

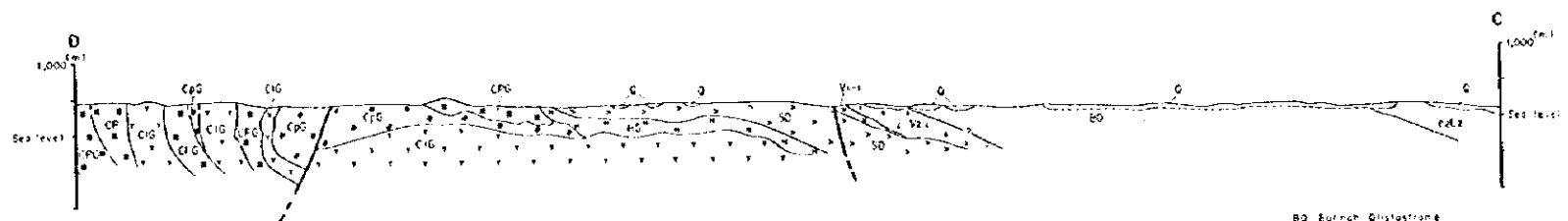
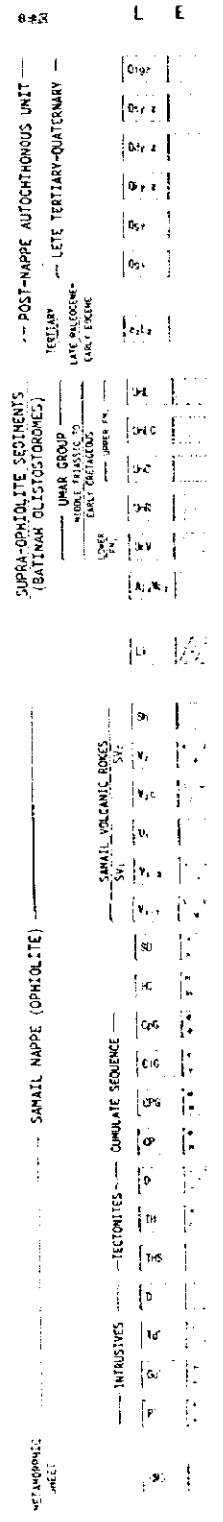
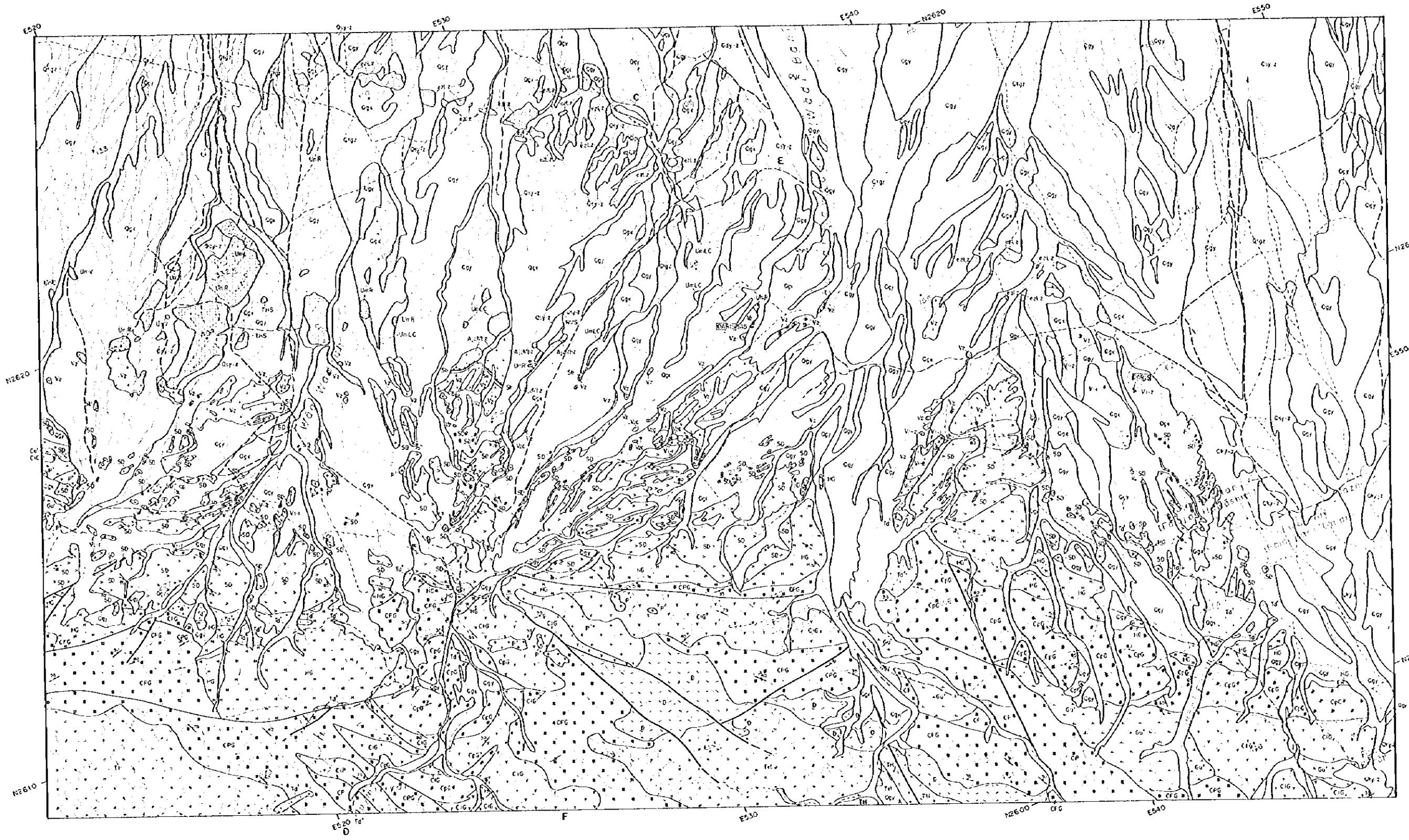
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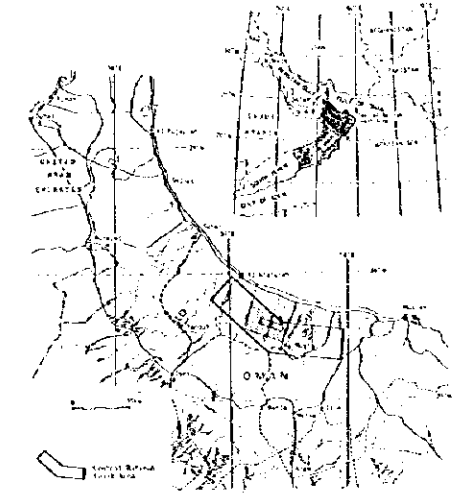






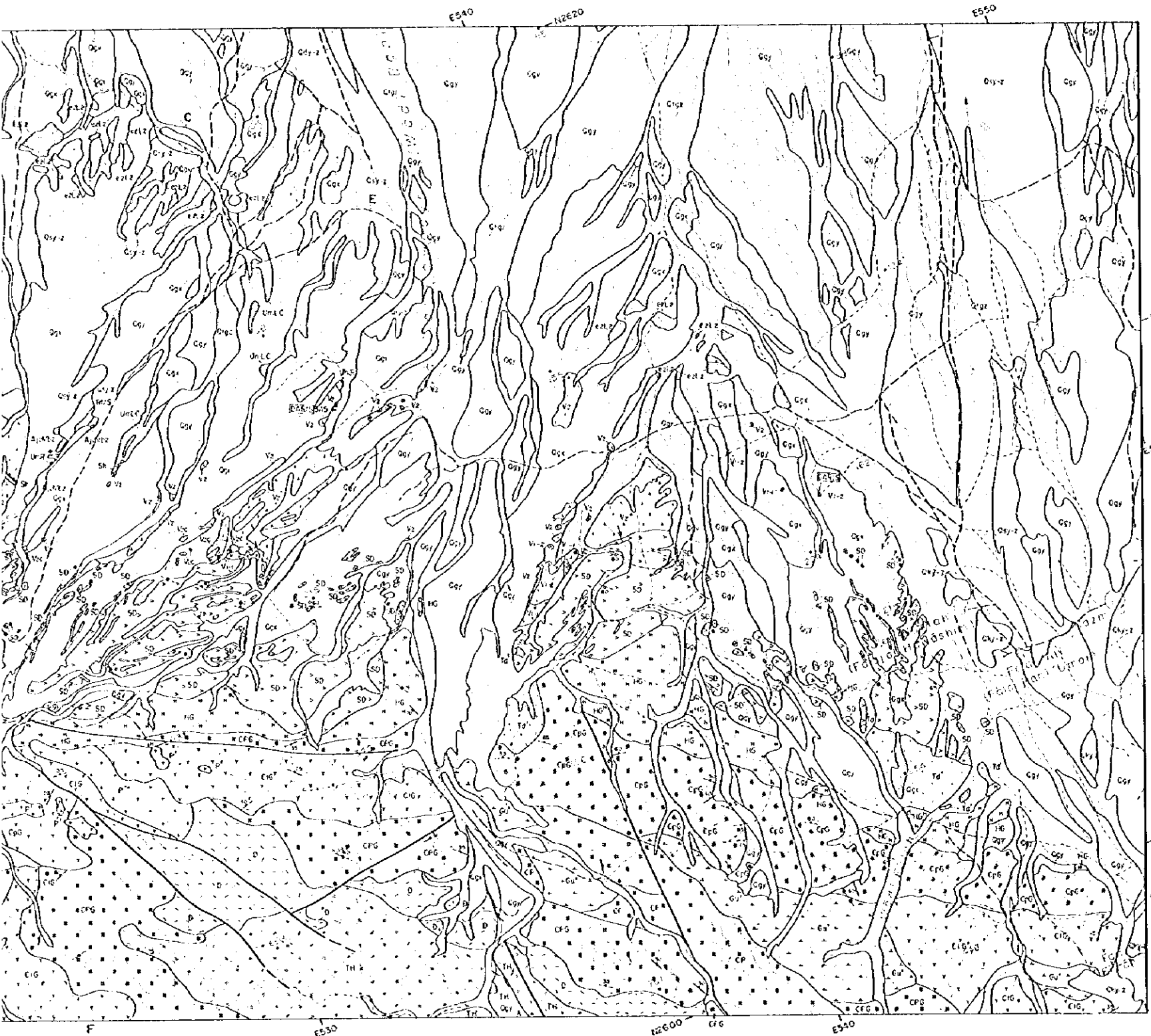
B9 Batinak Olistostrome

REPORT ON THE MINERAL EXPLORATION  
IN  
THE CENTRAL BATINAH COAST AREA, SULTANATE OF OMAN  
PHASE I  
  
GEOLOGIC MAP OF AREA B  
AND PROFILE



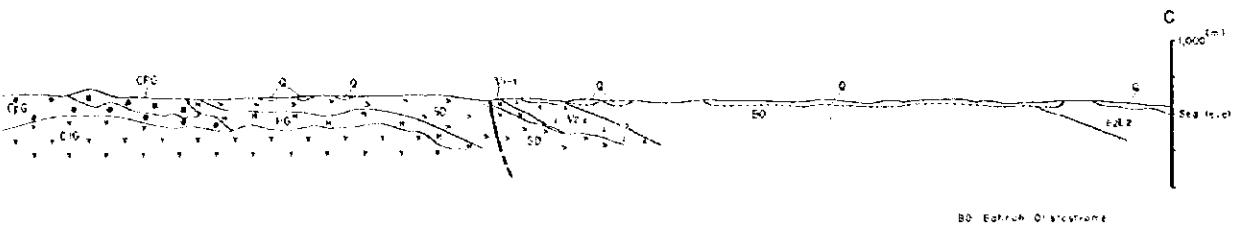
JAPAN INTERNATIONAL COOPERATION AGENCY  
METAL MINING AGENCY OF JAPAN  
MARCH, 1976

Scale 1 : 50,000

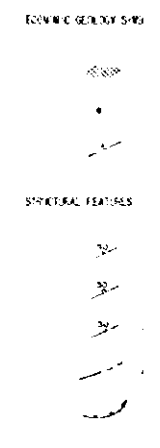
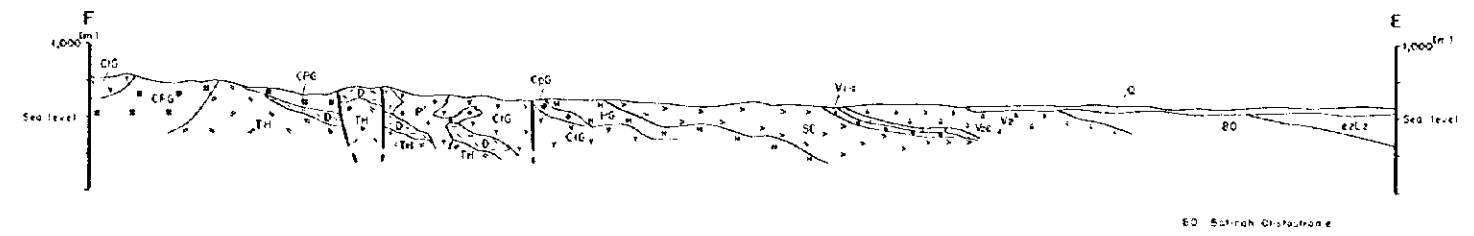
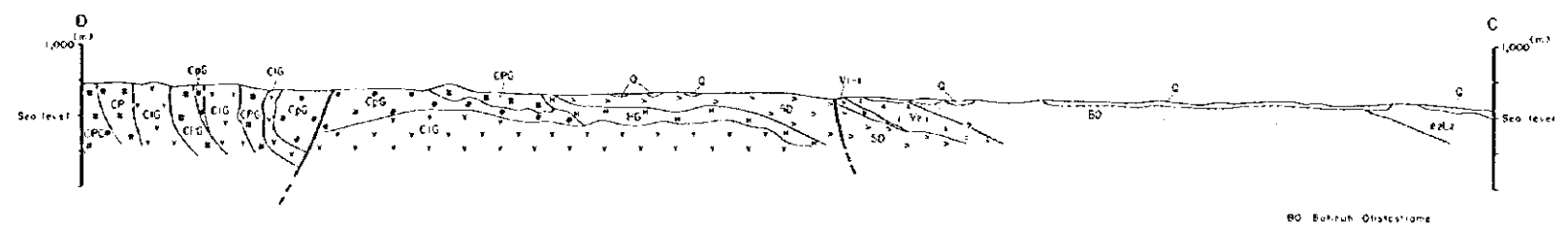
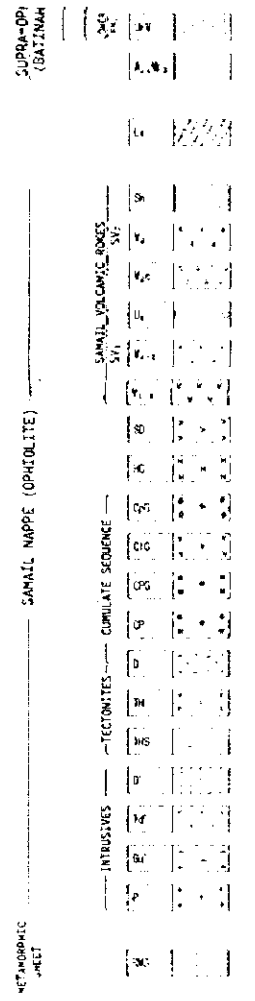
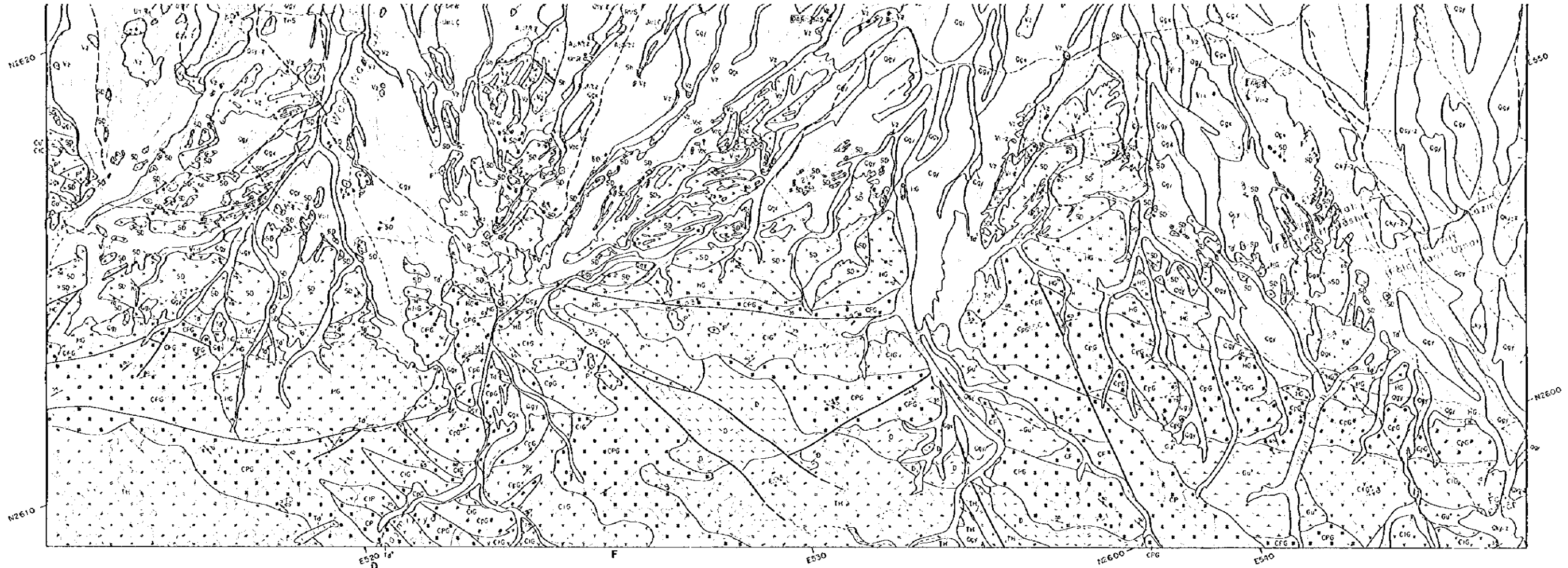


**LEGEND**

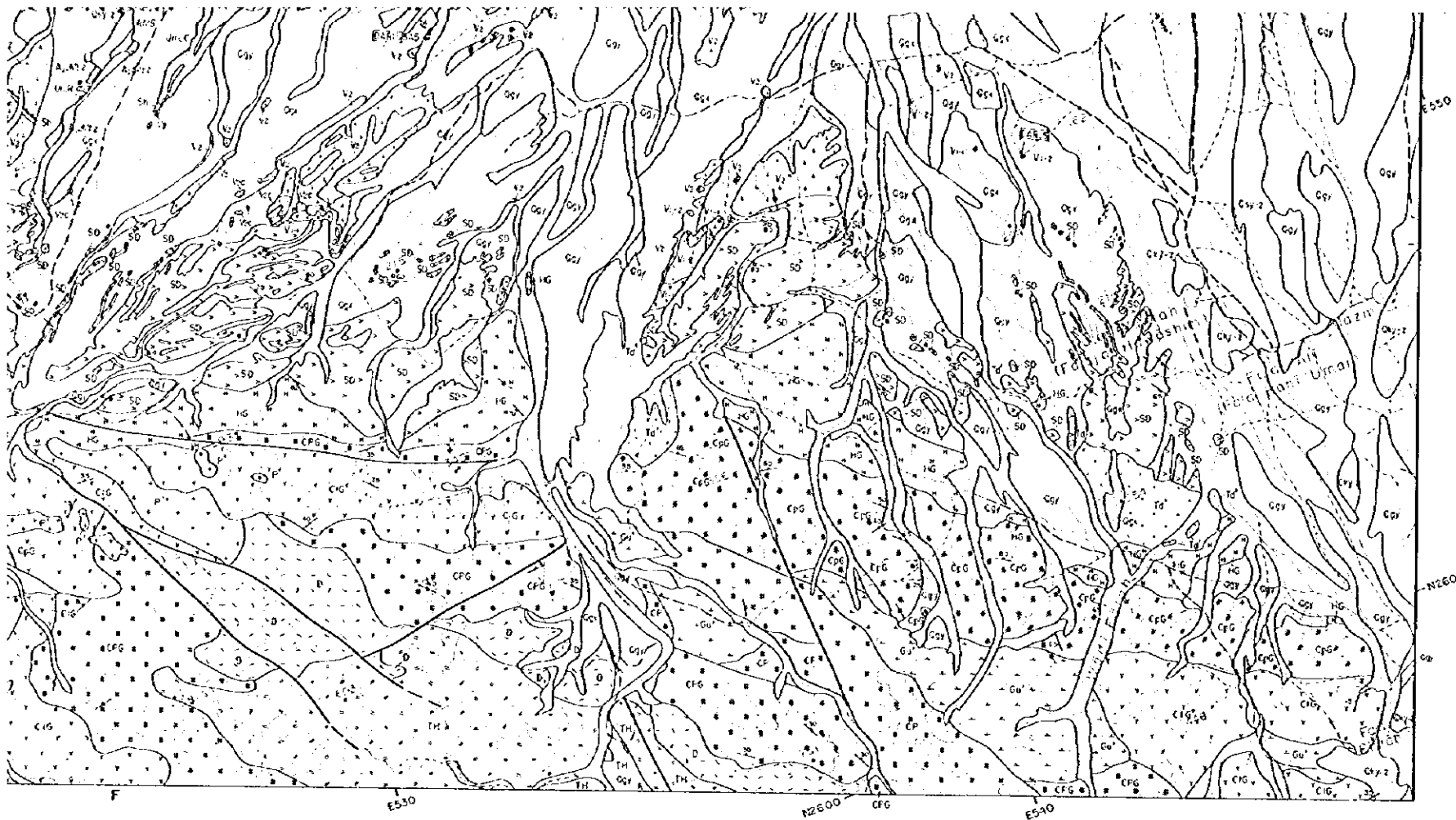
—	POST-MAPPE AUTOCHTHONOUS UNIT	Qr1z	Recent alluvial fans and alluvium
- - -	TERTIARY	Qr2z	Coating of Recent or sub-Recent eolian sand
- - -	LATE TERTIARY-QUATERNARY	Qs1z	Eolian sand, Recent or sub-Recent dunes
- - -	LATE PLEISTOCENE	Qr3z	Shallow depression with Recent or sub-Recent clay and silt
- - -	EARLY PLEISTOCENE	Qr4z	Sub-Recent alluvial fan terraces
- - -		Qr5z	Recent alluvial fans, terraces
- - -		Qr6z	Upper eolian fan terrace
—	SUPRA-OPHIOLITE SEDIMENTS (BATINAH OLIGOSTRONES)	U1	White massive sparry limestone with chert
—		U2C	Fine to thick bedded micritic limestone, chert, chert nodules
—		U3C	Red radiolarian chert, micritic limestone
—		U4	Disconformity of reef limestone
—		U5	Undifferentiated Tertiary volcanic rocks
—		A1, A2	Radiolarian chert, siltstone and sandstone
—		L1	Limestone
—		S1	Sabiyah Formation, red radiolarian chert shale
—		V1	Middle extrusives basaltic to andesitic pillow lava and massive lava with two pyroxene
—		V2C	Volcanic conglomerate or breccia, rock fragments composed of SD, V1, V2, and so on
—		U1	Upper or meta-igneous sediments with radiolarian chert
—		V2z	Lower extrusives basaltic pillow lava with small pillow lava and massive lava
—		V2	Lower extrusives basaltic pillow lava composed of big size pillow lava
—		SD	Sheeted dike, dioritic and basaltic dike
—		HG	High level gabbro
—		CG1	Columnar planar laminated gabbro
—		CG2	Columnar layered gabbro
—		CG3	Columnar interlayered gabbro
—		CP	Columnar peridotite
—		D	Dunite undifferentiated
—		TH	Thornburgite with minor dunite and thornite
—		THS	Serpentinized thornburgite with minor dunite
—		D	Dolerite dike 3N
—		Td	Trondhjemite or quartz diorite
—		G1	Quartzitic gabbro diorite and quartz diorite
—		G2	Phyllo-trachyte, plagioclase bearing diorite and orthite bearing pyroxenite
—		DC	Mylonitites
—			MINERAL SHOWINGS
•••••			Big organized mineral showing
•			Small organized mineral showing and rare mineral showing
—			Dunite vein and network
—			STRUCTURAL FEATURES
↗			Strike and dip of bedding
↘			Strike and dip of dikes and sills
↖			Strike and dip of faulting



C Geologic Profile







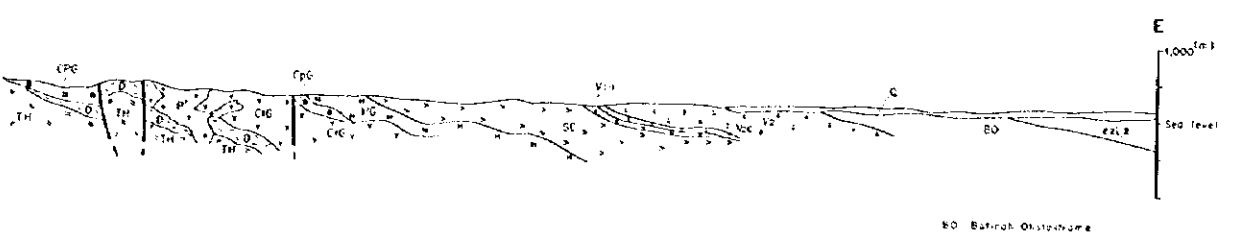
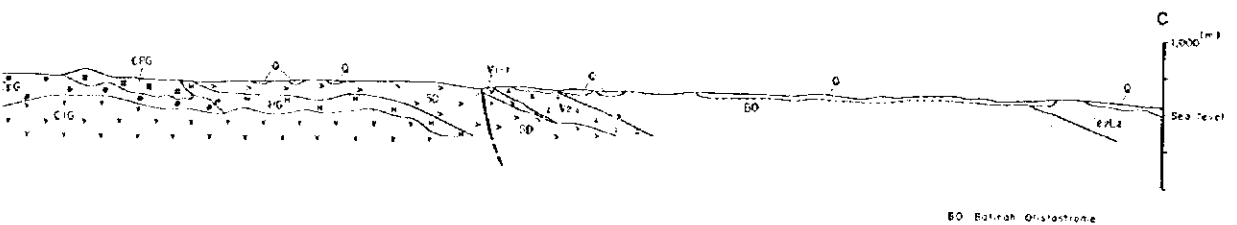
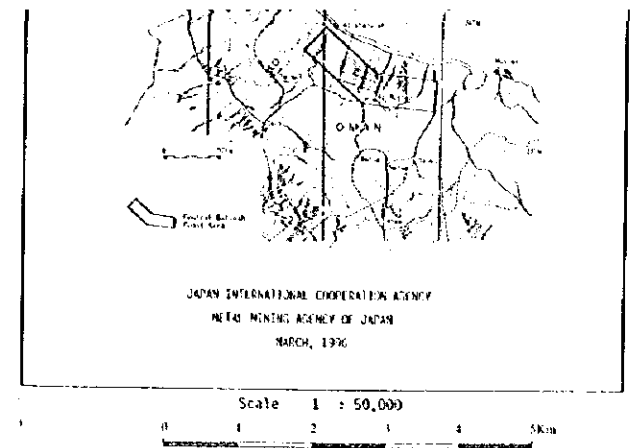
HEMISPHERIC SHEET

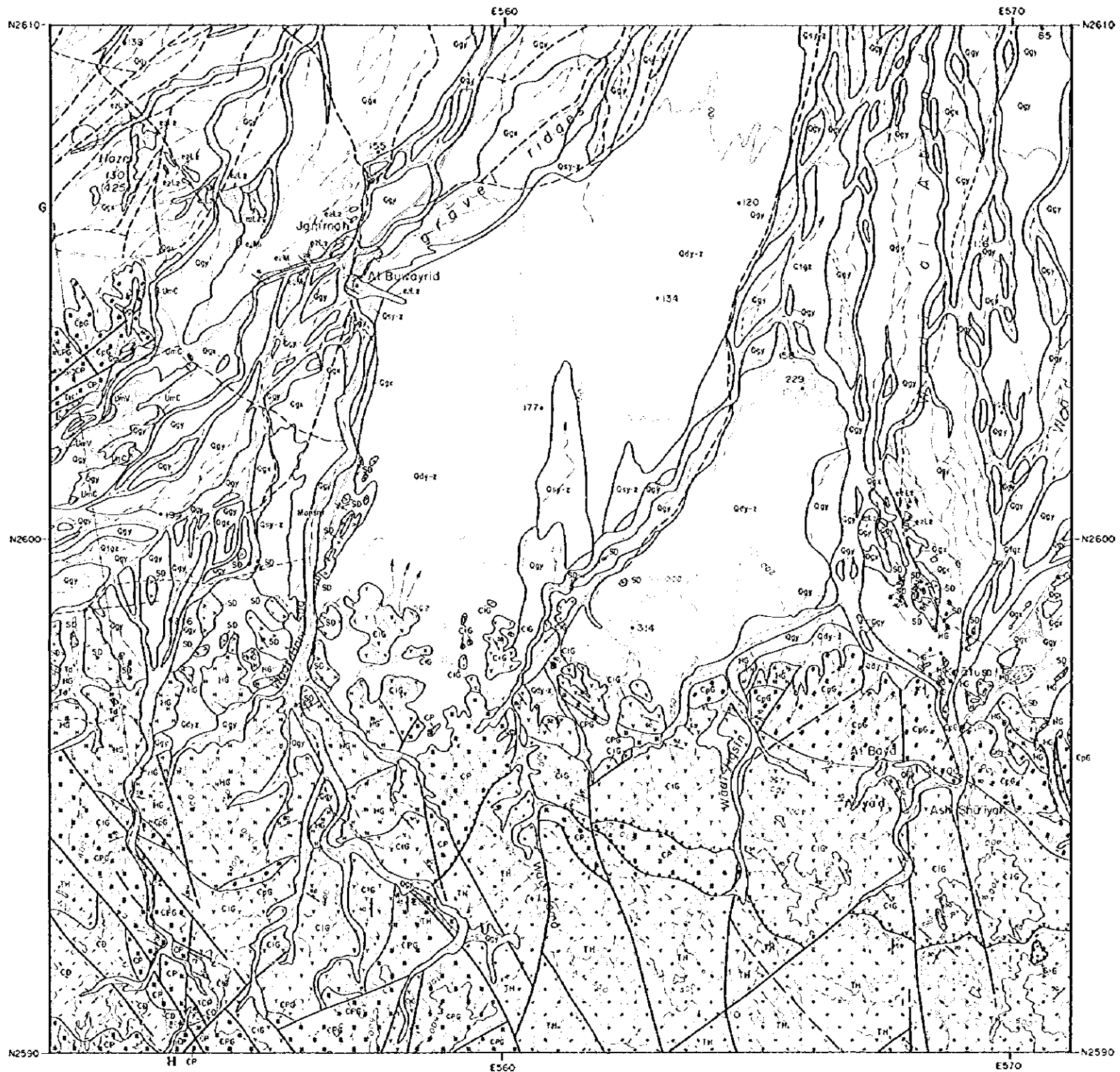
SINAI MAPPE (OPHIOLITE)

SUBRA-DONYI (BATIRAH O)

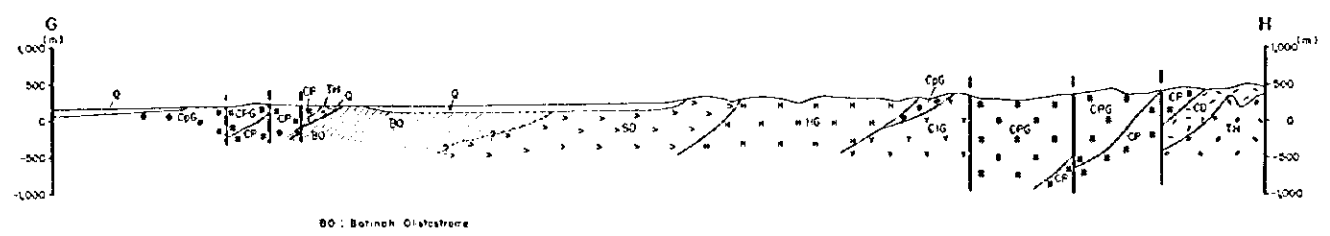
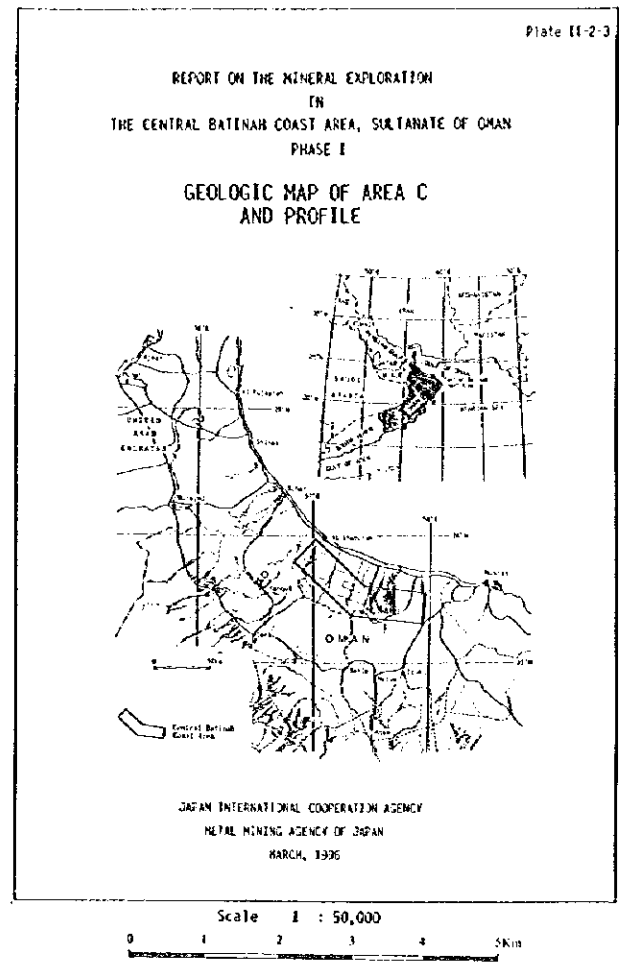
U	Unstratified rock structure
V	Differentiated basic volcanic rocks
A, A <sub>1</sub>	Radiolarian chert structure and sandstone
St	Basaltite
Sh	Sabayah Formation red radiolarian chert shale
V <sub>1</sub>	1. Side extrusions basaltic to andesitic pillow lava and massive lava with two pyroclasts
V <sub>2</sub>	Volcanic conglomerate or breccia, tuffaceous rocks composed of SO <sub>1</sub> , V <sub>1</sub> , V <sub>2</sub> and to on
B	Dolerite or mafic igneous sediments with radiolarian chert
V <sub>3</sub>	2. Large extrusions basaltic pillow lava with small pillow lava and andesite lava
V <sub>4</sub>	3. Even extrusions basaltic pillow lava composed of big size pillow lava
D	Stepped dyke, doleritic and basaltic dyke
H	High level gabbro
CpG	Columnar gabbro
C <sub>1</sub> G	Columnar layered gabbro
C <sub>2</sub> G	Columnar interlayered gabbro
C <sub>3</sub> G	Columnar peridotite
B	Basaltic and tholeiitic
H	Hornblende and clinopyroxene
HS	Serpentinized hornblende and clinopyroxene
D	Dolerite dike SW
Td	Trondhjemite or quartz diorite
Gd	Gabbroic gabbro diorite and quartz diorite
P	Phylite, trondhjemite plagioclase bearing diorite and of trondhjemite bearing pyroxenite
PM	Basaltic units

- ECONOMIC DEPOSIT SYMBOLS**
- Big granitized mineral showing
  - Small granitized mineral showing and mine of mineral showing
  - Dolerite vein and network
- STRUCTURAL FEATURES**
- Strike and dip of bedding
  - Strike and dip of dykes and sills
  - Strike and dip of layering
  - Fault, dashed where inferred or concealed
  - Thrust fault, see teeth showing dip

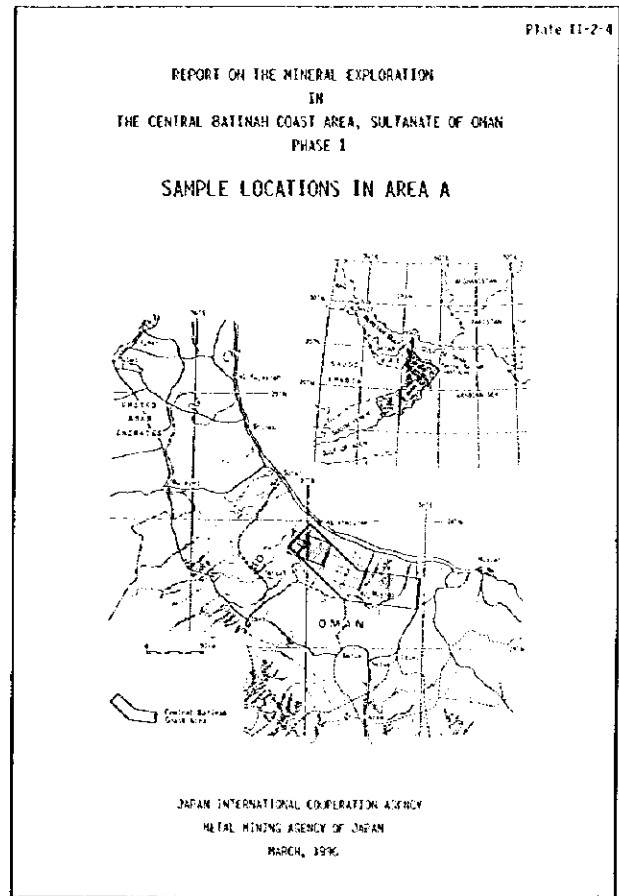
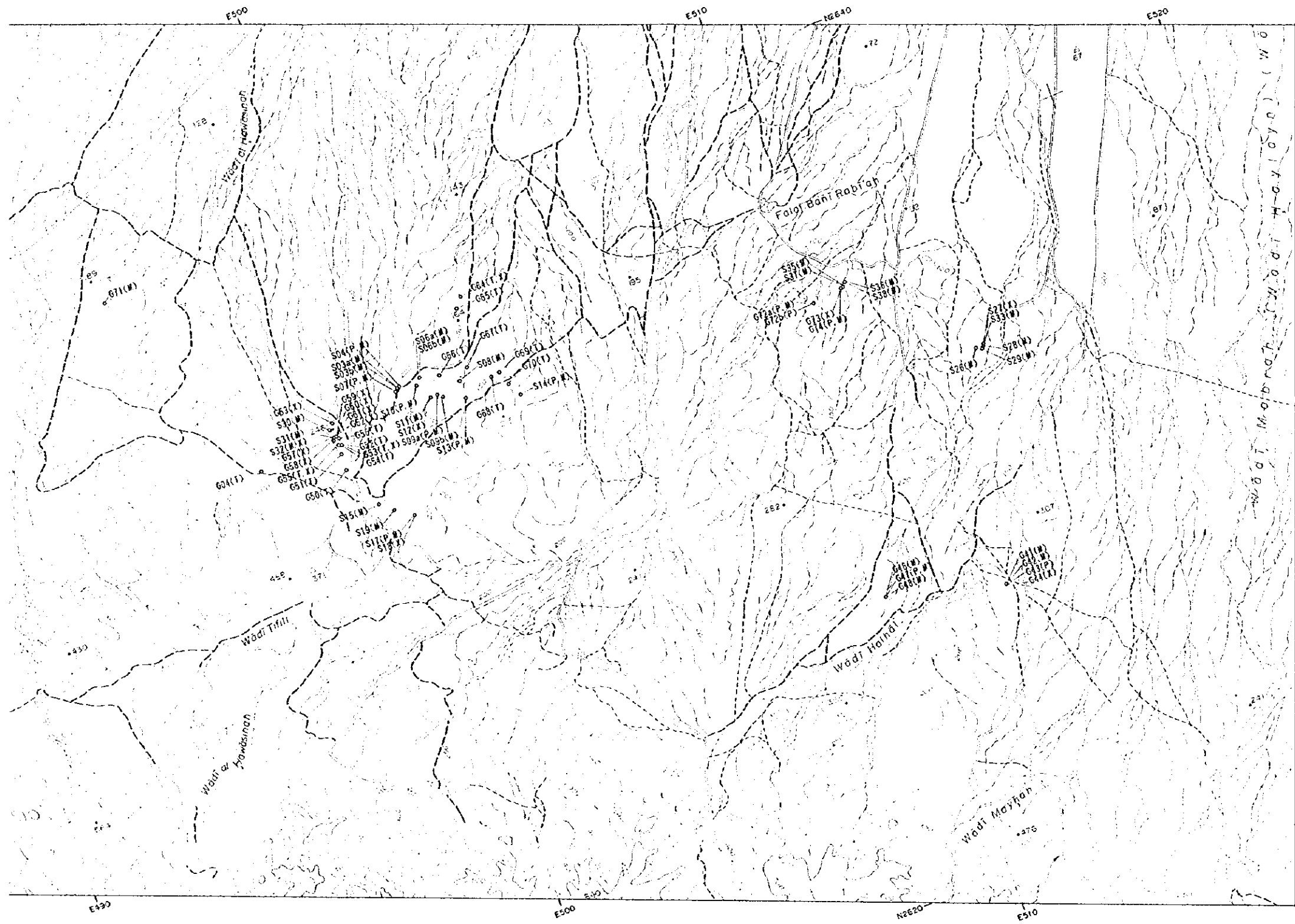




- LEGEND**
- POST-NAPPE AUTOCHTHONOUS UNIT**
- Q<sub>1</sub> Recent alluvial fans and alluvium
  - Q<sub>2</sub> Coating of Recent or s.l. Recent eolian sand
  - Q<sub>3</sub> Eolian sand, Recent or s.l. Recent dunes
  - Q<sub>4</sub> Shagra depression with Recent or s.l. Recent clay and silt
  - Q<sub>5</sub> S.l. Recent alluvial fans terraces
  - Q<sub>6</sub> Ancient alluvial fans terraces
- TERTIARY (BATINAH OLIGOSTOMES)**
- L<sub>1</sub> Upper nodular limestone
  - L<sub>2</sub> Yellow mark with large foraminifera
  - L<sub>3</sub> Red radiolarian diatomitic limestone
  - L<sub>4</sub> Undifferentiated Triassic volcanic rocks
- QUATERNARY (BATINAH OLIGOSTOMES)**
- Q<sub>1</sub> Sheeted dikes, dioritic and basaltic dikes
  - Q<sub>2</sub> High level gabbro
  - Q<sub>3</sub> Cumulate planar laminated gabbro
  - Q<sub>4</sub> Cumulate layered gabbro
  - Q<sub>5</sub> Cumulate interlayered gabbro
  - Q<sub>6</sub> Cumulate peridotite
  - Q<sub>7</sub> CO cumulate dunite
  - Q<sub>8</sub> Harzburgite with minor dunite and theralite
  - Q<sub>9</sub> Dioritic dikes 30%
  - Q<sub>10</sub> Trondhjemite or quartz diorite
  - Q<sub>11</sub> White trondhjemite plagioclase bearing diorite and orthopyroxene bearing peridotite
- TECTONITES - CUMULATE SEQUENCE**
- INTRUSIVES**
- ECONOMIC GEOLOGY SYMBOLS**
- Big gossitized mineral showing
  - Small gossitized mineral showing and rare of mineral showing
  - Quartz vein and network
- STRUCTURAL FEATURES**
- Strike and dip of bedding
  - Strike and dip of dikes and sills
  - Strike and dip of layering
  - Fault, divided where inferred or concealed
  - Thrust fault, see track showing dip



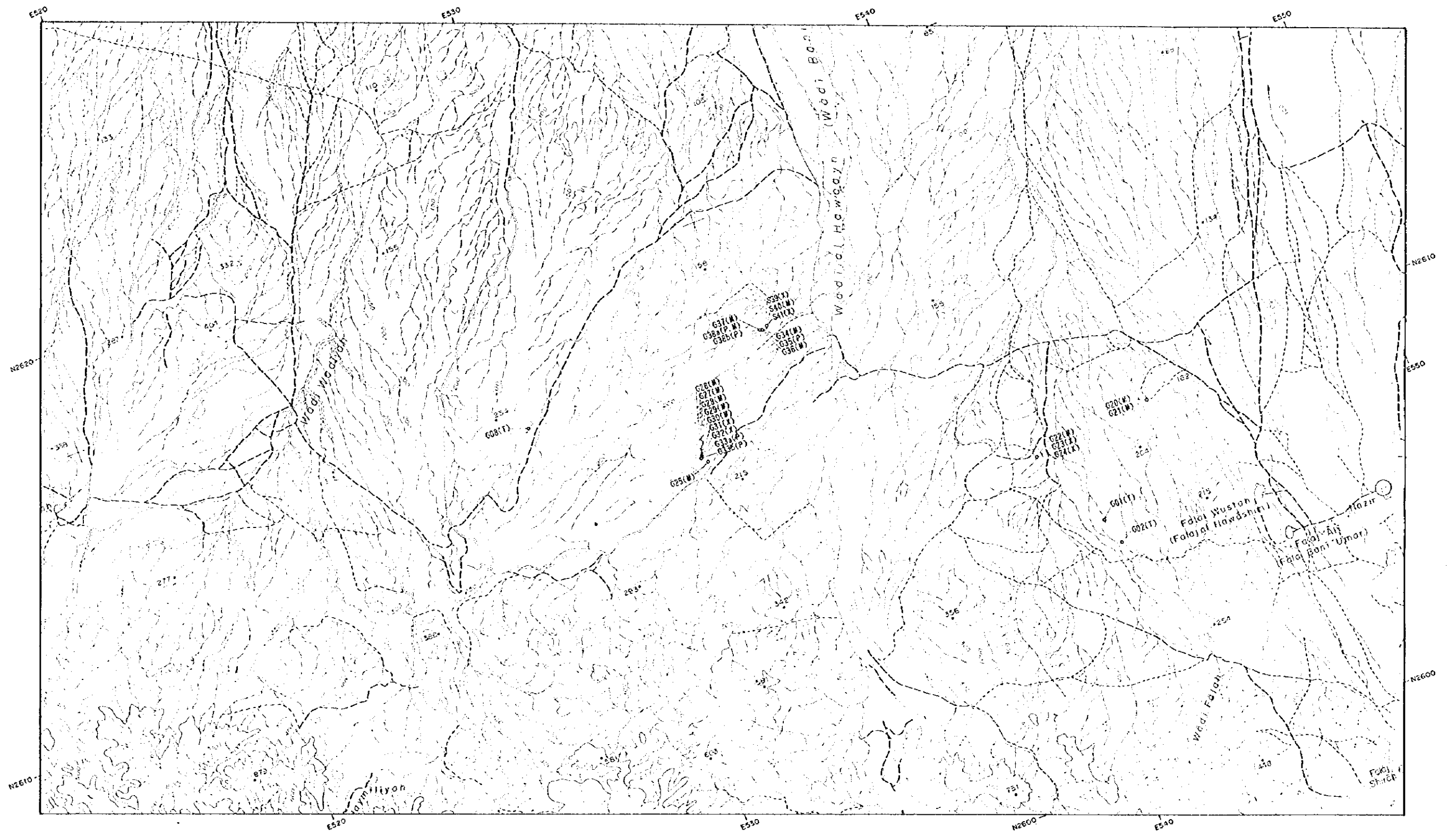


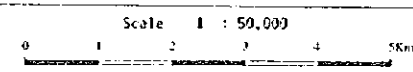
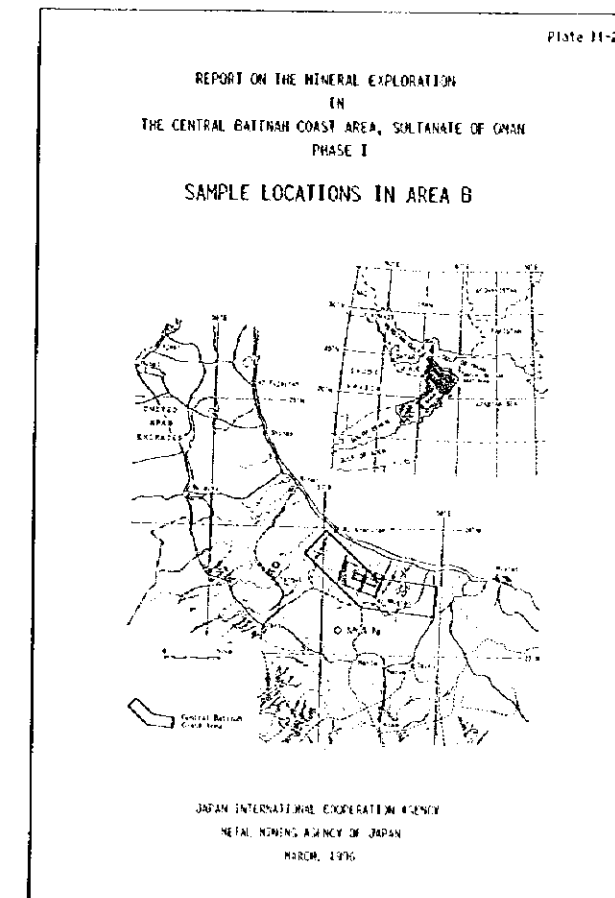
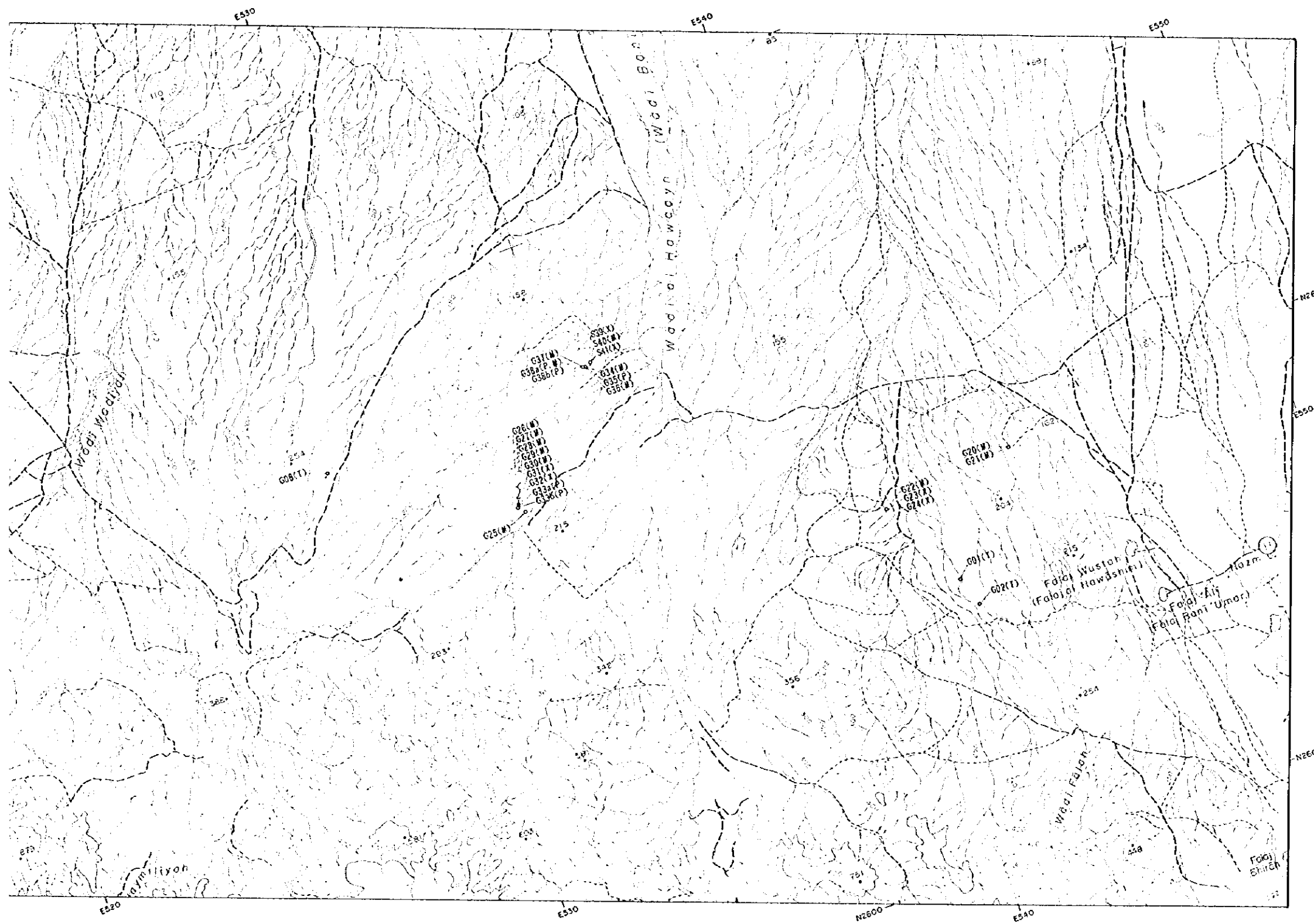


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L E G E N D

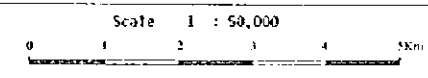
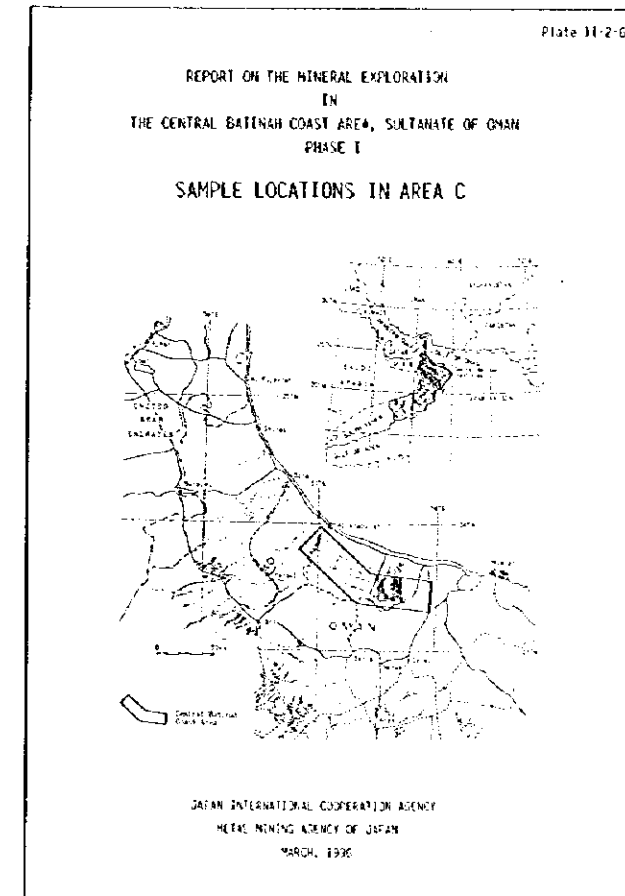
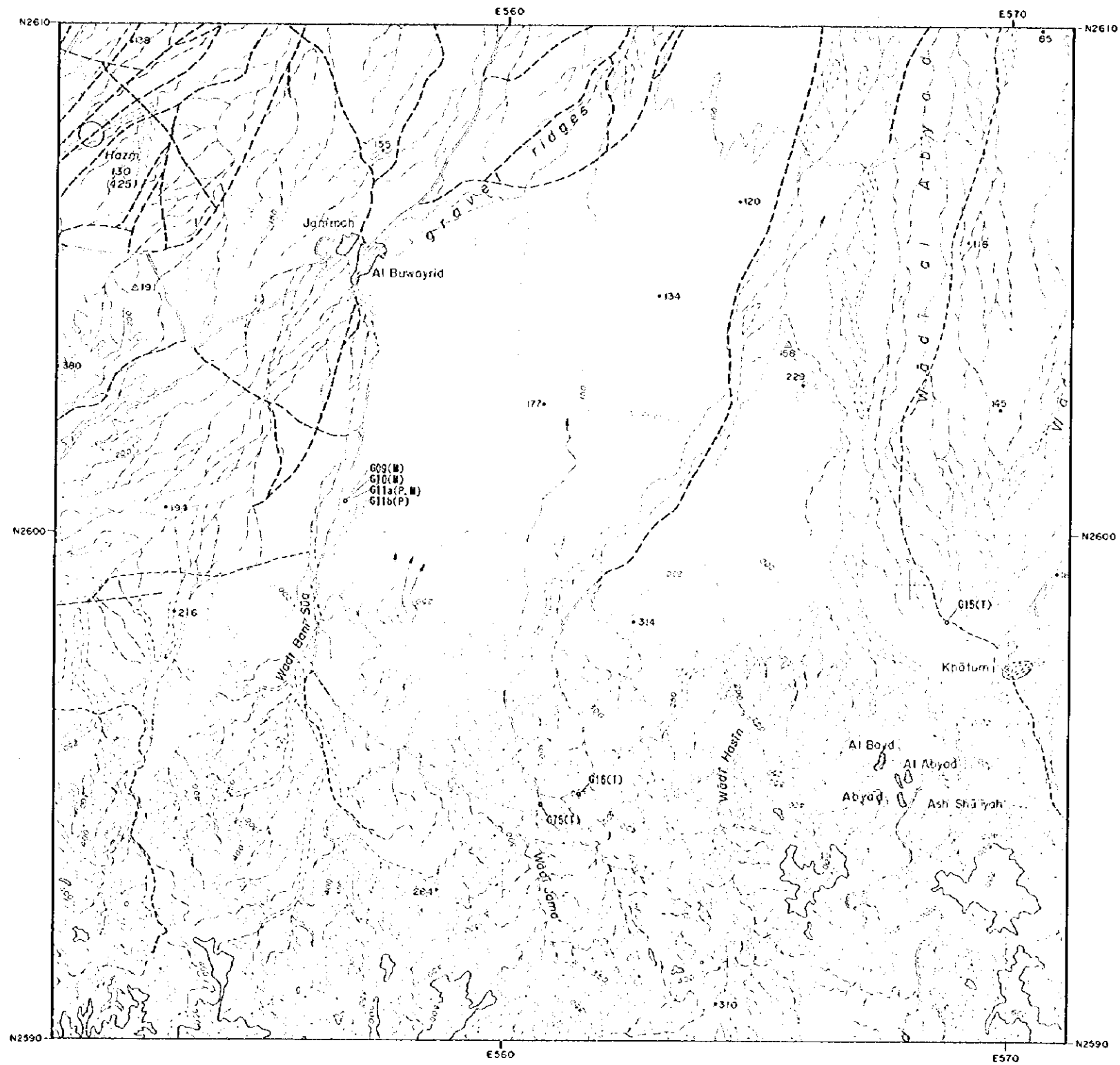
- Sample location
- T : Thin section
- P : Polished section
- H : Chemical analysis
- X : X ray diffraction analysis





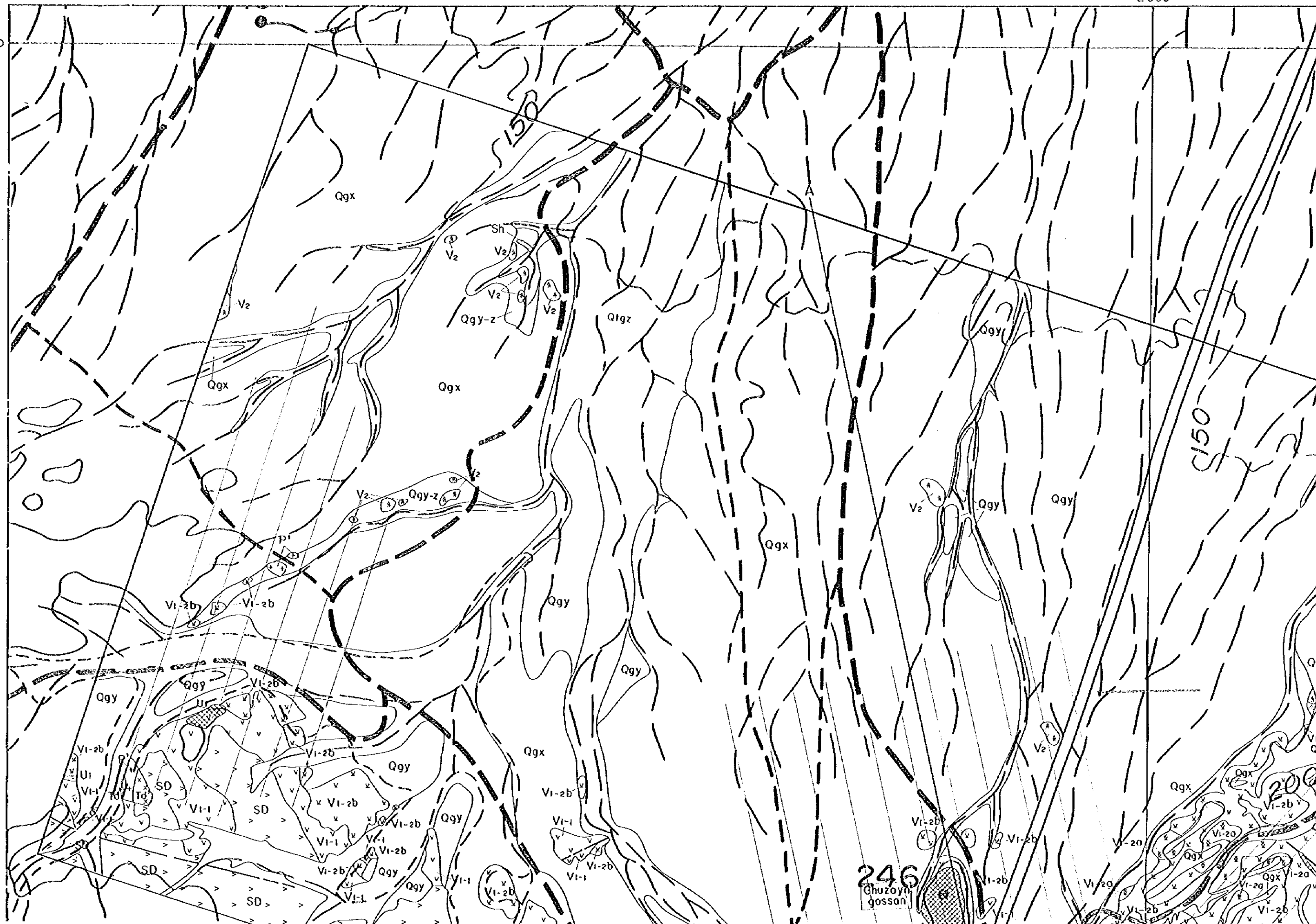
L E G E N D

- Sample location
- T : Thin section
- P : Polished section
- M : Chemical analysis
- X : X ray diffraction analysis



L E G E N D

- o Sample location
- T Thin section
- P Polished section
- M Chemical analysis
- X X-ray diffraction analysis





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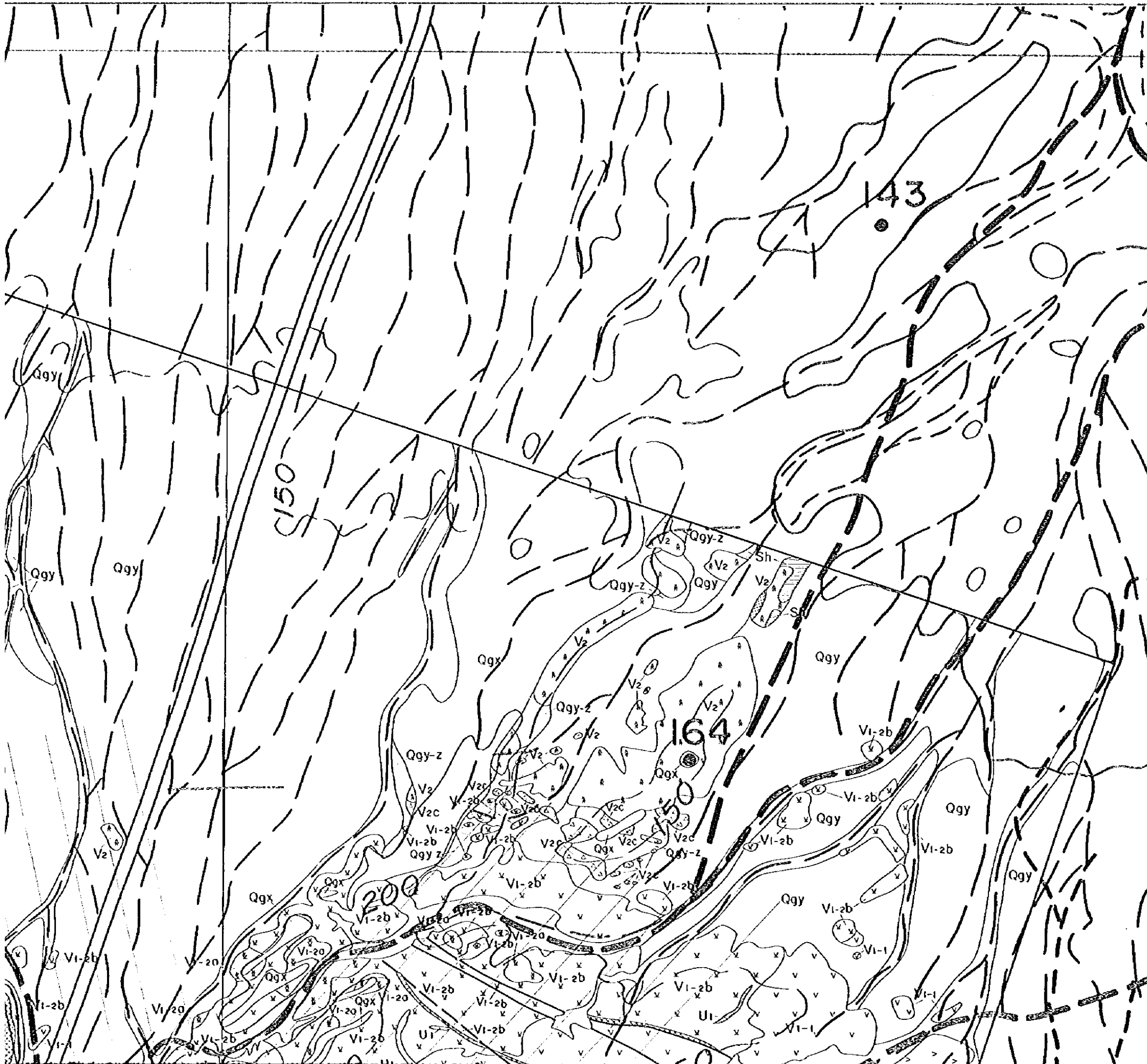
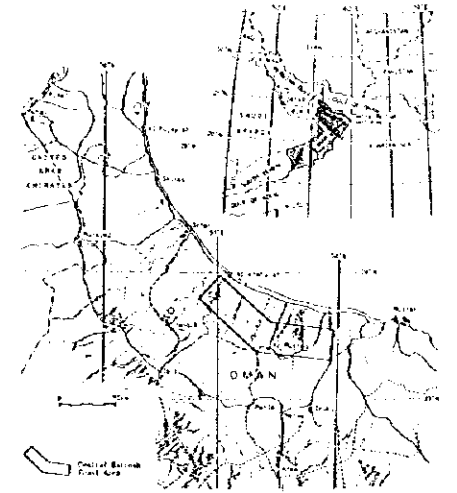


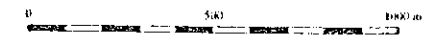
Plate 11-3-1

REPORT ON THE MINERAL EXPLORATION  
IN  
THE CENTRAL BATINAH COAST AREA, SULTANATE OF OMAN  
PHASE I  
GEOLOGIC MAP OF GHUZAYN AREA



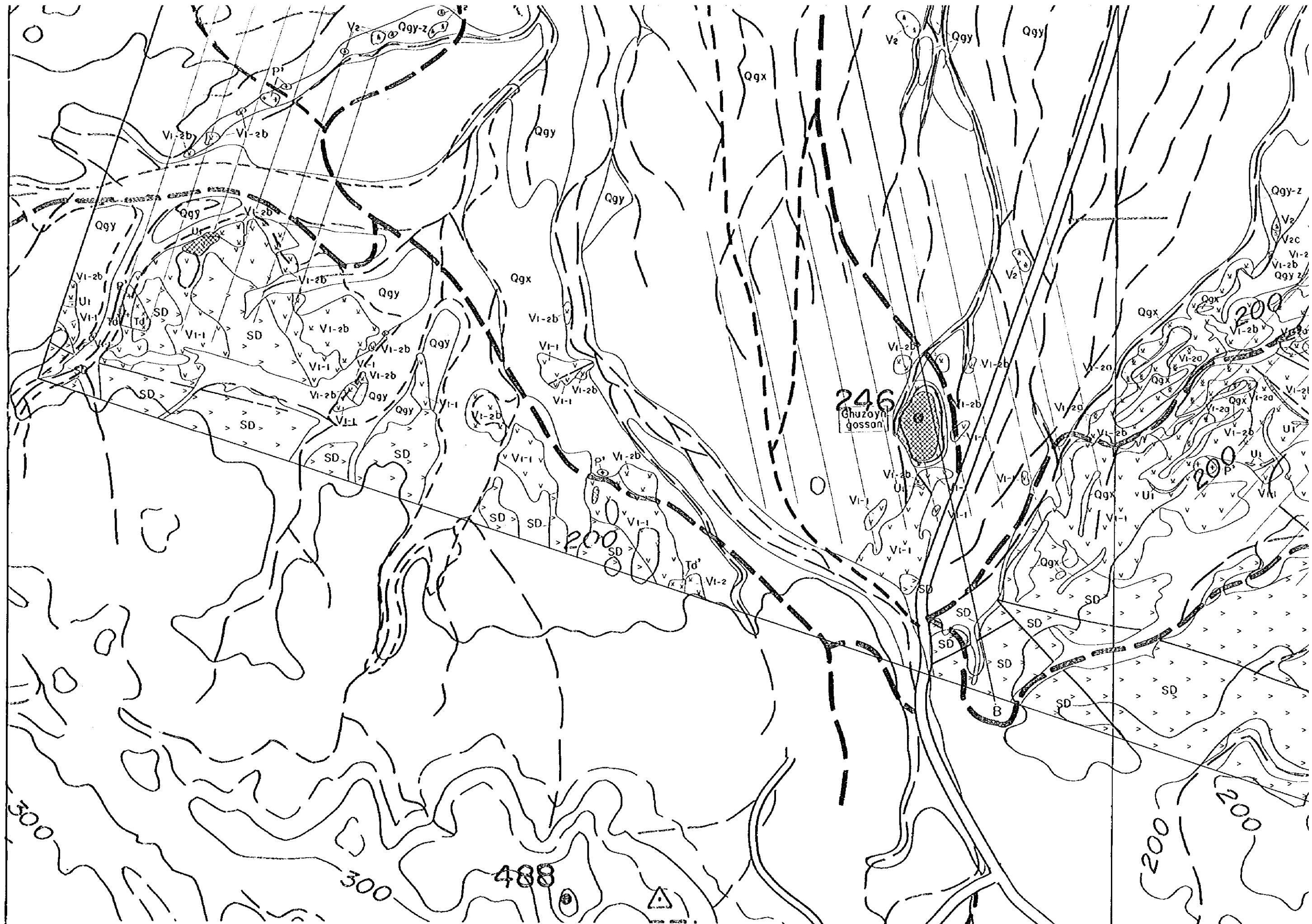
JAPAN INTERNATIONAL COOPERATION AGENCY  
METAL MINING AGENCY OF JAPAN  
MARCH, 1986

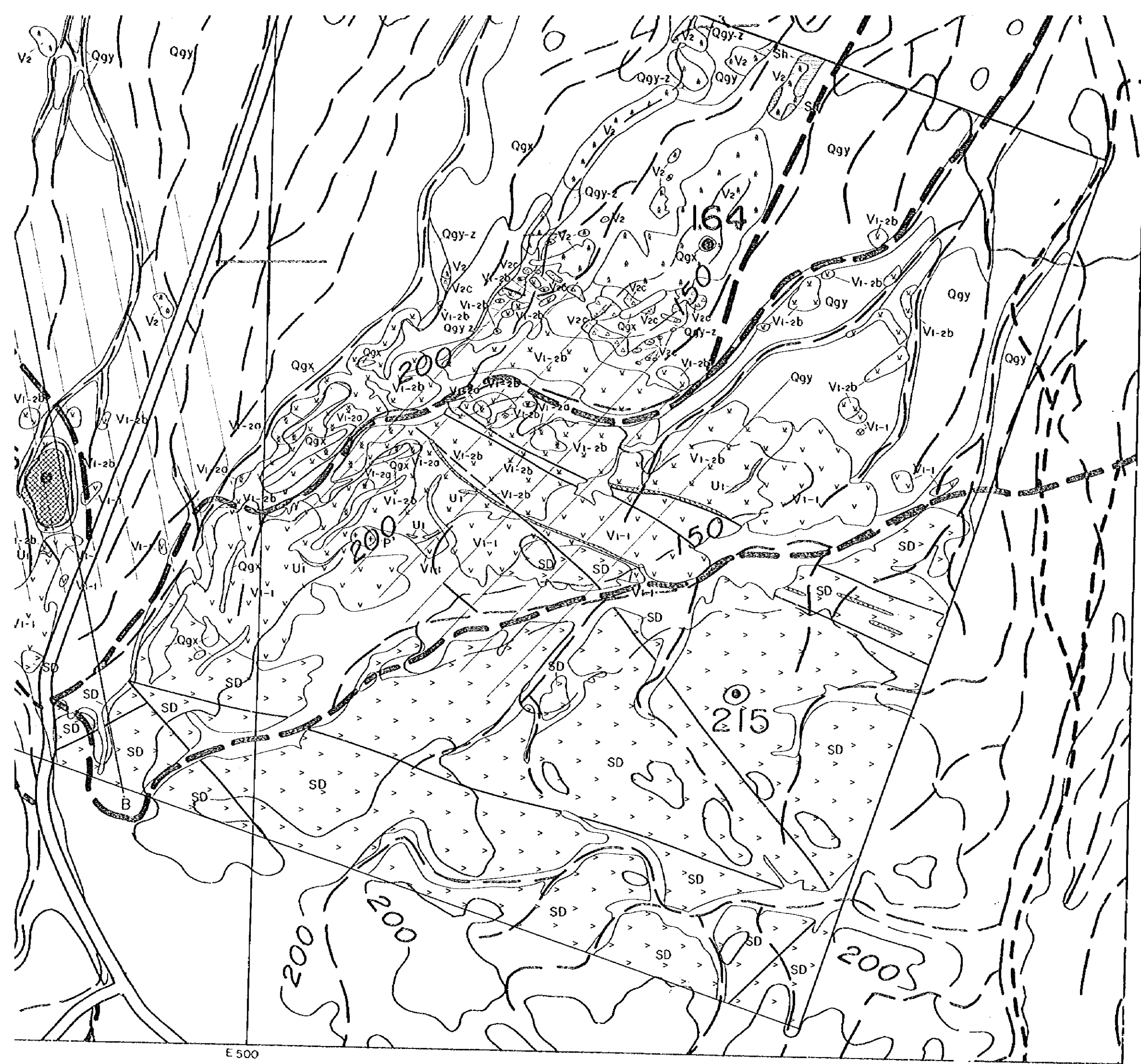
Scale 1 : 10,000



LEGEND

- |       |  |
|-------|--|
| Qgy   | Recent alluvial fans and alluvium  |
| Qgy-z | Alluvial fan Recent slope deposits, scree  |
| Qgy   | SB Recent alluvial fans terraces   |
| Qgy   | Ancient alluvial fans terraces   |
| Sh    | Red radiolarian cherty shale   |
| V1    | Upper extrusives basaltic to andesitic pillow lava and massive lava in the pyroclastic |
| V1c   | Volcanic conglomerate of breccia (rocked boulders composed of SB, V1, Qgy and so on)   |
| V1    | Mud or metaliferous sediments with radiolarian chert                                   |
| V1-2a | Lower extrusives 2 basaltic pillow lava with small pillow lava and radial joints       |
| V1-2b | Lower extrusives 2 basaltic pillow lava with small pillow lava and massive lava        |
| V1    | Lower extrusives 1 basaltic pillow lava composed of big size pillow lava               |
| SB    | Sheeted dike dioritic and basaltic dike  |
| U1    | Iron pyroxene quartz diorite   |
| P     | White trachyte plagioclase bearing diorite and fine bearing pyroxene                   |
- SYMBOLS
- Big star and mineral showing
  - Star and network
- STRUCTURAL FEATURES
- Strike and dip of faulting
  - Strike and dip of dikes and dykes





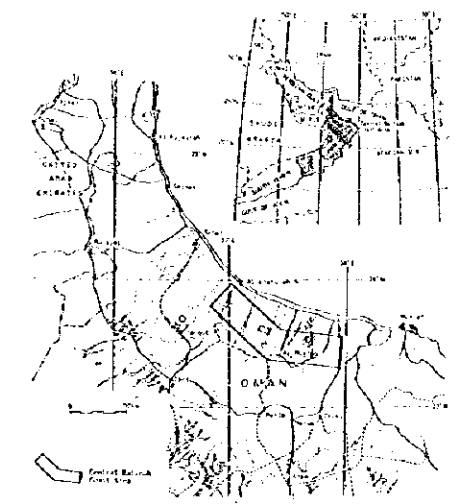
LEGEND

- Qgy-z Recent alluvial fans and alluvium
  - Qgy-a Alluvial or s.b. Recent slope deposits, scree
  - Qgy-r S.B. Recent alluvial fans, terraces
  - Qgy Ancient alluvial fans, terraces
  - Sh Red radiolarian cherty shale
  - V2a Upper extrusives basaltic to andesitic pillow lava and massive lava with thin pyroxene
  - V2c Volcanic conglomerate or breccia, vesicled rocks composed of SD, V2a, V2b, and so on
  - V1-2b Lower extrusives 2 andesitic pillow lava with small pillow lava and radial joints
  - V1-2b Lower extrusives 2 basaltic pillow lava with small pillow lava and massive lava
  - V1-2b Lower extrusives 1 basaltic pillow lava composed of big size pillow lava
  - SD Sheeted d&e, dioritic and basaltic d&e
  - U1 Trondhjemite or quartz diorite
  - P Amphibole, trondhjemite, plagioclase bearing diorite, and olivine bearing pyroxenite
- ECOMORPHOLOGICAL SYMBOLS
- Big granitized mineral shearing
  - Quartz vein and network
- STRUCTURAL FEATURES
- Strike and dip of bedding
  - Strike and dip of d&es and sills
  - Fault, dashed where inferred or concealed
- Other Symbols
- IP survey lines



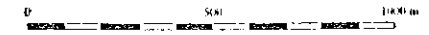
REPORT ON THE MINERAL EXPLORATION  
IN  
THE CENTRAL BATENAH COAST AREA, SULTANATE OF OMAN  
PHASE I

GEOLOGIC MAP OF BUMAYRTK-  
DARIS 3A5 AREA



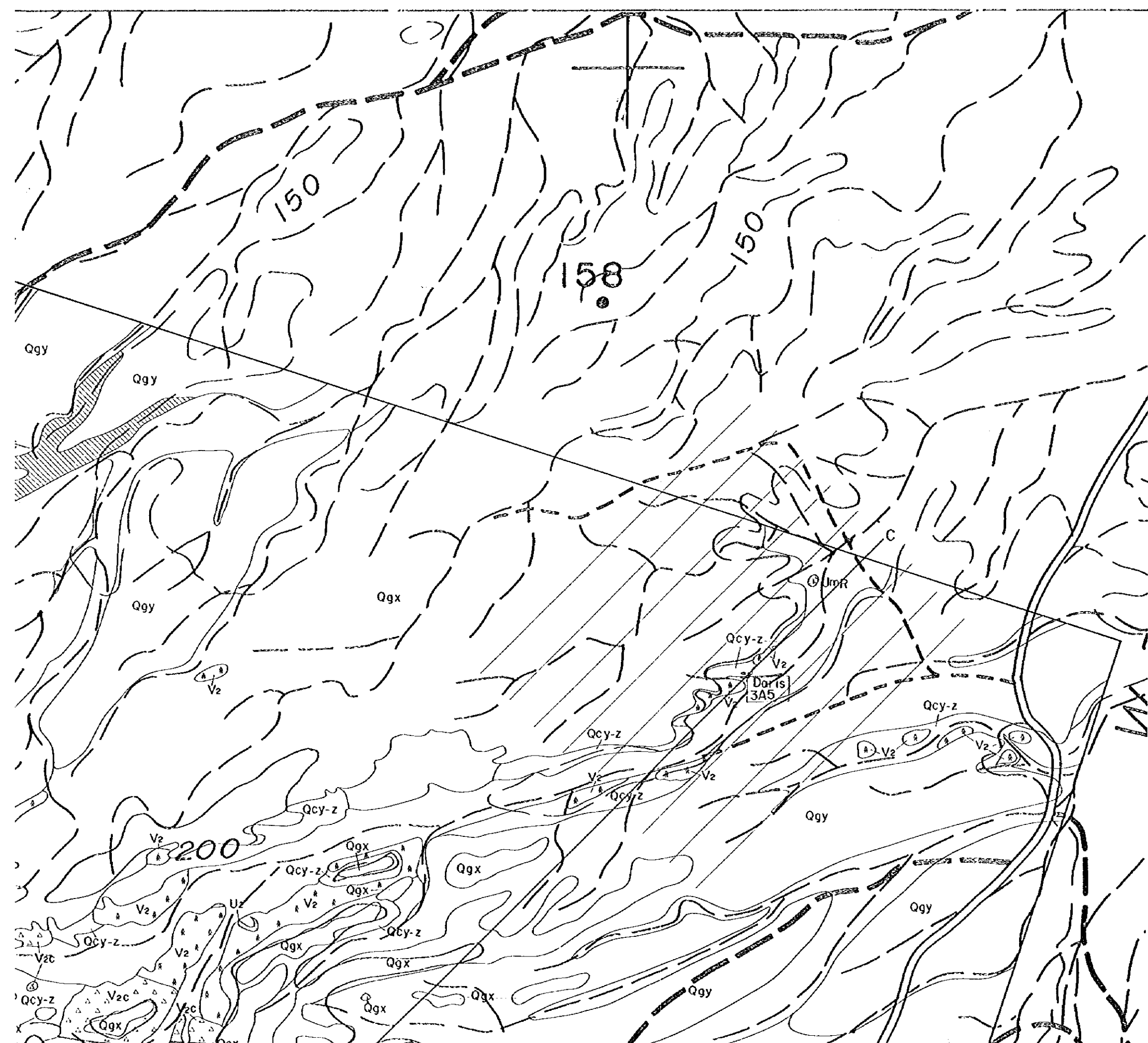
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METAL MINING AGENCY OF JAPAN  
MARCH, 1976

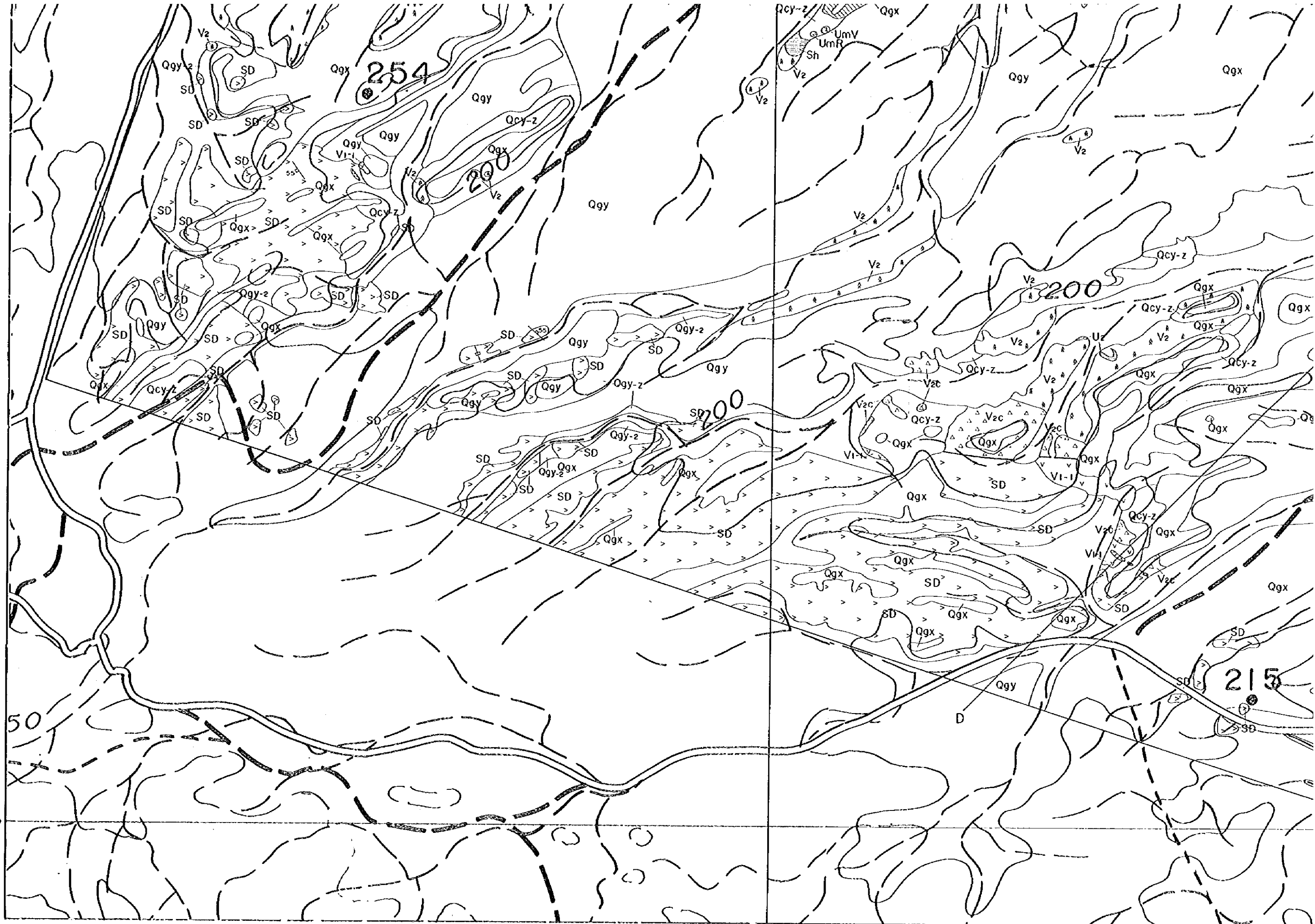
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LEGEND

Qgy	Recent alluvial fans and alluvium
Qy-z	Active or sub-recent slope deposits, scree
Qy	Sub-recent alluvial fans, terraces
Qx	Ancient alluvial fans, terraces
D4C	Fine to fibroclastic micritic limestone, chert, chert nodules
D4R	Diorite of reef limestone
V1	Differentiated Eriassio volcanic rocks
V2	Radiolarian chert, siltstone and sandstone
U1	Shaykh Formation Red radiolarian cherty shale
U2	Other or reefiferous sediments with radiolarian chert
V3	Upper extrusives, basaltic to andesitic pillow lava and massive lava with low pyroxene
V4	Volcanic conglomerate or breccia, radiolarian chert composed of 50% V3, V2 and so on
V5	Lower extrusives, basaltic pillow lava composed of big size pillow lava
S1	Sheeted dike, doleritic and basaltic dike
S2	Watered mounts
<b>ECONOMIC GEOLOGY SYMBOLS</b>	
[Symbol]	Big potential mineral showings
[Symbol]	Quartz vein and network
<b>STRUCTURAL FEATURES</b>	
[Symbol]	Strike and dip of bedding

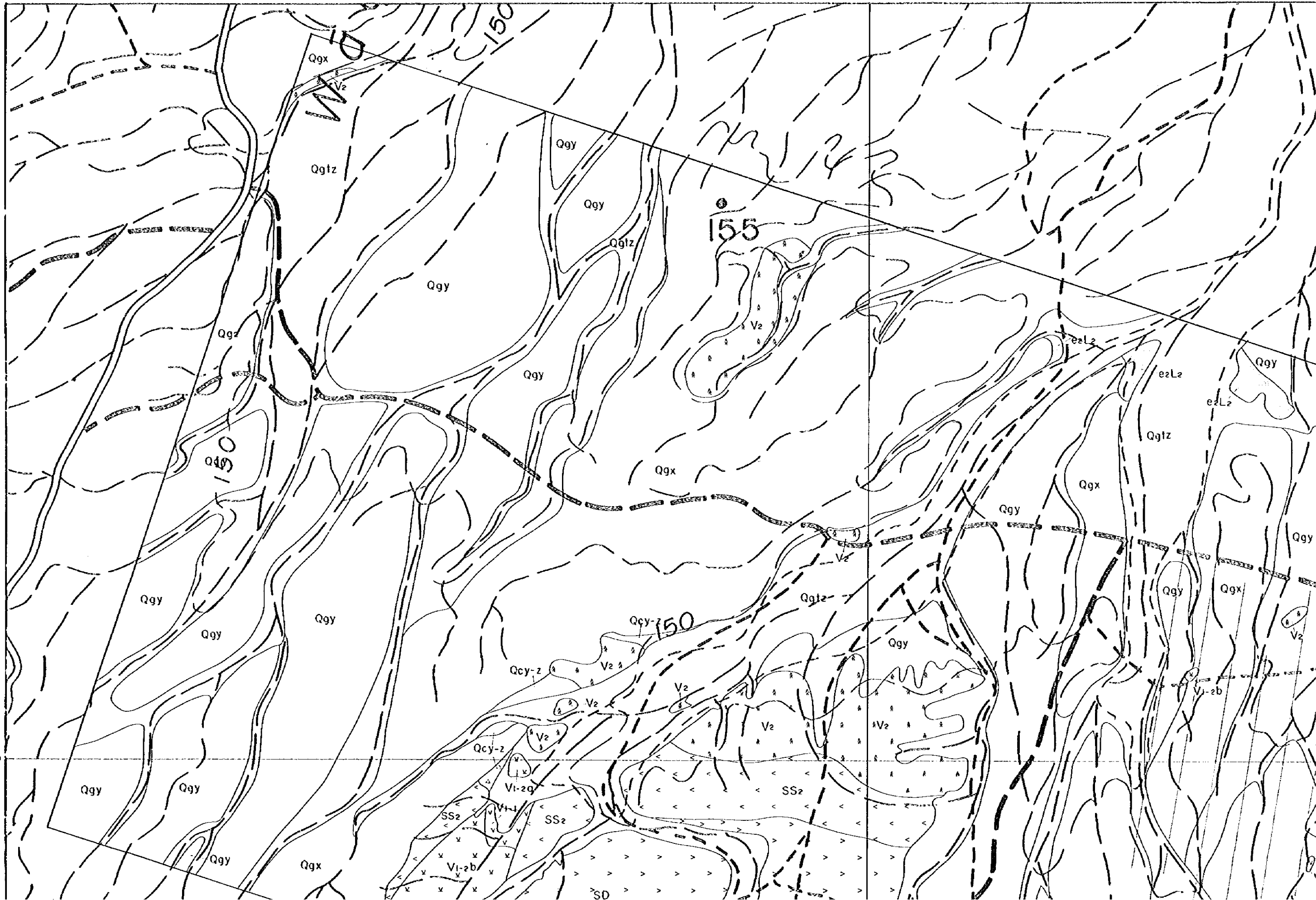




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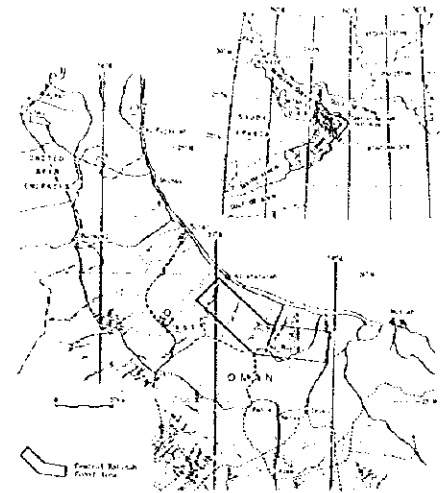






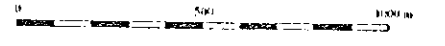
REPORT ON THE MINERAL EXPLORATION  
IN  
THE CENTRAL BATINAH COAST AREA, SULTANATE OF OMAN  
PHASE I

GEOLOGIC MAP OF DARTS-  
DARTS WEST AREA



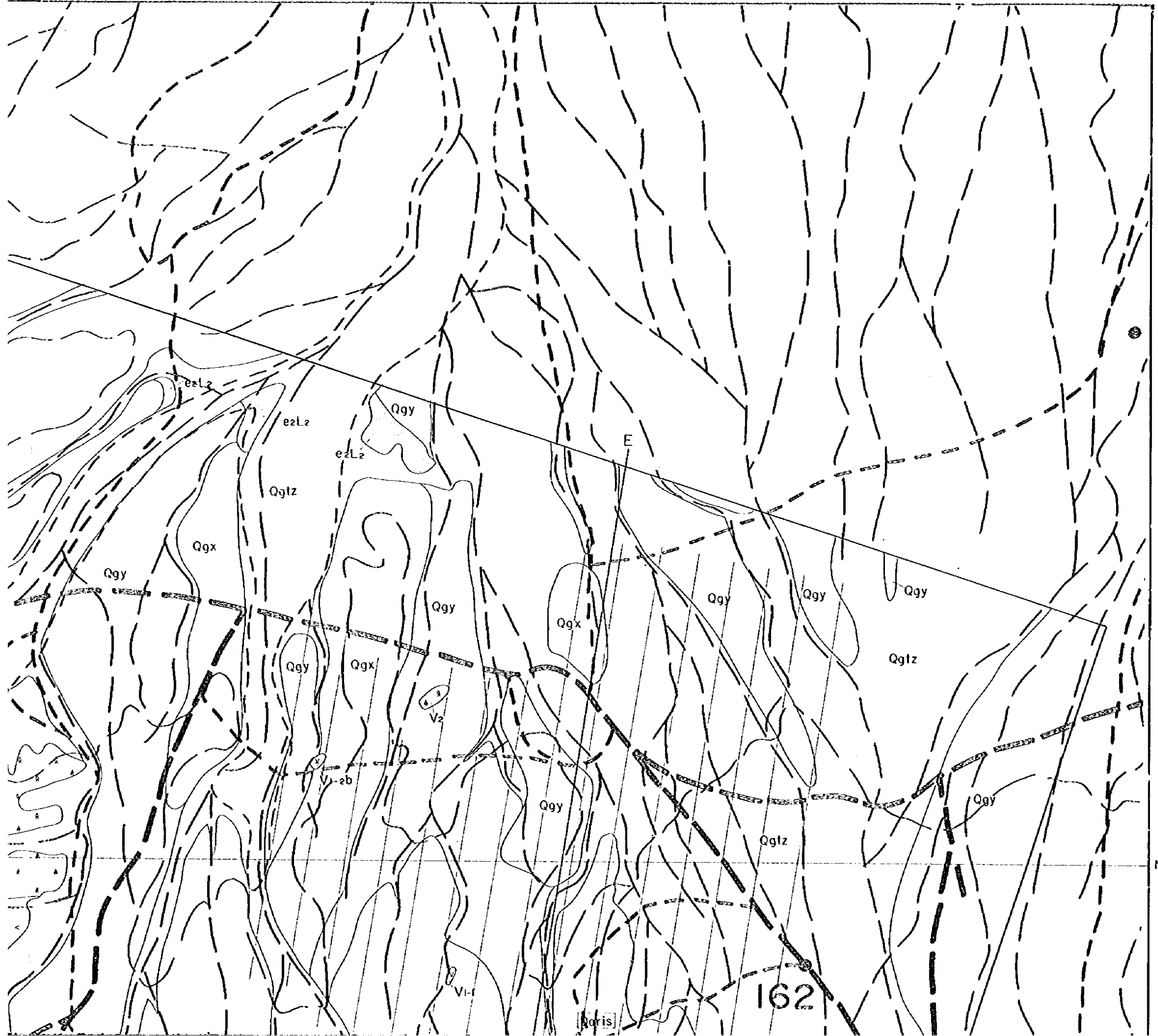
JAPAN INTERNATIONAL COOPERATION AGENCY  
METAL MINING AGENCY OF JAPAN  
MARCH, 1976

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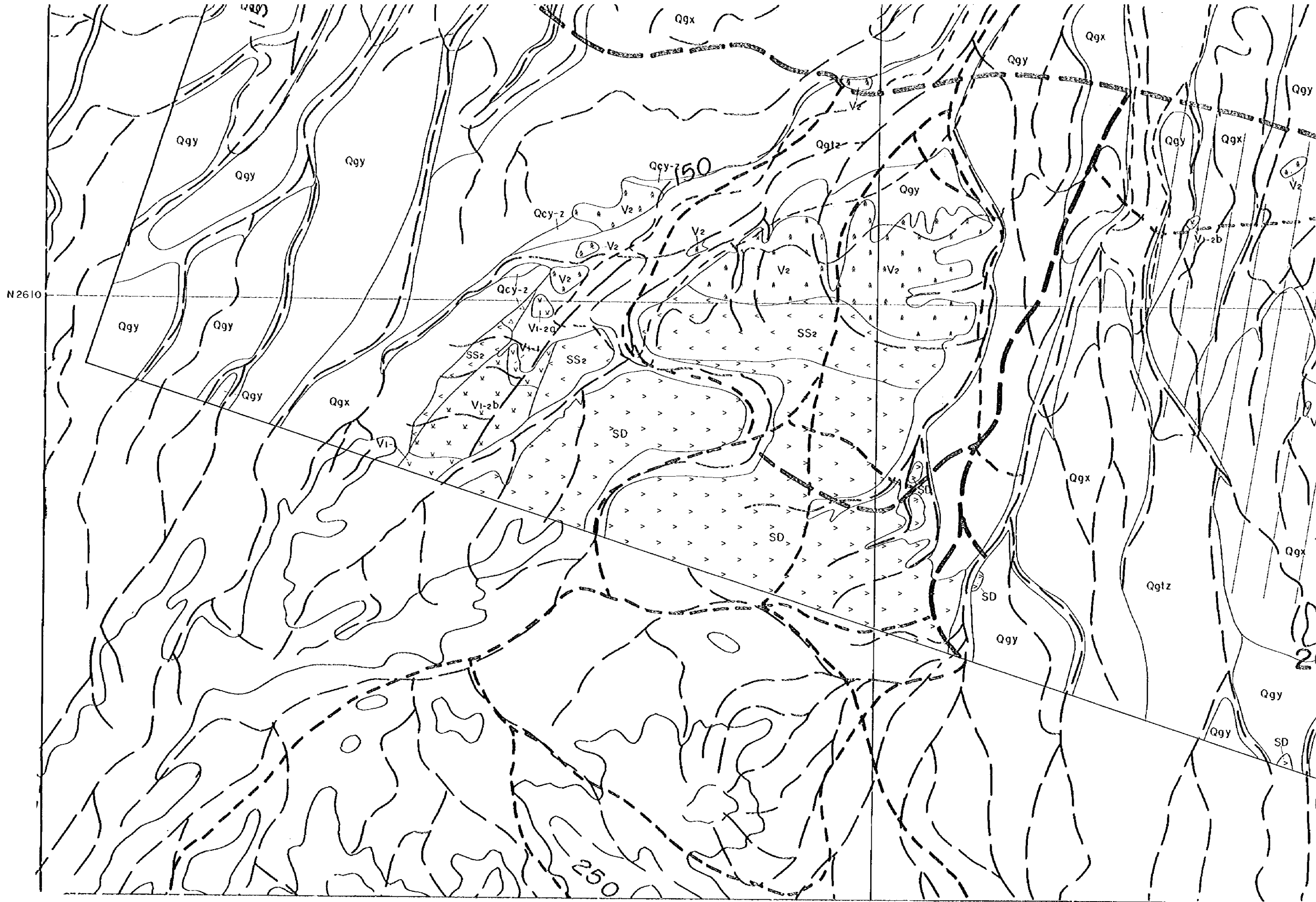


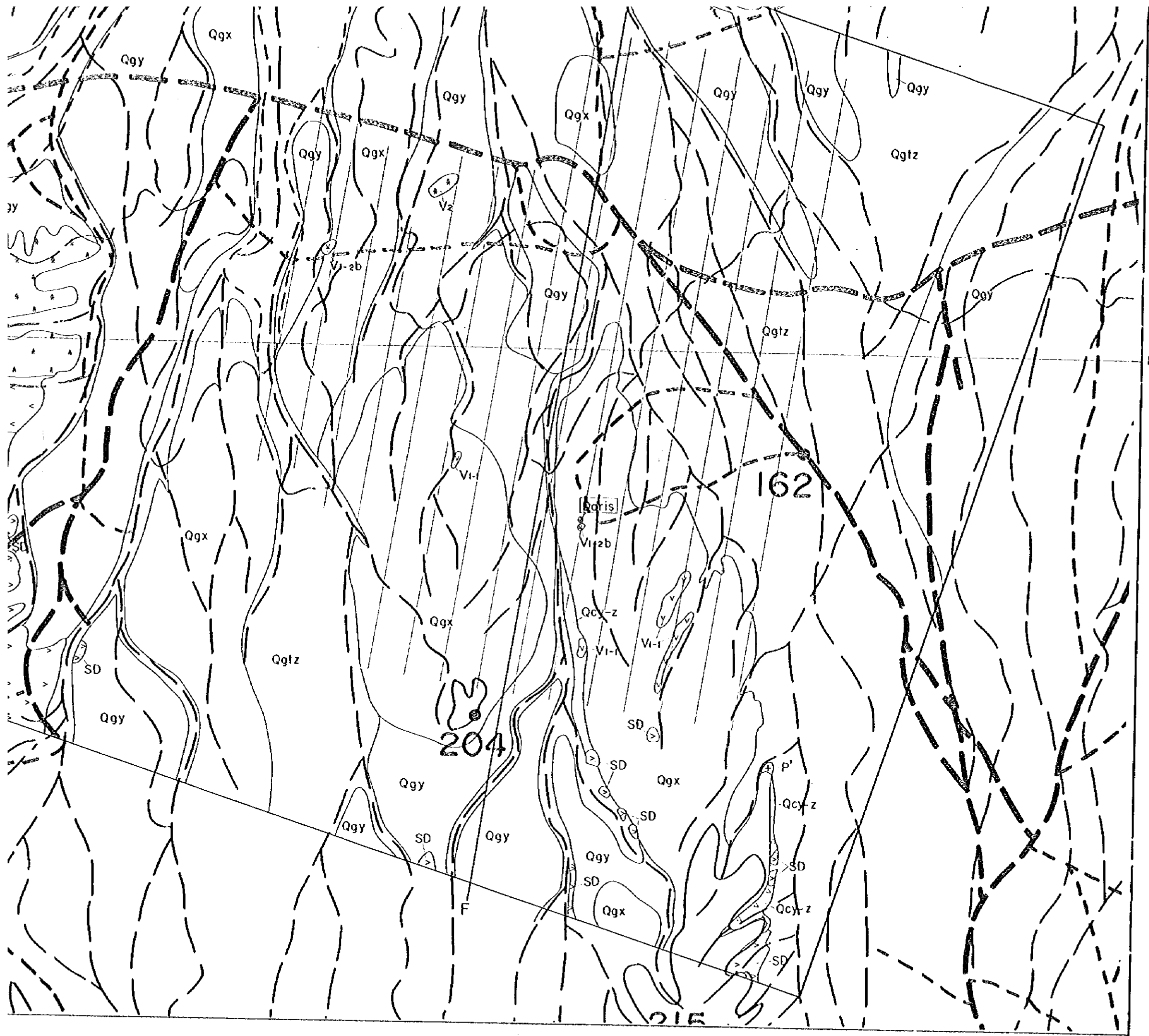
LEGEND

POST-TERTIARY (QUATERNARY) UNIT		Qgy	Recent alluvial fans and alluvium
TERTIARY		Qvz	Active or sub-recent slope deposits (surt)
LATE TERTIARY		Qy	Sub-recent alluvial fans, terraces
EARLY TERTIARY		Q*	Ancient alluvial fans, terraces
EARLY TERTIARY		e2Lz	Finely lathoclastic, micritic limestone chert, chert nodules
SMALL MAFIC (OPHIOBLITE)		Sh	Red radiolarian cherty shale
SMALL MAFIC (OPHIOBLITE)		V1	Basal extrusives basaltic to andesitic pillow lava and massive lava with pyroxene
SMALL MAFIC (OPHIOBLITE)		SS1	Shedded silt, andesitic to dacitic composition - conglorad
SMALL MAFIC (OPHIOBLITE)		H	Thin or metaliferous sediments with radiolarian chert
SMALL MAFIC (OPHIOBLITE)		V1-b	Lower extrusives 2 basaltic pillow lava with small pillow lava and massive lava
SMALL MAFIC (OPHIOBLITE)		V1-c	Lower extrusives 3 basaltic pillow lava composed of big size pillow lava
SMALL MAFIC (OPHIOBLITE)		SD	Shedded dikes doleritic and basaltic dikes
PROTEROZOIC		Td	Troudyenite or quartz diorite
PROTEROZOIC		P	Highly fractured plagioclase bearing diorite and other bearing peridotite
ECONOMIC GEOLOGY SYMBOLS			Big presumed mineral showing
STRUCTURAL FEATURE			Strike and dip of bedding
STRUCTURAL FEATURE			Strike and dip of dykes and sills
STRUCTURAL FEATURE			Fault (dotted where inferred or concealed)
Other symbols			



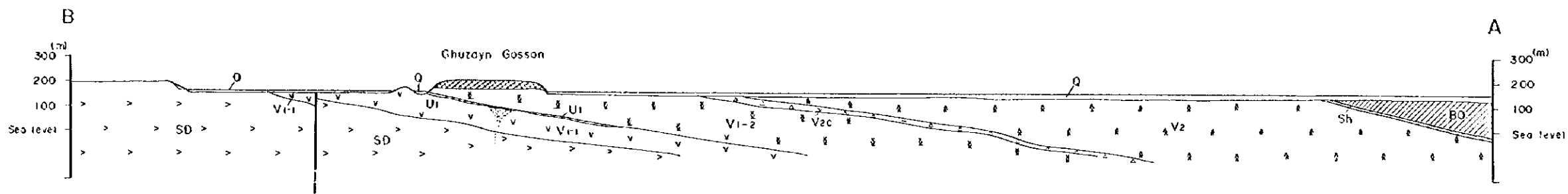
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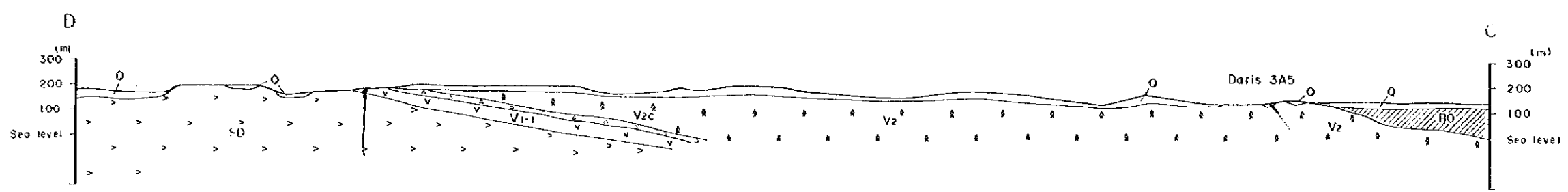


LEGEND

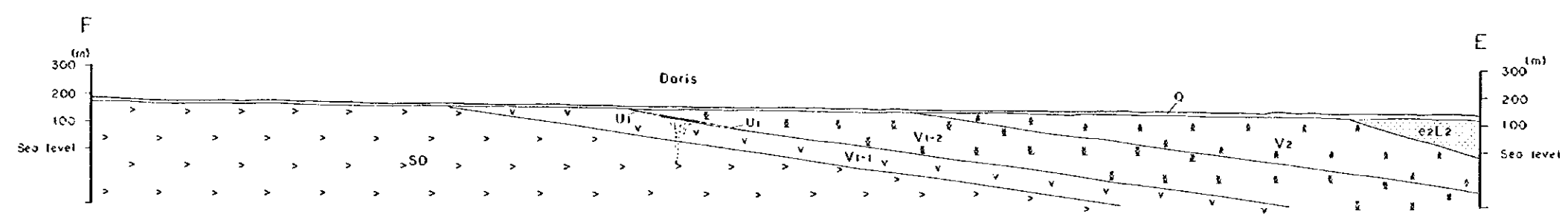
- POST-MAPLE AUTOCORRELATION UNIT
- LEGEND
- Qgr Recent alluvial fans and alluvium
  - Qy2 Active or sub Recent slope deposits scree
  - Qr SA Recent alluvial fans terraces
  - Qa Ancient alluvial fans terraces
  - gls Finely lithoclastic, micritic limestone, chert, chert nodules
  - SR Red radiolarian cherty shale
  - V2 Upper extrusives basaltic to andesitic pillow lava and massive lava with two pyroclasts
  - V1-zb Sheeted sill andesitic to dioritic composition - cup used
  - V1-r Older or metalliferous sediments with radiolarian chert
  - V1-l Lower extrusives 2 basaltic pillow lava with small pillow lava and massive lava
  - V1-z Lower extrusives 1 basaltic pillow lava circumscribed by big size pillow lava
  - SD Sheeted dikes dioritic and basaltic dikes
  - P' Trondhjemite or quartz diorite
  - P' Basaltic trondhjemite plagioclase bearing diorite and olivine bearing pyroxenite
- FORM GEOLOGY SYMBOLS
- Big postulated mineral showing
- STRUCTURAL FEATURE
- Strike and dip of bedding
  - Strike and dip of dikes and sills
  - Fault dashed where inferred or concealed
- Other symbols
- IP survey lines



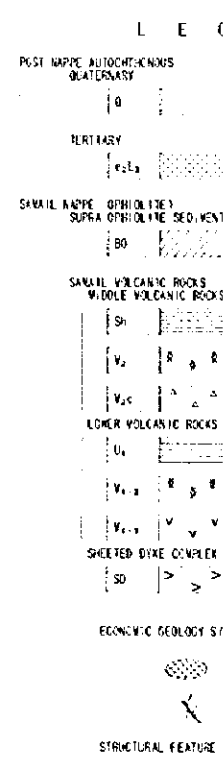
Geologic Profile of Ghuzayn Area



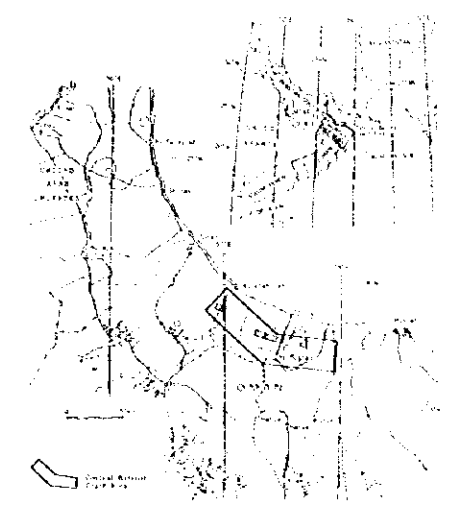
Geologic Profile of Buwayrik - Daris 3A5 Area



Geologic Profile of Daris - Daris West Area

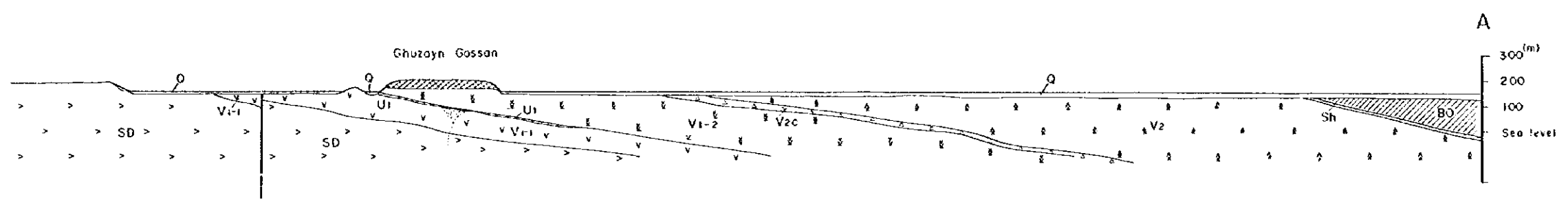


REPORT ON THE MINERAL EXPLORATION  
IN  
THE CENTRAL BATINAH COAST AREA, SULTANATE OF OMAN  
PHASE I  
  
GEOLOGIC PROFILES OF GHUZAYN AREA,  
BUWAYRIK-DARIS 3A5 AND DARIS-DARIS WEST AREAS

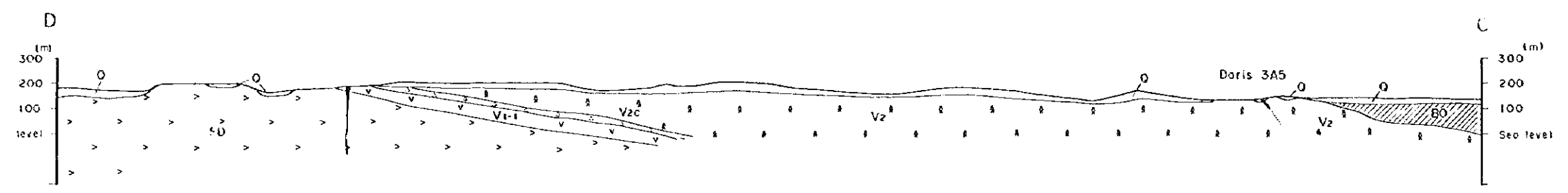


JAPAN INTERNATIONAL COOPERATION AGENCY  
METAL MINING AGENCY OF JAPAN  
MARCH, 1990

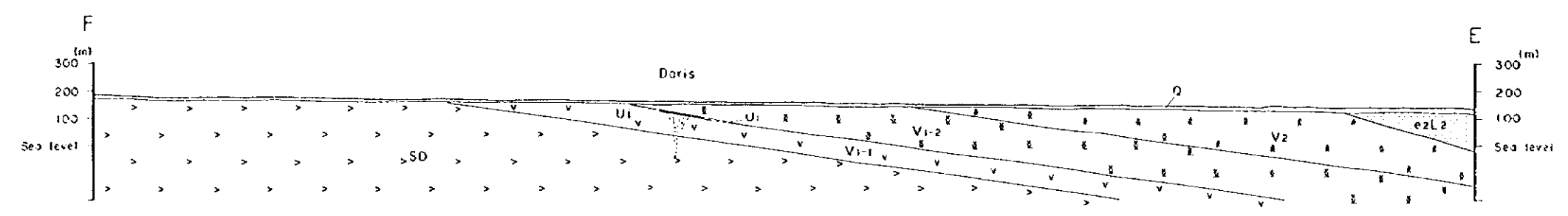
Scale 1 : 10,000  
0 500 1000m



Geologic Profile of Ghuzayn Area



Geologic Profile of Buwayrik - Daris 3A5 Area



Geologic Profile of Daris - Daris West Area

- LEGEND**
- POST-MARINE AUROCHTHONOUS QUATERNARY  
Q Quaternary deposits
- TERTIARY  
e2L2 Finely lathiclastic, micritic, friable chert, chert nodules
- SARIAL (SUPER OPHIOLITE) SUPRA OPHIOLITE SEDIMENTS BATINAH OLIGOSTORMEY  
BO Olistoliths of Buharat Group and Ubar Group
- SARIAL VOLCANIC ROCKS  
MIDDLE VOLCANIC ROCKS  
Sh Shayfat Formation, red soil-plinian cherty shale  
V2 Middle extrusives basaltic to andesitic pillow lava and massive lava with two pyroclasts  
V2c Volcanic conglomerate or breccia (rocked rocks) composed of SD, V1-1 and V1-2
- LOWER VOLCANIC ROCKS  
U1 Older or metaliferous sediments with radiolarian chert  
V1-2 Lower extrusives 2 basaltic pillow lava with small pillow lava and massive lava  
V1-1 Lower extrusives 1 basaltic pillow lava composed of big size pillow lava
- SHEETED DYKE COMPLEX  
SD Sheeted dyke, dioritic and basaltic dyke
- ECONOMIC GEOLOGY SYMBOLS  
Big gissar red mineral showing  
Diorite vein and stockwork
- STRUCTURAL FEATURE  
Fault dashed where inferred or concealed

JICA