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 USGS 85-618
PLATE 1

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

Geology mapped in December, 1978; March 1979; May and November 1983.

TRUE NORTH

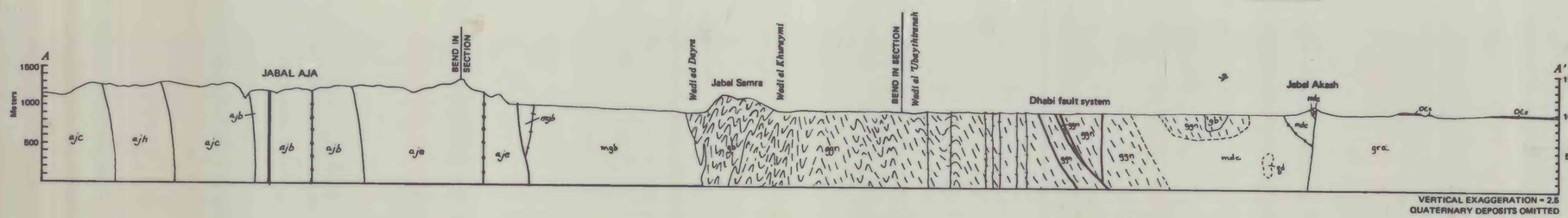
SCALE 1 : 100 000

2 0 2 4 6 8 10 KILOMETERS

2 0 2 4 6 8 10 MILES

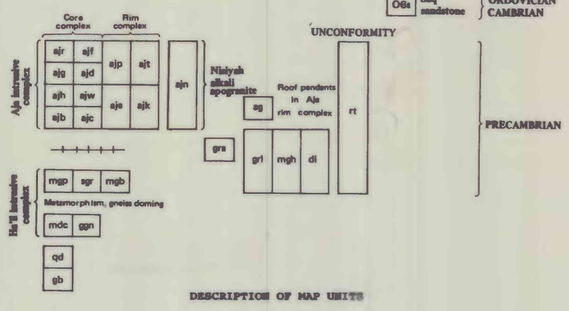
DATUM IS MEAN SEA LEVEL

QUADRANGLE LOCATION



VERTICAL EXAGGERATION = 2.5
QUATERNARY DEPOSITS OMITTED

CORRELATION OF MAP UNITS



DESCRIPTION OF MAP UNITS

INTRUSIVE ROCKS

AJA INTRUSIVE SUIT

- ajn — Nisiyah alkali apogranite - aegerine quartz-rich granitoid

JABAL AJA CORE COMPLEX:

- ajr — Rhyolite porphyry
- ajf — Alkali-feldspar microgranite
- ajg — Aegirine-arfvedsonite micrographic granite
- ajd — Granophyre dike
- ajh — Hornblende alkali-feldspar granite
- ajw — Hornblende granophyre
- ajb — Biotite alkali-feldspar granite
- ajc — Pink core granophyre--leucocratic biotite granophyre (alkali-feldspar micrographic granite)

JABAL AJA RIM COMPLEX:

- ajp — Porphyritic alkali granite
- ajt — Comendite porphyry
- aje — Afvedsonite-aegerine alkali granite
- ajk — Katophorite alkali granite

ROOF PENDANTS IN JABAL AJA RIM COMPLEX:

- rt — Rhyolite tuff
- ag — Alkali granite
- grl — Leucogranite
- mgh — Hornblende monzogranite
- di — Diabase

PERALKALINE GRANOPHYRE DIKES

- gra — AKASH GRANITE

HA'IL INTRUSIVE SUITE

- mgb — Biotite-sphene monzogranite
- sgr — Syenogranite
- mgp — Monzogranite porphyry
- mdc — Clotted granodiorite and monzogranite
- ggn — Granodiorite and monzogranite gneiss

- qd — QUARTZ DIORITE GNEISS
- gb — METAGABBRO

SEDIMENTS, SEDIMENTARY AND VOLCANIC ROCKS

- Qal — PREDOMINANTLY ALLUVIAL DEPOSITS
- Qd — DUNE DEPOSITS
- Qp — PLAYA DEPOSITS
- Tba — OLIVINE BASALT
- DSOt — TABUK FORMATION--Mostly brown, massively cross-bedded sandstone
- OGs — SAQ SANDSTONE

SYMBOLS

- CONTACT--Dashed where approximately located, dotted where concealed; dip indicated
- FAULT--Dashed where approximately located, dotted where concealed; arrows show direction of apparent relative motion; dip indicated
- TREND LINE--Interpreted from aerial photographs, represents strike of cataclastic or metamophic foliation, cleavage, fault, or combination of these structures

STRIKE AND DIP OF BEDS

- 70 — Inclined--Showing dip

STRIKE AND DIP OF FOLIATION

- Inclined--Showing dip
- Vertical
- 80 — Inclined--Parallel to fracture cleavage
- Vertical--Parallel to fracture cleavage
- 30 — Inclined--Showing plunge of cataclastic or mineral lineation
- 10 — CATACLASTIC OR MINERAL LINEATION, showing bearing and plunge

STRIKE AND DIP OF FRACTURE CLEAVAGE

- 80 — Inclined
- Vertical

- SILICIFIED BRECCIA ZONE ALONG FAULT
- 128258 — SAMPLE LOCALITY--Showing six digit sample number or last 3 digits of 204 series.
- 840 × — ELEVATION--In meters
- VILLAGE OR TOWN
- ROADS

RECONNAISSANCE GEOLOGIC MAP OF THE HA'IL QUADRANGLE, SHEET 27/41 B, KINGDOM OF SAUDI ARABIA

by
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1985

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