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16. UNDERGROUND WATER SUPPLY, CITY PARK, LAUNCESTON

by M. J. Longman

INTRODUCTION

At the request of the Launceston City Engineer a resistivity survey of the City Park was undertaken to determine the possibility of obtaining adequate supplies of underground water for the park.

GEOLOGY

From adjacent outcrops and diamond drilling at the Post Office and Queen Victoria Hospital the geological sequence expected is:—

Rock Type	Depth (feet)
Recent—Gravel, sand and clay	0-30
Tertiary—mainly clay	0-100
Jurassic—dolerite	up to 1,000

GEOPHYSICS

Methods and Equipment

The resistivity meter used for the survey was a Yew Specific Earth Resistance Tester, Type L10 manufactured by Yokogawa Electric Works Ltd, Tokyo, Japan.

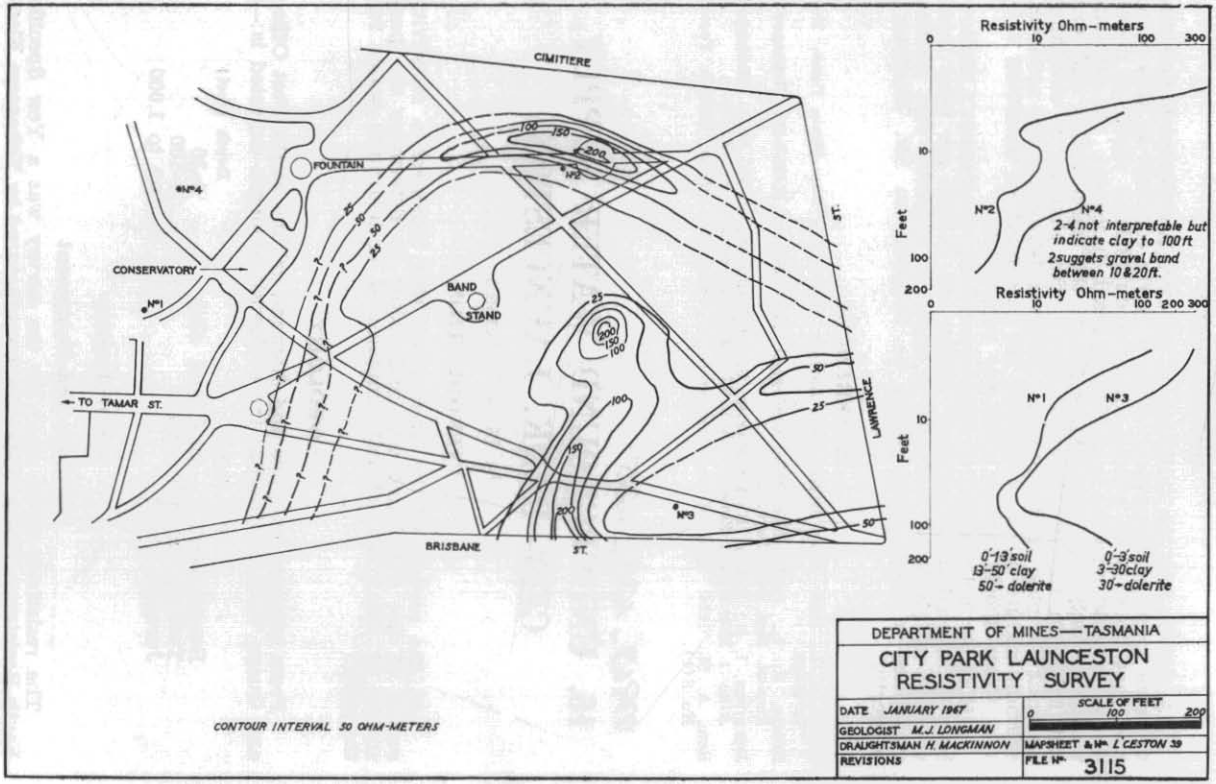
5 cm
CIMITIERE
FOUNTAIN
CONSERVATORY
BAND STAND
TO TAMAR ST.
BRISBANE ST.
LAWRENCE ST.
N°1
N°2
N°3
N°4
CONTOUR INTERVAL 50 OHM-METERS
Resistivity Ohm-meters
0 10 100 300
Feet
10
100
200
N°2
N°4
2-4 not interpretable but indicate clay to 100ft
2suggests gravel band between 10&20ft.
Resistivity Ohm-meters
0 10 100 200 300
N°1
N°3
0'-13'soil
13'-50'clay
50'+ dolerite
0'-3'soil
3'-30clay
30'+ dolerite
DEPARTMENT OF MINES—TASMANIA
CITY PARK LAUNCESTON
RESISTIVITY SURVEY
DATE JANUARY 1967
SCALE OF FEET 0 100 200
GEOLOGIST M.J. LONGMAN
DRAUGHTSMAN H. MACKINNON
MAPSHEET & N° L'CESTON 39
REVISIONS
FILE N° 3115

FIGURE 25.

Five traverses totalling 4,000 feet and four depth probes (see fig. 25) both using Schlumberger configuration and penetrating to a depth of 100 feet were used to cover the park area.

Results

The results are presented as a resistivity contour map of the park area and as graphical depth probes. The area appears to be dominantly clay generally over 100 feet thick but overlying dolerite in the SE corner and W margin of the park at a depth of 40 to 50 feet.

The arc of higher resistivity values may represent a buried gravel bank of the North Esk River but the depth probe on this area indicates this zone is of limited thickness.

Conclusion

The possibility of obtaining an adequate underground water supply for the park seems remote as clay appears to blanket the whole area. If an emergency arises a limited supply of water up to 500 gallons/hour could possibly be obtained from a well sunk to a depth of 25 feet on the 200 ohm/meters contour adjacent to the Wallaby enclosure.