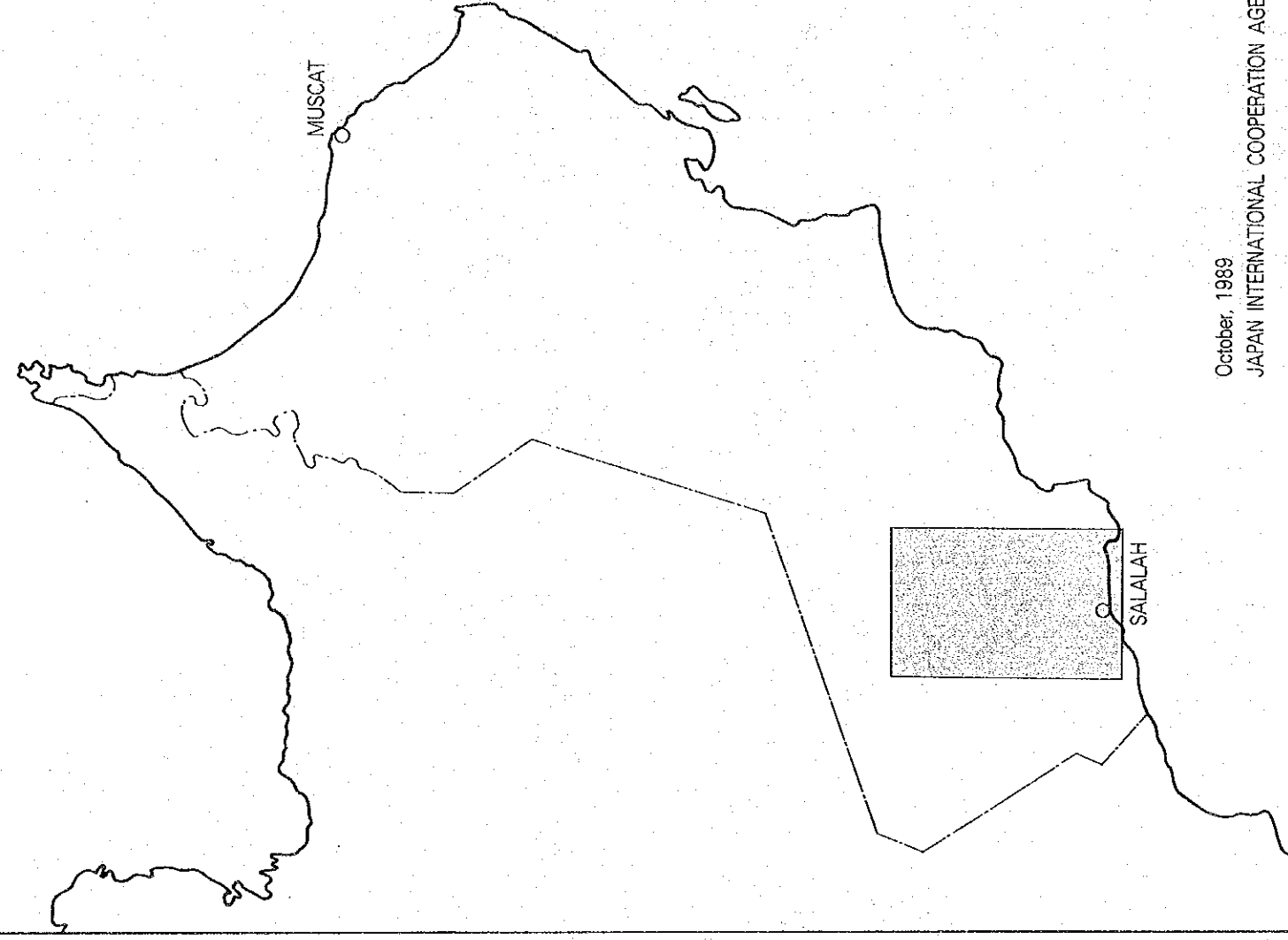


### PROPERTIES OF WELLS

Well Name	Specific Capacity (m <sup>3</sup> /day)	Transmissivity (m <sup>2</sup> /day)	Storage Coefficient (x10 <sup>-5</sup> )
R	830	3400	-
	1800	3800	4.6
	1300	4300	4.8
	2200	4800	4.3
	-	400~1000	-
	1400	1700	-
	-	110~ 610	-
	-	26	-
	43	60~ 120	-
	170	50~ 200	-
R	230	40~ 150	-
	45	1.5	-
	-	11000	-
	23	6.6	-

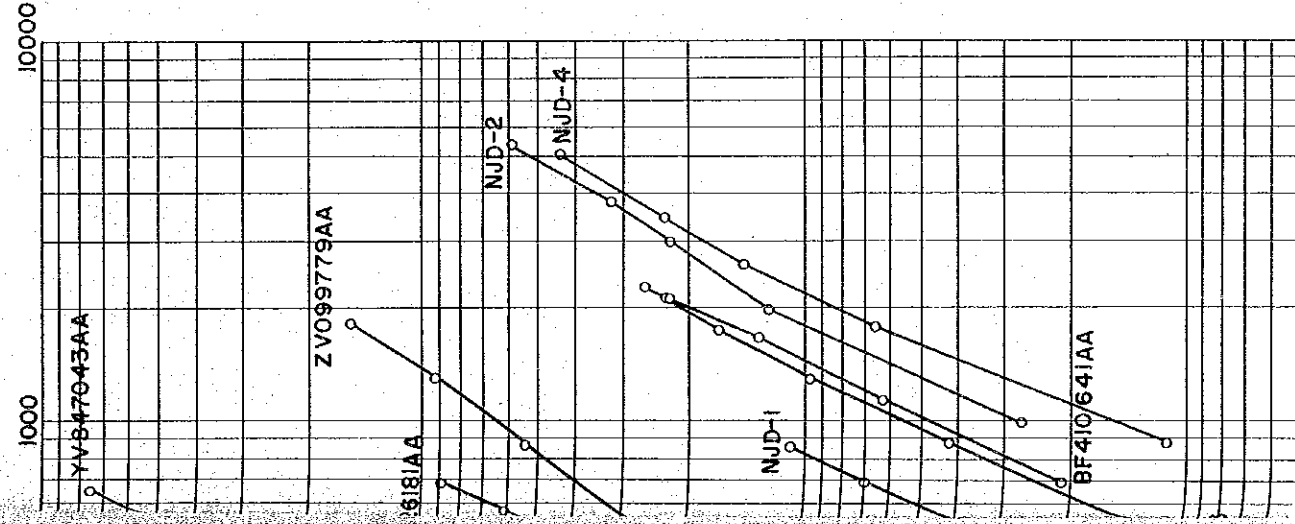
SULTANATE OF OMAN  
THE STUDY  
ON AGRICULTURE DEVELOPMENT PROJECT  
IN THE NEJD

## HYDROGEOLOGICAL MAP OF THE CENTRAL NEJD



October, 1989  
JAPAN INTERNATIONAL COOPERATION AGENCY

(m<sup>3</sup>/day)



### Acknowledgement

This map was compiled through the discussion and recent data provided by the Directorate General of Petroleum and Minerals, MPM, Salalah. PAWR exploration drilling reports and other MPM reports were also used.

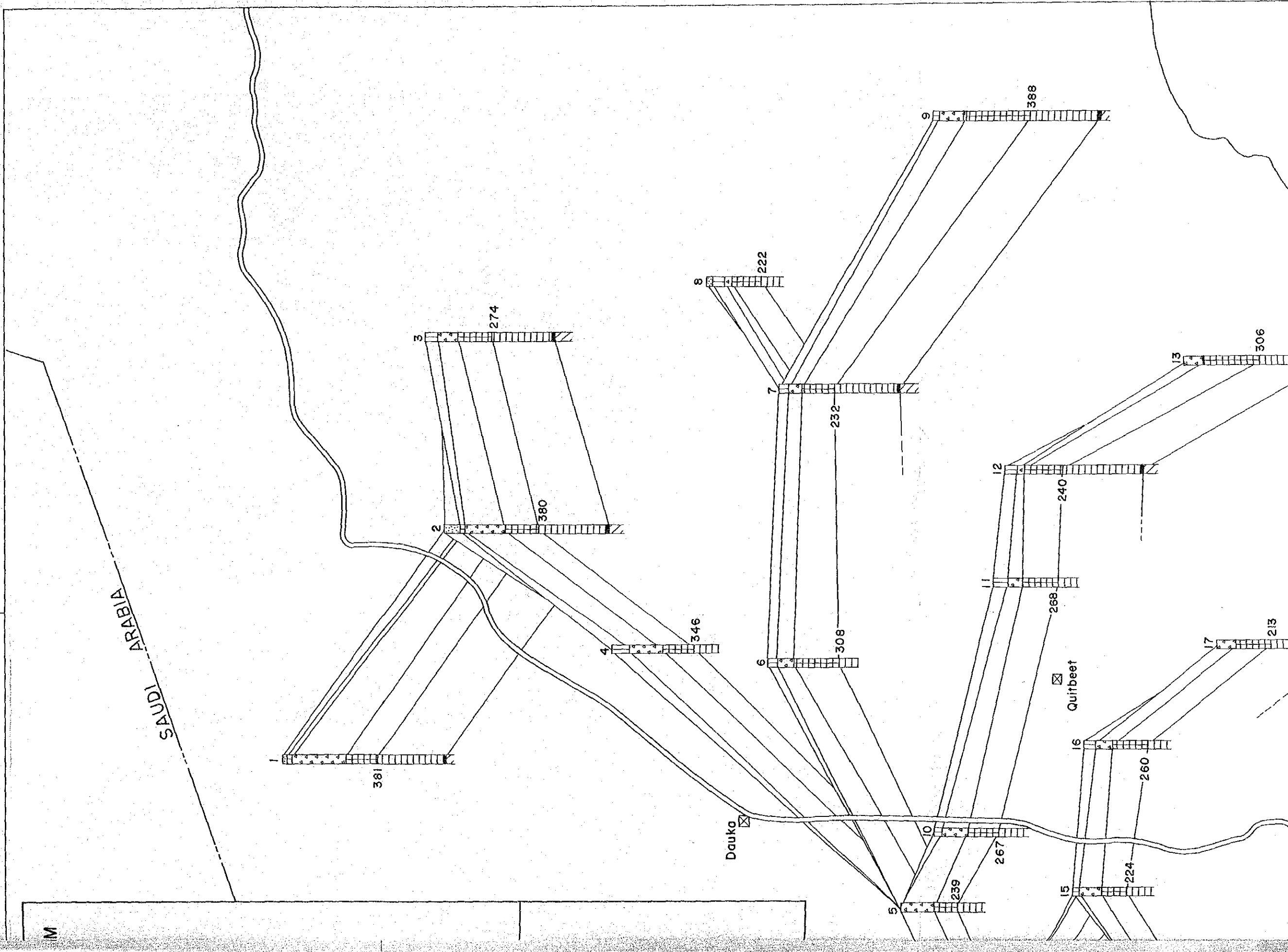
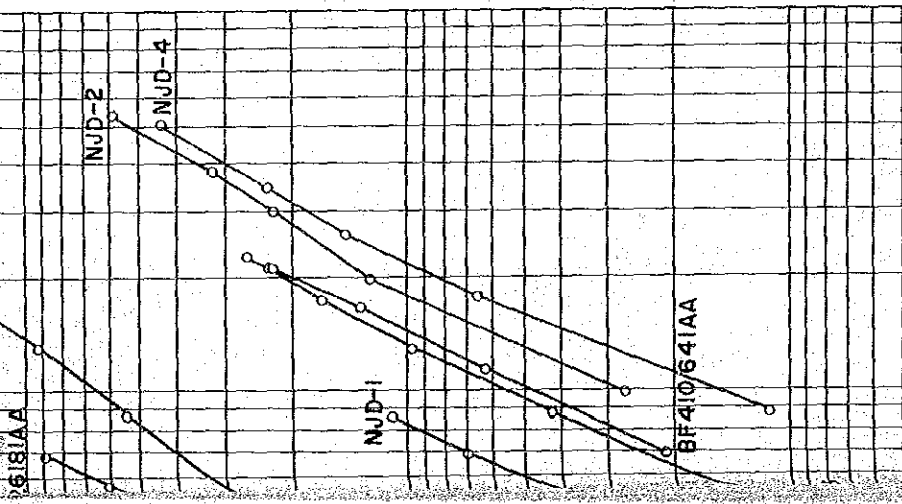
### References

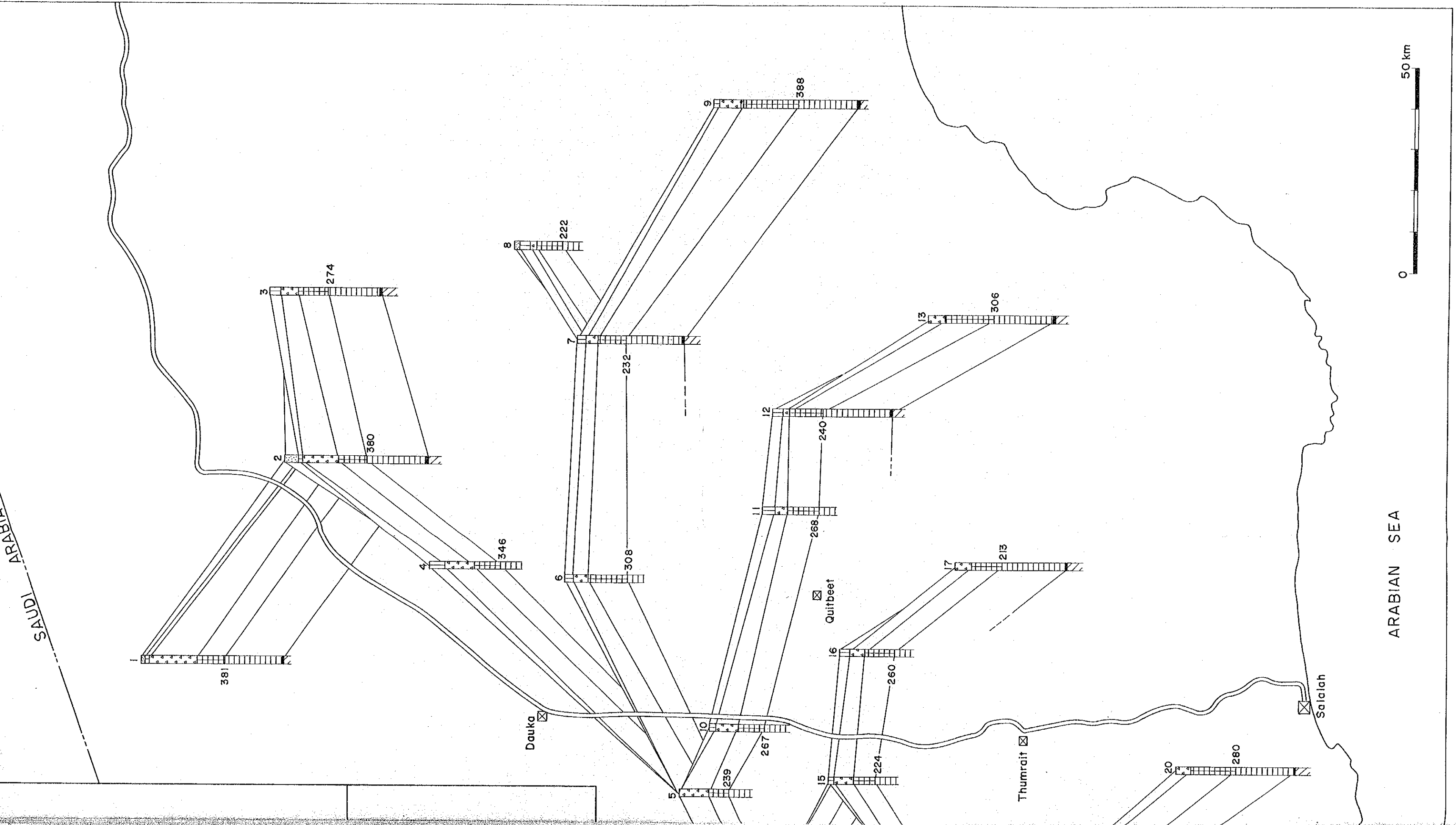
MPM, Salalah 1980. Geological Map of Dhofar and Surrounding Areas, Scale: -1:500,000.

Parker, D. H. 1985. The Hydrogeology of the Cainozoic Aquifers in the PDO Concession Area, Sultanate of Oman, PDO report.

Hawkins, T. R. W., D. Hindle and R. Strugnell 1981. Outlines of the Stratigraphy and Structural Framework of Southern Dhofar (Sultanate of Oman). Geologie en Mijnbouw, 16, 247-256.

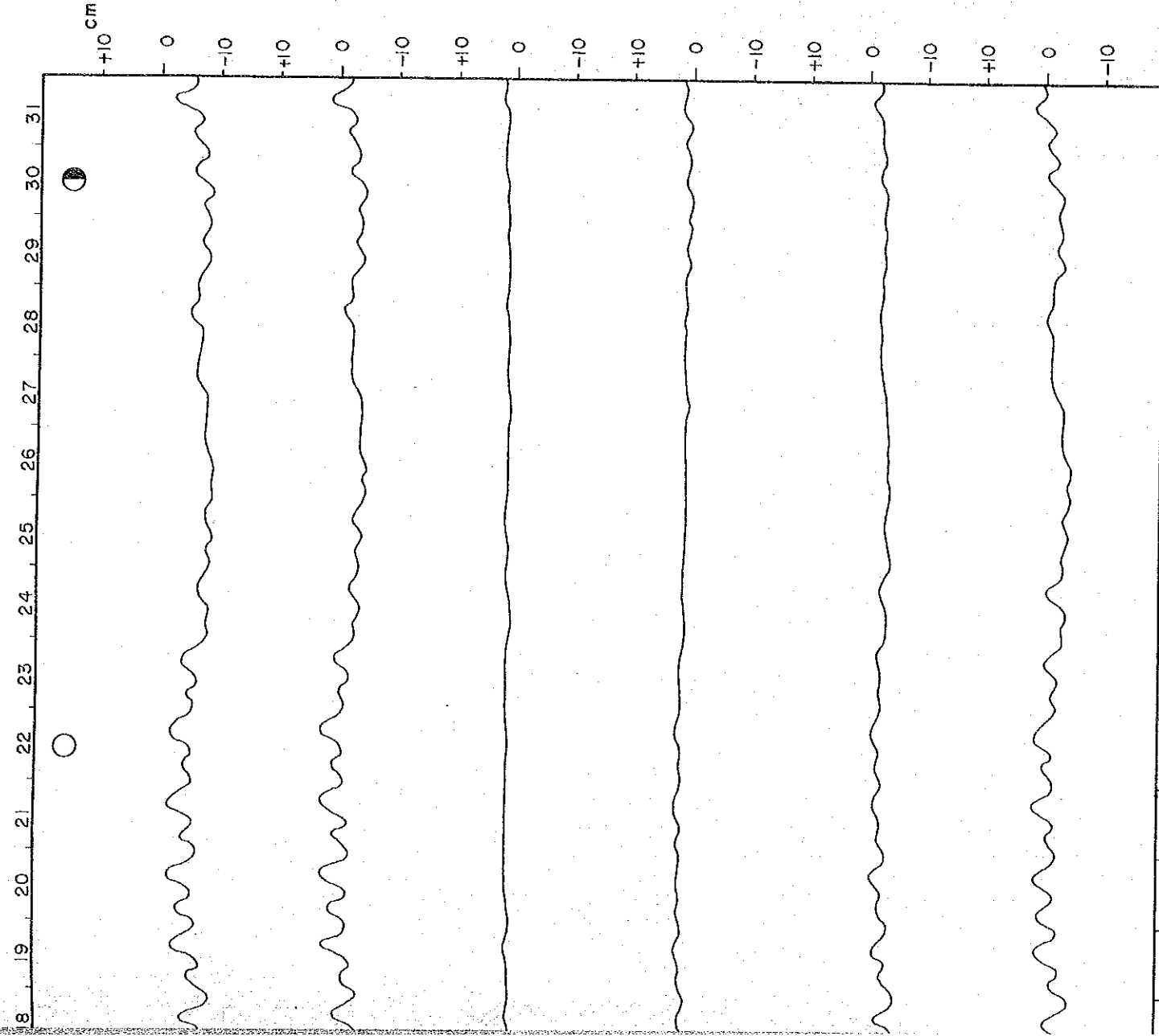
Hawkins, T. R. W., D. Hindle and R. Strugnelli 1981. Outlines of the Stratigraphy and Structural Framework of Southern Dhofar (Sultanate of Oman).  
Geologie en Mijnbouw, 16, 247-256.





OBJECT OBSERVATION WELLS

- 31st, 1989



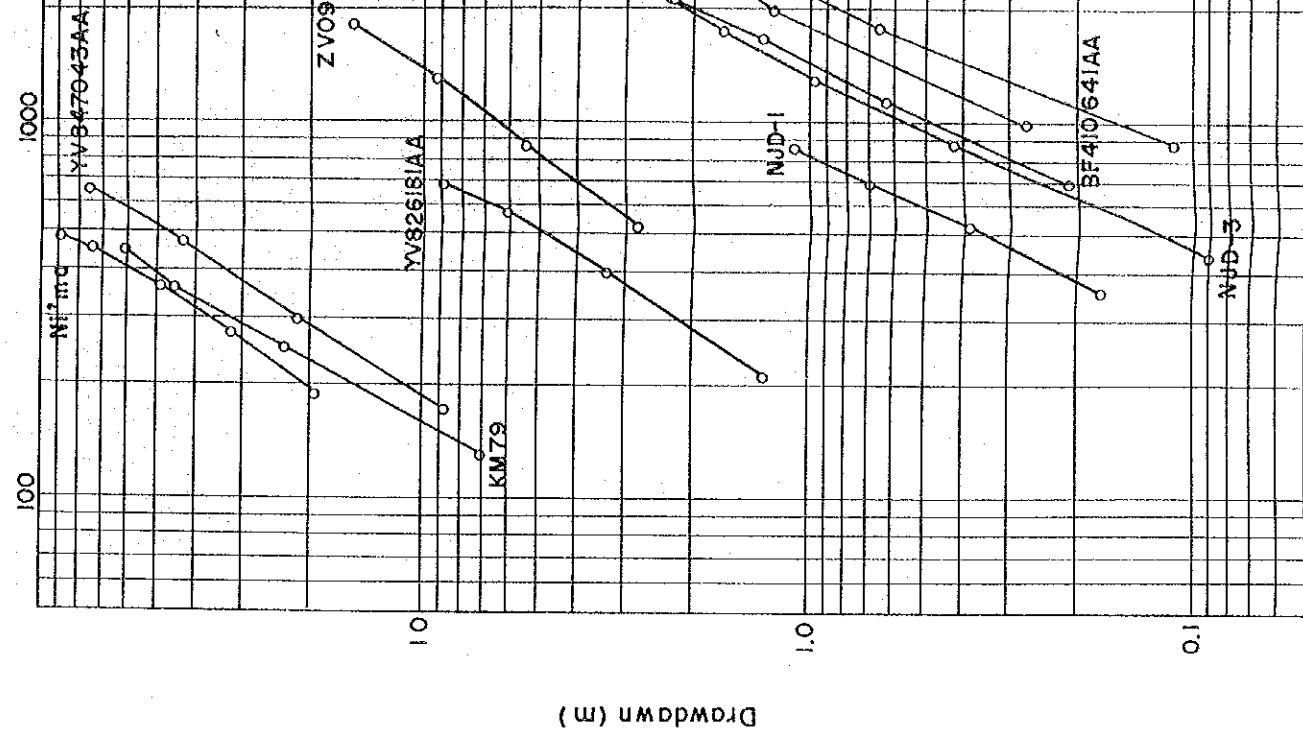
HYDRAULIC PROPERTIES OF NEJD BORE HOLES

Bore Hole	Total Depth (m)	Aquifer Zone	Specific Capacity (m <sup>3</sup> /day)
NJD-1	400	Lower UER	830
2	350	"	1800
3	350	"	1300
4	350	"	2200
FB263460AA	400	"	-
BF410641AA	287	"	1400
YA715978AA	250	"	-
YV760834AA	412	"	-
YV847043AA	492	"	43
YV826181AA	250	"	170
ZV099779AA	300	Upper UER	230
KM79	275	" ?	45
(AF920700AA)			
KM52	288	" ?	-
(AF80848AA)			
NJD-3	220	" ?	23

Measured Level(m)

Bore Hole Date	ZV099779AA	BF410641AA	BE094486AA	KM79	KM52
1987, Oct. 25					43.99
Nov. 21	25.40	34.60			
Nov. 22					
1988, Mar. 15	25.83		42.87	44.01	44.29
Mar. 16					
Apr. 28				44.02	44.47
Jun. 2	25.77			44.00	44.52
Jun. 16	25.77			44.00	44.63
Jul. 2				43.98	44.79
Aug. 4	25.78		42.93		45.24
Aug. 8	25.77			43.97	45.31
Aug. 12				43.97	45.64
Sep. 1	25.81		43.00	43.98	45.66
Sep. 3					
Sep. 30					
Oct. 3				43.98	45.66
Oct. 10				43.98	45.67
Oct. 11		34.69			
Oct. 19				43.98	45.70
Oct. 23	25.93		43.13		
Nov. 18					45.71
Dec. 4	25.99		43.12		
Dec. 7				43.98	45.70
1989, Jan. 5				43.98	45.87
Jan. 8	26.03	34.77	43.19		
Jan. 11				43.98	45.94
Jan. 19				43.98	45.87
Feb. 4	26.08		43.19	43.97	45.87

Yield (m<sup>3</sup>/day)



-30cm/yr

-15cm/yr

-30cm/yr

-150cm/yr

J J A S

Measured Level(m)

Bore Hole Date	ZV099779AA	BF410641AA	BE094486AA	KM79	KM52
1987, Oct. 25					
Nov. 21		34.60			43.99
Nov. 22	25.40				
1988, Mar. 15			42.87	44.01	44.29
Mar. 16	25.83				
Apr. 28				44.02	44.47
Jun. 2	25.77			44.00	44.52
Jun. 16	25.77			44.00	44.63
Jul. 2				43.98	44.79
Aug. 4	25.78		42.93		45.24
Aug. 8	25.77			43.97	45.31
Aug. 12				43.97	45.64
Sep. 1	25.81			43.98	45.66
Sep. 3					
Sep. 30					
Oct. 3				43.98	45.66
Oct. 10		34.69		43.98	45.67
Oct. 11					
Oct. 19				43.98	45.70
Oct. 23	25.93				
Nov. 18			43.13		45.71
Dec. 4	25.99				
Dec. 7			43.12		45.70
1989, Jan. 5				43.98	45.87
Jan. 8	26.03				
Jan. 11		34.77			
Jan. 19				43.98	45.94
Feb. 4	26.08			43.97	45.87

30cm/yr

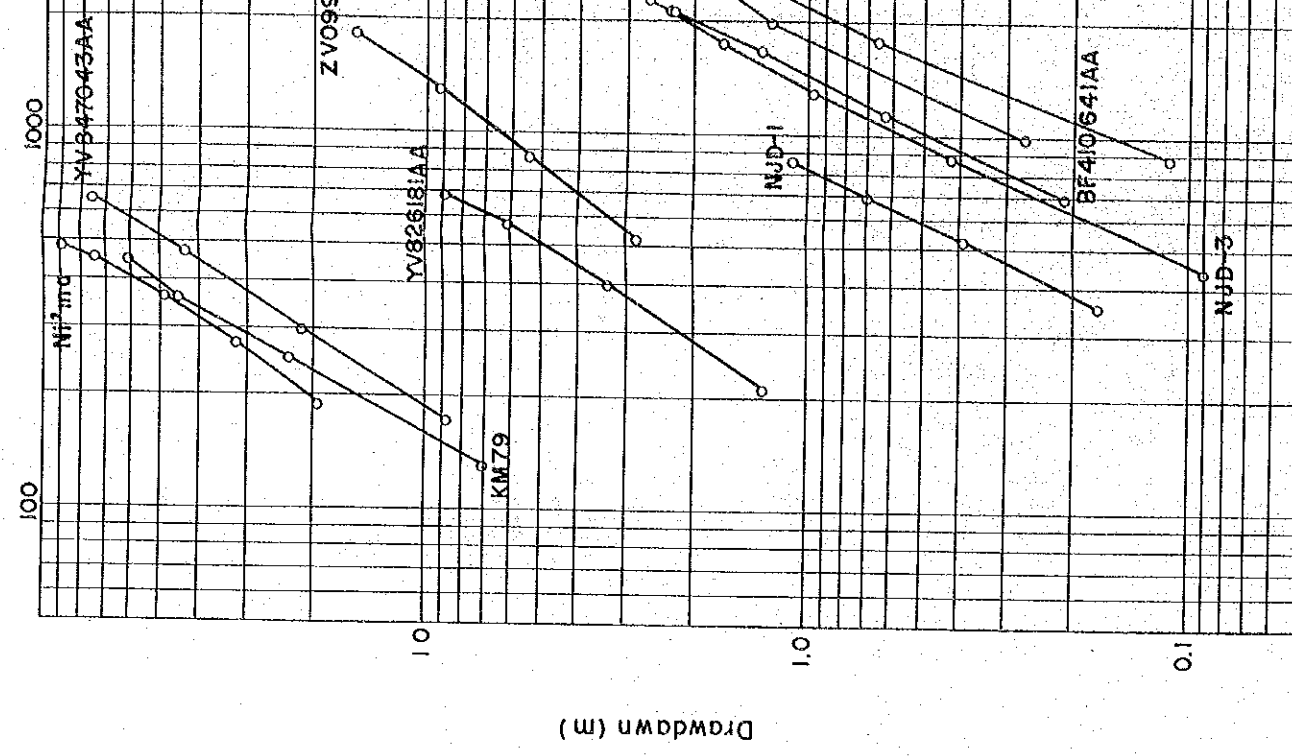
15cm/yr

30cm/yr

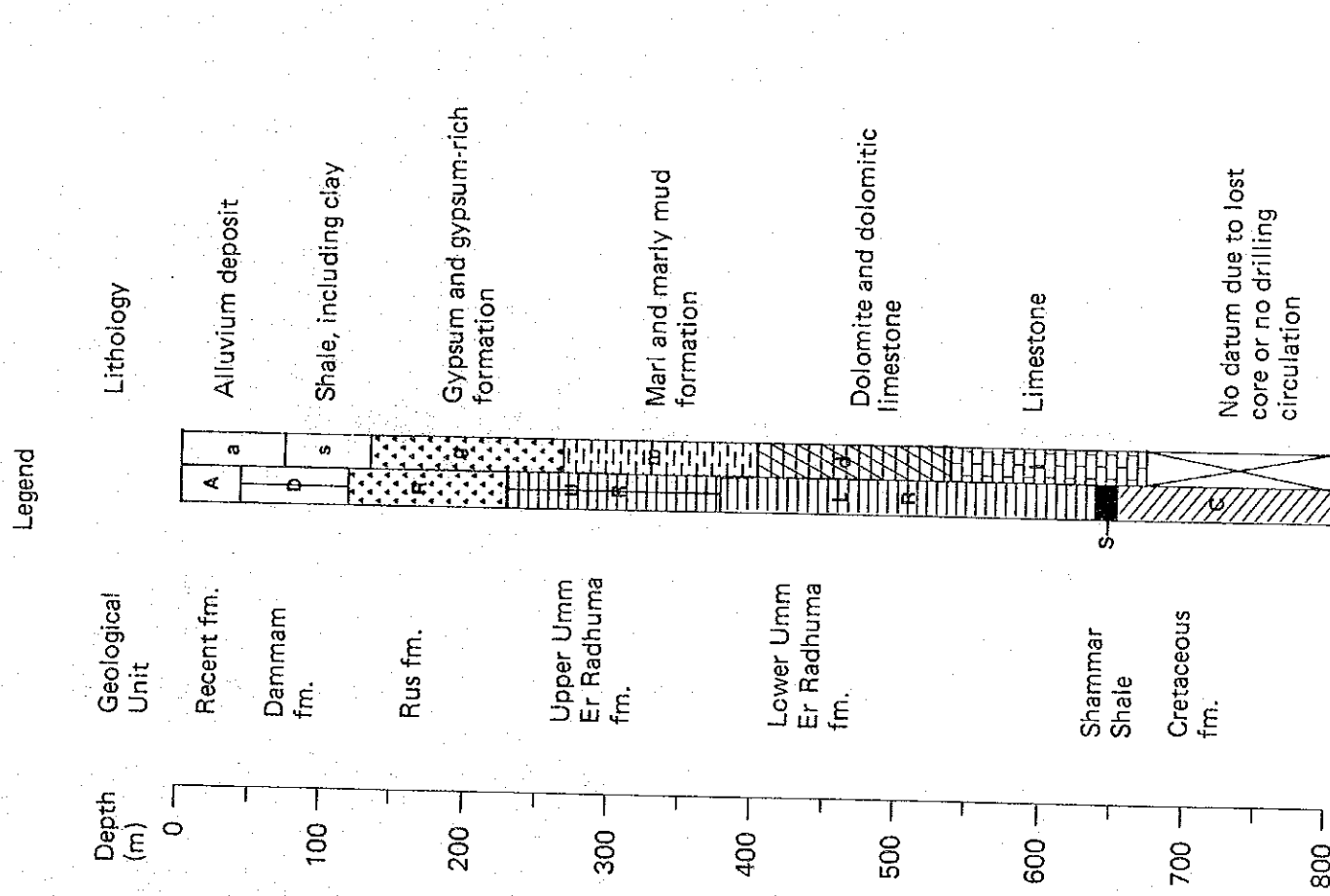
150cm/yr

J J A S

Yield (m<sup>3</sup>/day)

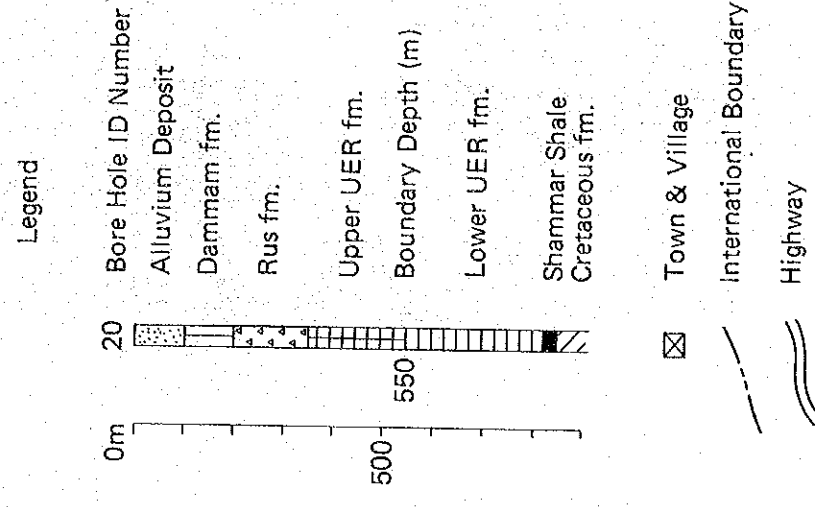


GEOLOGICAL LOG OF BORE HOLE



(Based on MPM & PAWR Data)

GEOLOGICAL PANNEL DIAGRAM OF THE NEJD

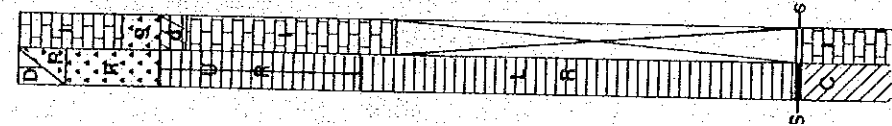


- Bore Hole Identification
- |                 |                |
|-----------------|----------------|
| 1. Shigag-1     | 11. BF410641AA |
| 2. Khawtar-1    | 12. M-10-1     |
| 3. Arba-1       | 13. Dimeet-1   |
| 4. BF298464AA   | 14. YA715978AA |
| 5. ZA035301AA   | 15. ZV099779AA |
| 6. BF263460AA   | 16. BE094486AA |
| 7. Ranadah-2    | 17. Dhahaban-2 |
| 8. Wa'ad-1      | 18. YV760834AA |
| 9. Qaarharail-1 | 19. YV847043AA |
| 10. NJD-1       | 20. Haluf-1    |

(Based on MPM & PAWR Data)

7

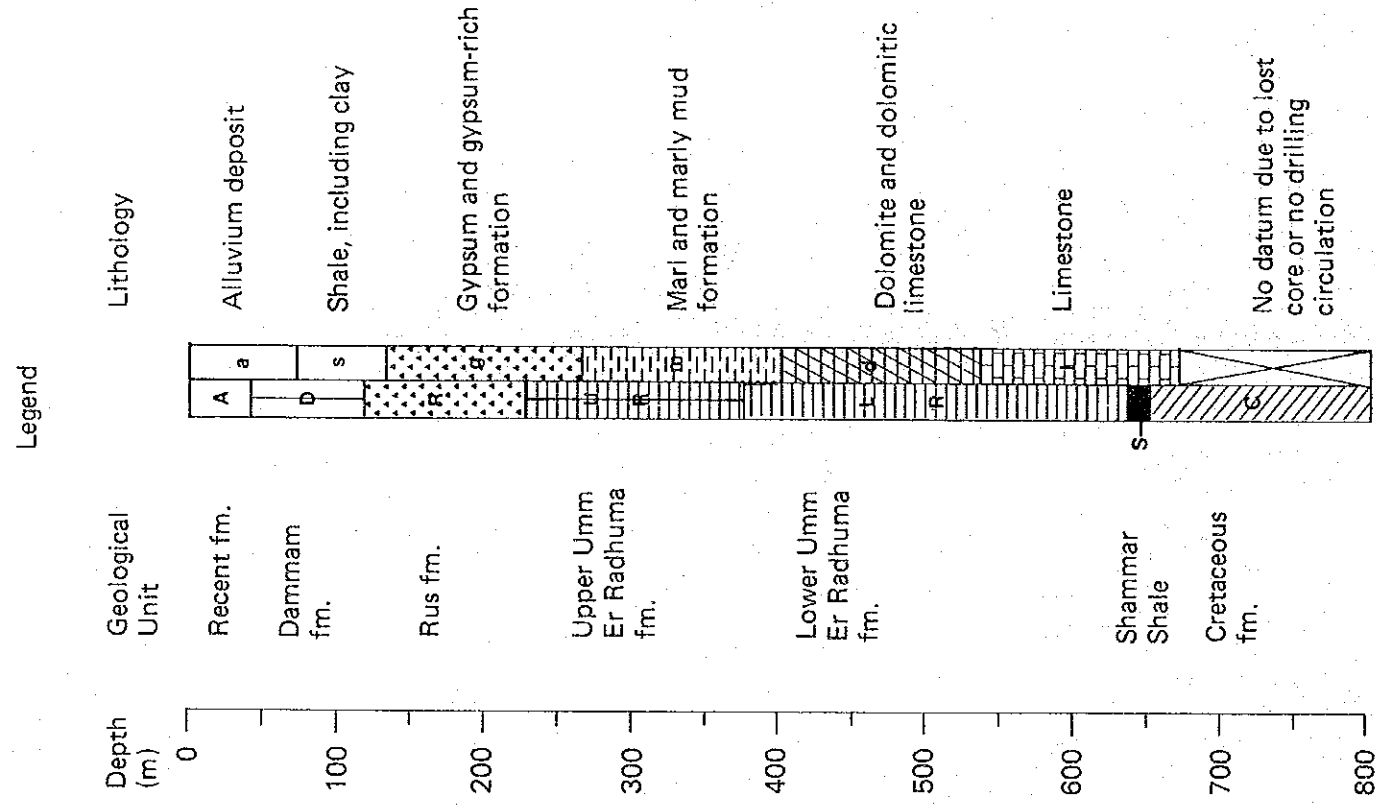
Ranadah-2



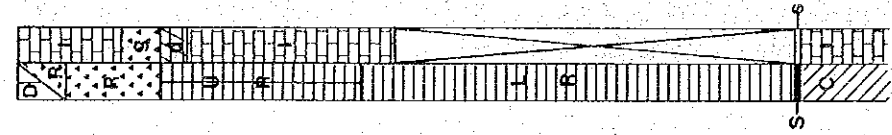
Dauka

Shahr

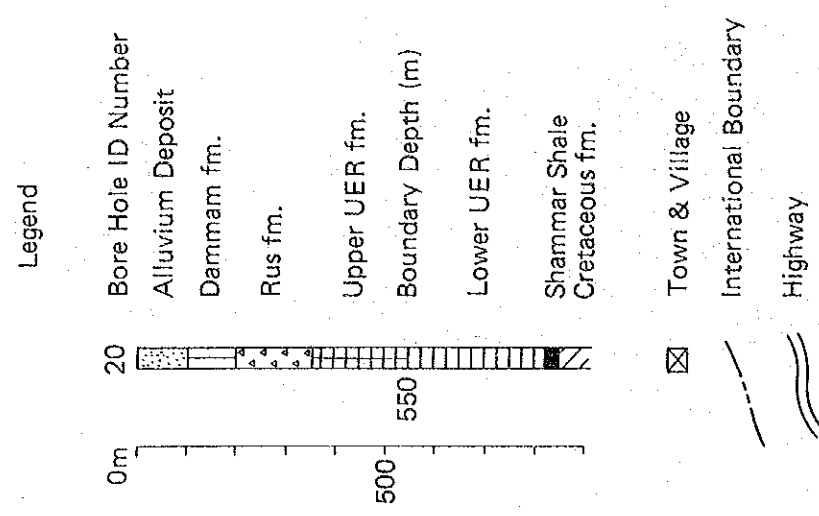
# GEOLOGICAL LOG OF BORE HOLE



7  
Ranadah - 2



# GEOLOGICAL PANNEL DIAGRAM OF THE NEJD

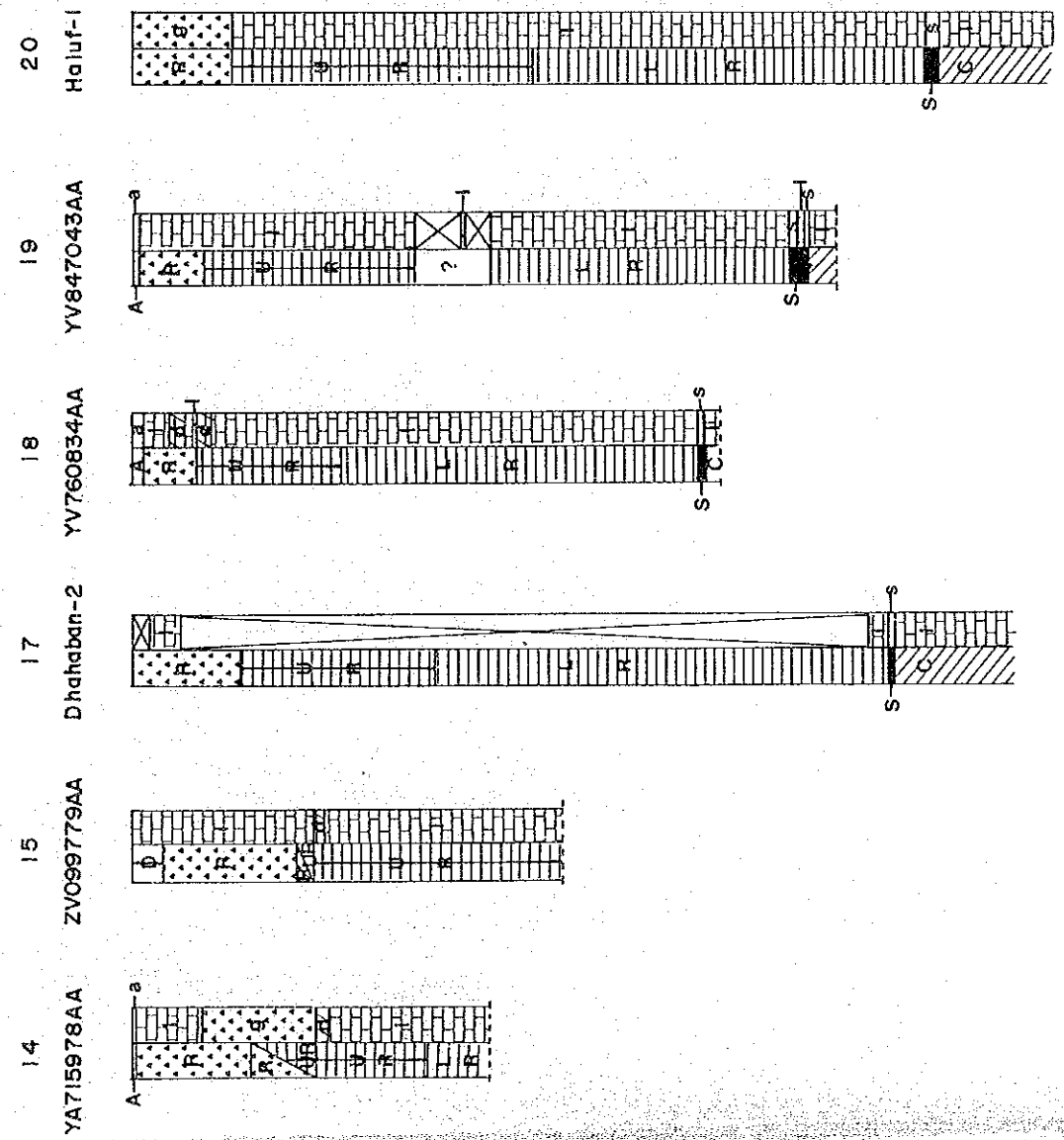
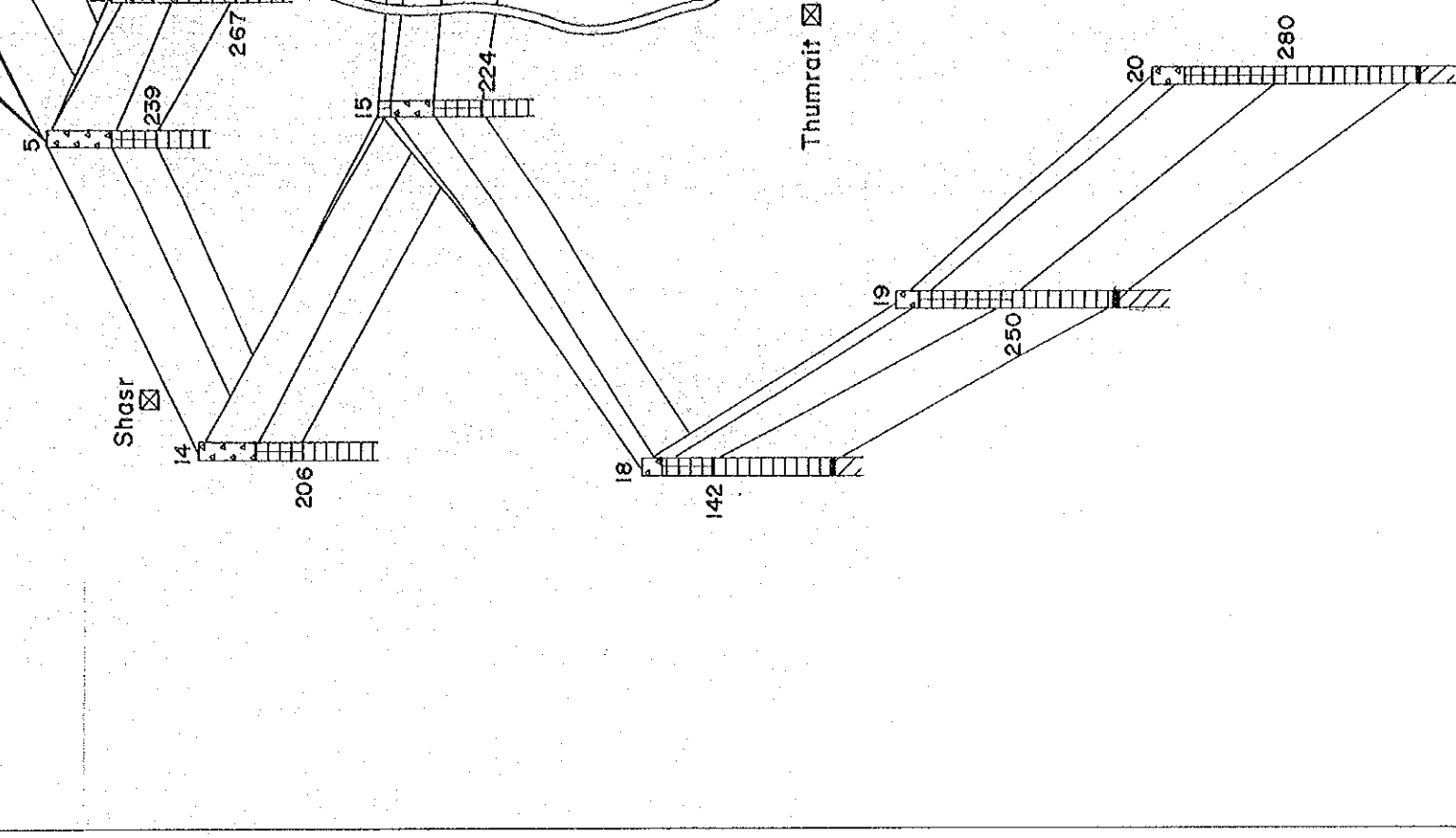


## Bore Hole Identification

- |                 |                |
|-----------------|----------------|
| 1. Shigag-1     | 11. BF410641AA |
| 2. Khawtar-1    | 12. M-10-1     |
| 3. Arba-1       | 13. Dimeet-1   |
| 4. BF298464AA   | 14. YA715978AA |
| 5. ZA035301AA   | 15. ZV099779AA |
| 6. BF263460AA   | 16. BE094486AA |
| 7. Ranadah-2    | 17. Dhahaban-2 |
| 8. Wa'ad-1      | 18. YV760834AA |
| 9. Qaarharail-1 | 19. YV847043AA |
| 10. NJD-1       | 20. Haluf-1    |

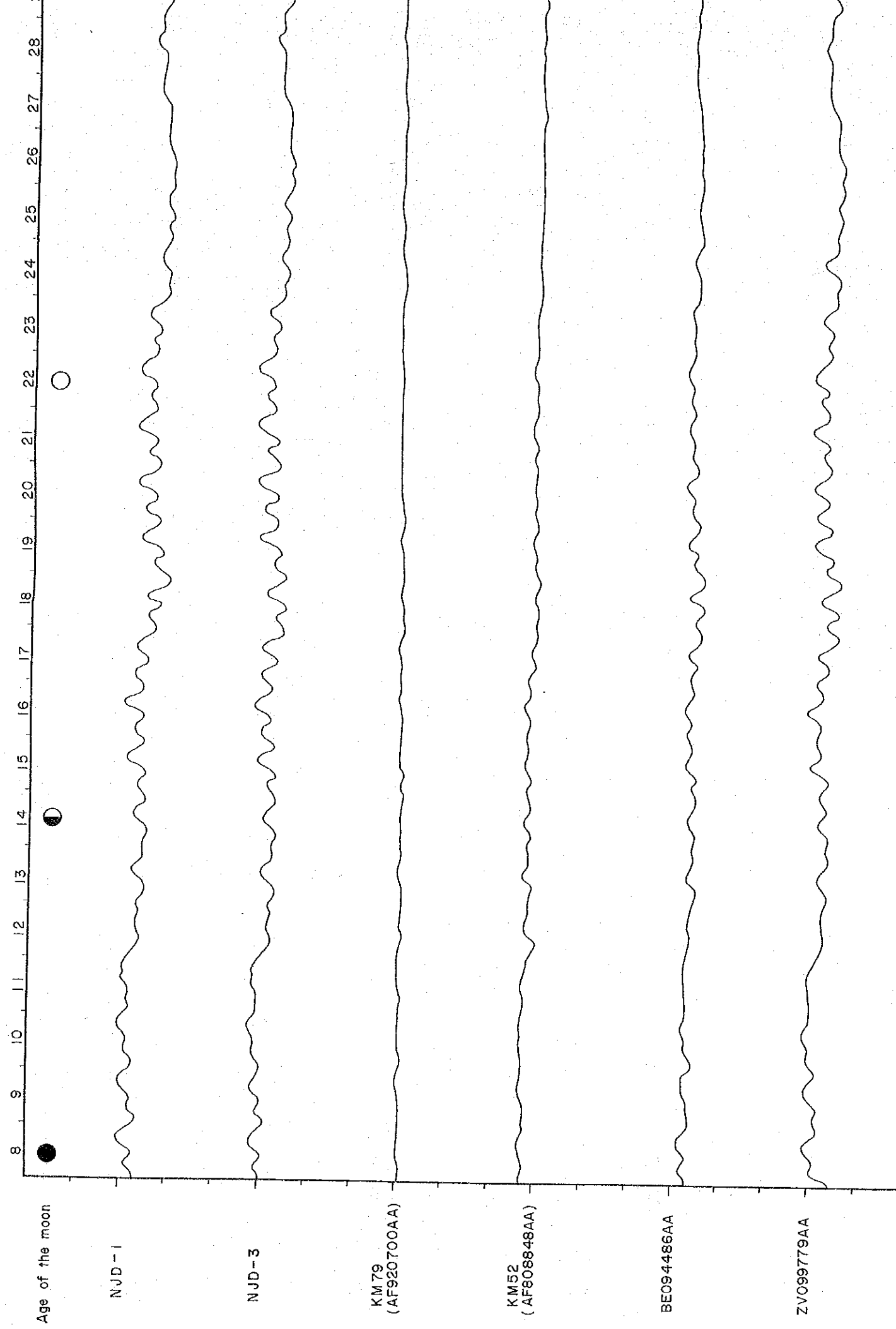
(Based on MPM & PAWR Data)

(Based on MPM & PAWR Data)

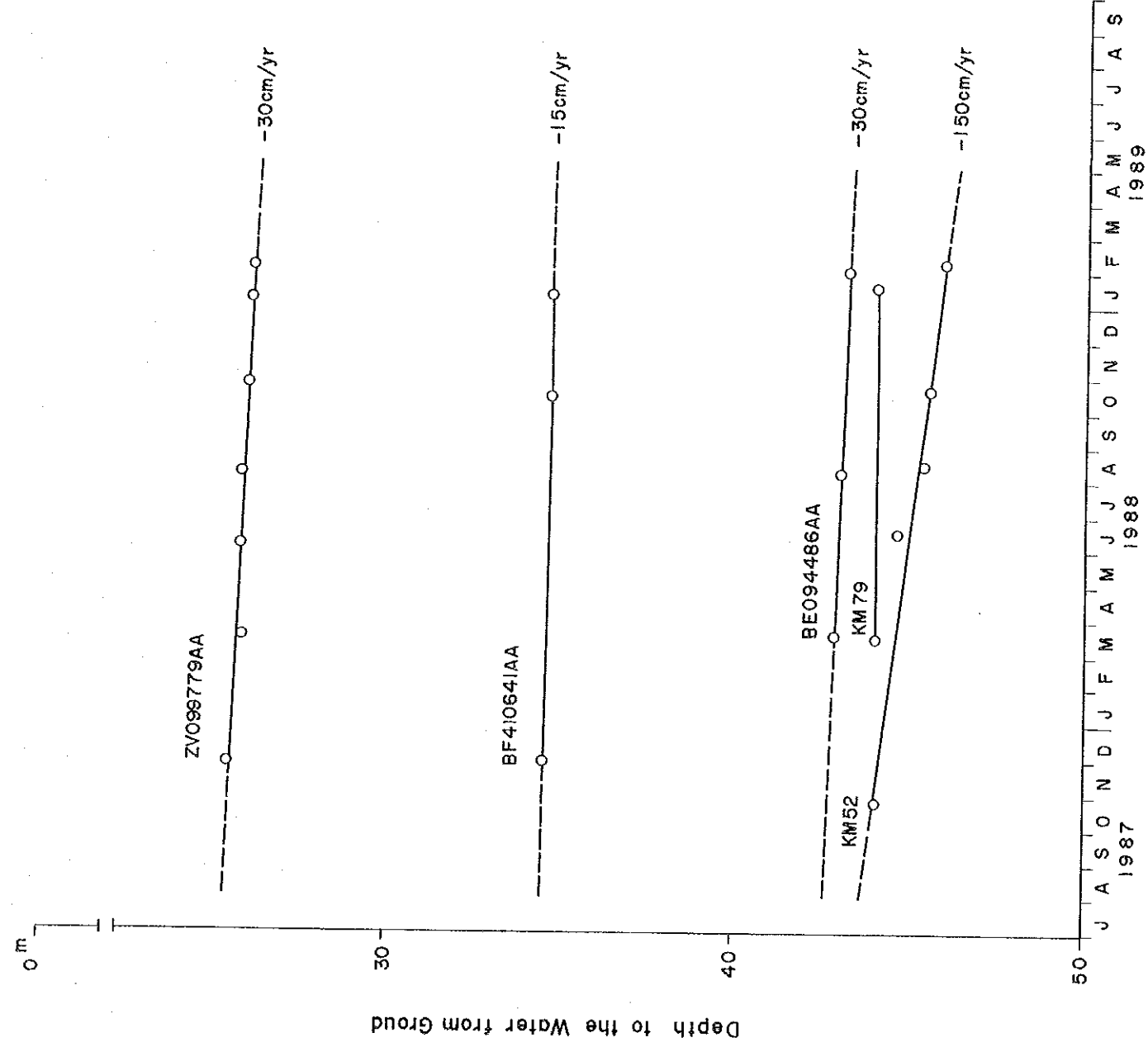


# HYDROGRAPH OF PROJECT OBSERVATION WELLS

Jan, 8th - 31st, 1989



## LONG TERM TREND OF NEJD GROUNDWATER LEVEL

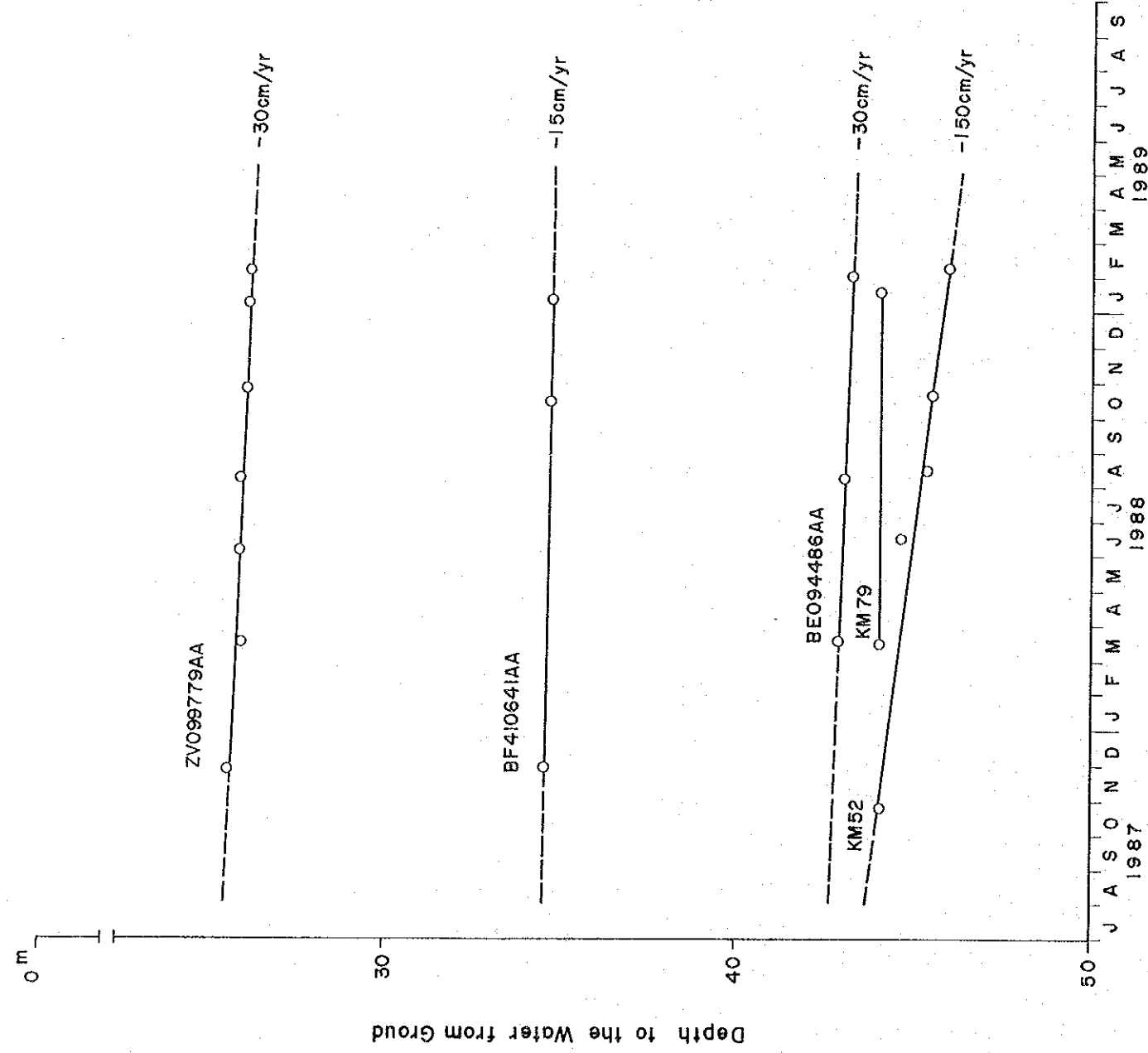


Measured Level (m)

Bore Hole Date	ZV099779AA	BF410641AA	BE094486AA
1987, Oct. 25			
Nov. 21		34.60	
Nov. 22	25.40		
1988, Mar. 15			
Mar. 16	25.83		
Apr. 28			
Jun. 2	25.77		
Jun. 16	25.77		
Jul. 2			
Aug. 4	25.78		
Aug. 8	25.77		
Aug. 12			
Sep. 1			
Sep. 3			
Sep. 30	25.81		
Oct. 3			
Oct. 10		34.69	
Oct. 11			
Oct. 19			
Oct. 23	25.93		
Nov. 18			
Dec. 4			
Dec. 7	25.99		
1989, Jan. 5			
Jan. 8		26.03	
Jan. 11			
Jan. 19		34.77	
Feb. 4	26.08		

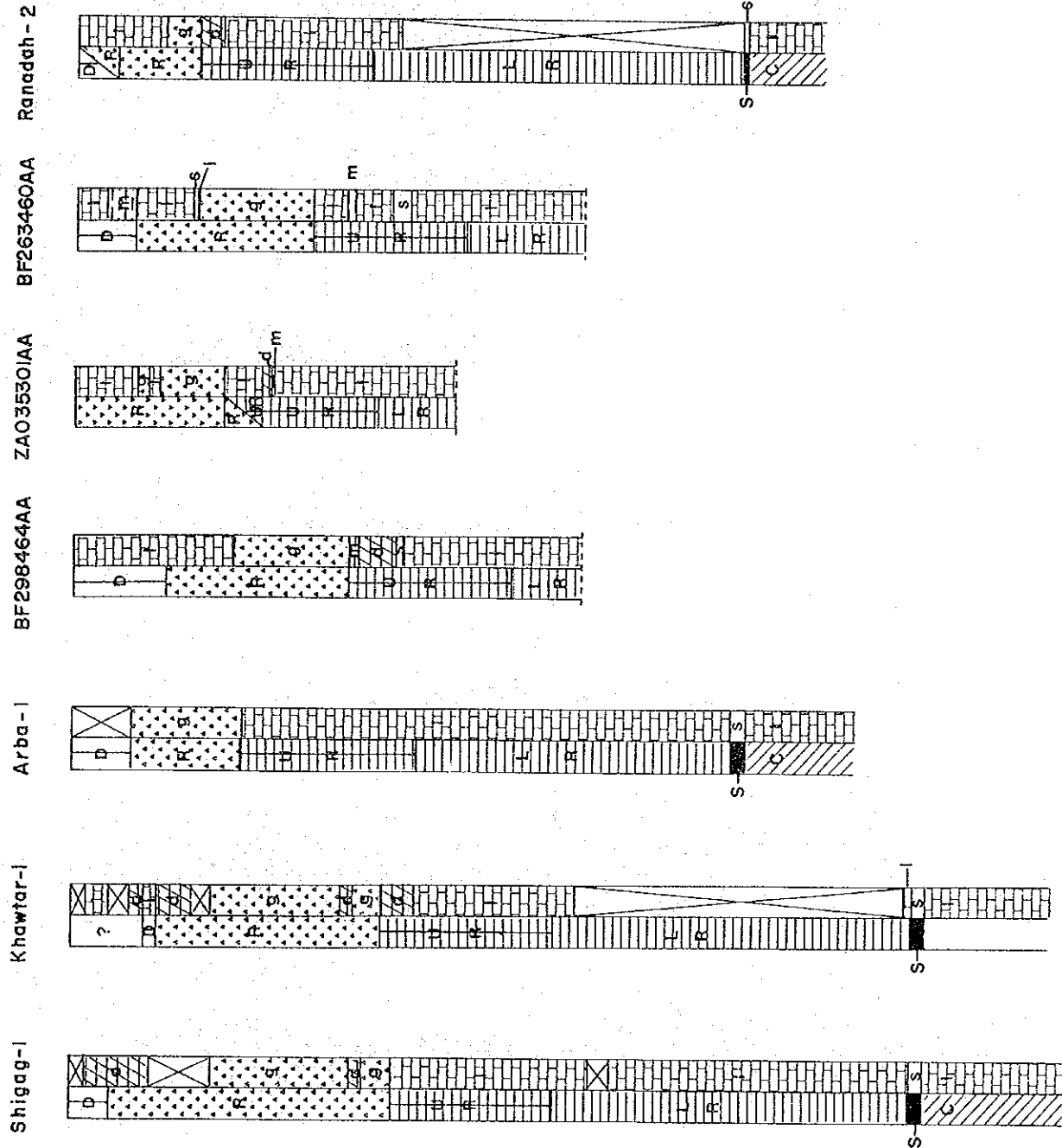
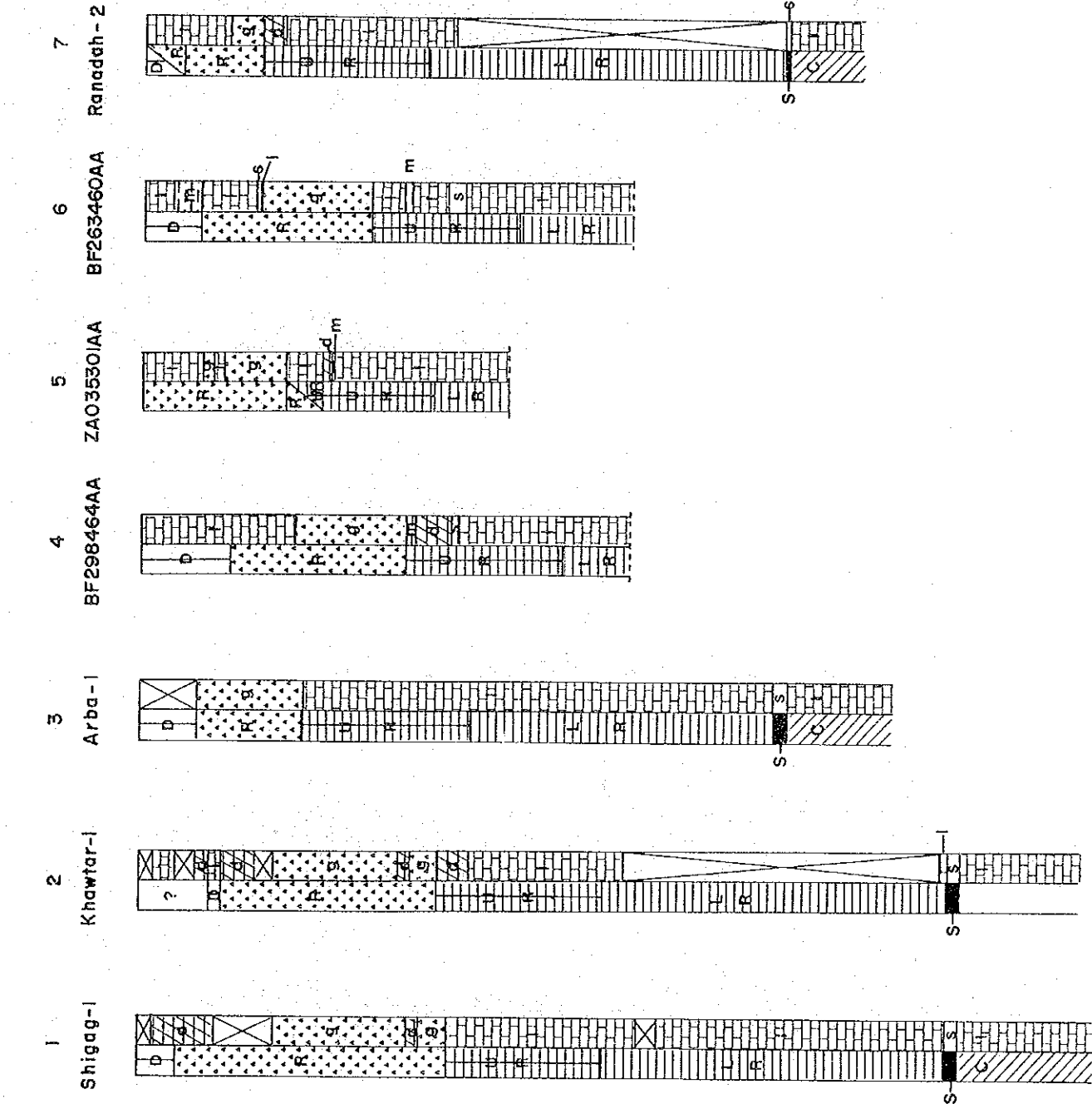
OF NEJD GROUNDWATER LEVEL

Measured Level



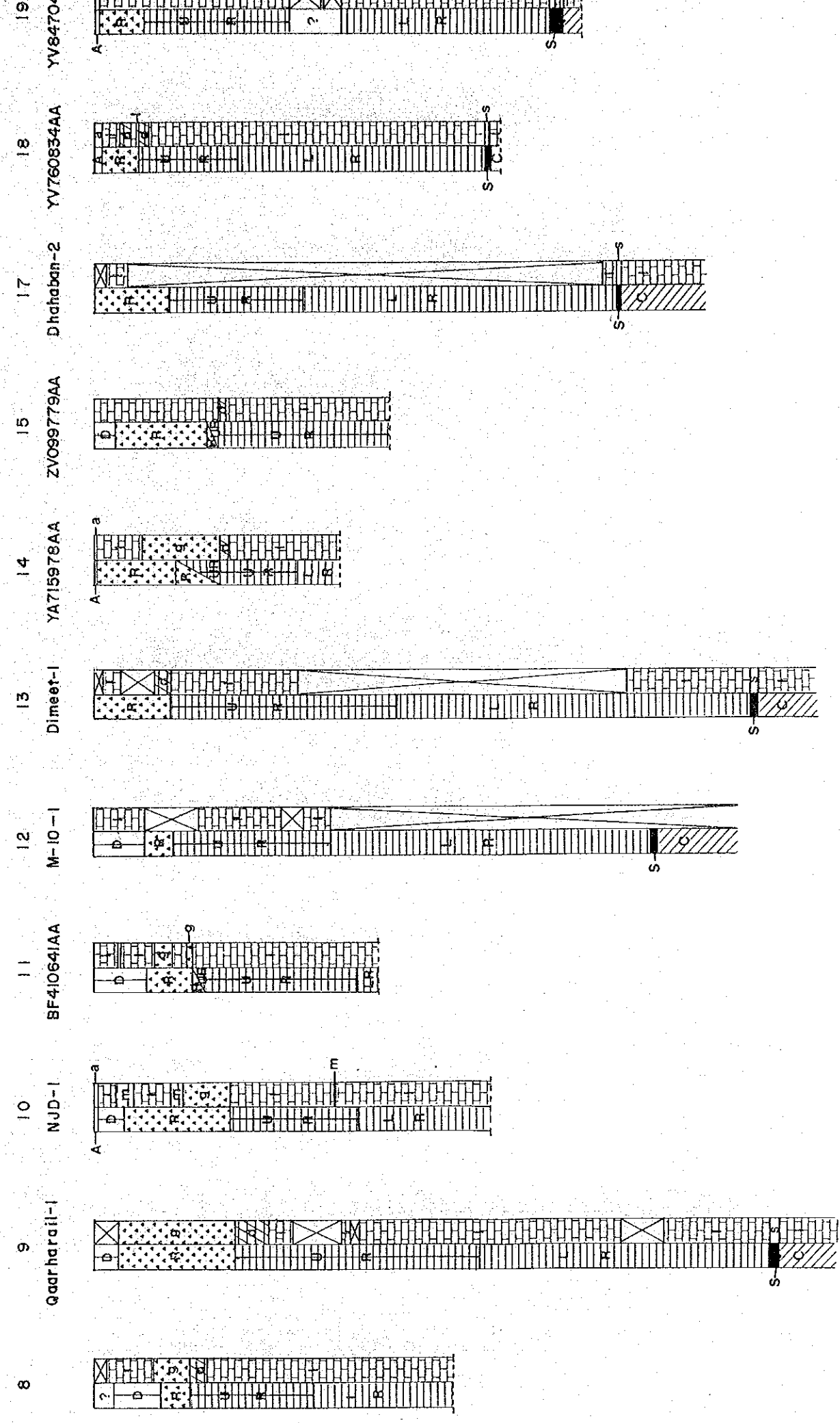
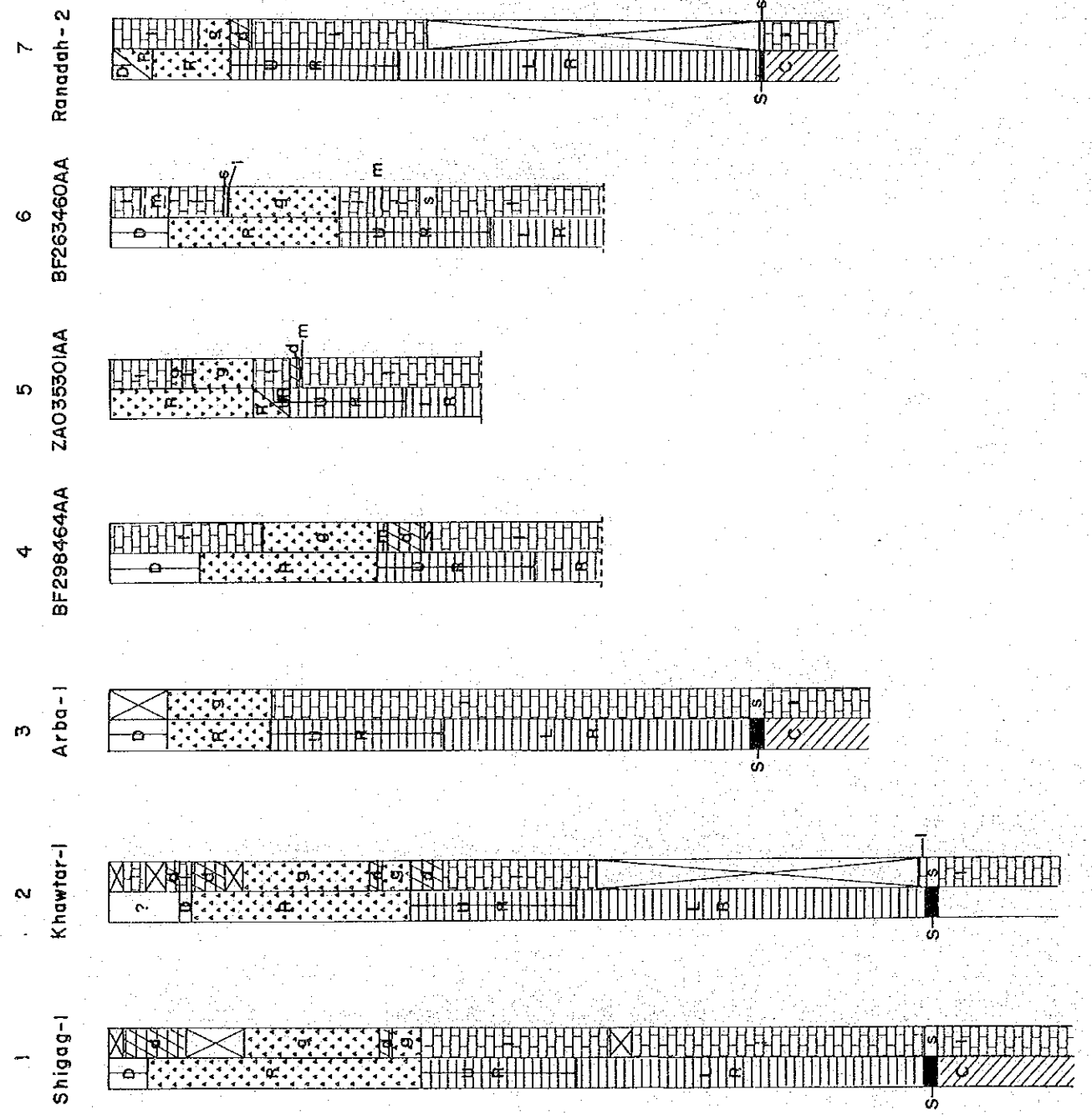
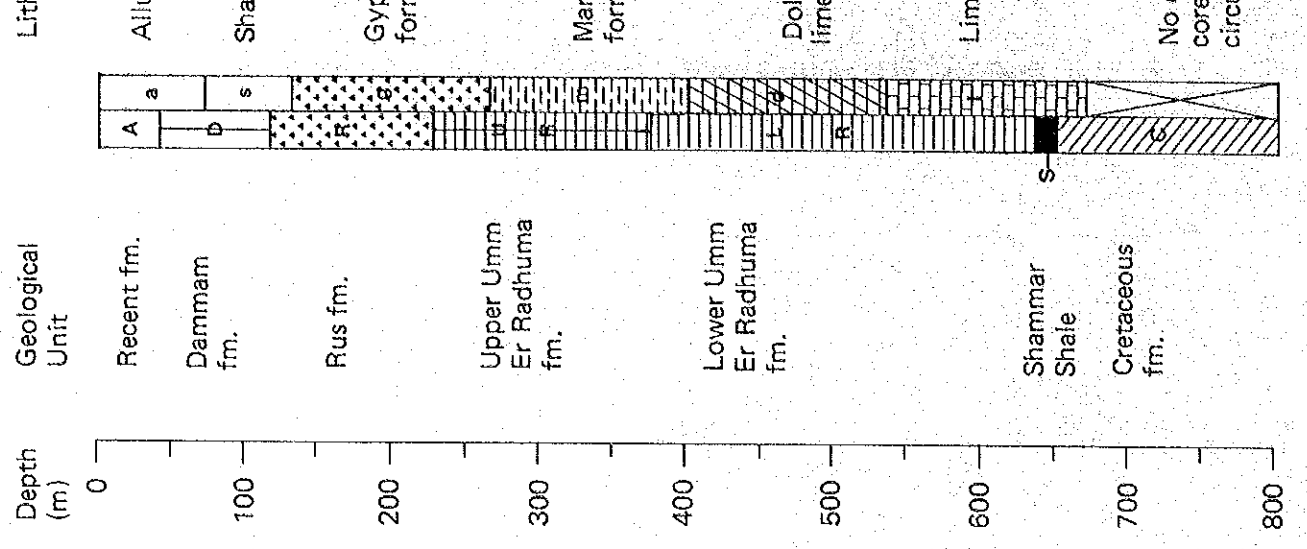
Bore Hole Date	ZV099779AA	BF410641AA
1987, Oct. 25		
1987, Nov. 21	25.40	34.60
1988, Mar. 15	25.83	
1988, Apr. 28	25.77	
1988, Jun. 2	25.77	
1988, Jul. 2	25.78	
1988, Aug. 4	25.77	
1988, Sep. 1	25.81	
1988, Oct. 3	25.93	
1988, Nov. 18		34.69
1988, Dec. 4	25.99	
1989, Jan. 5	26.03	
1989, Feb. 4	26.08	

GEOLOGICAL LOG OF





Legend

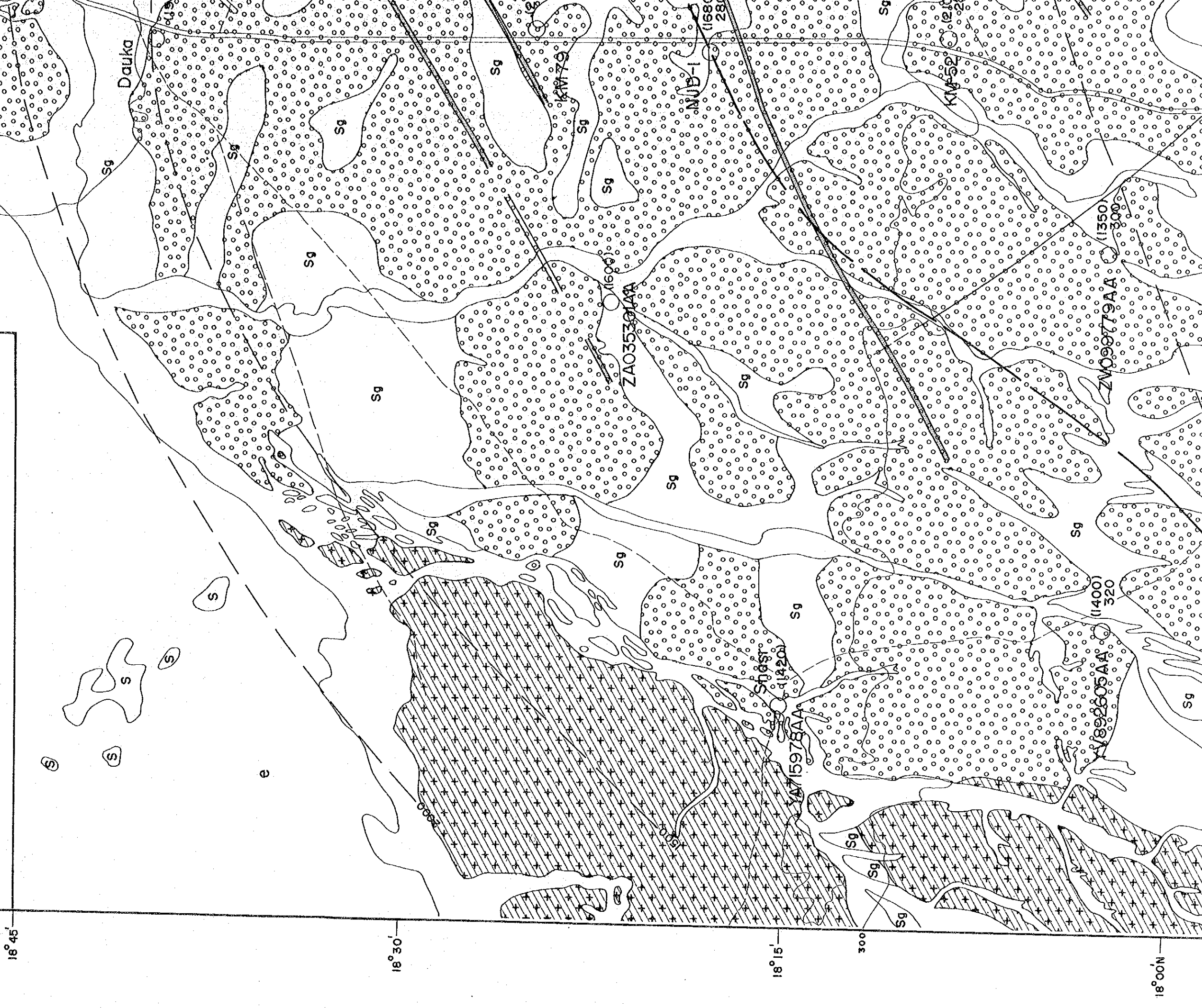


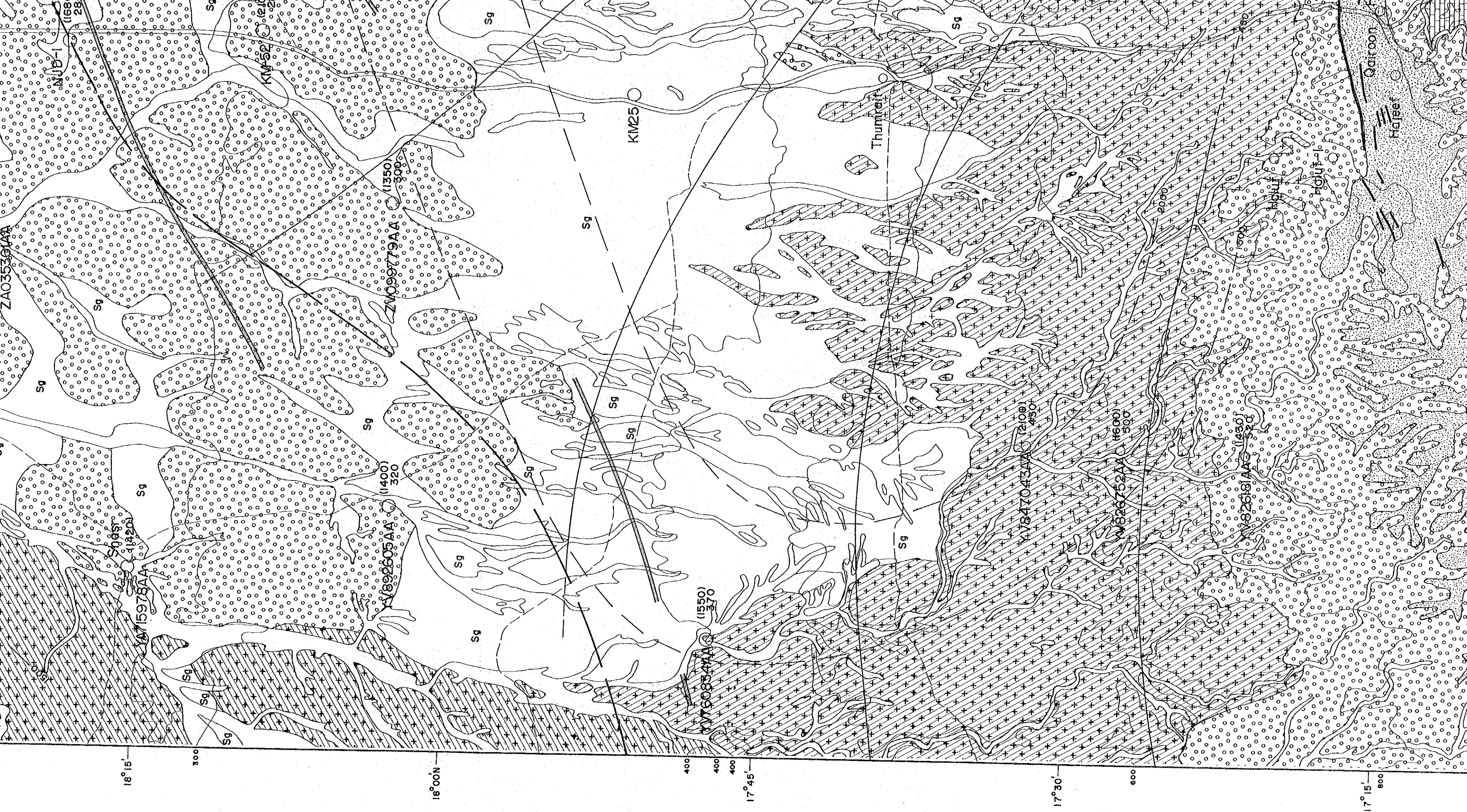
19°00'N 53°30' 53°45' 54°00'E

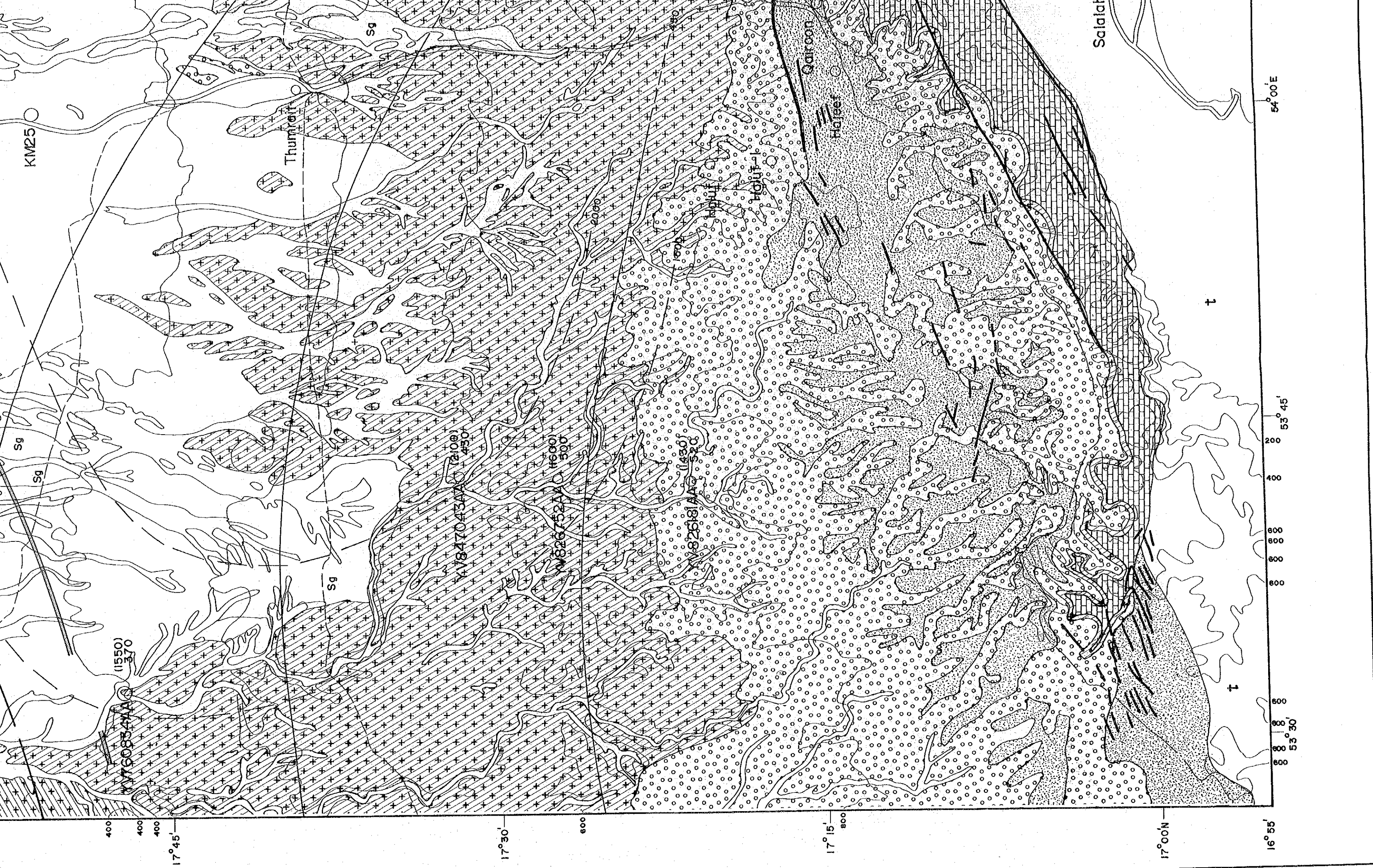
The Government of Sultanate of Oman  
The Study on Agriculture Development Project  
in the Nejd Region

# HYDROGEOLOGICAL MAP OF THE CENTRAL NEJD

1989  
Japan International Co-operation Agency





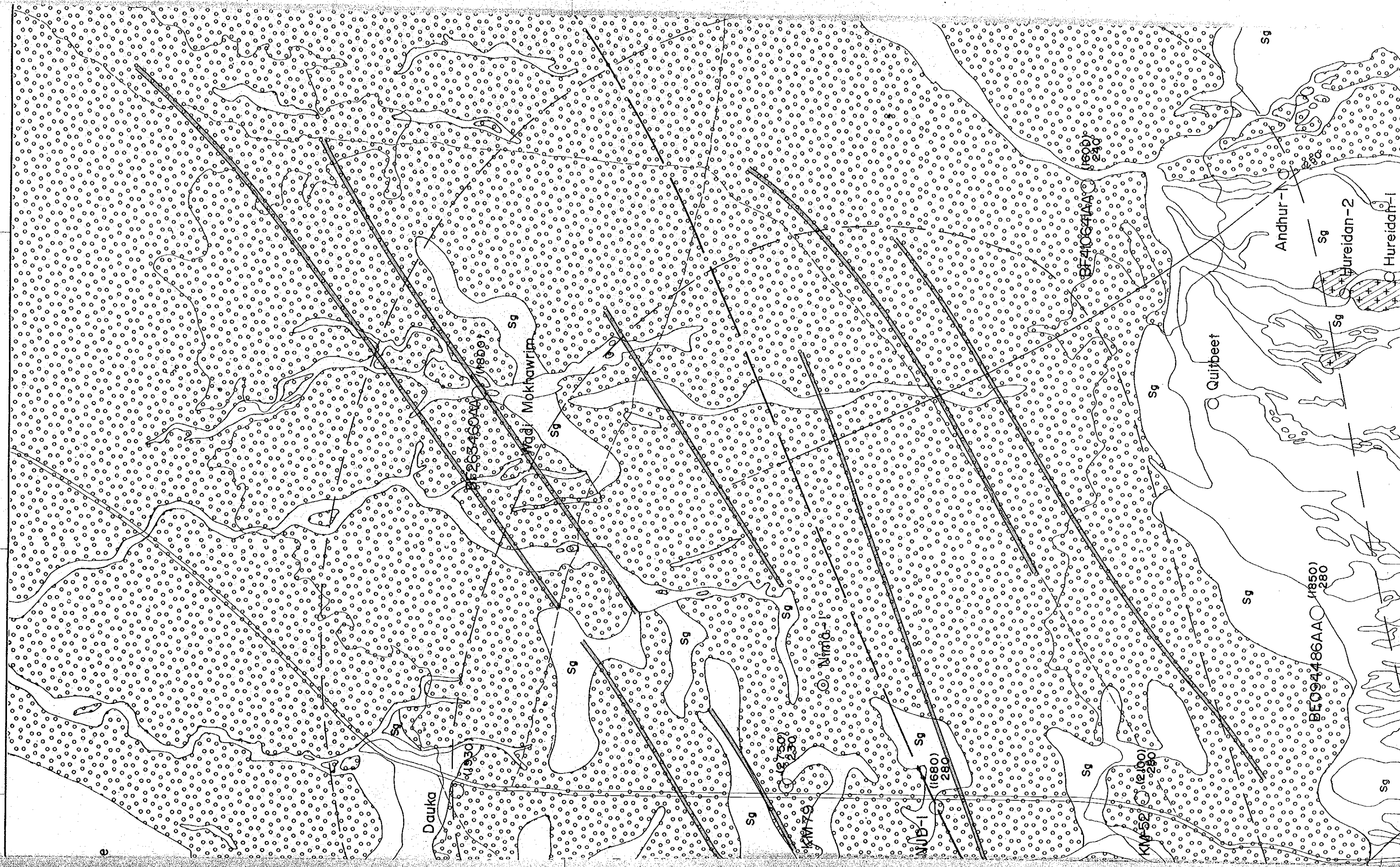


E

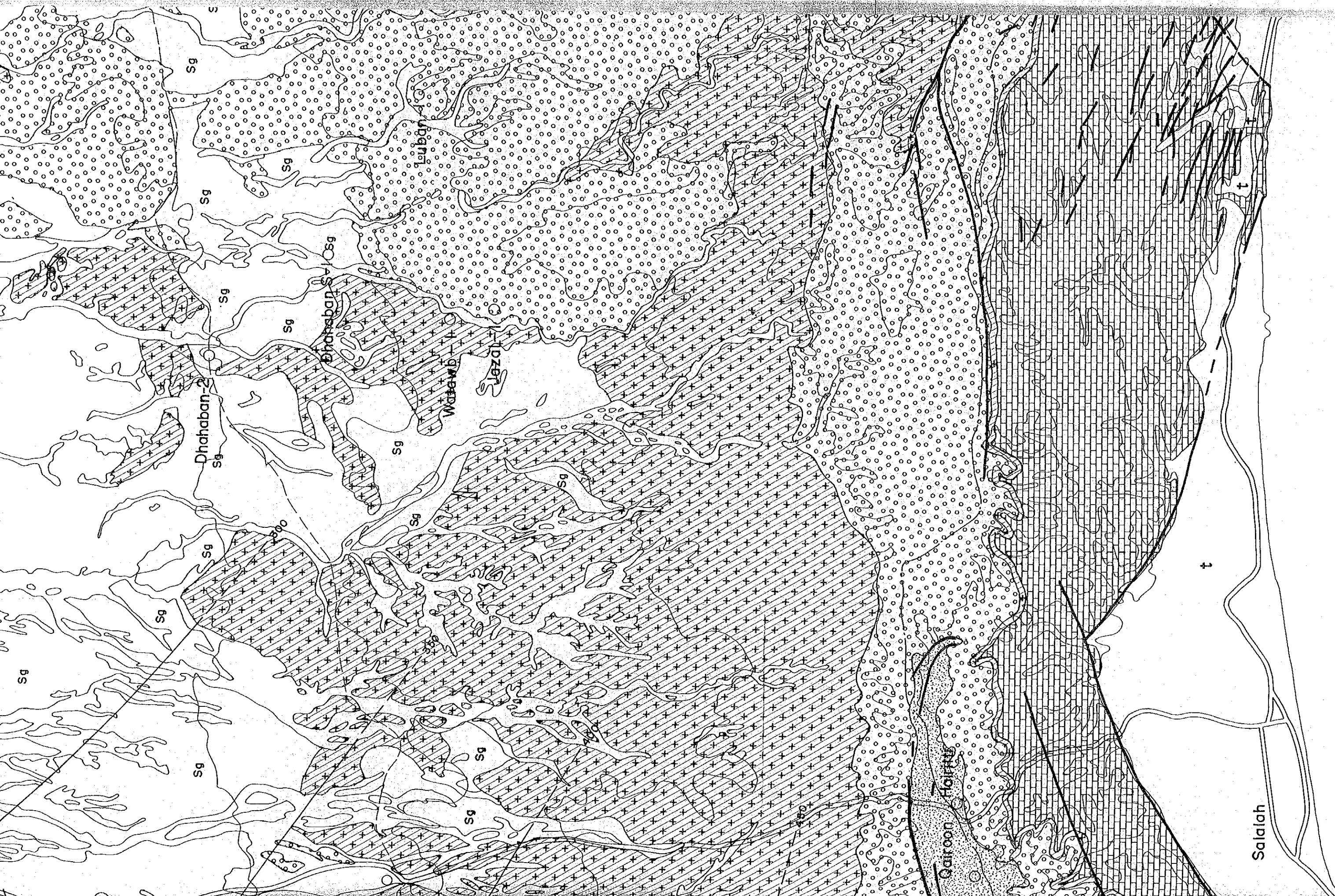
A

54°15'

54°30'







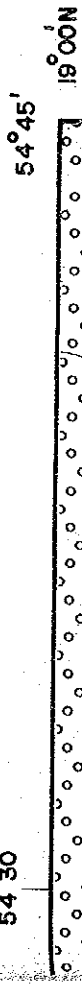
ARABIAN SEA



54° 15'

54° 30'

54°30'



54°45'

18°00'N

300

18°45'

18°30'

18°15'

300

18°00'N

Andhur -

Hureidan-2

Hureidah-1

