

DEPARTMENT OF MINES

SOUTH AUSTRALIA

REPORT ON FOUNDATION TESTING
WOOLWORTHS LTD., PORT ADELAIDE

by

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MAP REFERENCE: S 1101.

REPORT ON FOUNDATION TESTINGWOOLWORTHS LTD., PORT ADELAIDE1. INTRODUCTION

A request was received from Berry & Gilbert, Architects, to obtain information for the design of piles to be used as foundations for the proposed new shop of Woolworths Ltd., on the corner of Commercial Road and Quebec Street, Port Adelaide (see Locality map).

2. BORING OPERATIONS

Two percussion bores each 50 feet deep were proposed to test the building site.

No. 1 bore was sunk to a depth of 50 feet and No. 2 bore to 65 feet (for location of these holes see attached plan). No. 2 bore was continued to 65 feet in order to test the thickness of a clayey layer containing limestone fragments encountered at 54 feet.

Because of the moist nature of the sediments open tube samples could not be obtained and sludge samples were taken at foot intervals.

The sludges were logged by the writer and the logs as well as bore sections accompany this report.

Three water samples were taken from Bore No. 1 and the sulphate and pH value determined (see Appendix 1 and No. 1 Bore section).

3. FOUNDATION CONDITIONS

The two test bores reveal the following generalised succession:

0	-	12'	Fill material
12'	-	20'	Silty sand
20'	-	26'	Sandy clay
26'	-	35'	Sand, shells, limey concretions etc.
35'	-	60'	Brown clay

For details see attached section.

Of these horizons, the sandy layer, whose upper surface is located 26 to 28 feet below pavement level, has the best bearing capacity. This bed is from 6 to 10 ft. thick. The other horizons have lower bearing capacity characteristics and are not recommended as suitable beds in which to base piles.

The pH and SO_4 tests show that the ground water should not be troublesome for piles located in the sandy bed, i.e. about 30 feet in depth.

4. CONCLUSION

The suggested bed in which to base piles is 6 - 10' thick, predominantly sand with shells and limey concretions, and is from 26 to 28 feet below pavement level.

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SECTION.

MAP REFERENCE: S 1101

ISD:AGK
1/7/55

APPENDIX I

WATER ANALYSES. BORE 1

WOOLWORTHS LTD., PORT ADELAIDE

Samples marked as under, yielded on analysis:-

<u>Mark</u>	<u>Water Cut</u>	<u>Sulphate</u> (SO ₄)	<u>pH</u>
A 401/55	8'	7.5 grains per gall.	7.70
A 402/55	15'	53.2 " " "	8.30
A 403/55	30'	7.6 " " "	7.65

Note: 53.2 grains per gallon is approximately 0.07%.

APPENDIX 2PERCUSSION BORE LOG

WOOLWORTHS LTD., Port Adelaide.

D.M. 969/55Bore No. 1Bore Serial No. PD 851/55Hundred Pt. Adelaide
Section Pt. 2112PLAN REFERENCE S 1101

Vertical

R.L. of Collar 110'Driller C. WalkerDate Drilling commenced 9/6/55Date Drilling
Completed 10/6/55Object: To find a suitable horizon in which to base piles.Result: The most suitable horizon is a sandy bed 6 feet thick
and 28-34 feet below pavement level.

<u>R.L.</u>	<u>Depth</u>	<u>Description</u>
110'0" - 98'0"	0 - 12'0"	Fill ground consisting of sand, minor clay, brick, shell, charcoal etc.
98'0" - 93'0"	12'0" - 17'0"	Fine dark silty sand.
93'0" - 90'0"	17'0" - 20'0"	Coarse brown sand with minor silt.
90'0" - 82'0"	20'0" - 28'0"	Brown sandy clay with some hard sandy pellets, shells and travert- ine fragments.
82'0" - 76'0"	28'0" - 34'0"	Brown sand with shells and minor clay; also hard cemented nodules of sand, shell and clay.
76'0" - 60'0"	34'0" - 50'0"	Brown clay with up to 30% sand and scattered travertine fragments.
	50'0"	End of bore.

Remarks

Sludge samples taken every foot.

Datum for levels is 100' above mean sea level.

APPENDIX 3PERCUSSION BORE LOG

WOOLWORTHS LTD., Port Adelaide

D.M. 969/55Bore No. 2Bore Serial No. PD 857/55Hundred Section Port Adelaide
Pt. 2112Plan Reference S 1101

Vertical

R.L. of Collar 104'Date Drilling commenced 15/6/55Date Drilling completed 20/6/55Driller C. WalkerObject: To find a suitable horizon in which to base piles.Result: The most suitable horizon is a sandy bed 10 feet thick and 26-36 feet below pavement level.

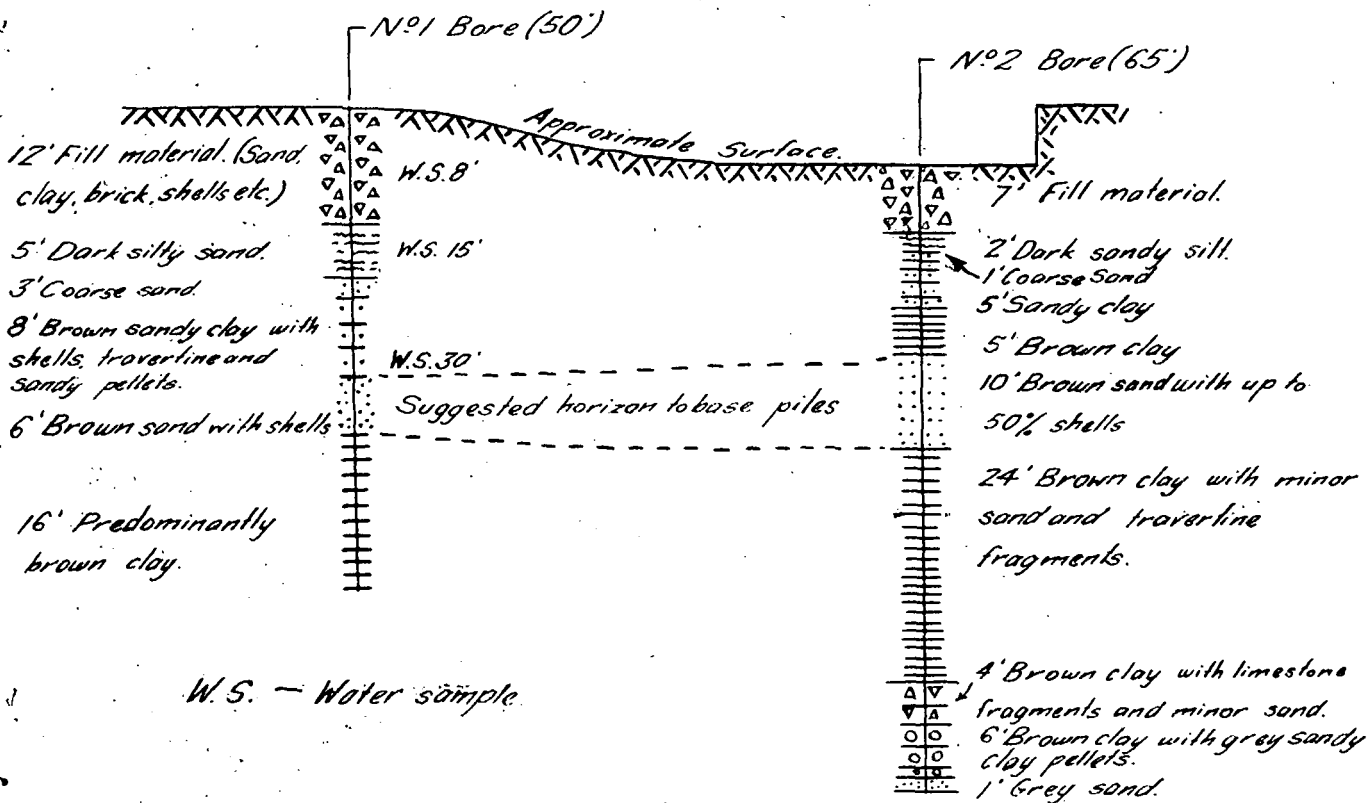
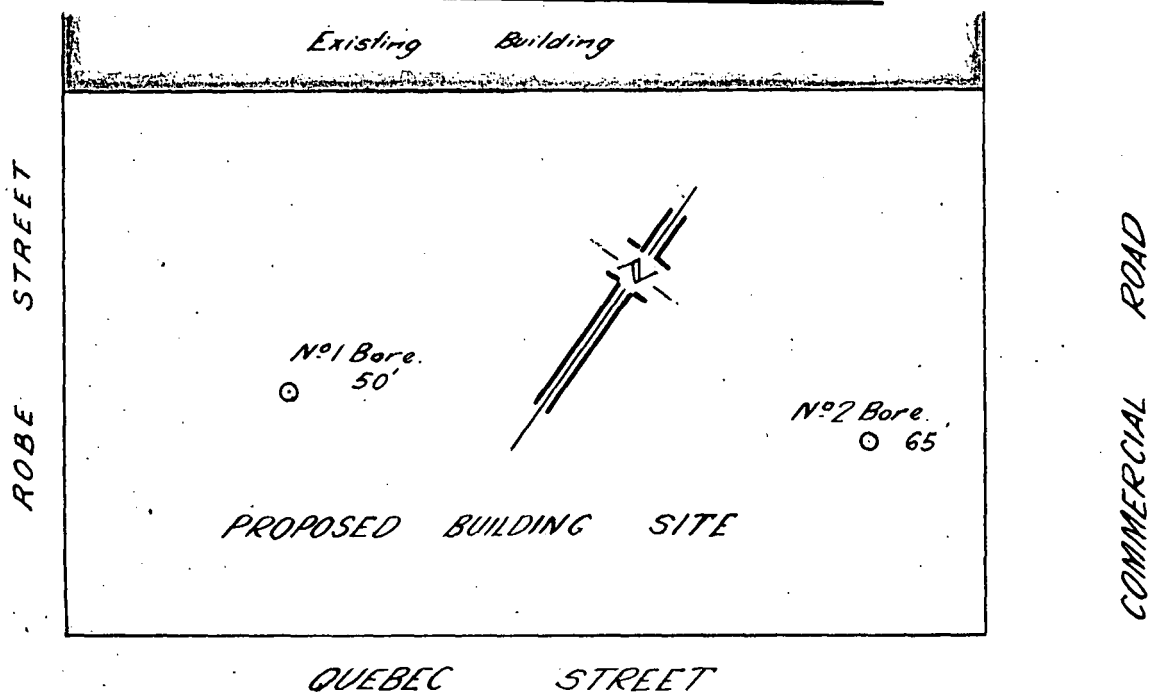
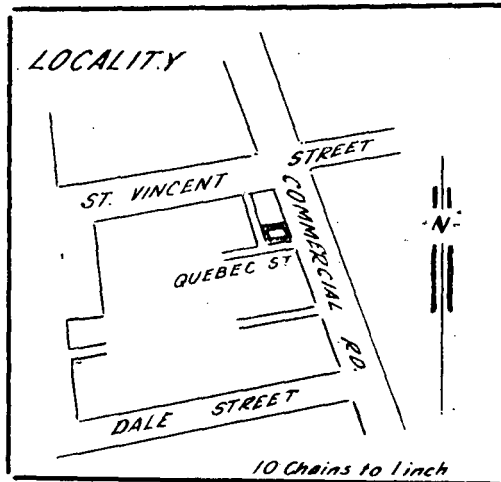
<u>R.L.</u>	<u>Depth</u>	<u>Description</u>
104'0" - 97'0"	0' - 7'0"	Fill ground consisting of sand, silt, brick, concrete, charcoal, shells etc.
97'0" - 95'0"	7'0" - 9'0"	Dark sandy silt with rounded amphibolite (?) pebbles.
95'0" - 94'0"	9'0" - 10'0"	Coarse sand with fine dark grey silt and shells.
94'0" - 89'0"	10'0" - 15'0"	Fine brown silty clay with some sand; also pellets of sandstone.
89'0" - 84'0"	15'0" - 20'0"	Brown clay with minor sand.
84'0" - 74'0"	20'0" - 30'0"	Brown sand, with minor clay, and up to 50% shell material.
74'0" - 50'0"	30'0" - 54'0"	Brown clay with up to 20% sand and some travertine fragments.
50'0" - 46'0"	54'0" - 58'0"	Brown clay with minor sand and 20% limestone fragments.
46'0" - 40'0"	58'0" - 64'0"	Brown clay with minor sand and grey sandy clay pellets; also scattered limestone fragments
40'0" - 39'0"	64'0" - 65'0"	Grey sand with 20% brown clay.
	65'	End of bore.

Remarks

Sludge samples taken every foot.

Datum for levels is 100' above mean sea level.

Collar of borehole is 6' below pavement level.



To accompany report by L. G. Denholm.

S.A. DEPARTMENT OF MINES

PLAN AND SECTION OF TESTING
FOR FOUNDATIONS
WOOLNORTHS LTD.
PORT ADELAIDE

Approved

Passed

Dis

Tcd. P.J.B.

Ch...

R.R.

Ext.

Director

D.M.

Req.

Scale 20 Feet to 1 inch.

S1101
Ha 1

Date 6.7.55