

DEPARTMENT OF MINES
SOUTH AUSTRALIA

REPORT ON
LIMESTONE DEPOSIT
SECTIONS 671. 672. HD. DAVENPORT
(Augusta Salt Ltd.)

by

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GEOLOGICAL SURVEY

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DEPARTMENT OF MINES
SOUTH AUSTRALIA

REPORT ON

LIMESTONE DEPOSIT

SECTIONS 671, 672, HD. DAVENPORT
(Augusta Salt Ltd.)

1. ABSTRACT

Diamond drilling of the deposit has indicated 3½ million c.yards of limestone overlain by 1½ million c.yards of overburden much of which can be utilised in construction. Further investigation of the properties of the limestone are necessary before it can be accepted for construction purposes.

2. INTRODUCTION

Large volumes of hard rock, and rubble are required for construction of the proposed ship loading facilities at Pt. Paterson and the adjacent expanded works of Augusta Salt Ltd.

The availability of stone has been discussed in reports by Johns (1962 A, 1962 B and 1962 C), the last describing the results of diamond drilling of a limestone deposit in Section 672 Hd, Davenport. Here six holes were drilled to depths varying from 30ft. to 61ft. along a rise, capped by kunkar limestone, approximately 800 yards in length. All holes penetrated hard stone to the full depth drilled but as these were sited in a line along the crest of the ridge the lateral extent of the deposit was not established.

In September, 1963, a request was received from Augusta Salt Ltd. for diamond drilling to prove a quantity of 800,000 cubic yards of stone in Section 672. This was later extended verbally to prove the extension of the deposit southwards into Section 671. Drilling commenced on 4.10.1963 and was completed after drilling 22 holes on 4.12.1963/

Rights to stone are privately owned on Section 672 and the company have pegged four mineral leases (4384, 4385, 4386, 4387) on Section 671 where minerals are reserved to the Crown.

3. GEOLOGICAL SETTING

The deposit lies on the plains of the Pirie-Torrens Basin marginal to the extensive tidal flats and lagoons which border the eastern shore of Spencer Gulf. A low rise, reaching 10ft.-15ft. above the surrounding ground passes through Section 672 approximately in a north-south direction. The surface is covered mainly with red sand of aeolian origin but is underlain at shallow depth by kunkar limestone.

Near the southern boundary of Section 672 the rise bifurcates. Kunkar (covered in part by sand) outcrops extensively on the western limb and extends to the east into the inter-limb area. The eastern limb is entirely covered with red sand to a depth of at least 5ft.; this is underlain by kunkar.

The limestone bed does not outcrop but it is exposed in a quarry in Section 672 where it protrudes as a hump for about 5ft. above the general floor level over a radius of approximately 10ft. Drilling has shown that the bed extends over a considerable area but has no surface expression.

4. THE DRILLING PROGRAMME

Drilling was commenced in Section 671 and initially holes were sited to determine the lateral extent of the bed and variations in overburden thickness. Holes 12-16 were drilled in the northern part of Section 671 and all intersected hard stone varying from 13'-20' below the surface. Hole 15 was sited specifically to show whether the limestone is confined to areas where kunkar outcrop occurs. The hole, located off the kunkar outcrop encountered good stone at 14'8".

Operations were then transferred to the southern part of the leases where it was thought that overburden might be less. Holes 17-19 intersected limestone of inferior quality to that in the north at about 12ft. below the surface.

Drilling was resumed in the northern lease area and holes 20-27 drilled on a grid pattern to establish reserves in Section 671. The programme was completed by drilling 6 holes (Nos. 28-33) on the flanks of the ridge on Section 672.

In all a total of 988ft. 3 ins. were drilled. Excluding holes 17-19 core recovery ranges from 52%-75% and average 67%. Most core was lost in the sand-kunkar overburden and in the limestone bed core recovery ranged from 71%-100% and average 91%.

A summary table of the drilling and bore logs are attached as an appendix and bore locations are shown on the accompanying plan.

5. LIMESTONE DEPOSIT

For discussion the sequence may be divided into three units.

1. Overburden - this consists of sand, kunkar, limestone and marl in varying proportions throughout the area investigated. Core recovery in this unit was poor and the succession cannot be defined precisely but it is thought that two kunkar horizons are present. The upper horizon is variable, with massive and nodular stone overlying a marl zone along the crest of the rise and in the inter-ridge area in Section 671, but in the lower ground flanking these areas the horizon consists of a limey sand with no hard material. The horizon averages 10ft. in thickness and hard stone ranges from 3ft.-4ft. in the quarry in Section 672 (described by Johns) to less than 12" in Section 671.

The lower horizon average 5ft. 4 ins. in thickness and consists of hard but broken stone overlying marl.

2. Limestone bed - pink to brown and off-white fragmentary limestone, hard with open solution holes in the upper part, grading to hard but pitted stone with frequent clay filled seams and patches in the lower part. Many holes were in the lower part

on completion but the thickness of limestone proved by drilling, excluding holes 17-19, averages 30ft.

3. Mottled orange-brown and pale grey sandy clay, gradational from the overlying limestone. In hole 12', 4ft. 3 ins. of calcareous conglomerate (containing rounded slate and siltstone pebbles) were intersected at the base of the limestone.

The limestone bed is essentially horizontal and though some irregularity of boundaries occurs beneath the ridge the boundaries between drill holes have been drawn as straight lines on the cross sections.

Material of several types is required for the various phases of construction. Four classes have been nominated as follows:-

Class 1. Hard durable rock up to 1 ton size for causeway and loading Berth bank protection.

Class 2. Rubble with fines for road and minor bank construction.

Class 3. Durable rock of up to 8" size for causeway construction and external bank protection.

Class 4. Hard rock up to 8 ins. with rubble and fines for internal bank construction.

Both kunkar horizons should provide material for Classes 2 and 4 although in areas where the upper horizon is poorly developed this material will probably have to be discarded.

It cannot definitely be said at this stage that the limestone is suitable for providing Class 1 and Class 3 material.

Solution cavities in the bed are frequently spaced at less than 6" intervals and the drill core breaks readily along fine cracks extending away from them. Should the cavities be extensively interconnected there may be some difficulty in procuring blocks of sufficient dimensions in the required quantities.

Drill cores obtained during the earlier period of drilling in August, 1962, now show frequent (shrinkage?) cracks particularly in the lower part of the bed. The ability of the stone to resist the alternate wetting and drying by sea water to which it will be subjected on levees requires thorough investigation. Cores from selected holes have been submitted to the Highways & Local Government Department Laboratory for weathering tests.

Groundwater at the site may also present some problems during the quarrying operations. Water stands in the drill holes approximately at R.L. 116 which is near the upper boundary of the limestone bed. The salinity of this water is about 5,750 p.p.m. indicating an origin from the east rather than from the salt making operations on the west. Nothing is known of the quantity present.

Should further investigation show the stone to be suitable it is expected that the upper part of the bed will provide Class 1 and Class 3 material and the lower part to provide Class 2 and Class 4.

Reserves have been calculated from the accompanying cross sections and amount to $1\frac{1}{2}$ million c.yards of overburden overlying $3\frac{1}{2}$ million c.yards of limestone.

CONCLUSIONS & RECOMMENDATIONS

Limestone occurs beneath the surface in Sections 671 and 672 over a considerable area but has no surface expression.

Overburden consists of kunkar, limestone, marl and sand, much of which can be used for levee and road construction. The thickness of this material varies between 10ft. and 20ft. and there are $1\frac{1}{2}$ million c.yards present in the area drilled.

The underlying limestone bed has a proved average thickness of 30ft. and varies from a hard clean stone in the upper part to hard stone with clay seams and pockets increasing downwards in the lower part. Reserves amount to $3\frac{1}{2}$ million

cubic yards in the area drilled.

Further investigation is required before the limestone can be accepted for construction. The following matters require attention:-

1. determine whether stone of sufficient dimensions can be obtained.
2. determine whether the stone can physically resist the action of sea water,
3. investigate the groundwater conditions.

The next stage of the investigation should involve the excavation of test pits, which should be taken deep enough to answer points 1. and 3. above. It is recommended that two pits be prepared, one in Section 672 from the floor of the main quarry and one in Section 671 in the vicinity of Bore 15 or 24.

M. N. Hiern

per R. H. J.

M. N. HIERN
ASSISTANT SENIOR GEOLOGIST

MNH:CH.
11.2.64

APPENDIX

SUMMARY OF DIAMOND DRILLING

SECTIONS 671, 672, HD. DAVENPORT

Hole No.	R.L.	Depth	Recovery	O/B Thickness	Limestone	Limestone Thickness	% Recovery in Limestone
12	134.6	60'3"	75	13'	13'-46'9"	33'9"	98
13	126.0	50'0"	73	20	20'-50'	30 +	100
14	136.9	44'6"	74	15'9"	15'9"-44'6"	28'9"+	98
15	131.0	50'0"	74	14'8"	14'8"-46'3"	31'7"	93
16	146.7	48'0"	61	18'	18' -48'	30' +	89
17	130.5	32'3"	59	12'	12' -38'	19'	89
18	131.5	32'11"	41	13'9"?	13'9"-32'11"	19'2"	60?
19	131.0	32'7"	55	12'	12' -29'8"	17'8"	86
20	136.6	47'0"	66	16'3"	16'3"- 42'	-25'9"	95
21	138.7	40'6"	66	15'	15' -40'6"	25'6"+	98
22	138.5	31'2"	52	18'	18' -31'2"	-13'2"+	92
23	136.7	40'2"	74	16'9"	16'9"-38'7"	21'10"	97
24	134.6	49'0"	68	15'6"	15'6"-47'3"	-31'9"	92
25	133.2	32'7"	62	11'6"?	11'6"-32'7"	21'1"+	80
26	128.0	52'8"	71	9'3"?	9'3"-52'8"	43'5"	81
27	129.0	47'6"	57	16'6"	16'6"-47'6"	31' +	71
28	127.3	50'2"	73	16'9"	16'9"-50'2"	33'5"+	93
29	129.6	49'9"	69	15'	15' -49'9"	34'9"+	90
30	127.2	49'10"	67	11'	11' -49'10"	38'10"+	88
31	138.1	49'9"	66	15'	15' -49'4"	34'9"	88
32	136.7	49'2"	69	14'7"	14'7"-49'2"	34'7"+	91
33	137.8	48'6"	67	18'	18' -48'6"	30'6"+	91
TOTAL		988'3"	67*	13'3"*		30'3"+	91*

* Average excluding holes 17, 18, 19.

DEPARTMENT OF MINES, ADELAIDE

DIAMOND DRILL LOG

PROJECT: ROCK QUARRY, AUGUSTA SALT LTD. **D.M.:** 794/62
BORE NO.: 12 **BORE SERIAL NO.** DD 39/64
HUNDRED: DAVENPORT **SECTION:** 671
CO-ORDINATES: **R.L. OF COLLAR:** 134.6
BEARING: - **DEPRESSED:** Vertical **DRILLER:** R. Munro
DATE DRILLING COMMENCED: 7.10.63 **DATE DRILLING COMPLETED:** 9.10.63

LOG

Depth		Core Recovered		Description
From Ft. In.	To Ft. In.	Ft. In.		
0	1	0	8	0 - 4' Broken pink kunkar limestone.
1	3	6	7	
3	10	0	6	4 -10' Pink calcareous sand.
10	12	0	1 0	10-13' Broken kunkar limestone,
12	13	0	8	overlying red-brown marly clay.
13	18	0	4 10	13-37'3" Hard pink and white frag-
18	19	0	1 0	mentary limestone. Abund-
19	23	0	3 10	ant open solution cavities
23	27	9	4 8	A few soft pockets 13-14'.
27	32	6	4 9	
32	37	3	4 7	
37	42	0	5 0	37'3"-46'9" Hard limestone as above
42	46	9	4 6	with clay filled decom-
				posed pockets increas-
				ing downwards.
46	51	6	4 5	46'9"-51' Calcareous conglomerate -
51	56	9	2 2	rounded outwash pebbles
56	60	3	2 3	in calcareous cement -
				mainly hard, some soft
				patches.
Core recovered		45	5	51'-60'3" Mottled orange-brown and
Recovery		75%		offwhite sandy clay with
In limestone				some lime pockets -
(13-46'9")				generally friable.
Recovery		33'	2	
		98%		END OF HOLE 60'3"
Water level 18'2" (2.12.63) R.L. 116.4				

Bore Logged By: M.N. HIERN

Date: 22.10.63

DEPARTMENT OF MINES, ADELAIDE

DIAMOND DRILL LOG

PROJECT: ROCK QUARRY, AUGUSTA SALT LTD. D.M. 794/62

BORE NO.: 13

BORE SERIAL NO. DD 43/64

HUNDRED: DAVENPORT SECTION: 671

PLAN REFERENCE:

CO-ORDINATES:

R.L. OF COLLAR: 126.0

BEARING: -- DEPRESSED: Vertical

DRILLER: R. Munro

DATE DRILLING COMMENCED: 21.10.63 DATE DRILLING COMPLETED: 22.10.63

LOG

Depth		Core Recov- ered Ft. In.	Description
From Ft. In.	To Ft. In.		
0 0	5 0	0 5	0 - 5' Nodular kunkar and sand.
5 0	10 0	Nil	5 -10' Sand.
10 0	13 6	1 6	10-20' Pink kunkar limestone over- lying rubbly orange-brown marly clay.
13 6	15 0	2 6	
15 0	19 0	4 9	
19 0	23 9	4 3	
23 9	28 6	4 3	20-23' White and pale brown frag- mentary limestone with abundant solution holes and thin weathered seams.
28 6	33 3	4 10	
33 3	38 0	4 9	
38 0	42 9	4 8	
42 9	47 0	4 8	23-45' Hard white and pink frag- mentary limestone. Open solution holes to 36', clay filled decomposed pockets below 36'.
47 0	50 0	3 10	
Core Recovery		36' 5"	45-50' Limestone as above with fre- quent decomposed patches and thin seams.
Recovery		73%	
In limestone (19-50')		31' 3"	
Recovery		100%	
Water level not measured.			

Bore Logged by: M.N. HIERN

Date 22.10.1963

DEPARTMENT OF MINES, ADELAIDE

DIAMOND DRILL LOG

PROJECT: ROCK QUARRY, AUGUSTA SALT LTD. D.M.: 794/62

BORE NO.: 14

BORE SERIAL NO. DD 40/64

HUNDRED: DAVENPORT SECTION: 671

PLAN REFERENCE:

CO-ORDINATES

R.L. OF COLLAR: 136.9

BEARING: -- DEPRESSED: Vertical

DRILLER: R. Munro

DATE DRILLING COMMENCED: 10.10.63 DATE DRILLING COMPLETED: 15.10.63

LOG

Depth		Core Recov- ered Ft. In.	Description
From Ft. In.	To Ft. In.		
0 0	5 0	10	0 - 5' Broken pink kunkar limestone.
5 0	10 0	nil	5 -10' Sand.
10 0	12 0	1 4	10-12' Red-brown silty clay with lime nodules.
12 0	14 0	1 1	12-15'9" Broken pink and white lime- stone with reddish marly clay.
14 0	15 9	1 4	
15 9	18 3	2 6	15'9"-36' Hard white and pink frag- mentary limestone. Open solution holes to 22', clay filled decomposed pockets below.
18 3	23 0	4 2	
23 0	27 3	4 4	
27 3	31 6	4 11	
31 6	36 0	4 2	
36 0	40 9	4 9	36-38' Limestone as above with more abundant clay pockets.
40 9	44 6	3 4	38-44'6" Pink and white limestone with abundant clayey seams and pockets.
Core Recovered		32' 9"	END OF HOLE 44'6"
Recovery		74%	
In limestone (15'9"-44'6")		28' 2"	
Recovery		98%	
Water level (2.12.63) 20'9". R.L. 116.2			

Bore logged by: M.N. HIERN

Date: 22.10.1963

DEPARTMENT OF MINES, ADELAIDE

DIAMOND DRILL LOGPROJECT: ROCK QUARRY, AUGUSTA SALT LTD. D.M.: 794/62BORE NO.: 15BORE SERIAL NO.: DD 42/64HUNDRED: DAVENPORT SECTION: 671PLAN REFERENCE:CO-ORDINATES:R.L. OF COLLAR: 131.0BEARING: -- DEPRESSED: VerticalDRILLER: R. MinroDATE DRILLING COMMENCED: 18.10.63 DATE DRILLING COMPLETED: 20.10.63LOG

Depth		Core Recov- ered Ft. In.	Description
From Ft. In.	To Ft. In.		
0 0	5 0	6	0 - 10' Sand recorded at top of hole. Core recovered - massive pink kunkar limestone.
5 0	10 0	10	
10 0	13 0	2 10	10-13' Pink and white limestone gradi- down to offwhite and orange- brown rubbly marl.
13 0	14 8	1 0	13-14'8" Offwhite decomposed lime- stone with a few hard pieces.
14 8	18 8	3 6	14'8"-41'6" Hard pink and white frag- mentary limestone - pitted with clay filled pockets below 16'. A few open holes.
18 8	23 6	3 3	
23 6	27 6	4 0	
27 6	32 0	4 6	
32 0	36 9	4 9	
36 9	41 6	4 6	41'6"-44'6" Limestone as before with thin decomposed seams.
41'6"	46 3	4 10	
46 3	50 0	2 5	44'6"-46'3" Mainly mottled orange- brown and pale grey silty clay with fragments of white limestone.
Core recovered		36' 11"	46'3"-47' White limestone with pockets of mottled clay.
Recovery		74%	
In limestone (14'8"-46'3")		29' 4"	47' - 50' Pink and white limestone fragments in orange-brown silty clay.
			END OF HOLE 50'
			Water level 15' (R.L. 116.0)

Bore logged by: M.N. HiernDate: 21.10.1963

DEPARTMENT OF MINES, ADELAIDE

DIAMOND DRILL LOG

PROJECT: ROCK QUARRY, AUGUSTA SALT LTD. D.M. 794/62

BORE NO.: 16

BORE SERIAL NO. DD 41/64

HUNDRED: DAVENPORT SECTION: 671

PLAN REFERENCE:

CO-ORDINATES:

R.L. OF COLLAR: 146.7

BEARING: -- DEPRESSED: Vertical

DRILLER: R. Munro

DATE DRILLING COMMENCED: 16.10.63 DATE DRILLING COMPLETED: 17.10.63

LOG

Depth		Core Recov- ered Ft. In.	Description
From Ft. In.	To Ft. In.		
0 0	05 0	nil	0 - 5' Calcareous sand.
5 0	9 0	1 1	5 -11'8" Pink kunkar limestone.
9 0	11 0	10	
11 0	18 0	8	11'8"-16' No core - driller records sandy clay.
18 0	21 0	2 3	
21 0	25 9	4 5	16'-18'6" Broken pink limestone.
25 9	30 0	4 1	
30 0	34 6	4 10	18'6"-34'10" Hard pink and white frag- mentary limestone. A few open solution holes to 27, clay filled decomposed pockets below 27'.
34 6	39 3	4 7	
39 3	44 0	3 10	
44 0	48 0	2 9	
Core recovered		26' 9"	34'10"-35'3" Semi-decomposed limestone.
Recovery		61%	35'3"-41'6" Hard limestone as above with soft clay pockets and seams.
In limestone		26' 9"	41'6"-48' Pink and white limestone with abundant soft clay pockets and seams and pockets orange- brown sandy clay.
(18'-48')		89%	
Recovery			
			END OF HOLE 48'
			Water level not measured - bore collapsed at 2'

Bore logged by: M.N. HIERN

Date: 21.10.1963

DEPARTMENT OF MINES, ADELAIDE

DIAMOND DRILL LOGPROJECT: ROCK QUARRY, AUGUSTA SALT LTD. D.M.: 794/62BORE NO.: 17BORE SERIAL NO. DD 44/64HUNDRED: DAVENPORT SECTION: 671PLAN REFERENCE:CO-ORDINATESR.L. OF COLLAR: 130.5BEARING: -- DEPRESSED: VerticalDRILLER: R. MunroDATE DRILLING COMMENCED 23.10.63 DATE DRILLING COMPLETED 23.10.63LOG

Depth		Core Recov- ered Ft. In.	Description
From Ft. In.	To Ft. In.		
0 0	5 0	6	0 - 5' Nodular kunkar.
5 0	10 0	6	5 -10' Nodular kunkar and red-brown calcareous clay.
10 0	13 0	1 6	10-12' Red-brown calcareous clay and incipient kunkar.
13 0	18 0	4 6	
18 0	22 9	4 5	
22 9	27 6	4 8	12-14'6" Pink and offwhite fragmentary limestone. Hard rock broken by frequent decomposed marl seams and pockets.
			14'6"-26'3" Hard pink and offwhite fragmentary limestone. Frequent open solution pockets with drusy calcite down to 24'. Small decomposed pockets after 24'.
			26'3"-27'6" Hard limestone as above broken by decomposed seams and pockets.
27 6	32 3	2 10	27'6"-31' White and pink limestone with decomposed pockets with red-brown sandy clay.
Core recovered		18'11"	31-32'3" Grey and red-brown mottled clay, calcareous in part.
Recovery		59%	
In limestone		16' 0"	
(13'-31')		89%	
Recovery			
Water level 16'2" (2.12.63) R.L. 114.3			

Bore logged by: M.N. HIERNDate: 13.11.1963

DEPARTMENT OF MINES, ADELAIDE

DIAMOND DRILL LOG

PROJECT: ROCK QUARRY, AUGUSTA SALT LTD. **D.M.:** 794/62
BORE NO.: 18 **BORE SERIAL NO.** DD 45/64
HUNDRED: DAVENPORT **SECTION:** 671 **PLAN REFERENCE:**
CO-ORDINATES: **R.L. OF COLLAR:** 131.5
BEARING: -- **DEPRESSED:** Vertical **DRILLER:** E. Anderson
DATE DRILLING COMMENCED 24.10.63 **DATE DRILLING COMPLETED** 28.10.63

LOG

Depth		Core Recov- ered Ft. In.	Description
From Ft. In.	To Ft. In.		
0 0	5 0	4	0 - 5' Pinkish-brown strongly cal- careous silty fine grained sand.
5 0	10 0	5	5 -10' Broken kunkar limestone.
10 0	13 9	1 2	10-13'9" Offwhite and orange mottled calcareous clay overlying broken hard pink and white limestone.
13 9	17 2	1 0	13'9"-17'2" Broken pink and white lime- stone with decomposed pockets and patches.
17 2	21 0	1 8	17'2"-32'11" Hard pink and white lime- stone with frequent 3"-6" bands orange-brown and grey clay and calcareous clay. Core broken by abundant solution holes.
21 0	23 0	1 9	
23 0	27 6	3 2	
27 6	29 0	9	
29 0	32 11	3 3	
Core recovered		13' 6"	END OF HOLE 32'11"
Recovery		41%	
In limestone			
(13'9"-32'11")		11' 7"	
Recovery		60%	
Water level not available - hole collapsed at 14'6"			

Bore logged by M.N. Hiern

Date: 13.11.1963

DEPARTMENT OF MINES, ADELAIDE

DIAMOND DRILL LOG

PROJECT: Rock Quarry, Augusta Salt Ltd. **D.M.:** 794/62
BORE NO.: 19 **BORE SERIAL NO.** DD 46/64
HUNDRED: DAVENPORT **SECTION:** 671 **PLAN REFERENCE:**
CO-ORDINATES: **R.L. OF COLLAR:** 131.0
BEARING: -- **DEPRESSED:** Vertical **DRILLER:** E. Anderson
DATE DRILLING COMMENCED 29.10.63 **DATE DRILLING COMPLETED** 30.10.63

LOG

Depth		Core Recovered Ft. In.	Description
From Ft. In.	To Ft. In.		
0 0	12 0	6	0 - 12' Driller records sand. Sample is orange-brown calcareous silty fine grained sand.
12 0	14 6	1 0	12-14'6" Pink limestone - broken by frequent decomposed seams.
14 6	18 3	3 9	14'6"-27'10" Pink and white fragmentary limestone broken at 3"-6" spacing by narrow solution openings and decomposed seams, becoming more widely spaced after 20'.
18 3	23 1	4 3	
23 1	27 10	4 5	
27 10	32 7	4 0	27'10"-29'8" Limestone as above with frequent decomposed pockets and patches.
			29'8"-32'7" Mottled pale grey and orange to yellow-brown finely sandy clay, calcareous in part.
Core recovered		17'11"	
Recovery		55%	
In limestone			
(12-30'8")		15' 3"	
Recovery		86%	
END OF HOLE 32'7"			
Water level 16'7" (2.12.63) R.L. 114.3			

Bore logged by: M.N. HIERN

Date: 13.11.63

DEPARTMENT OF MINES, ADELAIDE

DIAMOND DRILL LOG

PROJECT: ROCK QUARRY, AUGUSTA SALT LTD. D.M. 794/62

BORE NO.: 20

BORE SERIAL NO. DD 47/64

HUNDRED: DAVENPORT SECTION: 671

PLAN REFERENCE:

CO-ORDINATES:

R.L. OF COLLAR: 136.6

BEARING: - DEPRESSED: Vertical

DRILLER: E. Anderson

DATE DRILLING COMMENCED 31.10.63 DATE DRILLING COMPLETED 1.11.63

LOG

Depth		Core Recov- ered Ft. In.	Description
From Ft. In.	To Ft. In.		
0 0	10 0	1 2	0 -10' Recovered core is 11" of pink massive kunkar underlain by pinkish-brown calcareous sand.
10 0	14 8	4	10-16'3" Broken pink nodular kunkar.
14 8	16 0	10	
16 0	19 10	3 3	16'3"-26' Hard pink and brown and white fragmentary limestone. Broken at generally 3"-6" intervals by open narrow solution openings.?
19 10	24 0	4 1	
24 0	26 0	2 0	
26 0	29 2	3 1	26 - 37' Hard pink and white fragmentary limestone. Few solution opening breaks. Clay filled decomposed patches 26 1/2-28'.
29 2	33 11	4 6	
33 11	37 4	3 1	
37 4	42 0	4 8	37 - 42' Hard limestone as above broken by frequent 1"-3" decomposed pockets and seams.
42 0	47 0	4 2	42 - 47' About 50% limestone broken by decomposed patches and pockets of orange-brown finely sandy clay.
Core recovered		31' 2"	
Recovery		66%	
In limestone			
(16-42')		24' 8"	
END OF HOLE 47'			
Water level (2.12.63) 20'6" (R.L. 116.1)			

Bore logged by: M.N. HIERN

Date: 14.11.1963

DEPARTMENT OF MINES, ADELAIDE

DIAMOND DRILL LOG

PROJECT: ROCK QUARRY, AUGUSTA SALT LTD. D.M.: 794/62
BORE NO.: 21 BORE SERIAL NO. DD 48/64
HUNDRED: DAVENPORT SECTION: 671 PLAN REFERENCE:
CO-ORDINATES: R.L. OF COLLAR: 138.7
BEARING: - DEPRESSED: Vertical DRILLER: E. Anderson
DATE DRILLING COMMENCED: 1.11.63 DATE DRILLING COMPLETED: 4.11.63

LOG

Depth		Core Recov- ered Ft. In.	Description
From Ft. In.	To Ft. In.		
0 0	10 0	6	0 - 10' Pinkish-brown calcareous sand.
10 0	15 0	1 3	10 - 15' Nodular kunkar over marly clay, with lime patches.
15 0	19 6	4 1	15-33'4" Hard pink and brown fragmentary limestone. Open solution holes to 23', mainly clay filled pockets below 23'. Core broken at generally 6" intervals along narrow solution openings and cracks.
19 6	23 10	4 5	
23 10	28 7	4 8	
28 7	33 4	4 8	
33 4	35 9	3 2	33'4"-38' Limestone as above broken at 1"-3" intervals by decomposed seams/
35 9	40 6	4 0	
			38 -40'6" About 50% hard and decomposed limestone.
Core recovered		26' 9"	END OF HOLE 40'6"
Recovery		66%	
In limestone (15-40'6")		25' 0"	
Recovery		98%	
Water level not measured, hole collapsed at 10'9"			

Bore logged by: M.N. HIERN

Date: 14.11.1963

DEPARTMENT OF MINES, ADELAIDE

DIAMOND DRILL LOG

PROJECT: ROCK QUARRY, AUGUSTA SALT LTD. D.M.: 794/62
 BORE NO.: 22 BORE SERIAL NO. DD 52/64
 HUNDRED: DAVENPORT SECTION: 671 PLAN REFERENCE:
 CO-ORDINATES: R.L. OF COLLAR: 138.5
 BEARING: -- DEPRESSED: Vertical DRILLER: E. Anderson
 DATE DRILLING COMMENCED: 4.11.63 DATE DRILLING COMPLETED: 6.11.63

LOG

Depth		Core Recov- ered Ft. In.	Description
bFrom Ft. In.	To Ft. In.		
0 0	5 0	1 0	0 - 5' Pink kunkar - broken core but probably massive sheet kunkar.
5 0	7 9	8	5 - 7'9" Pink nodular kunkar.
7 9	12 1	5	7'9"-12'1" Pink nodular kunkar and red brown clay.
12 1	14 3	5	12'1"-16'6" Pink and white limestone - broken core.
14 3	16 0	8	
16 0	18 6	1 6	16'6"-18'0" Orange-brown marly clay with lime peckets.
18 6	23 3	4 6	18'-26' Hard pink and white fragmentary limestone. Core broken at 1-4" intervals by narrow solution openings. Frequent pitting. A few decomposed seams and peckets below 20'.
23 3	28 0	4 7	
28 0	32 2	2 7	
Core recovered		16' 4"	26'-29'6" Limestone as above - massive and unbroken.
Recovery		52%	
In limestone		11'8"	29'6"-31'2" Pink and white limestone broken along frequent decomposed peckets and seams.
(18'6"-31'2")		92%	
Recovery			
END OF HOLE 31'2"			
Water level 2.12.63 21'0" (R.L. 117.5)			

Bore logged by M.N. HIERN

Date 14.11.1963

DEPARTMENT OF MINES, ADELAIDE

DIAMOND DRILL LOGPROJECT: ROCK QUARRY, AUGUSTA SALT LTD. D.M. 794/62BORE NO.: 23BORE SERIAL NO. DD 53/64HUNDRED: DAVENPORTSECTION: 671PLAN REFERENCE:CO-ORDINATES:R.L. OF COLLAR: 136.7BEARING: --DEPRESSED: VerticalDRILLER: E. Anderson.DATE DRILLING COMMENCED: 6.11.63 DATE DRILLING COMPLETED: 8.11.63LOG

Depth		Core Recov- ered Ft. In.	Description
From Ft. In.	To Ft. In.		
0 0	9 0	6	0 - 9' Orange-brown fine to medium grained sand.
9 0	11 5	2 4	9-9'3" Pink nodular kunkar.
11 5	15 0	2 6	9'3"-11' Pink and white fragmentary limestone with decomposed patches and thin seams (This core may be out of place in box - should be lower in hole.)
			11-11'8" Pink nodular kunkar.
			11'8"-15' Orange-brown clay with lime pockets.
15 0	16 9	1 9	15 - 16' Broken pink and white limestone
			16'-16'9" Broken limestone and orange-brown marly clay.
16 9	19 1	3 3	16'9"-27'3" Hard pink and white fragmentary limestone. Broken at 3" intervals by narrow solution openings down to 19'6". Frequent small clay filled decomposed patches and occasional open solution holes 19'6"-27'3". Abundant pitting 19'6"-24'6".
19 1	23 11	4 10	
23 11	27 3	2 11	
27 3	27 6	5	27'3"-38'7" Hard pink and white fragmentary limestone. Open solution cavities to 31'6". Clay filled decomposed pockets below 31'6" increasing towards 38'7".
27 6	31 7	4 0	
31 7	34 1	1 9	
34 1	37 1	2 5	
37 1	40 2	3 0	
Core recovered		29'8"	38'7"-40'2" Offwhite and faint orange-brown mottled clay, calcareous in part.
Recovery		74%	
In limestone (16'9"-38'7")		21'1"	
Recovery		97%	

END OF HOLE 40'2"

Water level 20'10" 2.12.63 (R.L. 115.9)

Bore logged by: M.N. HIERNDate: 14.11.1963

DEPARTMENT OF MINES, ADELAIDE

DIAMOND DRILL LOG

PROJECT: ROCK QUARRY, AUGUSTA SALT LTD. **D.M.:** 794/62
BORE NO.: 24 **BORE SERIAL NO.** DD 54/64
HUNDRED: DAVENPORT **SECTION:** 671 **PLAN REFERENCE:**
CO-ORDINATES: **R.L. OF COLLAR:** 134.6
BEARING: -- **DEPRESSED:** Vertical **DRILLER:** E. Anderson
DATE DRILLING COMMENCED: 10.11.63 **DATE DRILLING COMPLETED:** 12.11.63

LOG

Depth		Core Recov- ered Ft. In.	Description
From Ft. In.	To Ft. In.		
0 0	10 9	1 4	0 -10'9" Core recovered 4" pinkish brown calcareous sand, 12" pink massive and nodular kunkar.
10 9	15 11	2 6	10'9"-15'6" Nodular kunkar overlying orange-brown marly clay with lime patches.
15 11	20 8	4 5	15'6"-41'8" Hard pink and white fragmentary limestone, broken along narrow solution openings at 3-6" intervals down to 23' and mainly 6-9" intervals down to 41'8" pitted with small clay filled pockets, 23'5"-24'8". A few clay filled pockets and open solution holes below 30'.
20 8	23 5	2 3	
23 5	27 4	3 10	
27 4	31 11	4 9	
31 11	37 2	4 0	
37 2	38 6	1 4	
38 6	43 3	4 6	
43 3	47 3	3 8	41'8"-47'3" Hard white limestone with increasing amount of clay filled decomposed patches and white to orange-brown mottled sandy clay pockets.
47 3	49 0	1 0	47'3"-49'0" Offwhite and orange-brown mottled silty clay with a few lime pockets.
Core recovered		33'7"	END OF HOLE 49'
Recovery		68%	
In limestone (15'11"-47'3")		28'9"	
Recovery		92%	
Water level 2.12.63 18'7" (R.L. 116.0)			

Bore logged by: M.N. HIERN

Date: 14.11.1963

DEPARTMENT OF MINES, ADELAIDE

DIAMOND DRILL LOG

PROJECT: AUGUSTA SALT LTD. ROCK QUARRY D.M.: 794/62
 BORE NO.: 25 BORE SERIAL NO. DD 57/64
 HUNDRED: DAVENPORT SECTION: 671 PLAN REFERENCE:
 CO-ORDINATES: R.L. OF COLLAR: 133.2
 BEARING: -- DEPRESSED: Vertical DRILLER: E. Anderson
 DATE DRILLING COMMENCED: 12.11.63 DATE DRILLING COMPLETED: 14.11.63

LOG

Depth		Core Recov- ered Ft. In.	Description
From Ft. In.	To Ft. In.		
0 0	8 0	1 6	0 - 6' ?Orange-brown calcareous sand.
8 0	10 0	1 0	
10 0	10 9	6 6	6 -11'6" Pink massive and nodular kunkar to approx. 9' overlying orange-brown marl with lime pockets.
10 9	11 0	5 5	
11 0	14 4	1 4	
14 4	18 0	2 0	
			11'6"-18' White and pink limestone. Broken with frequent clay seams and pockets.
18 0	20 10	3 5	18'-30' Hard white and some pink fragmentary limestone. A few open solution holes. Core pitted with clay filling particularly below 25'.
20 10	26 1	4 9	
26 1	30 10	4 1	
30 10	32 7	1 4	
Core recovered		20'2"	30-32'7" Limestone as before but intensely pitted and with frequent clay seams and pockets.
Recovery		62%	
In limestone (11'6"-32'7")		16'11"	
Recovery		80%	
			END OF BORE 32'7"
			Hole collapsed at 15' - dry 2.12.63

Bore logged by: M.N. HIERN

Date: 6.12.1963

DEPARTMENT OF MINES, ADELAIDE

DIAMOND DRILL LOG

PROJECT: AUGUSTA SALT LTD. ROCK QUARRY D.M.: 794/62
BORE NO. 26 BORE SERIAL NO. DD 58/64
HUNDRED: DAVENPORT SECTION: 671 PLAN REFERENCE:
CO-ORDINATES: R.L. OF COLLAR: 128.0
BEARING: -- DEPRESSED: Vertical DRILLER: E. Anderson
DATE DRILLING COMMENCED: 14.11.63 DATE DRILLING COMPLETED: 18.11.63

LOG

Depth		Core Recov- ered Ft. In.	Description
From Ft. In.	To Ft. In.		
0 0	4 6	1 3	0 - 4'6" Orange-brown calcareous sand. Overlying 9" of pink massive kunkar core.
4 6	9 3	1 0	4'6"-9'3" Pink kunkar as above overlying white and some orange marbl.
9 3	15 9	1 3	9'3"-15'9" Broken white and some pink limestone, probably with clay seams.
15 9	22 1	3 6	15'9"-50' Hard pink and white fragmentary limestone. Broken with some clay to 17'. Mainly open solution holes to 38'6" there- after core is pitted. Pits mostly clay filled, increasing downward in abundance.
22 1	25 0	2 6	
25 0	29 8	4 8	
29 8	34 5	4 9	
34 5	37 10	3 4	
37 10	42 3	5 4	
42 3	44 10	2 7	
44 10	49 7	4 7	50'-52'8" Limestone as above with clay and orange-brown sandy clay pockets increasing downward.
49 7	52 8	2 6	
Core recovered		37'3"	END OF HOLE 52'8"
Recovery		71%	
In limestone (9'3"-52'8")		35'	
Recovery		81%	
Water level not measured, hole filled in at surface.			

Bore logged by: M.N. Hiern

Date: 6.12.1963

DEPARTMENT OF MINES, ADELAIDE

DIAMOND DRILL LOG

PROJECT: AUGUSTA SALT LTD. ROCK QUARRY **D.M.:** 794/62
BORE NO.: 27 **BORE SERIAL NO.** DD 61/64
HUNDRED: DAVENPORT **SECTION:** 671 **PLAN REFERENCE:**
CO-ORDINATES: **R.L. OF COLLAR:** 129.0
BEARING: -- **DEPRESSED:** Vertical **DRILLER:** E. Anderson
DATE DRILLING COMMENCED: 18.11.63 **DATE DRILLING COMPLETED:** 20.11.63

LOG

Depth		Core Recov- ered Ft. In.	Description
From Ft. In.	To Ft. In.		
0 0	7 0	1 4	0 - 6' Orange-brown calcareous sand. 6 - 7' Pink nodular kunkar.
7 0	11 0	1 5	7 $\frac{1}{2}$ 16'6" White and orange-brown mottled marl with lime nodules.
11 0	14 0	1 6	
14 0	16 6	2 9	
16 6	18 1	2 0	16'6"-18'1" Broken pink and white limestone with abundant clay seams and peckets.
18 1	25 0	4 3	18'1"-29'6" Hard pink and white fragmentary limestone. Broken along thin semi-decomposed sub-vertical joints. 25-29'6".
25 0	29 6	3 6	
29'6"	35 1	4 1	29'6"-30'6"? Cavity recorded by driller
35 1	39 10	4 7	
39'10"	47 6	3 6	30'6"-41'3" Hard limestone as before. Mainly open solution holes to 36'6" thereafter. Core marked by clay filled pits. Broken 40-40'6".
Core recovered		26'11"	41'3"-45'3" Cavity recorded by driller.
Recovery		57%	45'3"-47'6" Hard pink and white limestone as above. Decomposed peckets 47'-47'6".
In limestone (16'6"-47'6")		21'11"	
Recovery		71%	
			END OF HOLE 47'6"
			Water level (2.12.63) 12'7" R.L.115.3

Bore logged by: M.N. HIERN

Date: 6.12.1963

DEPARTMENT OF MINES, ADELAIDE

DIAMOND DRILL LOG

PROJECT: AUGUSTA SALT LTD. ROCK QUARRY D.M.: 794/62
 BORE NO.: 28 BORE SERIAL NO. DD 62/64
 HUNDRED: DAVENPORT SECTION: 672 PLAN REFERENCE:
 CO-ORDINATES: R.L. OF COLLAR: 127/3
 BEARING: -- DEPRESSED: Vertical DRILLER: E. Anderson
 DATE DRILLING COMMENCED: 21.11.63 DATE DRILLING COMPLETED: 22.11.63

LOG

Depth		Core Recov- ered Ft. In.	Description
From Ft. In.	To Ft. In.		
0 0	9 0	1 6	0 - 9' Red sand for first 6" followed by broken pink coarse nodular kunkar and red-brown marl.
9 0	15 9	3 6	9 -15'9" Broken kunkar limestone.
15 9	18 11	1 6	15'9"-16'9" Broken Pink limestone.
			16'9"-18'11" Hard pink and white fragmentary limestone, only 7" core recovered. Driller reported 2' cavity.
18'11"	22 0	5 0	18'11"-35' Hard pink and white fragmentary limestone. Frequent open solution cavities.
22 0	26 2	5 0	
26 2	32 4	3 9	
32 4	37 1	5 0	
			35'-37'1" Limestone as before but broken with decomposed seams.
37 1	41 6	7 3	37'1"-50'2" Mainly hard limestone as for 18'11"-35'0". Small clay filled pitting. One or two small open solution holes.
41 6	50 2	4 6	
Core recovered		37'0"	END OF HOLE 50'2"
Recovery		73%	
In limestone		31'1"	
(16'9"-50'2")			
Recovery		93%	
			NOTE:- Below 18'11" footage markers are apparently misplaced. Core recovered over interval 18'11"-50'2" (31'3") is 30'6".
			Water level 12'4" (R.L. 114.9)

Bore logged by: M.N. HIERN

Date: 2.1.1964

DEPARTMENT OF MINES, ADELAIDE

DIAMOND DRILL LOG

PROJECT: AUGUSTA SALT LTD. ROCK QUARRY **D.M.:** 794/62
BORE NO.: 29 **BORE SERIAL NO.** DD 63/64
HUNDRED: DAVENPORT **SECTION:** 672 **PLAN REFERENCE:**
CO-ORDINATES: **R.L. OF COLLAR:** 129.6
BEARING: -- **DEPRESSED:** Vertical **DRILLER:** E. Anderson
DATE DRILLING COMMENCED: 24.11.63 **DATE DRILLING COMPLETED:** 25.11.63

LOG

Depth		Core Recov- ered Ft. In.	Description
From Ft. In.	To Ft. In.		
0 0	14 0	2 6	0 - 10' Orange-brown calcareous sand.
14 0	16 0	1 8	10- 15' Pink nodular kunkar overlying offwhite and orange-brown marl with lime pockets.
16 0	18 10	1 6	15-18'10" Broken, decomposed pink-white limestone.
18 10	23 5	4 1	18'10"-24'6" Pink and white fragmentary limestone intensely pitted. All with clay filling. Core very broken at 1-2" intervals by horizontal solution lines. Occasional clay seams.
23 5	28 0	4 6	24'6"-35'6" Mainly hard pink and white limestone with some clay filled pitting. Open solution holes. Broken and friable 33-33'6".
28 0	32 9	3 8	
32 9	35 6	2 9	
35'6"	41 6	5 0	35'6"-46'0" Hard pink and white limestone minor amount of clay filled pits.
41 6	49 9	8 10	
			46'-49'9" Gradual change. Limestone as before with decomposed clay seams and pockets in increasing abundance downward.
Core recovered		34'6"	END OF BORE 49'9"
Recovery		69%	
In limestone (15'-49'9")		38'4" 90%	
			Water level 13'1" (R.L. 116.5)

Bore logged by M.N. HIERN

Date: 6.12.1963

DEPARTMENT OF MINES, ADELAIDE

DIAMOND DRILL LOG

PROJECT: AUGUSTA SALT LTD. ROCK QUARRY **D.M.:** 794/62
BORENO.: 30 **BORE SERIAL NO.:** DD 64/64
HUNDRED: DAVENPORT **SECTION:** 612 **PLAN REFERENCE:**
EO-ORDINATES: **R.L. OF COLLAR:** 127.2
BEARING: -- **DEPRESSED:** Vertical **DRILLER:** E. Anderson
DATE DRILLING COMMENCED: 26.11.63 **DATE DRILLING COMPLETED:** 28.11.63

LOG

Depth		Core Recov- ered Ft. In.	Description
From Ft. In.	To Ft. In.		
0 0	11 0	6	0 - 11' Orange-brown calcareous sand.
11 0	16 0	1 10	11- 19' Pink and white limestone with abundant pitting and decomposed clay seams. Core broken.
16 0	20 0	3 3	
20 0	22 9	1 8	19-27'6" Hard pink and white limestone with abundant pitting filled with reddish clay. A few open solution holes.
22 9	27 6	6 3	
27 6	35 0	5 5	27'6"-49'10" Hard pink and white limestone. Frequent open solution holes down to 47'2". Minor pitting with clay filling. Driller reports water lost at 47'
35 0	40 6	5 4	
40 6	45 3	4 9	
45 3	47 0	3 0	
47 0	49 10	1 7	
Core recovered		33'7"	END OF HOLE 49'10"
Recovery		67%	
In limestone (11'-49'10")		34'1"	
Recovery		88%	Water level 12'4" (R.L. 114.7)

Bore logged by: M.N. HIERN

Date: 6.12.1963

DEPARTMENT OF MINES, ADELAIDE

DIAMOND DRILL LOG

PROJECT: AUGUSTA SALT LTD. ROCK QUARRY D.M. 794/62
BORE NO.: 31 BORE SERIAL NO. DD 65/64
HUNDRED: DAVENPORT SECTION: 672 PLAN REFERENCE:
CO-ORDINATES: R.L. OF COLLAR: 138.1
BEARING: -- DEPRESSED: Vertical DRILLER: E. Anderson
DATE DRILLING COMMENCED: 28.11.63 DATE DRILLING COMPLETED: 1.12.63

LOG

Depth		Core Recov- ered Ft. In.	Description
From Ft. In.	To Ft. In.		
0 0	12 6	4	0 -12'6" Orange-brown sand.
12 6	16 5	3 0	12'6"-15' ?Pink massive kunkar and prob- ably some marl.
			15-16'2" Broken pink and white limestone
16 5	21 0	3 1	16'2"-47' Hard pink and white fragmentary limestone. A few open solution holes down to 28' occasional clay filled pits below 25', increasing in abundance near 47 feet.
21 0	23 7	2 3	
23 7	25 9	2 2	
25 9	30 2	4 5	
30 2	34 11	4 6	
34 11	39 8	4 2	
39 8	44 5	4 0	47-49'9" Limestone as above with abun- dant clay seams and pockets. Some orange-brown sandy clay near 49'.
Core recovered		32'4"	END OF HOLE 49'9"
Recovery		66%	
In limestone (15'-49'4")		88% 5"	
Water level 15'7", R.L. 122.4 hole collapsed at 16'3".			

Bore logged by: M.N. HIERN

Date: 6.12.1963

DEPARTMENT OF MINES, ADELAIDE

DIAMOND DRILL LOG

PROJECT: AUGUSTA SALT LTD. ROCK QUARRY D.M.: 794/62
BORE NO.: 32 BORE SERIAL NO. DD 72/64
HUNDRED: DAVENPORT SECTION: 672 PLAN REFERENCE:
CO-ORDINATES: R.L. OF COLLAR: 136.7
BEARING: -- DEPRESSED: Vertical DRILLER: E. Anderson
DATE DRILLING COMMENCED: 2.12.1963 DATE DRILLING COMPLETED: 4.12.63

LOG

Depth		Core Recov- ered	Description
From	To		
Ft. In.	Ft. In.	Ft. In.	
0 0	13 9	2 0	0 - 13'9" Orange-brown sand over broken pink massive kunkar and orange brown marl.
13 9	14 7	8	13'9"-14'7" Orange-brown limey clay/
14 7	17 3	2 2	14'7"-26' Hard pink and white fragmentary limestone. Frequent open solution cavities. Broken with clay filled holes 16-17'5". Some minor pitting with clay filling.
17 3	22 0	4 3	
22 0	26 9	4 5	
26 9	30 6	3 8	26'0"-31' Hard limestone as before but with clay filled pitting and holes.
30 6	35 3	4 3	31 - 33' Hard limestone with open solution holes.
35 3	40 0	4 8	
40 0	44 9	4 6	33-49'2" Mainly hard limestone with frequent to abundant clay filled pockets and patches. Broken in part.
44 9	49 2	3 6	
Core recovered		34'1"	END OF HOLE 49'2"
Recovery		69%	
In limestone (14'7"-49'2")		31'5"	
Recovery		91%	
			Water level not measured.

Bore logged by: M.N. HIERN

Date: 2.1.1964

DEPARTMENT OF MINES, ADELAIDE

DIAMOND DRILL LOG

PROJECT: AUGUSTA SALT LTD. ROCK QUARRY D.M.: 794/62
BORE NO.: 33 BORE SERIAL NO. DD 73/64
HUNDRED: DAVENPORT SECTION: 672 PLAN REFERENCE:
CO-ORDINATES: R.L. OF COLLAR: 137.8
BEARING: - DEPRESSED: Vertical DRILLER: E. Anderson
DATE DRILLING COMMENCED: 5.12.63 DATE DRILLING COMPLETED: 6.12.63

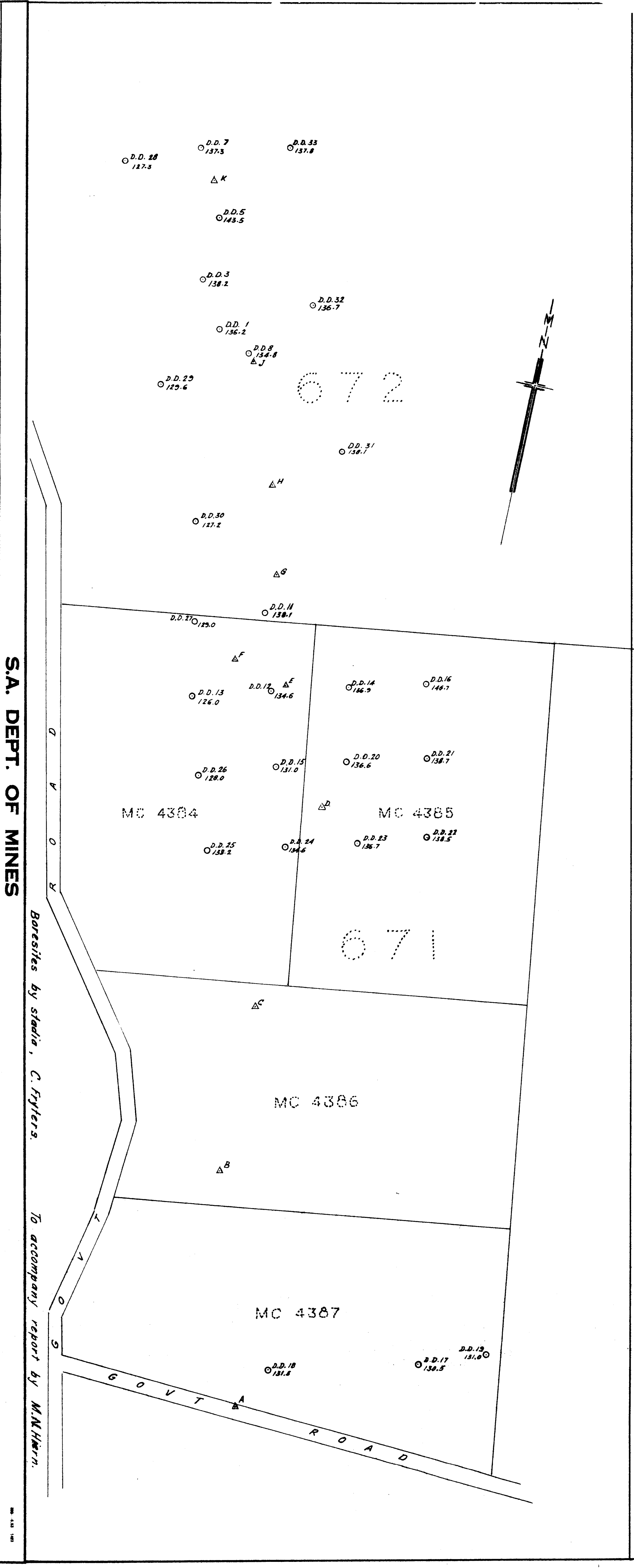
LOG

Depth		Core Recov- ered Ft. In.	Description
From Ft. In.	To Ft. In.		
0 0	12 6	6	0 - 12'6" Sand.
12 6	18 0	4 0	12'6"-18' Minor nodular kunkar over red-brown marl and limey clay.
18 0	21 10	3 0	18'-19'6" Pink and white fragmentary limestone. Hard but broken by clay filled seams.
21 10	23 0	1 7	19'6"-48'6" Mainly hard pink and white limestone with clay filled pitted and patches. A few open solution holes down to 43'. Soft clay seams 27'4"-29'7", 29'11"-30'1", 32'6"-32'8".
23 0	27 9	4 0	
27 9	32 0	4 6	
32 0	36 3	4 6	
36 3	39 0	2 0	
39 0	43 9	3 8	
43 9	48 6	4 8	
Core recovery		32'5"	END OF HOLE 48'6"
Recovery		67%	
In limestone (18'-48'6")		27'11"	
Recovery		91%	Water level not measured.

Bore logged by: M.N. HIERN

Date: 2.1.1964

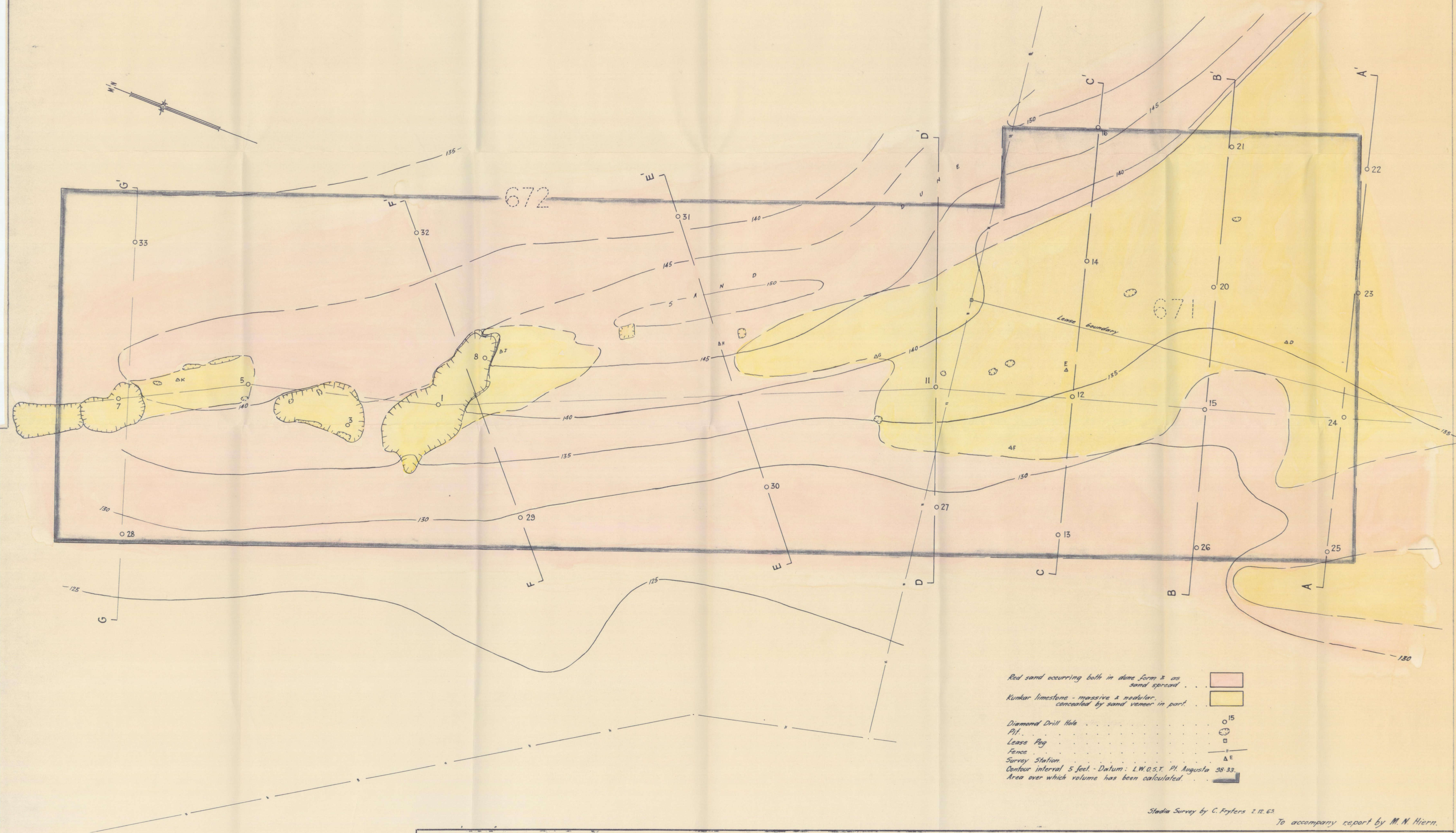
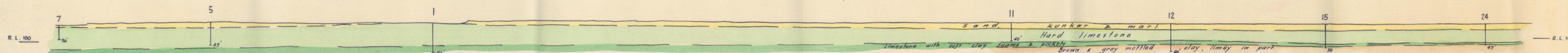
Associated Drawing		No.	No.	Amendment	Exd.	Date	Req. No. D.M.	Compiled from	LIMESTONE DEPOSIT SECTIONS 671, 672 H. DAVENPORT BORE LOCALITY PLAN			Approved	Passed	Drn. J. E.	Scale: 1" to 4 chains
															64-36 Fh 1
															Date 21-1-1964



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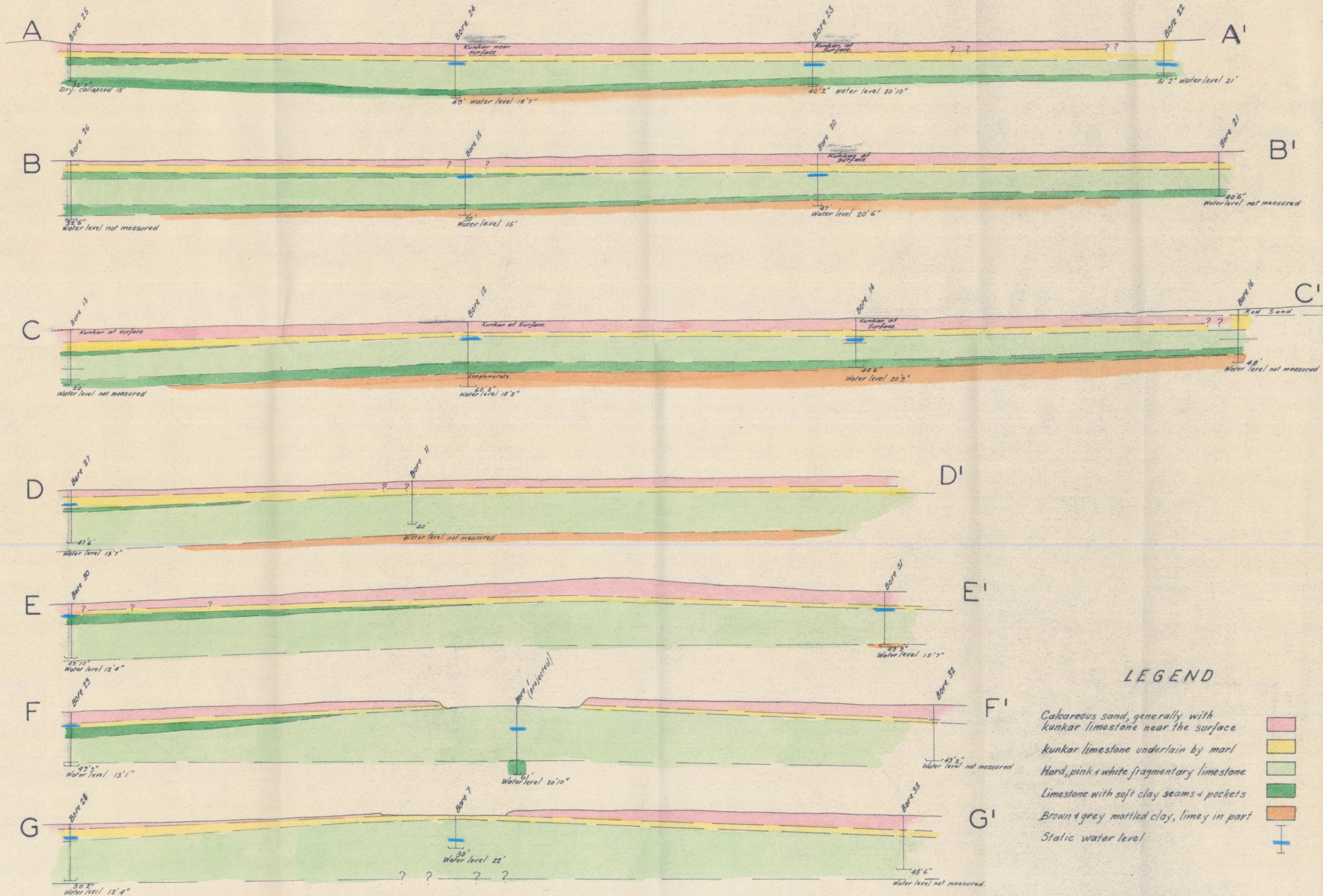
LONGITUDINAL SECTION



S.A. DEPT. OF MINES

GEOLOGICAL MAP
LIMESTONE DEPOSIT
SECS. 671, 672 H^o DAVENPORT

Associated Drawing				No.	No.	Amendment	Exd.	Date	Req. No. D.M. Compiled from F. B. 272
<p>Approved _____ Passed _____</p> <p>Director of Mines _____</p> <p>Drn. _____ Tcd. _____ Ckd. _____ Exd. _____</p> <p>Scale: 100 feet to 1 inch.</p> <p>64-63</p> <p>Date 28. 1. 64</p> <p>Fh I.</p>									



S.A. DEPT. OF MINES
LIMESTONE DEPOSIT
SECTIONS 671 672 H^D DAVENPORT
CROSS SECTIONS

Req. No.
D.M.
Compiled from

Approved	Passed	Drn.	Scale: 1" to 50ft
		Tcd. J.E.	64 - 34 Fh1
		Ckd. M.H.	
Director of Mines		Exd.	
			Date

Associated Drawing	No.	No.	Amendment	Exd.	Date