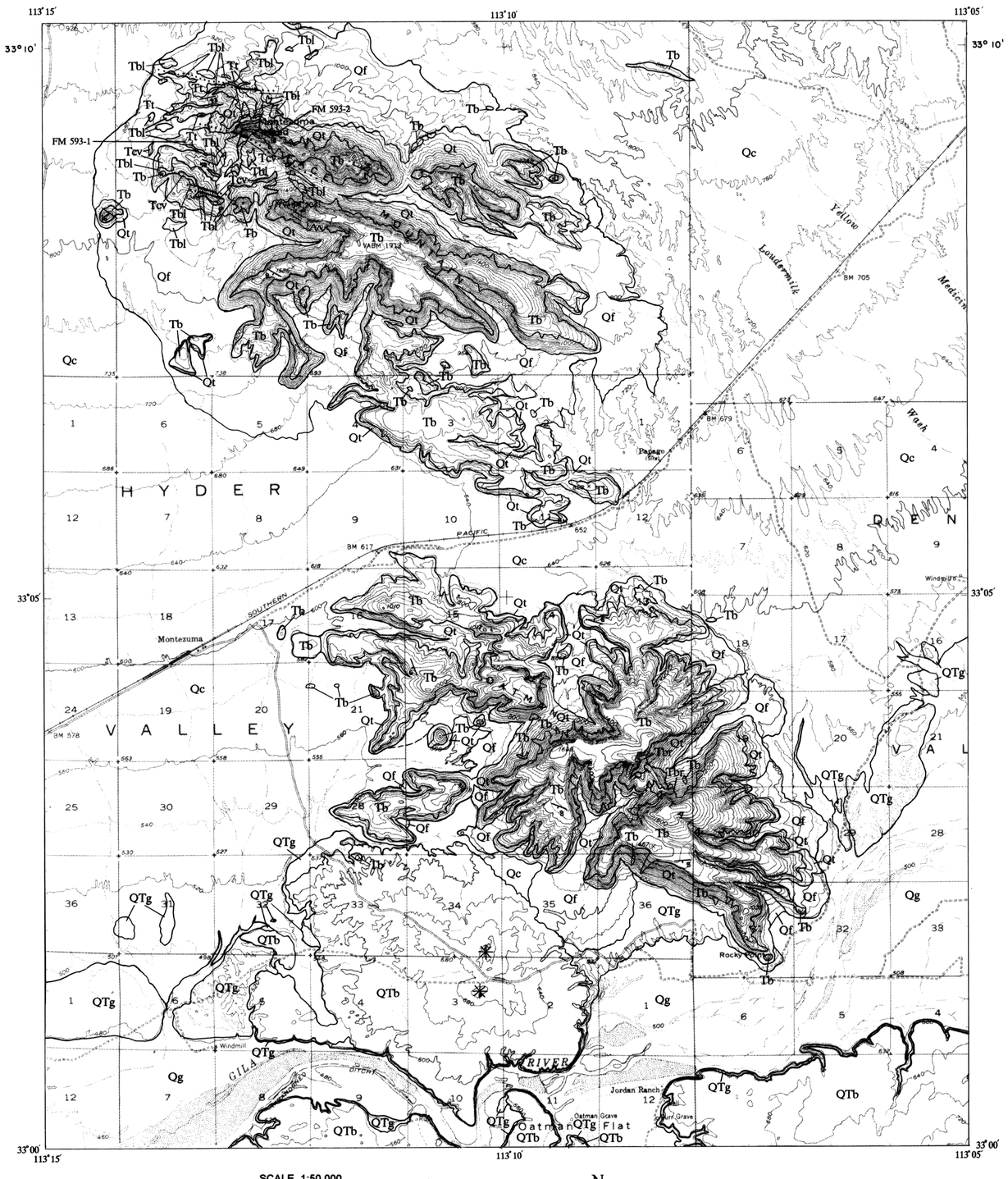

SCALE 1:50,000

1 .5 0 1 2 3 4 MILES

3000 0 3000 6000 9000 12000 15000 18000 21000 FEET

1 .5 0 1 2 3 4 5 KILOMETERS

CONTOUR INTERVAL 40 FEET

N

INTRODUCTION

Face Mountain and Oatman Mountain are located approximately 25 miles northwest of the town of Gila Bend and about 15 miles north of the town of Sentinel, in southwestern Maricopa County, Arizona. They are actually two large buttes which protrude each just over 1000 feet above the surrounding plain. The study area is within portions of the Yellow Medicine Butte Quadrangle (1:24,000), the Quail Spring Wash Quadrangle (1:24,000), the Oatman Mountain Quadrangle (1:24,000) and the Dendora Valley Quadrangle (1:24,000). The bedrock of the two mountains consists almost entirely of basalt.

UNIT DESCRIPTIONS

Qg **Alluvium**--Unconsolidated alluvium in the Gila River flood channel.

Qt **Talus**--Poorly sorted basalt rubble exhibiting dark desert varnish.

Qf **Fan deposits**--Younger alluvial fan conglomerates containing locally derived, poorly sorted basalt clasts.

QTb **Quaternary basalt**--Dark, fresh, vesicular olivine and pyroxene basalt.

QTg **Fluvial conglomerate**--Fluvial deposits containing unconsolidated to weakly consolidated moderately well-sorted, well-rounded, compositionally diverse clasts.

Qc **Basin fill**--Mostly distal fan conglomerates of various ages containing mostly clasts of Proterozoic granodiorite gneiss derived from the north.

Tb **Capping basalt**--Dark gray, fresh pyroxene basalt, locally interbedded with tuff.

Tbr **Red scoria**--Crudely stratified red scorriaceous breccia.

Tbl **Lower basalt**--Light blue-gray to purple crumbly olivine basalt. Probably the same age as Tb.

Tcv **Conglomerate**--Poorly sorted, well-rounded conglomerate containing about 50% rhyolite clasts and 50% Proterozoic clasts.

Tt **Tuff**--Light yellow, well-bedded tuff. Mostly lithic with clasts of basalt and lapilli. Rare biotite phenocrysts.

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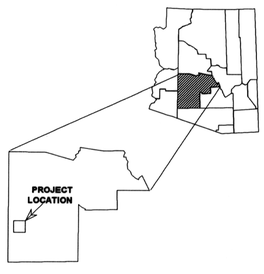
Showing Location of Maricopa County



MAP SYMBOLS

Contact

Fault, dashed where approximate, dotted where concealed

Strike and Dip of Bedding

25 inclined

horizontal

vertical

FM 593-1 Locality and number of rock sample

Field work was carried out during April for two weeks. Primary access was via the paved road from Sentinel to Agua Caliente, which crosses the Gila River. Due to the excessive discharge at Painted Rock Dam and the consequent flooding downstream, the bridge across the Gila River was occasionally closed and limited access as a result.

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PREVIOUS INVESTIGATIONS

Previous geologic studies of the study area include reconnaissance surveys incorporated into State geologic maps by Wilson and others (1969) and Reynolds (1988).

GEOLOGIC SETTING

Face Mountain and Oatman Mountain lie within the Basin and Range physiographic province. Directly to the north is the heavily faulted Cortez Peak area in the Gila Bend Mountains (Gilbert and Skotnicki, 1993). Metamorphosed Proterozoic rocks and overlying Tertiary sedimentary and volcanic rocks have been deformed by middle-Tertiary high-angle normal faults south of Cortez Peak. Northeast of Face Mountain several smaller basalt mesas, including Yellow Medicine Butte, overlie older volcanic rocks and have not been affected by mid-Tertiary faulting. Ten miles to the east lies the basaltic center of the Bunyan Peak area, within the Woolsey Peak Wilderness Area (Peterson et al., 1989). To the southeast are the Painted Rock Mountains, which consist mostly of tilted intermediate to felsic volcanic rocks locally intruded by a granodiorite pluton and overlain by gently dipping basalt (Skotnicki, 1993). South of Oatman Mountain lies the aerially expansive basalts of the Sentinel Volcanic field, dated at 3.10 $\pm$ 0.90 m.y. south of Agua Caliente (Eberly and Stanley, 1978).

Face Mountain and Oatman Mountain are characterized by gently sloping, high-standing plateaus dissected by deep valleys with steep slopes. The slopes are mostly covered by talus deposits. Coarse alluvial fan deposits fill the valleys and form small aprons around the mountains. The fan deposits are better developed around Face Mountain. The bedrock is mostly late Tertiary basalt which has not been affected by faulting. A few debris flows are present on the steep western flanks of Face Mountain.

The only bedrock visible at Oatman Mountain is basalt. Numerous basalt flows are exposed in the cliffs near the highest peak. Well-bedded red breccia is exposed in the saddle adjacent to the highest peak. Well-sorted fluvial conglomerate exposed along the Gila River is locally overlain by Quaternary basalt which originated from two vents, on the north side of the river. The southernmost vent is a small cone, whereas the northern vent is a small crater containing a dome of basalt near the north rim.

Face Mountain is composed mostly of late Tertiary basalt, but there are exposures of conglomerate on the northwest side. The conglomerate beds dip about 45 degrees to the southwest and are interbedded with thin layers of basalt. The conglomerate contains up to 50% light pink rhyolite clasts and less abundant clasts of metaconglomerate, gray and green phyllite, and metamorphosed granite and granodiorite. The overlying capping basalt does not dip as steeply as the underlying conglomerate and basalt. Both the underlying basalt and capping basalt are interbedded with thin yellow tuff beds, typically less than 4 meters thick, some of which are shown on the map.

STRUCTURE

The few faults that are visible are exposed on the northwest side of Face Mountain. They are northwest-trending, steeply northeast-dipping normal faults. Most of the rocks at both mountains dip gently to the southwest. However, the rocks on the northeast side of Oatman Mountain dip to the northeast. These attitudes together with the exposures of red breccia in the saddle suggest that Oatman Mountain may have been a volcanic center.

MINERALIZATION

No mineralization nor prospects were visible. No production has been reported for the area (Keith et al., 1983).

REFERENCES

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