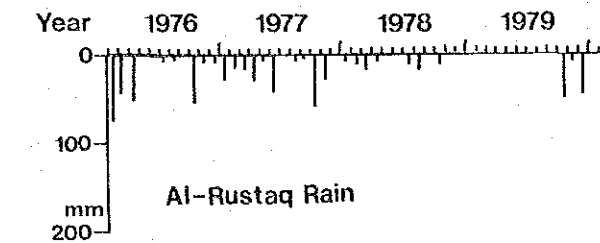
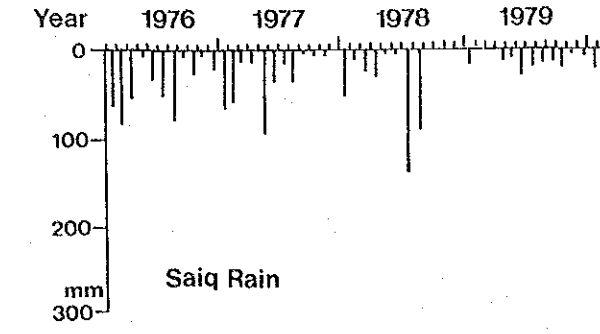
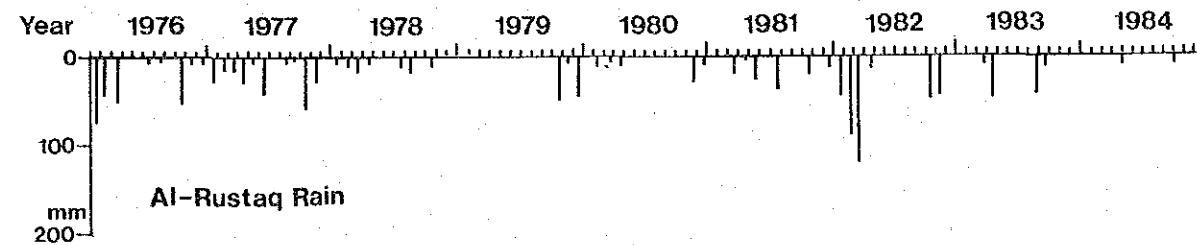
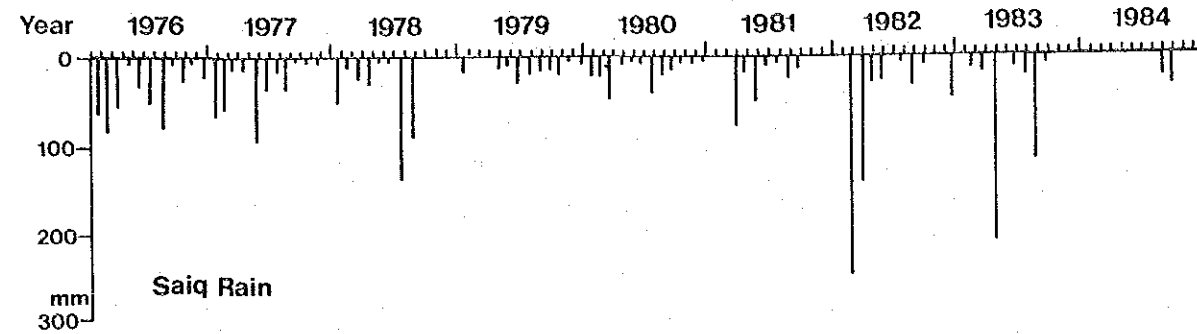
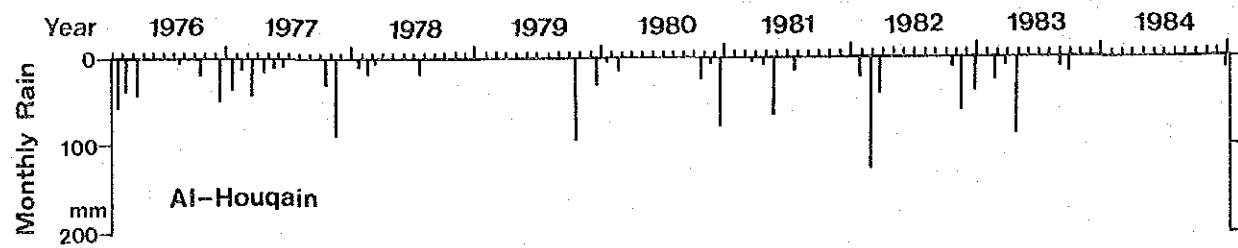
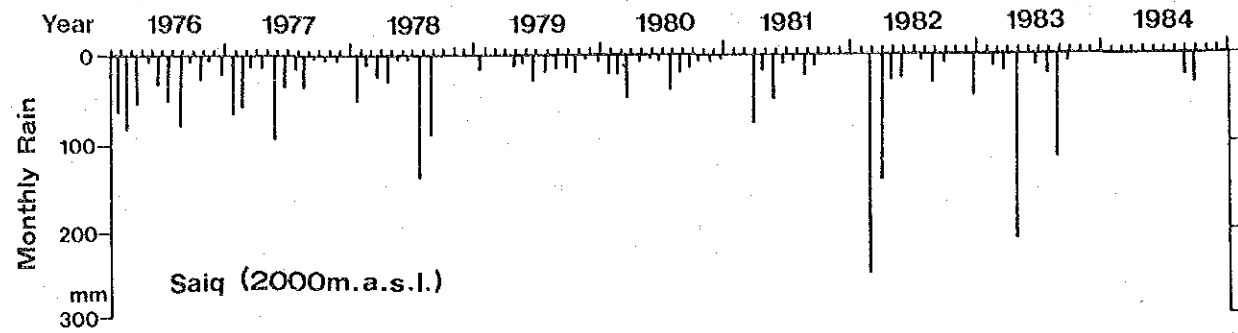
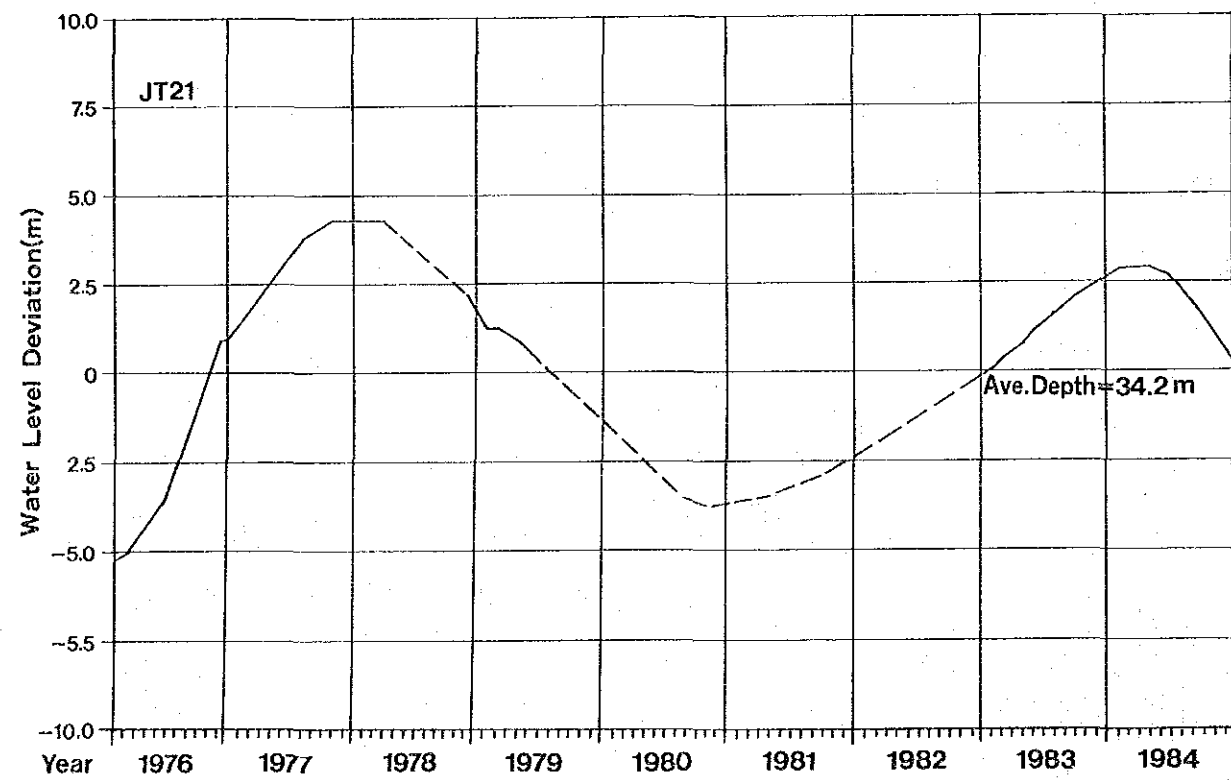


**APPENDIX F Hydrogeologic Map of the Batinah**

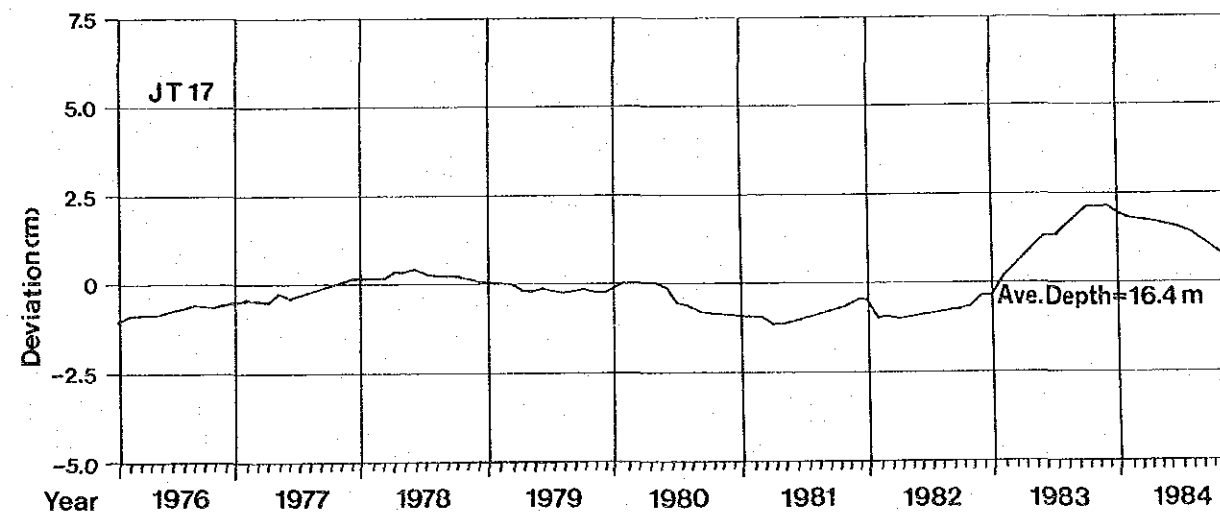
# OBSERVATION WELL HYDROGRAPH (1976-1984)



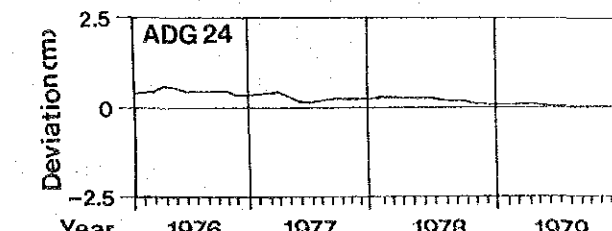
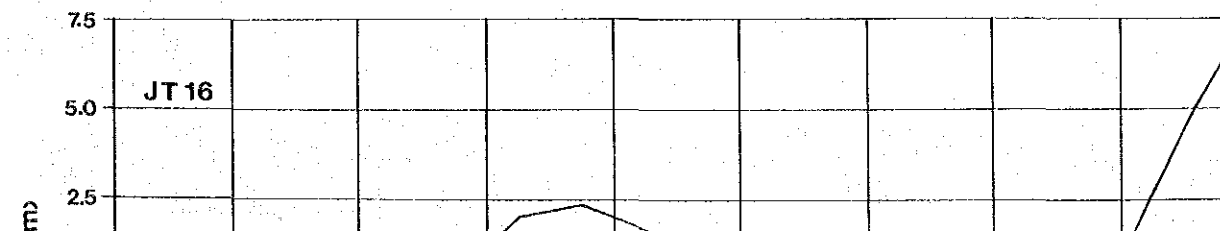
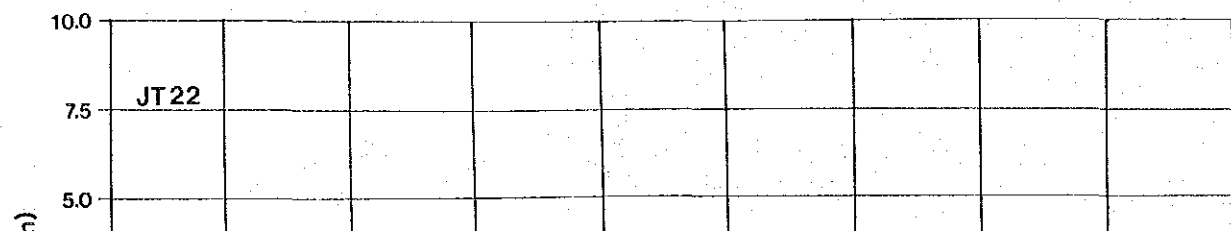
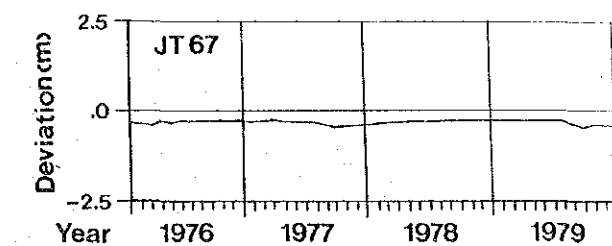
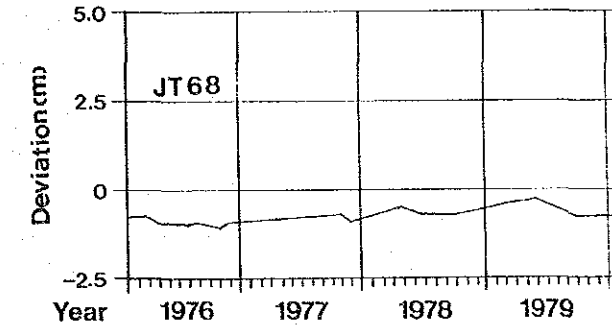
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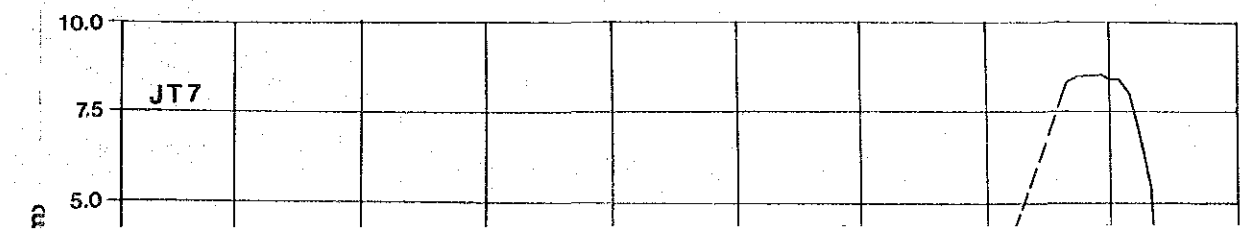
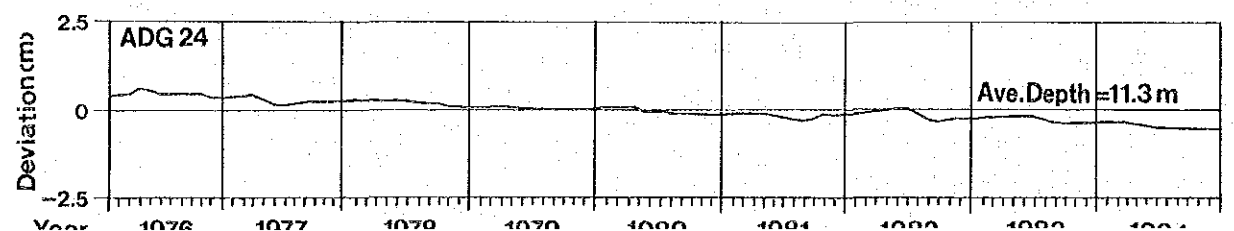
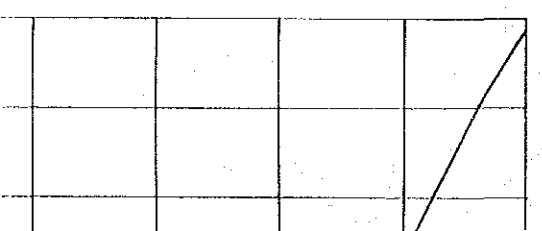
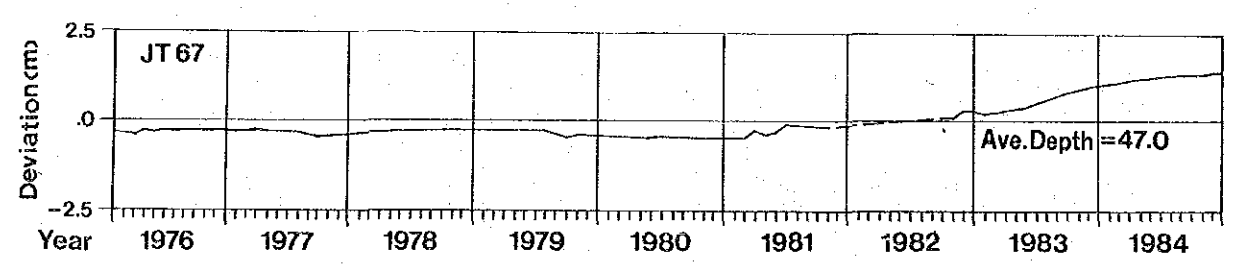
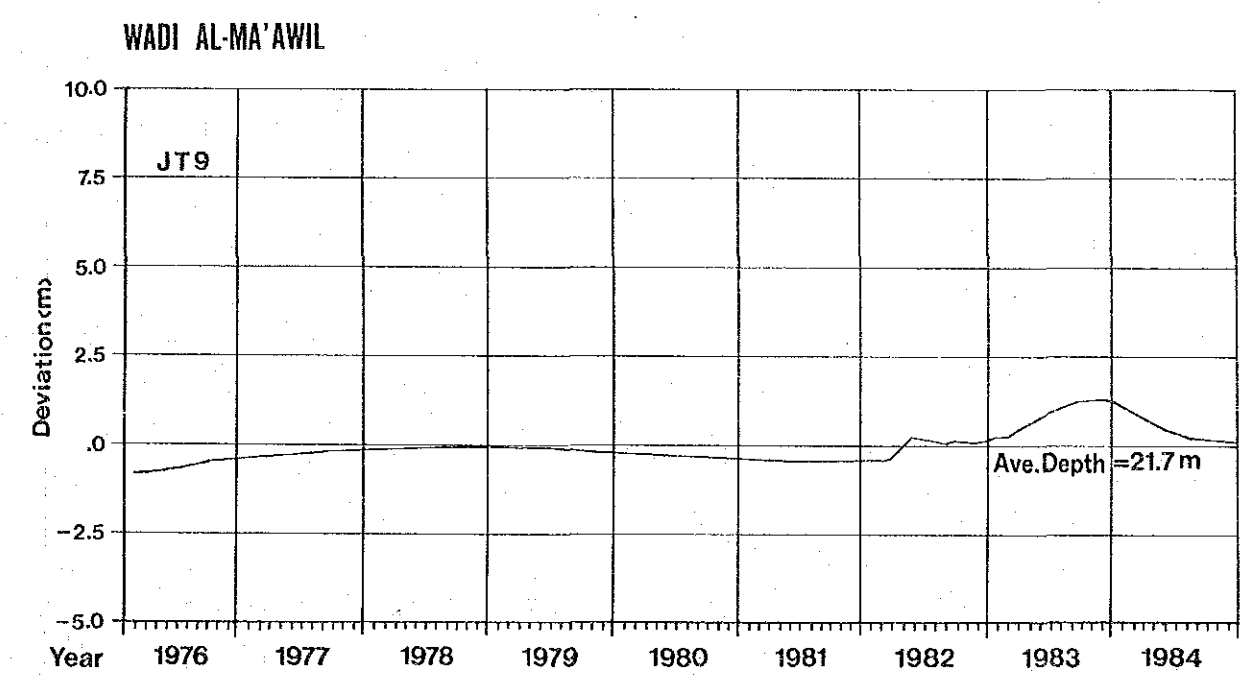
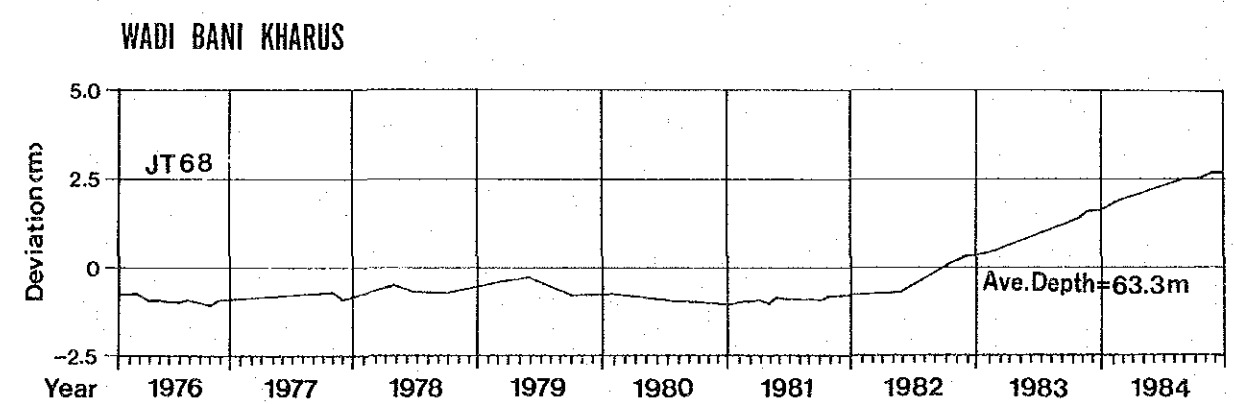
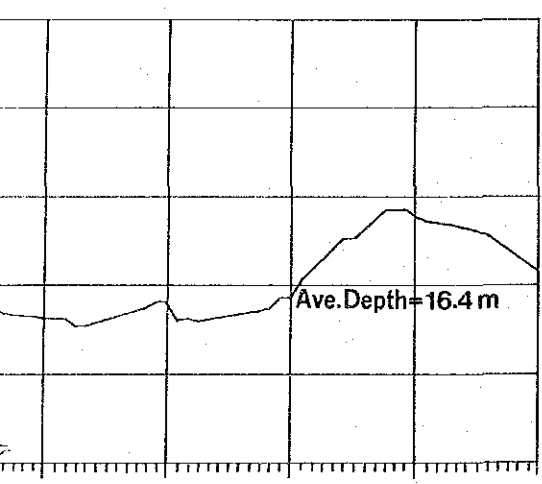
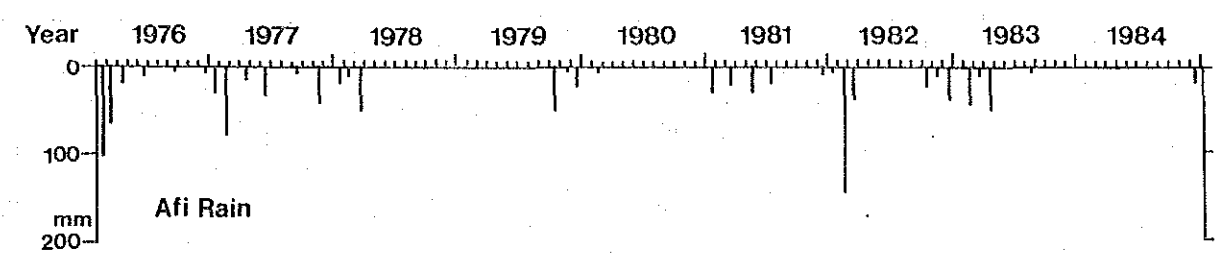
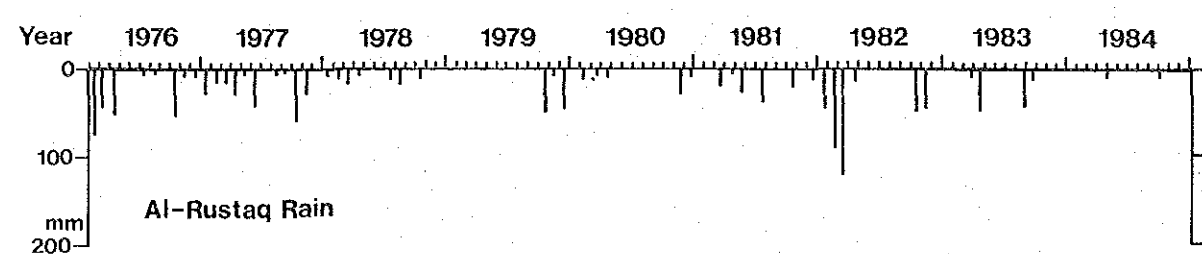
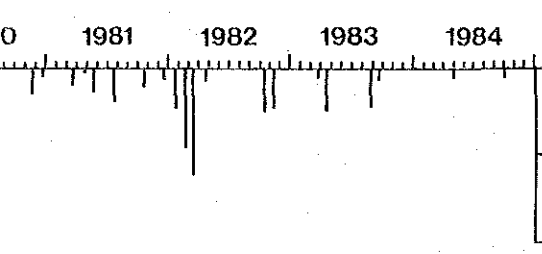
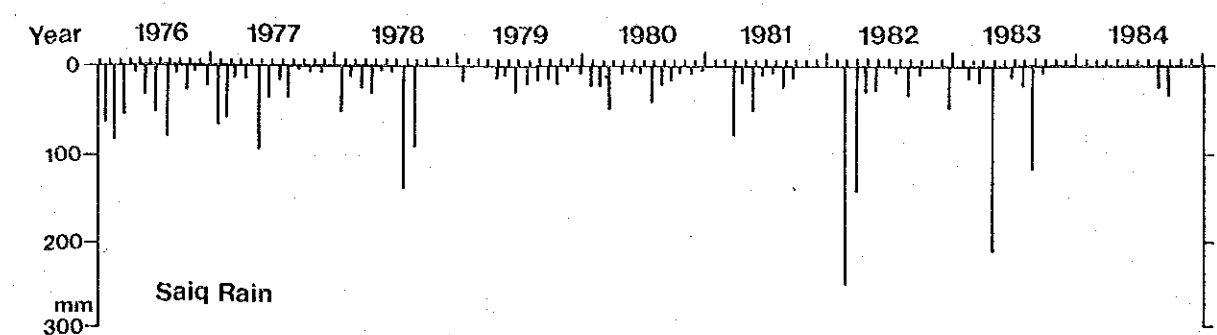
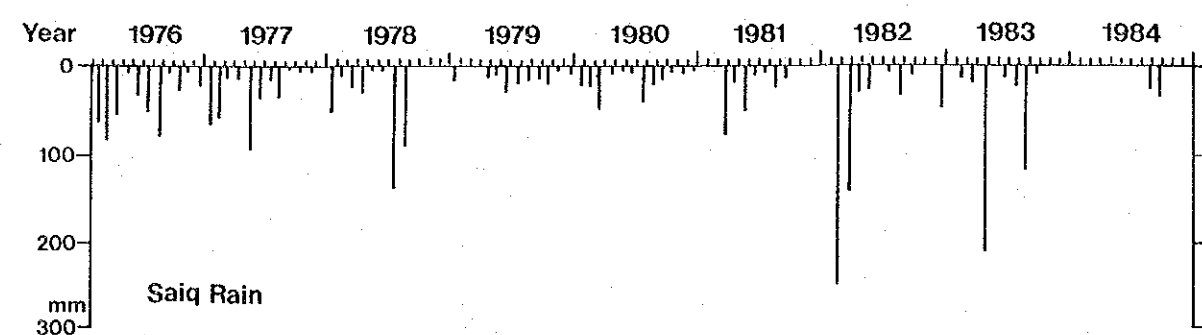
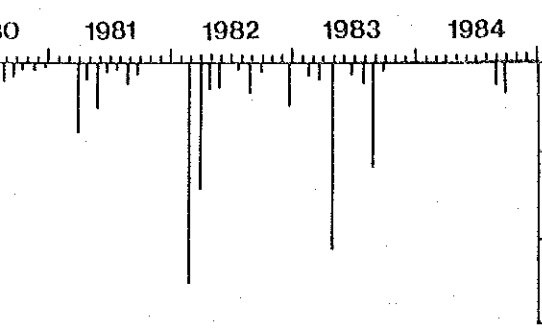
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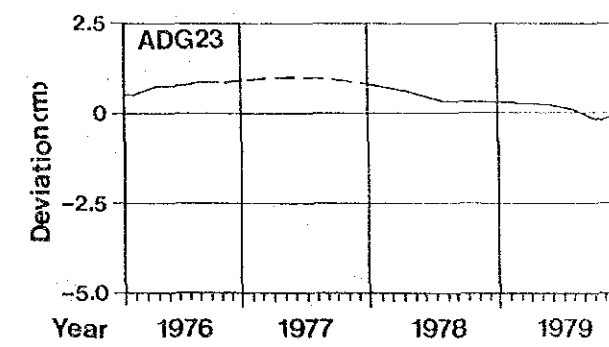
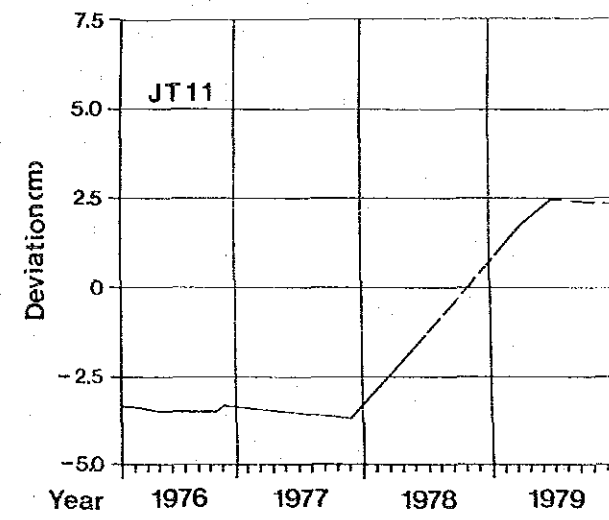
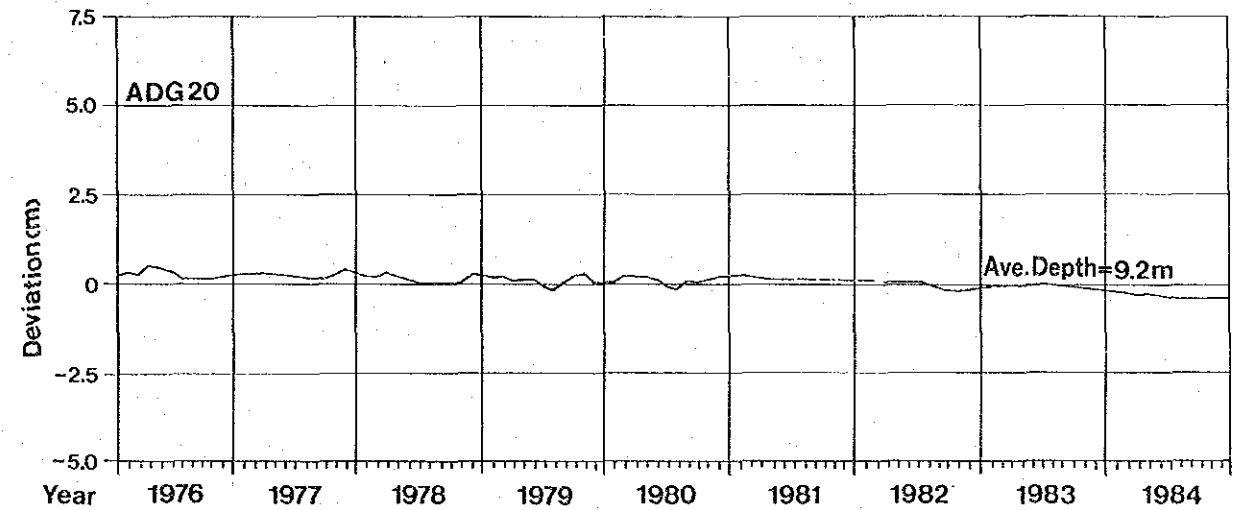
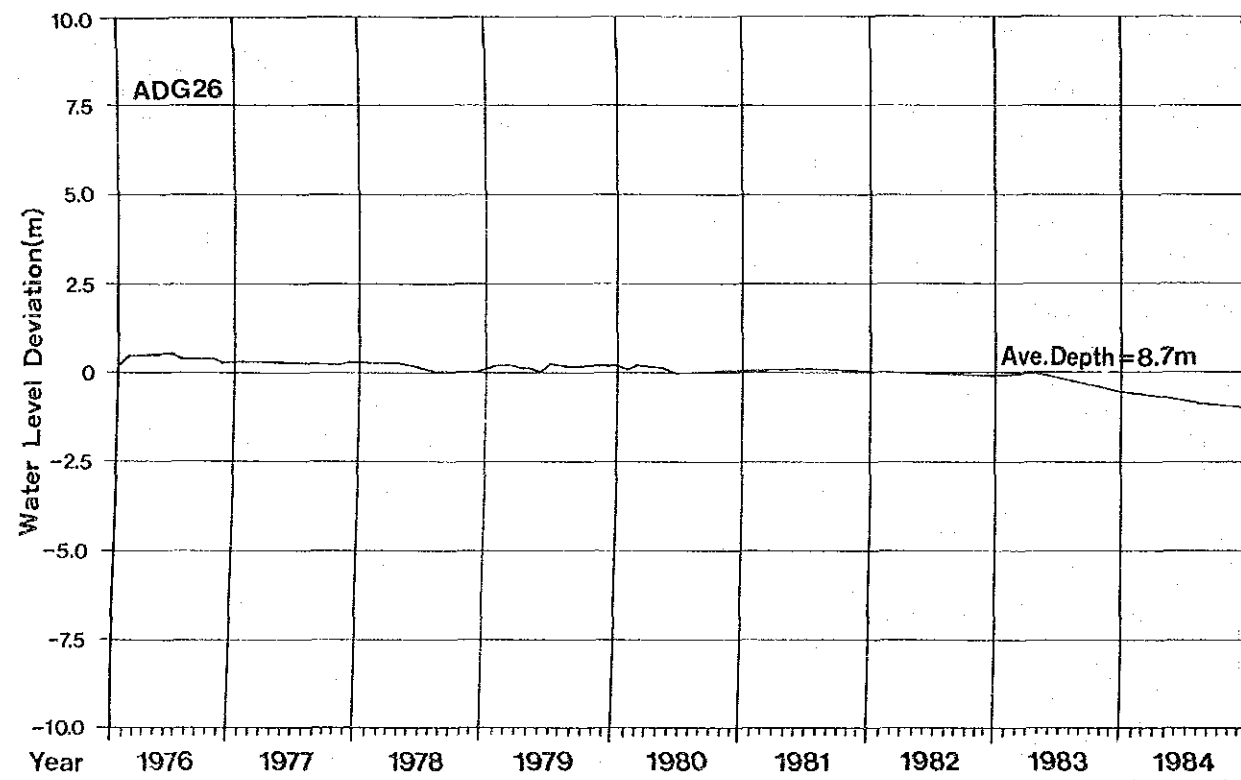
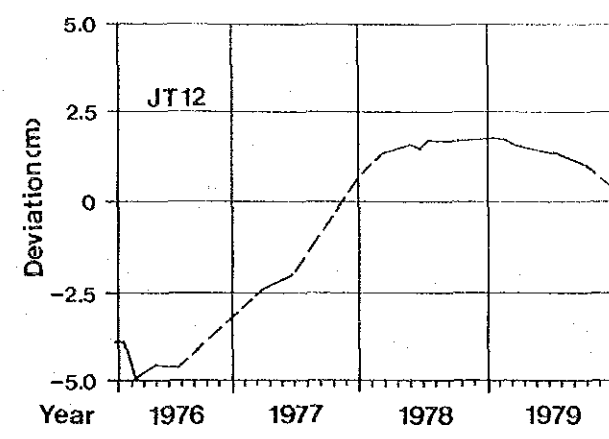
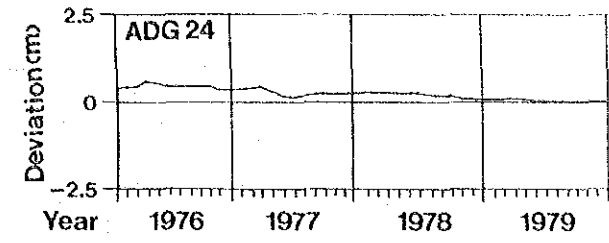
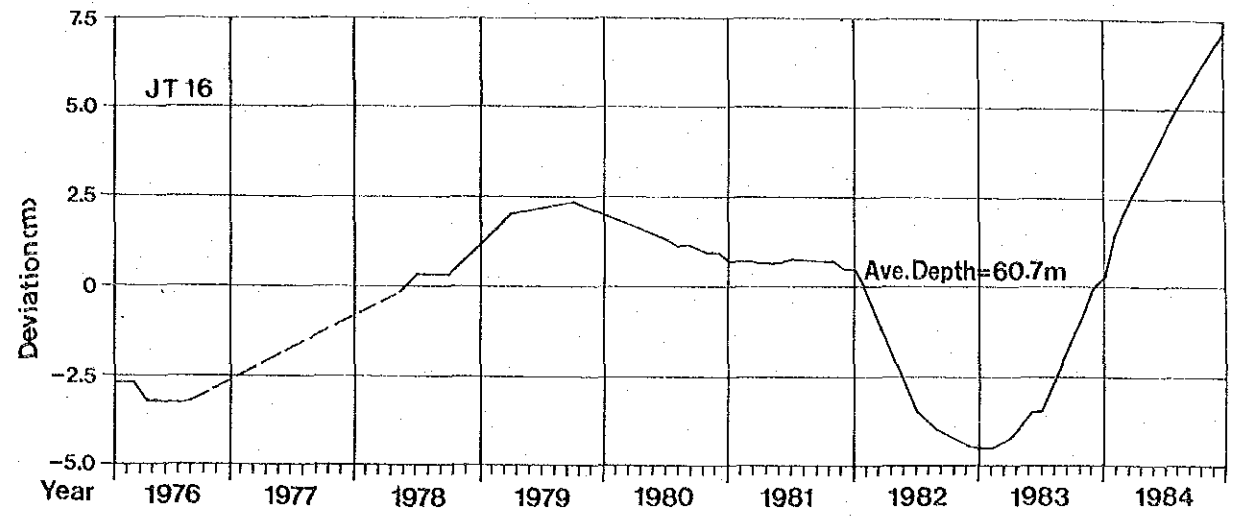
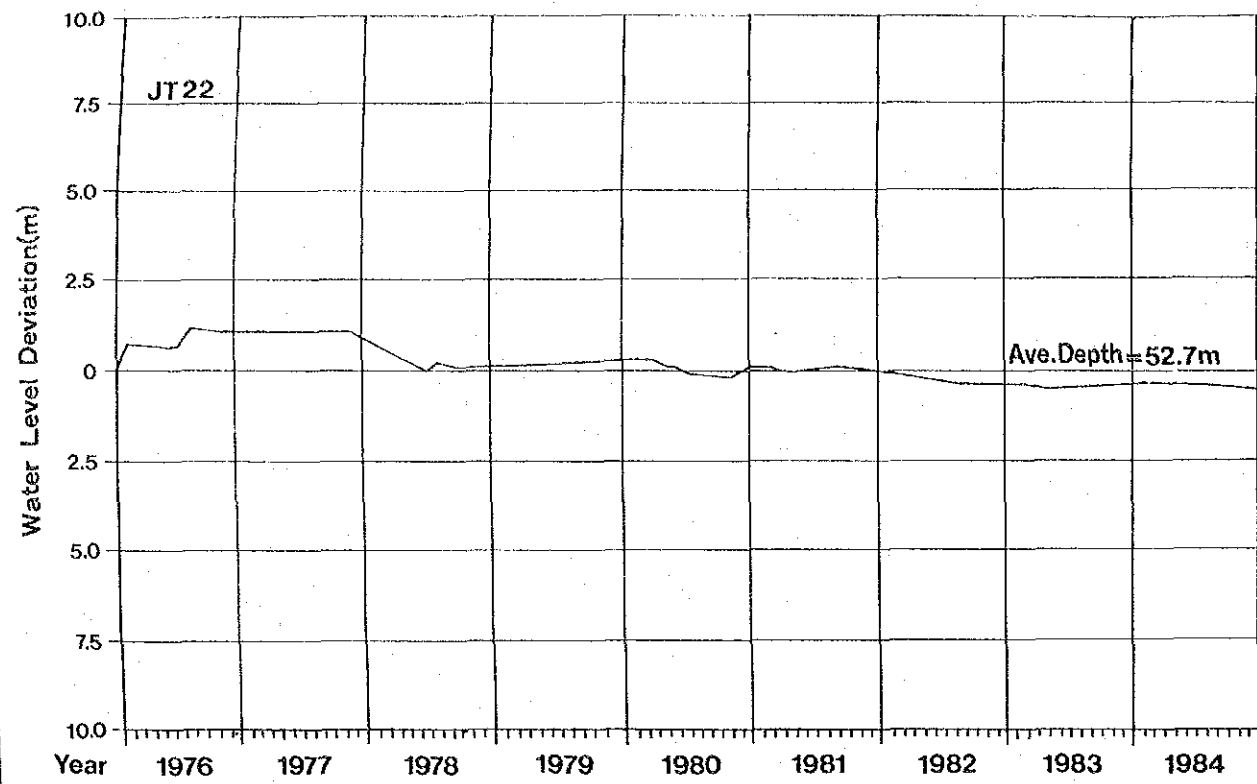


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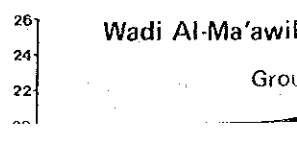
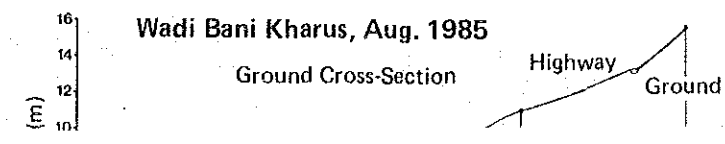
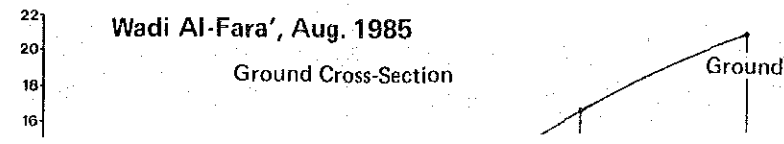
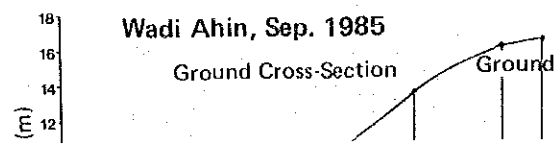


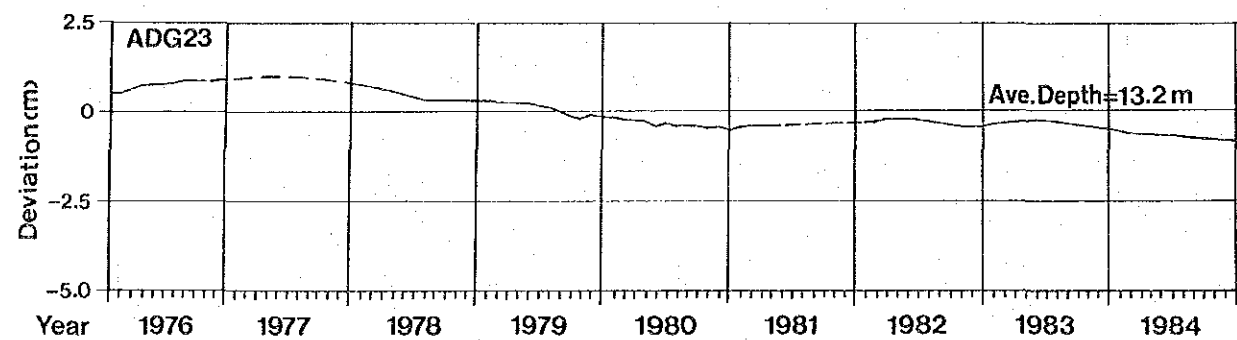
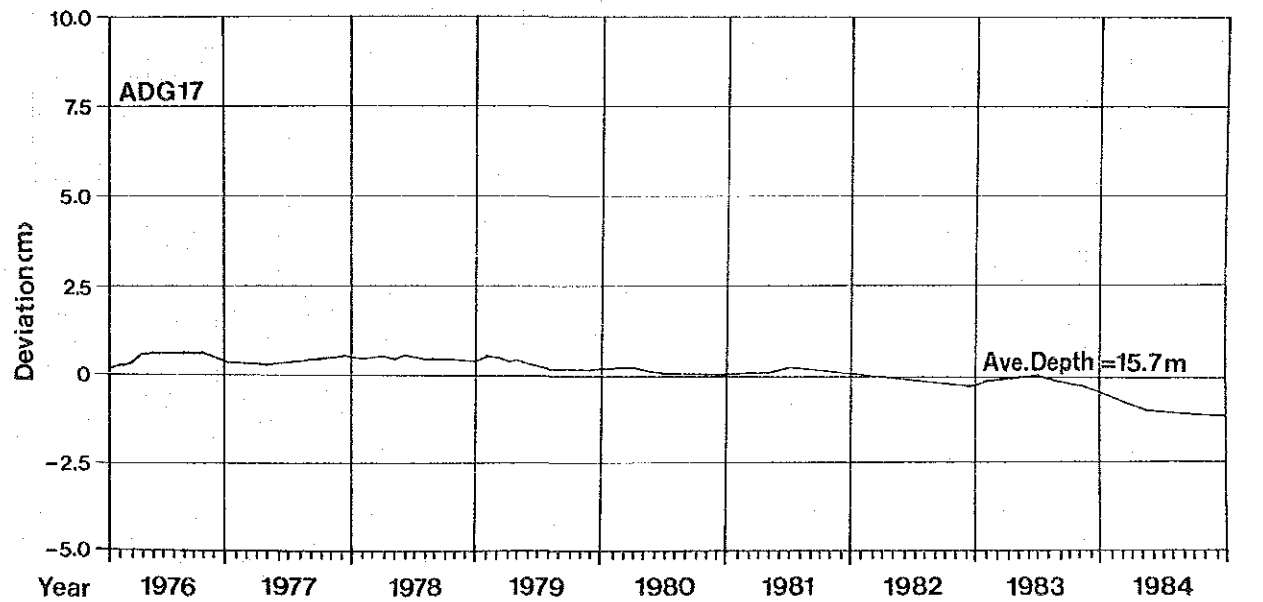
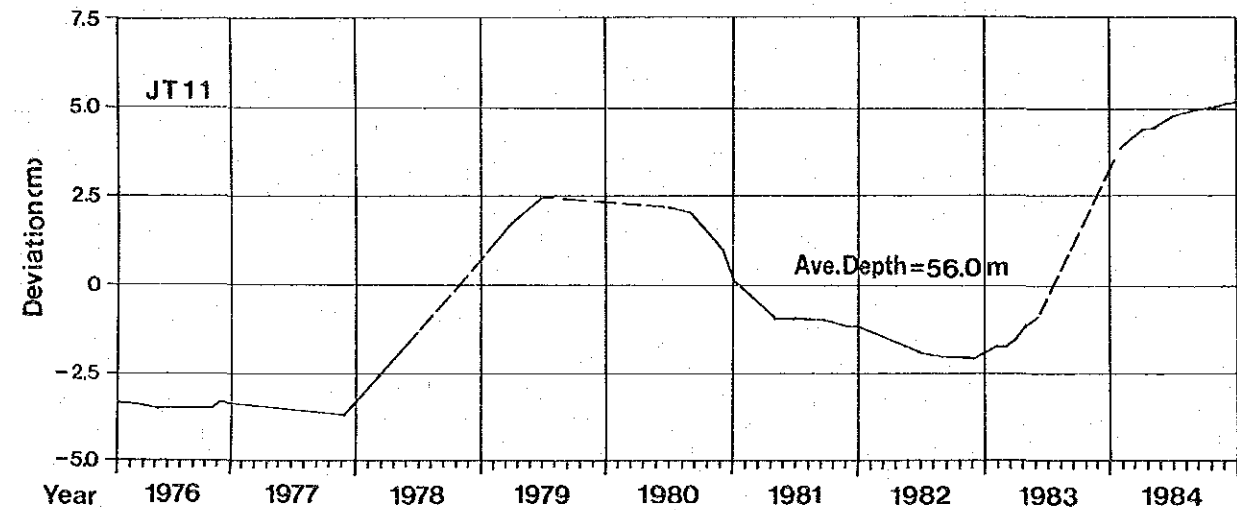
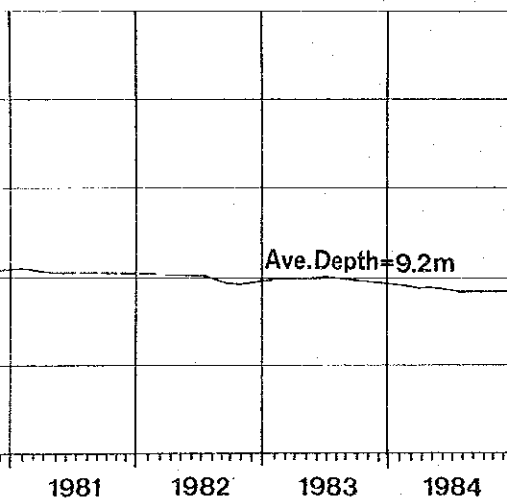
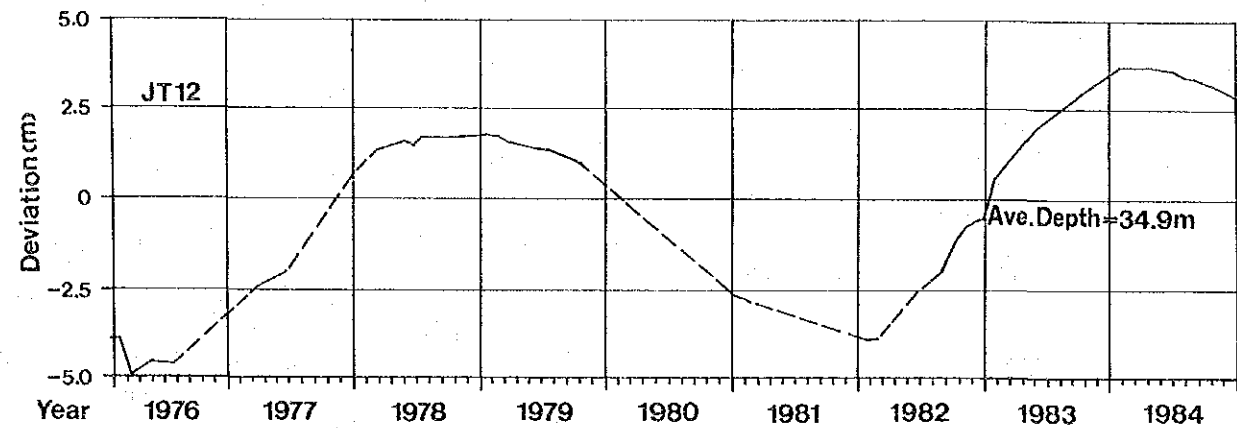
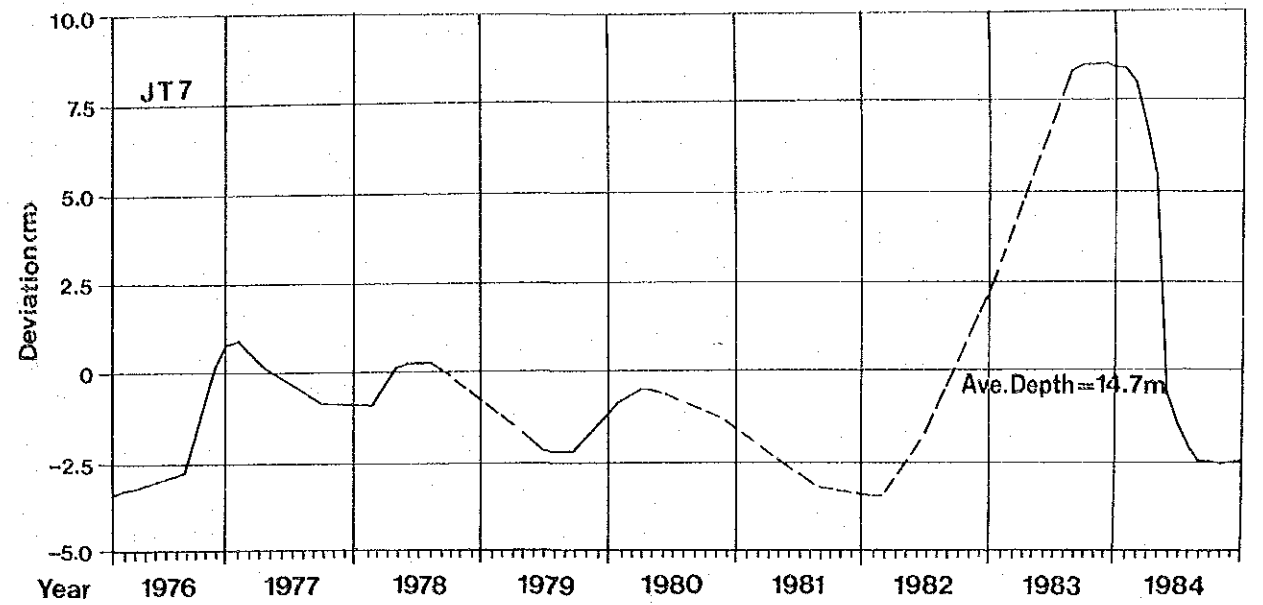
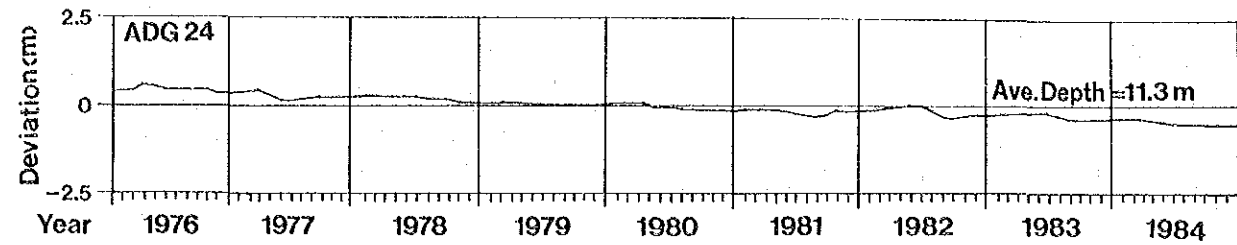
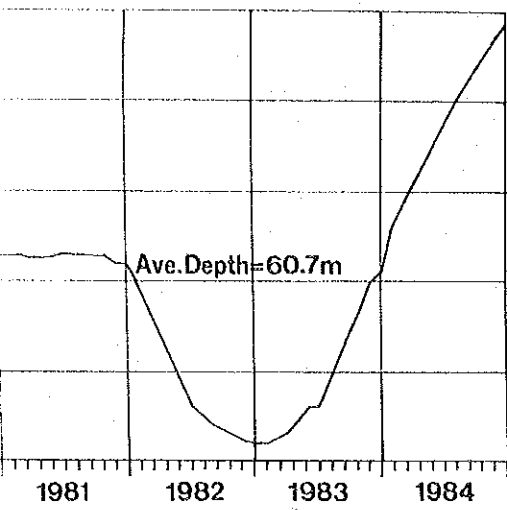
# OBSERVATION WELL HYDROGRAPH (1976-1984)





## CROSS-SECTIONAL PROFILE OF GROUND AND GROUNDWATER NEAR THE COAST

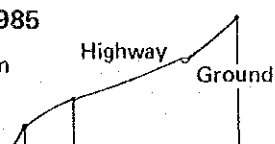




## GROUNDWATER NEAR THE COAST

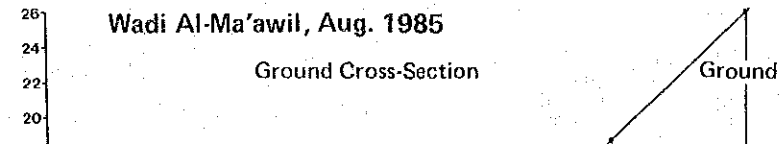
Wadi Bani Kharus, Aug. 1985

Ground Cross-Section



Wadi Al-Ma'awil, Aug. 1985

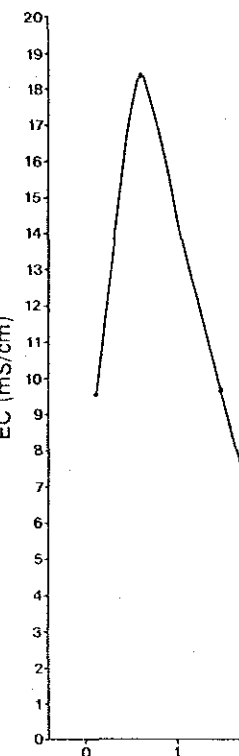
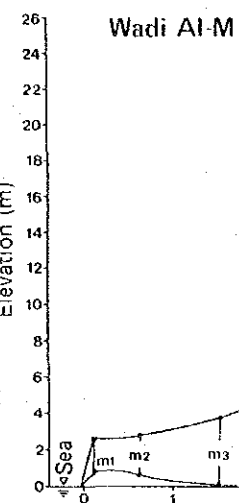
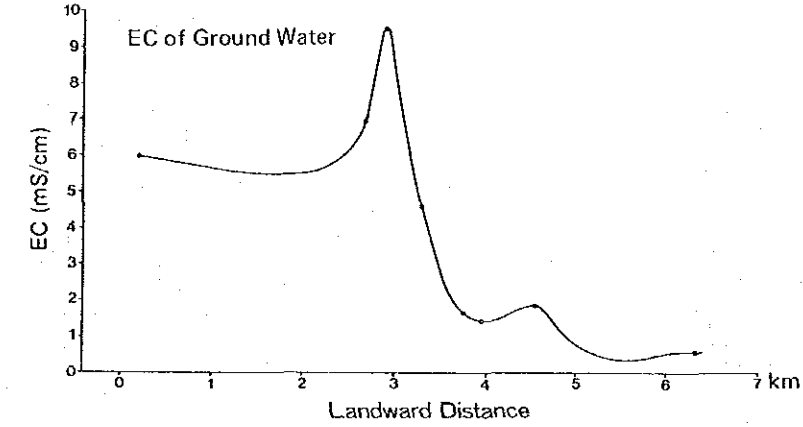
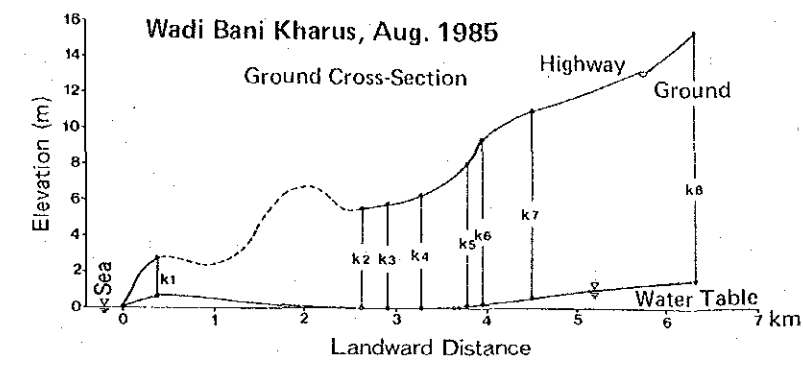
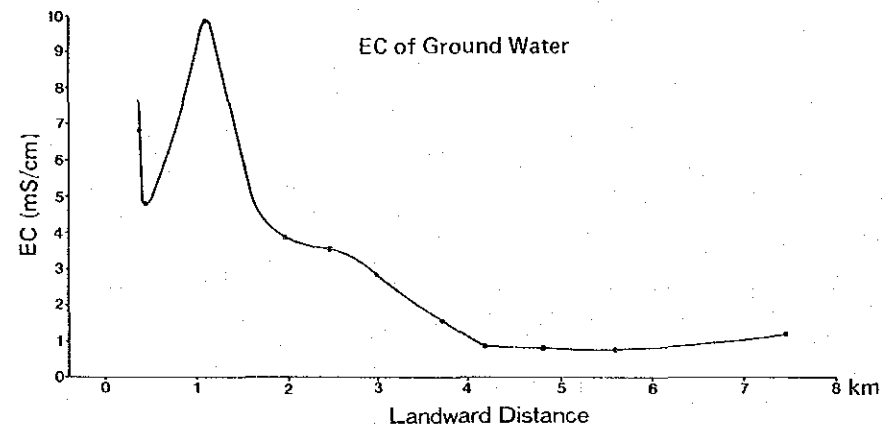
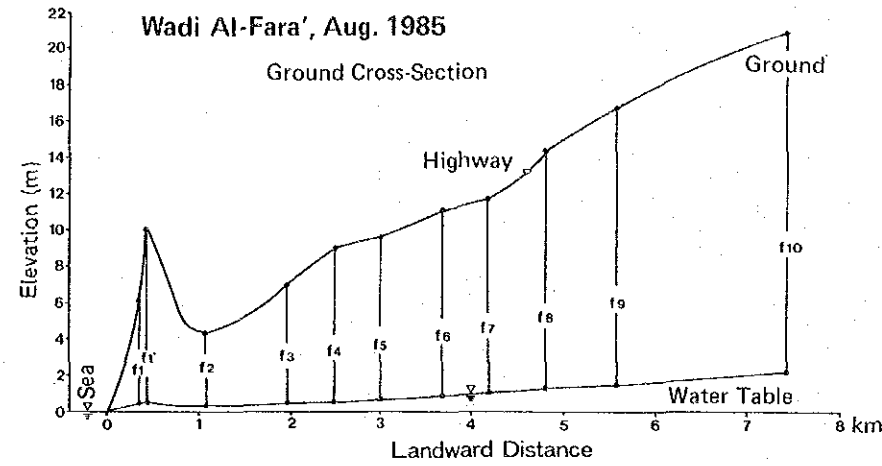
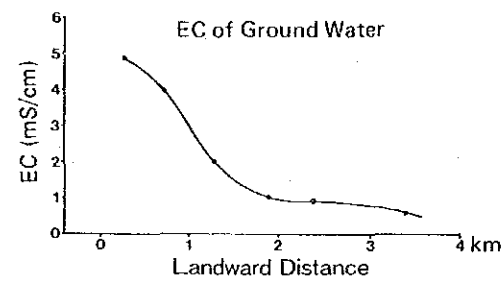
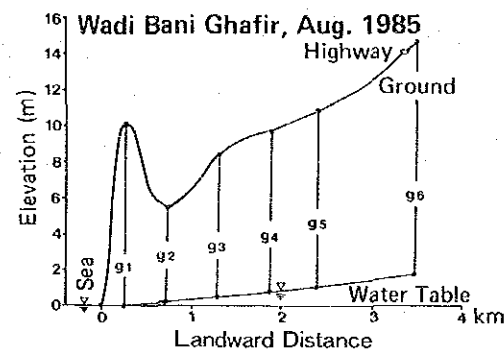
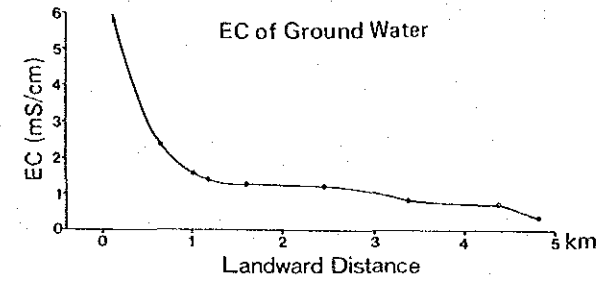
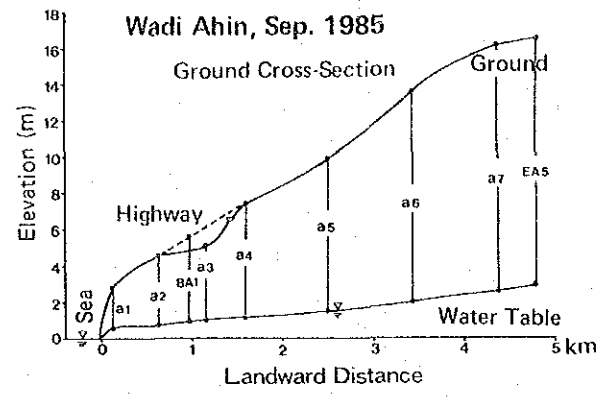
Ground Cross-Section



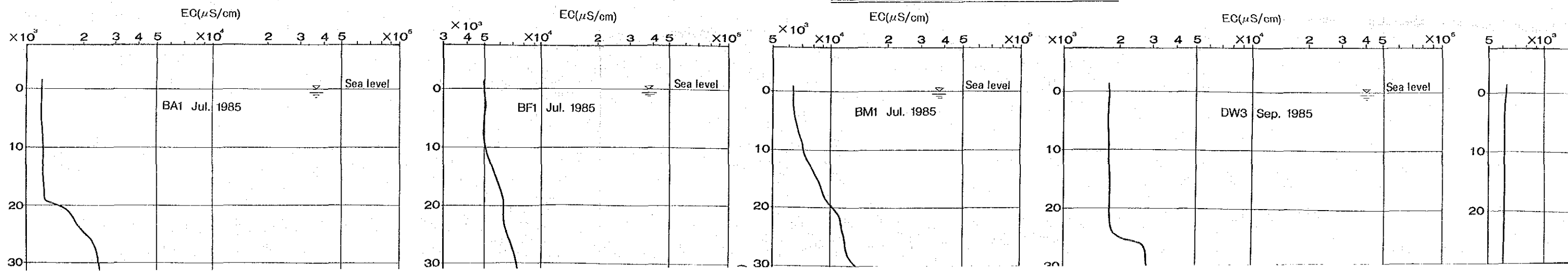
### References

- Sir Alexander Gibb and Partners, (1976), Water Resources Survey of Northern Oman, Final Report
- ILACO, (1975), Water Resources Development Project, Northern Oman, Final Report
- Glennie, K.W. et al, (1974), Geology of Oman Mountains

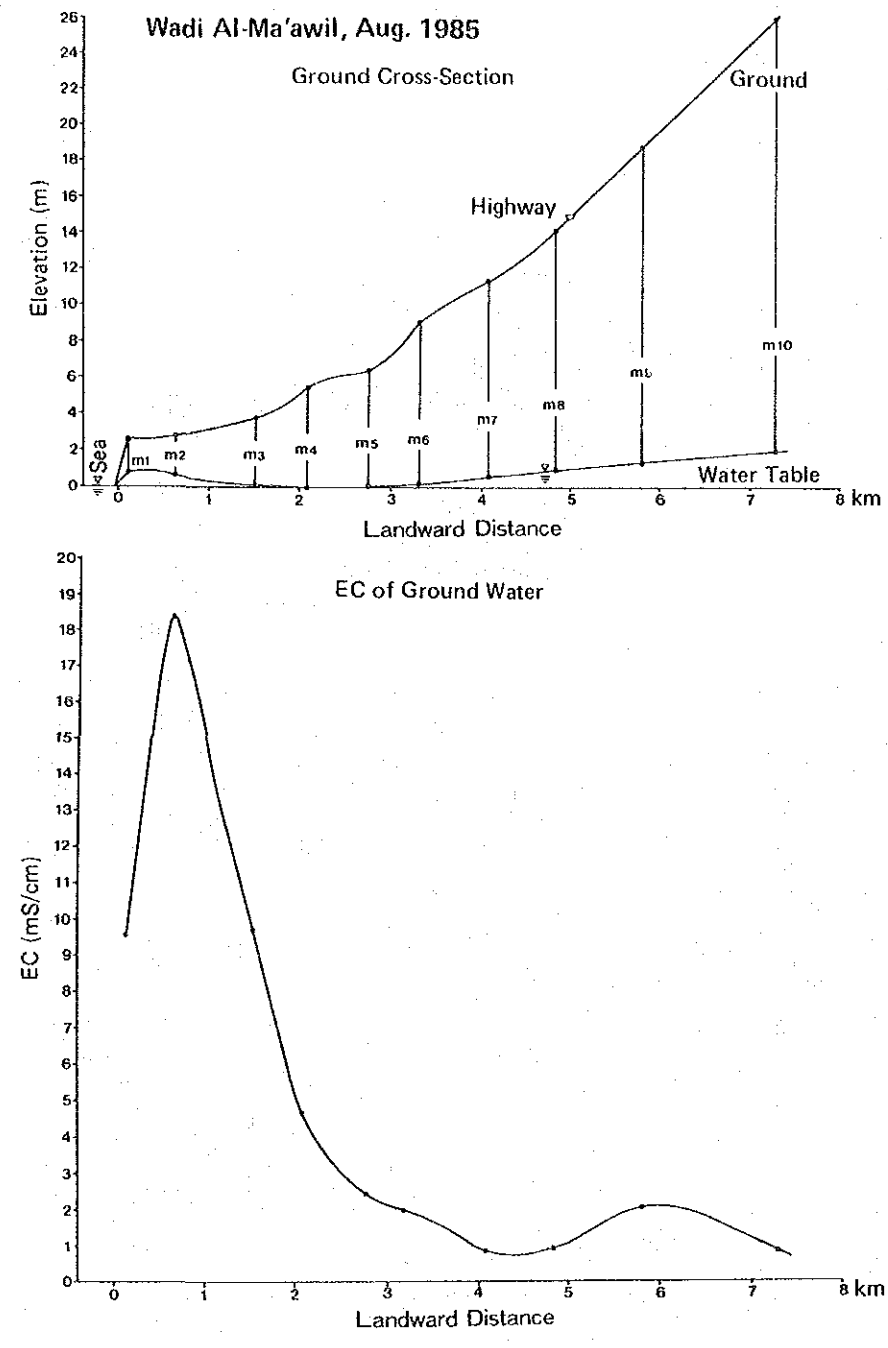
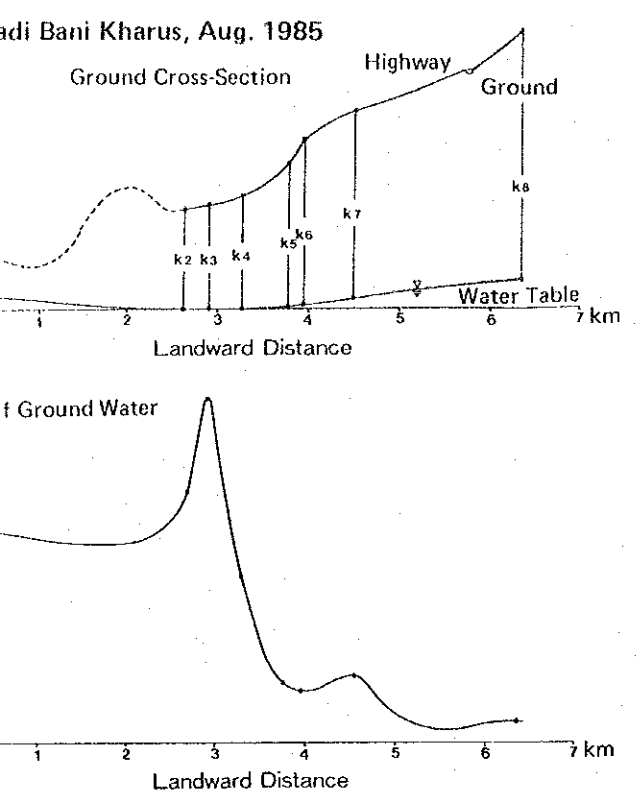
# CROSS-SECTIONAL PROFILE OF GROUND AND GROUNDWATER NEAR THE COAST



## EC Log of Coastal Wells



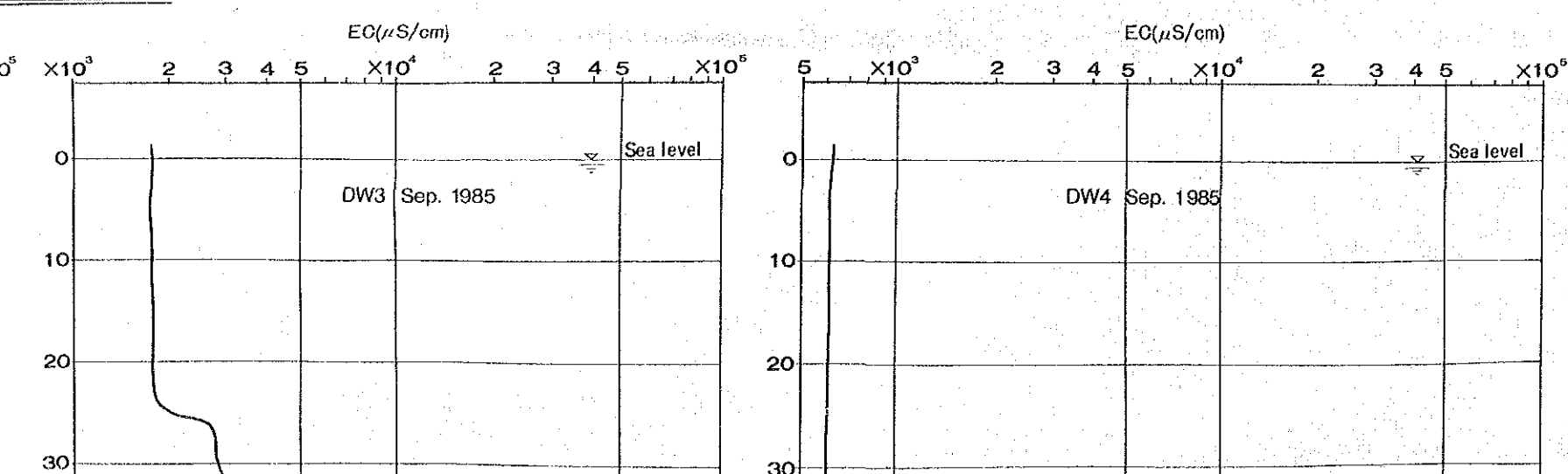
# GROUNDWATER NEAR THE COAST



## References

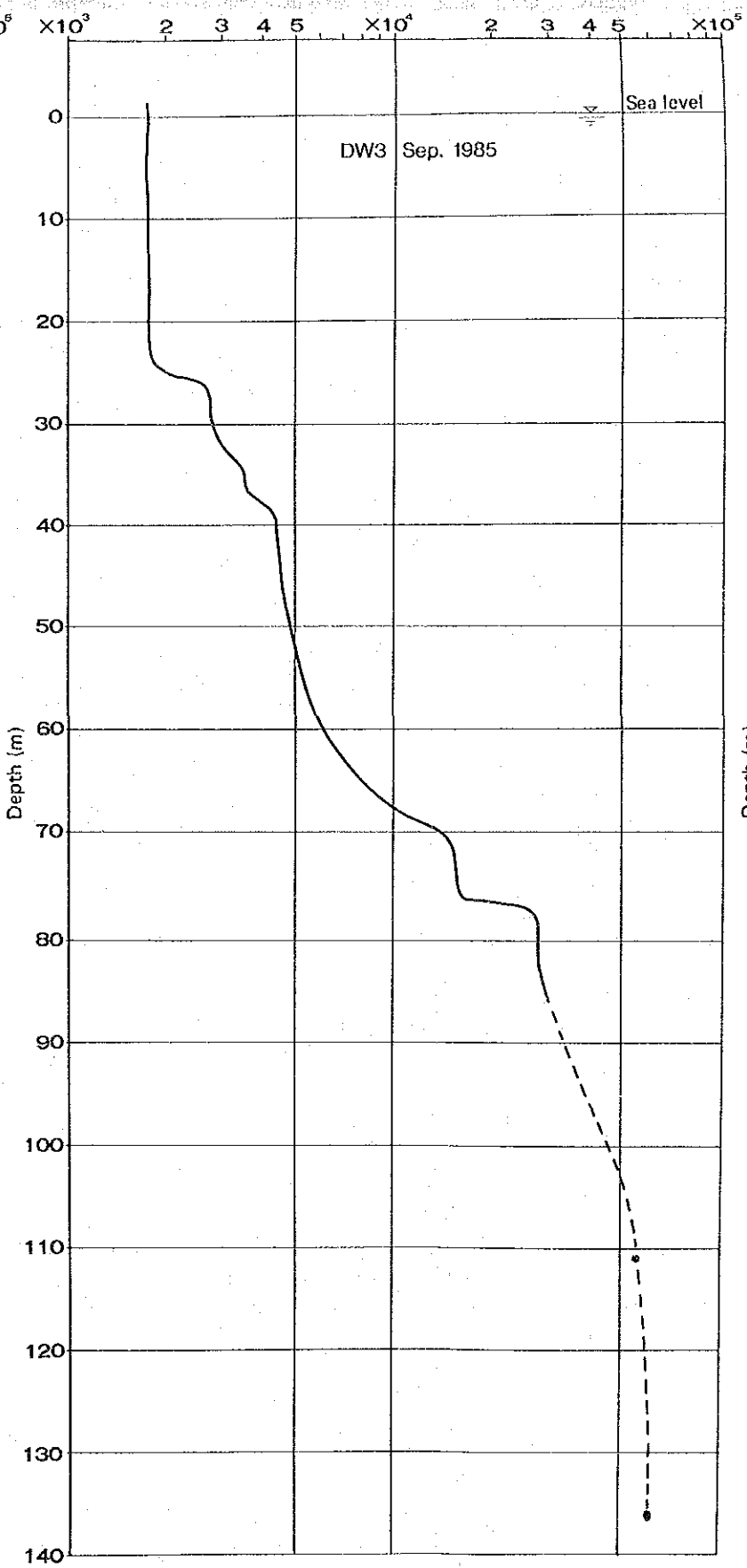
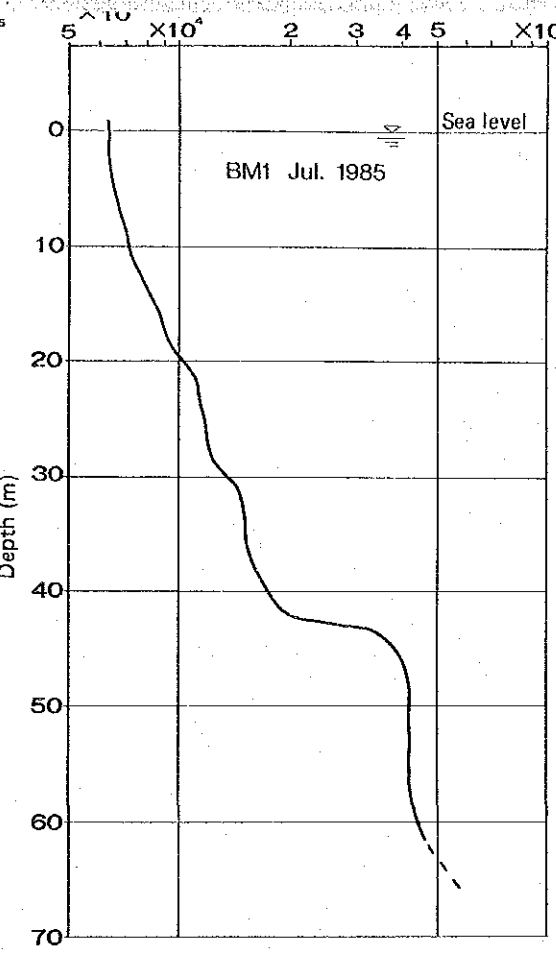
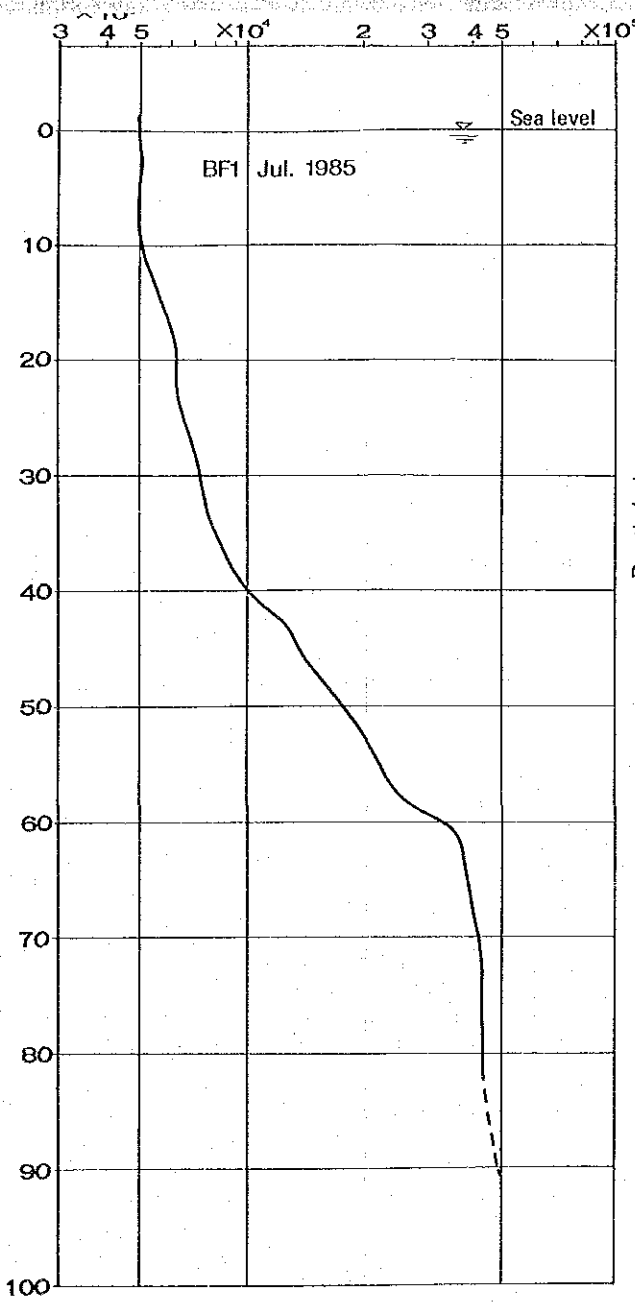
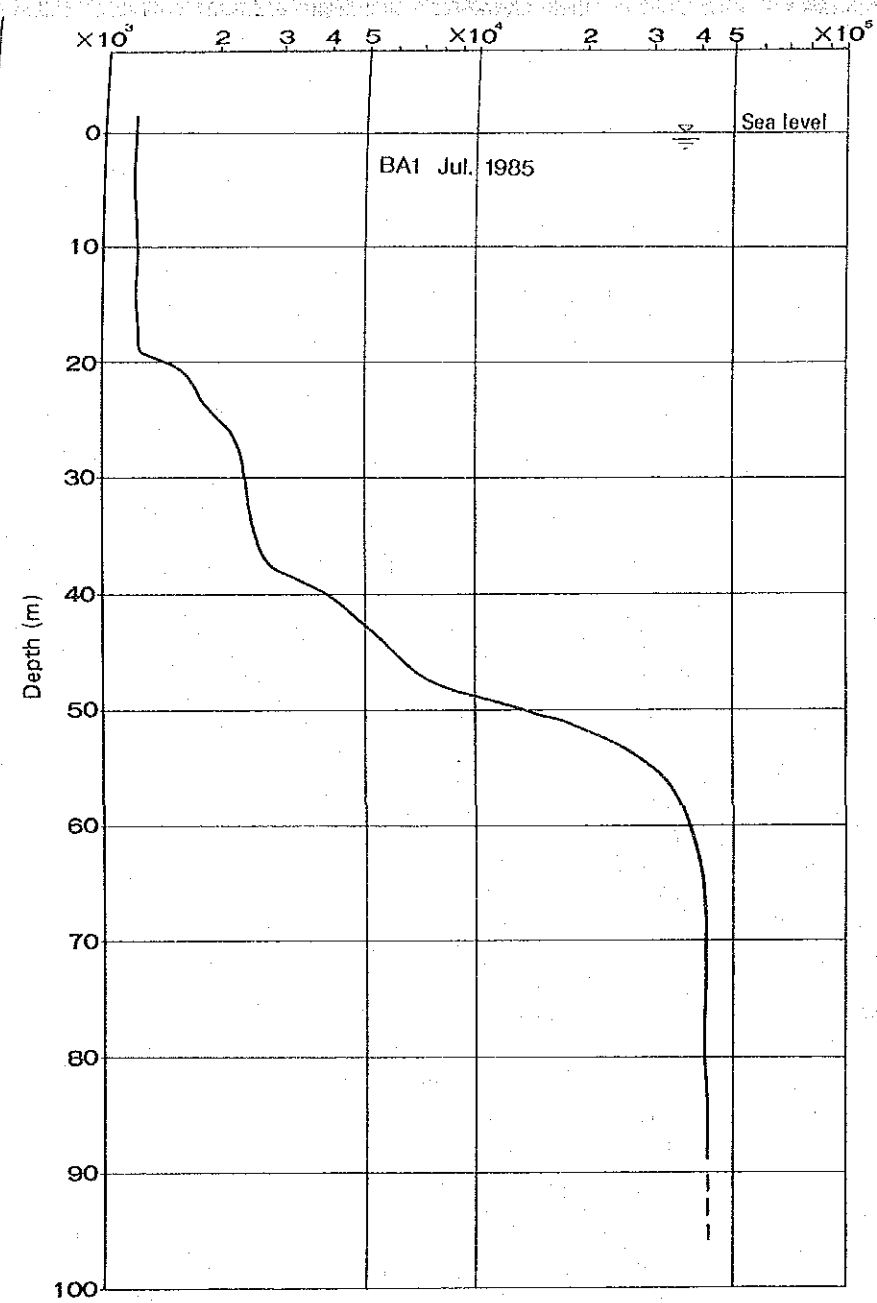
- Sir Alexander Gibb and Partners, (1976), Water Resources Survey of Northern Oman, Final Report
- ILACO, (1975), Water Resources Development Project, Northern Oman, Final Report
- Glennie, K.W. et al, (1974), Geology of Oman Mountains

## Salinity Wells

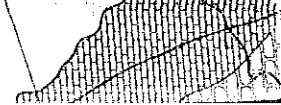
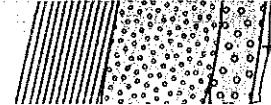


SULTANATE OF OMAN  
 HYDROLOGIC OBSERVATION PROJECT  
 IN THE BATINAH COAST  
 OF SULTANATE OF OMAN

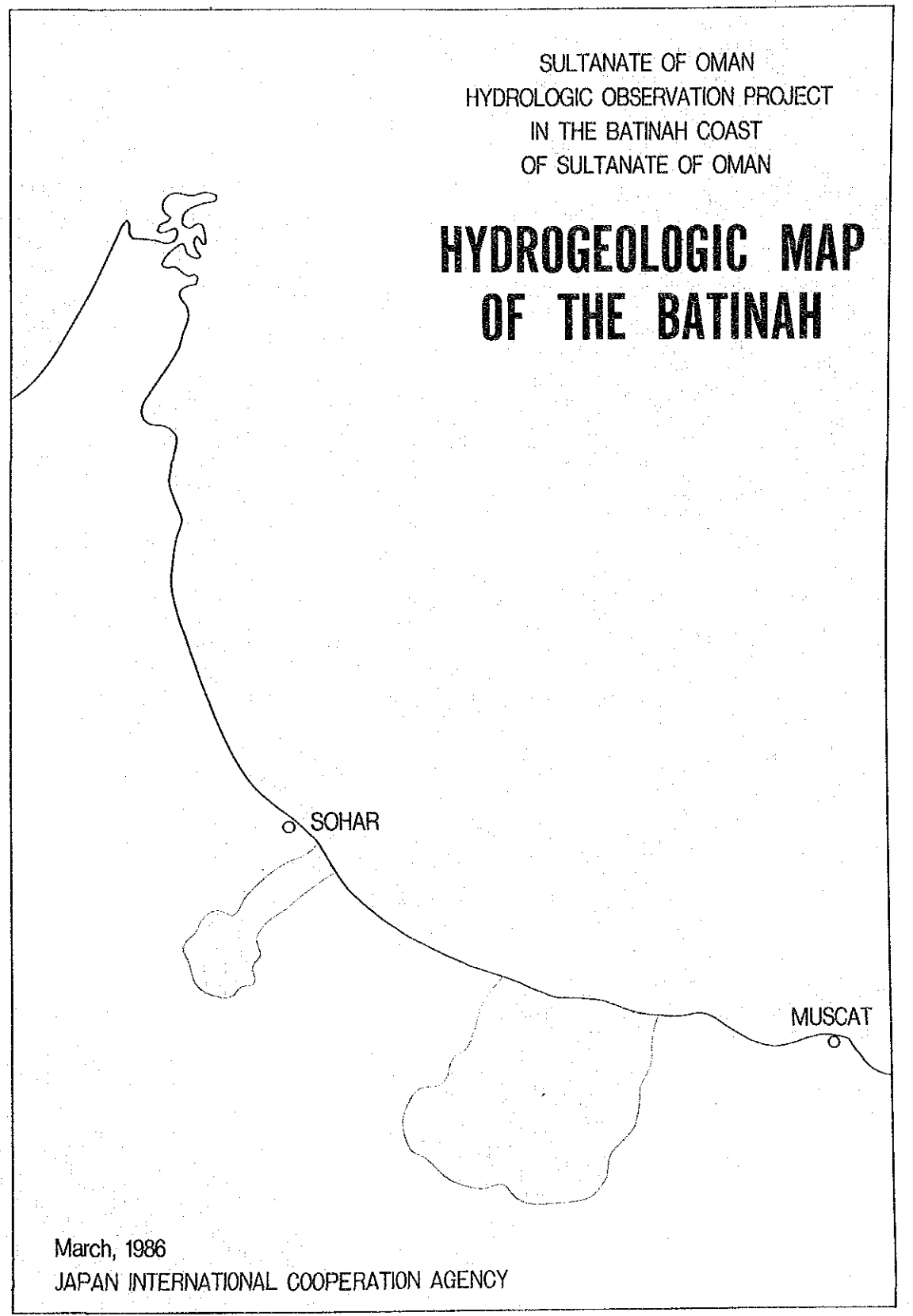
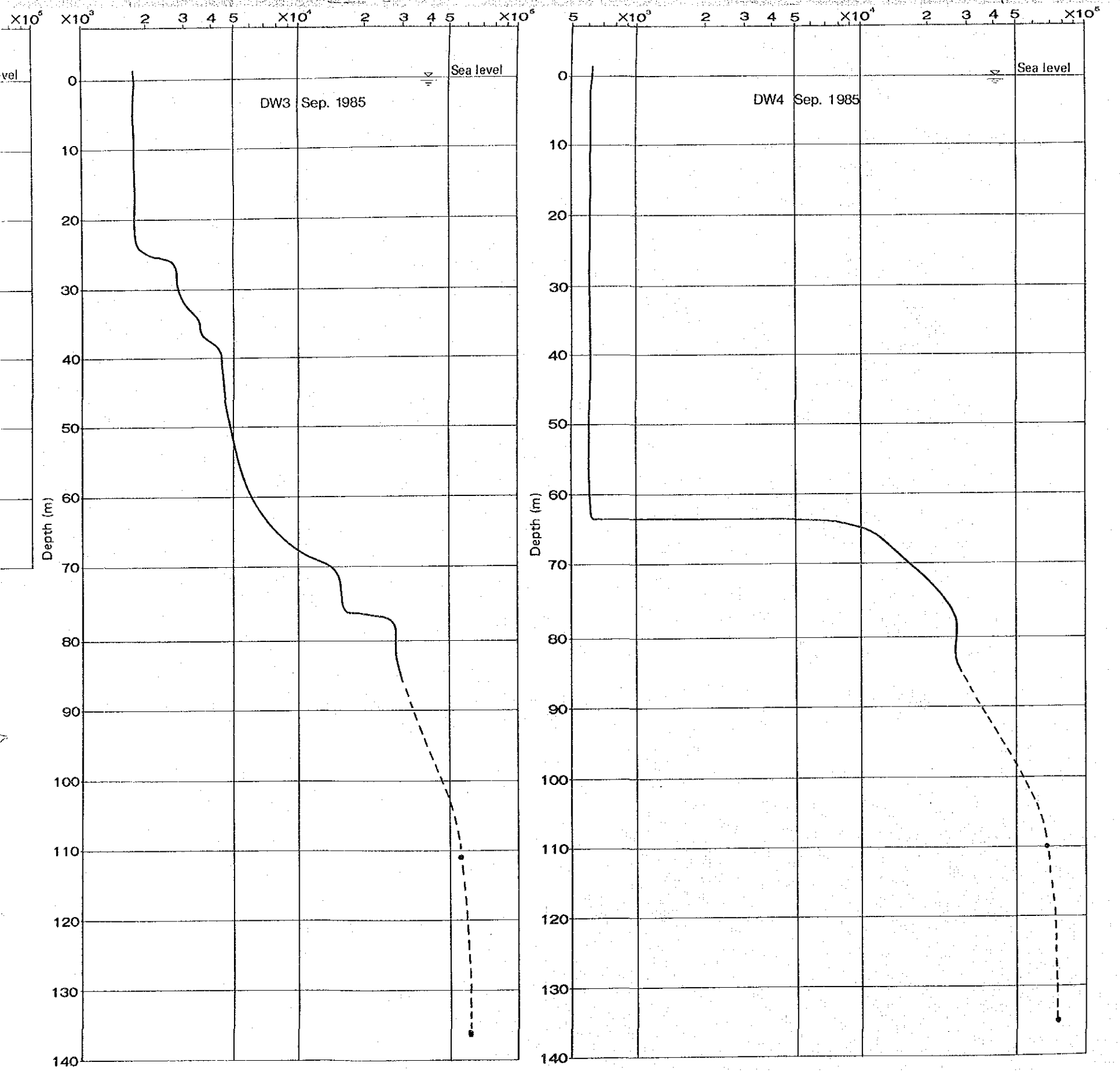
**HYDROGEOLOGIC MAP  
 OF THE BATINAH**



\* EC values are corrected at 25°C.







The Government of Sultanate of Oman  
 Hydrologic Observation Project in the Batinah Coast of  
 Sultanate of Oman

# HYDROGEOLOGIC MAP OF THE BATINAH

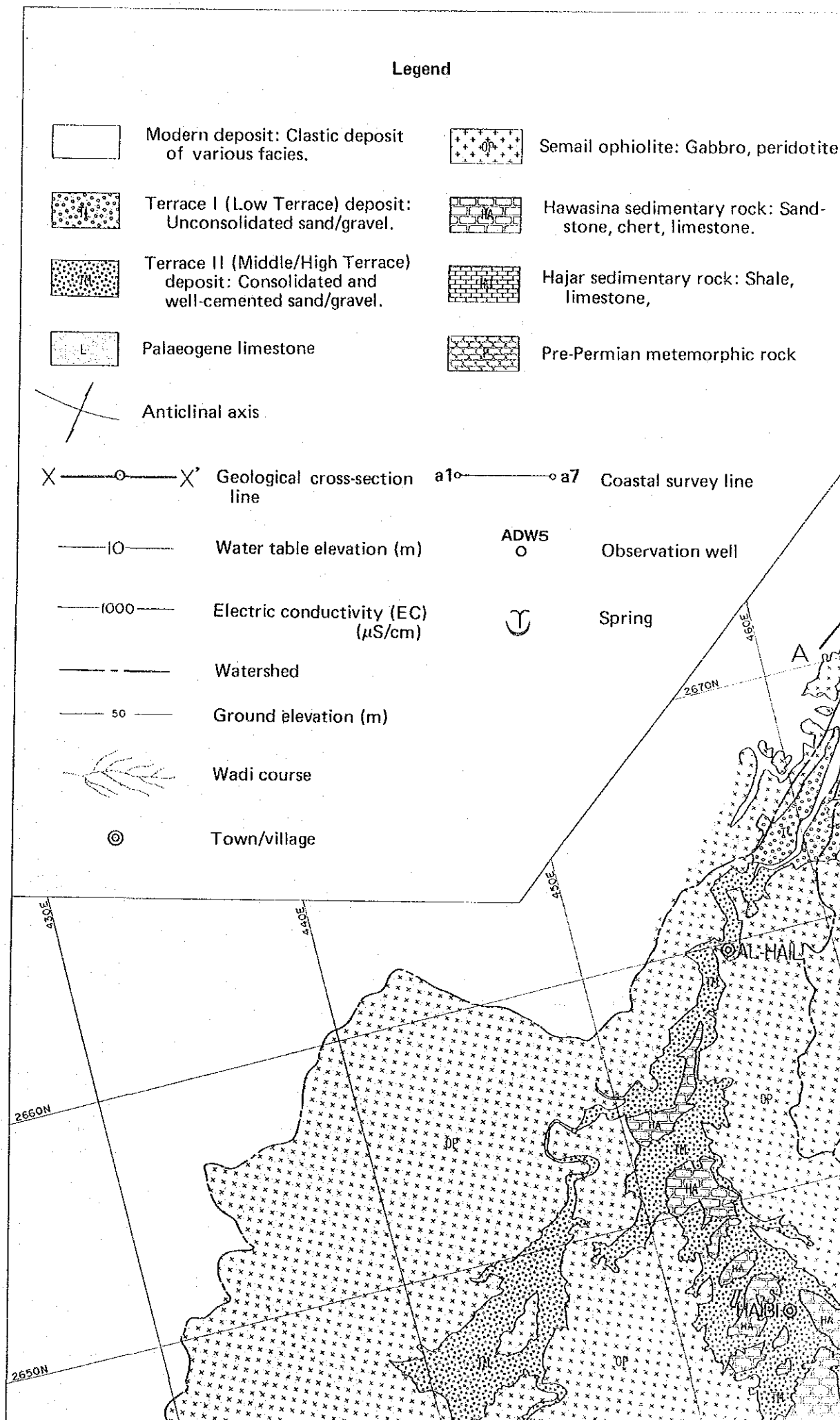
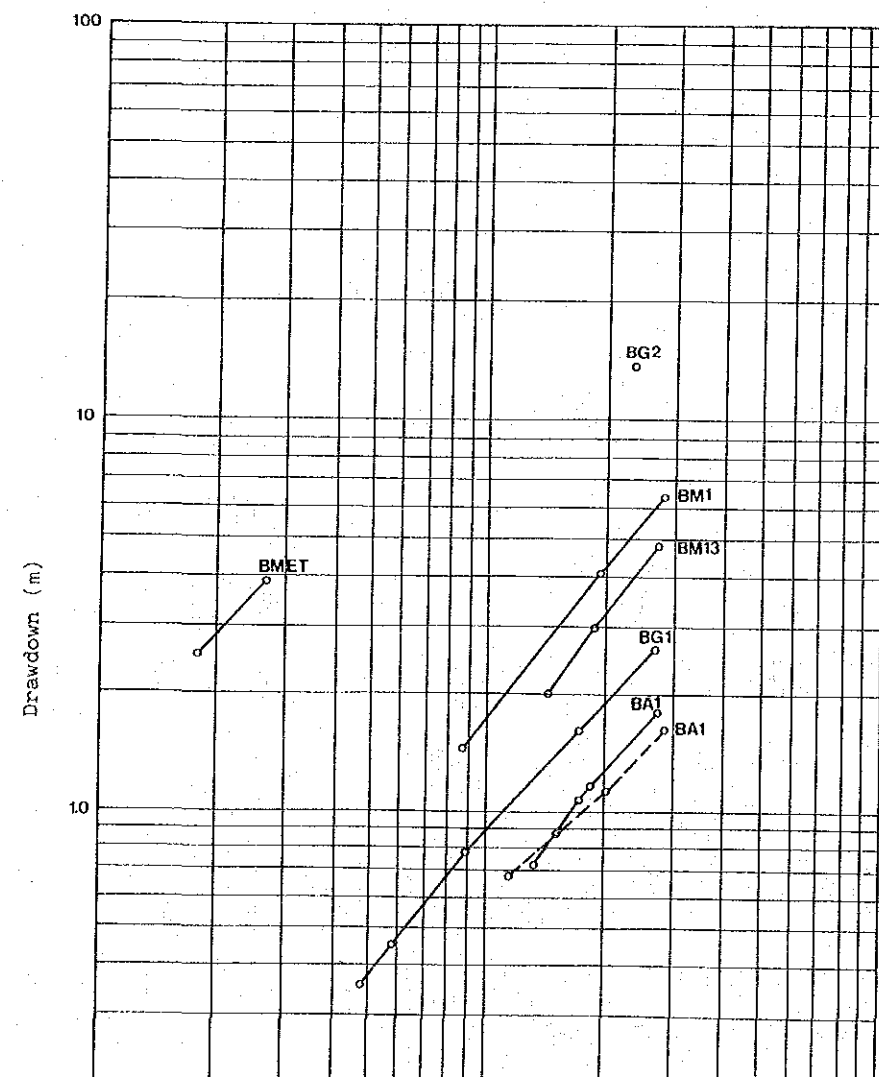
(WADI AHIN, WADI BANI GHAFIR, WADI AL-FARA',  
 WADI BANI GHAFIR AND WADI AL-MA'AWIL)

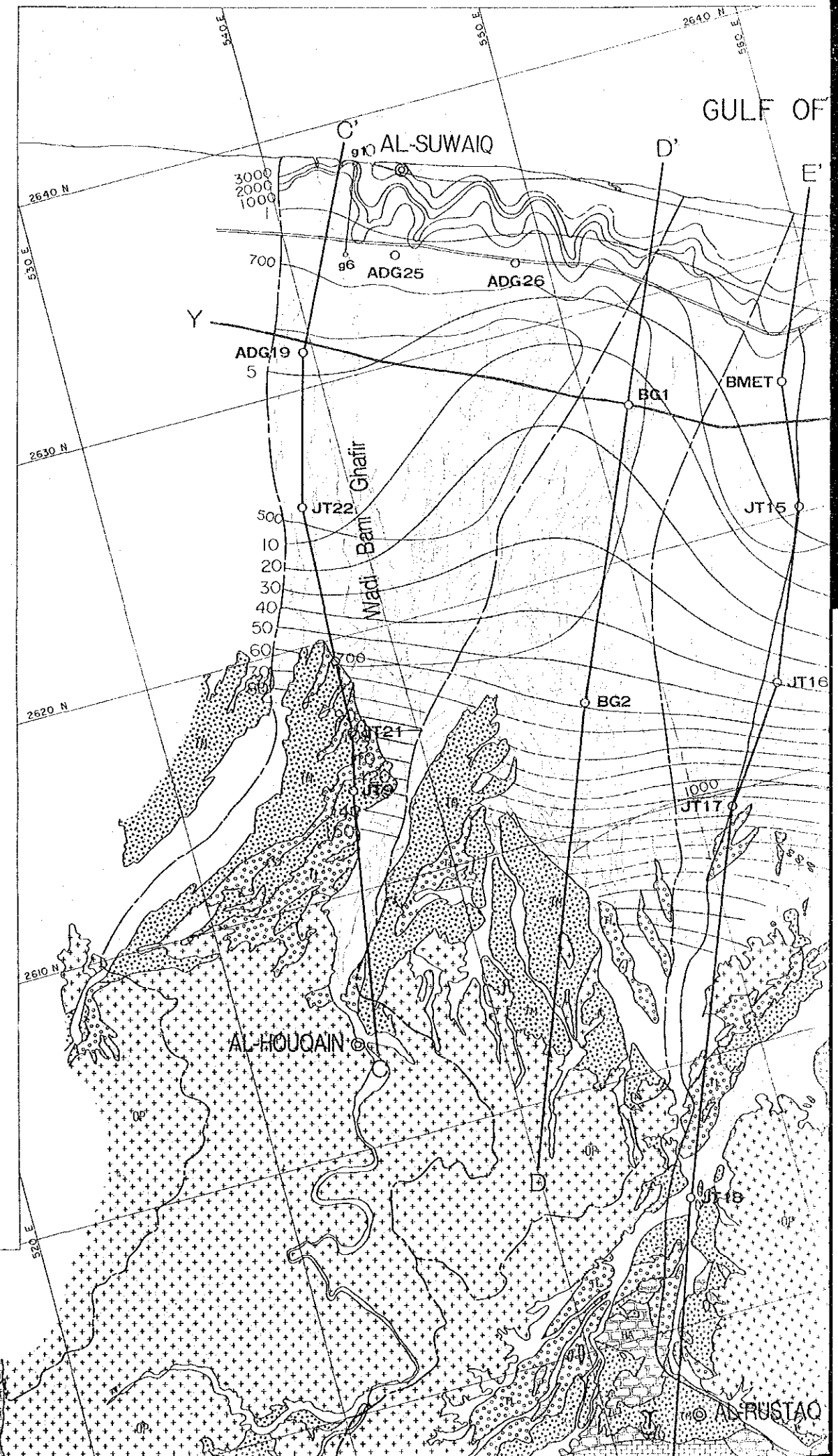
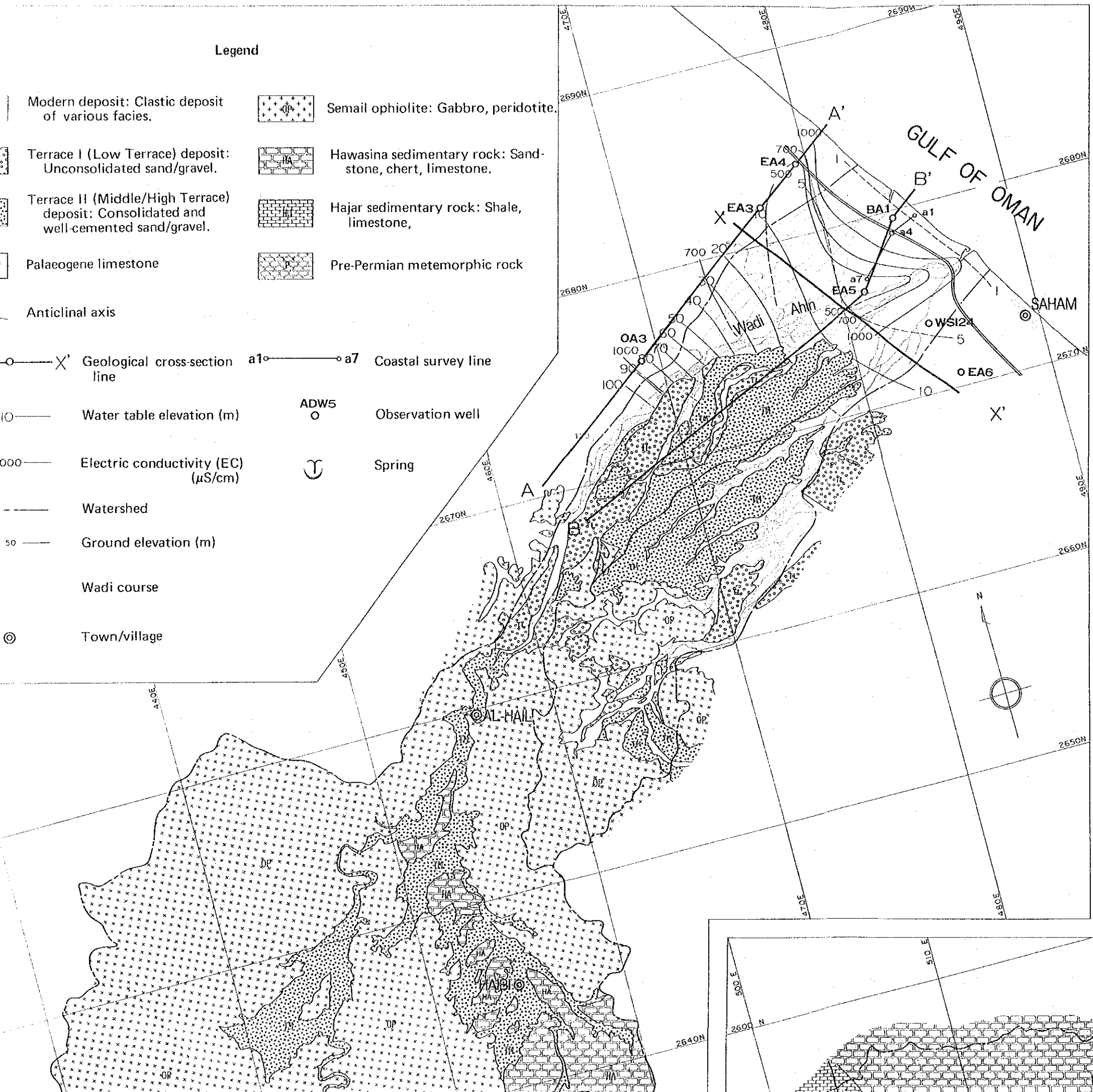
March, 1986

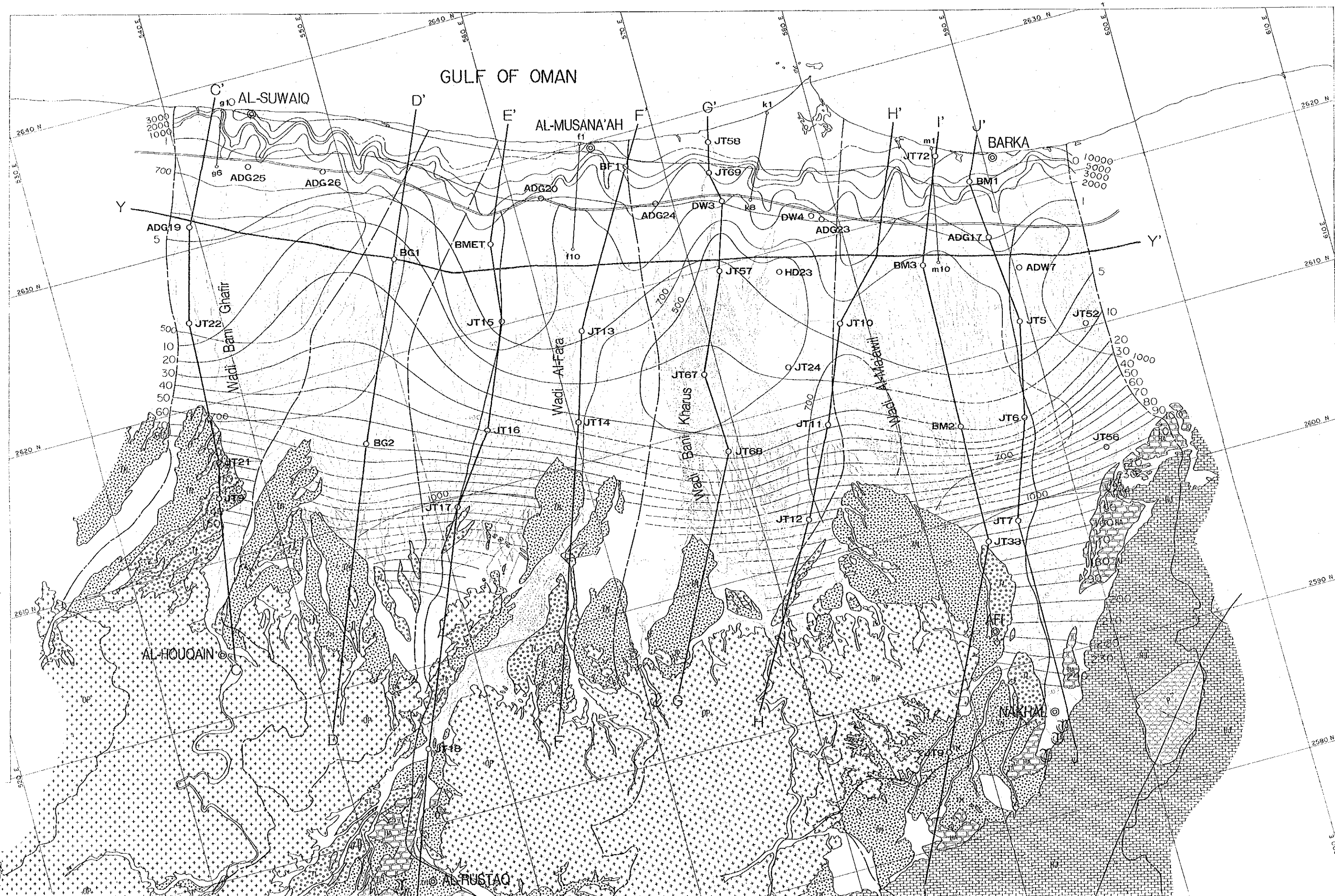
Japan International Co-operation Agency

## Hydraulic Properties

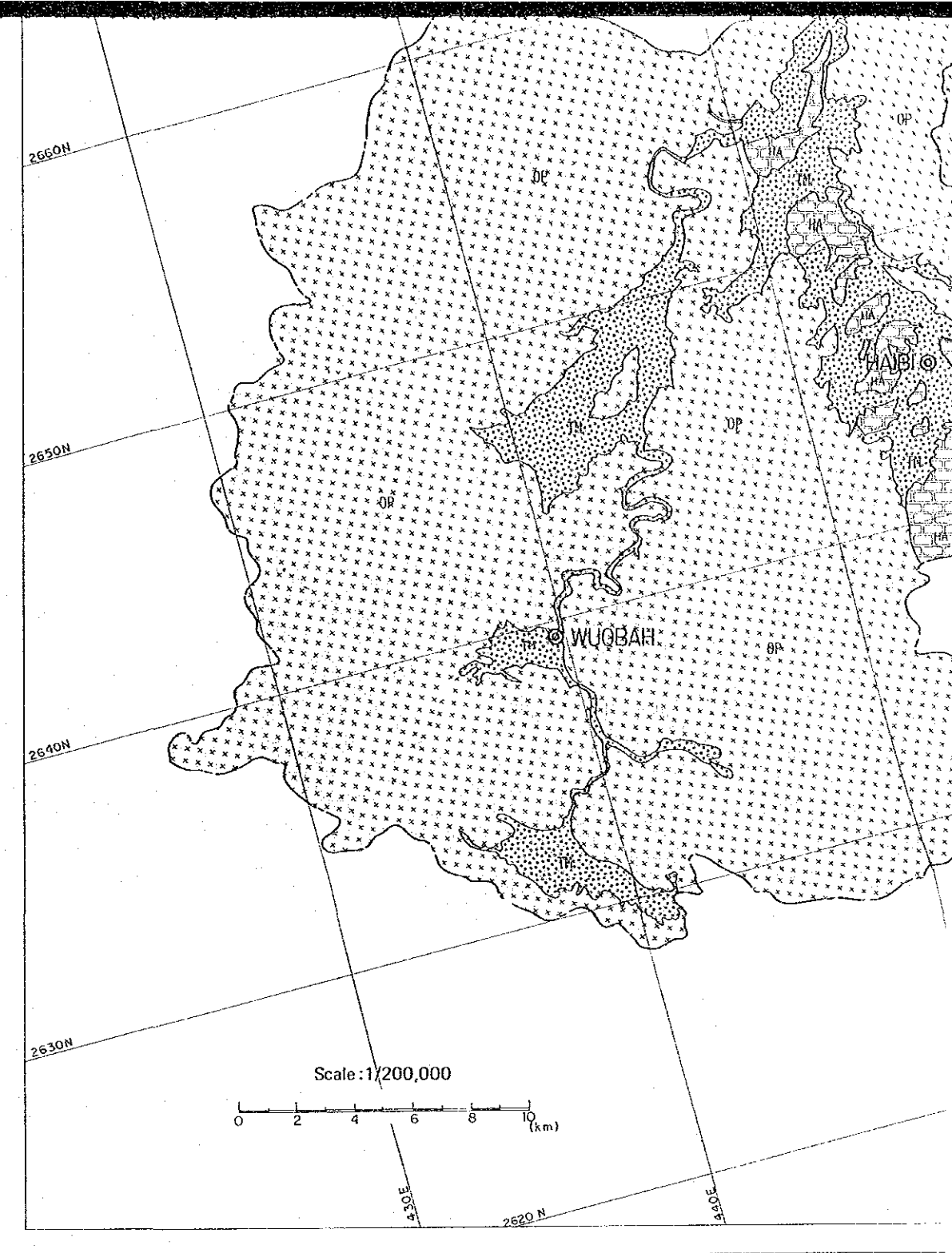
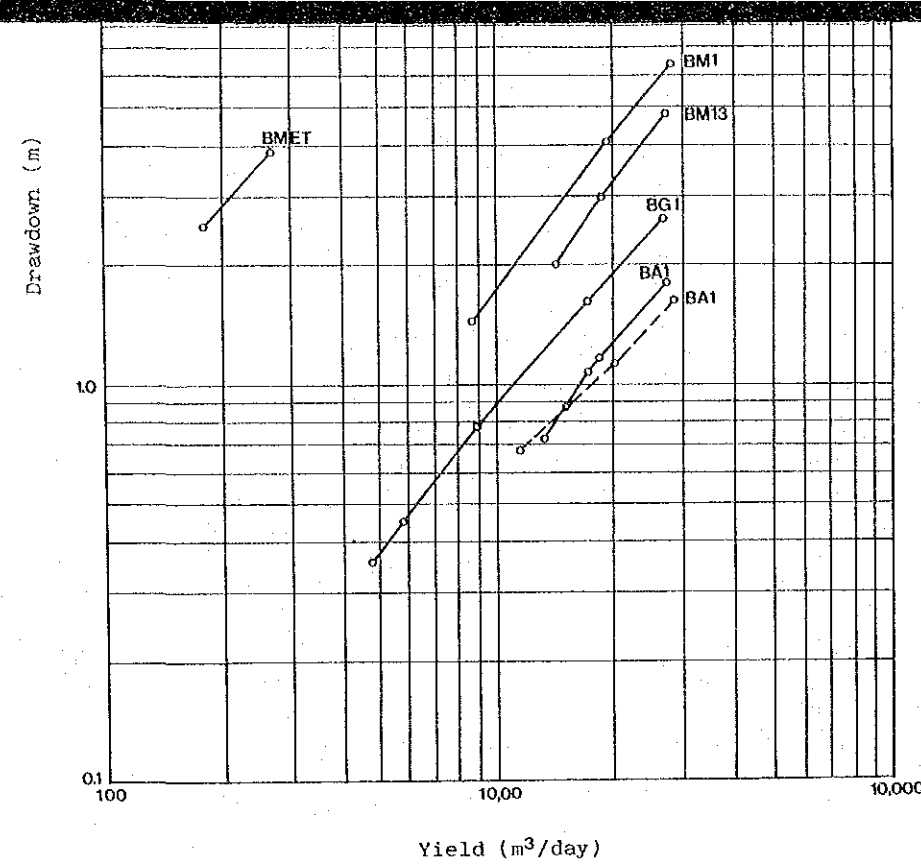
| Well No. | Specific Capacity (m <sup>2</sup> /day) | Transmissibility (m <sup>2</sup> /day) | Permeability (m/day) | Storage Coefficient  |
|----------|---|--|----------------------|----------------------|
| BA 1     | 1,630                                   | 1,950                                  | 21                   | —                    |
| EA 5     | 5,060                                   | 5,380                                  | 141                  | —                    |
| WSI 24   | 990                                     | —                                      | —                    | —                    |
| EA 3     | 1,230                                   | 2,580                                  | 61                   | —                    |
| EA 4     | 2,170                                   | 2,760                                  | 71                   | —                    |
| EA 6     | 30,000                                  | 2,120                                  | 56                   | 2.1x10 <sup>-2</sup> |
| JT 20A   | 108                                     | 59                                     | 25                   | 5.4x10 <sup>-4</sup> |
| JT 22    | 2,550                                   | 1,330                                  | 33                   | —                    |
| ADG 25   | 79                                      | 36                                     | —                    | —                    |
| ADG 26   | 336                                     | 168                                    | —                    | —                    |
| BG 1     | 612                                     | 2,050                                  | 72                   | 7.3x10 <sup>-4</sup> |
| BG 2     | 3.7                                     | 0.9                                    | 0.04                 | —                    |
| BF 1     | 1,790                                   | 1,860                                  | 21                   | —                    |
| JT 13    | 1,030                                   | 473                                    | 4                    | —                    |
| JT 15    | 1,020                                   | 468                                    | 13                   | —                    |
| ADG 20   | 183                                     | 84                                     | —                    | —                    |
| JT 24    | 153                                     | 426                                    | 2                    | —                    |
| JT 57    | 562                                     | 204                                    | 7                    | —                    |
| JT 58    | 247                                     | 72                                     | 1                    | —                    |
| JT 67    | 694                                     | 240                                    | 15                   | —                    |
| JT 69    | 533                                     | 316                                    | 3                    | —                    |
| ADG 23   | 333                                     | 333                                    | —                    | —                    |
| ADG 24   | 104                                     | 48                                     | —                    | —                    |
| JT 11    | 45                                      | 14                                     | 1                    | —                    |
| JT 12    | 19                                      | 4                                      | 0.2                  | —                    |
| JT 23    | 1,192                                   | 547                                    | 10                   | —                    |
| BM 1     | 588                                     | —                                      | —                    | —                    |
| BM 3     | 823                                     | 260                                    | 0                    | —                    |







|        |       |       |      |                      |
|--------|-------|-------|------|----------------------|
| ADG 26 | 336   | 168   |      |                      |
| BG 1   | 612   | 2,050 | 72   | $7.3 \times 10^{-4}$ |
| BG 2   | 3.7   | 0.9   | 0.04 |                      |
| BF 1   | 1,790 | 1,860 | 21   |                      |
| JT 13  | 1,030 | 473   | 4    |                      |
| JT 15  | 1,020 | 468   | 13   |                      |
| ADG 20 | 183   | 84    |      |                      |
| JT 24  | 153   | 426   | 2    |                      |
| JT 57  | 562   | 204   | 7    |                      |
| JT 58  | 247   | 72    | 1    |                      |
| JT 67  | 694   | 240   | 15   |                      |
| JT 69  | 533   | 316   | 3    |                      |
| ADG 23 | 333   | 333   |      |                      |
| ADG 24 | 104   | 48    |      |                      |
| JT 11  | 45    | 14    | 1    |                      |
| JT 12  | 19    | 4     | 0.2  |                      |
| JT 23  | 1,192 | 547   | 10   |                      |
| BM 1   | 588   |       |      |                      |
| BM 3   | 823   | 269   | 9    |                      |
| JT 5   | 12    | 1     | 0.4  |                      |
| ADG 17 | 318   | 146   |      |                      |



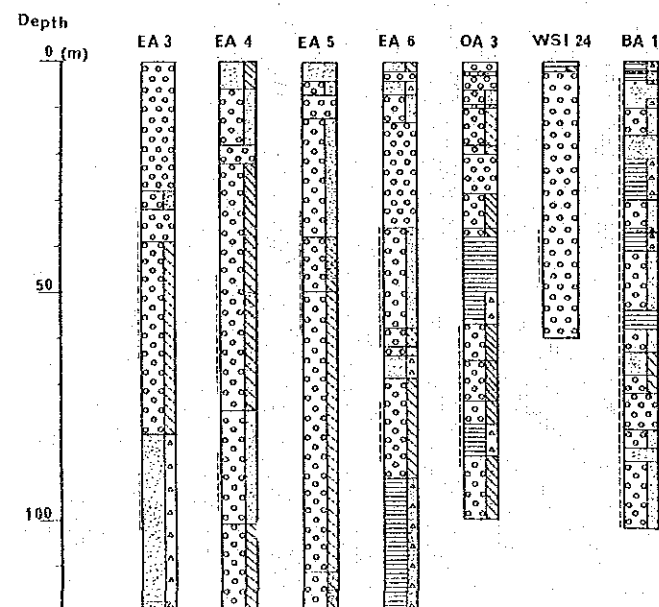
## Geological Log and Cross-Section

### Geological Log of Well

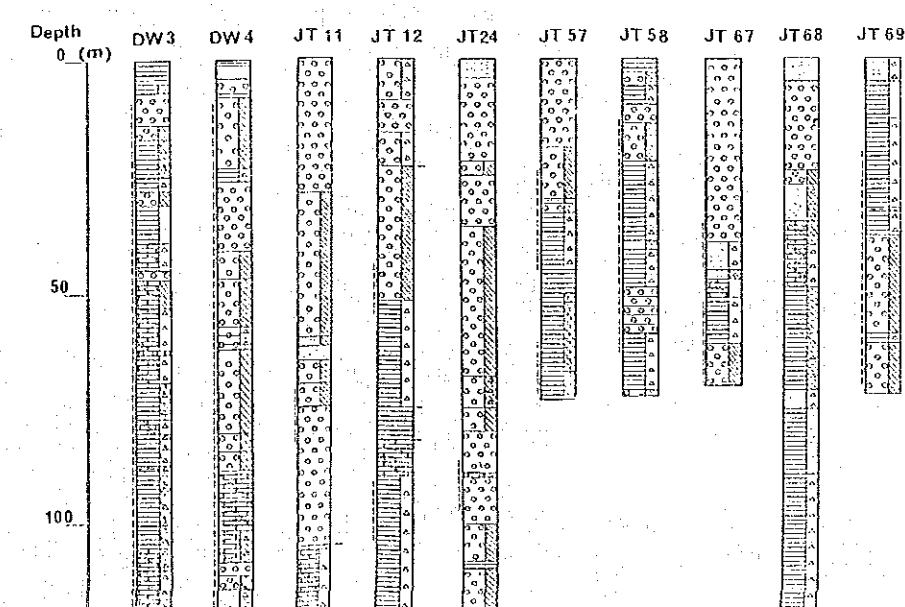
LEGEND OF GEOLOGICAL LOG

- Gravel
- Gravel with sand
- Gravel with clay, silt
- Gravel with calcarious fragment
- Gravel with marly clay
- Sand
- Sand with gravel
- Sand with clay, silt
- Sand with calcarious fragment
- Sand with marly clay
- Clay, silt
- Clay, silt with gravel
- Clay, silt with sand
- Clay, silt with calcarious fragment

GEOLOGICAL LOG OF WADI AHIN



GEOLOGICAL LOG OF WADI BANI KHARUS

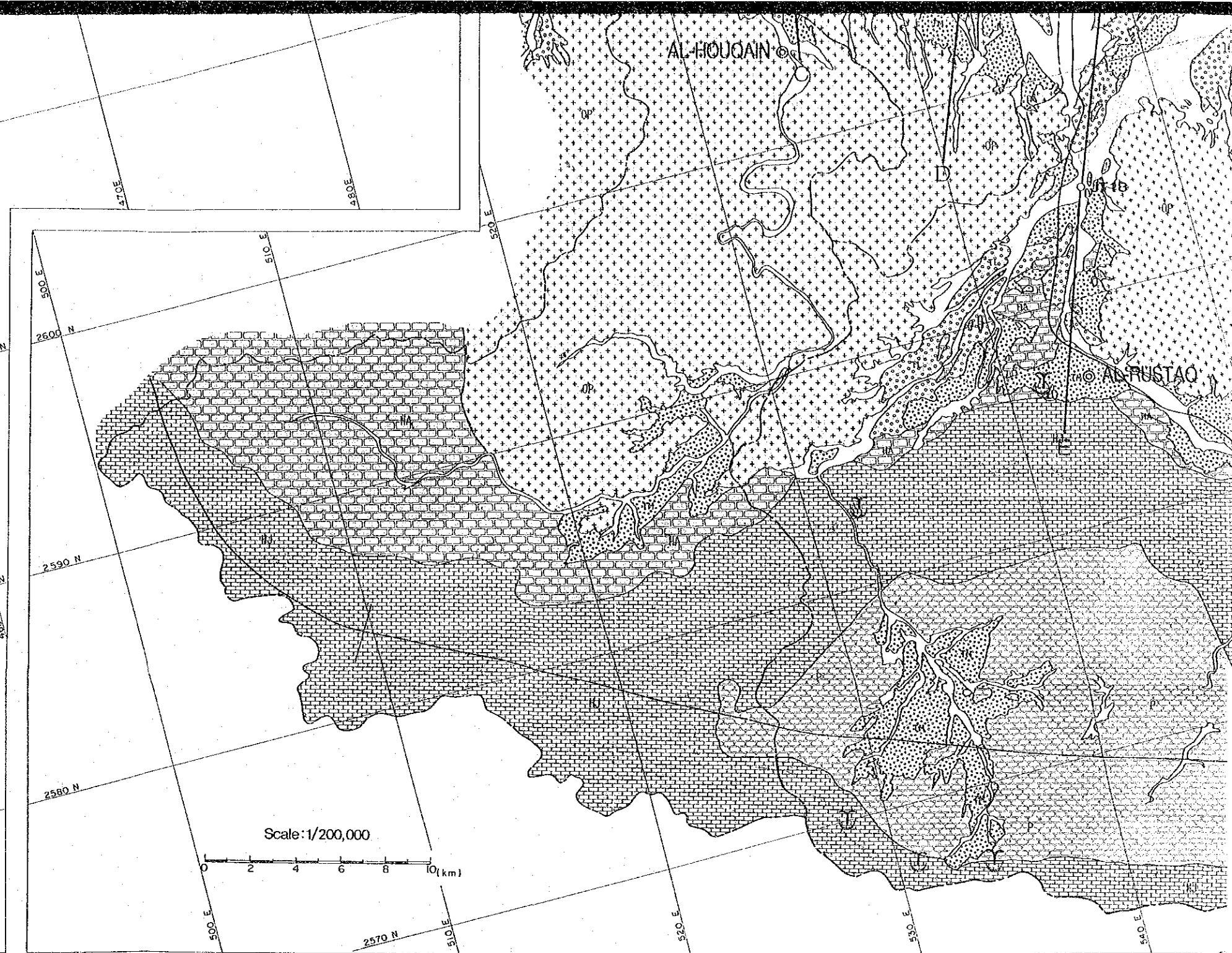
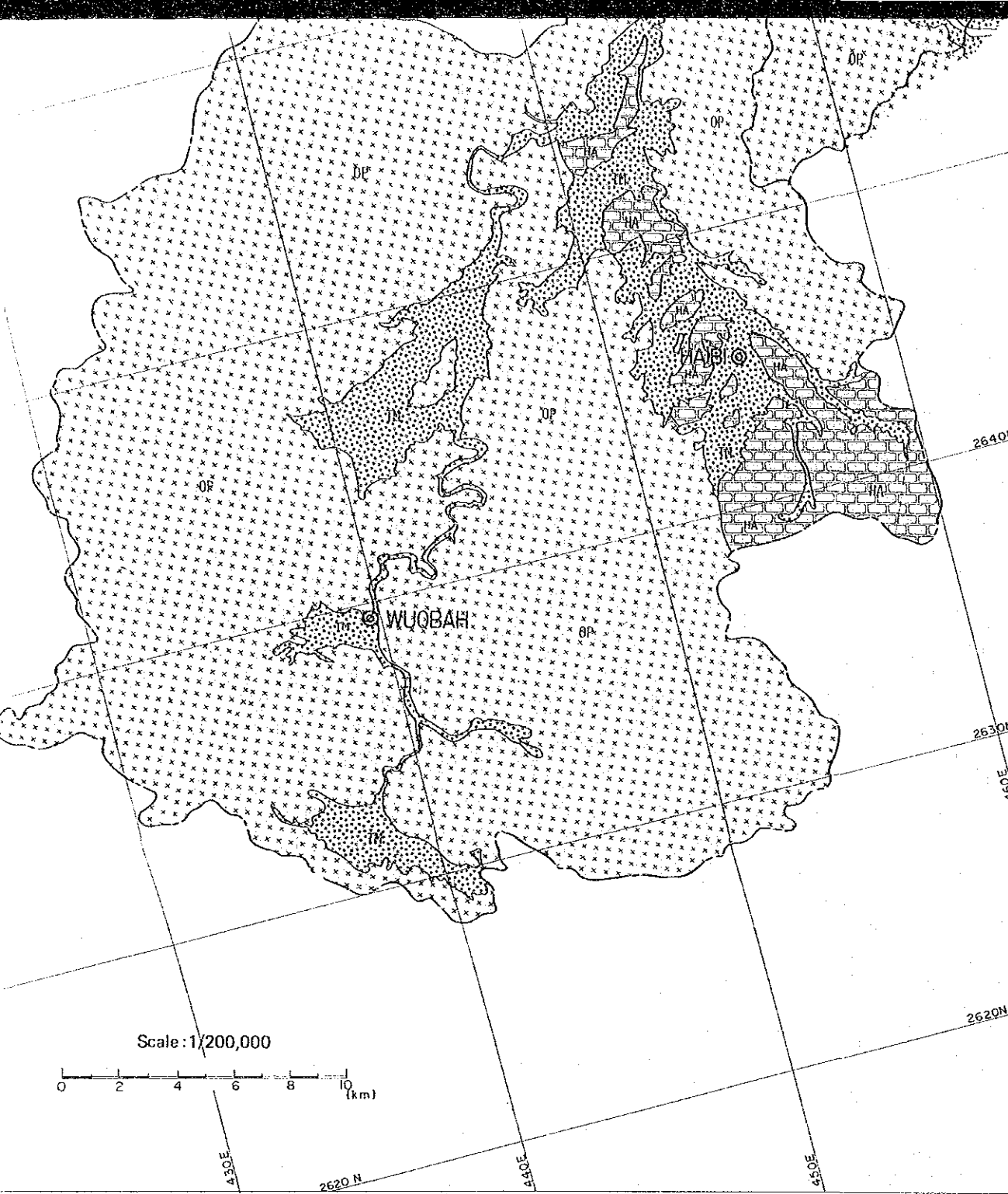


### Geological Cross-Section

LEGEND

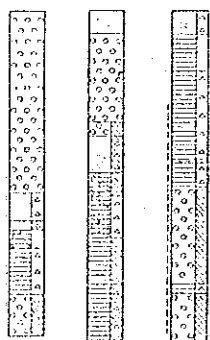
GEOLOGICAL FACIES

- S — Sand
- SL — Silt, Clay
- F — Fan Deposit (Gravelly Facies)
- M — Marl, Marly Clay
- SG — Sand and Gravel
- T10 — Terrace I Deposit (Clayey Gravel)
- T12 — Terrace I Deposit (Sandy Gravel, Gravel)
- TM — Terrace II Deposit (Concreteated Gravel)
- MS — Marlstone
- MD — Mudstone
- L — Palaeogene Limestone
- +OP+ — Semial Ophiolite
- HA — Hawasina Complex (Chert, Sandstone, Limestone)



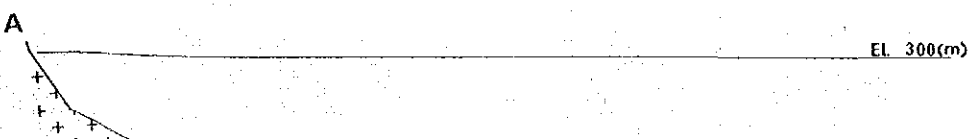
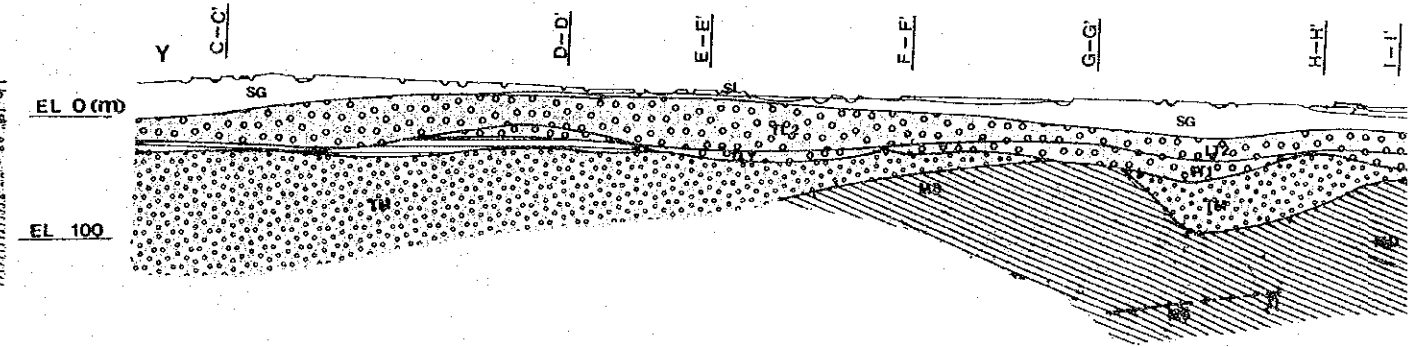
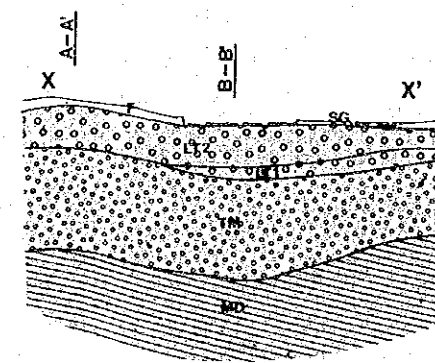
## Geological Cross-Section

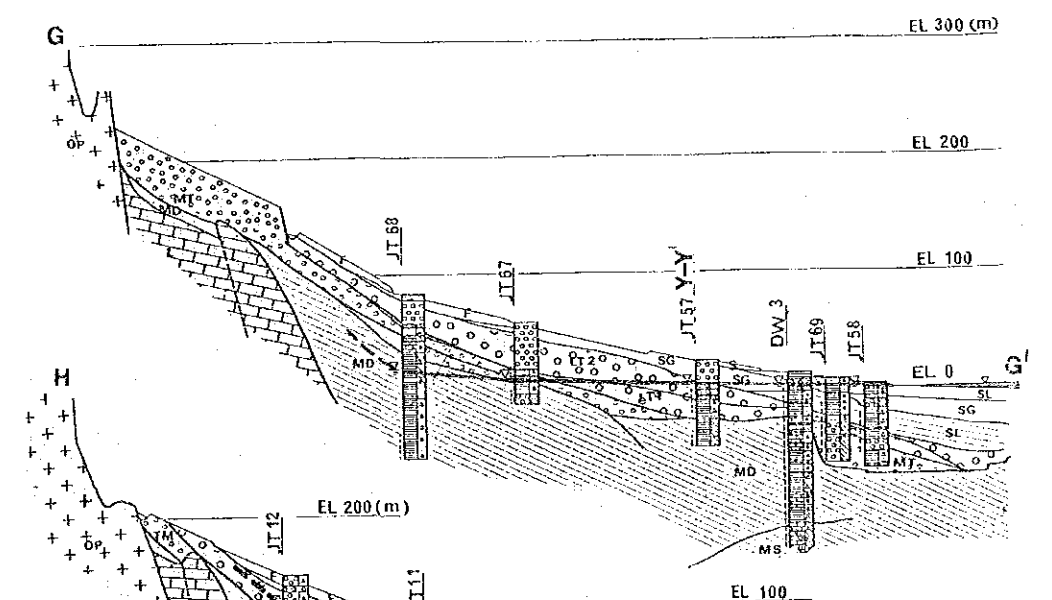
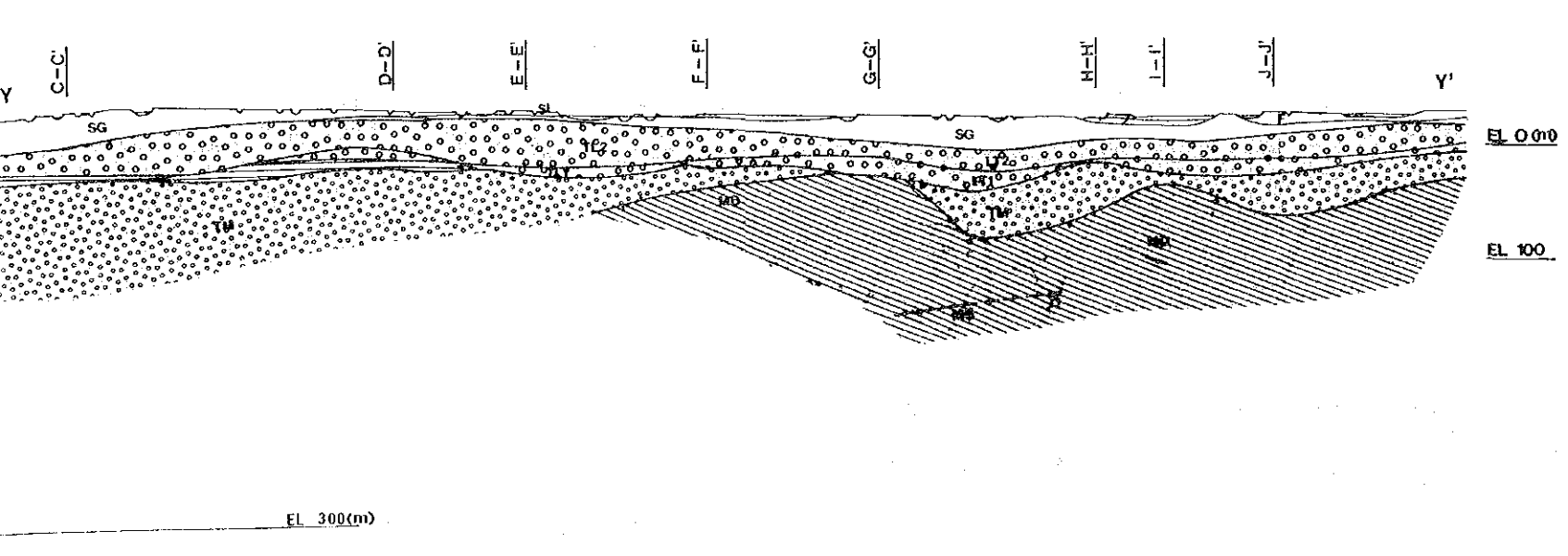
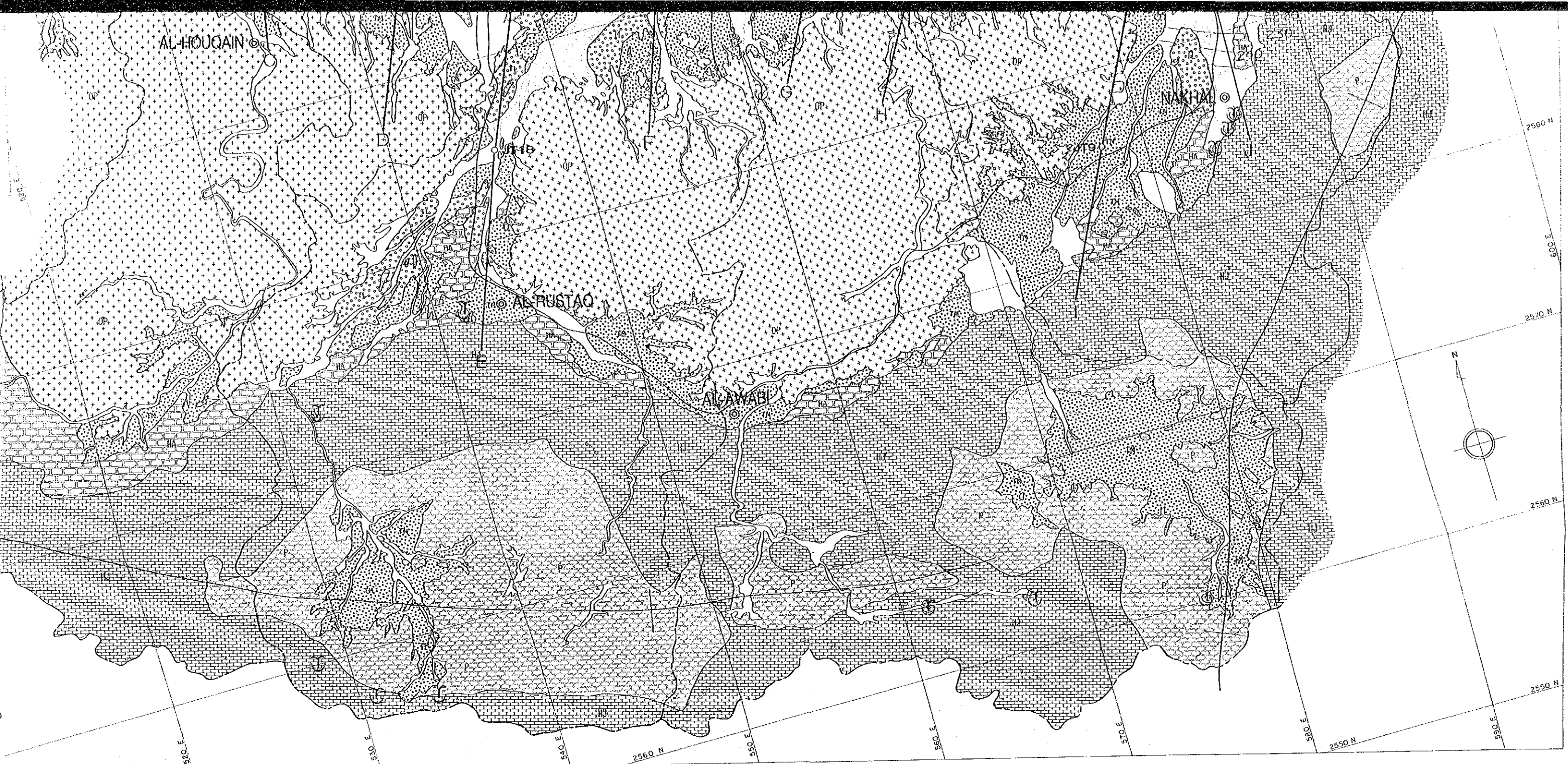
JT 67 JT 68 JT 69



| LEGEND                      |                |
|-----------------------------|----------------|
| GEOLOGICAL FACIES           | AQUIFER        |
| S                           | Upper Aquifer  |
| SL                          |                |
| F                           |                |
| M                           | Middle Aquifer |
| SG                          |                |
| T <sub>1</sub> <sup>1</sup> |                |
| T <sub>1</sub> <sup>2</sup> | Lower Aquifer  |
| T <sub>1</sub> <sup>3</sup> |                |
| MS                          |                |
| MD                          |                |
| L                           |                |
| +OP+                        |                |
| H                           |                |

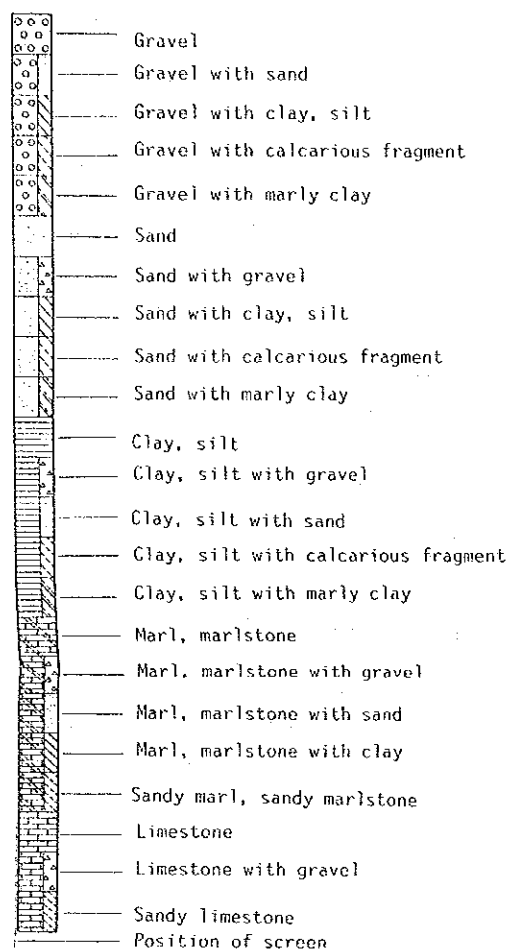
Sand  
 Silt, Clay  
 Fan Deposit (Gravelly Facies)  
 Marl, Maily Clay  
 Sand and Gravel  
 Terrace I Deposit (Clayey Gravel)  
 Terrace I Deposit (Sandy Gravel, Gravel)  
 Terrace II Deposit (Concreted Gravel)  
 Marlstone  
 Mudstone  
 Palaeogene Limestone  
 Semiall Ophiolite  
 Hawasina Complex (Chert, Sandstone, Limestone)



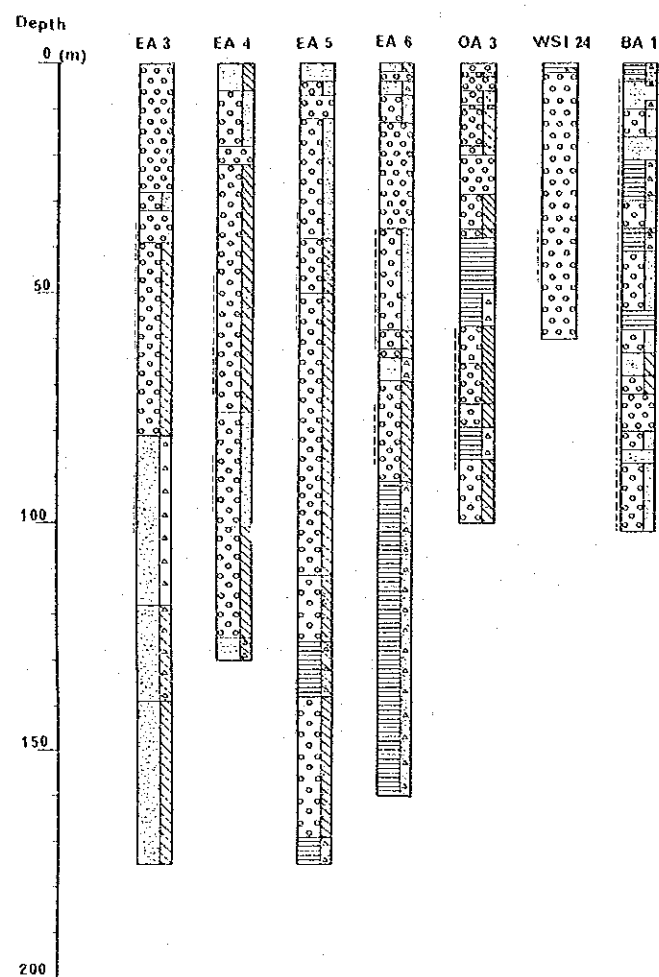


# Geological Log of Well

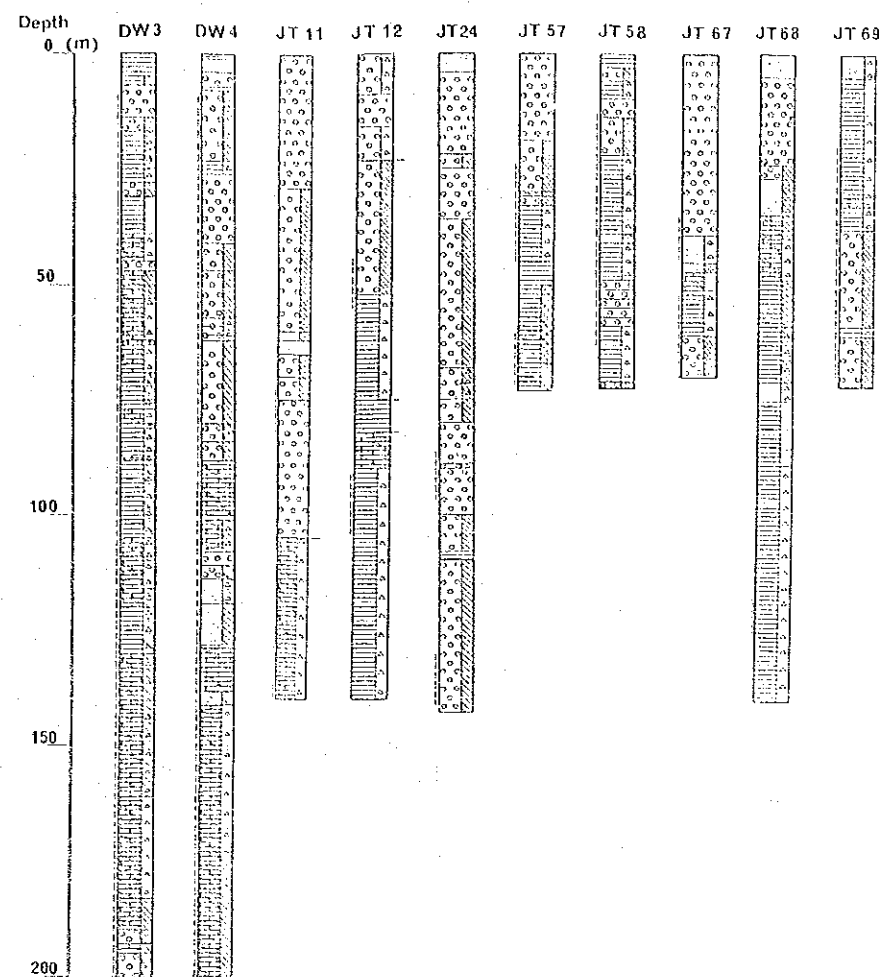
## LEGEND OF GEOLOGICAL LOG



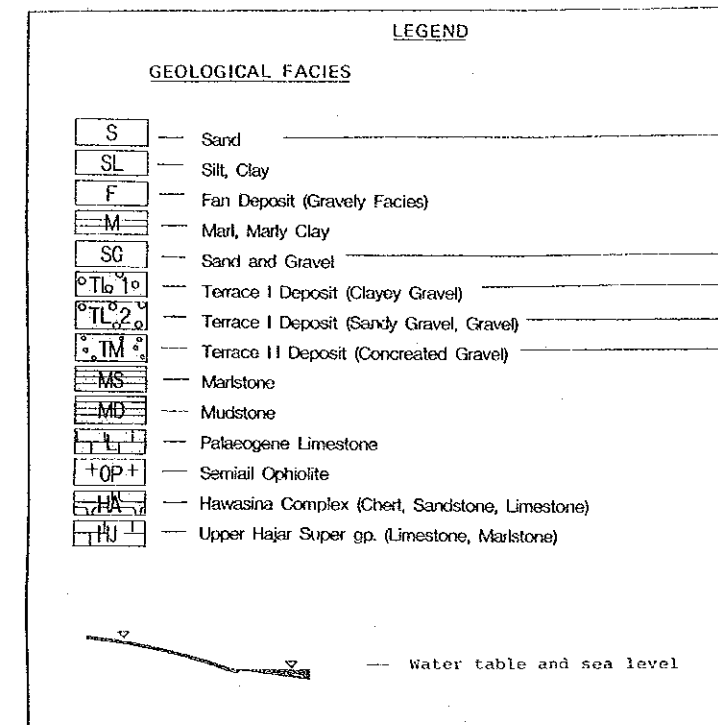
## GEOLOGICAL LOG OF WADI AHIN



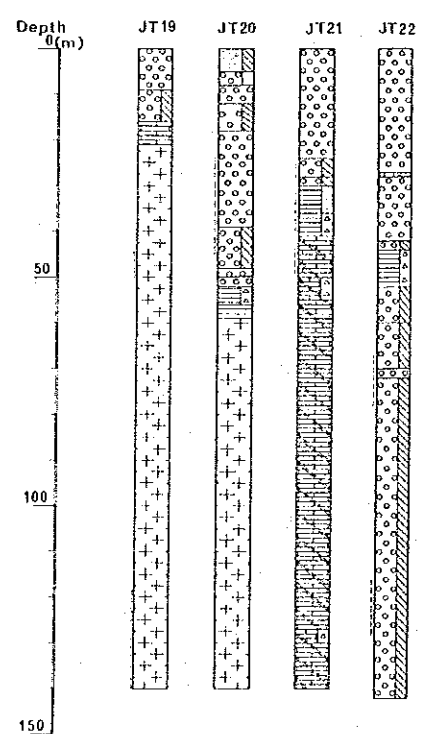
## GEOLOGICAL LOG OF WADI BANI KHARUS



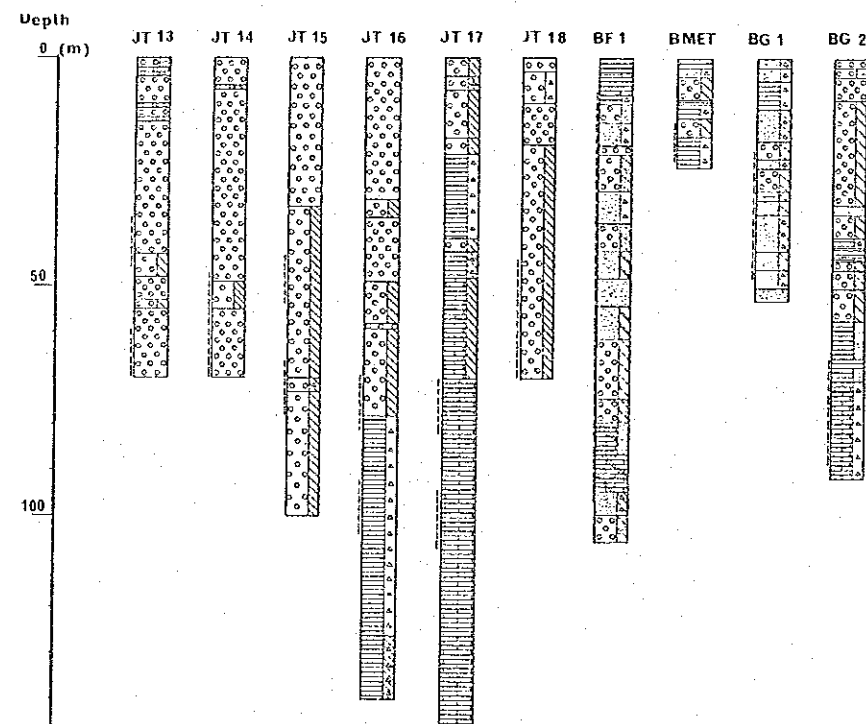
## Geological Cross-Section



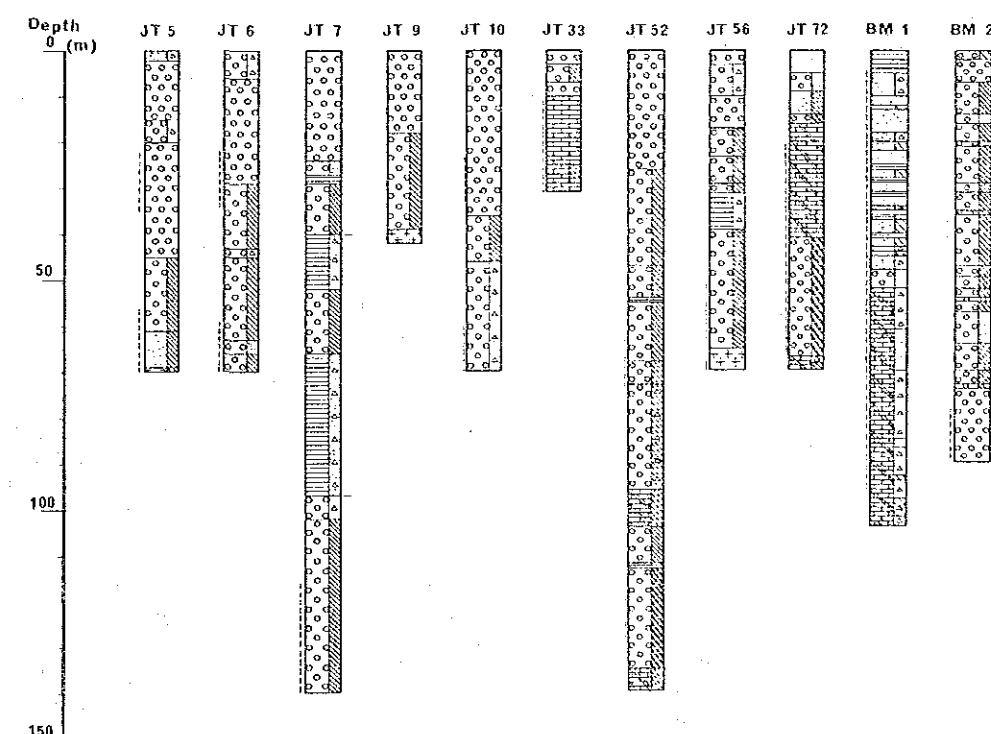
## GEOLOGICAL LOG OF WADI BANI GHAFIR



## GEOLOGICAL LOG OF WADI AL-FARA'

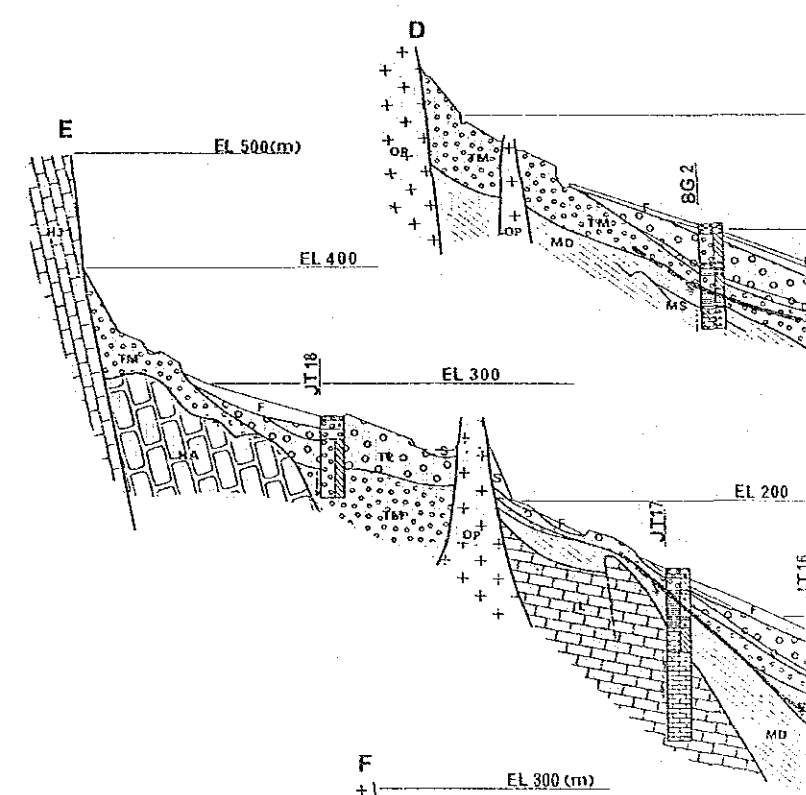
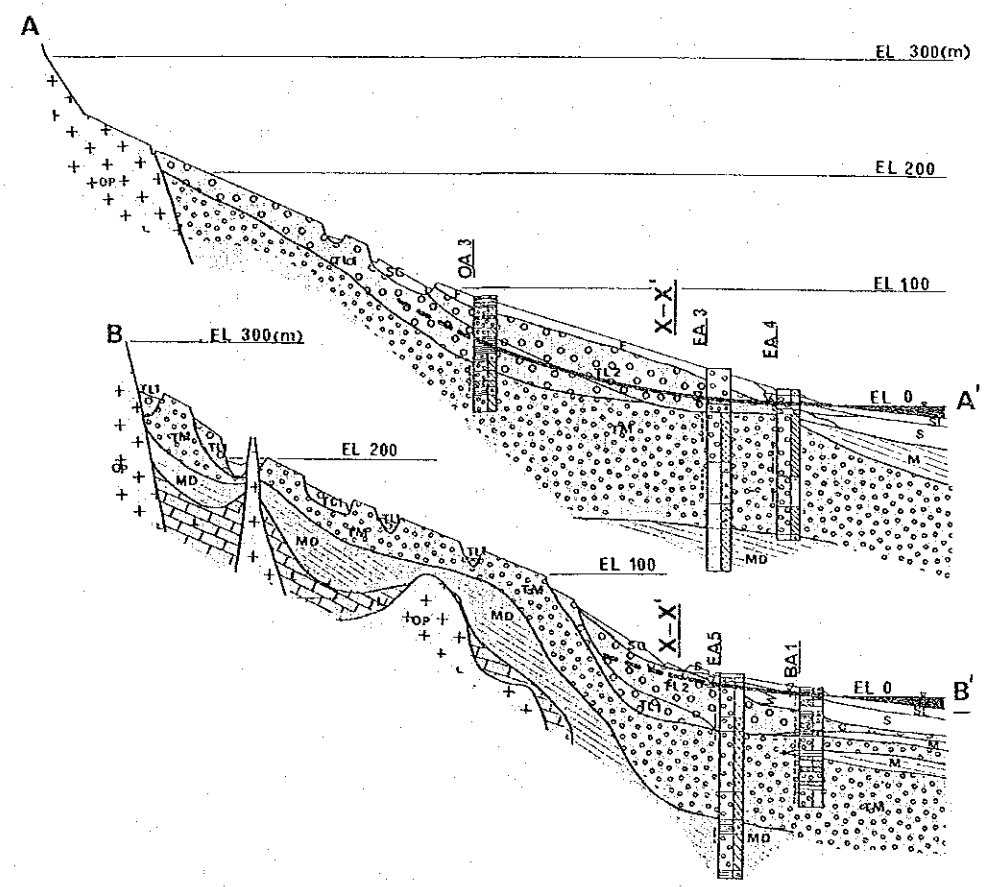
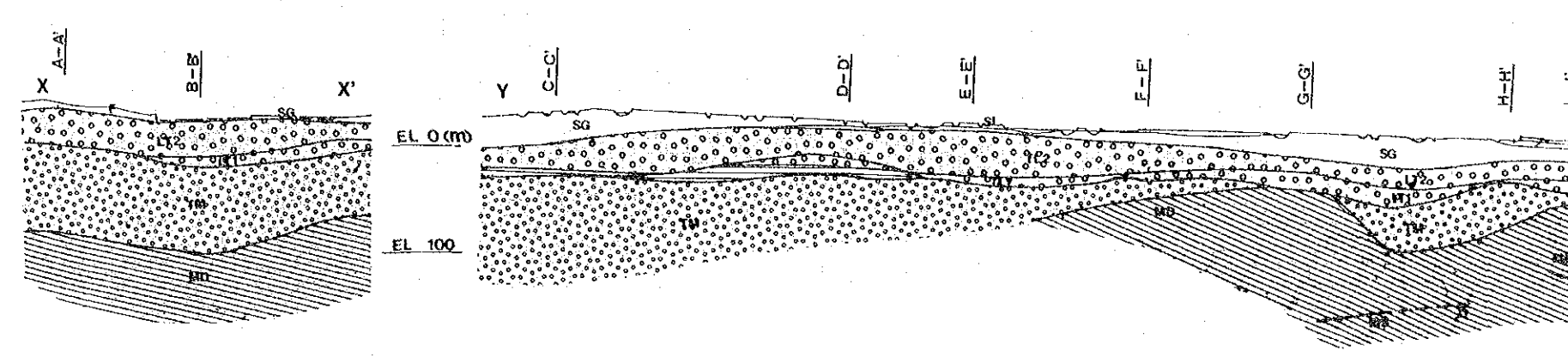
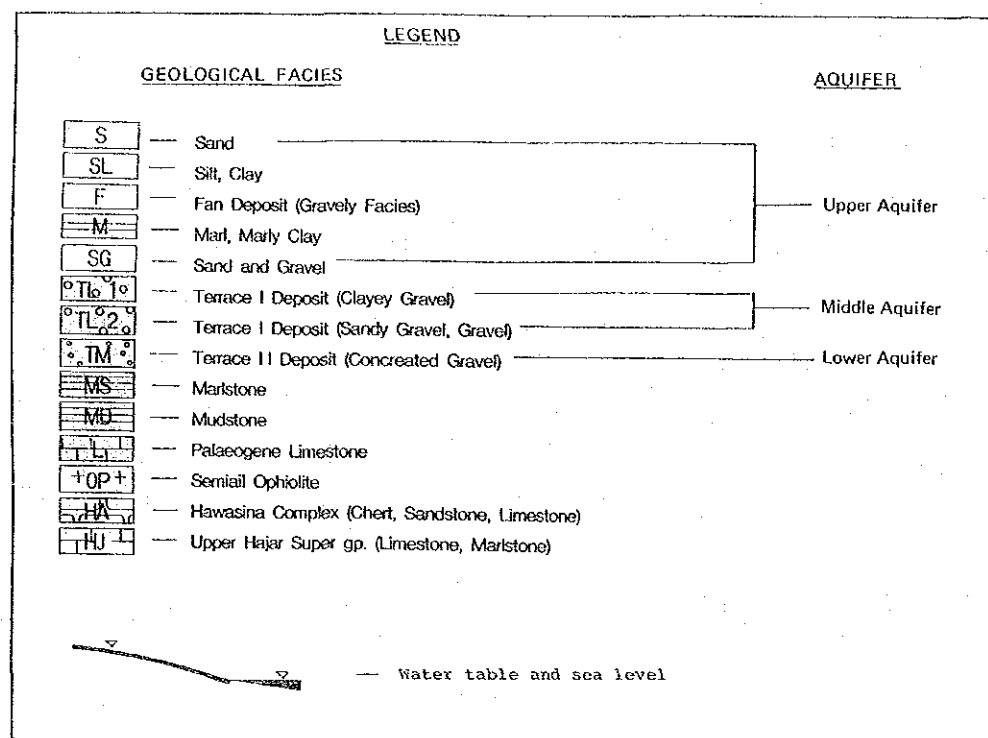
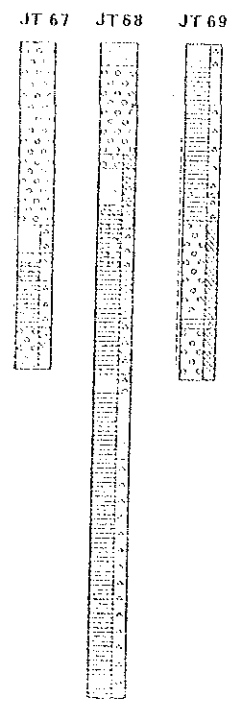


## GEOLOGICAL LOG OF WADI AL-MA'AWIL

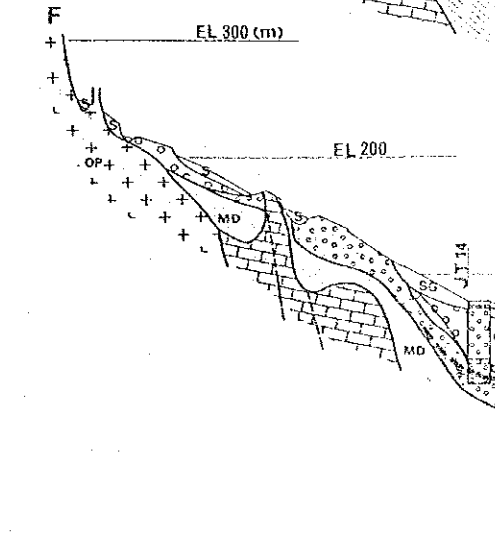
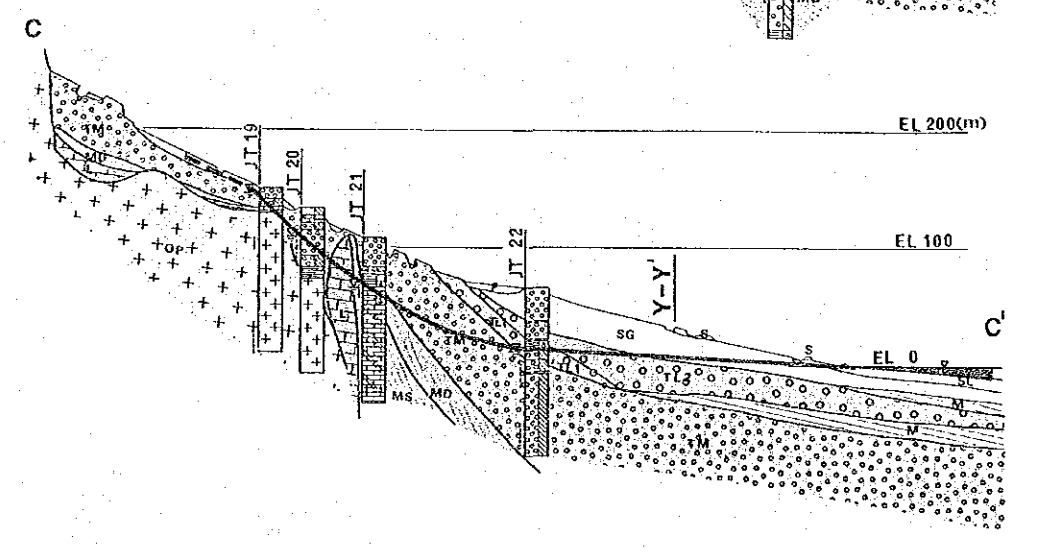
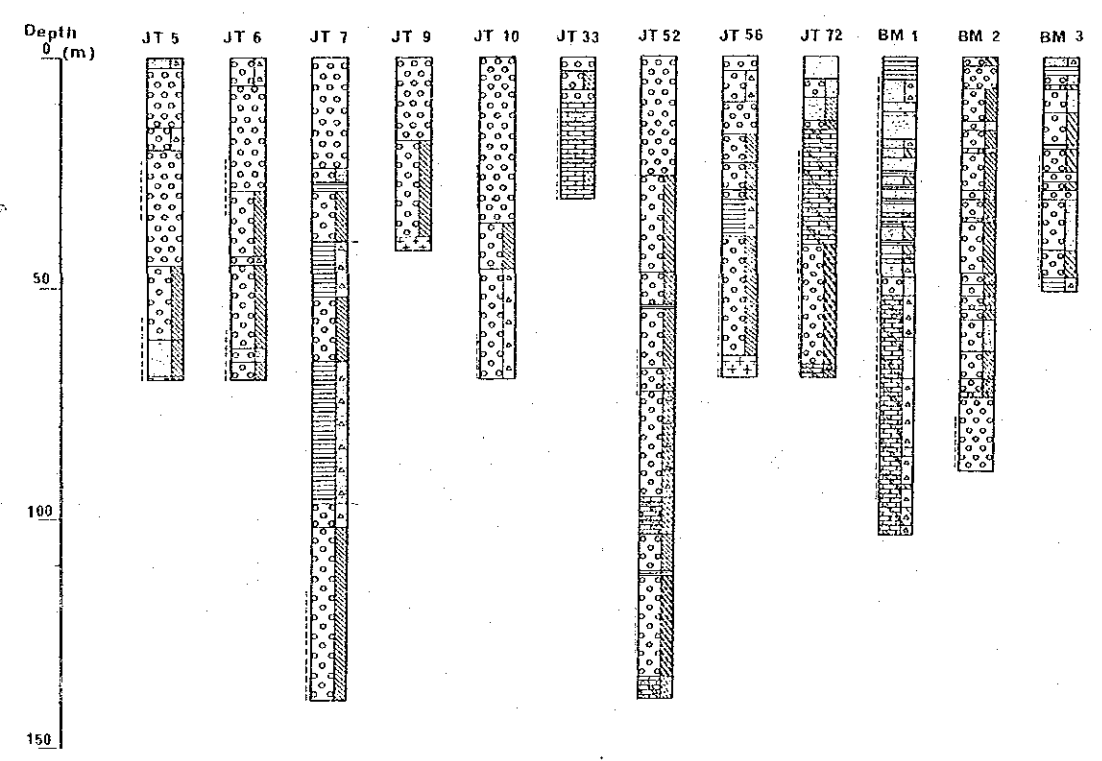


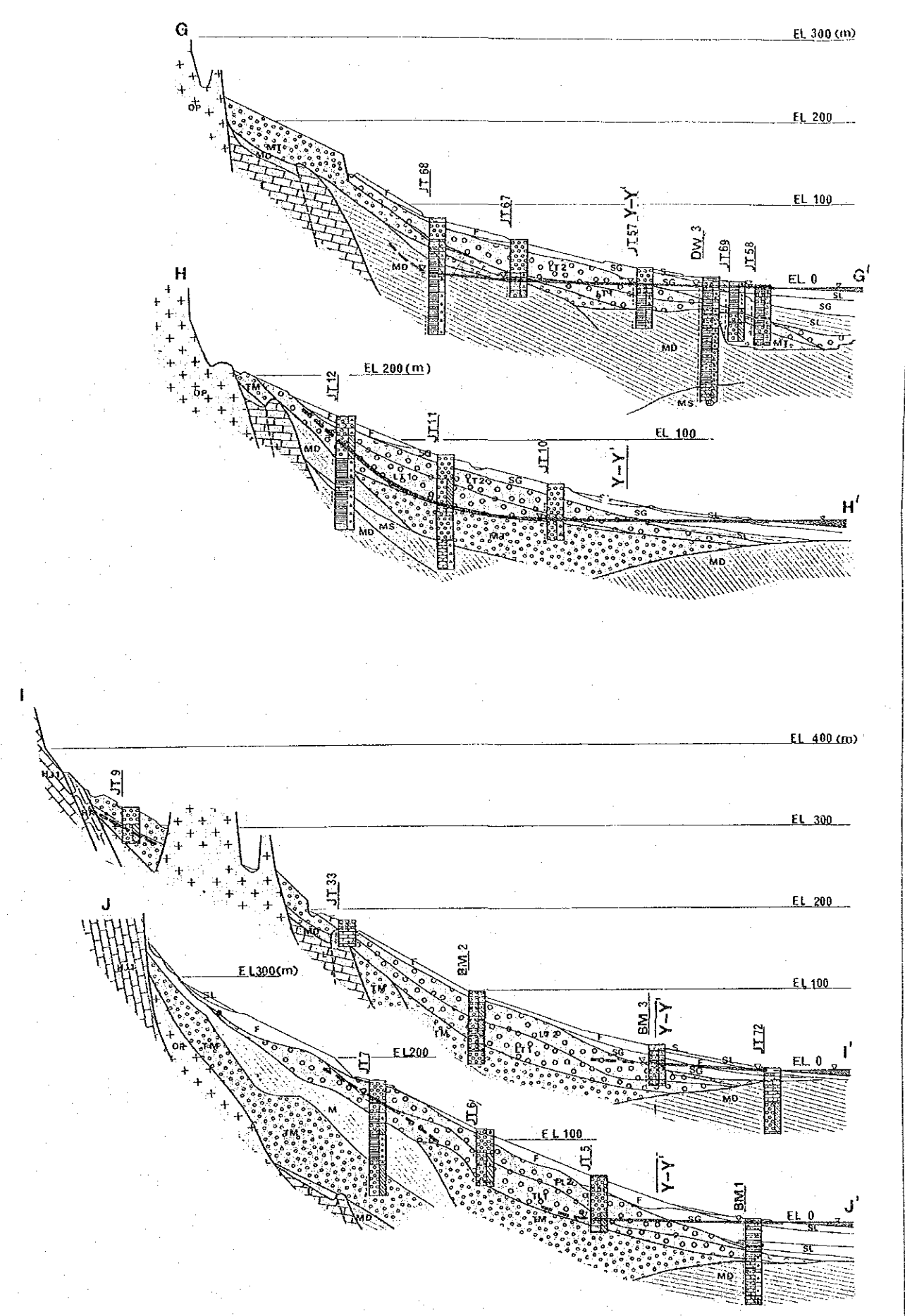
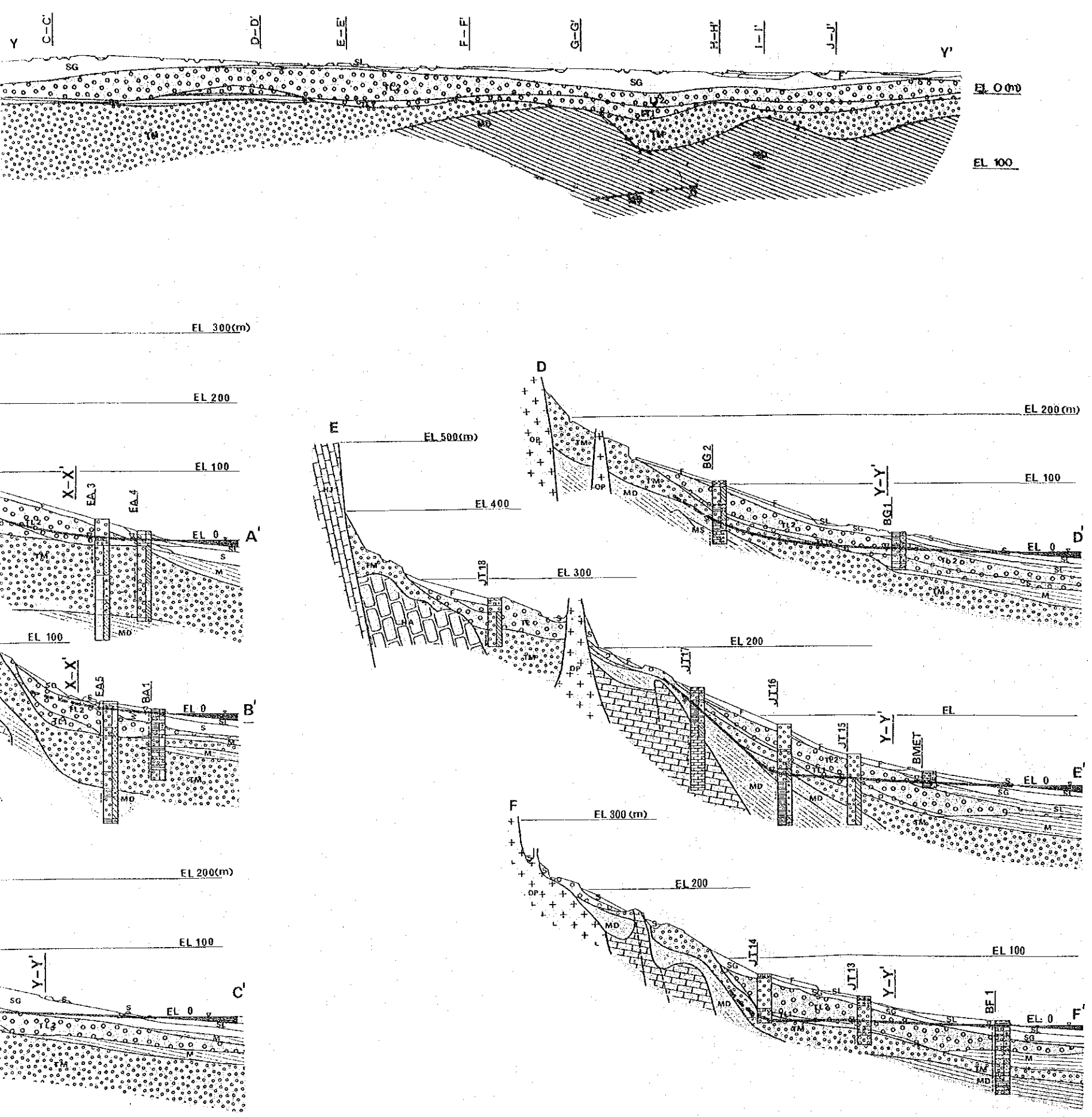


# Geological Cross-Section



GEOLOGICAL LOG OF WADI AL-MA'AWIL





JICA