

R/B 61/90

DEPARTMENT OF MINES
SOUTH AUSTRALIA

CHOWILLA DAM, EMBANKMENT MATERIALS
RIP-RAP INVESTIGATION
TALGARRY QUARRY SITE

by

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Geologist

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Rept. Bk. No. 61/90
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D.M. 1291 /65

4th October, 1965.

DEPARTMENT OF MINES
SOUTH AUSTRALIA

CHOWILLA DAM, EMBANKMENT MATERIALS
RIP-RAP INVESTIGATION
TALGARRY QUARRY SITE

ABSTRACT

An area near Talgarry in New South Wales has been investigated as a possible source of rock for the Chowilla Dam Project. The investigation has included 76 power auger holes totalling 1407 feet and 36 diamond drill holes totalling 365 feet in depth. A finegrained white limestone occurs in several lenticular bands up to 3 feet thick within an area of about 160,000 sq. yards. The quantity of usable material is estimated at less than 8000 cubic yards and the deposit has therefore been abandoned as a possible source of rip-rap.

INTRODUCTION

In the progress report dated November 1965 (Reference 1) the limestone deposits near Talgarry were listed as worthy of further investigation as a possible source of rip - rap material for Chowilla Dam.

The deposits occur about 4 miles to the north of Talgarry Homestead, on each side of the Talgarry - Lake Victoria boundary fence. The distance from the right bank of the Chowilla Dam site is 82 miles (Fig. 2).

Three small quarries have been worked within an area of less than $\frac{1}{2}$ square mile and an estimated 5000 cubic yards of rock have been removed.

The programme of investigation reported on here consisted of the following:-

.... 76 power auger holes totalling 1407 ft. in depth

.... 36 diamond drill holes totalling 365 ft. in depth

GENERAL GEOLOGY

The Talgarry rock deposits are situated in gently undulating country in the Murray Basin. A succession of sands, clayey sands and clays of probable Quaternary age occurs beneath a thin veneer of windblown sand. Several small, lenticular near-horizontal bands of limestone occur within the sands and clays at or near a particular level. The position and composition of this rock suggests that it was formed in small lakes by chemical precipitation.

DETAILED GEOLOGY OF THE SITE

The only exposures of rock in the area are in the sides of the scattered excavations which occur in 3 groups. (Fig. 2). 75 power auger holes were drilled to check the continuity of the rock between these pits and to locate any unexposed rock in the area. These holes were taken to 30 ft. or to a rocky horizon which would not allow further penetration. 35 diamond drill holes were put down in places where the auger encountered rocky material. The results of the auger drill holes are shown in Table 1, and of the diamond holes in Table 2.

The dense white limestone was only located in 13 holes. In places where no limestone was recovered auger refusal was caused by kunkar rubble. Fig. 2 shows the approximate distribution of the white limestone and also the positions of all drill holes.

The limestone is very variable in thickness, ranging from 0.1 to 3 ft. It is a white, dense, cryptocrystalline rock and is usually penetrated by fine dendritic patterns of manganese dioxide.

CONCLUSIONS

The limestone occurs in lenses of very variable thickness. It is of good quality and would probably provide material usable for rip-rap.

It is estimated that the reserves of limestone in the area explored are less than 8,000 cubic yards. This is insufficient for consideration for use in the dam, and the site should therefore be abandoned as a potential rip-rap source.

J. P. Trudinger.

J. P. Trudinger
Geologist
ENGINEERING GEOLOGY SECTION *per 8.5*

JPT:AGK:DLH
4/10/65

REFERENCE

STAPLEDON, D.H. and TRUDINGER, J.P. 1964.

Progress Geological Report, November 1964, Chowilla Dam, Embankment Materials, Rip-Rap Investigation. Dept. of Mines, S.A., Rept. Bk. No. 59/124, G.S. No. 3020.

TABLE 1.

TALGARRY - POWER AUGER HOLES

Hole No.	Adopted RL. (ft.)	Depth (ft.)	Results
TA1	204.2	30	No rock encountered.
TA2	203.5	30	No rock encountered.
TA3	202.8	5	Auger refusal at 5 ft. See TD3.
TA4	203.4	30	No rock encountered.
TA5	200.8	2	Auger refusal at 2 ft. See TD1.
TA6	203.7	2	Auger refusal at 2 ft. See TD2
TA7	207.5	30	No rock encountered.
TA8	203.8	30	No rock encountered.
TA9	210.5	30	No rock encountered.
TA10	210.7	30	No rock encountered.
TA11	216.2	30	No rock encountered.
TA12	210.9	30	No rock encountered.
TA13	207.3	2	Auger refusal at 2 ft. See TD18.
TA14	199.9	2	Auger refusal at 2 ft. See TD19.
TA15	201.6	1.5	Auger refusal at 1.5 ft. See TD20.
TA16	202.5	5	Auger refusal at 5 ft. See TD21.
TA17	204.1	2	Auger refusal at 2 ft. See TD22.
TA18	205.5	3	Auger refusal at 3 ft. See TD23.
TA19	209.4	30	No rock encountered.
TA20	207.2	30	No rock encountered.
TA21	213.6	30	No rock encountered.
TA22	203.9	7	Auger refusal at 7 ft. See TD28.
TA23	209.3	12	Auger refusal at 12 ft. See TD24.
TA24	201.0	1	Auger refusal at 1 ft. See TD27.
TA25	208.1	1.5	Auger refusal at 1.5 ft. See TD25.
TA26	207.6	12	Auger refusal at 12 ft. See TD26.
TA27	207.3	30	No rock encountered.
TA28	204.4	30	No rock encountered.
TA29	196.1	30	No rock encountered.
TA30	196.2	30	No rock encountered.
TA31	195.9	30	No rock encountered.
TA32	220.3	30	No rock encountered.
TA33	213.0	30	No rock encountered.
TA34	207.5	3.5	No rock encountered. See TD16.
TA35	204.5	30	No rock encountered.
TA36	204.1	30	No rock encountered.
TA37	198.2	1.5	Auger refusal at 1.5 ft. See TD8.
TA38	197.5	1	Auger refusal at 1 ft. See TD36.
TA39	203.5	1	Auger refusal at 1 ft. See TD4.
TA40	202.3	2	Auger refusal at 2 ft. See TD7.

TABLE 1. Continued.

Hole No.	Adopted RL. (ft.)	Depth (ft.)	Results
TA41	200.0	30	No rock encountered.
TA42	200.3	30	No rock encountered.
TA43	200.6	2	Auger refusal at 2 ft. See TD10.
TA44	203.8	30	No rock encountered.
TA45	202.5	2	Auger refusal at 2 ft. See TD6.
TA46	202.5	30	No rock encountered.
TA47	202.2	30	No rock encountered.
TA48	203.2	30	No rock encountered.
TA49	204.1	3.5	Auger refusal at 3.5 ft. See TD11.
TA50	204.7	30	No rock encountered.
TA51	203.4	30	No rock encountered.
TA52	203.4	30	No rock encountered.
TA53	204.6	30	No rock encountered.
TA54	204.0	30	No rock encountered.
TA55	203.5	1.5	Auger refusal at 1.5 ft. See TD5.
TA56	204.6	30	No rock encountered.
TA57	206.6	30	No rock encountered.
TA58	209.4	30	No rock encountered.
TA59	208.8	30	No rock encountered.
TA60	207.8	5	Auger refusal at 5 ft. See TD14.
TA61	215.1	10	Auger refusal at 10 ft. See TD12.
TA62	207.4	2	Auger refusal at 2 ft. See TD15.
TA63	214.1	15	Auger refusal at 15 ft. See TD13.
TA64	196.1	1.5	Auger refusal at 1.5 ft. See TD9.
TA65	195.0	30	No rock encountered.
TA66	193.4	30	No rock encountered.
TA67	211.9	30	No rock encountered.
TA68	211.9	30	No rock encountered.
TA69	213.0	3	Auger refusal at 3 ft. See TD17.
TA70	217.2	30	No rock encountered.
TA71	212.0	30	No rock encountered.
TA72	203.5	6	Auger refusal at 6 ft. See TD29.
TA73	200.1	2.5	Auger refusal at 2.5 ft. See TD30.
TA74	198.4	30	No rock encountered.
TA75	197.9	24	Auger refusal at 24 ft.

TABLE 2.

TALGARRY - DIAMOND DRILL HOLES

Hole No.	Corresponding Auger Hole No.	Adopted RL. (ft.)	Depth (ft.)	Results - Rock Recovered.
TD1	TA5	200.8	15.0	Kunkar rubble.
TD2	TA6	203.7	18.5	Few small kunkar fragments.
TD3	TA3	202.8	9.0	1.3 ft. of limestone, plus kunkar rubble.
TD4	TA39	203.5	6.0	Kunkar rubble.
TD5	TA55	203.5	10.5	Kunkar rubble.
TD6	TA45	202.5	11.0	Kunkar rubble.
TD7	TA40	202.3	7.5	Kunkar rubble.
TD8	TA37	198.2	7.0	Kunkar rubble.
TD9	TA64	196.1	8.5	Kunkar rubble.
TD10	TA43	200.6	9.0	Kunkar rubble.
TD11	TA49	204.1	9.0	1.3 ft. of limestone, plus kunkar rubble.
TD12	TA61	215.1	16.5	Kunkar rubble.
TD13	TA63	214.1	16.5	Kunkar rubble.
TD14	TA60	207.8	11.0	Kunkar rubble.
TD15	TA62	207.4	14.0	Few small kunkar fragments.
TD16	TA34	207.5	9.5	0.7 ft. of limestone, plus kunkar rubble.
TD17	TA69	213.0	7.0	Kunkar rubble.
TD18	TA13	207.3	11.5	Kunkar rubble.
TD19	TA14	199.9	8.5	Kunkar rubble.
TD20	TA15	201.6	10.5	1.7 ft. of limestone, plus kunkar rubble.
TD21	TA16	202.5	9.0	0.9 ft. of limestone, plus kunkar rubble.
TD22	TA17	204.1	11.0	0.7 ft. of limestone, plus kunkar rubble.
TD23	TA18	205.5	8.5	Kunkar rubble.
TD24	TA23	209.3	11.0	1.0 ft. of limestone, plus chalky lime.
TD25	TA25	208.1	11.0	Kunkar rubble.
TD26	TA26	207.6	8.5	0.1 ft. of limestone, plus kunkar.
TD27	TA24	201.0	8.0	1.3 ft. of limestone, plus kunkar rubble.
TD28	TA22	203.9	11.0	0.2 ft. of limestone, plus kunkar rubble.
TD29	TA72	203.5	11.5	0.7 ft. of limestone, plus kunkar rubble.
TD30	TA73	200.1	10.5	2.5 ft. of limestone, plus kunkar rubble.
TD31	-	204	10.5	2.2 ft. of limestone, plus kunkar rubble.
TD32	-	204	8.0	1.4 ft. of limestone, plus kunkar rubble.
TD33	-	201.5	8.0	Kunkar rubble.
TD34	-	202	8.5	1.7 ft. of limestone, plus kunkar rubble.
TD35	-	203	7.0	Kunkar rubble.
TD36	TA38	197.5	7.0	Kunkar rubble.

APPENDIX A - LOGS OF DIAMOND DRILL HOLES

HOLE NO.	ADOPTED R.L.	DEPTH	REFERENCE NO.
TD 3	203 ft.	9 ft.	S 4255
TD 11	204 ft.	9 ft.	S 4256
TD 16	208 ft.	9.5 ft.	S 4257
TD 20	202 ft.	10.5 ft.	S 4258
TD 21	203 ft.	9 ft.	S 4259
TD 22	204 ft.	11 ft.	S 4260
TD 24	200 ft.	11 ft.	S 4261
TD 27	201 ft.	8 ft.	S 4262
TD 28	204 ft.	11 ft.	S 4263
TD 29	204 ft.	11.5 ft.	S 4264
TD 30	200 ft.	10.5 ft.	S 4265
TD 31	204 ft.	10.5 ft.	S 4266
TD 32	204 ft.	8 ft.	S 4268
TD 34	202 ft.	8.5 ft.	S 4267

GEOLOGICAL LOG OF DRILL HOLE

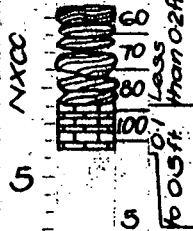
SHEET **1** OF **1****SHEDWILLA DAM**CO-ORDINATES LOCATED AT **TA3**ADOPTED R.L. **203 FT.****RIP RAP**

HUNDRED

DIRECTION **—****ALGARRY, N.S.W.**

SECTION

ANGLE FROM HORIZONTAL **30°**

DEPTH FEET	DESCRIPTION OF CORE NO. OF FEET IN EACH CORE LOG	LOG	Core Lengths	STRUCTURES JOINTS, VENE. BEDS FAULTS, CRUSHED ZONES	WATER PRESSURE TEST GALLONS PER MINUTE LOSS
0					
5	KUNKAR, some sand, lime in concentric bands dark red brown LIMESTONE, crypto- crystalline, white; MnO ₂ in dendritic patterns, some solution cavities, very dense, Unbreakable by light hammer blow, Breaks irregularly			Few solution channels	No water in hole (Reacts) Driller noted sand

END OF HOLE 9 FT.

TEST PRESSURES SHOWN IN POUNDS PER SQ. INCH MEASURED AT GROUND SURFACE

13 ft

DRILL No. **7**TYPE **A.1000**DRILLER **Briggs**

EXPLANATION

CASING IN HOLE DURING DRILLING

WATER LEVEL IN DRILL HOLE (DATE)

ENGINEERING GEOLOGY AND
SOILS SECTIONLOGGED BY **J.P.T. (P. Mar 63)**DRAWN BY **T.P.S.**

GEOLOGICAL LOG OF DRILL HOLE

HOLE No. **1011**SHEET **1** of **1****CHOWILLA DAM**

CO-ORDINATES

Located at 11449R.L. **804 FT.****RIP-RAP**

HUNDRED

DIRECTION

TALGARRY N.S.W.

SECTION

ANGLE FROM HORIZONTAL **92°**

DEPTH FEET	DESCRIPTION OF CORE OR CUTTINGS WHERE CORE LOST	LOG	STRUCTURES JOINTS, VEINS, DEPOS. FAULTS, CRUSHED ZONES	WATER PRESSURE TEST GALLONS PER MINUTE / LOSS
0				
5	KONKAR rubbly pale red brown			
10	LIMESTONE, crypto- crystalline, white, dense m.o. present. Closely spaced veins of konkar			
15				
20				
25				
30				
35				
40				
45				
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945				
950				
955				
960				
965				
970				
975				
980				
985				
990				
995				
1000				

END OF HOLE 911.

No water in hole (1011)

Driller noted sand
to 8-5 ft

CLAY

Near vertical
joint with uneven
karstified surfacesKONKAR rubbly
pale red brown

LIMESTONE, crypto-
crystalline, white,
dense m.o. present.
Closely spaced veins
of konkarNACC
5
NWS
550
40
30
20
10
5

13 ft

DRILL No. **7**TYPE **A1000**DRILLER **Briggs**COMMENCED **28 Feb 65**

EXPLANATION

CASING IN HOLE DURING DRILLING

WATER LEVEL IN DRILL HOLE

ENGINEERING GEOLOGY AND
SOILS SECTIONLOGGED BY **J.P.T. (AM) 65**DRAWN BY **R.H.**CHECKED BY **D.S.**

DEPARTMENT OF MINES — SOUTH AUSTRALIA
GEOLOGICAL LOG OF DRILL HOLE

HOLE No. *TQ16*

SHEET *1* OF *1*

CHOWILLA DAM

CO-ORDINATES *Located at TA34*

ADOPTED R.L. *200 FT.*

RP - RAP

HUNDRED

DIRECTION —

TALGARRY, N.S.W.

SECTION

ANGLE FROM HORIZONTAL *90°*

DEPTH FEET	DESCRIPTION OF CORE OR CUTTINGS WHERE CORE LOST	LOG	STRUCTURES JOINTS VEINS SEAMS FAULTS CRUSHED ZONES	WATER PRESSURE TEST GALLONS PER MINUTE LOSS
0				
10				
20				
30				
40				
50				
60				
70				
80				
90				
100				
110				
120				
130				
140				
150				
160				
170				
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850				
860				
870				
880				
890				
900				
910				
920				
930				
940				
950				
960				
970				
980				
990				
1000				

END OF HOLE 95ft.

No water in hole (Mar 65)

TEST PRESSURES SHOWN IN POUNDS PER SQ. INCH MEASURED AT GROUND SURFACE

DRILL No. *7*
TYPE *A.1000*
DRILLER *Briggs*
COMMENCED *3 Mar 65*

EXPLANATION

CASING IN HOLE DURING DRILLING

WATER LEVEL IN DRILL HOLE (DATE)

ENGINEERING GEOLOGY AND SOILS SECTION

LOGGED BY *JPT (24 Mar 65)*
DRAWN BY *R.H.*
CHECKED BY *DMS*

MOLLENT D20

SHEET 1 OF 1

RL 202 FT

DIRECTION -

...ANGLE FROM HORIZONTAL 90 -

TEST PRESSURES SHOWN IN POUNDS PER SQ. INCH MEASURED AT GROUND SURFACE

1.2ft

DRILL No. <u>7</u> TYPE <u>A-2000</u> DRILLER <u>Angelo</u> ENGINEER <u>Mar 65</u>	EXPLANATION CASING IN HOLE DURING DRILLING WATER LEVEL IN DRILL HOLE <u>←</u> (DATE)	ENGINEERING GEOLOGY AND SOILS SECTION LOGGED BY <u>J.P.T. Mar 65</u> DRAWN BY <u>R.H.</u> CHECKED BY <u>D.W.</u>
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...ANGLE FROM HORIZONTAL 90.0

SECTION

0.9 ft.

CHECKED BY... *DA*

TEST PRESSURES SHOWN IN POUNDS PER SQ. INCH MEASURED AT GROUND SURFACE

GEOLOGICAL LOG OF DRILL HOLE

SHEET.....1.....OF.....1.....

CO-ORDINATES Located at DA 17

ADOPTED R.L. 204 FT.

HUNDRED

DIRECTION - °

SECTION

...ANGLE FROM HORIZONTAL 90°

TEST PRESSURES SHOWN IN POUNDS PER SQ. INCH MEASURED AT GROUND SURFACE

EXPLANATION

CASING IN HOLE DURING DRILLING

WATER LEVEL IN DRILL HOLE (DATE)

**ENGINEERING GEOLOGY AND
SOILS SECTION**

LOGGED BY JPT (24 Mar '65)

DRAWN BY R.H.

CHECKED BY... *DMS*

DEPARTMENT OF MINES - SOUTH AUSTRALIA
GEOLOGICAL LOG OF DRILL HOLE

HOLE No. **TD24**

SHEET **1** OF **1**

PROJECT **CHOWILLA DAM**
SAP **RIP-RAP**
LOCATION **TALGARRY, N.S.W.**

CO-ORDINATES **located at TA 23**
HUNDRED
SECTION
ANGLE FROM HORIZONTAL **90°**

DEPTH FEET ↓ ↑ CORRECTION	DESCRIPTION OF CORE OR CUTTINGS WHERE CORE LOST	LOG LIFT & CORE RECORDED CORRECTION CORRECTION	STRUCTURES JOINTS, VEINS, SEAMS, FACIES, CRUSHED ZONES	WATER LEVEL ETC.	WATER PRESSURE TEST GALLONS PER MINUTE LOSS
0					
5					
10	Limestone Limestone, crypto crystalline, white, mottled black with dendritic MnO_2 stains. Limestone, chalky, friable, reddish	NMS NACC Vertical joint with karstified faces. Loss down 0.1 ft.			Driller noted "fine sand" to 6 ft. Driller noted sand
END OF HOLE 11 ft.					

TEST PRESSURES SHOWN IN POUNDS PER SQ. INCH MEASURED AT GROUND SURFACE

DRILL No. **7**
TYPE **A. 1200**

DRILLER **Briggs**
CORRECTION **7/10/55**

EXPLANATION

CASING IN HOLE DURING DRILLING

WATER LEVEL IN DRILL HOLE (DATE)

ENGINEERING GEOLOGY AND SOILS SECTION

LOGGED BY **J.P.T. (24/10/55)**

DRAWN BY **R.H.**

CHECKED BY **D.M.K.**

GEOLOGICAL LOG OF DRILL HOLE

SHEET 1 of 1

PROJECT CHIMILLA DAM

CO-ORDINATES LOCATED AT TA24

ADOPTED RL 201 FT.

FEATURE RIP RAP

HUNDRED

DIRECTION -

LOCATION TALGARRY, N. S. W.

SECTION

ANGLE FROM HORIZONTAL 90°

ROCK TYPE OR NAME OF STRATIGRAPHIC FORM IN CORE	DESCRIPTION OF CORE OR CUTTINGS WHERE CORE LOST	R. L. DEPTH FEET CASING → SIZE OF CORE	LOG	LAKE & CORE RECORDED CORE LENGTHS	STRUCTURES JOINTS, FOLDS, BEARS, FAULTS, CRUSHED ZONES	WATER LEVEL ETC.	WATER PRESSURE TEST GALLONS PER MINUTE LOSS
NO CORE	KUNKAR, sandy, red brown. →	3		10 0.7 to 0.4 ft	Near horizontal fracture	No water in hole	Driller noted "Sand to 2.5 ft."
Like Limestone	LIMESTONE, crypto- crystalline, white, dense, not broken by light hammer blow, dendritic MnO ₂						
NO CORE							
END OF HOLE 3 FT.							
1.3 ft.							

TEST PRESSURES SHOWN IN POUNDS PER SQ. INCH MEASURED AT GROUND SURFACE

DRILL No. 7
TYPE A 1000DRILLER Briggs
COMMENCED 8 Mar '65

EXPLANATION

CASING IN HOLE DURING DRILLING

WATER LEVEL IN DRILL HOLE (DATE)

ENGINEERING GEOLOGY AND
SOILS SECTION

LOGGED BY J.P.T. (Mar '65)

DRAWN BY T.P.S.

CHECKED BY DK

Page 1 of 1

ADOPTED. ALSO FT.

NUMEROUS

DIRECTION —

NOTES

ANGLE FROM HORIZONTAL 90°

~~WATER PRESSURE TEST~~
~~ELONGATION PER MINUTE LONG~~

Driller noted
sand from 4 ft.

END OF HOLE. 11 FT.

0.27

TEST PRESSURES SHOWN IN POUNDS PER SQ. INCH MEASURED AT GROUND SURFACE

DATE: 12/1/77

DEPARTMENT OF MINES — SOUTH AUSTRALIA
GEOLOGICAL LOG OF DRILL HOLE

HOLE No. **ID29**

SHEET **1** OF **1**

CHOWILLA DAM

CO-ORDINATES LOCATED AT TA 72

ADOPTED R.L. 204 FT.

RIP-RAP

HUNDRED

DIRECTION — °

TALGARRY N.S.W.

SECTION

ANGLE FROM HORIZONTAL 90°

CORE TYPE KIND OF WEATHERING OR OTHER DATA	DESCRIPTION OF CORE OR CUTTINGS WHERE CORE LOST	R. L. DEPTH FEET → SIZE OF CORE	LOG	LIST OF CORE RECOVERIES CORE LENGTH	STRUCTURES JOINTS, VEINS, BEDS FAULTS, CRUSHED ZONES	WATER LEVEL DIT.	WATER PRESSURE TEST
							GALLONS PER MINUTE LOSS
NO CORE	KUNKAR, fragments	25					
NO CORE	LIMESTONE, crypto-crystalline, white, dense, black dendritic MnO ₂ mottling	5					
NO CORE		15					
END OF HOLE. 11.5 FT.							
No water in hole (Mar '65) Driller noted sand Driller noted "sand and clay"							

TEST PRESSURES SHOWN IN POUNDS PER SQ. INCH MEASURED AT GROUND SURFACE

DRILL No. **7**
 TYPE **A 1000**
 DRILLER **Briggs**
 COMMENCED **2 Mar '65**

EXPLANATION

CASING IN HOLE DURING DRILLING

WATER LEVEL IN DRILL HOLE (DATE)

ENGINEERING GEOLOGY AND
 SOILS SECTION

LOGGED BY **J.P.T. (24 Mar '65)**

DRAWN BY **T.P.S.**

CHECKED BY **DMS**

0.75 ft

DEPARTMENT OF MINES - SOUTH AUSTRALIA
GEOLOGICAL LOG OF DRILL HOLE

HOLE No. TD30

SHEET 1 of 1

CHOWILLA DAM
RIP-RAP
TALGARRY N.S.W.

CO-ORDINATES LOCATED AT TA 73 - ADOPTED RL 200 FT.
HUNDRED
DIRECTION -
SECTION
ANGLE FROM HORIZONTAL 50°

ROCK TYPE EFFECT OF WEATHERING ON DRILLING	DESCRIPTION OF CORE OF CUTTINGS WHERE CORE LOST	R. L. DEPTH FEET → SIZE OF CORE CASING	LOG	STRUCTURES JOINTS, VEINS, BEDS, FAULTS, CRUSHED ZONES	WATER PRESSURE TEST GALLONS PER MINUTE LOSS
NO CORE	KUNKAR, fragments	10	10		
Lake Limestone	LIMESTONE, crypto- crystalline, white, dense, kunkarized along cracks, dendritic MnO ₂ . Not broken with light hammer blow.	5	5		
NO CORE	Chalky lime	10	10		
END OF HOLE 10.5 FT.					
25 ft					

No water in hole (Mar '65)

Driller noted
"sand and clay"

TEST PRESSURE SHOWN IN POUNDS PER SQ. INCH MEASURED AT GROUND SURFACE

DRILL No. 7 TYPE A 1000 DRILLER Briggs COMMENCED 9 Mar '65	EXPLANATION CASING IN HOLE DURING DRILLING WATER LEVEL IN DRILL HOLE (DATE)	ENGINEERING GEOLOGY AND SOILS SECTION LOGGED BY U.P.T. (21 Mar '65) DRAWN BY T.P.S. CHECKED BY D.M.
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DEPARTMENT OF MINES - SOUTH AUSTRALIA
GEOLOGICAL LOG OF DRILL HOLE

HOLE No. **TD31**

SHEET **1** of **1**

PROJECT **CHOWILLA DAM**

CO-ORDINATES

ADOPTED **AL 20 FT.**

TYPE **RIP-RAP**

HUNDRED

DIRECTION **-**

LOCATION **TALGARRY, N.S.W.**

SECTION

ANGLE FROM HORIZONTAL **90°**

NO. TYPE	DESCRIPTION OF CORE	R.L. DEPTH	LOG	STRUCTURES	WATER PRESSURE TEST
NO. OF WEATHERING	OR CUTTINGS WHERE CORE LOST	FEET	LOG	JOINTS, VEINS, BEDS, FOLDS, CRUSHED ZONES	GALLONS PER MINUTE LOSS
NO. OF WEATHERING	OR CUTTINGS WHERE CORE LOST	FEET	LOG	JOINTS, VEINS, BEDS, FOLDS, CRUSHED ZONES	GALLONS PER MINUTE LOSS
NO CORE	Kunkar	10			
Lake	LIMESTONE, crypto-crystalline, white, dense, dendritic MnO ₂	10			
NO CORE	Kunkar.	20			
END OF HOLE 10.5 FT.					
22 ft.					

DRILL No. **7**

TYPE **A.1000**

DRILLER **Briggs**

COMMENCED **9 Mar '63**

EXPLANATION

CASING IN HOLE DURING DRILLING

WATER LEVEL IN DRILL HOLE

ENGINEERING GEOLOGY AND SOILS SECTION

LOGGED BY **J.P.T. (M.A. 1963)**

DRAWN BY **T.P.S.**

CHECKED BY **DM**

TEST PRESSURES SHOWN IN POUNDS PER SQ. INCH MEASURED AT GROUND SURFACE

ANGLE FROM HORIZONTAL 90.

SECTION

TALGARRY, N.S.W.

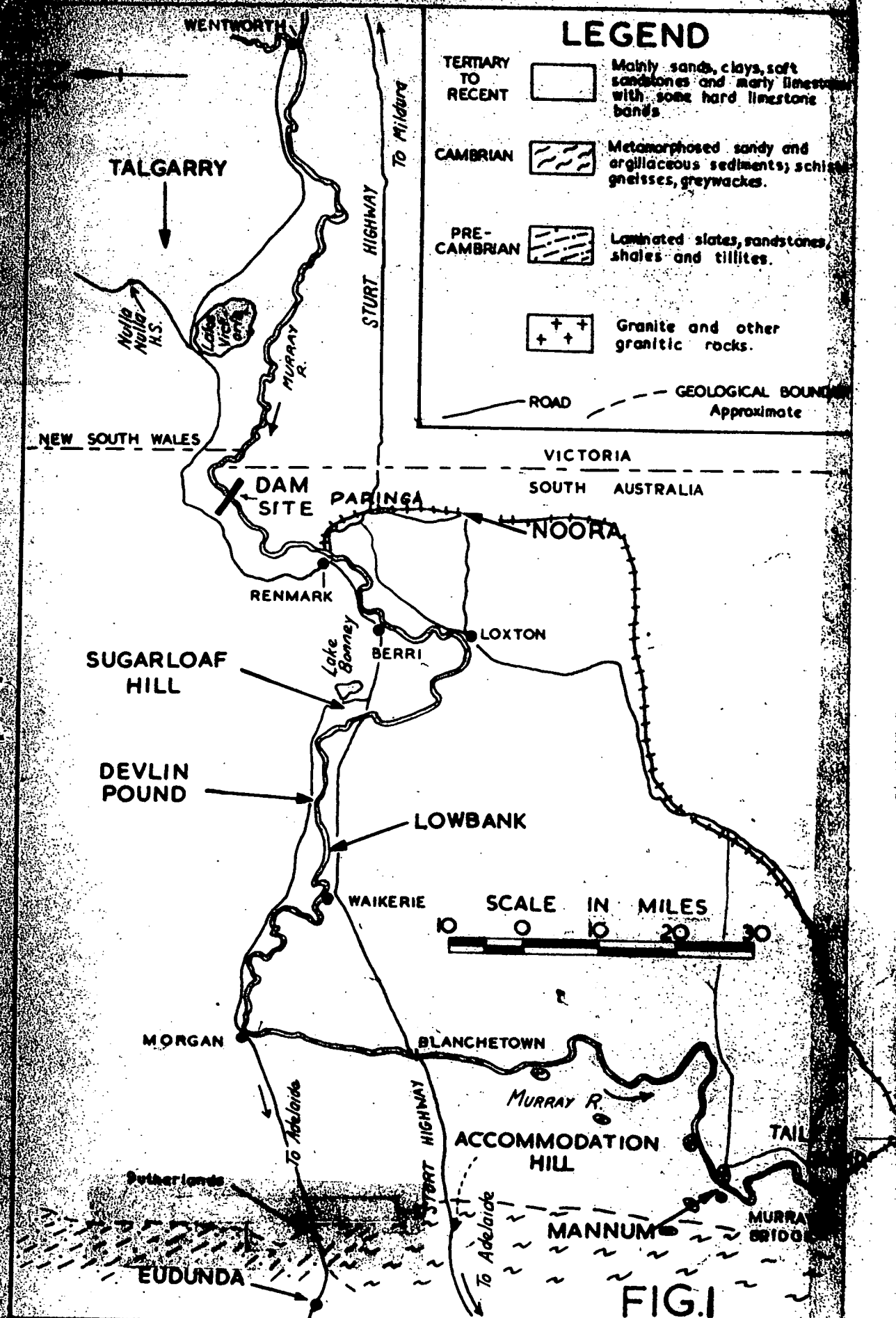
END OF HOLE : 8.5ft

No water in hole (Mar '85)

Driller noted
"sand and clay"

1.7ft.

CHECKED BY... DK



S.A. DEPARTMENT OF MINES

Passed	Drn. J.P.T.	CHOWILLA PROJECT DISTRIBUTION OF POSSIBLE ROCK SOURCES	D.M.	Scale 1:1,000,000
	Tcd. J.P.T.		Req.	S 4076
	Ckd.			G+J
	Exd.			Date 20 Jan '68

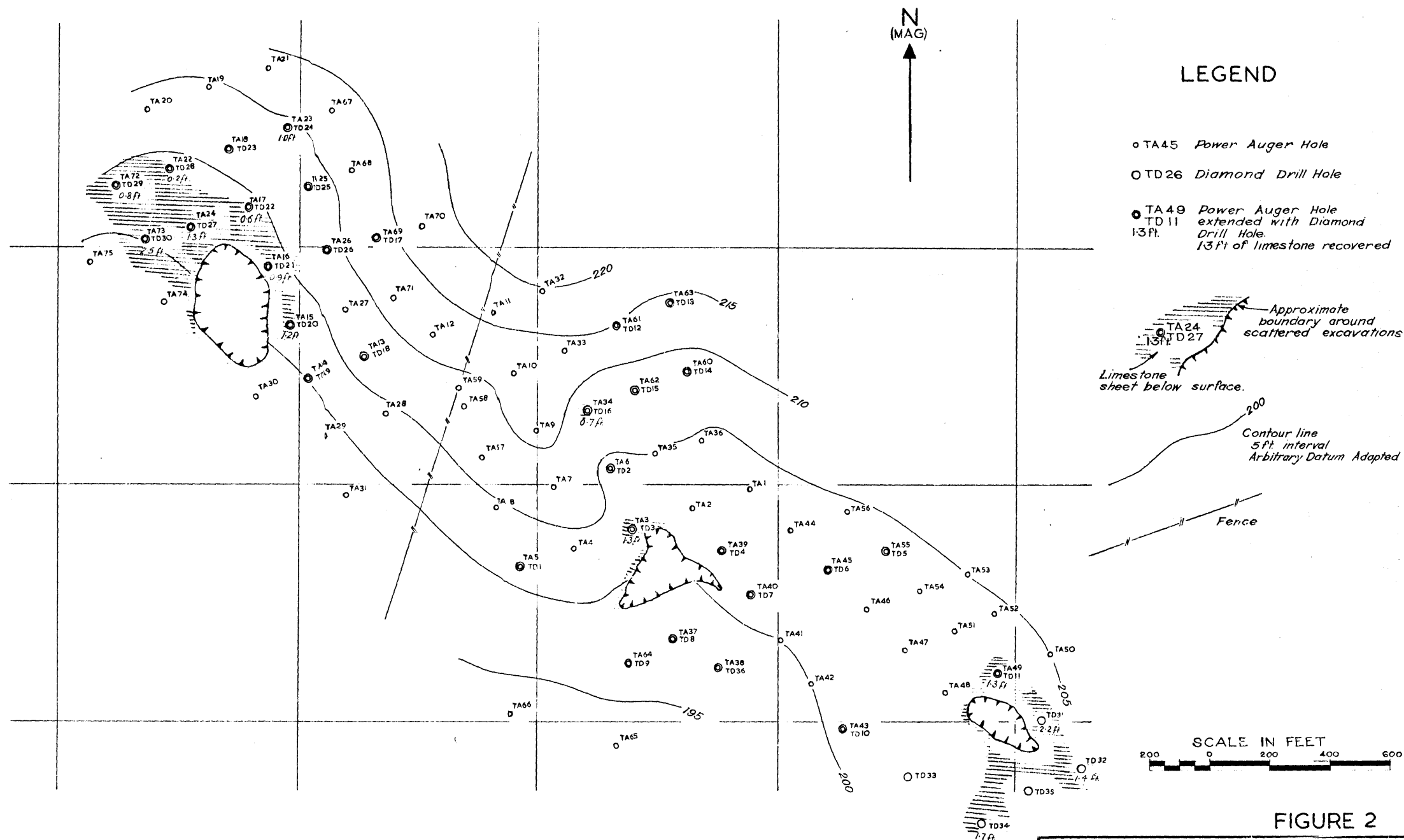


FIGURE 2

DEPARTMENT OF MINES - SOUTH AUSTRALIA

CHOWILLA PROJECT
TALGARRY QUARRY SITE, N.S.W.
GEOLOGICAL PLAN

ENGINEERING GEOLOGY SECTION	<i>J.R. Blundell</i> Geologist	Drm. REA Tcd. J.P.T. Ckd.	SCALE: AS SHOWN 65-977 G+J
Director of Mines	Senior Geologist	Exd.	DATE: 29 AUG 1965

Stadia Survey REA S.F.B.304
Feb. 1965