UNIVERSITY OF ARIZONA
ARIZONA BUREAU OF MINES
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GEOLOGIC MAP
OF
GRAHAM AND GREENLEE COUNTIES, ARIZONA

PREPARED BY THE

ARIZONA BUREAU OF MINES
UNIVERSITY OF ARIZONA
TUCSON, ARIZONA

BY

Eldred D. Wilson and Richard T. Moore, with additional data from
maps by W. Lindgren, J. M. Boutwell, J. R. Cooper, and
C. S. Bromfield, U.S. Geological Survey
Base materials furnished by U.S. Geological Survey

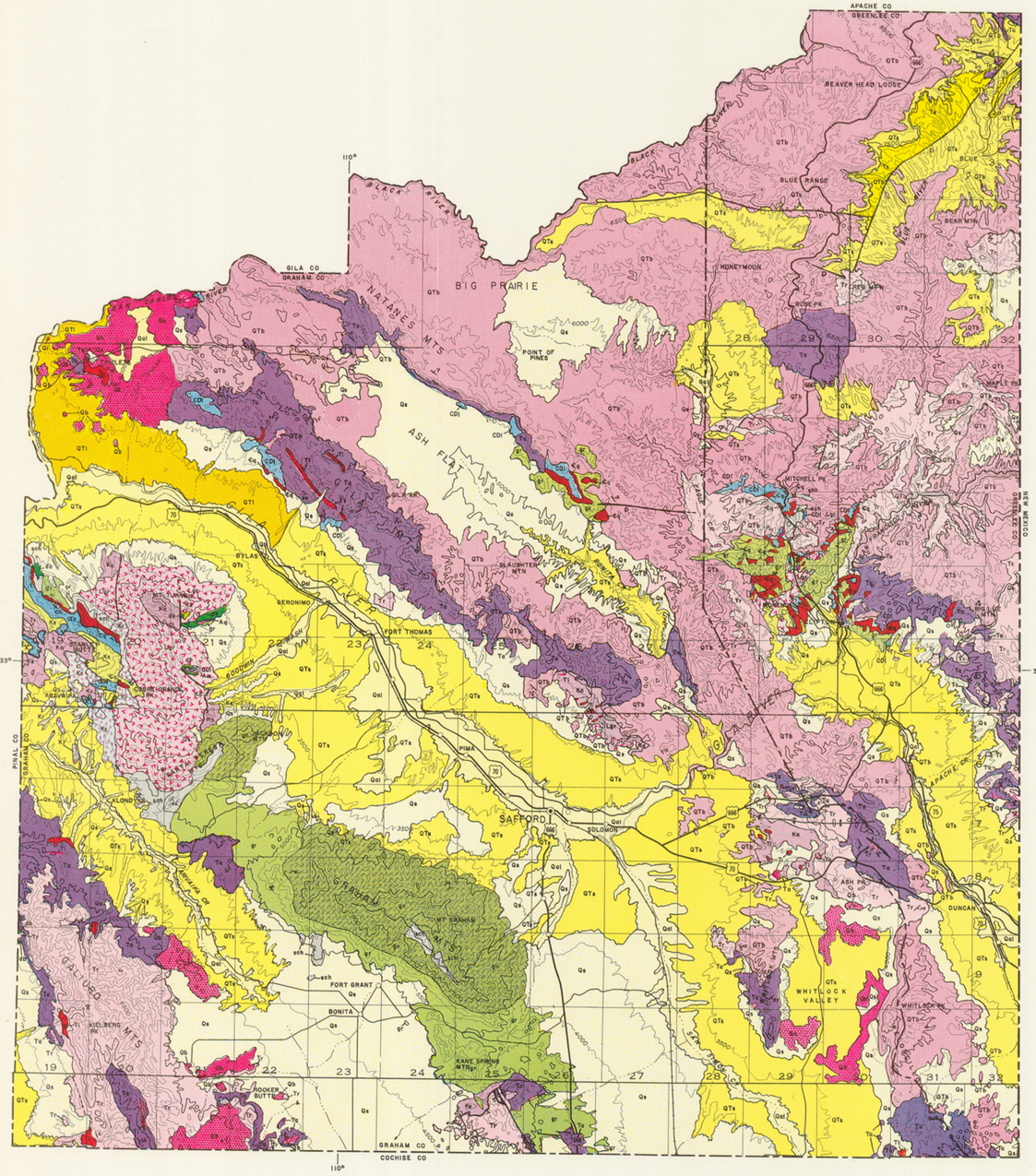
Scale $\frac{1}{375,000}$

10 0 10 20 30 Miles

10 0 10 20 30 Kilometers

Contour interval 500 feet
datum is mean sea level

1958



EXPLANATION

SEDIMENTARY ROCKS

Qal — **Alluvium**

Qs — **Gravel, sand, and silt**

QTs — **Silt, sand, and gravel.**

QTl — **Lake Deposits**
Siltstone, sandstone, and limestone.

Ts — **Sandstone and conglomerate**

Ks — **Sandstone, shale, and conglomerate**
Includes some volcanic rocks.

Cl — **Limestone**

Cq — **Quartzite**
Includes Ordovician limestone at Morenci.

Am — **Mescal limestone**
Locally includes lower Apache group.

Aq — **Lower Apache group**
Dripping Spring quartzite, Barnes conglomerate, Pioneer shale, and Scanlan conglomerate.

METAMORPHIC ROCKS

sch — **Schist**

gn — **Granite gneiss**

IGNEOUS ROCKS

Qb — **Basalt**
Locally includes tuff and agglomerate.

QTb — **Basalt**
Locally includes tuff and agglomerate.

Tr — **Rhyolite**
Includes tuff and agglomerate.

Granite and related crystalline intrusive rocks

Kg — **Andesite**
Flows, tuff, and agglomerate

gr — **Granite**

Qi — **Dikes and plugs**
Mainly basaltic in composition.

Ti — **Dikes and plugs**

Tu — **Andesite**
Includes tuff and agglomerate

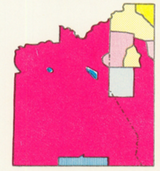
Diabase

Intrusive Rhyolite

QUATERNARY
TERTIARY
LARAMIDE
CRETACEOUS
CARBONIFEROUS AND DEVONIAN
CAMBRIAN
YOUNGER PRECAMBRIAN
OLDER PRECAMBRIAN

INDEX MAP OF ARIZONA
Showing location of Graham and Greenlee Counties

Map showing sources of geologic data.



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- W. Lindgren and J. M. Boutwell
- J. R. Cooper
- C. S. Bromfield

SYMBOLS

Fault
Dotted where concealed, dashed where inferred. D, *downthrown side.*

Thrust fault
T, *on upper plate*

Dip and strike

Anticline

Mine