1312-TRANS
UR1954/26-29

BORING AT DELORAINE FOR COUNCIL WATER SCHEME

Boring was carried out at Deloraine during the period 15th to 25th March.

After visiting the area with Mr. Chamberlain on Monday 15th March, arrangements were made for the delivery of tools to the site.

Boring commenced on the morning of the 17th March on the north side of the Meander River at a point about two chains upstream from the present pumping station.

This bore was carried to a total depth of 37 feet chiefly through clays.

A hard band of cemented gravels occurs from 6 to 7½ feet in depth. This band is of such hardness that it occupied 1 hour 20 minutes to penetrate by boring with a hand operated chisel bit. Underlying the cemented band, clays occur which are in general dry. The upper layer, 10 to 18 feet, of yellow clay is comparatively soft as is also the layer of dark clay from 18 to 28 feet. At 28 feet the clay becomes hard and dry with occasional fragments of slates occurring in it.

Water occurred a little above the surface of the cemented gravel at a depth of 5 feet but was cased off when the casing entered the clays. At 29 feet the bore was left overnight and when work was resumed, it was found that the water had seeped into the casing from the upper level. From that depth the bore was wet and it would appear that once the clay is opened by boring access of water renders it liable to slurrying.

Boring on the south side of the river encountered a similar layer of hard cemented gravels ranging from 6 to 8 feet from the surface.

The cemented gravels here range to 2 feet in thickness and are underlain by dark coloured clays which are reasonably dry and hard. In this area numerous boulders occur in the clays and difficulty was found in making progress. Three attempts were made at the first site to penetrate deeper than 12 feet without success. The boulders appear to be of the order of 5 to 6 inches in diameter but they are sufficiently large to prevent progress.

A number of shallow bores were put down to determine the extent of the layer of cemented gravels cut by the first three bores. This was tested at 9 feet east and to 18 feet west of the original bore, No. 2, and for a distance of six feet north and approximately 60 feet south of No. 2 bore. Five holes were put down to the surface of the cement and its depth varied to 8 feet from the surface. All holes encountered the cement.

Two bores were put down at the site of the proposed new pumping station at the Show Grounds.

For the first 12 feet the section shows a transition from dry chocolate coloured soil to soil with a little clay and finally to clay of variable colour.

All this section is dry and fairly hard. From 12 feet onwards, the section contains numerous boulders variable in size but some at least approached six inches in diameter for they were sufficiently large to defy breaking with the chisel bit and progress was stopped.

In the first of the two bores, which were only 3 feet apart, there was 5 feet of water in the casing at a depth of 14 feet but in the second bore there was no water at 16½ feet. No progress was made beyond 17 feet in depth.

A log of the bores put down is attached and details of the sections passed through are given.

(SGD) H.G.W. Keid M.Sc.

CHIEF GEOLOGIST

Department of Mines,
HOBART

26th March, 1954.

LOG OF BORES PUT DOWN AT DELORAINE

17th - 24th March, 1954

Bore No. 1 Deloraine 17/3/54

Situated about two chains upstream from the existing pumping station on town side (north) of Meander River.

At the middle one of three survey pegs nine feet apart, and about 10 feet from the water's edge.

Depth Section	Total Depth	Ground
1 ft.	1 ft.	Chocolate soil
4 ft.	5 ft.	Chocolate clay with some soil
1 ft.	6 ft.	Chocolate clay, slurries easily, water met at 5 feet.
1½ ft.	7½ ft.	Cemented waterworn gravels up to ¾ inch diameter.
1 ft.	8½ ft.	Black clay hard and dry
1½ ft.	10 ft.	Dark blue pug, no grit.
8 ft.	18 ft.	Yellow clay fairly soft.
10 ft.	28 ft.	Black Clay fairly soft. At 28 feet pieces of slates in clay and clay becomes hard and dry.
4 ft.	32 ft.	Black clay, hard boring. Fragments of shale in pump. Bore left overnight and water seeped in from 5 ft. level.
2 ft.	34 ft.	Dark clay, crumbling, but water still seeping in. From a dry hole, 20 feet of water seeped into bore in 30 minutes.
3 ft.	37 ft.	Still dark clay. Stopped boring on advice from Council Clerk.

Bore No. 2 Deloraine 18/3/54

On south side of Meander River opposite to site of No. 1 bore.

At the middle one of three survey pegs, nine feet apart and about 8 feet from the water's edge.

Depth Section	Total Depth	Ground
3 ft.	3 ft.	Light brown soil.
3 ft.	6 ft.	Casing dropped through loose clayey soil to hard floor. Making water.
2 ft.	8 ft.	Hard cemented gravel
3 ft.	11 ft.	Dark green to black clay with some boulders. At 11 feet, boulders too big to break with hand tools.

The boulder does not completely cover the bottom of the casing for tools jam in casing in softer material.

A second bore was started 2 feet further from the water and after passing through similar material to the above again was stopped at 11 feet because of boulders.

A third bore 3 feet upstream from No. 2 again met cemented gravels at 7 feet, passed out of it at 8½ feet to enter the dark green clays. Boulders again prevented progress beyond 12 feet.

Bore No.5 Deloraine 19/3/54

9 feet downstream from Bore No. 2 at Survey peg. At 8 ft. depth, the top of the cemented gravels was met.

Bore No.6

9 feet upstream from Bore No. 2 and 1 foot from survey peg. The top of the cemented gravels was met at 8 feet.

Bore No.7

9 feet upstream from Bore No.6. The top of the cemented gravels was met at 7½ feet.

Bore No.8

6 feet towards water from Bore No.2 near the water's edge with a decided fall in surface level. The top of the cemented gravel was met at 5 feet.

Bore No.9

About 1 chain from creek and within 3 feet of middle peg of three survey pegs. The top of the cemented gravels was met at 6 feet.

In all this series of bores water occurs at the surface of the cemented gravels.

Bore No.10 Deloraine 23/3/54

At selected site on Show Grounds pegged by Mr. Scott.

Depth Section	Total Depth	Ground
3 ft.	3 ft.	Dry soil, chocolate colour
5 ft.	8 ft.	Soil with a little clay, still dry.
4½ ft.	12½ ft.	Variegated clay, yellow and blue.
1½ ft.	14 ft.	Layer of waterworn boulders to 1 inch diameter in clayey sand part cemented. 5 ft. of water in casing at 14 feet.
3 ft.	17 ft.	Still in boulders, larger than above. No progress.

Bore No.11

Repeated the above bore 3 feet distant. To 13 feet repetition of No. 10.

At 13 feet fairly large boulder met. Recovered in pump. Casing driven to 16½ but still in boulders and no progress.

(SGD) H.G.W.KEID