

The X-ray Diffraction Patterns and Their Mineral Components of Evaporites at Prince Olav Coast, Antarctica

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This compilation reports the X-ray diffraction patterns and mineral components of evaporites collected from seven areas along the Prince Olav Coast (Shinnan Rocks, Cape Hinode, East Ongul Island, West Ongul Island, Langhovde, Skarvsnes and Skallen) during the period from December 31, 1972 to February 12, 1974.

The X-ray diffraction patterns of evaporites from the respective areas and the corresponding sampling points in maps are presented.

The mineral components of evaporites identified by X-ray powder diffraction are tabulated.

The X-ray diffraction patterns are presented and their results of identifications of the soils at same areas are also tabulated.

These samples and original charts are deposited at the Laboratory of Geology and Mineralogy, Tokyo Institute of Technology, 12-1, Ookayama 2-chome, Meguro-ku, Tokyo 152, Japan.

Instrument and measuring conditions:

Instrument	X-ray Diffractometer Model DIFFPET ADG-301 (Tokyo Shibaura Electric Co., Ltd.)		
Conditions	Target	—	Cu
	Filter	—	Ni
	Voltage	—	40kV
	Current	—	20mA
	Slit	—	1° - 0.15mm - 1°
	Scanning Speed	—	2°/min
	Chart Speed	—	2cm/min

Identified minerals and their chemical composition:

Halite	—	NaCl
Calcite	—	CaCO ₃
Aragonite	—	CaCO ₃
Mirabilite	—	Na ₂ SO ₄ · 10H ₂ O
Thenardite	—	Na ₂ SO ₄
Gypsum	—	CaSO ₄ · 2H ₂ O
Epsomite	—	MgSO ₄ · 7H ₂ O
Hexahydrite	—	MgSO ₄ · 6H ₂ O
Carphosiderite	—	Fe ₃ (SO ₄) ₂ · (OH) · H ₂ O
Atakamite	—	1/2 (CuCl ₂ · 3CuO · 3H ₂ O)

Notes for Figures and Tables:

Fig. 1 ~ 7.	Sampling points.
Fig. 8 ~ 14.	The X-ray powder diffraction patterns of evaporites.
Fig. 15 ~ 18.	The X-ray powder diffraction patterns of soils.
Table 1 ~ 7.	X-ray powder diffraction data of evaporites.
Table 8.	Identified minerals of evaporites.
Table 9.	Identified minerals of soils.

The symbols used in the Figures and Tables are as follows:

SN	:	Shinnan Rocks.
H	:	Cape Hinode.
EO	:	East Ongul Island.
WO	:	West Ongul Island.
L	:	Langhovde.
SV	:	Skarvsnes.
SL	:	Skallen.

This study has been done mostly at Syowa Station, partly at Tokyo Institute of Technology.

We wish to express our thanks to the Tokyo Shibaura Electric Co., Ltd. for the use of X-ray Diffractometer Model DIFFPET ADG-301.

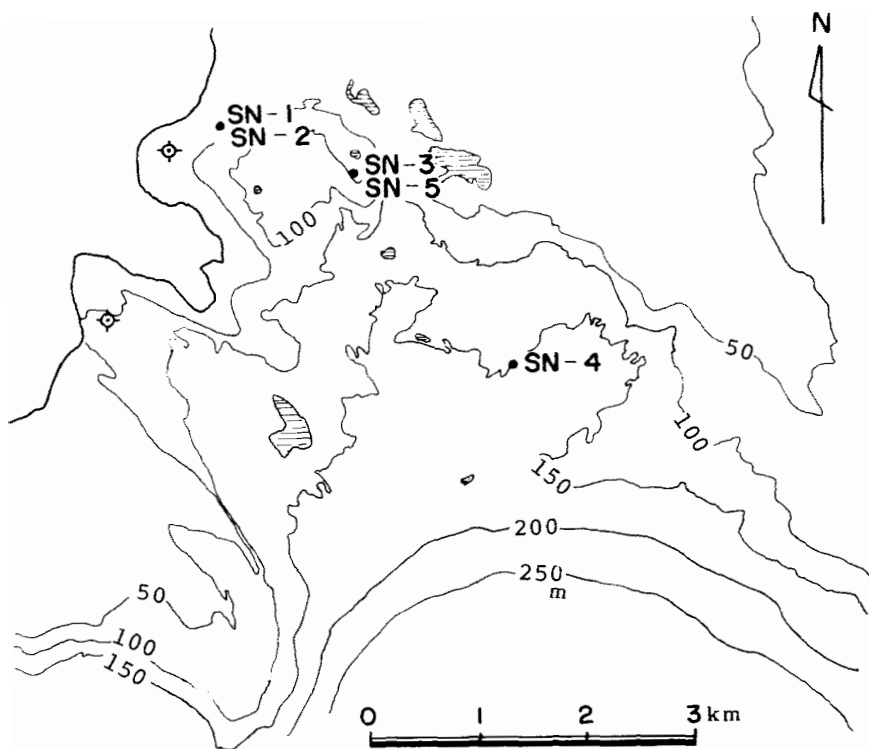


Fig. 1. Sampling points at Sinnan Rocks.

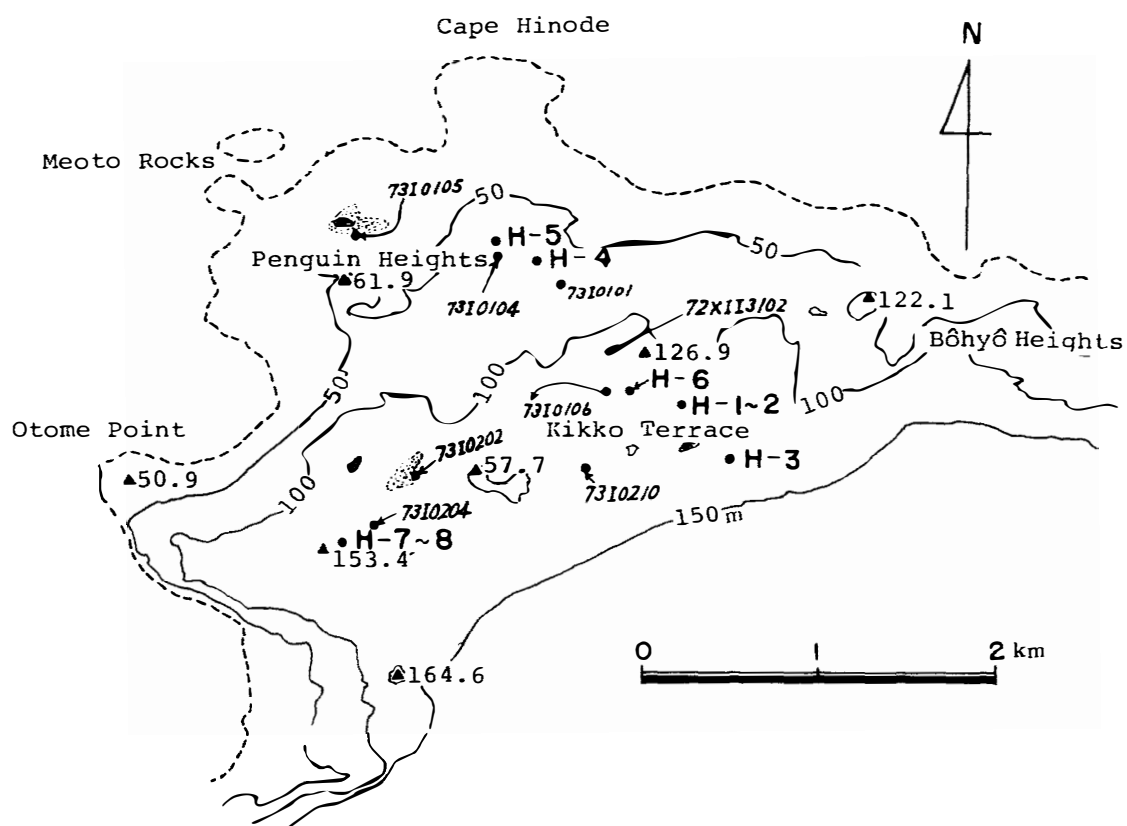


Fig. 2. Sampling points at Cape Hinode.



Fig. 3. Sampling points at East Ongul Island.

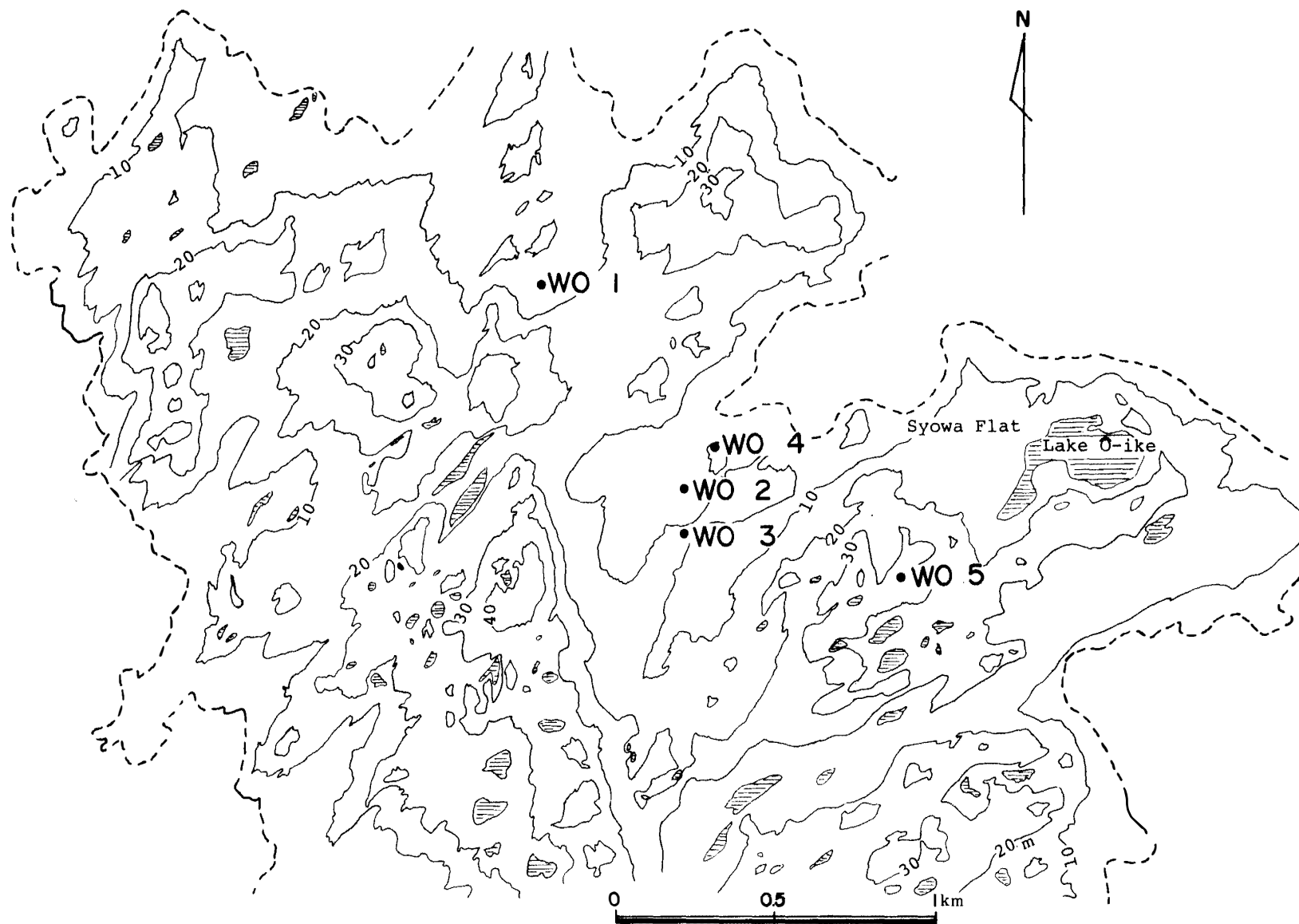


Fig. 4. Sampling points at West Ongul Island.

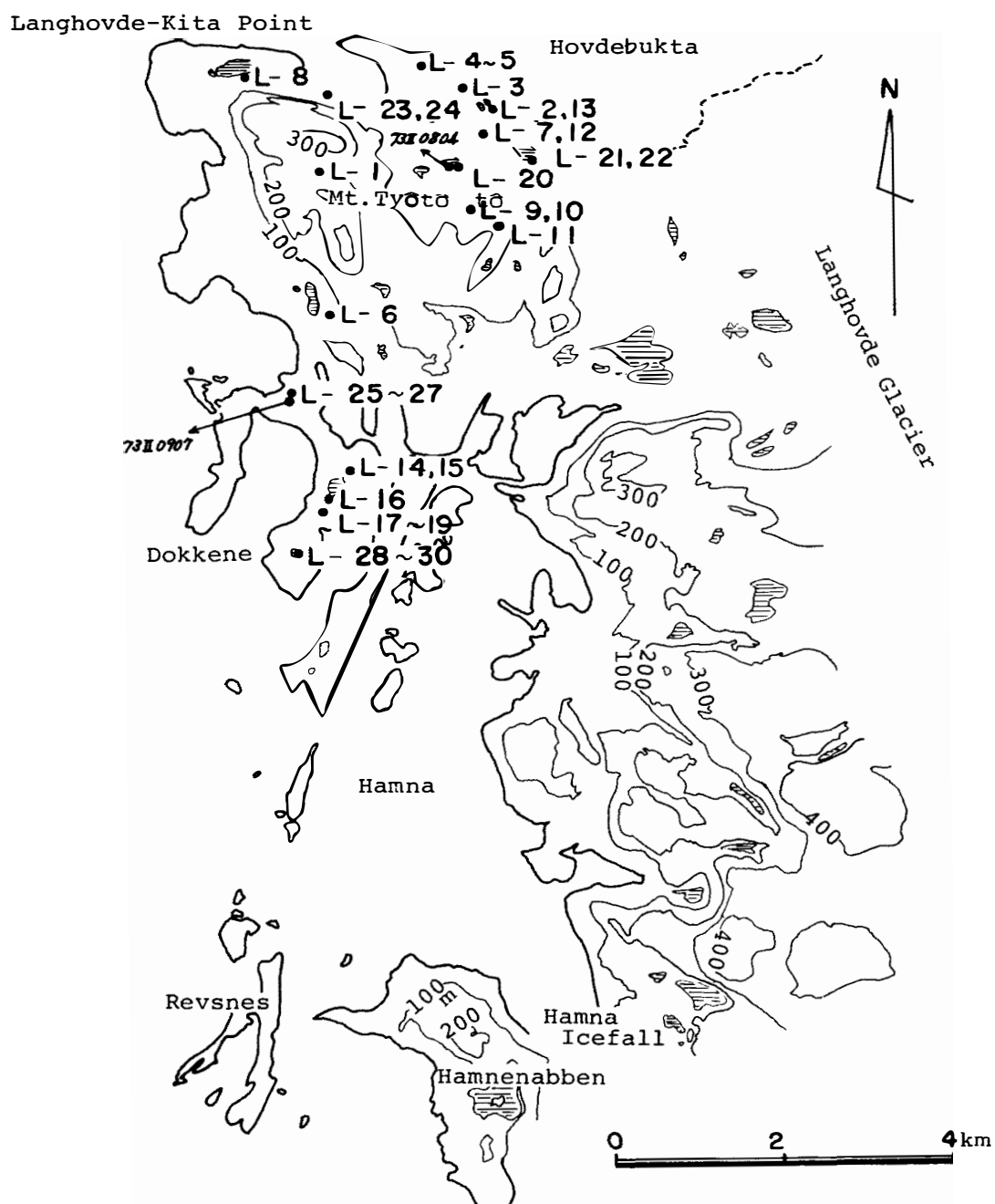


Fig. 5. Sampling points at Langhovde.

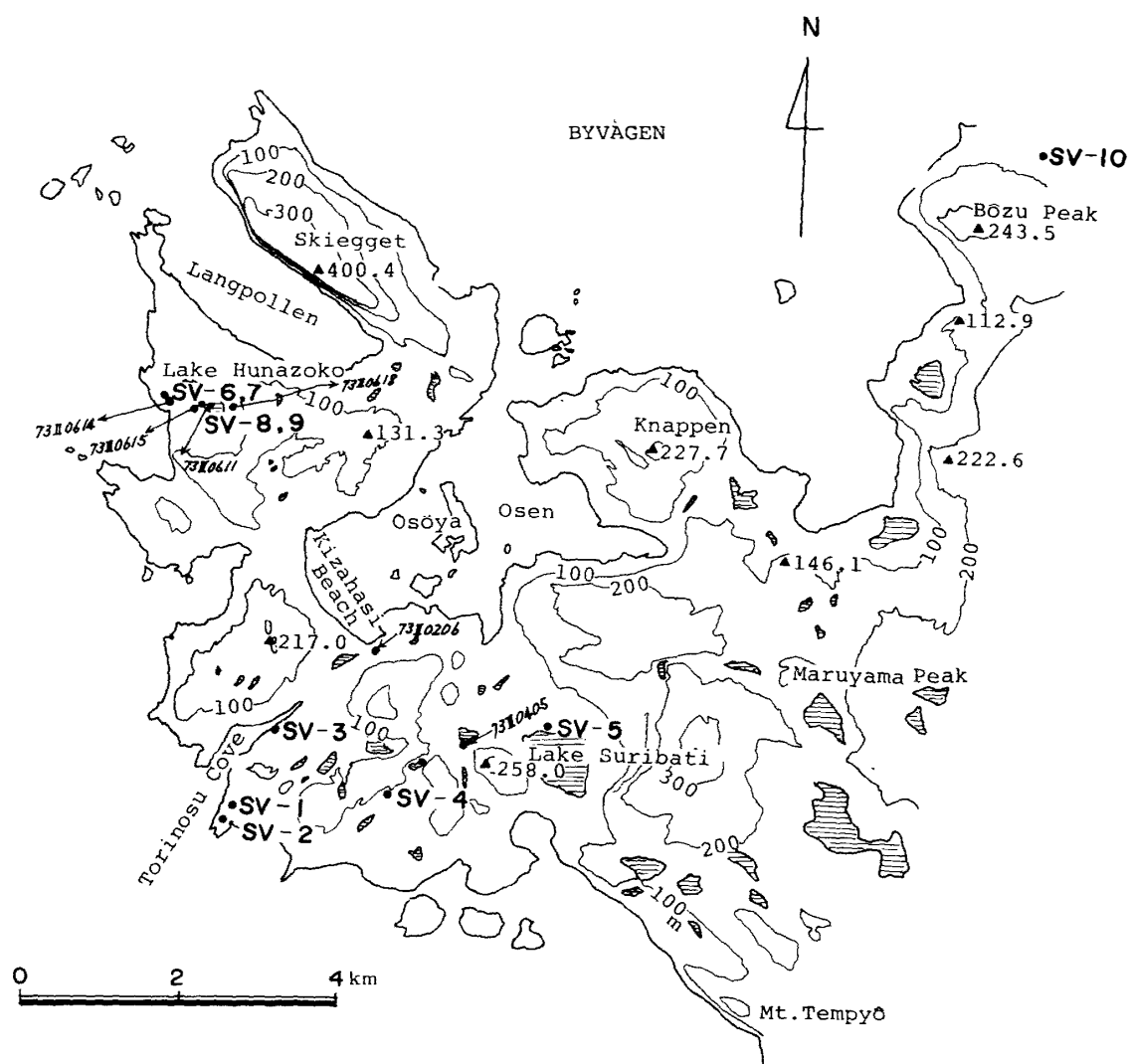


Fig. 6. Sampling points at Skarvsnes.

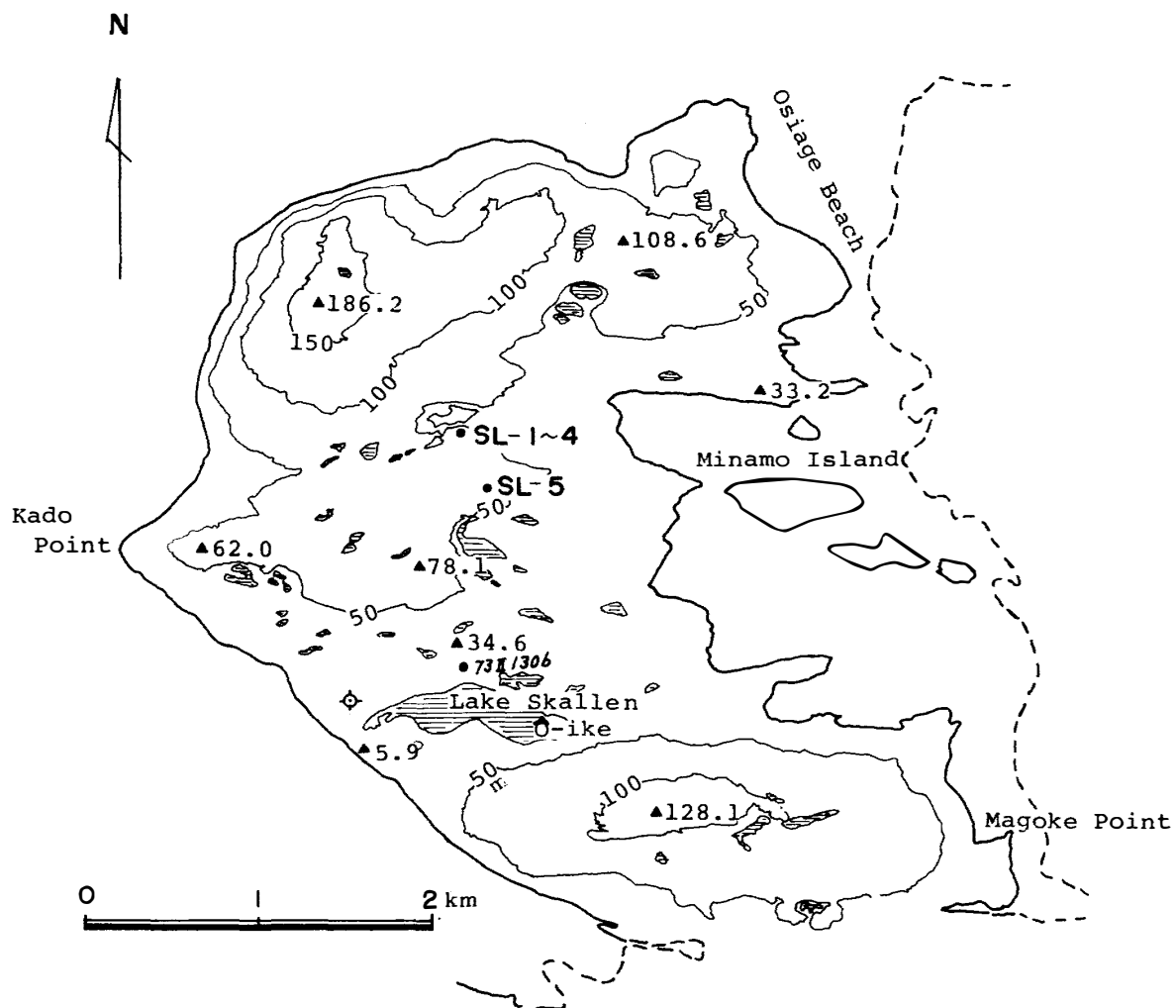


Fig. 7. Sampling points at Skallen.

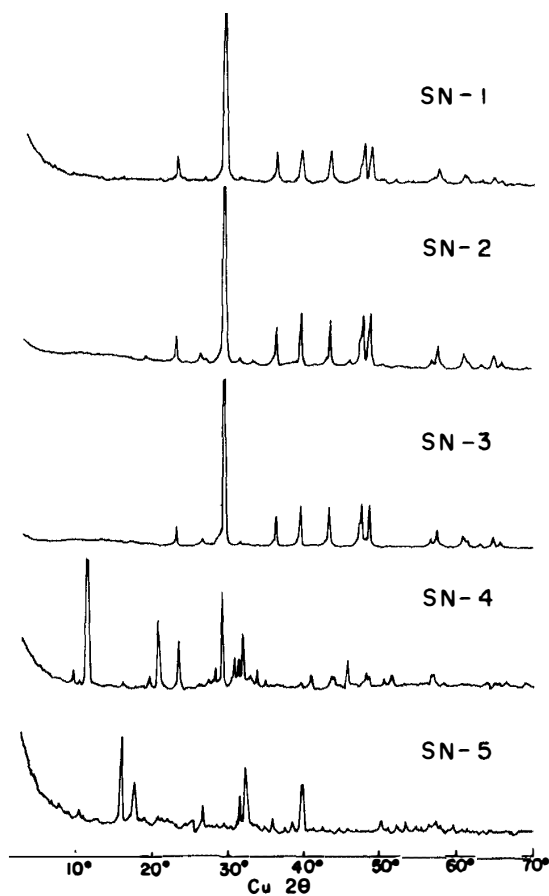


Fig. 8.
X-ray powder diffraction
patterns of evaporites at
Sinnan Rocks.

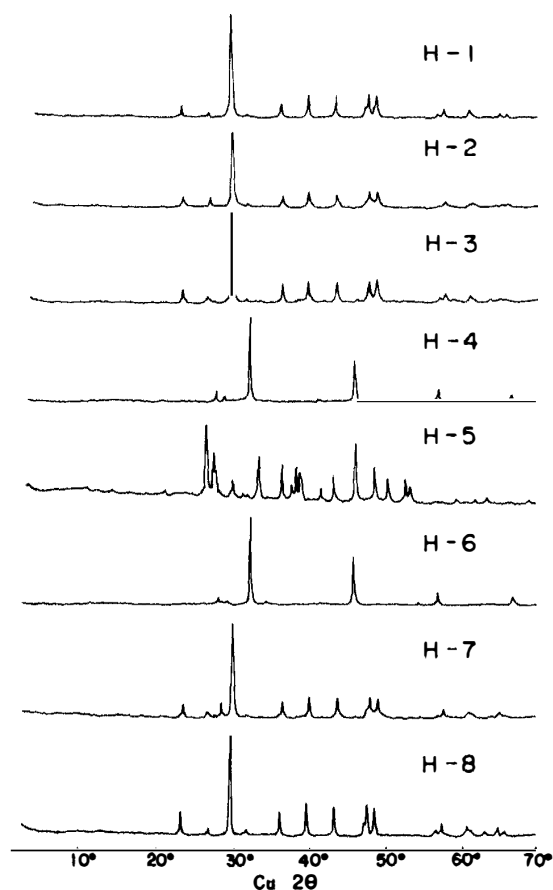


Fig. 9.
X-ray powder diffraction
patterns of evaporites at
Cape Hinode.

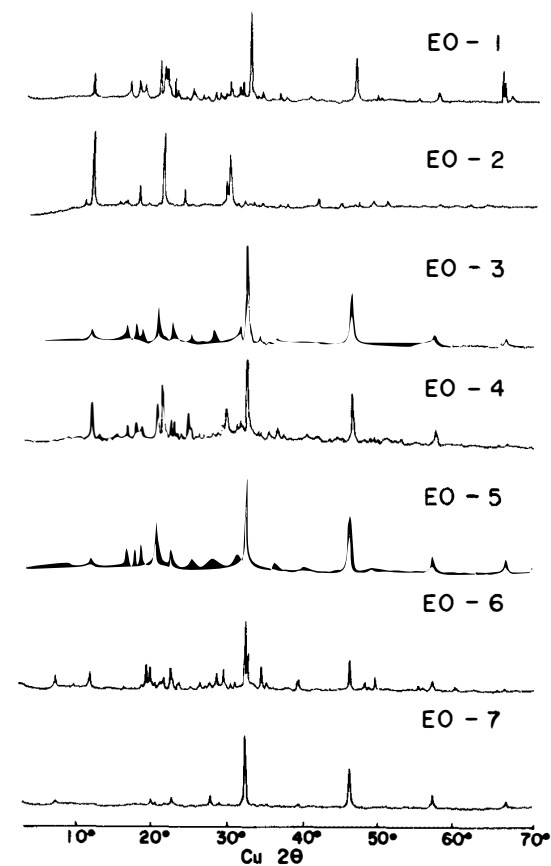
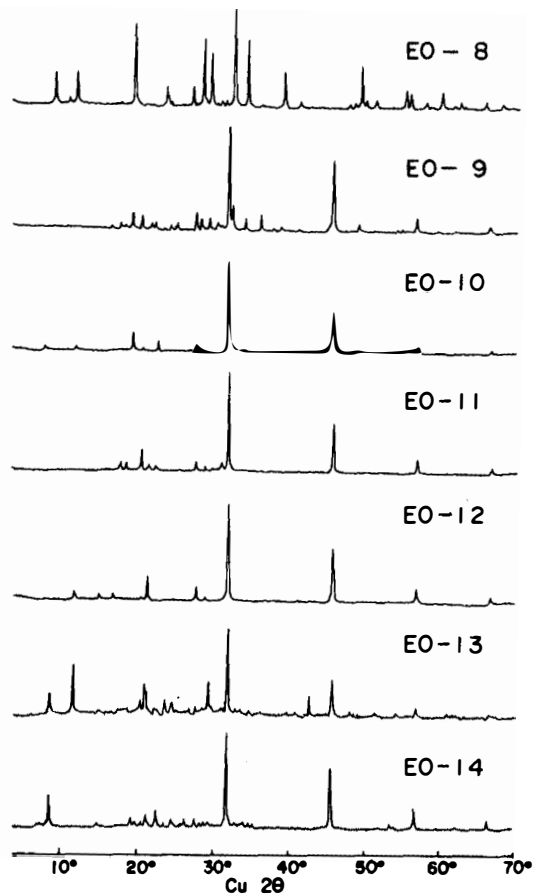
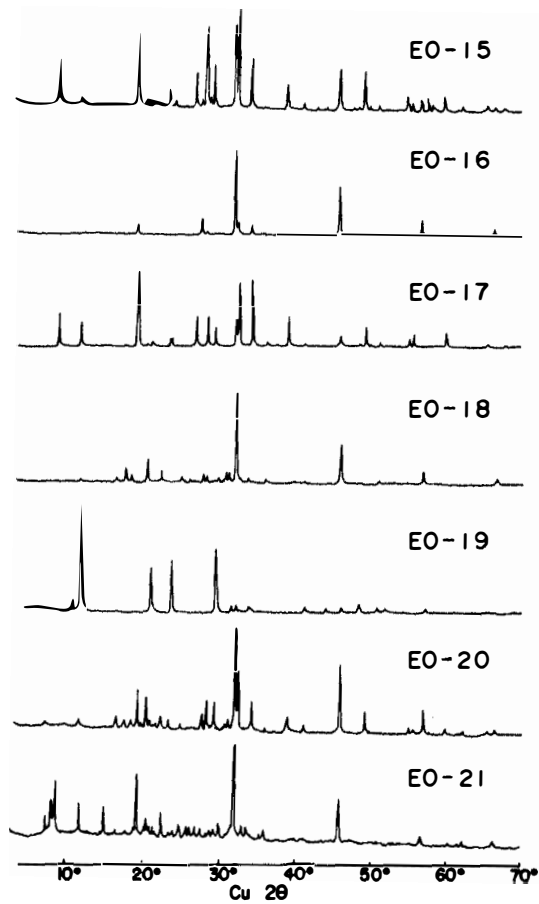


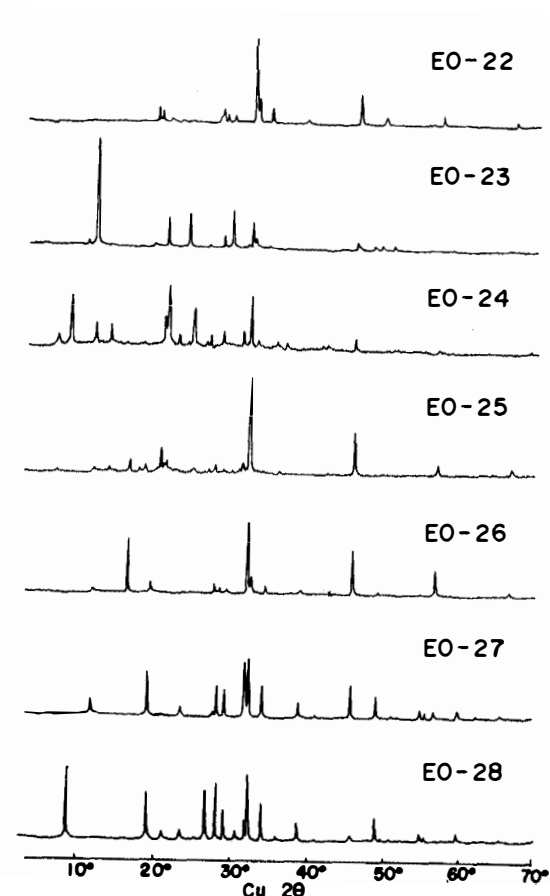
Fig. 10. (a)
X-ray powder diffraction
patterns of evaporites at
East Ongul Island.



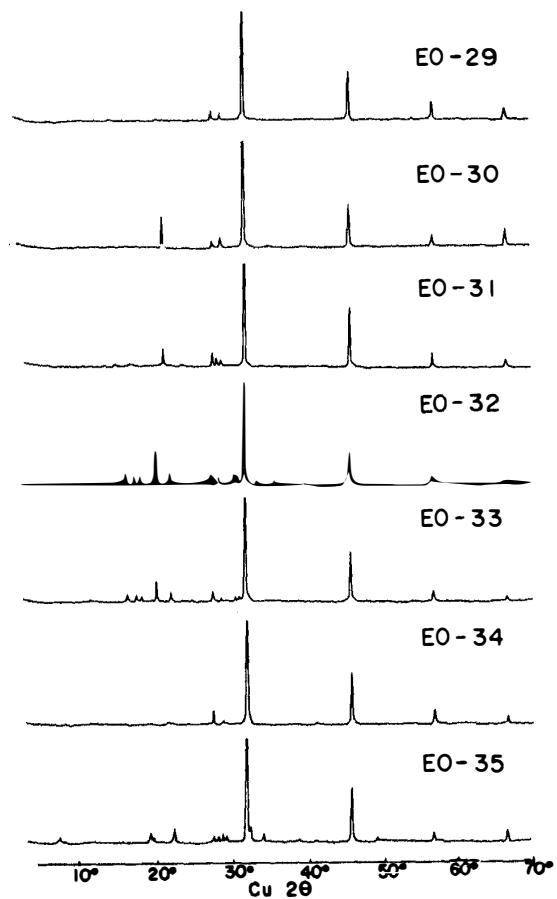
(b)



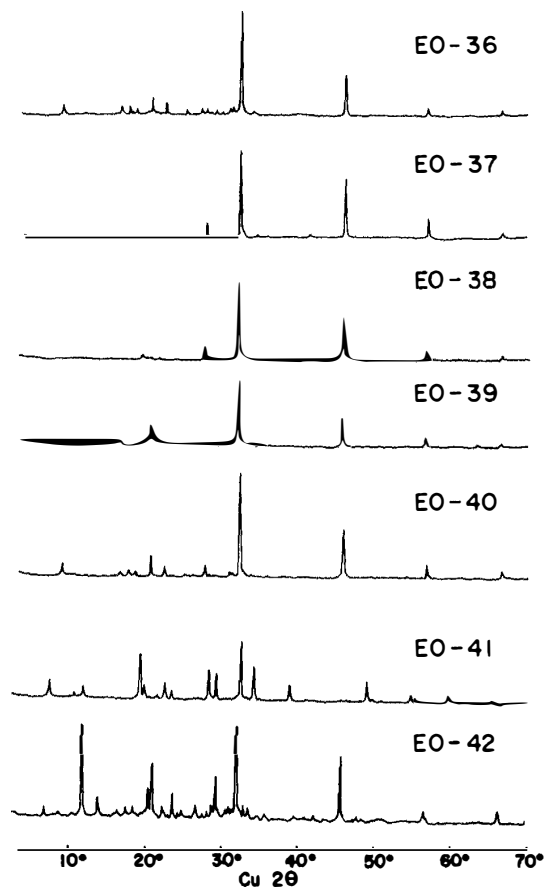
(c)



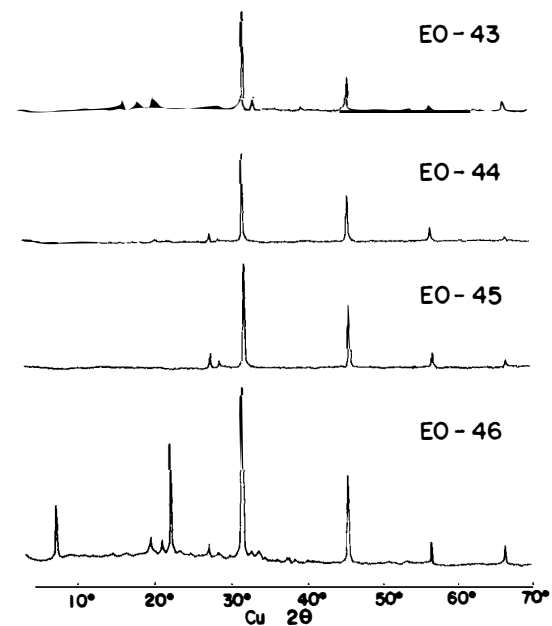
(d)



(e)



(f)



(g)

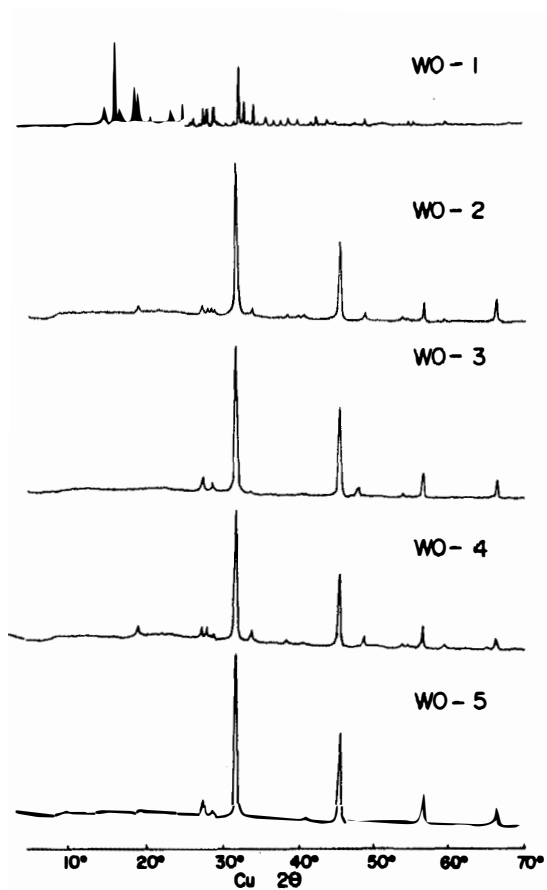


Fig. 11.
X-ray powder diffraction
patterns of evaporites at
West Ongul Island.

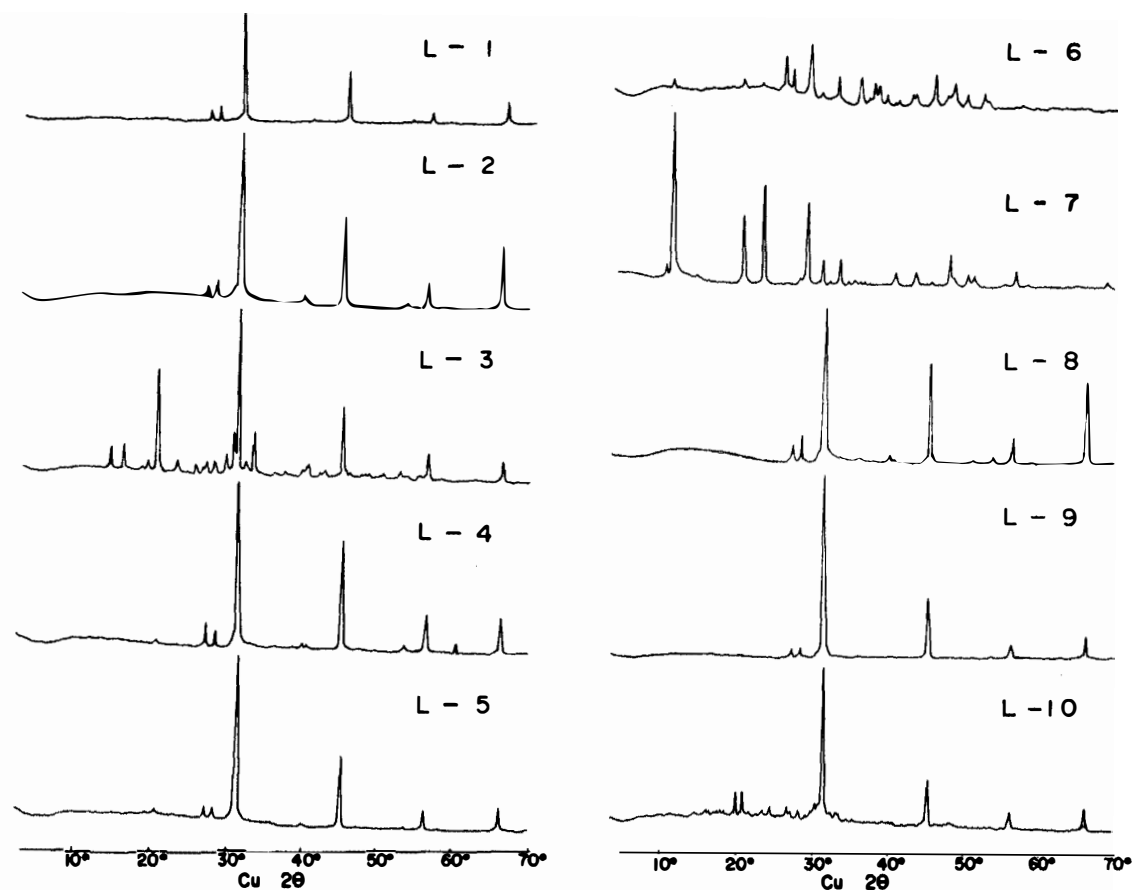
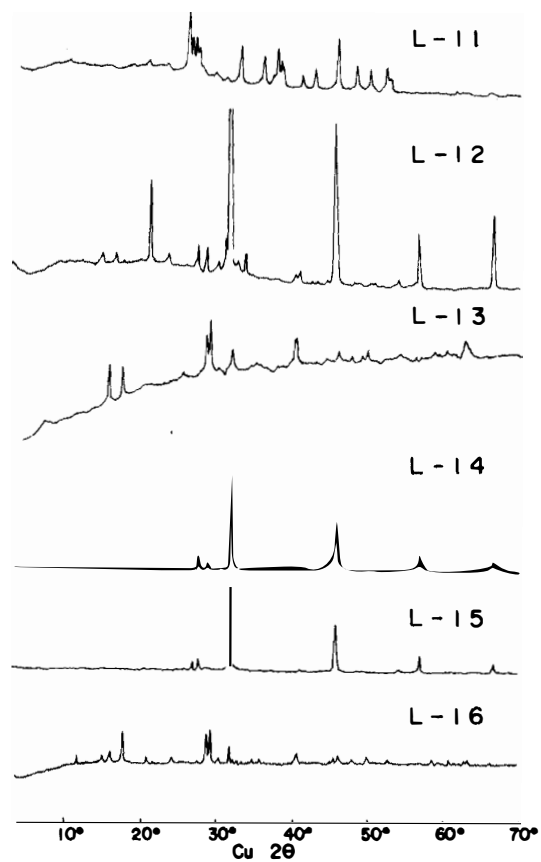
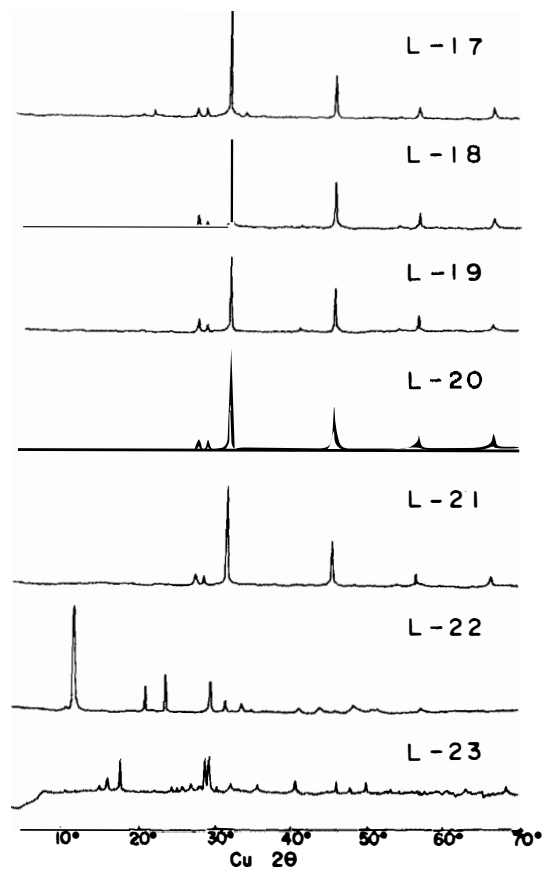


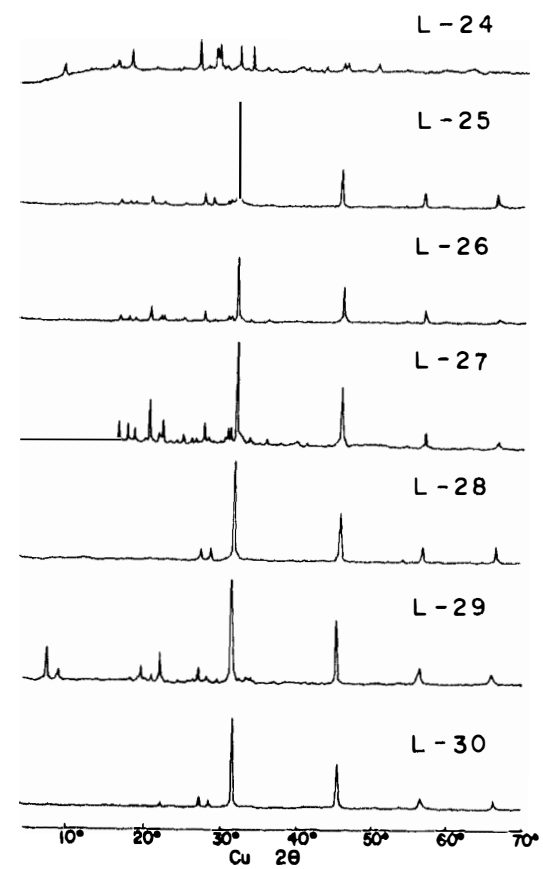
Fig. 12. (a) (b)
X-ray powder diffraction patterns of evaporites at Langhovde.



(c)



(d)



(e)

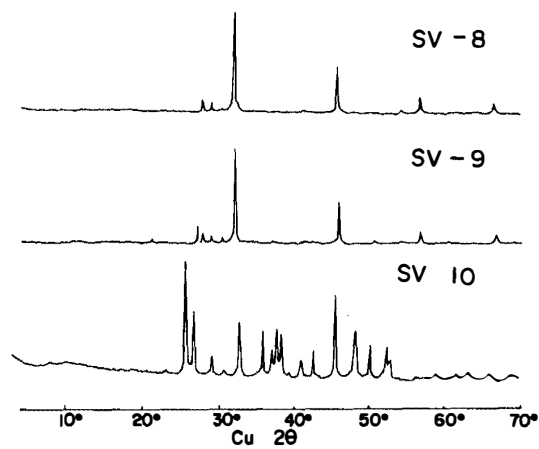
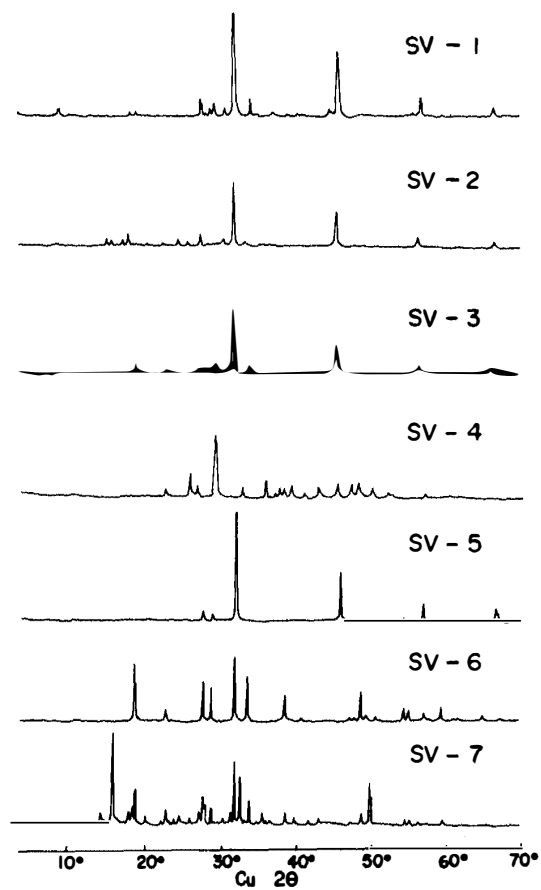


Fig. 13. (a) X-ray powder diffraction patterns of evaporites at Skarvsnes.

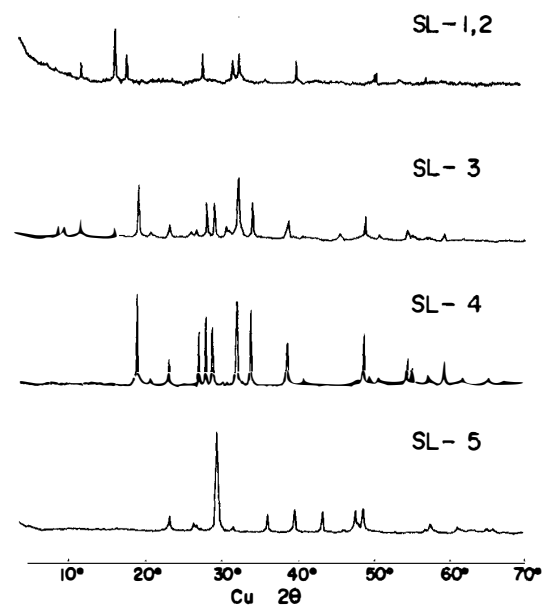


Fig. 14. X-ray powder diffraction patterns of evaporites at Skallen.

Table 1. X-ray powder diffraction data of evaporites at Sinnan Rocks.

SN--1			Calcite	
1974-2-11				
2θ	d	I	d	I
23.2	3.83	12	3.86	12
29.5	3.03	100	3.035	100
36.1	2.49	15	2.495	14
39.6	2.28	20	2.285	18
43.3	2.09	18	2.095	18
47.6	1.91	20	1.91	17
48.6	1.88	18	1.875	17
57.5	1.60	8	1.60	8
60.9	1.52	5	1.52	4
64.8	1.44	3	1.44	5

SN-2			Calcite		Aragonite	
1974-2-11						
2θ	d	I	d	I	d	I
23.0	3.87	14	3.86	12		
26.2	3.40	5			3.396	100
27.1	3.29	2			3.273	52
29.3	3.05	>100	3.04	100		
31.4	2.85	3	2.85	3		
33.0	2.71	2			2.70	46
36.0	2.49	20	2.495	14		
39.4	2.28	28	2.285	18		
43.1	2.10	25	2.095	18	2.11	23
45.8	1.98	3			1.98	65
47.5	1.91	25	1.91	17		
48.5	1.88	25	1.875	17	1.88	32
56.6	1.62	3	1.63	4		
57.4	1.61	10	1.60	8		
60.7	1.52	8	1.52	4		
63.0	1.48	2	1.47	2	1.48	3
64.7	1.44	7	1.44	5		
65.6	1.42	3	1.42	3		

SN-3			Calcite	
1974-2-11				
2θ	d	I	d	I
23.1	3.85	12	3.86	12
26.6	3.35	3		
28.6	3.12	4		
29.4	3.04	100	3.035	100
31.4	2.85	3	2.845	3
36.0	2.49	15	2.495	14
39.4	2.29	22	2.285	18
44.2	2.05	20	2.09	18
47.5	1.91	22	1.91	17
48.5	1.88	21	1.875	17
56.6	1.63	3	1.63	4
57.4	1.61	8	1.60	8
60.7	1.53	5	1.53	3
61.4	1.51	2	1.51	3
63.1	1.47	2	1.47	2
64.6	1.44	5	1.44	5
65.6	1.42	3	1.42	3

SN-5			Atakamite	
1974-2-12				
2θ	d	I	d	I
16.2	5.47	45	5.40	100
17.6	5.04	25	5.00	100
26.7	3.34	14		
31.5	2.84	20	2.82	100
32.2	2.77	35	2.75	100
35.7	2.51	8	2.52	40
38.4	2.34	6		
39.6	2.27	25	2.26	100
39.8	2.26	25		
50.0	1.82	9	1.82	80
53.2	1.72	5	1.74	60
53.4	1.72	5	1.71	40
57.4	1.61	5	1.60	80

SN-4			Gypsum		Halite	
1974-2-12						
2θ	d	I	d	I	d	I
11.6	7.63	90	7.56	100		
16.1	5.50	4				
19.5	4.55	6				
20.8	4.27	35	4.27	50		
23.4	3.80	27	3.79	20		
28.2	3.16	10				
29.1	3.07	50	3.06	55		
30.6	2.92	15				
31.1	2.88	15	2.87	28		
31.8	2.81	25			3.82	100
32.7	2.74	4				
33.4	2.68	9	2.68	28		
34.6	2.59	5	2.59	4		
40.7	2.22	8	2.21	6		
43.4	2.08	7	2.08	10		
43.7	2.07	6	2.07	8		
45.5	1.99	14	1.99	4	1.99	55
47.9	1.90	7	1.90	16		
48.4	1.88	5	1.88	10		
50.3	1.81	5	1.81	10		
51.4	1.78	6				
56.6	1.63	7			1.63	15

Example of Tables 1-7

Sample No.			Standard date by	
Sampling date			A.S.T.M. card	
2θ	d	I	d	I
⋮	⋮	⋮	⋮	⋮
⋮	⋮	⋮	⋮	⋮

 2θ : Diffraction angle

d : Lattice distance

I : Peak intensity

Table 2. X-ray powder diffraction data of evaporites at Cape Hinode.

H - 1			Calcite	
1972-12-31				
2θ	d	I	d	I
23.1	3.85	14	3.86	12
26.6	3.35	4		
29.5	3.03	100	3.03	100
36.0	2.49	18	2.495	14
39.5	2.28	20	2.285	18
43.3	2.09	19	2.095	18
47.6	1.91	20	1.91	17
48.7	1.87	20	1.875	17
56.6	1.63	3	1.63	4
57.5	1.60	6	1.60	8
60.9	1.52	6	1.52	4
63.8	1.46	6	1.47	2
64.7	1.44	3	1.44	5

H - 2			Calcite	
1972-12-31				
2θ	d	I	d	I
23.1	3.85	9	3.86	12
26.7	3.34	9		
29.5	3.03	70	3.035	100
36.1	2.49	12	2.495	14
39.5	2.28	14	2.285	18
43.3	2.09	12	2.095	18
47.6	1.91	14	1.91	17
48.7	1.87	13	1.875	17
57.6	1.60	5	1.60	8
60.9	1.52	4	1.52	4

H - 3			Calcite		Aragonite	
1972-12-31						
2θ	d	I	d	I	d	I
23.1	3.85	13	3.86	12		
26.2	3.40	8			3.40	100
27.2	3.28	3			3.27	52
29.6	3.02	88	3.035	100		
33.1	2.70	3			2.70	46
36.1	2.47	16	2.495	14		
37.4	2.40	1			2.409	14
37.9	2.37	2			2.37	38
38.6	2.33	2			2.34	31
39.5	2.28	20	2.285	18		
43.3	2.09	18	2.095	18		
45.9	1.98	3			1.98	65
47.7	1.91	20	1.91	17		
48.6	1.86	20	1.875	17		
56.9	1.62	1				
57.5	1.60	5	1.60	8		
60.9	1.52	4	1.52	4		

H - 4			Aragonite		Calcite	
1973-1-1						
2θ	d	I	d	I	d	I
21.0	4.23	5	4.21	2		
26.3	3.39	60	3.396	100		
27.3	3.27	33	3.27	52		
27.5	3.24	20				
28.0	3.19	5				
29.6	3.02	18			3.03	100
31.1	2.88	5	2.87	4		
31.8	2.81	4				
33.2	2.70	40	2.70	46		
36.2	2.48	30	2.48	33	2.49	14
37.3	2.41	10	2.41	14		
37.9	2.37	30	2.37	38		
38.5	2.34	24	2.34	31		
38.7	2.32	20	2.33	6		
39.5	2.28	5			2.28	18
41.2	2.19	13	2.19	11		
43.0	2.10	23	2.11	23	2.09	18
45.9	1.98	54	1.98	65		
48.5	1.88	32	1.88	32	1.875	17
50.3	1.81	20	1.81	23		
52.5	1.74	20	1.74	25		
53.0	1.73	15	1.73	15		
59.3	1.56	5	1.56	4		
62.0	1.50	5	1.50	4		
63.5	1.47	6	1.47	5		

Table 2

H - 5			Halite		Hexahydrite	
1973-1-1						
2θ	d	I	d	I	d	I
20.2	4.40	4			4.40	100
27.4	3.25	10	3.25	13		
28.4	3.14	4				
28.6	3.12	6				
31.7	2.82	76	2.82	100		
40.5	2.22	3				
40.8	2.21	3				
45.5	1.99	39	1.99	55		
53.9	1.70	2	1.70	2		
56.5	1.63	12	1.63	15		
66.2	1.41	8	1.41	6		

H - 6			Halite	
1973-1-1				
2θ	d	I	d	I
27.4	3.25	10	3.26	13
28.1	3.17	3		
31.6	2.81	80	2.82	100
34.0	2.67	3		
45.6	1.99	42	1.99	55
54.0	1.70	2	1.70	2
56.5	1.63	12	1.63	15
66.3	1.41	8	1.41	6

H - 7			Calcite	
1973-1-2				
2θ	d	I	d	I
23.1	3.85	14	3.86	12
26.1	3.41	5		
26.6	3.35	6		
27.2	2.28	3		
28.1	3.17	16		
29.5	3.03	86	3.035	100
31.7	2.82	4	2.845	3
33.1	2.71	2		
36.1	2.48	16	2.485	14
39.5	2.28	19	2.285	18
43.4	2.08	16	2.095	18
47.7	1.91	17	1.91	17
48.6	1.86	17	1.875	17
56.7	1.62	4	1.63	4
57.5	1.60	8	1.60	8
61.0	1.52	5	1.52	4
64.8	1.44	4	1.44	5

H - 8			Calcite	
1973-1-2				
2θ	d	I	d	I
23.1	3.85	20	3.86	12
26.6	3.40	6		
29.6	3.04	>100	3.035	100
31.5	2.84	4	2.845	3
36.1	2.49	22	2.495	14
39.5	2.28	30	2.285	18
43.3	2.09	26	2.095	18
47.1	1.93	12	1.93	5
47.7	1.91	26	1.91	17
48.6	1.87	25	1.875	17
56.6	1.63	4	1.63	4
57.5	1.60	10	1.60	8
60.8	1.52	8	1.52	4
63.1	1.47	2	1.47	2
64.9	1.44	8	1.44	5
65.7	1.42	4	1.42	3

Table 3. X-ray powder diffraction data of evaporites at East Ongul Island.

EO-1			Halite		Gypsum		Hexahydrite	
1973-1-15								
2θ	d	I	d	I	d	I	d	I
11.6	7.63	22			7.56	100		
16.25	5.45	18					5.5	28
17.3	5.13	18					5.1	18
18.2	4.87	14					4.9	24
20.1	4.41	36					4.40	100
20.8	4.27	28			4.27	50		
21.0	4.23	24						
21.3	4.17	7						
22.0	4.04	19					4.04	32
22.4	3.97	8						
22.8	3.90	3						
24.4	3.65	11						
24.6	3.62	8					3.61	20
25.8	3.45	6						
27.4	3.25	10	3.25	13				
27.9	3.20	5					3.20	12
28.5	3.13	4						
29.1	3.07	12			3.06	55		
30.4	2.94	10						
30.7	2.91	15						
31.7	2.82	80	2.82	100				
32.3	2.77	6					2.77	28
32.7	2.74	4						
33.3	2.69	8			2.68	28	2.67	24
35.6	2.52	9						
39.5	2.28	4					2.28	24
43.6	2.08	2						
45.5	1.99	41	1.99	55			2.00	20
48.4	1.88	6					1.87	24
56.5	1.63	10	1.63	15				
65.2	1.43	30						
65.3	1.43	18						
66.2	1.41	6	1.41	6				

EO-2			Gypsum		Carphosiderite	
1973-1-15						
2θ	d	I	d	I	d	I
11.6	7.63	100	7.56	100		
14.9	5.95	7			5.93	40
15.5	5.72	5				
15.9	5.53	7			5.56	40
17.6	5.04	20			5.05	50
18.7	4.75	5				
18.9	4.69	4				
20.8	4.27	68	4.27	50		
23.4	3.65	18			3.66	10
28.7	3.11	24			3.11	100
29.1	3.07	48	3.06	55	3.06	100
30.2	2.96	5			2.96	25
31.0	2.89	5				
31.2	2.87	5	2.87	28		
32.1	2.79	7	2.79	6	2.78	25
33.3	2.69	5	2.68	28		
35.6	2.52	4	2.53	<1	2.52	25
36.6	2.46	6	2.45	4		
40.5	2.23	8			2.22	40
43.6	2.07	5	2.07	8		
46.0	1.97	7			1.97	50

Table 3

EO-3			Halite		Hexahydrite		Gypsum	
1973-1-15								
2θ	d	I	d	I	d	I	d	I
7.4	11.95	3			5.5	28	7.5 6	100
11.6	7.63	10						
16.3	5.44	16						
17.4	5.10	16						
18.2	4.87	12						
19.5	4.55	4			4.4 0	100	4.2 7	50
20.2	4.40	38						
20.7	4.29	3						
21.0	4.23	6						
21.3	4.17	6						
22.0	4.04	18			40 4	32	3.0 6	55
24.7	3.60	8						
25.7	3.47	5						
26.3	3.39	4						
27.4	3.25	11						
27.9	3.20	5	3.2 0	12				
28.6	3.13	4						
29.5	3.03	3						
30.4	2.94	12						
30.7	2.91	14						
31.8	2.81	>100	2.8 2	100	2.6 7	24	2.6 8	28
33.4	2.68	7						
35.5	2.53	4						
41.0	2.20	4						
41.5	2.18	4						
45.5	1.99	48	1.9 9	55	2.0 0	20		
53.9	1.70	3						
56.5	1.63	12						
66.2	1.41	7						

EO-4			Halite		Hexahydrite		Gypsum	
1973-1-15								
2θ	d	I	d	I	d	I	d	I
11.6	7.63	34	3.25	13	5.5	28	7.56	100
16.3	5.44	10						
17.4	5.10	14						
18.2	4.87	9						
20.2	4.40	29						
20.7	4.29	45			4.4	100	4.27	50
22.0	4.04	18						
22.5	3.95	18						
23.4	3.80	8						
24.3	3.66	25						
24.7	3.60	12			3.61	20	3.79	20
25.8	3.45	9						
26.3	3.39	6						
27.0	3.30	6						
27.6	3.23	10						
28.1	3.18	8	2.82	100	3.42	16	3.06	55
28.6	3.12	9						
29.2	3.06	25						
30.4	2.94	9						
30.8	2.90	11						
31.8	2.81	100			2.77	28	2.87	28
32.3	2.77	7						
33.1	2.71	8						
33.3	2.70	8						
34.5	2.60	12						
35.6	2.52	12			2.67	24	2.79	6
39.5	2.28	4						
41.0	2.20	5						
45.5	1.99	45						
47.7	1.91	5						
48.0	1.86	5	1.87	24	1.99	4		
56.5	1.63	14						
			1.90		1.86		16	
							4	
			1.63	15				

Table 3

EO-5			Halite		Hexahydrite		Gypsum	
1973-1-15								
2θ	d	I	d	I	d	I	d	I
8.8	10.05	10	325	13	5.5	28	756	100
11.6	7.63	8						
16.2	5.47	18						
17.4	5.09	15						
17.8	4.98	6						
18.2	4.87	20						
20.2	4.39	46						
21.0	4.23	8						
21.4	4.15	7						
21.7	4.09	4						
22.0	4.04	19						
24.7	3.60	8						
25.8	3.45	8						
26.4	3.37	6						
26.7	3.23	4						
27.4	3.25	16						
27.9	3.19	6						
28.6	3.12	10						
30.2	2.96	6						
30.4	2.94	14						
30.8	2.90	16						
31.8	2.81	100	282	100	2.77	28		
32.3	2.77	5						
33.5	2.67	6						
35.7	2.57	10						
39.5	2.28	5						
45.5	1.99	55						
48.4	1.88	4						
48.9	1.86	2						
54.0	1.70	4						
56.5	1.63	17						
66.2	1.41	16						

EO-6			Halite		Thenardite		Gypsum		Hexahydrite	
1973-1-15										
2θ	d	I	d	I	d	I	d	I	d	I
7.4	11.95	14	3.25	13	4.66	73	7.56	100	5.54.9	2824
9.5	9.3	4								
11.6	7.63	17								
16.1	5.50	3								
14.8	4.82	4								
19.0	4.67	24								
19.5	4.55	20								
20.1	4.42	5								
20.7	4.29	6								
21.2	4.19	10								
22.2	4.00	18								
23.1	3.85	6								
24.7	3.60	3								
26.0	3.43	6								
26.6	3.35	3								
27.3	3.27	5								
28.0	3.19	16								
29.0	3.08	20								
29.8	3.00	6								
31.7	2.82	65								
32.0	2.80	34								
33.9	2.64	22								
34.5	2.60	6								
38.6	2.33	11								
45.5	1.99	28								
47.4	1.92	8								
48.8	1.87	12								
54.6	1.68	6								
55.2	1.66	3								
56.6	1.63	9								
59.5	1.55	4								
66.2	1.41	4								

Table 3

EO-7			Halite	
1973-1-15				
2θ	d	I	d	I
7.35	120	7	3.25	13
19.5	45.5	7		
20.1	44.2	4		
21.2	41.9	3		
22.2	40.0	8		
27.3	32.7	10		
28.6	31.2	3	2.82	100
29.9	30.0	2		
31.7	28.2	66		
32.9	27.2	2		
33.9	26.4	2		
34.5	26.0	3		
38.5	23.2	2		
40.9	22.0	2		
45.5	19.9	37		
53.8	17.0	2		
56.5	1.63	10	1.63	15
66.2	1.41	5	1.41	6

EO-8			Thenardite		Gypsum	
1973-3-22						
2θ	d	I	d	I	d	I
8.8	10.1	30				
10.5	8.42	5				
11.6	7.63	30			7.56	100
19.0	46.7	74	46.6	73		
20.7	42.9	4			4.27	50
23.2	38.3	20	38.4	18	3.79	20
23.8	37.4	3				
26.6	33.5	18				
28.1	31.7	60	31.8	51		
29.0	30.8	48	30.7	47	3.06	55
29.9	29.9	3				
30.3	29.5	4				
31.0	28.8	4			2.87	28
32.2	27.8	87	2.78	100	2.79	6
33.9	26.4	60	2.46	48		
38.8	23.1	33	2.32	21		
40.8	22.1	7	2.21	5		
47.3	19.2	3				
48.0	18.9	4				
48.8	18.7	36	1.86	31		
49.5	18.4	5				
50.7	18.0	7				
54.6	16.8	18				
55.3	16.6	14	1.66	8		
57.3	16.1	6	1.61	5		
59.5	15.5	16	1.55	10		
61.9	15.0	7	1.50	5		
62.5	14.8	3				
65.3	14.3	8	1.43	5		
67.5	13.9	5	1.39	3		

Table 3

EO-9			Halite		Hexahydrite		Thenardite	
1973-12-24								
2θ	d	I	d	I	d	I	d	I
1 6.2	5.5 7	4			5.5	28		
1 7.4	5.0 9	6			5.1	24		
1 8.2	4.8 7	3			4.9	24		
1 9.0	4.6 7	14					4.6 7	7 3
2 0.2	4.4 0	12			4.4 0	100		
2 1.4	4.1 5	5						
2 2.0	4.0 4	6			4.0 4	32		
2 3.2	3.9 9	3						
2 4.0	3.7 1	4						
2 4.7	3.6 0	4			3.6 1	20		
2 4.9	3.5 8	6						
2 7.4	3.2 5	18	3.2 5	1 3				
2 8.0	3.1 9	10			3.2 0	1 2	3.1 8	5 1
2 8.5	3.1 3	3						
2 9.1	3.0 7	10					3.0 7	4 7
3 0.1	2.9 7	6						
3 0.8	2.9 0	4						
3 1.7	2.8 2	>100	2.8 2	100				
3 2.1	2.7 9	24			2.7 7	28	2.7 8	100
3 3.8	2.6 5	12			2.6 7	24	2.6 4	48
3 5.9	2.5 0	14						
3 7.8	2.3 8	3						
3 8.7	2.3 3	4					2.3 2	2 1
4 5.5	1.9 9	66	1.9 9	5 5	2.0 0	20		
4 8.8	1.8 7	4			1.8 7	24	1.8 6	3 1
5 3.9	1.7 0	2	1.7 0	2				
5 4.6	1.6 8	3						
5 6.5	1.6 3	11	1.6 3	1 5				
6 6.2	1.4 1	5	1.4 1	6				

EO-10			Halite		Thenardite		Gypsum	
1973-12-24								
2θ	d	I	d	I	d	I	d	I
7.5	11.8	6						
11.7	7.56	3					7.56	100
19.1	4.65	16			4.66	73		
20.4	4.35	2						
22.3	3.99	9						
27.5	3.24	7	3.25	13				
28.2	3.16	4			3.18	51		
29.2	3.06	2			3.07	47		
31.8	2.81	84	2.82	100				
32.2	2.78	12			2.78	100		
34.0	2.64	6			2.64	48		
38.7	2.33	3			2.32	21		
45.6	1.99	39	1.99	55				
49.0	1.86	2			1.86	31		
56.6	1.63	9	1.63	15				
66.4	1.41	4	1.41	6				

Table 3

EO-11			Halite		Hexahydrite	
1973-12-24						
2θ	d	I	d	I	d	I
16.4	5.40	2	3.25	13	5.5	28
16.7	5.31	2				
17.5	5.08	2			5.1	24
18.3	4.88	7			4.9	24
20.3	4.37	24			4.40	100
21.2	4.19	4				
22.1	4.02	3			4.04	32
27.5	3.24	7				
28.7	3.11	4				
29.6	3.02	2				
30.5	2.93	2				
30.9	2.89	6				
31.8	2.81	90			2.82	100
45.5	1.99	40	1.99	55		
56.6	1.63	13	1.63	15		
66.4	1.41	5	1.41	6		

EO-12			Halite		Epsomite		Gypsum		Hexahydrite	
1973-12-24										
2θ	d	I	d	I	d	I	d	I	d	I
11.7	7.56	5					7.56	100		
14.9	5.94	3			5.99	22				
16.6	5.34	5			5.35	26				
20.2	4.40	2							4.40	100
21.1	4.21	21			4.21	100				
27.4	3.25	12	3.25	13						
28.6	3.12	3								
31.1	2.89	3			2.88	20				
31.8	2.81	88	2.82	100						
45.6	1.99	49	1.99	55						
56.5	1.63	12	1.63	15						
66.3	1.41	5	1.41	6						

Table 3

EO-13			Halite		Gypsum		Hexahydrite		Epsomite	
1973-12-24										
2θ	d	I	d	I	d	I	d	I	d	I
8.7	10.2	20			7.56	100	4.40	100	4.21	100
11.7	7.6	44								
20.3	4.37	10								
20.8	4.27	25								
21.0	4.23	22			4.27	50	4.04	32		
22.0	4.04	6								
23.5	3.79	14								
24.4	3.65	8								
26.6	3.35	4			3.79	20				
27.5	3.24	6								
29.2	3.06	28								
31.8	2.81	78								
32.6	2.75	4	3.25	13	3.06	55				
33.4	2.68	5								
34.7	2.58	5								
39.5	2.28	4								
40.6	2.22	3	2.28	100	2.68	28	2.21	6		
42.0	2.15	3								
42.5	2.13	20								
45.5	1.99	35								
47.7	1.91	4	1.99	55	1.90	16				
54.0	1.70	3								
56.5	1.63	6								

EO-14			Halite		Epsomite	
1973-12-24						
2θ	d	I	d	I	d	I
7.0	12.6	3	3.25	13	5.99	22
7.4	11.9	7				
8.6	10.3	26				
14.8	5.99	4				
19.0	4.67	7				
19.6	4.53	5			4.48	14
19.8	4.48	3				
20.4	4.35	5				
21.1	4.21	10				
22.3	3.99	13				
23.4	3.80	3			3.79	13
24.4	3.65	5				
25.6	3.48	2				
26.1	3.41	8				
27.4	3.25	8				
28.2	3.16	3	3.17	6		
28.6	3.12	4				
29.2	3.06	6				
31.7	2.82	90				
32.9	2.72	3				
34.0	2.64	4	2.82	100	2.74	14
34.6	2.59	3				
35.2	2.55	3				
45.5	1.99	54				
53.2	1.72	8				
56.5	1.63	17	1.99	55	2.65	22
66.3	1.41	6				
69.8	1.35	8				
			1.63	15		
			1.41	6		

Table 3

EO-15			Halite		Thenardite		Gypsum	
1973-12-24								
2θ	d	I	d	I	d	I	d	I
8.8	10.05	46	3.25	13	4.66	73	7.56	100
11.6	7.63	6						
19.0	4.67	70						
20.1	4.21	6						
21.7	4.10	3						
23.1	3.85	16			3.84	18		
24.0	3.71	6						
26.6	3.35	32						
27.4	3.25	5						
28.0	3.19	72						
28.5	3.13	5	3.18	51	3.06	55		
29.0	3.08	40						
31.7	2.82	77					3.07	47
32.1	2.79	90						
33.8	2.65	46						
38.6	2.33	24	2.78	100				
40.8	2.21	6						
45.4	2.00	36					2.64	48
47.4	1.92	2						
48.8	1.87	36						
50.7	1.80	5	2.32	21				
54.5	1.68	13						
55.2	1.66	6						
56.5	1.63	10			2.21	5		
57.3	1.61	12						
57.9	1.59	5						
59.4	1.56	12						
61.9	1.50	3	1.94	4				
65.2	1.41	3						
66.2	1.41	3			1.86	31		
67.4	1.39	3						
	</							

EO-16			Halite		Thenardite	
1973-12-26						
2θ	d	I	d	I	d	I
19.0	4.67	10			4.66	73
27.4	3.25	16	3.25	13		
28.1	3.18	3			3.18	51
31.7	2.82	78	2.82	100		
32.2	2.78	12			2.78	100
33.9	2.64	8			2.64	48
45.5	1.99	46	1.99	55		
56.5	1.63	14	1.63	15		
66.2	1.41	6	1.41	6		

Table 3

EO-17			Thenardite		Halite		Gypsum	
1973-12-26								
2θ	d	I	d	I	d	I	d	I
8.8	10.05	32						
11.7	7.56	22					7.56	100
19.1	4.65	68	4.66	73				
20.2	4.40	2						
20.8	4.27	4					4.27	50
23.2	3.83	6	3.84	18				
23.4	3.80	7					3.79	20
24.1	3.69	2						
26.7	3.34	27						
28.1	3.18	28	3.18	51			3.16	4
29.1	3.07	16	3.07	47			3.06	55
31.7	2.82	24			2.82	100		
32.2	2.78	57	2.78	100			2.79	6
33.9	2.64	58	2.64	48				
35.8	2.51	3						
38.7	2.33	28	2.32	21				
40.9	2.21	2	2.21	5			2.21	6
45.5	1.99	10			1.99	55	1.99	4
48.8	1.87	18	1.86	31			1.88	10
49.5	1.84	2						
50.7	1.80	3					1.81	10
54.7	1.68	7					1.68	2
55.3	1.66	12	1.66	8				
59.6	1.55	12	1.55	10				
65.3	1.43	3	1.43	5				

EO-18			Halite		Hexahydrite		Gypsum	
1973-12-26								
2θ	d	I	d	I	d	I	d	I
11.8	7.50	2	3.25	13	4.55	28	75.6	100
16.3	5.44	4						
17.4	5.10	12						
17.8	4.98	2						
18.3	4.85	5						
20.3	4.37	20						
22.1	4.02	10						
24.7	3.60	4						
25.9	3.44	2						
27.5	3.24	7						
28.0	3.19	4						
29.6	3.02	3						
30.5	2.93	7						
30.9	2.89	7						
31.9	2.81	80						
32.3	2.77	3						
33.5	2.67	3						
35.7	2.51	3						
40.0	2.25	2						
45.5	1.99	32	1.99	55	2.77	28		
50.7	1.80	2						
56.6	1.63	10						
66.4	1.41	5						

Table 3

EO-19			Gypsum		Halite	
1973-12-26						
2θ	d	I	d	I	d	I
10.5	8.42	10				
11.7	7.56	>100	7.56	100		
20.7	4.29	40	4.27	50		
23.4	3.80	46	3.79	20		
29.1	3.07	57	3.06	55		
31.1	2.88	4	3.87	28		
31.7	2.82	5			282	100
33.4	2.68	4	3.68	28		
40.7	2.21	4	2.21	6		
43.6	2.08	2	2.08	10		
45.5	1.99	3	1.99	4	1.99	55
47.8	1.90	8	1.90	16		
50.4	1.81	3	1.81	10		
51.4	1.78	2				
56.8	1.62	2	1.62	6		

EO-20			Halite		Thenardite		Hexahydrite		Gypsum	
1973-12-26										
2θ	d	I	d	I	d	I	d	I	d	I
7.40	11.9	4								
11.7	7.5 6	6							7.5 6	1 0 0
1 6.3	5.4 4	10					5.5	2 8		
1 7.4	5.1 0	6					5.1	2 4		
1 8.2	4.8 7	6					4.9	2 4		
1 9.1	4.6 5	3 4			4.6 6	7 3				
1 9.6	4.5 3	6								
20.3	4.3 7	2 8					4.4 0	1 0 0		
2 0.8	4.2 7	5							4.2 7	5 0
2 2.0	4.0 4	1 0					4.0 4	3 2		
2 3.2	3.8 3	7			3.8 4	1 8				
2 4.7	3.6 0	5					3.6 1	2 0		
2 7.5	3.2 4	1 2	3.2 5	1 3						
2 8.1	3.1 8	2 6			3.1 8	5 1				
2 9.1	3.0 7	2 6			3.0 7	4 7			3.0 6	5 5
3 1.8	2.8 1	>100	2.8 2	1 0 0						
3 2.2	2.7 8	5 3			2.7 8	1 0 0	2.7 7	2 8		
3 3.9	2.6 4	2 7			2.6 4	4 8				
3 5.6	2.5 2	4								
3 8.7	2.3 3	1 3			2.3 2	2 1				
4 0.9	2.2 1	5			2.2 1	5				
4 5.5	1.9 9	6 0	1.9 9	5 5			2.0 0	2 0		
4 8.8	1.8 7	2 0			1.8 6	3 1	1.8 7	2 4		
4 9.3	1.8 5	4								
5 4.6	1.6 8	5								
5 5.4	1.6 6	3			1.6 6	8				
5 6.5	1.6 3	2 1	1.6 3	1 5						
5 9.5	1.5 5	5			1.5 5	1 0				
6 2.0	1.5 0	3			1.5 0	5				
6 5.3	1.4 3	3			1.4 3	5				
6 6.3	1.4 1	4	1.4 1	6						

Table 3

EO-21			Halite		Epsomite		Gypsum	
1973-12-26								
2θ	d	I	d	I	d	I	d	I
7.4	11.9	18						
8.4	10.5	32						
8.8	10.0	48						
11.7	7.56	28					7.56	100
11.8	5.99	26			5.99	22		
16.4	5.40	6			5.35	26		
17.6	5.04	6						
19.1	4.62	58						
20.0	4.44	6			4.48	14		
20.4	4.35	16						
20.8	4.27	7					4.27	50
21.2	4.19	8			4.21	100		
22.3	3.99	26						
23.8	3.74	5						
24.6	3.62	14						
25.6	3.48	10						
26.0	3.43	5			3.45	16		
26.6	3.35	12						
27.4	3.25	8	3.25	13				
28.2	3.16	4			3.17	6		
28.6	3.12	7						
29.2	3.06	7					3.06	55
29.9	2.99	12			2.97	14		
31.4	2.85	8					2.87	28
31.8	2.81	>100	2.82	100				
32.8	2.73	10			2.74	14		
33.4	2.68	8			2.67	24	2.68	28
35.2	2.55	7						
35.7	2.51	9						
45.5	1.99	40	1.99	55			1.99	4
56.5	1.63	8	1.63	15				
66.3	1.41	8	1.41	8				

EO-22			Halite		Thenardite	
1973-12-26						
2θ	d	I	d	I	d	I
19.2	4.62	13	3.25	13	4.66	73
19.6	4.53	10				
20.8	4.27	3				
22.0	4.04	2				
27.5	3.24	12				
28.2	3.16	7	2.82	100	3.18	51
29.1	3.07	6			3.07	47
31.8	2.81	78				
32.2	2.78	12			2.78	100
38.8	2.32	4			2.32	21
45.6	1.99	25	1.99	55	1.86	31
49.0	1.86	7				
56.6	1.63	10	1.63	15		
66.3	1.41	3	1.41	6		

Table 3

EO-23			Gypsum		Halite		Thenardite	
1973-12-26								
2θ	d	I	d	I	d	I	d	I
11.8	7.5	100	7.56	100	2.82	100	4.66	73
19.1	4.65	3						
20.8	4.27	25	4.27	50				
23.5	3.79	30	3.79	20				
26.2	3.40	2						
28.1	3.18	9					3.18	51
29.2	3.07	34	3.06	55			3.07	47
30.6	2.92	1						
31.3	2.86	2	2.87	28				
31.8	2.81	24						
32.2	2.78	6	2.79	6			2.78	100
34.0	2.64	2					2.64	48
41.6	1.99	5	1.99	4	1.99	55		
47.9	1.90	6	1.90	16			1.91	4
48.9	1.86	5	1.86	4			1.86	31
50.5	1.81	4	1.81	10				

EO-24			Halite		Gypsum		Epsomite	
1973-12-26								
2θ	d	I	d	I	d	I	d	I
6.9	12.8	9						
8.6	10.3	45						
11.7	7.6	20			7.56	100		
13.7	6.46	18						
20.6	4.31	25			4.27	50		
21.1	4.21	53					4.21	100
22.4	4.00	10						
23.6	3.78	4			3.79	20	3.79	13
24.4	3.65	34						
26.1	3.41	5					3.45	16
26.5	3.36	10						
28.3	3.15	14					3.17	6
30.8	2.90	14			2.88	28	2.88	20
31.7	2.82	46	2.82	100				
32.7	2.74	5					2.74	14
35.2	2.55	5						
36.5	2.46	4						
41.1	2.20	4						
41.3	2.19	4						
41.9	2.16	5						
45.5	1.99	12	1.99	55				
56.5	1.63	4	1.63	15				

Table 3

EO-25			Halite		Hexahydrite		Epsomite		Gypsum	
1973-12-26										
2θ	d	I	d	I	d	I	d	I	d	I
11.7	7.56	3							7.56	100
13.8	6.42	4								
16.4	5.40	10			5.5	28	5.35	26		
17.5	5.07	3			5.1	24				
18.3	4.85	7			4.9	24				
19.8	4.48	2					4.48	14		
20.3	4.37	19			4.40	100				
20.7	4.29	7							4.27	50
21.1	4.21	10					4.21	100		
22.1	4.02	3			4.04	32				
26.6	3.35	4								
27.5	3.24	8	3.25	13						
28.7	3.11	3								
29.6	3.02	3								
30.6	2.92	3								
30.9	2.89	6					2.88	20	2.88	28
31.8	2.81	85	2.82	100						
35.7	2.51	3								
42.0	2.15	2								
45.6	1.99	40	1.99	55						
56.6	1.63	10	1.63	15						
66.3	1.41	5	1.41	6						

EO-26			Halite		Thenardite		Gypsum	
1973-12-26								
2θ	d	I	d	I	d	I	d	I
11.8	7.50	3					7.56	100
16.3	5.44	48						
19.2	4.62	9			4.66	73		
23.4	3.80	2			3.84	18	3.78	20
27.5	3.24	7	3.25	13				
28.2	3.16	4			3.18	51		
29.2	3.06	3			3.07	47	3.06	55
31.9	2.81	64	2.82	100				
32.3	2.77	14			2.78	100		
34.0	2.64	8			2.64	48		
38.8	2.32	3			2.32	21		
45.5	1.99	38	1.99	55				
49.0	1.86	3			1.86	31		
56.6	1.63	22	1.63	15				
66.4	1.41	4	1.41	6				

Table 3

EO-27			Halite		Thenardite		Gypsum	
1973-12-26								
2θ	d	I	d	I	d	I	d	I
11.6	7.63	14	3.25	13	4.66	73	7.56	100
19.1	4.65	40						
20.3	4.37	1						
20.8	4.27	2						
23.2	3.82	9						
27.4	3.25	5	2.82	100	3.84	18	4.27	50
28.2	3.16	27						
29.1	3.07	25						
31.8	2.81	49						
32.2	2.78	52						
33.9	2.64	30	1.99	55	2.64	48	3.06	55
38.7	2.33	14						
40.9	2.21	3						
45.5	1.99	31						
48.9	1.86	20						
50.8	1.80	2	1.63	15	1.86	31	2.79	6
54.6	1.68	7						
55.2	1.66	3						
56.5	1.63	6						
59.5	1.55	8						
62.0	1.50	2	1.41	6	1.50	5	3.06	55
65.3	1.43	2						
66.3	1.41	2						

EO-28			Thenardite		Halite	
1973-12-26						
2θ	d	I	d	I	d	I
8.9	9.93	64				
19.1	4.65	43	4.66	73		
20.9	4.25	7				
23.2	3.83	10	3.84	18		
26.7	3.34	46				
28.1	3.18	52	3.18	51		
29.0	3.09	28	3.07	47		
30.5	2.93	9				
31.7	3.82	16			3.82	100
32.2	2.78	62	2.78	100		
33.9	2.64	34	2.64	48		
35.9	2.50	3				
38.7	2.31	16	2.32	21		
45.5	1.99	4			1.99	55
48.9	1.86	22	1.86	31		
49.6	1.84	2				
50.8	1.80	2				
54.7	1.68	6				
55.3	1.66	3	1.66	8		
59.5	1.55	7	1.55	10		
65.4	1.43	2	1.43	5		

EO-29			Halite	
1973-12-26				
2θ	d	I	d	I
27.5	3.24	9	3.24	13
28.7	3.11	7		
31.9	2.81	>100	2.82	100
45.5	1.99	45	1.99	55
56.6	1.63	16	1.63	15
66.4	1.41	12	1.41	6

Table 3

EO-30			Halite		Epsomite	
1973-12-26						
2θ	d	I	d	I	d	I
21.0	4.23	28			4.21	100
27.4	3.25	8	3.25	13		
28.6	3.12	10				
31.7	2.82	>100	2.82	100		
45.4	2.00	40	1.99	55		
56.5	1.63	10	1.63	15		
66.2	1.41	14	1.41	6		

EO-31			Halite		Epsomite	
1973-12-29						
2θ	d	I	d	I	d	I
14.6	5.95	2			5.99	22
16.7	5.31	1			5.35	26
21.1	4.21	15			4.21	100
23.3	3.82	3			3.79	13
27.5	3.24	11				
28.1	3.18	6			3.18	6
28.6	3.12	4				
31.8	2.81	>100	2.82	100		
45.5	1.99	56	1.99	55		
56.5	1.63	14	1.63	15		
66.4	1.41	6	1.41	6		

EO-32			Halite		Hexahydrite		Gypsum	
1973-12-29								
2θ	d	I	d	I	d	I	d	I
11.7	7.56	6					7.56	100
16.3	5.44	10			4.5	28		
17.5	5.07	8			5.1	24		
18.3	4.85	8			4.9	24		
20.3	4.37	30			4.40	100		
21.5	4.13	3						
22.1	4.02	11			4.04	32		
24.8	3.59	4			3.61	20		
25.8	3.45	2			3.42	16		
26.4	3.38	3						
27.0	3.30	2						
27.5	3.24	9	3.25	13				
28.5	3.13	6						
30.5	2.93	7						
30.9	2.89	7						
31.8	2.81	100	2.82	100				
32.2	2.78	6			2.77	24		
35.6	2.52	4						
45.5	1.99	30	1.99	55				
56.6	1.63	9	1.63	15				
66.3	1.41	3	1.41	6				

Table 3

EO-33			Halite		Hexahydrite		Gypsum	
1973-12-29								
2θ	d	I	d	I	d	I	d	I
1 1.7	7.5 6	2					7.5 6	1 0 0
1 6.3	5.4 4	7			5.5	2 8		
1 7.4	5.1 0	5			5.1	2 4		
1 8.2	4.8 7	3			4.9	2 4		
2 0.2	4.4 0	1 9			4.4 0	1 0 0		
2 1.4	4.1 5	2						
2 2.0	4.0 4	8			4.0 4	3 2		
2 4.7	3.6 0	2			3.6 2	2 0		
2 7.4	3.2 5	8	3.2 5	1 3				
2 8.6	3.1 2	3						
3 0.5	2.9 3	4						
3 0.9	2.8 9	4						
3 1.8	2.8 1	>100	2.8 2	1 0 0				
4 5.5	1.9 9	4 5	1.9 9	4 5				
5 6.6	1.6 3	1 0	1.6 3	1 5				
6 6.3	1.4 1	5	1.4 1	6				

EO-35			Halite		Thenardite	
1973-12-29						
2θ	d	I	d	I	d	I
7.4	11.9	6	3.25	13	4.66	73
19.0	4.67	8				
19.6	4.53	4				
22.2	4.00	12				
27.4	3.25	6				
28.1	3.18	4	2.82	100	3.18	51
28.6	3.07	3			3.07	47
31.7	2.82	>100				
32.2	2.78	12			2.78	100
33.9	2.64	7			2.64	48
38.7	2.33	2	1.99	55	2.32	21
40.9	2.20	1			2.20	21
45.5	1.99	50				
48.8	1.94	4				
56.5	1.63	8			1.63	15
66.2	1.41	10	1.41	6		

EO-34			Halite	
1973-12-29				
2θ	d	I	d	I
21.5	4.13	3		
24.2	3.68	1		
27.5	3.24	13	3.25	13
28.7	3.11	3		
31.8	2.81	>100	2.82	100
45.6	1.99	49	1.99	55
56.6	1.63	14	1.63	15
66.4	1.41	8	1.41	6

Table 3

EO-3 6			Halite		Hexahydrite	
1973-12-29						
2θ	d	I	d	I	d	I
8.9	9.93	8	3.25	13	5.5	28
16.4	5.40	6				
17.5	5.07	6				
18.3	4.85	4				
20.3	4.37	12				
22.1	4.02	10				
24.7	3.60	5				
26.8	3.32	4				
27.5	3.24	4				
28.7	3.11	3				
29.6	3.02	3	2.82	100	2.77	28
30.5	2.93	4				
30.9	2.89	5				
31.8	2.81	>100				
32.2	2.78	2				
33.4	2.68	3				
45.5	1.99	38				
56.6	1.63	10				
66.4	1.41	4				
			1.63	15		
			1.41	6		

EO-37			Halite		Thenardite	
1973-12-29						
2θ	d	I	d	I	d	I
19.1	4.65	2			4.66	73
27.4	3.25	14	3.25	13		
28.1	3.18	1			3.18	51
28.6	3.12	2				
31.7	2.82	80	2.82	100		
32.2	2.78	4			2.78	100
33.9	2.64	2			2.64	48
40.9	2.20	2			2.21	5
45.5	1.99	54	1.99	55		
56.5	1.63	18	1.63	15		
66.3	1.41	4	1.41	6		

EO-38			Halite		Thenardite	
1973-12-29						
2θ	d	I	d	I	d	I
19.0	4.67	3	3.25	13	4.66	73
20.1	4.42	1			3.18	51
21.0	4.21	1				
27.3	3.27	12				
28.1	3.18	2				
28.5	3.13	1				
31.7	2.82	70	2.82	100	2.78	100
32.1	2.79	5				
33.9	2.64	2				
40.8	2.21	1				
45.4	2.00	38				
56.4	1.63	8	1.99	55	2.64	48
66.2	1.41	3	1.63	15		
			1.41	6		

Table 3

EO-39			Halite		Hexahydrite			
1974-1-1								
2θ	d	I	d	I	d	I		
16.2	5.47	8	3.25	13	5.5	28		
17.4	5.10	4			5.1	24		
18.2	4.87	3			4.9	24		
20.2	4.40	20			4.40	100		
21.0	4.23	5			4.04	32		
22.0	4.04	5						
25.8	3.25	5						
28.6	3.12	2						
29.5	3.03	3						
30.4	2.94	4						
30.6	2.92	6	2.67	24				
31.7	2.82	60			2.82	100		
32.7	2.74	2			1.99	55		
33.4	2.68	2						
45.4	2.00	27						
56.5	1.63	9					1.63	15
63.1	1.47	2					1.41	6
66.3	1.41	2						

EO-40			Halite		Hexahydrite	
1974-1-1						
2θ	d	I	d	I	d	I
8.9	9.9 3	1 1				
1 6.3	5.4 4	6			5.5	2 8
1 7.4	5.1 0	7			5.1	2 4
1 8.2	4.8 7	4			4.9	2 4
2 0.2	4.4 0	2 0			4.4 0	1 0 0
2 2.0	4.0 4	1 0			4.0 4	3 2
2 4.7	3.6 0	3			3.6 1	2 0
2 5.8	3.4 5	2			3.4 2	1 6
2 7.5	3.2 4	1 1			3.2 5	1 3
2 8.0	3.1 9	2			3.2 0	1 2
2 8.7	3.1 1	3				
3 0.5	2.9 3	5				
3 0.9	2.8 9	4				
3 1.8	2.8 1	>100	2.8 2	1 0 0		
3 3.5	2.6 7	2			2.6 7	2 4
3 4.7	2.5 8	2				
4 5.5	1.9 9	4 5	1.9 9	5 5		
5 6.5	1.6 3	1 3	1.6 3	1 5		
6 6.3	1.4 1	6	1.4 1	6		

Table 3

EO-41			Thenardite		Gypsum	
1974-1-1						
2θ	d	I	d	I	d	I
7.4	11.9	16	4.66	73	7.56	100
10.5	8.4	7				
11.6	7.63	10				
19.1	4.65	22				
19.6	4.53	12				
20.2	4.40	2				
21.3	4.17	3				
22.2	4.00	16	3.84	18	3.06	55
23.2	3.83	8				
26.2	3.40	2				
26.8	3.33	2				
28.1	3.18	27				
29.1	3.07	24	3.18	51	2.79	6
30.6	2.92	2	3.07	47		
32.2	2.78	54	2.78	100		
33.9	2.64	32	2.64	48		
38.6	2.33	14	2.32	21		
48.9	1.86	18	1.86	31	1.66	8
49.5	1.84	2				
50.7	1.80	2				
54.6	1.68	7				
55.3	1.66	4				
57.4	1.61	2				
59.5	1.53	6	1.53	10		
65.3	1.43	2	1.43	5		

EO-42			Halite		Gypsum		Hexahydrite	
1974-1-1								
2θ	d	I	d	I	d	I	d	I
6.8	13.0	15						
8.7	10.05	4						
11.7	7.56	>100			7.56	100		
13.7	6.46	18						
16.4	5.40	6					5.5	28
17.5	5.07	10					5.1	24
18.2	4.87	10					4.9	24
19.7	4.46	6						
20.2	4.40	24					4.40	100
20.8	4.27	48			4.27	50		
22.0	4.04	12					4.04	32
23.5	3.79	26			3.79	20		
24.2	3.68	6						
24.7	3.60	8					3.61	20
26.6	3.35	12						
27.4	3.25	4	3.25	13				
28.6	3.12	10						
29.2	3.06	40			3.06	55		
29.5	3.03	3						
30.4	2.94	6						
30.8	2.90	8						
31.2	2.87	6			2.87	28		
31.7	2.82	>100	2.82	100				
32.8	2.73	12						
33.4	2.68	8			2.68	28	2.67	24
35.6	2.52	8						
39.5	2.28	4					2.28	24
41.9	2.16	6						
45.5	1.99	56	1.99	55				
47.8	1.90	5			1.90	16		
56.5	1.63	10	1.63	15				
66.3	1.41	12	1.41	6				

Table 3

EO-43			Halite		Hexahydrite		Gypsum	
1974-1-1								
2θ	d	I	d	I	d	I	d	I
11.7	7.56	5					7.56	100
16.3	5.44	9			5.5	28		
17.4	5.10	3			5.1	24		
18.2	4.87	7			4.9	24		
20.2	4.40	9			4.40	100		
20.8	4.27	5					4.27	50
22.0	4.04	5			4.04	32		
27.4	3.25	3	3.25	13				
28.6	3.12	6						
30.4	2.94	3						
30.8	2.90	6					2.87	28
31.7	2.82	>100						
33.4	2.68	10			2.67	24	2.68	28
39.5	2.28	3			2.28	24		
45.5	1.99	30	1.99	55	2.00	20		
54.0	1.67	2						
56.6	1.63	3	1.63	15				
66.3	1.41	7	1.41	6				

EO-44			Halite		Hexahydrite	
1974-1-1						
2θ	d	I	d	I	d	I
17.4	5.09	1				
20.2	4.40	3			4.40	100
27.4	3.25	8	3.25	13		
28.6	3.12	2				
31.7	2.82	82	2.82	100		
45.5	1.99	42	1.99	55		
56.5	1.63	13	1.63	15		
66.3	1.41	3	1.41	6		

EO-45			Halite	
1974-1-1				
2θ	d	I	d	I
27.5	3.24	12	3.25	13
28.7	3.11	7		
31.8	2.81	>100	2.81	100
45.6	1.99	60	1.99	55
56.6	1.63	14	1.63	15
66.4	1.43	6	1.43	6

EO-46			Halite		Epsomite	
1974-1-17						
2θ	d	I	d	I	d	I
7.5	11.80	30				
14.9	5.95	3			5.95	20
19.7	4.51	10				
21.1	4.21	8			4.21	100
22.2	4.00	58				
23.3	3.82	3			3.79	14
24.8	3.25	7	3.25	13		
28.6	3.12	4				
29.9	2.99	3			2.98	14
31.7	2.82	>100	2.82	100		
32.9	2.72	4				
33.7	2.66	5			2.66	20
34.6	2.59	3				
36.8	2.44	2				
37.5	2.40	3				
37.8	2.33	2				
45.5	1.99	48	1.99	55		
56.5	1.63	12	1.63	15		
66.3	1.41	12	1.41	6		

Table 4. X-ray powder diffraction data of evaporites at West Ongul Island.

WO-1			Mirabilite		Thenardite	
1973-2-16						
2θ	d	I	d	I	d	I
14.6	6.11	18				
16.2	5.47	75				
16.6	5.34	12				
18.6	4.77	34	4.80	42		
19.0	4.67	26			4.66	73
22.5	3.95	7				
23.2	3.83	14	3.82	27	3.84	18
23.6	3.77	9				
24.7	3.60	17	3.60	7		
28.1	3.41	7	3.40	7		
27.3	3.27	17				
27.8	3.21	16	3.22	50		
28.0	3.18	16			3.18	51
28.8	3.10	18	3.10	50		
29.0	3.08	10			3.07	47
30.3	2.95	3	2.93	7		
32.0	2.79	54	2.80	27	2.78	100
32.6	2.75	22				
33.3	2.69	3	2.70	10		
33.9	2.64	20			2.64	48
35.6	2.52	9	2.56	7		
36.7	2.45	6				
37.6	2.39	6				
38.6	2.33	9			2.32	21
39.8	2.27	6	2.29	7		
42.3	2.13	9				
43.7	2.11	6	2.10	20		
47.5	1.91	3	1.92	17	1.91	4
48.8	1.87	8			1.86	8
54.6	1.71	4	1.71	7		
55.2	1.66	4	1.66	10		
59.5	1.55	4			1.55	10

WO-2			Halite		Thenardite	
1974-1-17						
2θ	d	I	d	I	d	I
19.1	4.65	4			4.66	73
27.4	3.25	5	3.25	13		
28.1	3.17	3			3.18	51
28.6	3.12	3				
29.0	3.08	3			3.07	47
31.7	2.82	80	2.82	100		
32.2	2.78	9			2.78	100
33.9	2.64	4			2.64	48
38.7	2.33	2			2.32	21
40.2	2.24	1				
40.8	2.21	1			2.21	5
45.5	1.99	41	1.99	55		
48.8	1.87	4			1.86	31
53.9	1.70	3	1.70	2		
56.5	1.63	11	1.63	15		
66.3	1.41	13	1.41	6		

WO-3			Halite	
1974-1-17				
2θ	d	I	d	I
27.4	3.25	7	3.25	13
28.6	3.12	3		
31.7	2.82	78	2.82	100
45.5	1.99	45	1.99	55
49.1	1.86	5		
53.9	1.70	2	1.70	2
56.4	1.63	16	1.63	15
66.3	1.41	10	1.41	6

Table 4

WO-4			Halite		Thenardite			
1974-1-18								
2θ	d	I	d	I	d	I		
19.1	4.65	4	3.25	13	4.66	73		
21.2	4.19	3			3.18	51		
27.4	3.25	5						
28.1	3.17	5						
28.6	3.12	2						
29.0	3.08	4	3.07	47				
31.7	2.82	70			2.82	100		
32.1	2.79	14						
33.9	2.64	6						
38.7	2.32	4						
45.4	2.00	40	1.99	55			1.86	31
48.8	1.87	5						
53.9	1.70	2			1.70	2		
54.6	1.68	2						
56.5	1.63	13						
59.5	1.55	3	1.55	10				
66.2	1.41	6					1.41	16

WO-5			Halite	
1974-1-18				
2θ	d	I	d	I
27.4	3.25	10	3.25	13
28.6	3.12	3		
31.7	2.82	85	2.82	100
40.2	2.24	1		
40.8	2.21	1		
45.4	2.00	48	1.99	55
53.9	1.70	2	1.70	2
56.3	1.63	17	1.63	15
66.2	1.41	8	1.41	6

Table 5. X-ray powder diffraction data of evaporites at Langhovde.

L-1			Halite	
1973-2-8				
2θ	d	I	d	I
27.4	3.25	9	3.25	13
28.6	3.12	14		
31.8	2.81	100	2.82	100
45.5	1.99	48	1.99	55
53.9	1.70	2	1.70	2
56.5	1.63	10	1.63	15
66.2	1.41	20	1.41	6

L-2			Halite	
1974-1-24				
2θ	d	I	d	I
27.4	3.25	6	3.25	13
28.6	3.12	12		
31.7	2.82	100	2.82	100
40.2	2.21	5		
45.4	2.00	48	1.99	55
53.9	1.70	3	1.70	2
56.5	1.63	15	1.63	15
66.3	1.41	33	1.41	6

L-3			Halite		Epsomite	
1974-1-24						
2θ	d	I	d	I	d	I
1 4.8	5.99	1 2	3.25	1 3	5.99	2 0
1 6.6	5.3 4	1 4			5.3 5	2 5
1 9.0	4.6 7	1				
1 9.8	4.4 8	5			4.4 8	1 4
2 1.1	4.2 1	5 5			4.2 1	1 0 0
2 3.5	3.7 8	7			3.7 9	1 4
2 5.8	3.4 5	6			3.4 5	1 6
2 6.8	3.3 3	3				
2 7.4	3.2 5	7				
2 8.4	3.1 4	8				
2 8.6	3.1 2	6				
3 0.1	2.9 7	8	2.8 2	1 0 0	2.9 8	1 4
3 1.0	2.8 8	2 0			2.8 8	2 0
3 1.7	2.8 2	8 5				
3 2.6	2.7 5	5			2.7 5	1 4
3 3.7	2.6 6	2 1			2.6 6	2 0
3 7.6	2.3 9	3			2.3 9	6
3 9.9	2.2 6	3			2.2 6	6
4 0.5	2.2 2	3			2.2 3	4
4 0.9	2.2 0	7			2.2 1	1 2
4 2.3	2.1 4	3				
4 3.0	2.1 0	4	1.9 9	5 5	2.1 2	8
4 5.4	2.0 0	3 8				
4 6.4	1.9 6	2			1.9 6	4
4 8.0	1.8 9	2			1.8 9	2
4 8.4	1.8 8	1			1.8 8	2
4 8.9	1.8 6	2			1.8 6	2
5 0.7	1.8 0	3				
5 3.0	1.7 3	4				
5 5.6	1.6 5	2				
5 6.5	1.6 3	1 2			1.6 3	1 5
6 6.3	1.4 1	1 3	1.4 1	6		

Table 5

L - 4			Halite	
1974-1-24				
2θ	d	I	d	I
27.4	3.25	14	3.25	13
28.6	3.12	9		
31.7	2.82	88	2.82	100
40.2	2.24	3		
40.8	2.21	3		
45.5	1.99	58	1.99	55
53.9	1.70	3	1.70	2
56.5	1.63	20	1.63	15
60.3	1.53	4		
66.3	1.41	20	1.41	6

L ₁ - 5			Halite		Epsomite	
1974-1-24						
2θ	d	I	d	I	d	I
21.1	4.21	3			4.21	100
27.4	3.25	6	3.25	13		
28.4	3.14	5				
28.6	3.12	6				
31.7	2.82	88	2.82	100		
40.2	2.24	2				
45.5	1.99	39	1.99	55		
53.9	1.70	2	1.70	2		
56.5	1.63	10	1.63	15		
66.2	1.41	23	1.41	6		

L - 6			Calcite		Aragonite		Gypsum	
1974-1-27								
2θ	d	I	d	I	d	I	d	I
11.6	7.63	6					7.56	100
20.8	4.27	6					4.27	50
23.2	3.83	3	3.86	12				
26.2	3.40	17			3.40	100		
27.2	3.28	10			3.27	52		
29.5	3.03	28	3.03	100			3.06	55
31.1	2.88	3					2.87	28
33.2	2.70	12			2.70	46	2.68	28
36.2	2.48	15	2.50	14	2.48	33		
38.0	2.37	9			2.37	38		
38.5	2.34	7			2.34	31		
39.6	2.27	5	2.29	18				
40.7	2.22	2						
41.2	2.19	4			2.19	11		
43.0	2.10	7	2.10	18	2.11	23	2.08	10
43.3	2.09	7	2.10	18				
45.9	1.98	17			1.98	65	1.99	4
47.6	1.91	7	1.91	17			1.90	16
48.4	1.88	13	1.88	17	1.88	25	1.88	10
50.3	1.81	7			1.81	23	1.81	10
52.5	1.74	8			1.74	24		
53.0	1.73	3			1.73	15		
57.6	1.60	2	1.60	8				

Table 5

L-7				Gypsum				L-8				Halite			
1974-1-27								1974-1-28							
2 θ	d	I		d	I			2 θ	d	I		d	I		
11.5	7.69	87		7.56	100			27.4	3.25	9		3.25	13		
14.6	6.07	2						28.6	3.12	14					
20.7	4.29	35		4.27	50			31.6	2.83	80		2.82	100		
23.4	3.80	53		3.79	20			40.1	2.25	5					
28.0	3.19	2						40.8	2.21	2					
29.1	3.07	44		3.06	55			45.4	2.00	58		1.99	55		
31.1	2.88	13		2.87	28			51.2	1.78	2					
32.0	2.80	2		2.79	6			53.9	1.70	3		1.70	2		
33.4	2.68	13		2.68	28			56.5	1.63	15		1.63	15		
34.5	2.60	3		2.59	4			66.2	1.41	44		1.41	6		
35.4	2.53	3		2.53	<1										
36.0	2.49	2		2.50	6										
36.6	2.46	2		2.45	4										
37.3	2.41	1		2.40	4										
40.6	2.22	8		2.21	6										
43.4	2.08	7		2.08	10			27.4	3.25	5		3.25	13		
45.5	1.99	2		1.99	4			28.8	3.12	5					
47.8	1.90	16		1.90	16			31.7	2.82	100		2.82	100		
48.4	1.88	4		1.88	10			45.5	1.99	34		1.99	55		
50.3	1.81	6		1.81	10			53.9	1.70	2		1.70	2		
51.2	1.78	5						56.5	1.63	8		1.63	15		
56.7	1.62	7		1.62	6			66.3	1.41	12		1.41	6		
58.1	1.59	2													
68.7	1.37	3													

L-9				Halite			
1974-1-29							
2 θ	d	I		d	I		
27.4	3.25	5		3.25	13		
28.8	3.12	5					
31.7	2.82	100		2.82	100		
45.5	1.99	34		1.99	55		
53.9	1.70	2		1.70	2		
56.5	1.63	8		1.63	15		
66.3	1.41	12		1.41	6		

L-10						Halite				Epsomite				Hexahydrite			
1974-1-29																	
2 θ	d	I		d	I	d	I	d	I	d	I	d	I	d	I	d	I
16.7	6.03	2						5.99	20								
16.2	5.47	4												5.5		28	
16.6	5.34	4						5.35	25								
17.2	5.15	1												5.1		24	
17.8	4.98	2															
18.2	4.87	2												4.9		24	
18.6	4.77	2															
20.2	4.39	12												4.40		100	
21.1	4.21	12						4.21	100								
22.0	4.04	2												4.04		32	
23.7	3.75	3															
24.7	3.60	6						3.30	4					3.61		20	
26.9	3.31	6															
27.4	3.25	3				3.25	13										
28.4	3.14	4															
29.5	3.03	3															
30.5	2.93	5															
31.7	2.82	81				2.82	100										
32.3	2.77	1												2.77		28	
32.6	2.75	2															
33.5	2.67	3						2.68	25					2.67		24	
33.7	2.66	3						2.66	20								
35.6	2.52	2															
39.6	2.27	1												2.28		24	
40.2	2.24	1															
40.9	2.20	1						2.21	12								
43.1	2.10	1															
45.5	1.99	28				1.99	55							2.00		20	
48.5	1.88	2						1.88	2					1.87		24	
56.5	1.63	9															
66.3	1.41	12															

Table 5

Table 5

L-11			Aragonite	
1974-1-29				
2 θ	d	I	d	I
21.0	4.23	4	4.21	2
26.2	3.40	30	3.40	100
26.6	3.35	6		
27.2	3.28	18	3.27	52
27.5	3.24	9		
29.7	3.01	2		
33.1	2.71	20	3.70	46
36.1	2.49	15	2.48	33
37.2	2.42	3	2.41	14
37.8	2.38	12	2.37	38
38.4	2.34	7	2.34	31
41.2	2.19	6	2.19	11
42.3	2.11	11	2.11	23
45.8	1.98	27	1.98	65
48.3	1.88	14	1.88	32
50.2	1.82	11	1.81	23
52.4	1.75	13	1.74	25
52.9	1.73	4	1.73	15
57.7	1.60	2		
59.2	1.56	2	1.56	4
60.3	1.53	1		
61.8	1.50	3	1.50	4
68.2	1.38	2	1.37	3

L-12			Halite		Epsomite	
1974-1-29						
2 θ	d	I	d	I	d	I
14.8	5.98	6	3.25	13	5.99	20
16.6	5.34	6			5.34	25
21.1	4.21	44			4.21	100
23.6	3.77	5			3.79	14
27.4	3.25	13				
28.4	3.14	12	28.2	100		
28.6	3.12	13				
30.1	2.97	5			2.98	14
31.1	2.88	5			2.88	20
31.7	2.82	>100				
32.6	2.75	5			2.75	14
33.5	2.67	8			2.68	25
33.7	2.66	10			2.66	20
40.2	2.24	3			2.25	8
40.6	2.22	3			2.23	4
40.9	2.21	6	1.99	55		
42.3	2.14	2				
43.1	2.10	4			2.11	4
44.4	2.04	3			2.04	2
45.4	2.00	87				
48.0	1.89	2			1.89	2
48.5	1.88	2			1.88	2
48.9	1.86	2			1.86	2
50.3	1.81	2				
50.8	1.80	2			1.80	4
53.9	1.70	5	1.70	2		
56.5	1.63	30	1.63	15		
66.3	1.41	40	1.41	6		

L-13			Carphosiderite	
1974-1-24				
2θ	d	I	d	I
15.9	5.57	18	5.56	40
17.6	5.04	18	5.05	40
21.4	4.15	3		
25.6	3.48	4	3.48	10
27.8	3.21	4		
28.7	3.11	20	3.11	100
29.2	3.06	28	3.06	100
30.3	2.95	3	2.96	25
32.2	2.87	12		
34.3	2.62	3		
35.1	2.56	3		
35.6	2.52	3	2.52	25
37.6	2.39	3		
39.2	2.30	4		
40.2	2.24	15		
40.4	2.23	17	2.22	40
44.4	2.04	5		
46.0	1.97	11	1.97	50
47.5	1.91	3		
47.7	1.91	4		
49.1	1.86	3		
49.8	1.83	8	1.83	50
56.1	1.64	5		
56.7	1.63	5		
58.5	1.58	5		
59.4	1.55	3		
60.6	1.53	5		
61.2	1.51	4		
61.8	1.50	4		
62.4	1.48	3		
62.9	1.48	10		

Table 5

L-14				Halite	
1973-2-7					
2 θ	d	I	d	I	
27.4	3.25	14	3.25	13	
28.6	3.12	8			
31.7	2.82	88	2.82	100	
40.4	2.21	3			
45.5	1.99	46	1.99	55	
53.9	1.70	3	1.70	2	
56.5	1.63	14	1.63	14	
66.2	1.41	8	1.41	8	

14

L-15				Halite	
1973-2-7					
2 θ	d	I	d	I	
26.7	3.34	8			
27.4	3.25	10	3.25	13	
31.8	2.81	76	2.82	100	
45.5	1.99	44	1.99	55	
53.9	1.70	2	1.70	2	
56.5	1.63	15	1.63	15	
66.2	1.41	8	1.41	6	

L-16						Carphosiderite		Gypsum		Halite	
1973-2-7											
2 θ	d	I	d	I		d	I	d	I	d	I
11.6	7.63	10						7.56	100		
15.0	5.91	6				5.93	40				
16.0	5.54	8				5.56	40				
17.6	5.05	28				5.05	50				
20.7	4.29	4						4.27	50		
24.4	3.69	5									
28.7	3.11	28				3.11	100				
29.3	3.05	30				3.06	100	3.06	55		
30.3	2.95	6				2.96	25				
31.7	2.82	27								2.82	100
34.8	2.58	8						2.59	4		
35.7	2.51	5				2.52	25				
41.6	2.22	12				2.22	40				
45.5	1.99	8						1.99	4	1.99	55
46.0	1.97	10				1.97	50				
48.0	1.90	6				1.90	10	1.90	16		
49.9	1.83	8				1.83	50				
50.0	1.82	8						1.81	10		
52.7	1.74	6									
56.5	1.63	4								1.63	15
58.5	1.57	6									
60.7	1.53	5									
62.7	1.48	6									
63.3	1.47	6									
66.2	1.41	5						1.41		1.41	6

Table 5

L-17			Halite		Hexahydrite	
1973-2-7						
2θ	d	I	d	I	d	I
20.2	4.40	2			4.40	100
21.7	4.10	3				
27.4	3.25	8	3.25	13		
28.6	3.12	8				
31.7	2.82	100	2.82	100		
32.9	2.72	3				
34.0	2.64	4				
45.5	1.99	39	1.99	55		
53.9	1.70	2	1.70	2		
56.5	1.63	12	1.63	15		
66.2	1.41	10	1.41	6		

L-18			Halite	
1973-2-7				
2θ	d	I	d	I
27.4	3.25	10	3.25	13
28.6	3.12	6		
31.8	2.81	80	2.82	100
40.8	2.21	2		
45.5	1.99	43	1.99	55
53.9	1.70	2	1.70	2
56.5	1.63	14	1.63	15
66.2	1.41	10	1.41	6
66.4	1.41	4		

L-19			Halite	
1973-2-7				
2θ	d	I	d	I
27.4	3.25	12	3.25	13
28.5	3.13	4		
31.7	2.82	68	2.82	100
40.8	2.21	2		
45.6	1.99	42	1.99	55
53.9	1.70	2	1.70	2
56.5	1.63	14	1.63	15
66.2	1.41	6	1.41	6

L-20			Halite	
1973-2-8				
2θ	d	I	d	I
27.4	3.25	8	3.25	13
28.6	3.13	8		
31.7	2.82	100	2.82	100
40.8	2.21	2		
45.5	1.99	46	1.99	55
53.9	1.70	2	1.70	2
56.5	1.63	14	1.63	15
66.2	1.41	12	1.41	6

L-21			Halite	
1973-2-8				
2θ	d	I	d	I
27.4	3.25	10	3.25	13
28.6	3.12	7		
31.7	2.81	90	2.82	100
40.8	2.21	2		
45.4	2.00	42	1.99	55
56.5	1.63	12	1.63	15
66.2	1.41	9	1.41	6

L-22			Gypsum	
1973-2-8				
2θ	d	I	d	I
11.6	7.63	100	7.56	100
20.8	4.28	24	4.27	50
23.4	3.80	34	3.79	20
29.1	3.07	30	3.06	55
31.1	2.88	13	2.87	28
33.4	2.68	9	2.68	28
50.7	1.80	3	1.81	10
53.3	1.72	4	1.71	2
57.8	1.59	7	1.59	<1
60.3	1.53	3	1.53	<2
61.3	1.51	5		

Table 5

L-23			Carphosidrite	
1973-2-8				
2θ	d	I	d	I
14.9	5.95	8	5.93	40
16.0	5.54	14	5.56	40
17.6	5.04	30	5.05	50
24.3	3.66	6	3.66	10
25.0	3.56	4		
25.6	3.48	6	3.48	10
25.7	3.34	7		
28.7	3.11	27	3.11	100
29.3	3.05	31	3.06	100
30.2	2.96	5	2.96	25
32.2	2.78	9	2.78	25
35.6	2.52	8	2.52	25
40.5	2.23	13	2.22	40
46.0	1.97	12	1.97	50
47.7	1.91	8	1.90	10
49.9	1.83	10	1.83	50
53.3	1.72	6		
63.0	1.47	6		
68.1	1.38	10		
68.3	1.37	8		

L-24			Halite		Carphosiderite	
1973-2-8						
2θ	d	I	d	I	d	I
8.8	10.1	10	3.25	13	5.93	40
15.0	5.90	4				
15.5	5.71	8				
15.7	5.64	8				
17.5	5.04	19				
26.6	3.35	30			5.05	50
27.6	3.23	4				
27.8	3.22	4				
28.8	3.11	18				
29.2	3.06	23				
30.0	2.98	4	2.96	25		
31.7	2.82	24				
33.5	2.67	26				
35.5	2.53	6				
43.2	2.09	6				
45.5	1.99	6	1.99	55	2.52	25
45.9	1.98	8				
50.0	1.82	8				
50.1	1.82	8				

L-25			Halite		Hexahydrite	
1973-2-9						
2θ	d	I	d	I	d	I
16.2	5.47	3			5.5	28
17.4	5.09	3			5.1	24
18.2	4.87	3			4.9	24
20.2	4.39	8			4.40	100
24.7	3.60	2				
27.4	3.25	11	3.25	13		
28.6	3.12	8				
30.5	2.93	3				
30.9	2.91	3				
31.8	2.81	94	2.82	100		
33.5	2.67	2			2.67	24
45.5	1.99	35	1.99	55		
54.0	1.70	2	1.70	2		
56.5	1.62	11	1.63	15		
66.2	1.41	10	1.41	6		

Table 5

L-26			Halite		Hexahydrite	
1973-2-9						
2θ	d	I	d	I	d	I
16.2	5.47	5			5.5	28
17.4	5.09	5			5.1	24
18.2	4.90	3			4.9	24
20.2	4.40	14			4.40	100
21.3	4.17	3				
21.6	4.11	6				
22.0	4.04	6			4.04	32
24.7	3.60	4			3.61	20
25.7	3.47	2				
27.4	3.25	10	3.25	13		
28.6	3.12	4				
30.4	2.94	4				
30.8	2.90	4				
31.7	2.82	60	2.82	100		
32.4	2.76	3			2.77	28
40.8	2.21	2				
45.5	1.99	35	1.99	55		
56.5	1.63	12	1.63	15		
66.2	1.41	4	1.41	6		

L-27			Halite		Hexahydrite	
1973-2-9						
2θ	d	I	d	I	d	I
1 6.3	5.44	18			5.5	28
1 7.4	5.10	16			5.1	24
1 8.2	4.90	12			4.9	24
2 0.2	4.40	38			4.40	100
2 1.4	4.15	8				
2 2.0	4.04	20			4.04	32
2 2.9	3.88	3				
2 3.9	3.72	4				
2 4.7	3.60	10			3.61	20
2 5.8	3.45	7				
2 6.4	3.37	4				
2 7.4	3.25	20	3.25	13		
2 7.9	3.20	6			3.20	12
2 8.6	3.12	3				
2 9.5	3.03	3				
3 0.0	2.98	3				
3 0.4	2.94	18				
3 0.8	2.90	12				
3 1.7	2.82	>100	2.82	100		
3 2.3	2.77	3			2.77	28
3 3.4	2.68	5			2.67	24
3 5.5	2.53	6				
3 9.5	2.28	4			2.28	24
4 0.8	2.21	3				
4 3.7	2.07	2				
4 5.5	1.99	55	1.99	55	2.00	20
5 3.9	1.70	3	1.70	2		
5 6.5	1.63	15	1.63	15		
6 6.2	1.41	6	1.41	6		

Table 5

L-28			Halite	
1973-2-9				
2θ	d	I	d	I
27.4	3.25	10	3.25	13
28.6	3.12	12		
31.7	2.82	>100	2.82	100
40.8	2.21	2		
45.5	1.99	46	1.99	55
53.9	1.70	2	1.70	2
56.5	1.63	14	1.63	14
66.2	1.41	14	1.41	6

L-29			Halite			
1973-2-9						
2θ	d	I	d	I		
7.4	12.0	32	3.2 5	1 3		
8.8	10.1	10				
1 8.5	4.7 9	4				
1 9.5	4.5 5	17				
2 0.2	4.3 9	3				
2 1.1	4.2 1	6				
2 2.2	4.0 2	30				
2 4.8	3.5 9	4				
2 6.0	3.4 3	4				
2 6.7	3.3 4	4				
2 7.4	3.2 5	15				
2 8.5	3.1 3	6				
2 9.4	3.0 4	6				
3 1.7	2.8 2	>100			2.8 2	1 0 0
3 2.9	2.7 2	5				
3 3.6	2.6 6	4				
3 3.9	2.6 4	4				
3 4.5	2.6 0	4				
4 5.5	1.9 9	59	1.9 9	5 5		
5 6.5	1.6 2	14	1.6 3	1 5		
6 6.2	1.4 1	8	1.4 1	6		

L-30			Halite	
1973-2-9				
2θ	d	I	d	I
22.3	3.99	4		
27.4	3.25	10	3.25	13
28.5	3.13	6		
31.7	2.82	80	2.82	100
40.8	2.21	2		
45.5	1.99	42	1.99	55
54.0	1.70	2	1.70	2
56.5	1.63	10	1.63	15
66.2	1.41	8	1.41	6

Table 6. X-ray powder diffraction data of evaporites at Skarvsnes.

SV-1			Halite		Thenardite	
1973-2-2						
2θ	d	I	d	I	d	I
8.8	10.05	6				
9.0	9.82	6				
18.1	4.90	5				
19.1	4.65	4			4.66	73
27.4	3.25	16	3.25	13		
27.6	3.23	9				
28.6	3.17	6			3.18	51
29.0	3.08	10			3.07	47
30.5	2.93	7				
31.8	2.81	>100	2.82	100	2.78	100
33.8	2.65	17			2.64	48
36.8	2.44	4				
38.7	2.33	3			2.32	21
40.0	2.25	3				
44.4	2.04	5				
45.5	1.99	60	1.99	55		
53.9	1.70	3	1.70	2		
56.5	1.62	16	1.63	15		
66.3	1.41	8	1.41	6		

SV-2			Halite	
1973-2-2				
2θ	d	I	d	I
8.8	10.05	2		
15.3	5.79	6		
15.8	5.61	4		
17.3	5.12	4		
18.0	4.92	10		
20.5	4.33	3		
22.6	4.11	3		
24.4	3.64	6		
25.8	3.45	3		
27.4	3.25	12	3.25	13
30.5	2.93	4		
31.8	2.81	56	2.82	100
33.5	2.67	4		
35.5	2.52	2		
36.0	2.49	2		
45.5	1.99	30	1.99	55
56.5	1.62	8	1.63	15
66.2	1.41	4	1.41	6

SV-3			Halite		Thenardite	
1973-2-2						
2θ	d	I	d	I	d	I
8.8	10.05	4				
9.8	9.03	3				
10.5	8.42	3				
19.0	4.67	8			4.66	73
26.7	3.34	4				
27.4	3.25	6	3.25	13		
28.0	3.18	6			3.18	51
28.5	3.13	3				
29.0	3.08	4			3.07	47
29.5	3.02	10				
31.7	2.82	58	2.82	100		
32.2	2.78	12			2.78	100
33.8	2.65	8			2.64	48
39.6	2.27	3				
45.4	1.99	26	1.99	55		
48.8	1.87	3			1.86	31
56.5	1.62	6	1.63	15		
66.2	1.41	4	1.41	6		

Table 6

SV-4			Calcite		Aragonite	
1973-2-4						
2θ	d	I	d	I	d	I
23.1	3.85	6	3.86	12		
26.2	3.40	22			3.396	100
27.2	3.29	9			3.273	52
29.5	3.03	56	3.035	100		
33.1	2.71	10			2.70	46
36.1	2.48	16	2.495	14	2.48	33
37.4	2.40	3			2.409	14
37.9	2.37	6			2.37	38
38.6	2.33	6			2.34	31
39.5	2.28	12	2.285	18		
41.1	2.19	3			2.19	11
42.9	2.10	4	2.095	18	2.11	23
43.3	2.09	10				
45.9	1.98	12			1.98	65
47.7	1.91	8	1.91	17		
48.6	1.86	12	1.875	17	1.88	32
50.2	1.82	4			1.81	23
52.5	1.74	5			1.74	25
53.0	1.73	2			1.73	15
56.9	1.62	2				
57.6	1.60	3	1.60	8		

SV-5			Halite	
1973-2-4				
2θ	d	I	d	I
27.5	3.25	9	3.25	13
28.7	3.11	6		
31.8	2.81	>100	2.82	100
45.5	1.99	44	1.99	55
56.6	1.63	14	1.63	15
66.4	1.41	10	1.41	6

SV-6			Thenardite	
1973-2-6				
2θ	d	I	d	I
19.0	4.67	52	4.66	73
23.1	3.85	11	3.84	18
28.0	3.19	38	3.18	51
29.0	3.08	30	3.07	47
32.1	2.79	60	2.78	100
33.8	2.65	40	2.64	48
38.6	2.33	24	2.32	21
40.8	2.21	4	2.21	5
47.4	1.92	2	1.91	4
48.0	1.90	3		
48.8	1.87	27	1.86	31
49.5	1.84	5		
50.7	1.80	4		
54.6	1.68	12		
55.2	1.66	10	1.66	8
57.4	1.60	5	1.61	5
59.5	1.55	12	1.55	10
62.0	1.50	4	1.50	5
65.3	1.43	4	1.43	5
67.5	1.39	2	1.39	3

SV-7			Mirabilite		Thenardite	
1973-2-6						
2θ	d	I	d	I	d	I
14.6	6.11	9				
16.2	5.47	85	5.50	100		
18.1	4.90	9				
18.6	4.77	14	4.80	42		
19.1	4.65	30			4.66	73
23.2	3.83	12	3.82	27	3.84	18
24.8	3.59	7	3.60	7		
26.2	3.40	7	3.40	7		
27.3	3.27	10				
27.8	3.21	23	3.22	50		
28.1	3.17	17			3.18	51
28.8	3.10	14	3.10	50		
29.0	3.08	13			3.07	47
30.3	2.95	5	2.93	7		
31.4	2.85	11				
31.9	2.81	58	2.80	27		
32.2	2.78	30			2.78	100
32.7	2.74	41				
33.3	2.69	3	2.70	10		
33.9	2.64	25			2.64	48
34.9	2.57	4	2.56	7		
35.7	2.51	9				
38.7	2.33	11			2.32	21
39.8	2.26	7	2.26	7		
41.6	2.17	6	2.17	7		
43.1	2.10	4	2.10	20		
47.5	1.91	5	1.92	17	1.91	4
48.8	1.87	11			1.86	31
49.9	1.83	37				
50.0	1.82	25				
55.2	1.66	5	1.66	10	1.66	8
59.5	1.55	6			1.55	10

Table 6

SV-8			Halite	
1973-2-6				
2θ	d	I	d	I
27.4	3.25	12	3.25	13
28.6	3.12	8		
31.8	2.81	100	2.82	100
45.5	1.99	42	1.99	55
53.9	1.70	3	1.70	2
56.5	1.63	14	1.63	15
66.2	1.41	16	1.41	6

SV-9			Halite	
1973-2-6				
2θ	d	I	d	I
10.5	8.42	3		
20.8	4.72	3		
26.6	3.35	17		
27.4	3.25	9	3.25	13
28.6	3.12	7		
30.0	2.98	5		
30.6	2.92	3		
31.8	2.81	84	3.82	100
45.5	1.99	38	1.99	55
50.1	1.82	3		
53.9	1.70	2	1.70	2
56.5	1.64	11	1.63	15
60.0	1.54	3		
66.2	1.41	8	1.41	6

SV-10			Aragonite		Calcite	
1973-8-30						
2θ	d	I	d	I	d	I
26.2	3.40	61	3.396	100	303	100
27.3	3.27	33	3.27	52		
29.5	3.03	12				
31.2	2.87	3	2.87	4		
33.2	2.70	30	2.70	46		
36.2	2.48	24	2.48	33		
37.3	2.41	10	2.41	14		
37.9	2.37	24	2.37	38		
38.5	2.34	22	2.34	31	2.28	18
39.6	2.27	2				
41.2	2.19	9	2.19	11		
43.0	2.10	15	2.11	23		
45.9	1.98	45	1.98	65		
48.4	1.88	24	1.88	32		
50.3	1.81	17	1.81	23		
52.5	1.74	18	1.74	25		
53.0	1.73	10	1.73	15		
59.3	1.58	3				
61.8	1.50	3	1.50	4		
63.4	1.47	3	1.47	5		
66.1	1.41	3	1.41	5		

Table 7. X-ray powder diffraction data of evaporites at Skallen.

SL-1, 2			Atakamite		SL-3			Thenardite		Gypsum		SL-4			Thenardite	
1973-2-12					1973-2-12							1973-2-12				
2θ	d	I	d	I	2θ	d	I	d	I	d	I	2θ	d	I	d	I
11.6	7.63	16			8.8	10.1	8					19.0	4.67	83	4.66	73
16.7	5.30	40	5.40	100	9.1	9.7	10					20.7	4.09	5		
17.6	5.04	20	5.00	100	11.6	7.63	16			7.56	100	23.1	3.85	24	3.84	18
27.5	3.24	30			16.1	5.50	8					27.1	3.29	48		
31.5	2.84	18	2.82	100	19.0	4.67	50	4.66	73			28.0	3.19	60	3.18	51
32.3	2.77	30	2.75	100	20.7	4.29	7			4.27	50	29.0	3.08	52	3.07	47
35.7	2.51	8			23.1	3.85	12	3.84	18			32.1	2.79	>100	2.78	100
39.7	2.27	23	2.26	100	26.0	3.43	4					34.0	2.64	70	2.64	48
50.0	1.82	8	1.82	8	26.6	3.36	7					38.5	2.34	40	2.32	21
50.3	1.81	8			28.0	3.19	30	3.18	51			40.7	2.23	6	2.21	5
53.4	1.68	6			29.0	3.08	30	3.07	47	3.06	55	47.3	1.92	4	1.91	4
57.2	1.61	6	1.60	8	30.5	2.93	8					48.0	1.89	4		
					31.0	2.88	8			2.87	28	48.8	1.87	46	1.86	31
					31.7	2.82	12					49.4	1.84	6		
					32.1	2.79	52	2.78	100	2.79	6	50.6	1.80	9		
					33.8	2.65	33	2.64	48	2.68	28	54.5	1.68	24		
					28.6	2.33	17	2.32	21			55.2	1.66	15	1.66	8
					45.5	1.99	5			1.99	4	57.3	1.60	7	1.61	5
					48.8	1.87	20	1.86	31	1.88	16	59.5	1.55	22	1.55	10
					50.7	1.77	4					62.0	1.49	7	1.50	5
					54.5	1.68	8			1.68	2	65.2	1.43	8	1.43	5
					55.2	1.66	4	1.66	8	1.66	4	67.5	1.38	3	1.39	5
					59.5	1.55	7	1.55	10							

Table 7

SL-5			Calcite		Aragonite	
1973-2-12						
2θ	d	I	d	I	d	I
23.1	3.85	12	3.86	12		
26.2	3.40	5			4.21	2
26.5	3.36	5			3.39	100
27.3	3.27	3			3.27	52
29.5	3.03	88	3.035	100		
31.5	2.84	4	2.845	3		
33.2	2.70	3			2.70	46
36.1	2.49	16	2.495	14	2.48	33
39.5	2.28	20	2.285	18		
43.0	2.10	4	2.095	18		
43.3	2.09	20			2.11	23
46.0	1.97	3			1.98	65
47.7	1.91	20	1.91	17		
48.7	1.87	2	1.875	17		
56.8	1.62	3	1.63	4		
57.1	1.61	8	1.60	8		
60.9	1.52	6	1.52	4		
61.4	1.51	3	1.51	3		
65.0	1.43	4	1.44	5		
65.9	1.42	3	1.42	3		

Table 8. Identified minerals of evaporites at Prince Olav Coast.

	Halite	Calcite	Arago- nite	Mirabi- lite	Thenar- dite	Gypsum	Epsom- ite	Hexa- hydrite	Carpho- siderite	Ataka- mite
SN - 1		○								
SN - 2		○	○							
SN - 3		○								
SN - 4	○					○				
SN - 5										○
H - 1		○								
H - 2		○								
H - 3		○	○							
H - 4		○	○							
H - 5	○							○		
H - 6	○									
H - 7		○								
H - 8		○								
EO - 1	○					○		○		
EO - 2						○			○	
EO - 3	○					○		○		
EO - 4	○					○		○		
EO - 5	○					○		○		
EO - 6	○				○	○		○		
EO - 7	○									
EO - 8					○	○				
EO - 9	○				○			○		
EO - 10	○				○	○				
EO - 11	○							○		
EO - 12	○					○	○	○		
EO - 13	○					○	○	○		
EO - 14	○						○			
EO - 15	○				○	○				
EO - 16	○				○					
EO - 17	○				○	○				
EO - 18	○					○		○		
EO - 19	○					○				
EO - 20	○				○	○		○		
EO - 21	○					○	○			
EO - 22	○				○					
EO - 23	○				○	○				

Table 8

	Halite	Calcite	Arago- nite	Mirabi- lite	Thenar- dite	Gypsum	Epsom- ite	Hexa- hydrite	Carpho- siderite	Ataka- mite
EO - 24	○					○	○			
EO - 25	○					○	○	○		
EO - 26	○				○	○				
EO - 27	○				○	○				
EO - 28	○				○					
EO - 29	○									
EO - 30	○						○			
EO - 31	○						○			
EO - 32	○					○		○		
EO - 33	○					○		○		
EO - 34	○									
EO - 35	○				○					
EO - 36	○							○		
EO - 37	○				○					
EO - 38	○				○					
EO - 39	○							○		
EO - 40	○							○		
EO - 41					○	○		○		
EO - 42	○					○		○		
EO - 43	○					○		○		
EO - 44	○							○		
EO - 45	○									
EO - 46	○						○			
WO - 1				○	○					
WO - 2	○				○					
WO - 3	○									
WO - 4	○				○					
WO - 5	○									
L - 1	○									
L - 2	○									
L - 3	○						○			
L - 4	○									
L - 5	○						○			
L - 6		○	○			○				
L - 7						○				
L - 8	○									

Table 8

	Halite	Calcite	Arago- nite	Mirabi- lite	Thenar- dite	Gypsum	Epso- mite	Hexa- hydrite	Carpho- siderite	Ataka- mite
L - 9	O									
L - 10	O						O	O		
L - 11			O							
L - 12	O						O			
L - 13									O	
L - 14	O									
L - 15	O									
L - 16	O					O			O	
L - 17	O							O		
L - 18	O									
L - 19	O									
L - 20	O									
L - 21	O									
L - 22						O				
L - 23									O	
L - 24	O								O	
L - 25	O							O		
L - 26	O							O		
L - 27	O							O		
L - 28	O									
L - 29	O									
L - 30	O									
SV - 1	O				O					
SV - 2	O									
SV - 3	O				O					
SV - 4		O	O							
SV - 5	O									
SV - 6					O					
SV - 7				O	O					
SV - 8	O									
SV - 9	O									
SV - 10		O	O							
SL - 1										O
SL - 2										O
SL - 3					C	O				
SL - 4					O					
SL - 5		O	O							

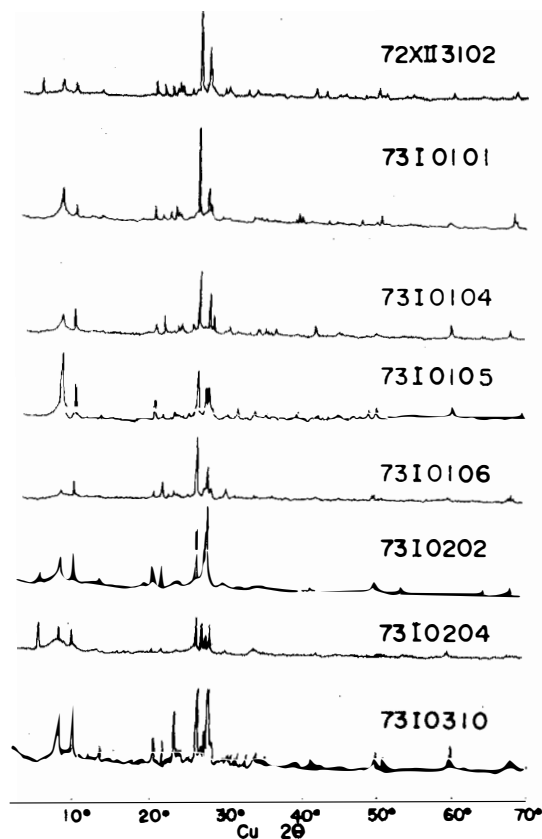


Fig. 15.
X-ray powder diffraction
patterns of soil at Cape
Hinode

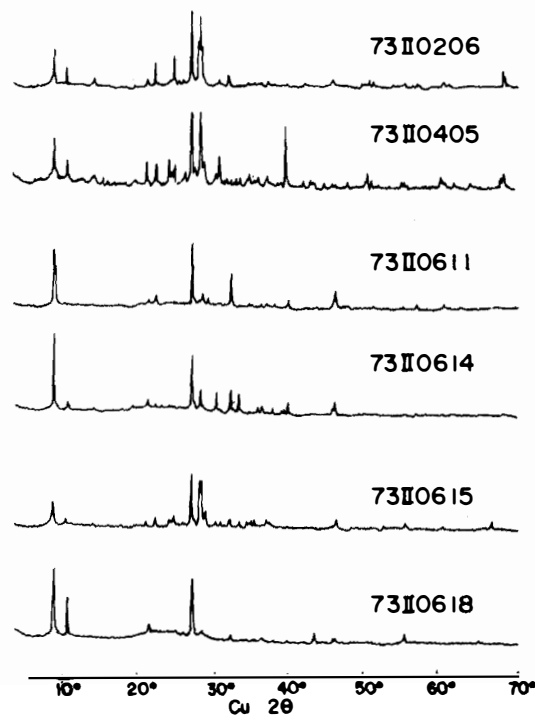


Fig. 16.
X-ray powder diffraction
patterns of soil at
Skarvsnes

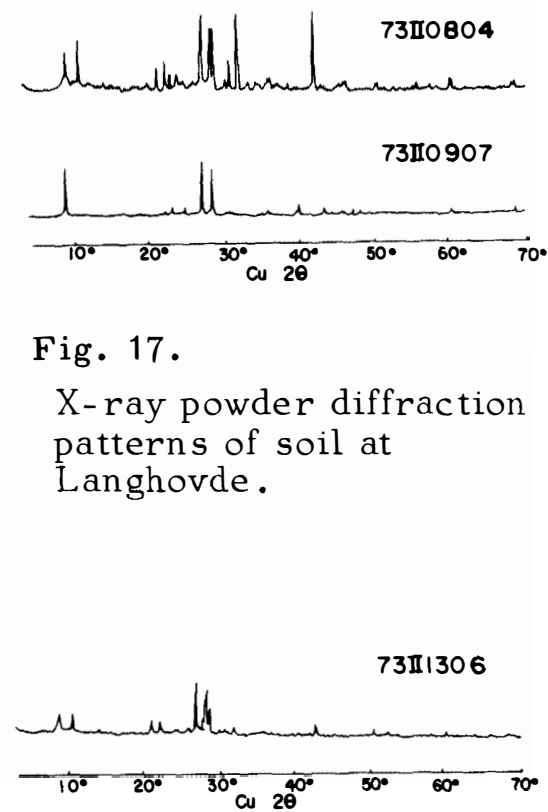


Fig. 17.
X-ray powder diffraction
patterns of soil at
Langhovde.

Fig. 18.
X-ray powder diffraction
patterns of soil at Skallen.

Table 9. Identified minerals of soils at Prince Olav Coast.

Sample	Identified minerals				
	Quartz	Feldsper	Horn- blende	Mica	Chlorite
72XII3102	○	○	○	○	○
73I0101		○	○	○	○
73I0104	○	○	○	○	○
73I0105	○	○	○	○	
73I0106	○	○	○	○	
73I0202	○	○	○	○	○
73I0204	○	○	○	○	○
73I0210	○	○	○	○	
73II0206	○	○	○	○	
73II0405	○	○	○	○	
73II0611	○	○		○	
73II0614	○	○	○	○	
73II0615	○	○	○	○	
73II0618	○	○	○	○	
73II0804	○	○	○	○	
73II0907	○	○		○	
73III306	○	○	○	○	