APPENDIX 1

Lithological Description of Holes

HOLE 1 Hermit Hill, on a gravel-covered bank about 1m above the bed of Wergowerangerilinna Creek.

Method : Hand Auger Total Depth : 1.35 m Water Table : not found

Depth (m) Description

0.0-0.82 SAND, light brown, silty minor quartz/silcrete gravel, clayier with depth.

0.82-1.35 SHALE, green-grey, strongly weathered to clay, becoming firmer with depth.

HOLE 2 Bopeechee Springs, on a gravel-covered bank about 0.5 m above the bed of a creek, 1 m below the general plain level.

Method : Hand Auger Total Depth : 0.45 m Water Table : not found

Depth (m) Description

0.0-0.15 SAND, light brown, silty, with minor gravel.

0.15-0.25 SAND, as above, with minor soft calcareous nodules.

0.25-0.45 SHALE, green-grey, weathered, firmer with depth.

HOLE 3 Fred Springs, on the gibber plain adjacent to the springs.

Method : Hand Auger Total Depth : 1.2 m Water Table : about 1m

Depth (m) Description

0.0-0.15 SAND, light brown, silty, minor gravel.

0.15-0.25 SHALE, light grey-brown, highly weathered, trace of plant roots

0.25-0.65 SHALE, light grey, weathered, minor to common gypsum, minor calcareous nodules, trace of brown iron oxide staining.

0.65-1.20 SHALE, grey, slightly weathered, trace gypsum. Fractured, with ?limonite staining on fracture surfaces.

HOLE 4 Hamilton Hill, on salt-scalded flood plain of the Margaret River.

Method : Hand Auger Total Depth : 2.7 m Water Table : 2.55 m

Depth(m) Description

0.0-0.85 SAND, light brown to red-brownto yellow brown, silty, some fine gravel, slightly clayey in part.

0.85-2.0 CLAY, light brown, sandy, silty, with clayey sand at 0.9-0.95 m and a fairly clean sand layer at 1.55-1.60 m.

2.0-2.7 SAND, pale yellow-grey to yellow-brown, coarse grained, well sorted subrounded quartz in part, clayey at 2.7m, heavy clay layer 2.55-2.60 m. Free water at 2.55m.

HOLE 5 Interdune claypan, 29km west of William Creek.

Method : Hand Auger Depth Drilled : 2.6 m Water Table : not found

Depth(m)	Description
0.0-0.2	SILT, light red-brown, clayey, sandy, minor quartzose granule gravel.
0.2-1.3	SAND, light red-brown, fine to coarse grained, gravelly in part, subrounded quartz grains,occasional white cementation, gypseous or calcareous.
1.3-1.4	SAND, light cream-brown, moderately clayey, fine to very coarse grained sub-rounded to rounded quartz.
1.4-2.6	SAND, light yellow-brown, as 0.2-1.3 m otherwise.

HOLE 6 Gibber Plain, 102 km west of William Creek on Coober Pedy road.

Method : Hand Auger Depth Drilled : 0.90 m Water Table : not found

Depth (m)	Description
0.0-0.85	SAND/SILT, light brown, very fine grained, minor siliceous pebbles (gibbers), minor calcareous/gypseous weakly cemented nodules.
0.85-0.90	GYPCRETE, brown to cream, sandy, massive interlocking crystals.

HOLE 7 Gibber Plain, by Coober Pedy water supply bore SR10.

Method : Hand Auger Depth Drilled : 0.6 m Water Table : not found

Depth (m)	Description
0.0-0.6	CLAY, brown, slightly sandy, plant roots to 0.4 m.
0.6	GYPCRETE, hard, unable to penetrate with hand auger.

HOLE 8 (& 8A) Gibber Plain near bore GAB 7.

Method : Rig (& spade) Depth Drilled : 7.35 m Water Table :about 4.2m

Depth (m)	Description
0.0-0.8	SAND/SILT, light brown, fine grained, becoming clayey below 0.7 m, weakly cemented in part.
0.8-1.2	SHALE, light grey brown, highly weathered, fractured with iron oxide staining.
1.2-2.0	SHALE, grey, weathered, gypseous, fractured and ruptured.
2.0-7.35	SHALE, grey to dark grey, becoming harder, fractured, minor iron staining and gypsum filled fractures.

HOLE 9 (& 9A) Gibber Plain near bore GAB 8.

Method : Rig (& spade) Depth Drilled : 6.3 m Water Table : 3.8-4.0 m

Depth (m) Description

0-0.8	SAND/SILT, light brown, minor siliceous pebbles at top, becoming gypseous at about 0.5 m.
0.8-3.5	SHALE, grey and brown-grey, fractured, gypseous, variable iron oxide staining. Gypsum in masses to 1.5 m, then as veins.
3.5- 6.3	SHALE, grey, similar to above but with only rare thin gypsum veins, free water at 5.7m, but samples below appeared dry.

HOLE 10 (& 10A) Gibber Plain near bore GAB 6.

Method : Rig (& spade) Depth Drilled : 4.4 m Water Table :about 2.5m

Depth (m) Description

0.0-1.35	SAND, light brown, silty, gravelly in part (fine gravel).
1.35-1.5	SHALE, grey-brown, highly weathered, trace of gypsum.
1.5-1.75	SHALE, brown, with up to 50% GYPSUM, iron oxide stained in part, as interlocking crystals disrupting shale.
1.75-4.4	SHALE, brown-grey to grey, fractured with iron oxide stains, minor gypsum as veins to 3.6m.

HOLE 11 (& 11A) Gibber Plain near bore GAB 11

Method : Rig (& spade) Depth Drilled : 4.75 m Water Table :about 3.1m

Depth (m) Description

0.0-0.55 SAND/SILT, light brown, very fine to medium grained, some fine gravel, minor soft white nodules, weakly cemented in part.

0.55-0.75 SAND/SILT, light brown, with major GYPSUM, light brown to cloudy white, in crystals and masses.

0.75-1.4 SHALE, grey brown, weathered, with major GYPSUM, brown to cloudy white, with inclusions of sand and shale, as masses of small crystals; minor silt and sand.

1.4-3.0 SHALE, light brown-grey, weathered, fractured, partly iron oxide stained, with minor gypsum that tends to be clearer with depth.

3.0-4.75 SHALE, dark grey, slightly fractured and iron oxide stained, occasional thin veins of clear gypsum.

HOLE 12 (12A & 12B) Hamilton Hill, northern edge of salt scalded flood plain.

Method : Rig Depths Drilled : 0.45 & 2.25 m Water Table : 2.15 m

Depth(m) Description

0.0-.3 SAND, mid brown, clayey, very fine to medium grained, rounded quartz.

0.3-.45 CLAY, light brown, sandy, silty.

0.45-2.25 SAND, light yellow-brown, clayey in part, some moderately well cemented layers, very fine to medium and medium to coarse grained layers, sub rounded to rounded quartz with rare rock fragments and siliceous gravel.

HOLE 13 (& 13A) Gibber Plain 500m south of Lake Eyre South, 300m west of Priscilla Creek.

Method : Rig (& spade) Depth Drilled : 5.15 Water Table : about 3 m

Depth (m) Description

0.0-0.3 SAND/SILT, light brown, siliceous pebbles (gibbers) on top.

0.3-2.0 SHALE, brown-grey, highly to mildly weathered, fractured, with minor gypsum, some iron oxide staining on fracture surfaces.

2.0-5.15 SHALE, grey, slightly fractured, partlyiron oxide stained, occasional thin veins of clear gypsum. Free water at 3.75 and 4.45-4.7 m.

HOLE 14 (& 14A) Gibber slope near bore GAB 9.

Method : Rig (& spade) Depth Drilled : 12.75 m Water Table :about 3.5m

Depth (m) Description

0-0.45 SAND/SILT, light brown, weakly cemented in part.

0.45-1.9 SHALE, brown-grey, highly weathered, and GYPSUM, up to 70%, both partly stained by iron oxides. Gypsum as masses and as veins with depth.

1.9-8.0 SHALE, grey and brown-grey, moderately to slightly weathered, fractured, occasional gypsum, including larger veins at 5.25 and 7.75 m.

8.0-12.7 SHALE, dark blue-grey, slightly sandy, flaky in part. Minor gypsum vein at 10.6 m. Preserved bioturbation by fine burrows.

HOLE 15 (& 15A) Gibber Plain near bore GAB 8.

Method : Rig (& spade) Depth Drilled : 5.6 m Water Table :about 3.2m

Depth (m) Description

0.0-0.3 SILT, light red-brown, sandy.

0.3-.65 SAND, light brown, gravelly in part, silty, weakly cemented.

0.65-.85 SILT, light brown, sandy,weakly cemented, minor soft nodules, possibly highly weathered shale.

0.85-2.6 SHALE, light grey, common iron oxide staining, minor to major amounts of gypsum.

2.6-3.0 SHALE, yellow and grey, sandy, flaky, moderately weathered.

3.0-3.25 SHALE, grey, common gypsum.

3.25-5.6 SHALE, grey with yellow mottles, sandy, slightly weathered, gypsum veins at 5.5-5.6 m.

5.6-5.7 SHALE, dark grey with orange-grey mottles, hard, apparently cemented with carbonate. Minor thin gypsum veins.

HOLE 16 (16A, 16B & 16C) Gibber Plain near GAB 12 and Gregory Creek.

Method : Rig x 2 (& spade) Depths Drilled : 0.45 & 11.0 m

Water Table : 4.25m

Depth (m)	Description
0.0-0.2	SILT, red-brown, sandy, trace fine gravel, minor soft calcareous nodules.
0.2-2.8	SAND, light brown to cream-brown, interbedded silt to 0.8 m, rare gravel, common gypsum (up to about 45% at 1 and 2 m), strongly cemented in part.
2.8-3.7	SHALE, brown-grey, fractured, weathered, slightly sandy, some iron oxide staining, minor gypsum in clear veins.
3.7-5.0	SHALE, GREY, fractured, slightly weathered, slightly sandy.
5.0-11.0	SHALE, dark grey, slightly sandy, fractured in part, trace gypsum to 6 m, traces of burrowing, rare fossil pelecypods. Free water at 8.4 m.

HOLE 17 Hermit Hill, near hole 1.

Method : Hand Auger Depth Drilled : 1.2 m Water Table : not found

Depth (m)	Description
0.0-0.68	SAND, light brown, silty, mostly clayey, minor gravel.
0.68-1.2	SHALE, dark grey, weathered near top, becoming harder with depth.

HOLE 18 Hamilton Hill near hole 4.

Method : Hand Auger Depth Drilled : 2.8 m Water Table : 2.55 m

Depth (m) Description

0.0-0.7 SAND, light brown, partly clayey, minor fine gravel, irregular beds of different size, sorting and clay content.

0.7-1.5 CLAY, light brown, sandy in part, rare to common narrow open burrows (?) about 0.5 mm diameter.

1.5-1.6 SAND, light brown, slightly clayey, very coarse grained, minor fine gravel.

1.6-2.15 CLAY, light brown, variable sand content.

2.15-2.55 SAND, light brown, moderately well sorted, medium to very coarse grained, subangular quartz, minor calcium carbonate grains, trace clay, some pebbles of cemented sand. Thin, dark, hard, well cemented layer at 2.55 m just above the water table.

2.55-2.6 CLAY, light grey-brown, partly sandy.

2.6-2.8 SAND, and CLAY, light grey-brown.

HOLE 19 Hermit Hill near holes 1 & 17.

Method : Hand Auger Depth Drilled : 2.45 m Water Table : 2.0 m

Depth (m) Description

0.0-0.63 SAND, brown, silty, becoming clayier with depth, minor fine gravel near surface.

0.63-1.75 SHALE, green-grey, weathered, minor iron oxide stains, becoming firm with depth.

1.75-2.45 SHALE, dark grey, damp, fairly soft.

HOLE 20 Hamilton Hill near hole 4.

Method : Hand Auger Depth Drilled : 2.58 m Water Table : 2.42 m

Depth (m) Description

0.0-0.86 SAND, light brown, silty, becoming clayier with depth. Trace of fine gravel, very weakly cemented in part.

0.86-1.68 CLAY, light brown and red-brown, sandy in part.

1.68-2.58 SAND, light brown and tan, slightly clayey, mainly coarse grained quartz with trace calcium carbonate grains, wet at 2.35 m, clayey at 2.4 m.

HOLE 21 Hamilton Hill near hole 4.

Method : Hand Auger Depth Drilled : 2.10 m Water Table : 2.10 m

Depth (m) Description

0.0-1.4 SAND, light brown with some yellow and red tinges, slightly to highly clayey, with minor gravel to 40mm diameter.

1.4-2.0 CLAY, light brown, slightly sandy.

2.0-2.1 SAND, light yellow-brown, collapsing.

HOLE 22 Gibber Plain near GAB 11

Method : Hand Auger Depth Drilled : 0.40 m Water Table : not found

Depth (m)	Description
0.0-0.35	SAND/SELT, light brown, gravel near top.
0.35-0.4	SILT, light brown, hard with gypseous cement.

HOLE 23 Gibber Plain 4km south of GAB 6, slight rise

Method : Hand Auger Depth Drilled : 1.0 m Water Table :not found

Depth (m)	Description
0.0-0.4	SILT, light brown, sandy, gravel near top. Becoming firmer with depth.
0.4-0.7	SHALE, light brown to light grey, very highly to moderately weathered with depth, gypsum at 0.5m increasing with depth.
0.7-0.75	GYPSUM, light brown, crystalline, with SHALE as above.
0.75-1.0	SHALE, light grey with some brown, weathered, with GYPSUM, light brown, crystalline.

HOLE 24 Gibber Plain ,25 m north of Hole 23, in a slight depression with signs of recent puddling of rainwater.

Method : Hand Auger Depth Drilled : 1.7 m Water Table :not found

Depth (m)	Description
0.0 - 1.0	SILT, WEATHERED SHALE and GYPSUM as for Hole 23.
1.0-1.2	SHALE, light grey with some brown, weathered, trace to minor gypsum.
1.2-1.7	SHALE, grey, slightly weathered, slightly fractured with iron oxide stains, variable content of crystalling gypsum.

APPENDIX 2

PROFILE DATA

Tables A2.1 to A2.24

Table A2.1 Data for Hole 1

Location : Hermit Hill, on a gravel-covered bank about 1 m above the bed of Wergowerangerilinna Creek, 230 m north of some springs

Drilled : 8-9-86 by Hand Auger

Sample Iso.#	jar #	top depth m	bottom Depth m	Vac. Theta g/g	max. cum. water m	gypsum content g/g	[Cl-]-ss g/l	cum.Cl kg/m2	delta-2 %. smow	delta-18 %. smow	Matric Suct. (kPa)
7197	1	0.00	0.05	0.093	0.007	0.02	82.9	0.6	39.0	13.8	270
7198	2	0.05	0.10	0.094	0.015	0.02	49.8	1.0	24.0	8.5	319
7199	3	0.10	0.15	0.094	0.022	0.02	68.0	1.5	5.6	6.2	306
7200	4	0.15	0.20	0.134	0.033	0.02	101.2	2.6	3.7	7.7	462
7201	5	0.20	0.25	0.155	0.046	0.02	122.1	4.1	8.8	10.4	126
7202	6	0.25	0.30	0.142	0.057	0.01	120.3	5.5	15.6	11.9	113
7203	7	0.30	0.35	0.186	0.072	0.02	119.3	7.2	12.7	12.3	94
7204	8	0.35	0.40	0.207	0.088	0.03	112.8	9.1	14.2	12.3	
7205	9	0.40	0.45	0.218	0.106	0.03	107.6	11.0	11.8	11.7	84
7206	10	0.45	0.50	0.199	0.122	0.03	102.7	12.6	11.4	11.4	58
7207	11	0.50	0.55	0.193	0.137	0.02	111.7	14.3	11.8	11.5	43
7208	12	0.55	0.60	0.173	0.151	0.02	111.3	15.9	12.0		49
7209	13	0.60	0.65	0.132	0.162	0.01	102.1	17.0	12.6		39
7210	14	0.65	0.70	0.092	0.169	0.01	101.9	17.7	12.7	11.4	38
7211	15	0.70	0.75	0.134	0.180	0.02	111.0	18.9			46
7212	16	0.75	0.80	0.133	0.190	0.02	102.7	20.0	11.8		81
7213	17	0.80	0.85	0.262	0.211	0.03	96.3	22.0	11.8	11.5	137
7214	18	0.85	0.90	0.392	0.243	0.05	95.9	25.0	14.4	11.5	57
7215	19	0.90	0.95	0.42	0.276	0.05	100.5	28.4	13.8		118
7216	20	0.95	1.00	0.432	0.311	0.05	94.2	31.7	12.7		55
7217	21	1.00	1.05	0.376	0.341	0.04	89.0	34.3	11.9		74
7218	22	1.05	1.10	0.332	0.367	0.04	89.1	36.7	13.7	11.6	217
7219	23	1.10	1.15	0.358	0.396	0.04	87.3	39.2	13.6		59
7220	24	1.15	1.20	0.33	0.422	0.05	85.9	41.5	13.7		79
7221	25	1.25	1.30	0.361	0.451	0.04	92.7	44.1	12.9		63
7222	26	1.30	1.35	0.328	0.478	0.04	87.7	46.4	11.8	11.4	206

Table A2.2 Data for Hole 2

Location : Bopeechie Springs, on a gravel-covered bank about 0.5 m above the bed of a creek, 1 m below the general plain level
Drilled : 8-9-86 by Hand Auger

Sample Iso.#	jar #	top depth m	bottom depth m	Vac. Theta g/g	cum. water m	max. gypsum content g/g	[Cl-]-ss g/l	cum.Cl kg/m2	delta-2 %. smow	delta-18 %. smow
7223	27	0.00	0.05	0.117	0.009	0.04	83.7	0.78	25.7	12.4
7224	28	0.05	0.10	0.165	0.023	0.07	52.0	1.47	-3.3	6.6
7225	29	0.10	0.15	0.165	0.036	0.08	63.9	2.31	6.2	5.2
7226	30	0.15	0.20	0.106	0.044	0.04	91.3	3.09	-0.2	7.4
7227	31	0.20	0.25	0.118	0.054	0.04	97.2	4.00	4.3	9.7
7228	32	0.25	0.30	0.203	0.070	0.03	102.4	5.67	13.8	12.5
7229	33	0.30	0.35	0.284	0.093	0.04	94.3	7.81	16.0	12.8
7230	34	0.35	0.40	0.317	0.118	0.05	89.4	10.08	15.1	12.2
7231	35	0.40	0.45	0.301	0.142	0.05	85.4	12.13	13.9	11.8

Table A2.3 Data for Hole 3

Location : Fred Springs, on gibber plain about 1 km from the springs
Drilled : 9-9-86 by Hand Auger

Sample Iso.#	jar #	top depth m	bottom depth m	Vac. Theta g/g	cum. water m	max. gypsum content g/g	[Cl-]-ss g/l	cum.Cl kg/m2	pore water delta-2 %. smow	pore water delta-18 %. smow	gypsum delta-2 %. smow
7232	36	0.00	0.05	0.023	0.002	0.03	148.3	0.27	-1.7	8.93	
7233	37	0.05	0.10	0.056	0.006	0.05	190.6	1.13	3.8	11.05	
7234	38	0.10	0.15	0.066	0.012	0.06	272.0	2.56	-2.0	9.62	
7235	39	0.15	0.20	0.075	0.018	0.07	336.0	4.58	-4.4	10.37	
7236	40	0.20	0.25	0.089	0.025	0.07	309.0	6.78	2.7	13.7	
7237	41	0.25	0.30	0.098	0.033	0.14	232.0	8.60	10.3	15.41	-40.3
7238	42	0.30	0.35	0.089	0.040	0.42	181.3	9.89	11.5	16.15	-40.4
7239	43	0.35	0.40	0.112	0.049	0.36	158.3	11.31	16.7		-40.7
7240	44	0.40	0.45	0.120	0.058	0.35	157.3	12.82	17.0	16.44	-36.3
7241	45	0.45	0.50	0.146	0.070	0.30	118.9	14.21	16.1		-34.7
7242	46	0.50	0.55	0.152	0.082	0.32	113.0	15.58	15.4	15.79	-32.9
7243	47	0.55	0.60	0.203	0.098	0.20	98.0	17.17	7.6		-33.5
7244	48	0.60	0.65	0.225	0.116	0.15	90.8	18.81	7.4	13.04	-32.3
7245	49	0.65	0.70	0.250	0.136	0.10	87.0	20.55	8.1		-37.6
7246	50	0.70	0.75	0.257	0.157	0.09	83.2	22.26	7.3	11.69	
7247	51	0.75	0.80	0.255	0.177	0.10	75.5	23.80	6.7		
7248	52	0.80	0.85	0.281	0.200	0.08	68.5	25.34	6.7		
7249	53	0.85	0.90	0.266	0.221	0.10	68.8	26.80	5.4		
7250	54	0.90	0.95	0.283	0.244	0.06	66.7	28.31	5.7	10.74	
7251	55	0.95	1.00	0.291	0.267	0.05	66.8	29.87	3.9	10.52	
7252	56	1.05	1.10	0.292	0.290	0.05	62.3	31.32	3.0	9.79	
7253	57	1.15	1.20	0.294	0.314	0.04	51.4	32.53	-1.4	8.64	

Table A2.4 Data for Hole 4

Location : Hamilton Hill, on salt-scalded plain of the Margaret River
Drilled : 9-9-86 by Hand Auger

Sample Iso.#	jar #	top depth m	bottom depth m	Vac. Theta g/g	cum. water m	max. gypsum content g/g	[Cl-]-ss g/l	cum.Cl kg/m2	delta-2 %. smow	delta-18 %. smow
7254	58	0.00	0.05	0.088	0.007	0.02	168.3	1.18	25.0	12.1
7255	59	0.05	0.10	0.137	0.018	0.03	78.6	2.05	9.4	7.2
7256	60	0.10	0.15	0.108	0.027	0.03	87.3	2.80	-1.5	6.0
7257	61	0.15	0.20	0.102	0.035	0.02	103.3	3.64	3.7	9.0
7258	62	0.20	0.25	0.119	0.044	0.02	106.5	4.66	7.3	10.7
7259	63	0.25	0.30	0.168	0.058	0.03	112.0	6.16	11.0	11.6
7260	64	0.30	0.35	0.123	0.068	0.02	96.0	7.11	11.8	11.9
7261	65	0.35	0.40	0.098	0.075	0.01	94.5	7.85	11.1	11.6
7262	66	0.40	0.45	0.131	0.086	0.02	80.4	8.69	8.1	10.8
7263	67	0.45	0.50	0.040	0.089	0.01	78.7	8.94	7.0	9.9
7264	68	0.50	0.55	0.050	0.093	0.01	71.5	9.23	6.0	10.0
7265	69	0.55	0.60	0.074	0.099	0.01	61.9	9.59	2.7	8.9
7266	70	0.60	0.65	0.091	0.106	0.01	56.0	10.00	2.6	
7267	71	0.65	0.70	0.074	0.112	0.01	54.6	10.33	0.8	7.4
7268	72	0.70	0.75	0.124	0.122	0.01	47.4	10.80	-0.7	
7269	73	0.75	0.80	0.202	0.138	0.02	45.4	11.53	-2.7	
7270	74	0.80	0.85	0.387	0.169	0.05	43.4	12.87	-2.5	
7271	75	0.85	0.90	0.409	0.202	0.05	45.5	14.36	-3.9	
7272	76	0.90	0.95	0.325	0.228	0.04	42.3	15.46	-3.9	6.0
7273	77	0.95	1.00	0.456	0.264	0.06	41.9	16.99	-4.3	
7274	78	1.05	1.10	0.404	0.297	0.07	41.4	18.33	-5.6	
7275	79	1.15	1.20	0.396	0.328	0.07	38.7	19.56	-7.4	
7276	80	1.25	1.30	0.455	0.365	0.08	41.8	21.08	-8.3	
7277	81	1.35	1.40	0.448	0.401	0.08	35.9	22.36	-9.7	4.3
7278	82	1.55	1.60	0.115	0.410	0.01	35.6	22.69	-10.8	
7279	83	1.75	1.80	0.260	0.431	0.02	23.8	23.19	-11.3	
7280	84	1.95	2.00	0.235	0.450	0.01	23.9	23.64	-14.7	2.5
7281	85	2.15	2.20	0.085	0.456	0.01	22.4	23.79	-15.8	
7282	86	2.35	2.40	0.293	0.480	0.03	13.2	24.10	-19.7	
7283	87	2.55	2.60	0.236	0.499	0.01	15.3	24.39	-17.9	1.1
7284	88	2.65	2.70	sat.					-17.1	1.2

Table A2.5 Data for Hole 5

Location : Interdune claypan, 59 km west of William Creek
Drilled : 9-9-86 by Hand Auger

Sample Iso.#	jar #	top depth m	bottom depth m	Vac. Theta g/g	cum. water m	max. gypsum content g/g	[Cl-]-ss g/l	cum.Cl kg/m2	delta-2 %. smow
7285	89	0.00	0.05	0.057	0.005	0.10	10.7	0.05	2.3
7286	90	0.05	0.10	0.078	0.011	0.11	7.8	0.10	
7287	91	0.10	0.15	0.078	0.017	0.11	9.9	0.16	
7288	92	0.15	0.20	0.054	0.021	0.07	54.7	0.40	
7289	93	0.20	0.25	0.031	0.024	0.15	96.2	0.63	
7290	94	0.25	0.30	0.032	0.026	0.16	131.7	0.97	
7291	95	0.30	0.35	0.032	0.029	0.15	148.7	1.35	
7292	96	0.35	0.40	0.036	0.032	0.10	150.9	1.79	
7293	97	0.40	0.45	0.045	0.035	0.10	150.7	2.33	
7294	98	0.45	0.50	0.047	0.039	0.07	144.3	2.87	
7295	99	0.50	0.55	0.048	0.043	0.07	138.0	3.40	
7296	100	0.55	0.60	0.046	0.047	0.08	131.0	3.88	
7297	101	0.60	0.65	0.050	0.051	0.07	130.2	4.40	
7298	102	0.65	0.70	0.052	0.055	0.07	131.8	4.95	
7299	103	0.70	0.75	0.050	0.059	0.10	130.0	5.47	
7300	104	0.75	0.80	0.059	0.064	0.10	132.0	6.10	
7301	105	0.80	0.85	0.057	0.068	0.03	125.5	6.67	
7302	106	0.85	0.90	0.057	0.073	0.04	129.1	7.26	
7303	107	0.90	0.95	0.055	0.077	0.02	128.5	7.82	
7304	108	0.95	1.00	0.049	0.081	0.03	131.0	8.34	
7305	109	1.05	1.10	0.043	0.084	0.05	128.9	8.78	
7306	110	1.15	1.20	0.047	0.088	0.03	125.7	9.25	
7307	111	1.25	1.30	0.045	0.092	0.02	127.8	9.71	
7308	112	1.35	1.40	0.077	0.098	0.02	120.3	10.45	
7309	113	1.55	1.60	0.066	0.103	0.03	124.3	11.11	
7310	114	1.75	1.80	0.069	0.109	0.02	125.7	11.80	
7311	115	1.95	2.00	0.074	0.115	0.04	121.8	12.52	
7312	116	2.15	2.20	0.069	0.120	0.04	117.1	13.17	
7313	117	2.35	2.40	0.061	0.125	0.02	114.6	13.73	
7314	118	2.55	2.60	0.063	0.130	0.02	116.2	14.32	

Table A2.6 Data for Hole 6

Location : Gibber Plain, 107 km west of William Creek on Coober Pedy road.

Sample Iso.#	jar #	top depth m	bottom depth m	Vac. Theta g/g	cum. water m	max. gypsum content g/g	[Cl-]-ss g/l	cum.Cl kg/m2
7315	119	0.00	0.05	0.043	0.003	0.06	2.0	0.01
7316	120	0.05	0.10	0.072	0.009	0.08	15.6	0.10
7317	121	0.10	0.15	0.076	0.015	0.08	63.4	0.48
7318	122	0.15	0.20	0.067	0.021	0.09	117.0	1.11
7319	123	0.20	0.25	0.066	0.026	0.09	136.6	1.83
7320	124	0.25	0.30	0.067	0.031	0.10	139.2	2.58
7321	125	0.30	0.35	0.067	0.037	0.10	141.0	3.33
7322	126	0.35	0.40	0.064	0.042	0.09	145.1	4.08
7323	127	0.40	0.45	0.061	0.047	0.12	139.7	4.76
7324	128	0.45	0.50	0.053	0.051	0.13	134.8	5.33
7325	129	0.50	0.55	0.052	0.055	0.13	140.6	5.91
7326	130	0.55	0.60	0.047	0.059	0.15	146.2	6.46
7327	131	0.60	0.65	0.052	0.063	0.12	136.3	7.03
7328	132	0.65	0.75	0.038	0.069	0.11	140.9	7.89
7329	133	0.75	0.80	0.034	0.072	0.18	144.8	8.28
7330	134	0.80	0.85	0.026	0.074	0.32	149.5	8.59
7331	135	0.85	0.90	0.027	0.076	0.33	165.1	8.95

Table A2.7 Data from Hole 7

Location : Gibber Plain, near Coober Pedy water supply bore SR 10
Drilled : 10-9-86

Sample Iso.#	jar #	top depth m	bottom depth m	Vac. Theta g/g	cum. water m	max. gypsum content g/g	[Cl-]-ss g/l	cum.Cl kg/m2
7332	136	0.00	0.05	0.099	0.008	0.13	3.3	0.03
7333	137	0.05	0.10	0.132	0.018	0.12	10.5	0.14
7334	138	0.10	0.15	0.217	0.036	0.15	17.8	0.45
7335	139	0.15	0.20	0.227	0.054	0.16	25.9	0.92
7336	140	0.20	0.25	0.201	0.070	0.18	44.1	1.63
7337	141	0.25	0.30	0.182	0.085	0.18	54.7	2.42
7338	142	0.30	0.35	0.176	0.099	0.17	54.1	3.18
7339	143	0.35	0.40	0.174	0.113	0.18	63.8	4.07
7340	144	0.40	0.45	0.171	0.126	0.18	55.3	4.83
7341	145	0.45	0.50	0.166	0.140	0.18	57.3	5.59
7342	146	0.50	0.55	0.158	0.152	0.18	56.3	6.30
7343	147	0.55	0.60	0.153	0.164	0.19	59.5	7.03

Table A2.8 Data for Holes 8A and 8

Location : Gibber Plain near bore GAB 7
Drilled : 28-10-86 by spade and Investigator Drilling Rig

Sample Iso.#	jar #	top depth m	bottom depth m	Vac. Theta g/g	cum. water m	max. gypsum content g/g	[Cl-]-ss g/l	Halite g/100g	cum.Cl kg/m2	delta-2 %. SMOW
					Hole 8A					
8041	191	0.00	0.05	0.040	0.003	0.026	179.9		0.6	
8042	192	0.05	0.10	0.079	0.010	0.032	96.6		1.7	
8043	193	0.10	0.15	0.097	0.017	0.032	112.7		2.5	
8044	194	0.15	0.20	0.105	0.026	0.058	172.9		3.4	
					Hole 8					
7998	148	0.15	0.20	0.055	0.022	0.054	247.7	0.3	3.6	22.0
7999	149	0.20	0.25	0.085	0.029	0.090	243.0	0.3	5.2	9.2
8000	150	0.25	0.30	0.068	0.034	0.090	412.0	2.2	7.5	1.4
8001	151	0.30	0.35	0.054	0.038	0.070	567.1	3.1	9.9	-0.7
8002	152	0.35	0.40	0.054	0.043	0.083	456.0	2.1	11.9	4.7
8003	153	0.40	0.45	0.054	0.047	0.078	556.9	3.0	14.3	8.6
8004	154	0.45	0.50	0.054	0.051	0.080	371.5	1.3	15.9	12.3
8005	155	0.50	0.55	0.050	0.055	0.063	589.7	3.1	18.2	13.2
8006	156	0.50	0.60	0.062	0.065	0.075	220.3	0.0	19.3	13.2
8007	157	0.60	0.65	0.072	0.071	0.075	428.0	2.5	21.8	13.4
8008	158	0.65	0.70	0.073	0.077	0.075	238.0	0.2	23.2	
8009	159	0.70	0.75	0.073	0.083	0.062	182.2		24.2	
8010	160	0.75	0.80	0.069	0.088	0.059	181.7		25.2	
8011	161	0.80	0.85	0.080	0.094	0.091	186.1		26.4	
8012	162	0.85	0.90	0.091	0.102	0.091	173.8		27.7	
8013	163	0.90	0.95	0.087	0.109	0.115	173.2		28.9	
8014	164	0.95	1.00	0.091	0.116	0.136	174.1		30.2	
8015	165	1.00	1.10	0.095	0.131	0.094	168.5		32.7	
8016	166	1.10	1.20	0.094	0.146	0.156	171.2		35.3	
8017	167	1.20	1.30	0.105	0.163	0.172	169.8		38.2	
8018	168	1.30	1.40	0.091	0.178	0.125	199.5		41.1	
8019	169	1.40	1.50	0.107	0.195	0.212	162.5		43.8	
8020	170	1.50	1.60	0.109	0.212	0.227	164.1		46.7	
8021	171	1.60	1.70	0.133	0.233	0.102	156.0		50.0	
8022	172	1.70	1.80	0.132	0.254	0.136	150.4		53.2	
8023	173	1.80	1.90	0.114	0.273	0.136	154.4		56.0	
8024	174	1.90	2.00	0.125	0.293	0.103	155.0		59.1	
8025	175	2.00	2.20	0.131	0.335	0.092	146.9		65.3	
8026	176	2.20	2.40	0.134	0.378	0.075	141.3		71.3	
8027	177	2.40	2.60	0.126	0.418	0.095	128.1		76.5	
8028	178	3.45	3.65	0.198	0.690	0.029	122.9		76.8	13.8
8029	179	3.65	3.75	0.148	0.714	0.285	123.4		79.7	
8030	180	4.50	4.75	0.208	0.999	0.028	40.1		80.0	0.8
8031	181	4.75	5.00	0.211	1.083	0.019	41.0		83.4	
8032	182	5.00	5.25	0.250	1.183	0.058	44.3		87.8	-2.4
8033	183	5.25	5.50	0.296	1.301	0.024	40.4		92.6	-3.7
8034	184	5.50	5.75	0.288	1.417	0.027	40.9		97.3	-4.1
8035	185	5.75	5.95	0.262	1.500	0.058	39.9		100.7	-4.2
8036	186	5.95	6.40	0.249	1.679	0.041	36.0		107.1	-6.7
8037	187	6.50	6.65	0.296	1.798	0.025	37.7		111.6	-8.5
8038	188	6.65	6.90	0.328	1.929	0.026	35.9		116.3	
8039	189	6.90	7.15	0.301	2.049	0.018	36.2		120.6	-9.4
8040	190	7.15	7.35	0.258	2.132	0.015	34.5		123.5	-8.9

Table A2.9 Data for Holes 9A and 9

Location : Gibber Plain near GAB 8
Drilled : 28-10-86 by spade and Investigator Drilling Rig

Sample Iso.#	jar #	top depth m	bottom depth m	Vac. Theta g/g	cum. water m	max. gypsum content g/g	[Cl-]-ss Halite g/l	g/100g	cum.Cl kg/m2	delta-2 %. SMOW
					Hole 9A					
8085	235	0.00	0.05	0.059	0.005	0.03	101.4		0.5	
8086	236	0.05	0.10	0.067	0.010	0.03	77.5		1.0	
8087	237	0.10	0.15	0.056	0.015	0.04	145.2		1.4	
8088	238	0.15	0.20	0.077	0.021	0.06	201.6		2.3	
					Hole 9					
8045	195	0.10	0.15	0.046	0.014	0.02	213.4		1.8	
8046	196	0.15	0.20	0.072	0.020	0.03	158.4		2.7	
8047	197	0.20	0.25	0.056	0.024	0.03	249.0	0.3	3.9	
8048	198	0.25	0.30	0.054	0.028	0.04	326.6	0.9	5.3	
8049	199	0.30	0.35	0.035	0.031	0.05	339.3	0.7	6.2	
8050	200	0.35	0.40	0.017	0.033	0.02	326.7	0.3	6.6	
8051	201	0.40	0.45	0.021	0.034	0.02	905.7	2.4	8.2	
8052	202	0.45	0.50	0.087	0.041	0.06	196.1		9.6	
8053	203	0.75	0.80	0.084	0.082	0.29	161.1		16.1	
8054	204	0.80	0.85	0.094	0.090	0.31	154.0		17.3	
8055	205	0.85	0.90	0.102	0.098	0.24	152.8		18.5	
8056	206	0.90	0.95	0.114	0.107	0.24	158.8		20.0	
8057	207	0.95	1.00	0.102	0.115	0.30	154.6		21.3	
8058	208	1.00	1.10	0.126	0.135	0.18	162.5		24.5	
8059	209	1.10	1.20	0.150	0.159	0.14	165.7		28.5	
8060	210	1.20	1.30	0.131	0.180	0.23	156.8		31.8	
8061	211	1.30	1.40	0.166	0.207	0.13	161.9		36.1	
8062	212	1.40	1.50	0.164	0.233	0.09	152.4		40.1	
8063	213	1.70	1.80	0.176	0.315	0.09	150.1		52.4	
8064	214	1.80	1.90	0.174	0.342	0.13	143.8		56.4	
8065	215	1.90	2.00	0.186	0.372	0.09	148.9		60.8	
8066	216	2.00	2.10	0.172	0.400	0.10	148.8		64.9	
8067	217	2.10	2.20	0.168	0.427	0.14	140.9		68.7	
8068	218	2.20	2.40	0.163	0.479	0.13	137.3		75.8	
8069	219	2.40	2.60	0.157	0.529	0.26	124.5		82.1	
8070	220	2.60	2.80	0.206	0.595	0.06	130.2		90.7	
8071	221	2.80	3.00	0.187	0.655	0.24	122.4		98.0	
8072	222	3.00	3.25	0.223	0.744	0.13	112.9		108.1	
8073	223	3.25	3.50	0.240	0.840	0.11	52.4		113.1	
8074	224	3.50	3.75	0.261	0.944	0.03	44.2		117.7	2
8075	225	3.75	4.00	0.313	1.069	0.05	33.8		121.9	-2
8076	226	4.00	4.25	0.327	1.200	0.04	32.9		126.2	-3
8077	227	4.25	4.45	0.307	1.299	0.06	29.3		129.1	-5
8078	228	4.45	4.70	0.293	1.416	0.05	29.3		132.6	-6
8079	229	4.70	4.90	0.272	1.503	0.05	26.9		134.9	-8
8080	230	4.90	5.10	0.286	1.594	0.04	29.0		137.6	-7
8081	231	5.10	5.35	0.279	1.706	0.04	27.9		140.7	-10
8082	232	5.35	5.60	0.274	1.816	0.10	28.0		143.7	
8083	233	5.60	5.80	0.208	1.882	0.02	30.9		145.8	-4
8084	234	6.10	6.30	0.164	2.013	0.09	25.8		149.2	

Table A2.10 Data for Holes 10A and 10

Location : Gibber Plain near bore GAB6
Drilled : 29-10-86 by spade and Investigator Drilling Rig

Sample Iso.#	jar #	top depth m	bottom depth m	Vac. Theta g/g	cum. water m	max. gypsum content g/g	[Cl-]-ss Halite g/l	g/100g	cum.Cl kg/m2	PORE delta-2 %. SMOW	PORE delta-18 %. SMOW	GYPSUM delta-2 %. SMOW	GYPSUM delta-18 %. SMOW
					Hole 10A								
8131	281	0.00	0.05	0.079	0.006	0.038	187.2		1.2	34	16.2		
8132	282	0.05	0.10	0.100	0.014	0.053	154.8		2.7	15	11.2		
8134	284	0.10	0.15	0.101	0.022	0.064	184.9		3.9	4	9.3		
8135	285	0.15	0.20	0.088	0.029	0.066	243.7	0.3	5.2	-3	9.1		
					Hole 10								
8089	239	0.00	0.05	0.084	0.007	0.056	266.8	0.7	1.8	0	11.1		
8090	240	0.05	0.10	0.072	0.012	0.123	209.2		3.0	22			
8091	241	0.10	0.15	0.103	0.021	0.025	117.6		4.0	35	15.0		
8092	242	0.15	0.20	0.088	0.028	0.034	137.1		4.9	14			
8093	243	0.20	0.25	0.084	0.034	0.048	198.3		6.3	-1	9.4		
8094	244	0.25	0.30	0.097	0.042	0.062	235.0	0.2	8.1	10	14.6		
8095	245	0.30	0.35	0.099	0.050	0.064	202.9		9.7				
8096	246	0.35	0.40	0.104	0.058	0.063	194.5		11.3	13	14.7		
8097	247	0.40	0.45	0.098	0.066	0.058	189.3		12.8				
8098	248	0.45	0.50	0.117	0.076	0.069	187.2		14.6	10	13.7		
8099	249	0.50	0.55	0.090	0.083	0.047	183.0		15.9				
8100	250	0.55	0.60	0.053	0.087	0.030	173.6		16.6				
8101	251	0.60	0.65	0.050	0.091	0.030	168.0		17.3	9			
8102	252	0.65	0.70	0.078	0.097	0.036	156.5		18.2	9	13.0		
8103	253	0.70	0.75	0.067	0.103	0.019	160.3		19.1	8			
8104	254	0.75	0.80	0.072	0.108	0.016	163.7		20.1	9			
8105	255	0.80	0.85	0.105	0.117	0.059	143.4		21.3	7			
8106	256	0.85	0.90	0.131	0.127	0.058	142.9		22.8	10			
8107	257	0.90	0.95	0.137	0.138	0.055	140.5		24.3	8	12.4		
8108	258	0.95	1.00	0.114	0.147	0.033	141.2		25.6	7			
8109	259	1.00	1.10	0.045	0.155	0.020	128.0		26.5	9			
8110	260	1.10	1.20	0.075	0.167	0.029	108.1		27.8	10			
8111	261	1.20	1.30	0.146	0.190	0.039	88.3		29.9	10			
8112	262	1.30	1.40	0.202	0.222	0.043	84.0		32.6	9	12.3		
8113	263	1.40	1.50	0.200	0.254	0.047	79.2		35.1	8			
8114	264	1.50	1.60	0.143	0.277	0.286	76.1		36.9			-42	2.3
8115	265	1.60	1.70	0.120	0.296	0.445	66.2		38.1			-41	3.54
8116	266	1.70	1.80	0.117	0.315	0.499	63.4		39.3			-41	3.11
8117	267	1.80	1.90	0.076	0.327	0.187	54.3		40.0			-44	2.8
8118	268	1.90	2.00	0.198	0.359	0.039	53.4		41.7	3	10.0		
8119	269	2.00	2.10	0.102	0.375	0.061	49.3		42.5			-30	3.4
8120	270	2.10	2.20	0.077	0.388	0.024	41.8		43.0	-1	9.1		
8121	271	2.20	2.40	0.216	0.457	0.048	38.8		45.7	-1			
8122	272	2.40	2.60	0.273	0.544	0.068	36.3		48.9	-4	8.2		
8123	273	2.60	2.80	0.258	0.627	0.121	32.3		51.5			-43	-
8124	274	2.80	3.00	0.258	0.709	0.094	27.5		53.8			-51	3.1
8125	275	3.00	3.20	0.269	0.795	0.102	25.6		56.0	-8	5.6	-59	-
8126	276	3.20	3.40	0.267	0.881	0.072	23.1		58.0	-10			
8127	277	3.40	3.60	0.293	0.975	0.066	22.5		60.1	-10	5.1		
8128	278	3.60	3.80	0.305	1.072	0.079	21.0		62.1	-12			
8129	279	3.80	4.10	0.305	1.219	0.059	19.9		65.0	-13	3.8		
8130	280	4.10	4.40	0.299	1.362	0.111	17.8		67.6				

Table A2.11 Data for Holes 11A and 11

Location : Gibber Plain near bore GAB 11
Drilled : 29-10-86 by spade and Investigator Drilling Rig

Iso.#	jar #	top depth	bottom depth	Vac. Theta g/g	cum. water m	max. gypsum content g/g	[Cl-]-ss g/l	Halite g/100g	cum.Cl kg/m2	delta-2 pore %. smow	delta-18 pore %. smow	delta-2 gyp %. smow	delta-18 gyp %. smow
						Hole 11A							
8178	328	0.00	0.05	0.023	0.002	0.044	465.4	0.9	0.8	31.4	19.34		
8179	329	0.05	0.10	0.058	0.006	0.046	179.8		1.7	36.0	16.29		
8180	330	0.10	0.15	0.077	0.013	0.048	219.4		3.0	9.5	10.69		
8181	331	0.15	0.20	0.064	0.018	0.096	392.7	1.8	5.1	-0.9	9.73		
						Hole 11							
8136	286	0.10	0.15	0.058	0.011	0.055	232.4	0.1	4.2	24.9	16.49		
8137	287	0.15	0.20	0.072	0.017	0.076	209.3		5.4	13.5	13.75		
8138	288	0.20	0.25	0.066	0.022	0.061	303.7	0.9	7.0	1.4	10.94		
8139	289	0.25	0.30	0.061	0.027	0.048	529.8	3.1	9.6	-5.3	9.82		
8140	290	0.30	0.35	0.051	0.031	0.045	589.8	3.1	12.0	-3.4	11.16		
8141	291	0.35	0.40	0.044	0.035	0.050	932.2	5.1	15.2	1.9	13.22		
8142	292	0.40	0.45	0.050	0.039	0.051	860.3	5.3	18.6	6.7	14.47		
8143	293	0.45	0.50	0.058	0.043	0.057	596.1	3.6	21.4	7.6	14.74		
8144	294	0.50	0.55	0.065	0.048	0.077	209.8		22.5	7.4	13.5		
8145	295	0.55	0.60	0.055	0.053	0.308	233.0	0.1	23.5				
8146	296	0.60	0.65	0.040	0.056	0.171	1021.7	5.3	26.8	6.7	13.9		
8147	297	0.65	0.70	0.085	0.063	0.123	210.1		28.3				
8148	298	0.70	0.75	0.076	0.069	0.263	278.3	0.7	30.0	9.1	14.6	-37.4	5.65
8149	299	0.75	0.80	0.062	0.074	0.403	502.3	2.9	32.4				
8150	300	0.80	0.85	0.063	0.079	0.488	252.2	0.3	33.7	9.0	13.8	-30.8	6.1
8151	301	0.85	0.90	0.056	0.083	0.500	223.7	0.0	34.7				
8152	302	0.90	0.95	0.066	0.089	0.494	188.2		35.7	8.5	13.8	-32.4	5.9
8153	303	0.95	1.00	0.067	0.094	0.413	247.0	0.3	37.0				
8154	304	1.00	1.10	0.065	0.104	0.471	217.7		39.3	7.1	13.7	-30.5	
8155	305	1.10	1.20	0.072	0.116	0.432	186.1		41.4				
8156	306	1.20	1.30	0.094	0.131	0.344	158.3		43.8	8.9	14	-29.3	
8157	307	1.30	1.40	0.105	0.148	0.288	154.5		46.4				
8159	309	1.40	1.50	0.139	0.170	0.134	154.8		49.9	12.9	14.54	-36.9	
8160	310	1.50	1.60	0.122	0.190	0.250	148.6		52.8	12.8		-32.3	
8161	311	1.60	1.70	0.096	0.205	0.202	202.4		55.9				
8162	312	1.70	1.80	0.123	0.225	0.279	160.6		59.0	13.3	13.49	-31.5	
8163	313	1.80	1.90	0.130	0.245	0.246	156.0		62.3	14.3		-29.8	
8164	314	1.90	2.00	0.140	0.268	0.199	154.5		65.7	15.9	14.55	-31.4	
8165	315	2.00	2.20	0.134	0.311	0.238	148.9		72.1	14.6		-25.2	
8166	316	2.20	2.40	0.179	0.368	0.141	142.2		80.3	16.0	13.93	-19.0	
8167	317	2.40	2.60	0.181	0.426	0.192	141.6		88.5	15.7		-23.7	
8168	318	2.60	2.80	0.196	0.489	0.204	132.2		96.8	15.2	13.72	-22.6	
8169	319	2.80	3.00	0.195	0.551	0.230	123.9		104.5	14.8		-24.8	
8170	320	3.00	3.25	0.234	0.645	0.109	121.6		115.9	11.3	12.77		
8171	321	3.25	3.50	0.249	0.744	0.045	112.6		127.1	12.2			
8172	322	3.50	3.75	0.261	0.849	0.059	108.6		138.4	10.9	12.31		
8173	323	3.75	4.00	0.242	0.945	0.089	99.4		148.1	6.1			
8174	324	4.00	4.25	0.272	1.054	0.070	79.8		156.7	4.9	10.4		
8175	325	4.25	4.50	0.275	1.164	0.070	61.8		163.5	3.7			
8176	326	4.50	4.75	0.270	1.272	0.070	61.6		170.2		9.47		

NOTE: 8144 to 8156 inclusive were distilled with hexane and have had 3%. delta-2 and and 1.1 %. delta 18 added to the raw figure for comparison with kerosene values added to the raw figure for better comparison to kerosene values.

Table A2.12 Data for Holes 12A and 12B

Location : Hamilton Hill, northern edge of salt-scalded flood plain
Drilled : 30-10-86 by Investigator Drilling Rig

Iso.#	jar #	top depth	bottom depth	Vac. Theta g/g	cum. water m	max. gypsum content g/g	[Cl-]-ss g/l	Halite g/100g	cum.Cl kg/m2	delta-2 %. SMOW
					Hole 12A					
8183	333	0.00	0.05	0.135	0.011	0.030	260.2	0.9	2.8	27.2
8184	334	0.05	0.10	0.181	0.025	0.046	120.0		4.5	13.1
8185	335	0.10	0.15	0.207	0.042	0.052	110.1		6.4	3.5
8186	336	0.15	0.20	0.143	0.053	0.040	120.8		7.8	0.9
8187	337	0.20	0.25	0.119	0.063	0.027	123.4		8.9	-1.2
8188	338	0.25	0.30	0.148	0.075	0.027	127.6		10.4	3.9
8189	339	0.30	0.35	0.225	0.093	0.040	120.9		12.6	8.4
8190	340	0.35	0.40	0.211	0.110	0.033	107.2		14.4	8.2
8191	341	0.40	0.45	0.194	0.125	0.024	84.0		15.7	2.4
					Hole 12B					
8192	342	0.00	0.05	0.135	0.011	0.025	206.5		2.2	33.0
8193	343	0.05	0.10	0.203	0.027	0.044	109.5		4.0	16.2
8194	344	0.10	0.15	0.191	0.042	0.039	107.6		5.7	7.6
8195	345	0.15	0.20	0.158	0.055	0.037	112.3		7.1	4.7
8196	346	0.20	0.25	0.130	0.065	0.026	120.4		8.3	5.7
8197	347	0.25	0.30	0.174	0.079	0.033	113.7		9.9	10.7
8198	348	0.30	0.35	0.244	0.099	0.039	119.0		12.2	11.7
8199	349	0.35	0.40	0.248	0.119	0.042	93.4		14.1	9.4
8200	350	0.40	0.45	0.194	0.134	0.030	86.4		15.4	9.0
8201	351	0.45	0.50	0.124	0.144	0.015	77.7		16.2	7.4
8202	352	0.50	0.55	0.201	0.160	0.022	70.9		17.3	6.4
8203	353	0.55	0.60	0.111	0.169	0.012	72.7		18.0	5.8
8204	354	0.60	0.65	0.088	0.176	0.012	68.0		18.5	4.0
8205	355	0.75	0.80	0.118	0.184	0.017	63.8		20.3	1.7
8206	356	0.80	0.85	0.093	0.192	0.013	62.9		20.7	0.2
8207	357	0.85	0.90	0.130	0.202	0.015	57.4		21.3	-0.3
8208	358	0.90	0.95	0.131	0.213	0.009	57.6		21.9	-0.6
8209	359	0.95	1.00	0.183	0.227	0.008	51.6		22.7	-0.3
8210	360	1.00	1.10	0.129	0.248	lost	lost		23.7	-2.2
8211	361	1.10	1.20	0.057	0.257	0.006	46.9		24.1	-4.0
8212	362	1.20	1.30	0.029	0.262	0.009	48.9		24.4	-5.7
8213	363	1.30	1.40	0.034	0.267	0.005	47.5		24.6	-5.9
8214	364	1.40	1.50	0.052	0.275	0.004	40.3		25.0	-8.7
8215	365	1.50	1.60	0.058	0.284	0.004	39.4		25.3	-9.2
8216	366	1.60	1.70	0.047	0.292	0.007	40.6		25.6	-8.8
8217	367	1.70	1.80	0.142	0.315	0.004	36.0		26.4	-11.7
8218	368	1.80	1.90	0.147	0.338	0.006	36.4		27.3	-11.7

Table A2.13 Data for Holes 13A and 13

Location : Gibber Plain 500m south of L. Eyre Sth, 300m west of Priscilla Ck
Drilled : 30-10-86 by spade and Investigator Drilling Rig

Iso.#	jar #	top depth	bottom depth	Vac. Theta g/g	cum. water m	max. gypsum content g/g	[Cl-]-ss g/l	Halite g/100g	cum.Cl kg/m2	delta-2 %. SMOW
					Hole 13A					
8268	418	0.00	0.05	0.024	0.002	0.027	331.4	0.4	0.6	8
8269	419	0.05	0.10	0.045	0.006	0.038	378.5	1.2	2.0	20
8270	420	0.10	0.15	0.052	0.010	0.039	301.3	0.7	3.3	16
8271	421	0.15	0.20	0.056	0.014	0.044	1221.0	9.2	8.7	7
					Hole 13					
8223	373	0.00	0.05	0.015	0.001	0.026	292.8	0.2	3.6	16
8224	374	0.05	0.10	0.027	0.003	0.054	341.8	0.5	6.3	21
8225	375	0.10	0.15	0.040	0.007	0.071	1740.0	10.0	6.3	9
8226	376	0.15	0.20	0.050	0.011	0.064	1580.2	11.2	6.3	-1
8227	377	0.20	0.25	0.034	0.013	0.061	6476.5	34.8	6.3	-4
8228	378	0.25	0.30	0.047	0.017	0.101	2959.4	21.3	6.3	
8229	379	0.30	0.35	0.049	0.021	0.178	1063.0	6.8	7.4	
8230	380	0.35	0.40	0.060	0.026	0.162	627.1	4.0	9.0	
8231	381	0.40	0.45	0.057	0.030	0.173	1104.0	8.4	17.0	
8232	382	0.45	0.50	0.071	0.036	0.099	1083.6	10.1	26.0	
8233	383	0.50	0.55	0.076	0.042	0.090	763.4	6.8	65.6	
8234	384	0.55	0.60	0.072	0.048	0.135	465.2	2.9	82.5	
8235	385	0.60	0.65	0.071	0.053	0.115	1085.0	10.2	88.6	
8236	386	0.65	0.70	0.082	0.060	0.121	589.7	5.0	92.7	
8237	387	0.70	0.75	0.076	0.066	0.121	1265.7	13.0	99.4	
8238	388	0.75	0.80	0.074	0.072	0.113	628.6	5.0	105.8	
8239	389	0.75	0.80	0.100	0.072	0.085	414.2	3.2	105.8	16
8240	390	0.80	0.85	0.101	0.080	0.070	476.5	4.3	109.6	
8241	391	0.85	0.90	0.117	0.090	0.067	160.6		119.7	16
8242	392	0.90	0.95	0.103	0.098	0.148	181.8		124.6	
8243	393	0.95	1.00	0.137	0.109	0.057	168.1		138.4	
8244	394	1.00	1.10	0.142	0.131	0.069	201.3		152.7	18
8245	395	1.10	1.20	0.142	0.154	0.118	165.8		162.1	
8246	396	1.20	1.30	0.171	0.181	0.063	162.4		175.2	19
8247	397	1.30	1.40	0.166	0.208	0.095	156.8		179.4	17
8248	398	1.40	1.50	0.174	0.236	0.045	161.5		184.5	20
8249	399	1.50	1.60	0.193	0.267	0.029	149.1		189.7	20
8250	400	1.60	1.70	0.177	0.295	0.104	144.2		195.4	
8251	401	1.70	1.80	0.197	0.326	0.067	140.5		200.6	
8252	402	1.80	1.90	0.214	0.361	0.029	132.0		206.1	19
8253	403	1.90	2.00	0.212	0.394	0.060	128.0		211.4	18
8254	404	2.00	2.20	0.228	0.468	0.046	124.7		223.2	16
8255	405	2.20	2.40	0.225	0.540	0.040	123.1		234.0	16
8256	406	2.40	2.60	0.232	0.614	0.053	111.7		244.7	13
8257	407	2.60	2.80	0.245	0.692	0.039	93.8		255.7	12
8258	408	2.80	3.00	0.260	0.776	0.042	94.6		266.7	10
8259	409	3.00	3.25	0.284	0.889	0.032	70.3		281.2	7
8260	410	3.25	3.50	0.287	1.004	0.032	64.8		295.5	5
8261	411	3.50	3.70	0.265	1.089	0.067	66.5		306.0	4
8272	422	3.70	3.75	0.316	1.114	0.051	65.3		308.8	7
8262	412	3.75	4.00	0.259	1.218	0.099	74.9		318.5	7
8263	413	4.00	4.25	0.273	1.327	0.040	69.7		328.8	6
8264	414	4.25	4.45	0.271	1.413	0.030	70.1		334.9	6
8265	415	4.45	4.70	0.308	1.537	0.042	77.0		342.9	5
8266	416	4.70	4.95	0.291	1.653	0.037	74.4		350.7	4
8267	417	4.95	5.15	0.291	1.746	0.053	66.9		356.7	4

Table A2.14 Data for Holes 14A and 14

Location : Gibber Slope near bore GAB 9
Drilled : 21-7-88 by spade and Investigator Drilling Rig

Sample Iso.#	jar #	top depth m	bottom depth m	Vac. Theta g/g	cum. water m	max. gypsum content g/g	[Cl-]-ss g/l	Halite g/100g	cum.Cl kg/m2	SOIL WATER delta-2 %. SMOW	delta-18 %. SMOW	GYPSUM delta-2 %. SMOW gyp
						Hole 14A						
12698	492	0.00	0.05	0.033	0.003	0.037	116.9		0.31	-15.7		
12699	493	0.05	0.10	0.034	0.005	0.060	191.9		0.84	-6.6		
12700	494	0.10	0.15	0.034	0.008	0.041	187.3		1.35	-8.7		
12701	495	0.15	0.20	0.028	0.010	0.032	230.9	0.05	1.87	-8.5		
						Hole 14						
11191	430	0.10	0.15	0.040	0.009	0.052	192.0		1.45	-8.1		
11192	431	0.15	0.20	0.036	0.012	0.040	181.2		1.98	-7.5		
11193	432	0.20	0.25	0.036	0.014	0.038	195.8		2.54	-4.3		
11194	433	0.25	0.30	0.034	0.017	0.036	262.3	0.24	3.24	1.1		
11195	434	0.30	0.35	0.039	0.020	0.038	196.3		3.85	2.0		
11196	435	0.35	0.40	0.049	0.024	0.048	143.7		4.42	2.8		
13387	436	0.40	0.45	0.107	0.033	0.075	72.8		5.04	1.8		
	437	0.45	0.50	0.058	0.037	0.180	128.4		5.63			
13388	438	0.50	0.55	0.041	0.041	0.653	112.5		6.00	0.9		-37.2
	439	0.55	0.60	0.044	0.044	0.599	109.5		6.38			
13389	440	0.60	0.65	0.046	0.048	0.662	108.9		6.78	4.8		-38.3
	441	0.65	0.70	0.054	0.052	0.564	114.4		7.28			
13390	442	0.70	0.75	0.053	0.056	0.464	104.2		7.72	5.8		-37.7
	443	0.75	0.80	0.058	0.061	0.406	115.4		8.25			
13391	444	0.80	0.85	0.065	0.066	0.415	104.6		8.80	5.2		-35.7
	445	0.85	0.90	0.065	0.071	0.494	102.3		9.33			
13392	446	0.90	0.95	0.071	0.077	0.395	99.8		9.90	7.2		-35.3
	447	0.95	1.00	0.064	0.082	0.489	100.0		10.40			
13393	448	1.00	1.10	0.077	0.094	0.451	100.3		11.64	4.9		-35.8
	449	1.10	1.20	0.089	0.109	0.391	87.6		12.89			
13394	450	1.20	1.30	0.105	0.125	0.182	103.7		14.63	7.2		-30.9
13395	451	1.30	1.40	0.105	0.142	0.279	93.1		16.20	13.5		-38.6
13396	452	1.40	1.50	0.094	0.157	0.375	99.9		17.70	14.7		-33.3
13397	453	1.50	1.60	0.141	0.180	0.158	94.2		19.83	15.4		-31.9
13398	454	1.60	1.70	0.127	0.200	0.180	96.5		21.78	14.6		-30.4
13399	455	1.70	1.80	0.167	0.227	0.121	114.1		24.83	13.8		-31.9
13400	456	1.80	1.90	0.207	0.260	0.097	114.4		28.63	14.3		-34.5
13401	457	1.90	2.00	0.192	0.291	0.125	111.7		32.06	13.9		-34.5
11197	458	2.10	2.20	0.229	0.364	0.053	100.7		39.42	6.8		
11198	459	2.30	2.40	0.236	0.439	0.044	86.9		45.99	6.0		
11199	460	2.45	2.60	0.210	0.507	0.066	77.2		51.17	10.1		
11200	461	2.65	2.80	0.265	0.592	0.051	66.9		56.85	6.4		
12313	462	2.85	2.95	0.280	0.659	0.070	53.9		60.48	2.8		
11201	463	3.10	3.25	0.304	0.805	0.065	43.7		66.86	-0.9		-30.2
11202	464	3.35	3.50	0.312	0.929	0.045	35.4		71.27	-3.9		
11203	465	3.55	3.70	0.310	1.029	0.035	38.4		75.08	-3.5		
11204	466	3.85	4.00	0.295	1.170	0.076	41.1		80.91	-2.1		-6.4
11205	467	4.20	4.33	0.293	1.325	0.050	47.5		88.25	-1.8		
11206	468	4.50	4.67	0.286	1.481	0.044	52.2		96.37	1.1		-19.1
11206	469	4.50	4.67	0.286	1.481	0.044	52.2		96.37	1.1		-24.5

Table A2.14 Data for Holes 14A and 14 (cont.)

Sample Iso.#	jar #	top depth m	bottom depth m	Vac. Theta g/g	cum. water m	max. gypsum content g/g	[Cl-]-ss g/l	Halite g/100g	cum.Cl kg/m2	delta-2 %. SMOW	delta-18 %. SMOW	delta-2 %. SMOW gyp
11207	469	4.90	5.00	0.295	1.636	0.040	51.0		104.31	1.7		
12314	470	5.25	5.36	0.261	1.787	0.279	54.9		112.57	3.4		-26.4
	471	5.50	5.67	0.296	1.933	0.047	51.9		120.18			
11208	472	5.80	5.90	0.297	2.043	0.040	47.6		125.39			
12315	473	6.85	7.00	0.200	2.480	0.030	45.4		166.08	-3.0		
12316	474	7.10	7.33	0.244	2.609	0.041	42.5		171.57	-2.1		-10.5
12317	475	7.52	7.67	0.219	2.729	0.114	38.3		176.12	-7.0		
12318	476	7.70	7.85	0.180	2.780	0.234	36.8		178.03	-6.0		-20.2
12317	477	7.85	8.00	0.242	2.838	0.029	39.6		180.33	-5.2		
12684	478	8.20	8.40	0.257	3.003	0.022	37.6		186.51	-5.6		
12685	479	8.50	8.67	0.256	3.113	0.021	36.3		190.53	-6.9		
12686	480	8.85	8.95	0.246	3.224	0.024	36.6		194.56	-4.4		-23.9
12687	481	9.20	9.33	0.242	3.371	0.020	35.5		199.79	-8.4		
12688	482	9.50	9.66	0.233	3.494	0.019	35.8		204.20	-6.7		
12689	483	9.85	10.00	0.215	3.611	0.017	35.4		208.33	-8.3		
12690	484	10.20	10.33	0.228	3.731	0.023	34.5		212.50	-8.4		
12691	485	10.50	10.67	0.248	3.866	0.049	31.8		216.79	-10.2		-26.6
12692	486	10.85	11.00	0.254	4.000	0.021	32.1		221.09	-10.5		
12693	487	11.25	11.40	0.237	4.152	0.018	31.6		225.89	-11.4		
12694	488	11.50	11.67	0.237	4.254	0.018	32.3		229.20	-10.4		
12695	489	11.85	11.95	0.225	4.355	0.020	32.5		232.48	-10.7		
12696	490	12.20	12.25	0.224	4.463	0.029	31.1		235.83	-10.3		
12697	491	12.65	12.70	0.226	4.625	0.027	31.3		240.92	-11.6		

note: 13387 to 13394 were distilled by hexane, and have had 3%. for D and 1.1%. for O-18 added to be more comparable to kerosene distillation results

Table A2.15 Data for holes 15A and 15

Location : Gibber Plain near bore GAB 8
Drilled : 21 and 23-7-88 (15 & 15A) by spade and Investigator Drilling Rig

Sample Iso.#	jar #	top depth m	bottom depth m	Vac. Theta g/g	cum. water m	max. gypsum content g/g	Cl- mg/kg	[Cl-]-ss g/l	Halite g/100g	cum.Cl kg/m2	delta-2 %. SMOW
					Hole 15A						
12879	593	0.00	0.05	0.042	0.003	0.023	5755	136.3		0.46	2.1
12880	594	0.05	0.10	0.062	0.008	0.037	9732	156.4		1.24	6.9
12881	595	0.10	0.15	0.061	0.013	0.042	10995	181.2		2.12	2.7
12882	596	0.15	0.20	0.063	0.018	0.046	11858	188.7		3.07	9.3
12883	597	0.20	0.25	0.058	0.023	0.037	14764	256.0	0.34	4.25	13.1
12884	598	0.25	0.30	0.055	0.027	0.039	12813	232.4	0.11	5.27	12.1
					Hole 15						
12702	496	0.15	0.20	0.038	0.016	0.046	3850	102.5		2.43	
12703	497	0.20	0.25	0.038	0.019	0.039	12456	324.3	0.66	3.42	
12704	498	0.25	0.30	0.029	0.022	0.030	8943	312.0	0.43	4.14	
12705	499	0.30	0.35	0.041	0.025	0.065	13389	330.3	0.74	5.21	
12706	500	0.35	0.40	0.018	0.026	0.040	9919	546.7	0.98	6.00	
12707	501	0.40	0.45	0.036	0.029	0.036	17910	491.4	1.63	7.44	
12708	502	0.45	0.50	0.025	0.031	0.025	4430	175.0		7.79	
12709	503	0.50	0.55	0.028	0.033	0.025	9936	357.0	0.63	8.59	
12710	504	0.55	0.60	0.027	0.036	0.024	7453	273.3	0.24	9.18	
12711	505	0.60	0.65	0.058	0.040	0.044	12999	223.2	0.03	10.22	
12712	506	0.65	0.70	0.064	0.045	0.047	10278	161.1		11.04	
12713	507	0.70	0.75	0.073	0.051	0.063	21784	298.3	0.94	12.79	
12714	508	0.75	0.80	0.060	0.056	0.119	12057	202.0		13.75	
12715	509	0.80	0.85	0.040	0.059	0.054	10656	265.1	0.30	14.60	
12716	510	0.85	0.90	0.072	0.065	0.071	16311	226.0	0.07	15.91	
12717	511	0.90	0.95	0.078	0.071	0.094	13578	173.3		16.99	
12718	512	0.95	1.00	0.086	0.078	0.163	25694	299.5	1.12	19.05	
12719	513	1.00	1.10	0.096	0.093	0.151	28371	296.0	1.20	23.59	
12720	514	1.10	1.20	0.102	0.110	0.149	23381	230.0	0.17	27.33	
12721	515	1.20	1.30	0.091	0.124	0.244	29400	322.7	1.54	32.03	
12722	516	1.30	1.40	0.100	0.140	0.202	26253	262.3	0.70	36.23	
12723	517	1.40	1.50	0.091	0.155	0.362	20306	222.0	0.03	39.48	
12724	518	1.50	1.60	0.118	0.174	0.207	19286	163.6		42.57	
12725	519	1.60	1.70	0.107	0.191	0.342	20514	191.3		45.85	
12726	520	1.70	1.80	0.136	0.213	0.216	20983	154.7		49.21	
12727	521	1.80	1.90	0.137	0.235	0.185	21128	154.4		52.59	
12728	522	1.90	2.00	0.119	0.254	0.255	18184	152.6		55.50	
12729	523	2.05	2.20	0.149	0.301	0.200	22313	150.0		62.64	
12730	524	2.25	2.40	0.096	0.332	0.501	14070	146.0		67.14	
12731	525	2.45	2.60	0.127	0.373	0.331	18375	144.2		73.02	
12732	526	2.65	2.80	0.152	0.422	0.040	18934	124.2		79.08	
12733	527	2.85	3.00	0.150	0.470	0.039	19816	132.4		85.42	
12734	528	3.05	3.25	0.153	0.531	0.220	12479	81.6		90.41	
12735	529	3.25	3.40	0.192	0.577	0.030	8735	45.5		92.51	
12736	530	3.85	4.00	0.197	0.763	0.024	6846	34.8		107.49	
12737	531	4.20	4.33	0.191	0.864	0.033	5924	31.0		110.62	
12738	532	4.60	4.80	0.191	1.008	0.030	4871	25.4		114.28	
12739	533	5.15	5.25	0.192	1.146	0.037	4110	21.5		117.24	
12740	534	5.40	5.50	0.174	1.215	0.033	3970	22.9		118.83	

Table A2.16 Data for Holes 16A, 16B, and 16C

Location : Gibber Plain 200m south of bore GAB 12, 100m north of Gregory Creek
Drilled : 22,23-7-88 by spade and Investigator Drilling Rig

Sample Iso.#	jar #	top depth m	bottom depth m	Vac. Theta g/g	cum. water m	max. gypsum content g/g	Cl- mg/kg	[Cl-]-ss g/l	Halite g/100g	cum.Cl kg/m2	delta-2 pore ‰. SMOW
					Hole 16C						
12875	589	0.00	0.05	0.037	0.003	0.027	1799	49.1		0.14	-9.3
12876	590	0.05	0.10	0.050	0.007	0.034	8044	162.1		0.79	-3.7
12877	591	0.10	0.15	0.050	0.011	0.036	14006	282.2	0.51	1.91	-5.3
12878	592	0.15	0.20	0.047	0.015	0.036	66338	1410.5	9.23	7.21	-5.1
					Hole 16A						
	537	0.05	0.10	0.050	0.007	0.043	7660	152.7		0.76	
12742	538	0.10	0.15	0.044	0.010	0.035	13398	304.9	0.62	1.83	-6.0
12743	539	0.15	0.20	0.046	0.014	0.066	26645	582.6	2.73	3.96	-2.0
12744	540	0.20	0.25	0.046	0.018	0.063	21951	480.8	1.96	5.72	1.5
12745	541	0.25	0.30	0.051	0.022	0.046	47100	923.8	5.92	9.48	2.0
12746	542	0.30	0.35	0.052	0.026	0.046	44400	852.3	5.43	13.04	2.0
12747	543	0.35	0.40	0.057	0.031	0.056	15959	281.1	0.57	14.31	2.0
12748	544	0.40	0.45	0.056	0.035	0.069	21905	388.9	1.57	16.07	

Table A2.16 Data for Holes 16A, 16B, and 16C (cont.)

Sample Iso.#	jar #	top depth m	bottom depth m	Vac. Theta g/g	cum. water m	max. gypsum content g/g	Cl- mg/kg	[Cl-]-ss g/l	Halite g/100g	cum.Cl kg/m2	delta-2 pore %. SMOW	delta-2 gypsum %. SMOW
						Hole 16C						
12749	545	0.10	0.15	0.048	0.011	0.044	8961	188.1		1.50	-5.9	
12750	546	0.15	0.20	0.038	0.014	0.036	12510	330.9	0.69	2.51	-6.5	
12751	547	0.20	0.25	0.037	0.017	0.037	12015	327.7	0.65	3.47	4.1	
12752	548	0.25	0.30	0.018	0.018	0.020	5898	327.5	0.32	3.94	-0.6	
12785	549	0.30	0.35	0.028	0.020	0.032	30911	1091.0	4.07	6.41	0.3	
12786	550	0.35	0.40	0.053	0.025	0.046	43700	826.9	5.29	9.91	1.1	
12787	551	0.40	0.50	0.064	0.035	0.076	43100	678.2	4.80	16.80	0.9	
12788	552	0.50	0.65	0.046	0.046	0.057	21139	461.0	1.82	21.88	0.1	
12789	553	0.65	0.80	0.058	0.060	0.066	33100	566.5	3.34	29.82	1.4	
12790	554	0.80	0.90	0.046	0.067	0.450	7620	164.1		31.04	-14.9	
	555	0.95	1.00	0.048	0.075	0.479	11551	239.0	0.15	32.89		
12846	556	1.00	1.10	0.055	0.084	0.437	14734	266.3	0.42	35.25	1.5	-41.1
	557	1.50	1.60	0.069	0.139	0.229	11256	163.5		44.25		-43.8
12847	558	1.60	1.70	0.099	0.155	0.070	13214	133.2		46.36	11.9	-48.1
	559	1.70	1.80	0.061	0.164	0.105	8641	142.6		47.75		-44.1
12848	560	1.80	1.90	0.083	0.178	0.466	10053	121.7		49.36	15.6	-47.0
12849	561	1.90	2.00	0.085	0.191	0.290	10381	121.9		51.02	12.7	-50.1
12850	562	2.15	2.20	0.061	0.211	0.132	7106	117.0		53.29	12.8	-47.0
12851	563	2.20	2.40	0.088	0.239	0.092	9751	110.3		56.41	12.1	-44.4
	564	2.40	2.60	0.134	0.282	0.158	13053	97.2		60.59		-42.8
	565	2.60	2.80	0.131	0.324	0.063	12323	94.4		64.53		-47.7
12852	566	2.80	3.00	0.245	0.402	0.094	21123	86.1		71.29	12.0	-37.0
12853	567	3.10	3.25	0.270	0.510	0.053	22590	83.7		80.33	10.5	
12854	568	3.35	3.50	0.265	0.616	0.032	20588	77.6		88.56	9.1	
12855	569	3.55	3.70	0.251	0.697	0.055	17978	71.6		94.31	7.8	
12856	570	3.85	4.00	0.275	0.829	0.055	15605	56.7		101.80	2.3	
12857	571	4.18	4.33	0.255	0.963	0.029	10139	39.8		107.16	-5.7	
12858	572	4.52	4.67	0.340	1.148	0.032	13075	38.4		114.27	-7.7	
12859	573	4.67	4.80	0.331	1.217	0.030	12928	39.1		116.96	-6.8	
12860	574	4.85	5.00	0.287	1.309	0.030	12795	44.6		121.05	-3.5	-34.8
12861	575	5.25	5.40	0.254	1.472	0.022	10976	43.1		128.08		
12862	576	5.50	5.67	0.260	1.584	0.029	10984	42.3		132.82	-4.9	
12863	577	5.85	5.95	0.255	1.699	0.054	10262	40.2		137.42		
12864	578	6.15	6.33	0.259	1.856	0.020	9930	38.3		143.46	-6.9	
12865	579	6.40	6.60	0.265	1.971	0.025	10154	38.3		147.85		
12866	580	6.60	6.70	0.245	2.010	0.024	9304	38.0		149.33	-7.5	
12867	581	6.80	7.05	0.239	2.144	0.025	8727	36.5		154.22		
12868	582	7.30	7.45	0.233	2.293	0.025	8114	34.8		159.41	-9.5	
12869	583	8.40	8.50	0.278	2.722	0.025	8972	32.3		188.21		
12870	584	8.90	9.00	0.236	2.928	0.023	6897	29.2		200.86	-10.5	
12871	585	9.40	9.50	0.257	3.133	0.027	7238	28.1		206.65	-14.0	
12872	586	9.90	10.00	0.239	3.325	0.025	6527	27.3		211.87	-15.7	
12873	587	10.00	10.50	0.221	3.501	0.021	5426	24.6		216.21		
12874	588	10.50	11.00	0.197	3.659	0.016	4660	23.7		219.94	-15.9	

Table A2.17 Data for Hole 17

Location : Hermit Hill, near Hole 1
Drilled : 23-7-88 by Hand Auger

Sample Iso.#	jar #	top depth m	bottom depth m	Oven Theta g/g	cum. water m	max. gypsum content g/g	Cl- mg/kg	[Cl-]-ss Halite g/l	g/100g	cum.Cl kg/m2	delta-2 ‰. SMOW	delta-18 ‰. SMOW	matric suct. kPa
10293	599	0.00	0.05	0.064	0.005	0.018	15329	239.9	0.21	1.23	8.7	11.45	8700
10294	600	0.05	0.10	0.119	0.015	0.022	8956	75.5		1.94	9.3	10.38	183
10295	601	0.10	0.15	0.171	0.028	0.027	12235	71.5		2.92	6.7	9.72	123
10296	602	0.15	0.20	0.186	0.043	0.027	12679	68.2		3.94	7.1	9.45	141
10297	603	0.20	0.25	0.174	0.057	0.024	13644	78.3		5.03	6.2		60
10298	604	0.25	0.30	0.205	0.073	0.029	17758	86.8		6.45	8.4	10.09	54
10299	605	0.30	0.35	0.228	0.092	0.036	20073	88.2		8.05	7.9		56
10300	606	0.35	0.40	0.210	0.108	0.028	19393	92.4		9.61	10.1	11.12	57
10301	607	0.40	0.45	0.170	0.122	0.022	16689	98.3		10.94	10.4		49
10302	608	0.45	0.50	0.147	0.134	0.019	14458	98.5		12.10	10.3	11.81	35
10303	609	0.50	0.55	0.126	0.144	0.016	12581	100.2		13.10	10.8		56
10304	610	0.55	0.60	0.111	0.153	0.012	11650	105.4		14.04	11.0	12.14	25
10305	611	0.60	0.65	0.065	0.158	0.010	6552	100.7		14.56	10.5		35
10306	612	0.65	0.70	0.190	0.173	0.014	17513	92.4		15.96	12.5	12.34	48
10307	613	0.70	0.75	0.427	0.207	0.025	40307	94.4		19.19	11.5	11.84	55
10308	614	0.75	0.80	0.437	0.242	0.026	37510	85.9		22.19	12.4	12.11	61
10309	615	0.80	0.85	0.415	0.275	0.024	35422	85.4		25.02	11.9		93
10310	616	0.85	0.90	0.392	0.307	0.029	31331	80.0		27.53	11.0	11.68	153
10311	617	0.90	0.95	0.378	0.337	0.028	31799	84.1		30.07	10.8		176
10312	618	0.95	1.00	0.351	0.365	0.032	26177	74.5		32.16	10.7	11.63	127
10313	619	1.05	1.10	0.377	0.425	0.029	29174	77.5		36.83	10.5	11.96	63
10314	620	1.15	1.20	0.348	0.481	0.029	25832	74.3		40.97	10.8	11.76	150

Table A2.18 Data for Hole 18

Location : Hamilton Hill near Hole 4
Drilled : 24-8-88 by Hand Auger

Sample Iso.#	jar #	top depth m	bottom depth m	Vac. Theta g/g	cum. water m	max. gypsum content g/g	[Cl-]-ss g/l	cum.Cl kg/m2	delta-2 ‰. SMOW	delta-18 ‰. SMOW	matric suct. kPa
10333	621	0.00	0.05	0.115	0.009	0.030	166.3	1.54	8.4	11.75	2520
10334	622	0.05	0.10	0.148	0.021	0.036	105.1	2.78	13.0	12.17	717
10335	623	0.10	0.15	0.133	0.032	0.031	85.0	3.68	12.9	12.04	676
10336	624	0.15	0.20	0.087	0.039	0.018	81.2	4.25	12.4		571
10337	625	0.20	0.25	0.066	0.044	0.014	68.4	4.61	10.0	11.01	640
10338	626	0.25	0.30	0.083	0.051	0.014	58.8	5.00	7.8		214
10339	627	0.30	0.35	0.185	0.065	0.023	54.7	5.81	6.4	9.31	59
10340	628	0.35	0.40	0.119	0.075	0.014	55.8	6.34	6.1		50
10341	629	0.40	0.45	0.122	0.085	0.013	51.8	6.85	4.8	9.18	41
10342	630	0.45	0.50	0.238	0.104	0.025	46.6	7.73	4.4		47
10343	631	0.50	0.55	0.299	0.128	0.032	44.2	8.79	3.6	8.95	51
10344	632	0.55	0.60	0.237	0.147	0.026	42.3	9.59	2.1		48
10345	633	0.60	0.65	0.146	0.158	0.015	38.7	10.05	1.2	8.25	28
10346	634	0.65	0.70	0.230	0.177	0.017	35.7	10.70	0.2		16
10347	635	0.70	0.75	0.345	0.204	0.026	33.9	11.64	-1.1	7.42	12
10348	636	0.75	0.80	0.373	0.234	0.029	26.1	12.42	-2.1		11
10349	637	0.80	0.85	0.339	0.261	0.026	32.0	13.28	-2.8	7.04	15
10350	638	0.85	0.90	0.420	0.295	0.040	31.7	14.35	-4.0		16
10351	639	0.90	0.95	0.397	0.327	0.039	30.8	15.33	-4.4	6.25	18
10352	640	0.95	1.00	0.184	0.341	0.015	32.7	15.81	-4.9		13
10353	641	1.05	1.10	0.318	0.392	0.029	29.4	17.30	-7.6	5.56	17
10354	642	1.15	1.20	0.411	0.458	0.046	27.9	19.14	-9.2		21
10355	643	1.25	1.30	0.431	0.527	0.047	27.5	21.03	-9.4	4.89	17
10356	644	1.35	1.40	0.480	0.604	0.046	26.4	23.06	-10.3		15
10357	645	1.45	1.50	0.424	0.672	0.042	24.5	24.72	-10.4	4.3	11
10358	646	1.50	1.55	0.284	0.694	0.025	24.3	25.28	-11.7		11
10359	647	1.55	1.60	0.148	0.706	0.012	25.7	25.58	-10.5	4.07	14
10360	648	1.65	1.70	0.241	0.745	0.019	20.2	26.36	-13.4		42
10361	649	1.75	1.80	0.337	0.799	0.027	16.5	27.25	-13.4	3.42	39
10362	650	1.85	1.90	0.286	0.844	0.018	17.9	28.07	-14.6		22
10363	651	1.95	2.00	0.256	0.885	0.017	16.0	28.73	-14.3		34
10364	652	2.15	2.20	0.080	0.911	0.005	17.6	29.17	-15.2		11
10365	653	2.35	2.40	0.084	0.938	0.004	17.1	29.63	-16.4		4
10366	654	2.55	2.60	0.292	1.031	0.016	12.7	30.82	-18.0		7
10367	655	2.70	2.80	0.288	1.123	0.016	14.1	32.12	-18.2		7

Table A2.19 Data for Hole 19

Location : Hermit Hill near Holes 1 and 17
Drilled : 29-3-88 by Hand Auger

Sample Iso.#	jar#	top depth m	bottom depth m	Oven Theta g/g	cum. water m	[Cl-]-ss g/l	Halite g/100g	cum.Cl kg/m2	delta-2 %. SMOW	matric suct. kPa
12885	660	0.00	0.10	0.068	0.011	337.2	1.3	3.7	25.9	51800
12886	661	0.10	0.15	0.112	0.020	173.0		5.2	29.8	16990
12887	662	0.15	0.20	0.153	0.032	112.3		6.6	27.4	4090
12888	663	0.20	0.25	0.166	0.045	102.4		8.0	21.4	1650
12889	664	0.25	0.30	0.193	0.061	88.7		9.3	17.8	1050
12890	665	0.30	0.35	0.204	0.077	85.2		10.7	15.6	980
12891	666	0.35	0.40	0.234	0.096	81.0		12.2	13.9	520
12892	667	0.40	0.50	0.198	0.128	80.2		14.8	11.7	400
12893	668	0.50	0.55	0.131	0.138	85.7		15.7		290
12894	669	0.55	0.60	0.109	0.147	88.3		16.4	15.8	140
12895	670	0.60	0.68	0.085	0.158	90.6		17.4		60
12896	671	0.68	0.73	0.618	0.207	99.5		22.3	17	50
12897	672	0.73	0.80	0.506	0.264	93.9		27.7		60
12898	673	0.80	0.85	0.510	0.304	93.8		31.5	15.6	60
12899	674	0.85	0.90	0.453	0.341	88.3		34.7		80
12900	675	0.90	0.95	0.452	0.377	86.6		37.8	16	110
12901	676	0.95	1.00	0.407	0.409	76.4		40.3		240
12902	677	1.00	1.07	0.360	0.450	79.6		43.5		600
12903	678	1.07	1.17	0.359	0.507	79.9		48.1		700
12904	679	1.17	1.35	0.360	0.611	74.4		55.8		400
12905	680	1.35	1.45	0.364	0.669	77.4		60.3		380
12906	681	1.45	1.55	0.338	0.723	79.5		64.6	17.3	460
12907	682	1.55	1.65	0.346	0.779	78.5		69.0		180
12908	683	1.65	1.75	0.344	0.834	79.9		73.4		120
12909	684	1.75	1.85	0.359	0.891	77.9		77.8		140
12910	685	1.85	1.95	0.351	0.947	78.3		82.2	16.5	190
12911	686	1.95	2.05	0.384	1.009	82.4		87.3		30
12912	687	2.05	2.15	0.343	1.064	80.7		91.7		250
12913	688	2.15	2.35	0.431	1.202	88.5		103.9		50
12914	689	2.35	2.45	0.437	1.272	94.4		110.5	14.9	30

Table A2.20 Data for Hole 20

Location : Hamilton Hill near Holes 4 and 18
Drilled : 29-3-88 by Hand Auger

Sample Iso.#	jar#	top depth m	bottom depth m	Oven Theta g/g	cum. water m	[Cl-]-ss g/l	Halite g/100g	cum.Cl kg/m2	delta-2 %. SMOW	delta-18 %. SMOW	matric suction kPa
12916	691	0.00	0.05	0.052	0.004	713.5	4.2	3.0	18.1	15.27	48220
12917	692	0.05	0.10	0.055	0.009	322.1	0.9	4.4	29.7		40180
12918	693	0.10	0.15	0.089	0.016	138.9		5.4	30.6		15150
12919	694	0.15	0.20	0.048	0.020	137.5		5.9	24.6	15.00	8760
12920	695	0.20	0.26	0.061	0.025	81.3		6.4	31.8	18.85	3770
12921	696	0.26	0.32	0.117	0.037	65.5		7.1	19.1	13.26	1170
12922	697	0.32	0.38	0.179	0.054	64.9		8.2	13.2	10.90	300
12923	698	0.38	0.44	0.115	0.065	61.6		8.9	12.5		190
12924	699	0.44	0.50	0.106	0.075	55.8		9.5	10.6	9.87	230
12925	700	0.50	0.56	0.113	0.086	49.6		10.0	7.9		150
12926	701	0.56	0.62	0.161	0.101	45.1		10.7	5.5	8.32	60
12927	702	0.62	0.68	0.162	0.117	44.4		11.4			50
12928	703	0.68	0.74	0.130	0.129	40.0		11.9	2.6	7.18	20
12929	704	0.74	0.80	0.088	0.138	37.2		12.2			10
12930	705	0.80	0.86	0.188	0.156	33.5		12.8	-0.2	6.14	10
12931	706	0.86	0.92	0.335	0.188	30.0		13.8			30
12932	707	0.92	0.98	0.214	0.208	32.2		14.4	-3.3		10
12933	708	0.98	1.08	0.288	0.255	29.9		15.8			20
12934	709	1.08	1.15	0.279	0.286	31.5		16.8	-6.0	5.32	10
12935	710	1.15	1.22	0.355	0.326	31.6		18.1			10
12936	711	1.22	1.35	0.425	0.414	27.3		20.5	-7.7		10
12937	712	1.35	1.48	0.431	0.504	26.7		22.9			20
12938	713	1.48	1.54	0.439	0.546	26.5		24.0	-9.0	4.14	10
12939	714	1.54	1.68	0.256	0.603	26.3		25.5			10
12940	715	1.68	1.78	0.090	0.618	21.5		25.8	-10.8		10
12941	716	1.78	1.90	0.174	0.651	20.1		26.5			20
12942	717	1.90	2.02	0.111	0.672	20.3		26.9	-9.7	3.25	30
12943	718	2.06	2.12	0.212	0.692	16.6		27.3			30
12944	719	2.12	2.20	0.134	0.710	14.1		27.5	-16.0	1.29	20
12945	720	2.20	2.32	0.111	0.731	23.8		28.0			10
12946	721	2.32	2.42	0.173	0.759	18.2		28.5	-14.8	1.43	3.9
12947	722	2.42	2.58	0.322	0.841	15.7		29.8	-17.0	1.09	4.9

Table A2.21 Data for Hole 21

Location: Hamilton Hill Flood Plain, near Hole 4
Drilled: 19-4-89 by Hand Auger

Sample Iso.#	jar#	top depth m	bottom depth m	Oven Theta g/g	cum. water m	soil Chloride [Cl-]-ss g/kg	cum.Cl g/l	cum.Cl kg/m2	delta-2 %. SMOW	matric suct. kPa
13433	723	0.00	0.05	0.095	0.008	0.128	1.3	0.0	-27.5	31
13434	724	0.05	0.10	0.205	0.024	0.274	1.3	0.0	-40.0	13
13435	725	0.10	0.15	0.138	0.035	0.433	3.1	0.1	-39.4	30
13436	726	0.15	0.20	0.101	0.043	0.866	8.5	0.1	-37.3	45
13437	727	0.20	0.25	0.070	0.049	1.702	24.2	0.3	-30.9	55
13438	728	0.25	0.30	0.073	0.055	4.563	62.4	0.6	-19.7	89
13439	729	0.30	0.35	0.102	0.063	6.869	67.6	1.2	-6.8	27
13440	730	0.35	0.40	0.110	0.072	8.796	80.0	1.9	1.8	15
13441	731	0.40	0.45	0.176	0.086	13.476	76.7	3.0	9.6	16
13442	732	0.45	0.50	0.273	0.107	19.600	71.8	4.5	13.0	
13443	733	0.50	0.55	0.238	0.126	15.710	66.1	5.8	13.2	18
13444	734	0.55	0.60	0.291	0.150	17.967	61.8	7.2		15
13445	735	0.60	0.65	0.112	0.159	6.966	62.4	7.8		13
13446	736	0.65	0.70	0.084	0.165	5.114	60.7	8.2	15.3	12
13447	737	0.70	0.75	0.092	0.173	5.403	59.0	8.6	11.7	13
13448	738	0.75	0.80	0.086	0.180	5.036	58.6	9.0		11
13449	739	0.80	0.85	0.177	0.194	8.403	47.6	9.7		10
13450	740	0.85	0.90	0.163	0.207	7.053	43.1	10.3	11.6	11
13451	741	0.90	0.95	0.133	0.217	5.035	38.0	10.7		15
13452	742	0.95	1.00	0.096	0.225	3.534	36.7	11.0	10.6	8
13453	743	1.05	1.10	0.086	0.232	2.739	31.9	11.2		7
13454	744	1.15	1.20	0.084	0.239	2.362	28.1	11.4		6
13455	745	1.25	1.30	0.113	0.248	2.881	25.5	11.6	6.8	9
13456	746	1.35	1.40	0.094	0.255	2.281	24.4	11.8		6
13457	747	1.45	1.50	0.331	0.282	6.672	20.2	12.3		22
13458	748	1.55	1.60	0.443	0.317	9.005	20.3	13.0	-1.9	28
13459	749	1.65	1.70	0.393	0.349	7.710	19.6	13.6		29
13460	750	1.75	1.80	0.449	0.385	8.927	19.9	14.4		27
13461	751	1.85	1.90	0.465	0.422	9.423	20.3	15.1	-1.3	34
13462	752	1.95	2.00	0.356	0.450	6.618	18.6	15.6	-1.8	

Table A2.22 Data for Hole 22

Location: Gibber Plain by bore GAB 11, slight rise
Drilled: 19-4-89 by Hand Auger

Sample Iso.#	jar#	top depth m	bottom depth m	Oven Theta g/g	Gypsum Content g/g	cum. water m	soil Chloride g/kg	[Cl-]-ss g/l	cum.Cl kg/m2	delta-2 %. SMOW	matric suct. kPa
13914	753	0.00	0.05	0.037	0.105	0.003	2.790	74.5	0.2	-9.1	
13915	754	0.05	0.10	0.047	0.118	0.007	9.420	200.8	1.0	-9.8	38000
13916	755	0.10	0.15	0.044	0.124	0.010	9.850	223.2	1.8	-12.1	66800
13917	756	0.15	0.20	0.060	0.180	0.015	17.500	291.1	3.2	-10.1	73800
13918	757	0.20	0.25	0.063	0.190	0.020	17.500	278.6	4.6	-8.3	
13919	758	0.25	0.30	0.066	0.205	0.025	19.000	286.2	6.1	-4.1	62200
13920	759	0.30	0.35	0.072	0.220	0.031	22.500	313.2	7.9	-0.6	73400
13921	760	0.35	0.40	0.096	0.310	0.039	26.800	278.0	10.0	-3.9	

Table A2.23 Data for Hole 23

Location: Gibber Plain near bore GAB6, slight rise
Drilled: 20-4-89 by Hand Auger

Sample Iso.#	jar#	top depth m	bottom depth m	Oven Theta g/g	Gypsum Content g/g	cum. water m	soil Chloride g/kg	[Cl-]-ss g/l	cum.Cl kg/m2	delta-2 %. SMOW	matric suct. kPa
13922	761	0.00	0.05	0.039	0.098	0.003	2.190	55.5	0.2	-5.9	68500
13923	762	0.05	0.10	0.065	0.144	0.008	6.710	102.6	0.7	-6.0	32300
13924	763	0.10	0.15	0.063	0.133	0.013	8.370	132.6	1.4	-5.8	15700
13925	764	0.15	0.20	0.071	0.158	0.019	11.700	163.9	2.3	-0.6	
13926	765	0.20	0.25	0.074	0.177	0.025	11.900	160.1	3.3	-0.5	56900
13927	766	0.25	0.30	0.079	0.184	0.031	12.600	159.6	4.3		
13928	767	0.30	0.35	0.073	0.162	0.037	10.200	140.1	5.1		68100
13929	768	0.35	0.40	0.100	0.220	0.045	13.200	131.7	6.1		
13930	769	0.40	0.45	0.109	0.232	0.054	13.300	122.3	7.2	5.1	62500
13931	770	0.45	0.50	0.118	0.241	0.063	13.400	113.4	8.3		
13932	771	0.50	0.55	0.121	0.244	0.073	13.800	114.1	9.4		58000
13933	772	0.55	0.60	0.155	0.448	0.085	11.000	71.0	10.3		
13934	773	0.60	0.65	0.159	0.420	0.098	12.300	77.4	11.3	7.0	56600
13935	774	0.65	0.70	0.158	0.426	0.111	12.100	76.6	12.2		
13936	775	0.70	0.75	0.154	0.422	0.123	11.400	74.0	13.1		48100
13937	776	0.75	0.80	0.151	0.416	0.135	9.900	65.4	13.9		
13938	777	0.80	0.85	0.157	0.390	0.148	11.700	74.7	14.9	7.5	48800
13939	778	0.85	0.90	0.169	0.430	0.161	11.700	69.2	15.8		
13940	779	0.90	0.95	0.173	0.475	0.175	10.200	58.9	16.6		46600
13941	780	0.95	1.00	0.174	0.433	0.189	11.400	65.7	17.5	5.0	

Table A2.24 Data for Hole 24

Location: Gibber Plain near bore GAB6, slight hollow
Drilled: 20-4-89 by Hand Auger

Sample Iso.#	jar#	top depth m	bottom depth m	Oven Theta g/g	Gypsum Content g/g	cum. water m	soil Chloride g/kg	[Cl-]-ss g/l	cum.Cl kg/m2	delta-2 ‰. SMOW	matric suct. kPa
13942	781	0.00	0.05	0.149	0.126	0.201	0.427	2.9	0.0	-3.7	1874
13943	782	0.05	0.10	0.168	0.118	0.214	0.788	4.7	0.1	-6.4	209
13944	783	0.10	0.15	0.168	0.142	0.228	2.470	14.7	0.3	-3.3	205
13945	784	0.15	0.20	0.139	0.154	0.239	8.070	57.9	0.9	2.2	303
13946	785	0.20	0.25	0.138	0.161	0.250	10.400	75.5	1.8	7.5	530
13947	786	0.25	0.30	0.123	0.160	0.260	9.300	75.4	2.5	10.3	
13948	787	0.30	0.35	0.134	0.193	0.271	8.940	66.7	3.2	11.2	2408
13949	788	0.35	0.40	0.176	0.380	0.285	8.760	49.8	3.9	12.7	
13950	789	0.40	0.45	0.199	0.450	0.301	8.740	44.0	4.6	13.6	1772
13951	790	0.45	0.50	0.207	0.483	0.317	8.470	41.0	5.3		
13952	791	0.50	0.55	0.202	0.455	0.333	8.790	43.4	6.0	12.6	3267
13953	792	0.55	0.60	0.212	0.574	0.350	7.170	33.8	6.6		
13954	793	0.60	0.65	0.222	0.490	0.368	9.900	44.5	7.4		1781
13955	794	0.65	0.70	0.237	0.411	0.387	13.500	57.1	8.5		
13956	795	0.70	0.75	0.230	0.493	0.405	11.000	47.8	9.3	9.9	354
13957	796	0.75	0.80	0.252	0.342	0.426	16.000	63.4	10.6		
13958	797	0.80	0.85	0.247	0.442	0.445	14.400	58.3	11.8	8.8	96.3
13959	798	0.85	0.90	0.267	0.381	0.467	15.600	58.3	13.0		
13960	799	0.90	0.95	0.268	0.455	0.488	13.700	51.0	14.1	6.0	68.6
13961	800	0.95	1.00	0.262	0.420	0.509	13.300	50.8	15.2		
13962	801	1.00	1.05	0.272	0.319	0.531	15.400	56.7	16.4	5.3	49.5
13963	802	1.05	1.10	0.271	0.354	0.553	14.000	51.7	17.5		
13964	803	1.15	1.20	0.266	0.467	0.574	10.500	39.5	18.4	3.8	58
13965	804	1.25	1.30	0.277	0.370	0.596	10.100	36.5	19.2		
13966	805	1.35	1.40	0.314	0.432	0.621	6.750	21.5	19.7	-3.6	42.6
13967	806	1.45	1.50	0.300	0.507	0.645	5.050	16.8	20.1	-12.2	
13968	807	1.50	1.60	0.255	0.411	0.686	4.270	16.7	20.8	-11.1	34.9
13969	808	1.60	1.65	0.243	0.204	0.705	4.840	20.0	21.2	-13.3	
13970	809	1.65	1.70	0.248	0.380	0.725	3.340	13.5	21.5	-16.1	37.8

APPENDIX 3

HYDROCHEMISTRY

iso #	short name	full name	date taken	Temp. deg C	field pH	Lab. pH	field EC uS/cm	Lab. EC uS/cm	Na+ mg/l
9788	GAB 1	GAB 1 (deep bores)	23/7/87			7.5		4820	1000
9789	GAB 2	GAB 2	23/7/87			7.7		4410	930
7490	GAB 6	GAB 6	29/10/86			7.8		3520	680
9791	GAB 6	GAB 6	23/7/87			7.3		3700	740
11239	GAB 6	GAB 6	30/3/88			7.9		3400	750
13422	GAB 6	GAB 6	19/4/89			8.0	3900	3340	802
7493	GAB 7	GAB 7	28/10/86		7.3	8.0		3230	620
9792	GAB 8	GAB 8	23/7/87			8.0		3360	720
7492	GAB 11	GAB 11	29/10/88			7.9		3320	620
9793	GAB 12A	GAB 12A	23/7/87			8.3		3570	750
9794	GAB 15A	GAB 15A	24/7/87			7.4		3620	750
11240	GAB 15A	GAB 15A	30/3/88			7.9		3410	770
11241	GAB 16	GAB 16	30/3/88			7.9		3350	760
9795	GAB 18	GAB 18	24/7/87			7.3		3540	720
13423	HH 1	HH1 Hermit Hill	19/4/89			8.1	3300	2860	711
9796	HH 4	HH 4 Hermit Hill	23/7/87			7.8		3180	690
11242	HH 4	HH 4 Hermit Hill	29/3/88			8.1		2890	690
10055	GAB 12S	GAB 12S (shallow bores)	Sept'87			6.9		78100	23300
10056	GAB 14S	GAB 14S	Sept'87			6.9		65100	19100
10057	GAB 15S	GAB 15S	Sept'87			6.7		60100	17300
10058	GAB 16S	GAB 16S	Sept'87			6.8		44100	11700
10059	GAB 18S	GAB 18S	Sept'87			7.1		64200	19300
7284	Hole 4	Hole 4 Hamilton Hill	9/9/86			9.6		62000	13200
7491	Hole 9	Hole 9	28/10/86			6.8		84200	19500
7494	Hole 12	Hole 12 Hamilton Hill	30/10/86		7.25	8.5		82100	22500
9797	Hole 16B	Hole 16B	23/7/87			7.2	100000	87500	31600
9798	Hole 18	Hole 18 Hamilton Hill	24/7/87			8.5	52000	50000	14000
11248	Hole 19	Hole 19	29/3/88			9.4	148000	162700	103900
13432	Hole 21	Hole 21 Hamilton Hill	19/4/89			10.0	56000	59600	17250
7486	NYG B.	New Year Gift Bore	29/10/86			7.6		3820	770
9799	Curdi.	Curdimurka Bore	24/7/87			7.8		4330	920
11243	Ven.B.	Venables Bore	30/3/88	25		7.8	5950	5420	1220
13425	Ven.B.	Venables Bore	19/4/89			7.8		5380	1225
11244	Ven.Spr.	Venables Spring	30/3/88			8.8	6050	5380	1190
13426	Ven.Spr.	Venables Spring	19/4/89			7.7		8250	1710
9800	HOF081	HOF 081 spring	24/7/87			8.8		4640	1030
11247	HOF081	HOF 081 spring	29/3/88			8.0		3960	970
13424	HOF081	HOF 081 spring	19/4/89			9.0	3600	3580	423
9801	Fred S.	Fred Springs East	24/7/87			7.5		3100	650
7487	Bl.Cup	Blanche Cup Spring	30/10/86		7.56	7.7		7210	1370
9802	Bl.Cup	Blanche Cup Spring	24/7/87			7.4		6980	1390
11245	Bl.Cup	Blanche Cup Spring	29/3/88			7.9		6930	1470
9803	Bubbler	The Bubbler Spring	24/7/87			7.2		5400	1110
11246	Bubbler	The Bubbler Spring	29/3/88			7.8		5160	1130
7488	Marg.Pool	Margaret R. Pool, Curdi.	30/10/86			8.1		7470	1430
13430	Marg.Pool	Margaret R. Pool, Curdi.	19/4/89			8.5	33500	34400	7437
9804	Marg.Pool	Margaret R.Pool,HamHill	24/7/87			9.3	43000	39500	11400
7489	Stu.Ck.P.	Stuart's Ck pool, Curdi.	30/10/86			9.3		2640	430
13429	Stu.Ck.P.	Stuart's Ck pool, Curdi.	19/4/89			7.8	25300	25000	5125
13431	L.Eyre S.	Lake Eyre South	19/4/89			7.7	21300	19100	4598
13427	SO Ck 1	Screechowl Ck (bfld rd)	19/4/89			8.3	50000	47000	10362
13428	SO Ck 2	Screechowl Ck (r'way rd)	19/4/89			7.6	940	900	122

iso #	short name	Na+ meq/l	Na+ % meq	K+ mg/l	K+ meq/l	K+ % meq	Ca++ mg/l	Ca++ meq/l	Ca++ % meq
9788	GAB 1	43.5	93.8	17	0.43	0.9	23	1.15	2.5
9789	GAB 2	40.5	93.2	19	0.49	1.1	23	1.15	2.6
7490	GAB 6	29.6	91.5	18	0.46	1.4	16	0.80	2.5
9791	GAB 6	32.2	90.0	23	0.59	1.6	27	1.35	3.8
11239	GAB 6	32.6	92.4	19	0.49	1.4	14	0.70	2.0
13422	GAB 6	34.9	91.5	35	0.90	2.3	14.8	0.74	1.9
7493	GAB 7	27.0	95.3	14	0.36	1.3	11	0.55	1.9
9792	GAB 8	31.3	95.1	17	0.43	1.3	14	0.70	2.1
7492	GAB 11	27.0	90.4	18	0.46	1.5	22	1.10	3.7
9793	GAB 12A	32.6	94.8	30	0.77	2.2	6	0.30	0.9
9794	GAB 15A	32.6	91.6	21	0.54	1.5	18	0.90	2.5
11240	GAB 15A	33.5	92.2	20	0.51	1.4	15	0.75	2.1
11241	GAB 16	33.1	92.0	20	0.51	1.4	14	0.70	1.9
9795	GAB 18	31.3	90.7	21	0.54	1.6	17	0.85	2.5
13423	HH 1	30.9	96.5	19	0.49	1.5	8.8	0.44	1.4
9796	HH 4	30.0	97.8	9	0.23	0.7	4	0.20	0.7
11242	HH 4	30.0	98.1	9	0.23	0.8	4	0.20	0.7
10055	GAB 12S	1013.5	85.2	212	5.42	0.5	1120	55.89	4.7
10056	GAB 14S	830.8	84.0	163	4.17	0.4	1360	67.86	6.9
10057	GAB 15S	752.5	83.3	165	4.22	0.5	1180	58.88	6.5
10058	GAB 16S	508.9	82.3	101	2.58	0.4	990	49.40	8.0
10059	GAB 18S	839.5	85.2	162	4.14	0.4	980	48.90	5.0
7284	Hole 4	574.2	99.4	132	3.38	0.6	0.6	0.03	0.0
7491	Hole 9	848.2	74.7	760	19.44	1.7	1150	57.39	5.1
7494	Hole 12	978.7	97.7	280	7.16	0.7	48	2.40	0.2
9797	Hole 16B	1374.5	88.3	273	6.98	0.4	910	45.41	2.9
9798	Hole 18	609.0	82.4	735	18.80	2.5	16	0.80	0.1
11248	Hole 19	4519.4	99.9	130	3.32	0.1	1	0.05	0.0
13432	Hole 21	750.3	98.2	496	12.68	1.7	4.7	0.23	0.0
7486	NYG B.	33.5	92.5	18	0.46	1.3	17	0.85	2.3
9799	Curdi.	40.0	93.9	19	0.49	1.1	19	0.95	2.2
11243	Ven.B.	53.1	92.2	17	0.43	0.8	33	1.65	2.9
13425	Ven.B.	53.3	92.4	19	0.49	0.8	29.1	1.45	2.5
11244	Ven.Spr.	51.8	93.0	17	0.43	0.8	17	0.85	1.5
13426	Ven.Spr.	74.4	85.3	30	0.77	0.9	81.5	4.07	4.7
9800	HOF081	44.8	97.0	15	0.38	0.8	9	0.45	1.0
11247	HOF081	42.2	97.2	14	0.36	0.8	9	0.45	1.0
13424	HOF081	18.4	93.5	8	0.20	1.0	14.3	0.71	3.6
9801	Fred S.	28.3	92.7	18	0.46	1.5	19	0.95	3.1
7487	Bl.Cup	59.6	88.8	37	0.95	1.4	68	3.39	5.1
9802	Bl.Cup	60.5	88.6	40	1.02	1.5	69	3.44	5.0
11245	Bl.Cup	63.9	89.5	36	0.92	1.3	69	3.44	4.8
9803	Bubbler	48.3	91.1	32	0.82	1.5	34	1.70	3.2
11246	Bubbler	49.2	91.8	29	0.74	1.4	32	1.60	3.0
7488	Marg.Pool	62.2	88.9	19	0.49	0.7	72	3.59	5.1
13430	Marg.Pool	323.5	82.3	99	2.53	0.6	590	29.44	7.5
9804	Marg.Pool	495.9	98.3	243	6.21	1.2	6	0.30	0.1
7489	Stu.Ck.P.	18.7	83.3	6	0.15	0.7	44	2.20	9.8
13429	Stu.Ck.P.	222.9	81.6	6	0.15	0.1	455	22.70	8.3
13431	L.Eyre S.	200.0	94.2	21	0.54	0.3	189	9.43	4.4
13427	SO Ck 1	450.7	82.5	65	1.66	0.3	830	41.42	7.6
13428	SO Ck 2	5.3	56.0	5	0.13	1.3	62.8	3.13	33.1

iso #	short name	Mg++ mg/l	Mg++ meq/l	Mg++ % meq	cations meq/l	SO4-- mg/l	SO4-- meq/l	SO4-- % meq	Cl- mg/l	Cl- meq/l
9788	GAB 1	16	1.32	2.8	46.4	117	2.44	5.3	940	26.51
9789	GAB 2	16	1.32	3.0	43.4	114	2.37	5.6	829	23.38
7490	GAB 6	18	1.48	4.6	32.3	108	2.25	6.8	670	18.90
9791	GAB 6	20	1.65	4.6	35.8	105	2.19	6.1	618	17.43
11239	GAB 6	18	1.48	4.2	35.3	99	2.06	5.8	650	18.33
13422	GAB 6	19.6	1.61	4.2	38.1	120	2.50	ERR	702	19.80
7493	GAB 7	5	0.41	1.5	28.3	6	0.12	0.4	610	17.21
9792	GAB 8	6	0.49	1.5	32.9	3	0.06	0.2	543	15.32
7492	GAB 11	16	1.32	4.4	29.8	138	2.87	8.5	600	16.92
9793	GAB 12A	9	0.74	2.2	34.4	81	1.69	4.6	609	17.18
9794	GAB 15A	19	1.56	4.4	35.6	81	1.69	4.7	620	17.49
11240	GAB 15A	19	1.56	4.3	36.3	99	2.06	5.8	640	18.05
11241	GAB 16	20	1.65	4.6	35.9	96	2.00	5.6	640	18.05
9795	GAB 18	22	1.81	5.2	34.5	99	2.06	6.0	616	17.38
13423	HH 1	2.2	0.18	0.6	32.0	2.4	0.05	0.2	534	15.06
9796	HH 4	3	0.25	0.8	30.7	1	0.02	0.1	516	14.55
11242	HH 4	2	0.16	0.5	30.6	3	0.06	0.2	550	15.51
10055	GAB 12S	1400	115.17	9.7	1190.0	6830	142.20	12.1	36400	1026.71
10056	GAB 14S	1050	86.38	8.7	989.2	4880	101.60	10.4	31000	874.40
10057	GAB 15S	1070	88.02	9.7	903.6	5300	110.35	12.4	27500	775.67
10058	GAB 16S	700	57.58	9.3	618.5	3920	81.61	12.5	20100	566.95
10059	GAB 18S	1130	92.96	9.4	985.5	6530	135.95	14.5	28300	798.24
7284	Hole 4	0.4	0.03	0.0	577.6	1540	32.06	4.6	16300	459.76
7491	Hole 9	2560	210.60	18.5	1135.6	6710	139.70	11.8	37000	1043.64
7494	Hole 12	160	13.16	1.3	1001.4	4550	94.73	9.1	33600	947.73
9797	Hole 16B	1580	129.98	8.3	1556.9	12100	251.92	16.2	46200	1303.13
9798	Hole 18	1340	110.23	14.9	738.8	1760	36.64	5.2	21500	606.44
11248	Hole 19	1	0.08	0.0	4522.9	27900	580.87	20.5	68500	1932.14
13432	Hole 21	7	0.58	0.1	763.8	2260	47.05	5.8	22540	635.77
7486	NYG B.	17	1.40	3.9	36.2	126	2.62	7.0	740	20.87
9799	Curdi.	14	1.15	2.7	42.6	51	1.06	2.5	836	23.58
11243	Ven.B.	29	2.39	4.1	57.5	200	4.16	6.3	1630	45.98
13425	Ven.B.	29.8	2.45	4.3	57.7	686	14.28	20.1	1410	39.77
11244	Ven.Spr.	32	2.63	4.7	55.7	230	4.79	7.8	1450	40.90
13426	Ven.Spr.	97.4	8.01	9.2	87.2	23.4	0.49	0.6	2310	65.16
9800	HOF081	7	0.58	1.2	46.2	9	0.19	0.4	729	20.56
11247	HOF081	5	0.41	0.9	43.4	1	0.02	0.0	750	21.15
13424	HOF081	4.3	0.35	1.8	19.7	23.4	0.49	1.2	668	18.84
9801	Fred S.	10	0.82	2.7	30.5	30	0.62	2.2	426	12.02
7487	Bl.Cup	39	3.21	4.8	67.1	288	6.00	8.6	1840	51.90
9802	Bl.Cup	40	3.29	4.8	68.2	285	5.93	9.0	1700	47.95
11245	Bl.Cup	38	3.13	4.4	71.4	280	5.83	7.4	2120	59.80
9803	Bubbler	27	2.22	4.2	53.0	114	2.37	4.6	1200	33.85
11246	Bubbler	25	2.06	3.8	53.5	110	2.29	3.6	1630	45.98
7488	Marg.Pool	45	3.70	5.3	70.0	449	9.35	12.6	2120	59.80
13430	Marg.Pool	456	37.51	9.5	393.0	2480	51.63	12.7	12460	351.45
9804	Marg.Pool	25	2.06	0.4	504.4	1580	32.90	6.4	14300	403.35
7489	Stu.Ck.P.	17	1.40	6.2	22.5	138	2.87	12.2	720	20.31
13429	Stu.Ck.P.	335	27.56	10.1	273.3	1820	37.89	13.5	8540	240.88
13431	L.Eyre S.	28.2	2.32	1.1	212.3	620	12.91	6.1	6980	196.88
13427	SO Ck 1	635	52.24	9.6	546.0	3070	63.92	11.2	17890	504.61
13428	SO Ck 2	11.1	0.91	9.6	9.5	134	2.79	29.0	167	4.71

iso #	short name	Cl- % meq	HCO3- mg/l	HCO3- meq/l	HCO3- % meq	Anions meq/l	An-Cat	TSS mg/l
9788	GAB 1	57.2	1060	17.37	37.5	46.3	-0.1	3195
9789	GAB 2	55.1	1020	16.72	39.4	42.5	-0.9	2974
7490	GAB 6	57.1	730	11.96	36.1	33.1	0.8	2240
9791	GAB 6	48.6	990	16.22	45.3	35.8	0.1	2552
11239	GAB 6	51.8	915	15.00	42.4	35.4	0.1	2489
13422	GAB 6	ERR	980	16.05				
7493	GAB 7	60.8	670	10.98	38.8	28.3	0.0	1936
9792	GAB 8	46.5	1070	17.54	53.3	32.9	0.0	2399
7492	GAB 11	49.9	860	14.09	41.6	33.9	4.0	2274
9793	GAB 12A	47.2	1070	17.54	48.2	36.4	2.0	2602
9794	GAB 15A	49.2	1000	16.39	46.1	35.6	-0.1	2547
11240	GAB 15A	50.7	945	15.49	43.5	35.6	-0.7	2534
11241	GAB 16	50.9	940	15.41	43.4	35.5	-0.5	2518
9795	GAB 18	50.3	921	15.09	43.7	34.5	0.0	2447
13423	HH 1	46.0	1070	17.60		32.7		
9796	HH 4	45.8	1050	17.21	54.1	31.8	1.1	2305
11242	HH 4	47.9	1025	16.80	51.9	32.4	1.8	2311
10055	GAB 12S	87.6	220	3.61	0.3	1172.5	-17.5	69482
10056	GAB 14S	89.4	130	2.13	0.2	978.1	-11.1	57683
10057	GAB 15S	87.4	85	1.39	0.2	887.4	-16.2	52600
10058	GAB 16S	87.2	110	1.80	0.3	650.4	31.9	37621
10059	GAB 18S	85.0	330	5.41	0.6	939.6	-45.9	56732
7284	Hole 4	66.1	12447	204	29.3	695.8	118.2	43620
7491	Hole 9	88.2	0	0.00	0.0	1183.3	47.7	67680
7494	Hole 12	90.9	0	0.00	0.0	1042.5	41.1	61138
9797	Hole 16B	83.7	90	1.47	0.1	1556.5	-0.4	92775
9798	Hole 18	85.8	3900	63.92	9.0	707.0	-31.8	43258
11248	Hole 19	68.3	19220	315.00	11.1	2828.0	-1694.8	219718
13432	Hole 21	78.5	7749	127.00	15.7	809.8	46.0	50307
7486	NYG B.	56.0	840	13.77	36.9	37.3	1.1	2528
9799	Curdi.	56.6	1040	17.04	40.9	41.7	-0.9	2923
11243	Ven.B.	69.4	980	16.06	24.3	66.2	8.7	4126
13425	Ven.B.	55.9	1040	17.06	24.0	71.1	13.4	4439
11244	Ven.Spr.	66.3	975	15.98	25.9	61.7	6.0	3930
13426	Ven.Spr.	81.5	875	14.35	17.9	80.0	-7.2	5127
9800	HOF081	45.0	1520	24.91	54.6	45.7	-0.6	3346
11247	HOF081	48.3	1380	22.62	51.6	43.8	0.4	3153
13424	HOF081	47.3	1250	20.50	51.5	39.8	20.2	2391
9801	Fred S.	42.1	970	15.90	55.7	28.5	-2.0	2152
7487	Bl.Cup	74.6	710	11.64	16.7	69.5	2.4	4352
9802	Bl.Cup	72.6	740	12.13	18.4	66.0	-2.2	4288
11245	Bl.Cup	75.6	825	13.52	17.1	79.1	7.7	4859
9803	Bubbler	66.2	910	14.91	29.2	51.1	-1.9	3451
11246	Bubbler	72.0	950	15.57	24.4	63.8	10.3	3928
7488	Marg.Pool	80.9	290	4.75	6.4	73.9	3.9	4425
13430	Marg.Pool	86.6	165	2.71	0.7	405.8	12.8	23687
9804	Marg.Pool	78.1	4880	79.98	15.5	516.2	11.8	32444
7489	Stu.Ck.P.	86.0	27	0.44	1.9	23.6	1.2	1382
13429	Stu.Ck.P.	85.6	165	2.70	1.0	281.5	8.1	16446
13431	L.Eyre S.	93.4	56	0.91	0.4	210.7	-1.6	12492
13427	SO Ck 1	88.3	185	3.02	0.5	571.5	25.5	33037
13428	SO Ck 2	49.0	130	2.11	22.0	9.6	0.1	632

iso #	short name	Si mg/l	H4SiO4 mg/l	Fe mg/l		P mg/l
9788	GAB 1	6.4	22		<1	
9789	GAB 2	6.7	23		<1	
7490	GAB 6		0			
9791	GAB 6	8.5	29		<1	
11239	GAB 6	7.1	24	<1	<1	
13422	GAB 6					
7493	GAB 7		0			
9792	GAB 8	7.7	26		<1	
7492	GAB 11		0			
9793	GAB 12A	13.8	47		<1	
9794	GAB 15A	11.1	38		<1	
11240	GAB 15A	7.7	26	<1	<1	
11241	GAB 16	8.1	28	<1	<1	
9795	GAB 18	9.1	31		<1	
13423	HH 1					
9796	HH 4	9.4	32		<1	
11242	HH 4	8.1	28	<1	<1	
10055	GAB 12S		0		<1	
10056	GAB 14S		0		<1	
10057	GAB 15S		0		<1	
10058	GAB 16S		0		<1	
10059	GAB 18S		0		<1	
7284	Hole 4		0			4.6
7491	Hole 9		0			
7494	Hole 12		0			
9797	Hole 16B	6.3	22		<1	
9798	Hole 18	2	7			1.5
11248	Hole 19	19.2	66	<1		32
13432	Hole 21					
7486	NYG B.		0			
9799	Curdi.	7.1	24		<1	
11243	Ven.B.	4.9	17	<1	<1	
13425	Ven.B.					
11244	Ven.Spr.	5.5	19	<1	<1	
13426	Ven.Spr.					
9800	HOF081	7.9	27		<1	
11247	HOF081	7.1	24	<1	<1	
13424	HOF081					
9801	Fred S.	8.4	29		<1	
7487	Bl.Cup		0			
9802	Bl.Cup	6.9	24		<1	
11245	Bl.Cup	6.1	21	<1	<1	
9803	Bubbler	7.1	24		<1	
11246	Bubbler	6.4	22	<1	<1	
7488	Marg.Pool		0			
13430	Marg.Pool					
9804	Marg.Pool	3	10			2.3
7489	Stu.Ck.P.		0			
13429	Stu.Ck.P.			<0.1		
13431	L.Eyre S.			<0.1		
13427	SO Ck 1			<0.1		
13428	SO Ck 2			<0.1		

APPENDIX 4

PUBLICATIONS RESULTING FROM THE WORK OF THIS THESIS TO FEBRUARY 1990

1 Journal Paper

Revesz, K., & Woods, P.H., *in press.* A method to extract soil water for isotopic analysis. J. Hydrol.

2 Conference Papers

Woods, P.H., Walker, G.R., & Allison, G.B., (submitted and accepted on condition of conference attendance). Estimating groundwater discharge at the southern margin of the Great Artesian Basin near Lake Eyre, South Australia. International Conference on Groundwater in Large Sedimentary Basins. Perth, Western Australia, July 1990 (Oral and written paper)

Woods, P.H., 1989. The use of azeotropic distillation to obtain water from natural materials for isotopic determinations. Third Aust. Stable Isotope Conf., Adelaide, 3-4 July 1989, Abstract Vol. (Oral paper)

Woods, P.H., Walker, G.R., and Allison, G.B., 1988. Evaporation from shallow water-tables fed by leakage from the Great Artesian Basin near Lake Eyre, South Australia. SLEADS Conference 1988, 8-16 August, Arkaroola, S. Aust. Abstracts, p81-84 (Oral paper)

Woods, P.H., 1988. Use of chloride and stable isotope soil profiles to estimate bare-surface evaporation from gibber plain near Lake Eyre, South Australia. Aust. Soil Sci. Soc. Inc., National Soils Conference, Canberra, 9-12 May 1988, Abstracts, p235 (Poster paper)

3 Technical Report

Woods, P.H., 1990. Extraction of water from porous media, especially gypseous media, for isotopic analysis - results of laboratory trials. CSIRO Div. Water Resources, Tech. Mem. 90/1

REFERENCES

A.G.C. (Australian Groundwater Consultants Pty Ltd), 1984. Olympic Dam water supply, wellfield 'A' investigation. unpublished report to Roxby Management Services

A.G.C., 1989. Olympic Dam Project - Report on GABROX simulation of measured drawdown and predicted future impact of pumping from wellfield A. unpublished report to Western Mining Corporation (Olympic Dam Operations)

Airey, P.L., Bentley, H., Calf, G.E., Davis, S.N., Elmore, D., Gove, H., Habermehl, M.A., Phillips, F., Smith J., & Torgersen, T., 1983. Isotope hydrology of the Great Artesian Basin, Australia. Int. Conf. on Groundwater and Man, Sydney. Aust. Water Res. Council Conf. Ser. No.8, vol **1**: 1-11

Airey, P.L., Calf, G.E., Cambell, B.L., Hartley, P.E., Roman, D., & Habermehl, M.A., 1979. Aspects of the isotope hydrology of the Great Artesian Basin, Australia. Isotope Hydrology 1978 (IAEA, Vienna) **1**: 205-219

Albertson, M. 1979. Carbon dioxide balance in the gas-filled part of the unsaturated zone, demonstrated at a podzol. (*in German*) Z. Pflanzenernaehr. Bodenkd., **142**: 39-56

Alcock, C.R., 1985. Alien and weedy plants. in Greenslade et al. (Eds), South Australia's Mound Springs, pp 49-50

Aldam, R., & Kuang, K.S., 1988. An investigation of structures controlling discharge of spring waters in the south western Great Artesian Basin. S. Aust. Dept. Mines & Energy, Rept. Bk. No. **88/4**, pp16

Allen, R.J., Bye, J.A.T., & Hutton, P., 1986. The 1984 filling of Lake Eyre South. Trans. R. Soc. S. Aust. **110**: 81-87

Allison, G.B., 1982. The relationship between ^{18}O and deuterium in water in sand columns undergoing evaporation. J. Hydrol. **55**: 163-169

Allison, G.B., 1988. A review of some of the physical, chemical and isotopic techniques available for estimating recharge. *in* Simmers, I., (Ed.), Estimation of Natural Groundwater Recharge. Riedel Pub. Co., Dordrecht. NATO ASI Series C, Vol. **222**: 49-72

Allison, G.B., & Barnes, C.J., 1983. Estimation of evaporation from non-vegetated surfaces using natural deuterium. Nature **301**: 143-145

Allison, G.B., & Barnes, C.J., 1985. Estimation of evaporation from the normally "dry" Lake Frome in South Australia. J. Hydrol. **78**: 229-242

Allison, G.B., Barnes, C.J., & Hughes, M.W., 1983. The distribution of deuterium and ^{18}O in dry soils 2. Experimental. J. Hydrol. **64**: 377-397

Allison, G.B., Barnes, C.J., & Hughes, M.W., 1984. Towards understanding of stabile [sic] isotope profiles in field soils. *in* Udlust et al., (Eds), Recent Investigations in the Unsaturated Zone, Proc. Intl. Symp., Munich, W. Germany, Oct. 1984. **1**: 293-301

Allison, G.B., Colin-Kaczala, C., Filly, A., & Fontes, J.Ch., 1987. Measurement of isotopic equilibrium between water, water vapour and soil CO in arid zone soils. J. Hydrol. **95**: 131-141

Allison, G.B., Gat, J.R., & Leaney, F.W.J., 1985. The relationship between deuterium and oxygen-18 delta values in leaf water. Chem. Geol. (Isot. Geosci. Sect.) **54**: 145-156

Allison, G.B., Greenwood, E.A.N., Hacker, J., Walker, C.D., Watson, G.D., Bartle, G.A., & Cook, P.G., in prep. Hydrologic inferences from evaporation rates in a saline, arid landscape in the Murray-Darling Basin, Australia, using land and airborne instruments.

Allison, G.B., & Hughes, M.W., 1983. The use of natural tracers as indicators of soil-water movement in a temperate semi-arid region. J. Hydrol. **60**: 157-173

Ambrose, G.J., & Flint, R.B., 1981. BILLA KALINA, South Australia. Explanatory Notes, 1:250 000 geological series, sheet SH/53-7. Geol Surv. S. Aust.

Armstrong, D., & Rowan, I., 1987. The development of a management strategy for the Olympic Dam Project water supply scheme. Proc. Int. Conf. on Groundwater Systems under Stress, Brisbane, Australia, 1986. Aust. Water Resources Council Conf. Ser. **13**: 363-372

Armstrong, J.D., & Barr, T.M., 1986. The Eromanga Basin, an overview of exploration and potential. Spec. Pubns. Geol. Soc. Aust. **12**: 25-38

Audibert, M, 1976. Progress report on the Great Artesian Basin hydrogeological study 1972-1974. Bur. Min. Res. (Aust.) Record **1976/5**

Australian Water Resources Council, 1976. Review of Australia's Water Resources. Aust. Govt. Pub. Service, Canberra. pp170

Ball, B.C., Harris, W., & Burford, J.R., 1981. A laboratory method to measure gas diffusion and flow in soil and other porous materials. J. Soil Sci. **32**: 323-333

Barnes, C.J., & Allison, G.B., 1983. The distribution of deuterium and oxygen-18 in dry soils: I. Theory. J. Hydrol. **60**: 141-156

Barnes, C.J., & Allison, G.B., 1984. The distribution of deuterium and oxygen-18 in dry soils: III. Theory for non-isothermal water movement. J. Hydrol. **74**: 119-135

Barnes, C.J., & Allison, G.B., 1988. Tracing of water movement in the unsaturated zone using stable isotopes of hydrogen and oxygen. J. Hydrol. **100**: 143-176

Barraclough, P.B., & Tinker, P.B., 1981. The determination of ionic diffusion coefficients in field soils. I. Diffusion coefficients in sieved soils in relation to water content and bulk density. J. Soil Sci. **32**: 225-236

Barraclough, P.B., & Tinker, P.B., 1982. The determination of ionic diffusion coefficients in field soils. II. Diffusion of bromide ions in undisturbed soil cores. J. Soil Sci. **33**: 13-24

Bath, A.H., Darling, W.G., George, I.A., & Mildowscki, A.E., 1987. $^{18}O/^{16}O$ and $^{2}H/^{1}H$ changes during progressive hydration of a Zechstein anhydrite formation. Geochim. Cosmochim. Acta **51**: 3113-3118

Benbow, M.C., 1983. COOBER PEDY, South Australia. Explanatory Notes, 1:250 000 geological series, sheet SH/53-6. Geol. Surv. S. Aust.

Bentley, H.W., Phillips, F.M., Davis, S.N., Habermehl, M.A., Airey, P.L., Calf, G.E., Elmore, D., Gove, H.E., & Torgersen, T., 1986. Chlorine 36 dating of very old groundwater 1. The Great Artesian Basin, Australia. Water Resour. Res. **22**: 1991-2001

Bhadoria, P.B.S., & Datta, B., 1984. Diffusivity of chloride as influenced by soil physical properties. J. Nuclear Agric. Biol. **13**: 21-23

Bidwell, G.L. & Sterling, W.F., 1925. J. industr. Engng Chem. **17**: 147

Bigeleisen, J., Perlman, M.L., & Prosser, H.C., 1952. Conversion of hydrogenic materials to hydrogen for isotopic analysis. Anal. Chem. **24**: 1356-57

Black, R.W., & Woolard, C.A., 1985. Measurement of flows from the mound springs of the Great Artesian Basin. Int. Assoc. Hydraulic Res., 21st Cong., Aug. 1985, Melbourne, Australia., Preprints. Inst. Eng. Aust. Nat. Conf. Pub. **85/13**: 89-95

Black, T.A., Gardner, W.R., & Thurtell, G.W., 1969. The prediction of evaporation, drainage, and soil water storage for a bare soil. Soil Sci. Soc. Amer. Proc. **33**: 655-660

Bolt, G.H., & de Haan, F.A.M., 1979. Chapter 7. Anion exclusion in soil. *in* Bolt, G.H. (Ed.) Soil Chemistry B: physio-chemical models. Elsevier Scientific Pub. Co. New York pp233-257

Bond, W.J., Gardiner, B.N., & Smiles, D.E., 1982. Constant-flux absorption of a tritiated calcium chloride solution by a clay with anion exclusion. Soil Sci. Soc. Am. J. **46**: 1133-1137

Bonython, C.W., 1956. The salt of Lake Eyre - its occurrence in Madigan Gulf and its possible origin. Trans. R. Soc. S. Aust. **79**: 66-92

Bowler, J.M., Huang Qi, Chen Kezao, Head, M.J., & Yuan Baoyin, 1986. Radiocarbon dating of playa-lake hydrologic changes: examples from northwestern China and central Australia. Palaeogeogr., Palaeoclimatol., Palaeoecol. **54**: 241-260

Bowler, J.M., & Magee, J.W., 1988. Lake Frome: stratigraphy, facies analysis and evolution of a major playa. SLEADS 88 Conference, 8-16 Aug. 1988, Arkaroola, S. Aust. Abstracts, 4-6

Bradbury, M.H., & Green, A., 1985. Measurement of important parameters determining aqueous phase diffusion rates through crystalline rock matrices. J. Hydrol. **82**: 39-55

Bresler, E., (1973). Anion exclusion and coupling effects in nonsteady transport through unsaturated soils : I. Theory. Soil Sci. Soc. Am. Proc. **37**: 663-669

Brunel, J.-P., Walker, G., Dighton, J., Walker, C., & Allison, G., 1989. Can mallee-form eucalyptus extract saline groundwater? Third Aust. Stable Isotope Conf., 3-4 July, 1989, Adelaide. Abstract Volume

Buckingham, E., 1904. Contributions to our knowledge of the aeration of soils, US Dept. Agric. Bur. Soils Bull. No. **25**

Bureau of Meteorology (Aust.), 1989a. Monthly Rainfall Review Australia, March 1989.

Bureau of Meteorology (Aust.), 1989b. Monthly Weather Review South Australia, March 1989

Calf, G.E., & Habermehl, M.A., 1984. Isotope hydrology and hydrochemistry of the Great Artesian Basin, Australia. Isotope Hydrology 1983 (Proc. Symp. Vienna, I.A.E.A.) 397-413

Carslaw, H.S., & Jaeger, J.C., 1959. Conduction of Heat in Solids (2nd Ed.). Clarendon Press, pp510

Chen, X.Y., & Bowler, J.M., 1988. Climate and groundwater-surface dynamics in the evolution of Lake Amadeus, a Central Australian playa. SLEADS Conference 88, 8-16 Aug. 1988, Arkaroola, S. Aust. Abstracts,
p11-12

Christmann, D., 1986. Grundwasser-Verdunstung aus unbewachsenen Böden ostsaharischer Senken anhand von Deuterium und Sauerstoff-18 in der Bodenfeuchte. Dissertation, Fakultät Physik und Astronomie, Universitat
Heidelberg.

Christmann, D., & Sonntag, C., 1987. Groundwater evaporation from East-Saharian depressions by means of stable isotopes in soil moisture. Proc. Intl. Symp. on the use of isotopic techniques in water resources development, Austria, 1987. IAEA. Vienna, 189-204

Cockshell, C.D., 1988. Great Artesian Basin groundwater study, geophysical progress report 1988. S. Aust. Dept. Mines Energy Rept. Bk. No. **88/91** 15pp

Coleman, M.L., Shepherd, T.J., Durham, J.J., Rouse, J.E., & Moore, G.R., 1982. Reduction of water with zinc for hydrogen analysis. Anal. Chem. **54**: 993-995

Colin Kaczala, C., 1986. Profils isotopiques (^{18}O et ^{2}H) des fluides (eau liquide, vapeur et CO2) de la zone non saturée sous climat desertique: application a l'évaluation de l'évaporation des nappes libres au Sahara
nord-occidental. unpub. thesis, Univ. Paris-Sud, France.

Collin, M. & Rasmuson, A., 1988a. Comments on "Diffusion of radon through soils: a pore distribution model". Soil Sci. Soc. Am. J. **52**: 897-898

Collin, M., & Rasmuson, A., 1988b. A comparison of gas diffusivity models for unsaturated porous media. Soil Sci. Soc. Am. J. **52**: 1559-1565

Cook, P.G., Hughes, M.W., Walker, G.R., & Allison, G.B., 1989. The calibration of frequency-domain electromagnetic induction meters and their possible use in recharge studies. J. Hydrol. **107**: 251-265

Cook, P.G., Jolly, I.D., Hughes, M.W., Beech, T.A., & Fiebiger, C.T., 1990. Recharge studies in the Western Murray Basin: 5. Results of drilling programs at Maggea, Melevale and Boolgun. C.S.I.R.O. (Aust.) Div. Water Resources Tech. Mem. **90/**

Coplen, T.B., 1988. Normalization of oxygen and hydrogen isotope data. Chem. Geol. (Isot. Geosci. Sect.) **72**: 293-297

Craig, H., 1961a. Isotopic variations in meteoric waters. Science **133**: 1702-3

Craig, H., 1961b. Standard for reporting concentrations of deuterium and oxygen-18 in natural waters. Science **133**: 1833-1834

Craig, H., & Gordon, L., 1965. Deuterium and oxygen-18 variations in the ocean and marine atmosphere. Proc. Conf. Stable Isot. in Oceanog. Studies & Paleotemps., Lab. Geol. Nucl., Pisa, pp 9-130

Crank, J., 1975. The Mathematics of Diffusion. (2nd Ed.) Clarendon Press, Oxford. pp414

Currie, J.A., 1970. Movement of gases in soil respiration, *in* Sorption and Transport Processes in Soils, SCI Monogr. vol. 37. Rothamsted Experimental Station, Harpenden, England

Cuthbertson, A.Z., Dighton, J.C., & Siebert, B.D., 1989. A modified distillation technique for the recovery of isotopes from biological fluids. Appl. Radiat. Isot. **40**: 545-546

Darling, W.G., & Bath, A.H., 1988. A stable isotope study of recharge processes in the English Chalk. J. Hydrol. **101**: 31-46

Davidson, M.R., & Airey P.L., 1982. The effect of dispersion on the establishment of a palaeoclimatic record from groundwater. J. Hydrol. **58**: 131-147

de Jong, E., & Schappert, H.J.V., 1972. Calculation of soil respiration and activity from CO2 profiles in the soil. Soil Sci. 113: 328-333

Dewar, W.A., & McDonald, P., 1961. Determination of dry matter in silage by distillation with toluene. J. Sci. Food Agric. **12**: 790-795

Dincer, T., Al-Mugrin, A., & Zimmermann, U., 1974. Study of the infiltration and recharge through the sand dunes in arid zones with special reference to the stable isotopes and thermonuclear tritium. J. Hydrol. **23**: 79-109

Drever, J.I., 1982. The Geochemistry of Natural Waters. Prentice-Hall Inc., Englewood Cliffs N.J. U.S.A. 388pp

Draper, J.J., & Jensen, A.R., 1976. The geochemistry of Lake Frome, a playa lake in South Australia. BMR J. Aust. Geol. Geophys. **1**: 83-104

Dulhunty, J.A., 1983. Lake Dieri and its Pleistocene environment of sedimentation, South Australia. J. Proc. R. Soc. New S. Wales **116**: 11-15

Dulhunty, J.A., 1987. Salina bed instability and geodetic studies at Lake Eyre, South Australia. Trans. R. Soc. S. Aust. **111**: 183-188

Epstein, S., & Mayeda, T., 1953. Variation of O content of waters from natural sources. Geochim. Cosmochim. Acta **4**: 213-224

Eriksson, E., & Khunakasem, V., 1969. Chloride concentration in groundwater, recharge rate and rate of deposition of chloride in the Israel Coastal Plain. J. Hydrol. **7**: 178-197

Exon, N.F., & Senior, B.R., 1976. The Cretaceous of the Eromanga and Surat Basins. BMR Aust. J. Geol. Geophys. **1**: 33-50

Farrington, P., Greenwood, E.A.N., Bartle, G.A., Beresford, J.D., & Watson, G.D., 1989. Evaporation from Banksia woodland on a groundwater mound. J. Hydrol. **105**: 173-186

Fick, A., 1855. Annln. Phys. **170**: 59

Folk, R.L., 1980. Petrology of Sedimentary Rocks. Hemphill, Austin, USA 184pp

Fontes, J.C., 1965. Factionnement isotopique dans l'eau de crystallization de sulfate de calcium. Geol. Rund. **55**: 172

Fontes, J.C., & Gonfiantini, R., 1967. Fractionnment isotopique de l'hydrogene dans l'eau de crystallization du gypse. Compes. Rend. Acad. Sci. Paris **265**, 4-6

Fontes, J. Ch., Yousfi, M., & Allison, G.B., 1986. Estimation of long-term, diffuse groundwater discharge in the northern Sahara using stable isotope profiles in soil water. J. Hydrol. **86**: 315-327

Forbes, B.G., 1986. Margin of the Eromanga Basin in South Australia: a review. Spec. Publs. Geol. Soc. Aust. **12**: 85-95

Forbes, B.G., and Callen, R.A., 1981. CURDIMURKA 1:250 000 Preliminary geological map. geol. Surv. S. Aust. plan no. 80-372

Frakes, L.A., Burger, D., Apthorpe, M., Wiseman, J., Dettmann, M., Alley, N., Flint, R., Gravestock, D., Ludbrook, N., Backhouse, J., Skwarko, S., Scheibnerova, V., McMinn, A., Moore, P.S., Bolton, B.R., Douglas, J.G.,
Christ, R., Wade, M., Molnar, R.E., McGowran, B., Balme, B.E., & Day, R.A., 1987. Australian Cretaceous shorelines, stage by stage. Palaeogeogr., Palaeoclimatol., Palaeoecol. **59**: 31-48

Freeze, R.A., & Cherry, J.A., 1979. Groundwater. Prentice-Hall Inc., N.J. U.S.A.

Freytag, T.B., 1966. Proposed rock units for marine Lower Cretaceous sediments in the Oodnadatta region of the Great Artesian Basin. Q. Geol. Notes, Geol. Surv. S. Aust., **18**: 3-7

Friedman, I., & O'Neil, J.R., 1977. Data of Geochemistry (6th Ed.), Chapter KK. Compilation of stable isotope fractionation factors of geochemical interest. U.S. Geol. Surv. Prof. Paper **440-KK**

Gardner. W.R., 1958. Some steady-state solutions of the unsaturated moisture flow equation with application to evaporation from a water table. Soil Sci. **85**: 228-232

Gardner, W.R., & Firman, M., 1958. Laboratory studies of evaporation from soil columns in the presence of a water table. Soil Sci. **85**: 244-249

Godfrey, J.D., 1962. The deuterium content of hydrous minerals from the East-Central Sierra Nevada and Yosemite National Park. Geochim. Cosmochim. Acta **26**: 1215-1245

Gonfiantini, R., 1978. Standards for stable isotope measurements in natural compounds. Nature **271**: 534-536

Gonfiantini, R., 1984. Advisory group meeting on stable isotope reference samples for geochemical and hydrological investigations. Vienna, 19-21 Sept. 1983. Report to the Director, International Atomic Energy Agency.

Gonfiantini, R., & Fontes, J.C., 1963. Oxygen isotopic fractionation in the water of crystallization of gypsum. Nature **200**; 644-646

Grable, E.C., & Siemer, E.G., 1968. Effects of bulk density, aggregate size, and soil water suction on oxygen diffusion, redox potentials, and elongation of corn roots. Soil Sci. Soc. Am. Proc. **32**: 180-186

Gravestock, D.I., Moore, P.S., & Pitt, G.M., (Eds), 1986. Contributions to the geology and hydrocarbon potential of the Eromanga Basin. Geol. Soc. Aust. Spec. Pub. No. **12**

Greacen, E.L., Walker, G.R., & Cook, P.G., 1987. Evaluation of the filter paper method for measuring soil water suction. Proc. Intl. Conf. Measurement of Soil & Plant Water Status, Utah State Univ., **1**: 137-143

Greacen, E.L., Walker, G.R., & Cook, P.G., 1989. Procedure for the filter paper method for measuring soil water suction. C.S.I.R.O. Div. Soils Div. Rep. No. **108**

Greenslade, J., Joseph, L., & Reeves, A., (Eds), 1985. South Australia's Mound Springs. Nature Conservation Soc. of S. Aust. Inc., Hyde Park Press, Adelaide. pp100

Greenwood, E.A.N., & Beresford, J.D., 1979. Evaporation from vegetation in landscapes developing secondary salinity using the ventilated-chamber technique, I. Comparative transpiration from juvenile Eucalyptus above
saline groundwater seeps. J Hydrol. **42**: 89-95

Greenwood, E.A.N., Klein, L., Beresford, J.D., & Watson, G.D., 1985. Differences in annual evaporation between grazed pasture and eucalyptus species in plantations on a saline farm catchment. J. Hydrol. **78**: 261-278

Greminger, P.J., Sud., Y.K., & Nielsen, D.R., 1985. Spatial variability of field-measured, soil-water characteristics. Soil Sci. Soc. Amer. J. **49**: 1075-1082

Gutteridge, Haskins & Davey Pty Ltd, (1970). Murray Valley Salinity Investigation. River Murray Commission, Canberra, Aust. 2 volumes.

Gvirtzman, H., Ronen, D., & Margaritz, M., 1986. Anion exclusion during transport through the unsaturated zone. J. Hydrol. **87**; 267-283

Habermehl, M.A., 1980. The Great Artesian Basin, Australia. BMR J. Aust. Geol. Geophys. **5**: 9-38

Habermehl, M.A., 1982. Springs of the Great Artesian Basin, Australia - their origin and nature. Bur. Min. Res. (Aust.) Report **235**, pp50

Habermehl, M.A., 1983. Hydrogeology and hydrochemistry of the Great Artesian Basin, Australia. Int. Conf. on Groundwater and Man, Sydney. Aust. Water. Resources Council Conf. Ser. No. **8**, vol **3**: 83-98

Habermehl, M.A., & Seidel, G.E., 1979. Groundwater resources of the Great Artesian Basin. *in* Hollsworth, E.G., & Woodcock, J.T., (Eds), Land and Water Resources of Australia, Proc. 2nd Invitation Symp. Sydney, Aust., 30 Oct. - 1 Nov. 1978, 71-93

Hacker, J.M., 1989. Some impressions from recent flights over Lake Torrens and Lake Eyre. The Hydrological Soc. S. Aust., Newsletter No. **60**: 8-9, June 1989

Hacker, J.M., & Schwerdtfeger, P., 1988. The F.I.A.M.S. research aircraft system description. Flinders Inst. Atm. Marine Sci., Flinders Univ. S. Aust. Tech. Report No. **8**

Hardie, L.A., 1967. The gypsum-anhydrite equilibrium at one atmosphere pressure. Amer. Mineralogist **52**: 171-200

Harned, H.S., & Owen, B.B., 1958. The Physical Chemistry of Electrolytic Solutions. Am. Chem. Soc. Monog. Ser. No. **137**, (3rd Ed.). Reinhold, New
York

Harris, K.R., Hertz, H.G., & Mills, R., 1978. The effect of structure on self- diffusion in concentrated electrolytes: relationship between the water and ionic self-diffusion coefficients for structure-forming salts. J. Chim. Phys. **75**(4): 391-396

Harris, K.R., & Woolf, L.A., 1980. Pressure and temperature dependence of self-diffusion coefficient of water and oxygen-18 water. J.C.S. Faraday I, **76**: 377-385

Hendry, M.J., 1983. Groundwater recharge through a heavy-textured soil. J. Hydrol. **63**: 201-209

Herczeg, A.L., Torgersen, T., Chivas, A.R., & Habermehl, M.A., in press. Geochemistry of groundwaters from the Great Artesian Basin, Australia. J Hydrol.

Hira, G.S., & Singh, N.T., 1977. Observed and predicted rates of phosphorus diffusion in soils of varying bulk density and water content. Soil Sci. Soc. Am. J. **41**: 537-540

Hobbs, T.C., 1988. The estimation of recharge through unsaturated porous media using the flux of deuterium. unpub. M.S. thesis, New Mexico Inst. Mining & Tech. pp122

Holmes, J.W., Williams, A.F., Hall, J.W., & Henschke, C.J., 1981. Measurements of discharges from some of the mound springs in the desert of northern South Australia. J. Hydrol. **49**: 329-339

Horita, J., 1988. Hydrogen isotope analysis of natural waters using an H_2 -water equilibration method: a special implication to brines. Chem. Geol. (Isot. Geosci. Sect.) **72**: 89-94

Horita, J., & Gat, J.R., 1988. Procedure for the hydrogen isotope analysis of water from concentrated brines. Chem. Geol. (Isot. Geol. Sect.) **72**: 85-88

Hughes, M.W., & Allison, G.B., 1984. Deuterium and oxygen 18 in Australian rainfall. C.S.I.R.O. (Aust.) Div. Soils, Tech. Pap. **46**, pp13

Hughes, M.W., Cook, P.G., Jolly, I.D., Beech, T.A., & Fiebiger, C.T., 1988. Recharge studies in the Western Murray Basin. 1. Results of a drilling program at Borrika. C.S.I.R.O. (Aust.) Div. Water Resources Tech. Mem. **88/10**

Jacobson, G., & Jankowski, J., 1989. Groundwater-discharge processes at a Central Australian Playa. J. Hydrol. **105**: 275-295

James, R.V., & Rubin, J., 1986. Transport of chloride ion in a water-unsaturated soil exhibiting anion exclusion. Soil Sci. Soc. Amer. J. **50**: 1142-1149

Jessup, R.W., 1960a. An introduction to the soils of the south-eastern portion of the Australian arid zone. J. Soil. Sci. **11**: 92-105

Jessup, R.W., 1960b. The lateritic soils of the south-eastern portion of the Australian arid zone. J. Soil Sci. **11**: 106-113

Jessup, R.W., & Norris, R.M., 1971. Cainozoic stratigraphy of the Lake Eyre Basin and part of the arid region lying to the south. J. Geol. Soc. Aust. **18**: 303-331

Johnson, R.L., Cherry, J.A., & Pancow., J.F., 1989. Diffusive contaminant transport in natural clay: a field example and implication for clay-lined waste disposal sites. Environ. Sci. Technol. **23** (3): 340-349

Johnston, C.D., 1987. Water and solute movement in deeply weathered lateritic soil profiles near Collie, Western Australia. M.Sc. thesis, Dept. Soil Sci. & Plant Nutrition, Fac. of Agric., Univ. W Aust.

Jolly, I.D., 1988. Non-irrigated salinity in South Australia: options for treatment. S. Aust. Dept. Agric. Tech. Rep. No. **124**

Jolly, I.D., 1989. Investigation into the potential for increased stream salinisation in the Darling Basin. Aust. Centre for Research in Groundwater Processes, Rep. No. **10**

Jolly, I.D., Cook, P.G., Allison, G.B., & Hughes, M.W., 1989. Simultaneous water and solute movement through an unsaturated soil following an increase in recharge. J. Hydrol. **111**: 391-396

Jost, W., 1960. Diffusion in Solids, Liquids, Gases. Academic Press, New York

Jusserand, C., 1980. Extraction de l'eau interstitielle des sediments et des sols. Comparaison des valeurs de l'oxygène 18 par differentes methodes, primiers resultats. Catena **7**: 87-96

Kalil, E.K., & Goldhaber, M., 1973. A sediment squeezer for removal of pore waters without air contact. J. Sedim. Petrol. **43**: 553-557

Kalisz, P.J., Stringer, J.W., Volpe J.A., & Clark, D.T., 1988. Trees as monitors of tritium in soil water. J. Environ. Qual. **17**: 62-70

Kemper, W.D., 1986. 43. Solute Diffusivity. Methods of Soil Analysis, Part 1 Physical and Mineralogical Methods. Agronomy Monograph no. **9** (2nd Ed.): 1007-1024

Ker, D.S., 1966. The hydrology of the Frome Embayment in South Australia. Geol. Surv. S. Aust. Rep. Inv. **27**, pp98

Kinhill Stearns, 1984. Olympic Dam Project, supplementary environmental studies, mound springs. unpublished report to Roxby Management Services

Kinsman, D.J.J., 1976. Evaporites: relative humidity control of primary mineral facies. J. Sed. Petrol. **46**: 273-279

Kotwicki, V., 1986. Floods of Lake Eyre. Govt. Printer, Adelaide. pp99

Kreamer, D.K., Weeks, E.P., & Thompson, G.M., 1988. A field technique to measure the tortuosity and sorption-affected porosity for gaseous diffusion of materials in the unsaturated zone with experimental results from near Barnwell, South Carolina. Water Resour. Res. **24**: 331-341

Krieg, G.W., 1986. Stratigraphy and tectonics of the Dalhousie Anticline, southwest Eromanga Basin. Spec. Pubn. Geol. Soc. Aust. **12**:, 175-182

Kunze, R.J., & Kirkham, D., 1961. Deuterium and the self-diffusion coefficient of soil moisture. Soil Sci. Soc. Am. Proc. **25**: 9-12

Kunze, R.J., & Kirkham, D., 1964. Capillary diffusion and self diffusion of soil water. Soil. Sci. **97**: 145-151

Lai, S.-H., Tiedje, J.M., & Erickson, A.E., 1976. In situ measurement of gas diffusion coefficient in soil. Soil Sci. Soc. Am. Proc. **40**: 3-6

Langston, C.W., Irvin, H., Gordon, C.H., Bouma, C., Wiseman, H.G., Melin, C.G., Moore, L.A., & McCalmont, J.R., 1958. Microbiology and chemistry of grass silage. U.S. Dept. Agric., Tech. Bull. No. **1187**

Laut, P., Keig, G., Lazarides, M. Loffler, E., Margules, C., Scott, R.M, & Sullivan, M.E., (Compilers), 1977. Environments of South Australia, Province 8, Northern Arid. C.S.I.R.O. (Aust.) Div. Land Use Research, Canberra

Leaney, F.W., Osmond, C.B., Allison, G.B., & Ziegler, H., 1985. Hydrogen- isotope composition of leaf water in C3 and C4 plants: its relationship to the hydrogen-isotope composition of dry matter. Planta **164**: 215-220

Lewis, C.W., 1983. Practical Sedimentology. Hutchinson Ross, Penn., USA

Litaor, M.I., 1988. Review of soil solution samplers. Water Resour. Res. **24**: 727-733

Lock, D.E., 1988. The genesis of epsomite in soils of the western Lake Eyre Basin. Abstracts, SLEADS Conference 1988, 8-16 Aug., Arkaroola S. Aust., Abstracts, p52-55

Ludbrook, N.H., 1966. Cretaceous biostratigraphy of the Great Artesian Basin in South Australia. Geol. Surv. S. Aust. Bull. **40**: pp223.

Ludbrook, N.H., 1980. A Guide to the Geology and Mineral Resources of South Australia. Dept. Mines & Energy, S. Aust., Govt. Printer, 230pp

Lyon, G.L., 1978. The stable isotope geochemistry of gypsum, Miers Valley, Antarctica. New Zealand Dept. Sci. Ind. Res., Bull. **220**: 97-103

Magee, J.W., Bowler, J.M., Lock, D.E., & Williams, D.G.L., 1988. Lake Eyre: stratigraphy, sedimentology and late Quaternary history. SLEADS Conference 1988, 8-16 Aug., Arkaroola, S. Aust., Abstracts, p61-64

Majoube, M., 1971. Fractionnement en oxygène 18 et en deutérium entre l'eau et sa vapeur. J.Chim. Phys. **68**: 1423-1436

Marshall, T.J., 1959. The diffusion of gases through porous media. J. Soil Sci. **10**: 79-82

Marshall, T.J., & Holmes, J.W., 1979. Soil Physics. Cambridge University Press, Cambridge. pp345

Marshall, T.J., & Holmes, J.W., 1988. Soil Physics. (2nd Ed.) Cambridge University Press, Cambridge. pp374

Mason, M.G., 1975. Groundwater near Giddi Giddinna Creek, northeast of Coober Pedy, South Aust. Q. Notes, Geol Surv. S. Aust. **56**: 2-6

McKinnon, J., 1987. Roxby water use concern. Aust. Env. Management Review Newsletter, 1987-02, **2**(16): 8-9

McKirdy, D.M., Emmett, J.K., Mooney, B.A., Cox, R.E., & Watson, B.L., 1986. Organic geochemical facies of the Cretaceous Bulldog Shale, Western Eromanga Basin, South Australia. Spec. Pubn. Geol. Soc. Aust. **12**: 287-304

McNally, G.H., 1980. Geological investigations, Tarcoola - Alice Springs railway. Geol. Surv. S. Aust. Rep. Inv. **52**

McNeill, J.D., 1986. Rapid, accurate mapping of soil salinity using electromagnetic ground conductivity meters. Tech. Note **TN-18**, Geonics Ltd, Ont.

Meisheri, M.B., & Deb, .L., 1986. Effect of bulk density and moisture tension on transmission factor of three light textured soils. J. Ind. Soc. Soil Sci. **34**: 458-463

Menenti, M., 1984. Physical aspects and determination of evaporation in deserts applying remote sensing data. Institut voor Cultuurtechniek en Waterhuishounding, Wageningen, The Netherlands. pp202

Merlivat, L., 1978. Molecular diffusivities of $H_2{}^{16}O$, $HD^{16}O$, and $H_2{}^{18}O$ in gases. J. Chem. Phys. **69**(6): 2864-2871

Millington, R.J., 1959. Gas diffusion in porous media. Science **130**: 100-102

Millington, R.J., & Shearer, R.C., 1971. Diffusion in aggregated porous media. Soil Sci. **111**: 372-378

Milnes, A.R., Wright, M.J., & Raven, M.D., 1987. Excursion Guide. Soil Science Society Field Excursion Port Augusta - Andamooka, Oct. 22-26, 1987. Soil Sci. Soc. Aust., S. Aust. branch.

Mills, R., 1973. Self-diffusion in normal and heavy water in the range 1-45°. J. Phys. Chem. **77**(5): 685-688

Montgomery, C.W., & Perry, E.C. Jr., 1982. Isotopic methods in hydrologic studies - an introduction. *in* Perry, E.C. Jr., & Montgomery, C.W., (Eds), Isotope Studies of Hydrologic Processes, Nthn. Illinois Univ. Press, De Kalb, Ill., USA, pp 1-7

Münnich, K.O., Sonntag, C., Christmann, D., & Thoma, D., 1980. Isotope fractionation due to evaporation from sand dunes. 2. Mitt. Zentralinst. Isot. Stralenforsch. **29**: 319-332

Nadebaum, P., & Amiconi, T., 1986. The Olympic Dam mining project - water management. WATER (J. Aust. Water & Wastewater Assoc.) **13**(2): 15-18 & 29,June 1986

Nakayama, F.S., & Jackson, R.D., 1963. Diffusion of tritiated water in soils. Soil Sci. Soc. Am. Proc. **27**: 255-258

Navada, S.V., 1982. Extraction of soil interstitial waters for isotopic and chemical analysis. Bhabha Atomic Research Centre, Bombay, Stable Isotope Tech. Rep. No. **19** pp14

Nelson, R.E., Klameth, L.C., & Nettleton, W.D., 1978. Determining soil gypsum content and expressing properties of gypsiferous soils. Soil Sci. Soc. Amer. J. **42**: 659-661

Newton, A.W., Wilson, M.A., & Harris, J., 1988. Olympic Dam - the first decade. Mineral Resources Review South Australia No. **156**: 4-26

Nielsen, D.R., van Genuchen, M.Th., & Biggar, J.W., 1986. Water flow and solute transport processes in the unsaturated zone. Water Resour. Res. **22**: 89S-108S

Nielson, K.K., Rogers, V.C., & Gee, G.W., 1984. Diffusion of radon through soils: a pore distribution model. Soil Sci. Soc. Am. J. **48**: 482-487

Nielson, K.K., Rogers, V.C., & Gee, G.W., 1988. Reply to "Comments on 'Diffusion of radon through soils: a pore distribution model'", Soil Sci. Soc. Am. J. **52**: 898-899

Nugent, O.W., 1969. Sedimentation and petroleum potential of the Jurassic Sequence in the southwestern Great Artesian Basin. APEA J. **9**: 97-107

Nye, P.H., 1966. The measurement and mechanism of ion diffusion in soil. I. The relation between self-diffusion and bulk diffusion. J. Soil Sci. **17**: 16-23

Nye, P.H., 1979. Diffusion of ions and uncharged solutes in soils and soil clays, Adv. Agron. **31**: 225-272

O'Niel, J.R., 1986a. Theoretical and experimental aspects of isotopic fractionation. Rev. Mineral. **16**: 1-40

O'Neil, J.R., 1986b. Appendix: Terminology and standards. Rev. Mineral. **16**: 561-570

Oswal, M.C., & Kaker, S., 1987. Evaluation of critical water-table depth for wheat crop in two soils. J. Indian Soc. Soil Sci. **35**: 181-187

Passmore, J.R., & Woods, P.H., 1986. Golden Grove water supply groundwater investigation, February, 1986. unpub. report of Rockwater Pty Ltd (Perth) to Electrolytic Zinc Co. A'Asia Ltd. 48 pages + appendices.

Penman, H.L., 1940. Gas and vapour movements in the soil. I. The diffusion of vapours through porous solids. J. Agric. Sci. **30**: 437-462

Perry, E.C. Jr., & Montgomery, C.W., (Eds.), 1982. Isotope Studies of Hydrologic Processes. Nthn. Illinois Univ. Press, De Kalb, Ill., USA, pp 118

Phillip, J.R., & de Vries, D.A., 1957. Moisture movement in porous materials under temperature gradients. Trans. Amer. Geophys. Union **38**: 222-232

Pike, J.G., 1970. Evaporation of groundwater from coastal playas (sabkhah) in the Arabian Gulf. J. Hydrol. **11**: 79-88

Pinner, A., & Nye, P.H., 1982. A pulse method for studying effects of dead-end pores, slow equilibration and soil structure on diffusion of solutes in soil. Soil Sci. **33**: 25-35

Ponder, W.F., 1986. Mound springs of the Great Artesian Basin. *in* DeDeckker, P, & Williams, W.D., (Eds), Limnology in Australia. CSIRO (Aust.)/ W. Junk (Netherlands), 403-420

Porter, L.K., Kemper, W.D., Jackson, R.D., & Stewart, B.A., 1960. Chloride diffusion in soils as influenced by moisture content, Soil Sci. Soc. Am. Proc. **24**: 460-463

Power, P.E., & Devine, S.B., 1970. Surat Basin, Australia - subsurface stratigraphy, history, and petroleum. Am. Assoc. Petrol. Geol. Bull. **54**: 2410-2437

Revesz, K., & Woods, P.H., 1990. A method to extract soil water for isotopic analysis. J. Hydrol.**115**: 397-406

Richardson, S.B., 1987. Using stable isotopes to trace source water in young pines. unpub. B.Sc. (Hons) thesis, School of Earth Sciences, Flinders Univ. of S. Aust. pp111

Richardson, S.B., Walker, G.R., & Dighton, J.C., 1988. Heat, water, isotope and chloride fluxes during second stage evaporation. Summer Student Project Report, Centre for Research in Groundwater Processes Rep. No. **7**, 21pp + app.

Roberts, D.E., & Hudson, G.R.T., 1983. The Olympic Dam copper-uranium-gold deposit, Roxby Downs, South Australia. Econ. Geol. **78**: 799-822

Roberts, D.E., & Hudson, G.R.T., 1984. The Olympic Dam copper-uranium-gold deposit, Roxby Downs, South Australia - a reply. Econ. Geol. **79**: 1944-1945

Robinson, R.A., & Stokes, R.H., 1959. Electrolytic Solutions. Butterworth, London. pp559

Rolston, D.E., & Brown, B.D., 1977. Measurement of soil gaseous diffusion coefficients by a transient-state method with a time-dependent surface condition. Soil Sci. Soc. Am. J. **41**: 499-505

Rowell, D.L., Martin, M.W., & Nye, P.H., 1967. The measurement and mechanism of ion diffusion in soils. III. The effect of moisture content and soil-solution concentration on the self-diffusion of ions in soil. J Soil Sci. **18**: 204-222

Rymill, W.L., 1985. Desalination of water, Olympic Dam Project, Roxby Downs - South Australia. Proc. Seminar on Desalination, Adelaide, 28 June 1985. Aust. Water & Wastewater Assoc. S. Aust. Branch. pp111-126

SADME (South Australian Department of Mines and Energy), 1984a. Olympic Dam Project, special water licence. Min. Ind. Quarterly S. Aust. **36**: 2-5

SADME, 1984b. The Great Artesian Basin. Min. Ind. Quarterly S. Aust. **36**: 5-11

SADME, 1989. Olympic Dam Mine. Min. Ind. Quarterly S. Aust. **55**: 8-10

Saxena, R.K., 1987. Oxygen-18 fractionation in nature and estimation of groundwater recharge. Uppsala University (Sweden) Dept. Phys. Geogr., Div. Hydrol. Rep. Ser. A, No. 40

Saxena, R.K., & Dressie, Z., 1984. Estimation of groundwater recharge and moisture movement in sandy formations by tracing natural oxygen-18 and injected tritium profiles in the unsaturated zone. Isotope Hydrology 1983, I.A.E.A., Vienna, 139-150

Schmid, R.M., 1985. Lake Torrens, South Australia: sedimentation and hydrology. unpub. Ph.D. thesis, School of Earth Sciences, Flinders Univ. of S. Aust.

Scott, H.D., & Paetzold, R.F., 1978. Effects of soil moisture on the diffusion coefficients and activation energies of tritiated water, chloride, and metribuzin. Soil Sci. Soc. Am. J. **42**: 23-27

Seidel, G., 1980. Application of the GABHYD groundwater model of the Great Artesian Basin, Australia. BMR J. Aust. Geol. Geophys. **5**: 39-45

Sen, A., & Deb. D.L., 1979. Effect of soil compaction and temperature on transmission factor of soil. J. Ind. Soc. Soil Sci. **27**: 11-14

Senior, B.R., Mond, A., & Harrison, P.L., 1978. Geology of the Eromanga Basin. BMR Aust. Bull. **167**: pp102

Shatkay, M., & Margaritz, M., 1987. Dolomitization and sulphate reduction in the mixing zone between brine and meteoric water in the newly exposed shores of the Dead Sea. Geochim. Cosmochim. Acta **51**: 1135-1141

Shepherd, R.G., 1978. Underground water resources of South Australia. Bull. Geol. Surv. S. Aust. **48**: pp66

Shimshi, D., 1966. Use of ceramic points for the sampling of soil solution. Soil Sci. **101**: 98-103

Singh, G., & Luly, J., 1988. Changes in vegetation and seasonal climate since the last full glacial at Lake Frome, South Australia. SLEADS Conference 88, 8-16 Aug., Arkaroola, S. Aust., Abstracts, p67-69.

Sofer, Z., 1978. Isotopic composition of hydration water in gypsum. Geochim. Cosmochim. Acta **42**: 1141-1149

Sprigg, R.C., 1986. The Eromanga Basin in the search for commercial hydrocarbons. Spec. Pubns. Geol. Soc. Aust. **12**: 9-24

Stewart, G.L., 1972. Clay-water interaction, the behavior of ^{3}H and ^{2}H in absorbed water, and the isotope effect. Soil Sci. Soc. Amer. Proc. **36**: 421-426

Stewart, M.K., & Friedman, I., 1975. Deuterium fractionation between aqueous salt solutions and water vapour. J. Geophys. Res. **80**: 3812-3818

Symon, D.E., 1985a. Botanical notes on mound springs and bores. *in* Greenslade *et al.* (Eds), South Australia's Mound Springs. pp 27-43

Symon, D.E., 1985b. List of plant species. *in* Greenslade *et al.* (Eds), South Australia's Mound Springs. pp 44-48

Szabolcs, I., Darab, K., & Varallyay, G., 1972. Prediction and prevention of secondary salinization of irrigated soils on the Hungarian lowland. Soviet Soil Sci. **4**: 113-121

Tadros, V.T. & McGarity, J.W., 1976. A method for collecting soil percolate and soil solution in the field. Plant & Soil **44**: 655-667

Talsma, T., 1963. The control of saline groundwater. Mededelingen van de Landbouwhogeschool te Wageningen **63**(10): 1-68

Taras, M.J., Greenberg, A.E., Hoak, R.D., and Rand, M.C., (Eds) 1975. Standard Methods for the Examination of Water and Wastewater. American Public Health Association, U.S.A. 14th Ed. pp.613-614

Taube, H., 1954. Use of oxygen isotope effects in the study of hydration of ions. J. Phys. Chem. **58**: 523-528

Tetzlaff, G., & Bye, J.A.T., 1978. Water balance of Lake Eyre for the flooded period January 1974 - June 1976. Trans. R. Soc. S. Aust. **104**: 91-96

Thoma, G., Esser, N., Sonntag, C., Weiss, W., Rudolph, J., & Leveque, P., 1975. New technique of in-situ soil-moisture sampling for environmental isotope analysis applied at Pilat sand dune near Bordeaux - HETP modelling of bomb tritium propagation on the unsaturated and saturated zones. in Isotope Hydrology 1974 (Proc. Symp. Neuherberg, I.A.E.A.) **2**: 753-768

Thomson, R., & Barnett, S., 1985. Geology, geomorphology and hydrogeology. *in* Greenslade *et al.*, (Eds), South Australia's Mound Springs, pp3-26

Thornton, R.C.N., 1972. Lower Cretaceous sedimentary units beneath the western Murray Basin. Q. Notes, Geol. Surv. S. Aust. **44**: 5

Torgersen, T., & Clarke, W.B., 1985. Helium accumulation in groundwater, I. An evaluation of the sources and the continental flux of crustal ^{4}He in the Great Artesian Basin, Australia. Geochim. Cosmochim. Acta **49**: 1211-1218

Torgersen, T., Kennedy, B.M., Hiyagon, H., Chiou, K.Y., Reynolds, J.H., & Clarke, W.B., 1989. Argon accumulation and the crustal degassing of ^{40}Ar in the Great Artesian Basin, Australia. Earth & Planet. Sci. Lett. **92**: 43-56

Turner, J.V., & Gailitis, V., 1988. Single-step method for hydrogen isotope ratio measurement of water in porous media. Anal. Chem. **60**: 1244-46

Ullman, W.J., 1985. Evaporation rate from a salt pan: estimates from chemical profiles in near-surface groundwaters. J. Hydrol. **79**: 365-373

Ullman, W.J., & Aller, R.C., 1982. Diffusion coefficients in nearshore marine sediments. Limnol. Oceanogr. **27**: 552-556

Ullman, W.J., & McLeod, L.C., 1986. The late-Quaternary salinity record of Lake Frome, South Australia: evidence from Na in stratigraphically preserved gypsum. Palaeogeogr., Palaeoclimatol., Palaeoecol. **54**: 153-169

van Bavel, C.H.M., 1951. A soil aeration theory based on diffusion. Soil Sci. **72**: 33-46

van Bavel, C.H.M., 1952. Gaseous diffusion and porosity in porous media. Soil Sci. **73**: 91-104

van de Griend, A.A., & Gurney, R.J., 1988. Satellite remote sensing and energy balance modelling for water balance assessment in (semi-) arid regions. *in* Simmers, I., (Ed.), Estimation of Natural Groundwater Recharge. NATO ASI series C, Vol. **222**: 89-116. Riedel Pub. Co., Dordrecht, F.G.R.

Van Schaik, J.C., & Kemper, W.D., 1966. Chloride diffusion in clay-water systems. Soil Sci. Soc. Am. Proc. **30**: 22-25

Vogel, A.I., 1956. A Text-Book of Practical Organic Chemistry. 3rd. Ed., Longmans, London.

Walker, G.R., Hughes, M.W., Allison, G.B., & Barnes, C.J., 1988. The movement of isotopes of water during evaporation from a bare soil surface. J. Hydrol. **97**: 181-197

Warrick, A.W., 1988. Additional solutions for steady-state evaporation from a water table. Soil Sci. **146**: 63-66

Wasson R.J., & Clark, R.L., 1988. The Quaternary in Australia - past, present and future. Quaternary Australasia **6**(1): 17-22

Waterhouse, J.D., & Armstrong, D., 1990. Operation and management of the ODP water supply scheme. Int. Conf. on Groundwater in Large Sed. Basins, Perth, W. Aust., July 1990

Weast, R.C., (Ed), 1979. CRC Handbook of Chemistry and Physics. 60th ed. CRC Press, Boca Raton, Florida.

Weeks, E.P., Earp, D.E., & Thompson, G.M., 1982. Use of atmospheric fluorocarbons F-11 and F-12 to determine the diffusion parameters of the unsaturated zone in the Southern High Plains of Texas. Water Resour. Res. **18**: 1365-1378

Wells, A.T., 1980. Evaporites in Australia. Bur. Min. Res. (Aust.) Bull. **198**

Wells, R.T., & Callen, R.A. (Eds), 1986. The Lake Eyre Basin - Cainzoic sediments, fossil vertebrates and plants, landforms, silcretes and climatic implications. Australasian Sedimentologists Group Field Guide Series No.**4**. Geological Society of Australia, Sydney. pp 176.

Werbin, H., Chaikoff, I.L., & Imada, M.R., 1959. Rapid sensitive method for determining H^3-water in body fluids by liquid scintillation spectrometry. Proc. Soc. Exptl. Biol, & Medicine **102**: 8-12

Wesseling, J., 1962. Some solutions of the steady state diffusion of carbon dioxide through soils. Neth. J. Agric. Sci. **10**: 109-117

White, J.W.C., Cook, E.R., Lawrence, J.R., & Broeker, W.S., 1984. The D/H ratios of sap in trees: Implications for water sources and tree ring D/H ratios. Geochim. Cosmochim. Acta **49**: 237-246

Williams, A.F., 1972. Celestite occurrences in the western Great Artesian Basin, South Australia. Q. Notes, Geol Surv. S. Aust. **43**: 1-4

Williams, A.F., & Holmes, J.W., 1978. A novel method of estimating the discharge of water from mound springs of the Great Artesian Basin, Central Australia. J. Hydrol. **38**: 263-272

Williams, B.G., & Baker, G.C., 1982. An electromagnetic induction technique for reconnaissance surveys of soil salinity hazards. Aust. J. Soil Res. **20**: 107-118

Williams, J., & Coventry, R.J., 1981. The potential for groundwater recharge through red, yellow and grey earth profiles in central North Queensland. Proc. Groundwater Recharge Conf. Townsville, Qld, 1980. Aust. Water Resources Council Conf. Ser. No. **3**: 169-181

Witter, L.S., Kennedy, W.K., Trimberger, G.W., & Turk, K.L., 1958. Effects of storage methods upon nutrient losses and feeding value of ensiled legume and grass forage. Cornell Univ. Agric. Exp. Sta. Bull. **931**

Woods, P.H., 1983. The hydrology and salt balance of the Lake Bumbunga catchment area, South Australia. unpub. B.Sc.(Hon.) thesis, School of Earth Sciences, Flinders Univ. of S. Aust. pp72

Wopfner, H., Freytag, I.B., & Heath, G.R., 1970. Basal Jurassic-Cretaceous rocks of Western Great Artesian Basin, South Australia: stratigraphy and environment. Am. Assoc. Petrol. Geol. Bull **54**: 383-416

Working Party on Dryland Salting in Australia, 1982. Salting of Non - Irrigated Land in Australia. Soil Consv. Auth. Vic., F.D. Atkinson, Govt Printer, Melbourne. 98pp.

Wronski, E.B., 1986. Groundwater uptake by phreatophytes on the Swan Coastal Plain. Hydrology & Water Resources Symp. 1986, Brisbane. Inst. Engineers Aust. Natl. Conf. Publ. No **86/13**: 38-42

Youles, I.P., 1984. The Olympic Dam copper-uranium-gold deposit, Roxby Downs, South Australia - a discussion. Econ. Geol. **79**: 1941-1944

Yousfi, M., 1984 Etude geochimique et isotopique de l'evaporation et de l'infiltration en zone non saturée sous climat aride: Béni Abbès, Algérie. unpub. thesis, Univ. Paris-Sud, France

Yousfi, M., Aranyossy, J.F., Djermouni, B., & Fontes, J.-Ch., 1985. Étude isotopique des mouvements de l'eau en zone non saturée sous climat aride (Algérie). Stable and Radioactive Isotopes in the Study of the Unsaturated Zone, IAEA Techdoc **357**: 161-178

Zimmermann, U., Ehhalt, D., & Mtnnich, K.O., 1967. Soil-water movement and evapotranspiration: changes in the isotopic composition of the water. Proc. Symp. Isotopes in Hydrology, Vienna, 1966. IAEA, Vienna, p567-584

Zouari, K., 1983. Étude isotopique et geochimique de l'infiltration naturelle en zone non saturée sous climat semi-aride (Sud Tunisie). unpub. thesis, Univ. Paris-Sud, France

Zouari, K., Aranyossy, J.F., Mamou, A., & Fontes, J.-Ch., 1985. Étude isotopique et geochimique de mouvements et de l'evolution des solutions de la zone aerée des sols sous climat semi-aride (Sud tunisien). Stable and Radioactive Isotopes in the study of the Unsaturated Soil Zone, IAEA
Techdoc **357**: 121-143

Zwar, J., 1988. Roxby Downs - a water conscious community in Australia. Arid Lands Newsletter, Spring/Summer 1988, **26**: 10-11