MINISTRY OF PETROLEUM AND MINERAL RESOURCES
DIRECTORATE GENERAL OF MINERAL RESOURCES

KINGDOM OF SAUDI ARABIA

EXPLANATION

CORRELATION OF MAP UNITS

INTRUSIVE ROCKS

SEDIMENTARY, VOLCANIC AND METAMORPHIC ROCKS

Qes | Qal | Qsb | Qu — QUATERNARY

Unconformity

PK | PW — PALEOZOIC (PERMIAN)

Unconformity

sr

mu

mu

Unconformity

su

su

Unconformity

hgs

hp

hp

ha

Unconformity

PRECAMBRIAN

+mg+ / gm / d2 | gb2

gn | d1 | gb1

ub

DESCRIPTION OF MAP UNITS

+mg+ — Red porphyritic alkalic microgranite: mg

gm — Alkalic to calc-alkalic granite: g, gd, with am, d, gb as xenoliths

d2 — Diorite: d

gb2 — Gabbro: gb

gn — Calc-alkalic granite: g, gd, gs

d1 — Diorite: d, md, gd

gb1 — Gabbro: gb, py

ub — OPHIOLITIC Complex: s, p, py, gb, d, k, with marble from ultramafic rocks, some associated cherts

Qes — Eolian sand, mobile in dunes

Qal — Wadi alluvium, alluvial and eolian sand

Qsb — Sabkhah deposit

Qu — Unconsolidated surficial gravel, sand and silt

Unconformity

PK — KHUFF Formation

PW — WAJID Sandstone: cg, sd

Unconformity

sr — SHAMMAR Rhyolite Formation: r, ig, mg, rt, rb

mu — Metamorphosed MURDAMAH Formation: sc

mu — MURDAMAH Formation: cg, gw, vs, sd, sc, st

Unconformity

su — Metamorphosed UMM SULAYM Formation: gsq, gsa, am, sk

su — UMM SULAYM Formation (sedimentary rock passing to metamorphic facies to the west): m, cg, sd, gw, ct, t

Unconformity

hgs — HALABAN Gneiss Formation: gsq, gsa, am

hp — Metamorphosed Pyroclastic HALABAN Formation: rt, r, ig, gsq, gsa, gsb

hp — Pyroclastic HALABAN Formation, passing to metamorphic facies to the northwest: rt, rb, ig, at, ab, da

ha — Andesitic HALABAN Formation: a, at, md, ig, r

ROCK SYMBOLS

a	Andesite	gd	Granodiorite	py	Pyroxenite
ab	Andesitic breccia	gs	Migmatite gneiss	r	Rhyolite
am	Amphibolite	gsa	Amphibole gneiss	rb	Rhyolitic breccia
at	Andesitic tuff	gsb	Biotite gneiss	rt	Rhyolitic tuff
ch	Chert	gsq	Leucocratic gneiss	s	Serpentinite
cg	Conglomerate	gw	Graywacke	sc	Sericite and chlorite schist
ct	Calcareous tuffite	ig	Ignimbrite	sd	Sandstone, feldspathic sandstone
d	Diorite	k	Keratophyre	sk	Skarn
da	Dacite	m	Marble	st	Siltstone
db	Diabase	md	Microdiorite	t	Tuffite
g	Granite	mg	Microgranite	vs	Sandstone with volcanic fragments
gb	Gabbro	p	Peridotite		

MAP SYMBOLS

Silicic dike; Mafic dike; Undifferentiated dike; Quartz vein

Geologic contact observed, inferred

Fault observed, inferred (from photogeology)

Fault showing relative horizontal movement (U: upthrown side; D: downthrown side)

Anticline showing crestline and direction of plunge

Syncline showing troughline and direction of plunge

Strike and dip (in degrees) of bedding

Strike of vertical bedding

Strike and dip (in degrees) of foliation showing plunge of lineation

Strike of vertical foliation

Trend lines from aerial photographs: strike and direction of dip of bedding and foliation

Shear zone

Unpaved road

Water well (Bi'r)

Cuesta (in Paleozoic Formations)

A — A' Interpretative cross section

MINERAL OCCURRENCE

Au — Gold with subordinate silver, lead and copper

He — Hematite

Mg — Magnesite

Ancient mine or prospect

Photomosaic 131 West

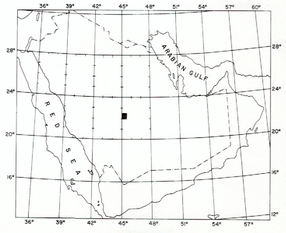
45°00' 46°00' 23°00' 22°00'

A | B | C | D

Quadrangle 22/45 C
UMM SULAYM

Geologist: R. BROSSET

B.R.G.M. Report 74 JED 9 – Appendix 1



INDEX MAP



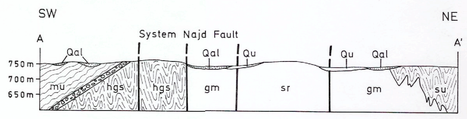
Aerial photography 1956 and controlled mosaic 1959
Aero Service Corporation, Philadelphia Penn., U.S.A

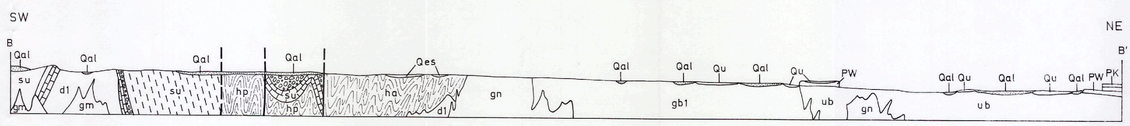
SCALE 1:100 000

2 0 2 4 6 8 10 KILOMETERS

2 0 2 4 6 8 10 MILES

Geology mapped by R. Brosset





GEOLOGIC MAP AND SECTIONS OF THE UMM SULAYM QUADRANGLE (22/45C)

1973