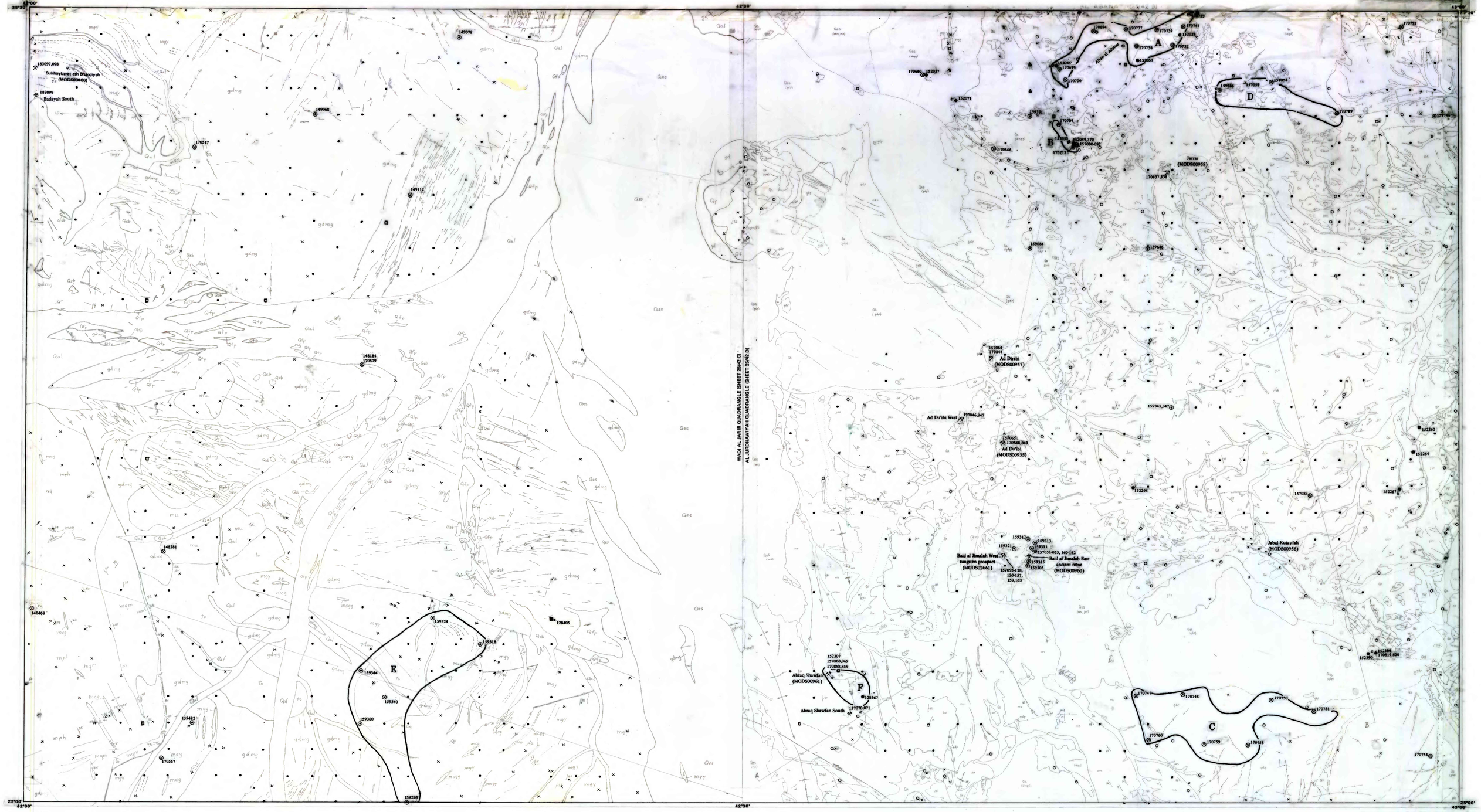
DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

KINGDOM OF SAUDI ARABIA

U.S. Geological Survey
OPEN-FILE REPORT 83-368

WADI AL JARIR QUADRANGLE (SHEET 25/42 C)
AL JURDHAWIYAH QUADRANGLE (SHEET 25/42 D)



Geology as mapped by Cole (sheet 25/42 D, 1981) and Young (sheet 25/42 C, 1982).

SCALE 1 : 100 000

2 0 2 4 6 8 10 KILOMETERS

2 0 2 4 6 8 10 MILES

TRUE NORTH

QUADRANGLE LOCATION

DESCRIPTION OF MAP UNITS

WADI AL JARIR QUADRANGLE
(Adapted from Young, 1982)

SEDIMENTS, METASEDIMENTARY ROCKS, AND METAVOLCANIC ROCKS

- Qes — Eolian sand and silt
- Qeb — Sabkhah deposits
- Qal — Alluvial sand, silt, and gravel
- Qf — Alluvial fan deposits
- Qfp — Wadi floodplain deposits
- Ju — Al Jurdhawiyah group undivided--Includes coarse volcaniclastic conglomerate and locally voluminous andesitic to rhyodacitic extrusive and pyroclastic rocks

Murdama group

- mgy — Graywacke and argillite
- mm — White marble
- mqm — Quartzose marble
- mph — Phyllite
- mu — Murdama group undivided

INTRUSIVE ROCKS

- gd — Granodiorite
- Felsic rocks in dikes
- Intermediate rocks in dikes
- Mafic rocks in dikes
- Rocks of unspecified composition in dikes
- c — Composite dikes
- gdmg — Granodiorite-monzogranite complex
- to — Tonalite
- Andesite porphyry

AL JURDHAWIYAH QUADRANGLE
(Adapted from Cole, 1981)

SEDIMENTS, METASEDIMENTARY ROCKS, AND METAVOLCANIC ROCKS

- Qs — Saline deposit
- Qes — Eolian sand and silt
- Qa — Alluvial and colluvial gravel, sand, and silt
- Qao — Older alluvial gravel, sand, and silt

Al Jurdhawiyah group

- jau — Upper andesite
- jcv — Volcanic conglomerate
- jam — Middle andesite
- jtb — Tuff breccia
- js — Sandstone and siltstone; ∞∞∞ , polymictic boulder conglomerate
- jal — Lower andesite

Murdama group

- mm — Marble
- ms — Metasiltstone and metasandstone

INTRUSIVE ROCKS

- rp — Rhyolite porphyry
- apg — Arfvedsonite perthite granite
- pg — Biotite- and hornblende-bearing perthite granite
- gdp — Granodiorite porphyry
- Hornblende quartz monzodiorite dikes
- Hornblende-magnetite quartz latite(?) dikes
- hqmp — Hornblende quartz monzonite dikes
- bhgg — Biotite-hornblende granodiorite granophyre
- mag — Microcline-albite granite
- Augite andesite porphyry
- gbn — Gabbro norite and olivine gabbro
- dr — Augite diorite
- rdp — Hornblende rhyodacite porphyry
- Porphyritic rocks in dikes and plugs--Plugs (but not dikes) labeled as follows:
  - pp — Plagioclase-bearing porphyry
  - mdp — Hornblende-pyroxene monzodiorite porphyry
  - grdp — Garnet-bearing rhyodacite porphyry
- bhqd — Biotite-hornblende quartz diorite--Intruded by:
  - Augite quartz monzodiorite dikes
- mdb — Microdiabase sill/flow
- pgh — Perthite granophyre

Ad Dawadimi batholith

- Dikes in older granitoids
  - Biotite monzogranite porphyry to granite porphyry
  - Subporphyritic andesite
- bmg — Biotite monzogranite
- bhgd — Biotite-hornblende granodiorite
- bht — Biotite-hornblende tonalite

- Contact, showing dip; dashed where approximately located; dotted where concealed
- Contact, concealed but inferred from airborne magnetic survey
- Fault, bar and ball on downthrown side
- Fault, showing relative horizontal movement, approximately located; dotted where concealed
- Trend lines--Average trend of layering in Murdama group rocks
- Anticline, showing trace of crestal plane and direction of plunge; dotted where concealed
- Syncline, showing trace of trough plane and direction of plunge; dotted where concealed
- Fold of undetermined facing, showing sense of closure; dotted where concealed

Strike and dip of beds

- Inclined
- Inclined, showing dip
- Vertical
- Inclined, tops of beds known from sedimentary features
- Strike and dip of primary igneous foliation

Strike and dip of foliation

- Inclined mineral schistosity
- Vertical mineral schistosity
- Strike and dip of fracture cleavage
- Inclined
- Vertical
- Brecciated quartz vein
- A — Potentially favorable mineral resource area
- Heavy-mineral concentrate; 159-series (collected by Samater, 1982)
- Anomalous heavy-mineral concentrate
- Heavy-mineral concentrate; 129-series (collected by Elliott, written commun., 1981)
- Rock sample; 128-series (collected by Stoeser, written commun., 1981)
- Anomalous rock sample
- Rock sample; 148-, 157-, 170-series (148-series collected by Young, 1982; 157- and 170-series collected in the present study)
- Anomalous rock sample
- Rock sample; 152-series (collected by Cole, 1981)
- Anomalous rock sample
- MODS 02661 — Mineral prospect or ancient mine with MODS locality number

MAP SHOWING AREAS OF MINERAL POTENTIAL, WADI AL JARIR AND AL JURDHAWIYAH QUADRANGLES, SHEETS 25/42 C AND 25/42 D, KINGDOM OF SAUDI ARABIA

Compiled by
Michael D. Fenton

1983

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