U.S. DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY, PREPARED FOR

MINISTRY OF PETROLEUM AND MINERAL RESOURCES
DEPUTY MINISTRY FOR MINERAL RESOURCES

KINGDOM OF SAUDI ARABIA

OPEN-FILE REPORT 83-235
PLATE 1

Aerial photography 1955, controlled mosaic 1956
Aero Service Corporation, Philadelphia, Penn., U.S.A.

Geology mapped in February-April 1979, November 1980, and January and November 1981

This report has not been edited or reviewed for conformity with U.S. Geological Survey standards and nomenclature.

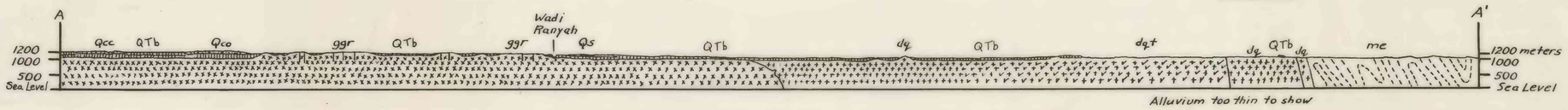
SCALE 1 : 100 000

2 0 2 4 6 8 10 KILOMETERS

2 0 2 4 6 8 10 MILES

TRUE NORTH

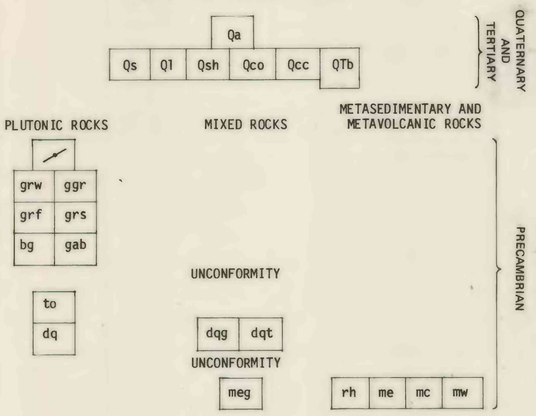
QUADRANGLE LOCATION



RECONNAISSANCE GEOLOGIC MAP OF THE AL UFAYRIYAH QUADRANGLE, SHEET 20/42 A, KINGDOM OF SAUDI ARABIA

by
Robert C. Greene,
1983

CORRELATION OF MAP UNITS



DESCRIPTION OF MAP UNITS

Qa	ALLUVIUM
Qs	SILT, SAND, AND GRAVEL
Ql	LAVA CONES--Small, irregular volcanoes; composed of basalt flows
Qsh	SHIELD VOLCANOES--Broad cones of low slope; composed of basalt flows
Qco	COMPOSITE CONES--Volcanoes composed of interlayered lavas and cinders
Qcc	CINDER CONES--Well-bedded, reddish-brown cinders dipping outward from a crater; welded spatter at top
QTb	BASALT FLOWS--Black, fresh, aphanitic to fine-grained alkali-olivine basalt; composed of plagioclase, clinopyroxene, olivine, opaque minerals, and glass
	META-ANDESITE DIKES
grw	MONZOGRANITE--Pink to greenish-gray, coarse-grained, equigranular; composed of potassium feldspar, quartz, and plagioclase with minor hornblende, biotite, and opaque minerals
ggr	GRAPHIC GRANITE AND RHYOLITE--Pink and gray, medium- to coarse-grained granite gradational with very fine grained rhyolite; composed of locally perthitic potassium feldspar, quartz, plagioclase, and minor hornblende, biotite, and opaque minerals with local alkali amphibole
grf	PERTHITE GRANITE, FINE-GRAINED--Reddish-brown; similar mineralogy to perthite granite of Jabal Suily
grs	PERTHITE GRANITE OF JABAL SUILY--Salmon-pink, medium- to very coarse grained; composed of cloudy perthitic potassium feldspar, quartz, sparse local plagioclase, minor hornblende, biotite, and local alkali amphibole
bg	BIOTITE GRANITE--Pink, coarse-grained; composed of perthitic potassium feldspar, quartz, plagioclase, biotite, and opaque minerals
gab	GABBRO--Black, coarse-grained melagabbro; composed of hornblende, clinopyroxene, hypersthene, plagioclase, and trace amounts of biotite and opaque minerals
to	TONALITE AND QUARTZ DIORITE--Light-gray to black and white, medium- to coarse-grained; composed of plagioclase, quartz, hornblende, and biotite with trace amounts of sphene and opaque minerals
dq	DIORITE AND QUARTZ DIORITE--Dark-gray to black and light-gray, fine- to coarse-grained, irregular texture; composed of plagioclase and hornblende with minor biotite, sphene, and opaque minerals; locally contains clinopyroxene or quartz; mafic minerals commonly altered to chlorite and epidote
dqg	DIORITE AND GRANITE--Diorite and quartz diorite unit mixed with graphic granite and rhyolite unit
dqt	DIORITE AND TONALITE--Diorite and quartz diorite unit mixed with tonalite and quartz diorite unit
meg	METAVOLCANIC ROCKS OF EASTERN BELT AND GRANITE--Metavolcanic rocks mixed with graphic granite and rhyolite unit
rh	RHYOLITE--Brownish- to greenish-gray, aphanitic; mostly extrusive with local ash-flow tuff
me	METAVOLCANIC AND METASEDIMENTARY ROCKS, EASTERN BELT--Meta-andesite, metabasalt, amphibolite, and tuffaceous sedimentary rocks; composed of plagiocalse, hornblende, quartz, epidote, chlorite, calcite, and opaque minerals
mc	METAVOLCANIC AND METASEDIMENTARY ROCKS, CENTRAL BELT--Flow, tuff, and bedded tuffaceous sedimentary rocks of andesitic composition; mostly composed of plagioclase, quartz, actinolite or hornblende, chlorite, epidote, and opaque minerals
mw	METAVOLCANIC ROCKS, WESTERN BELT--Medium- to dark-gray, aphanitic to fine-grained, locally porphyritic, metaandesite flow rock, tuff, and breccia

SYMBOLS

- CONTACT
- FAULT--Dashed where inferred; dotted where concealed
- TREND LINE--Strike of foliation or layering as observed on aerial photographs
- INTERMITTENT STREAM--In Wadi Ranyah, shown where channel consists entirely of bedrock
- 50 STRIKE AND DIP OF BEDS--Inclined
- STRIKE AND DIP OF FOLIATION
  - 35 Inclined
  - Vertical
- moas 0116 Au,Cu ANCIENT MINE--MODS number; type of mineral occurrence
- 341 VOLCANIC CRATER--Some breeched; identification number
- DIRECTION OF LAVA FLOW

This report is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards and stratigraphic nomenclature.