

#### Introduction

These notes have been provided to outline the methodology and limitations inherent tin geotechnical reporting. The issues discussed are not relevant to all reports and further advice should be sought if there are any queries regarding any advice or report.

When copies of reports are made, they should be reproduced in full.

#### **Geotechnical Reports**

Geotechnical reports are prepared by qualified personnel on the information supplied or obtained and are based on current engineering standards of interpretation and analysis.

Information may be gained from limited subsurface testing, surface observations, previous work and is supplemented by knowledge of the local geology and experience of the range of properties that may be exhibited by the materials present. For this reason, geotechnical reports should be regarded as interpretative rather than factual documents, limited to some extent by the scope of information on which they rely.

Where the report has been prepared for a specific purpose (eg. design of a three-storey building), the information and interpretation may not be appropriate if the design is changed (eg. a twenty storey building). In such cases, the report and the sufficiency of the existing work should be reviewed by SMEC Testing Services Pty Limited in the light of the new proposal.

Every care is taken with the report content, however, it is not always possible to anticipate or assume responsibility for the following conditions:

- Unexpected variations in ground conditions. The potential for this depends on the amount of investigative work undertaken.
- Changes in policy or interpretation by statutory authorities.
- The actions of contractors responding to commercial pressures.

If these occur, SMEC Testing Services Pty Limited would be pleased to resolve the matter through further investigation, analysis or advice.

#### **Unforeseen Conditions**

Should conditions encountered on site differ markedly from those anticipated from the information contained in the report, SMEC Testing Services Pty Limited should be notified immediately. Early identification of site anomalies generally results in any problems being more readily resolved and allows reinterpretation and assessment of the implications for future work.

#### Subsurface Information

Logs of a borehole, recovered core, test pit, excavated face or cone penetration test are an engineering and/or geological interpretation of the subsurface conditions. The reliability of the logged information depends on the drilling/testing method. sampling and/or observation spacings and the ground conditions. It is not always possible or economic to obtain continuous high quality data. It should also be recognised that the volume or material observed or tested is only a fraction of the total subsurface profile.

Interpretation of subsurface information and application to design and construction must take into consideration the spacing of the test locations, the frequency of observations and testing, and the possibility that geological boundaries may vary between observation points.

Groundwater observations and measurements outside of specially designed and constructed piezometers should be treated with care for the following reasons:

- In low permeability soils groundwater may not seep into an excavation or bore in the short time it is left open.
- A localised perched water table may not represent the true water table.
- Groundwater levels vary according to rainfall events or season.
- Some drilling and testing procedures mask or prevent groundwater inflow.

The installation of piezometers and long term monitoring of groundwater levels may be required to adequately identify groundwater conditions.

# Supply of Geotechnical Information or Tendering Purposes

It is recommended tenderers are provided with as much geological and geotechnical information that is available and that where there are uncertainties regarding the ground conditions, prospective tenders should be provided with comments discussing the range of likely conditions in addition to the investigation data.

### SMEC Testing Services Pty Ltd

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## GEOTECHNICAL LOG - NON CORE BOREHOLE

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Client: Project: Locatio	: 71 & 73	Australia West Parade, W Drawing No. 05	/est Ryde 5/1753	Project No.: Date : Logged:	10530/1753 18-02-05 JK	BOREHOLE NO.:		BH
W AT TA EB RL E	S A M P L	DEPTH (m)	DESCRIPTION O	F DRILLED PRODUCT sticity, minor components, observation		Sheet S Y M B O L	CONSISTENCY (cohesive soils) or RELATIVE DENSITY (sands and gravels)	M C I S T U R E
			SILTY CLAY: dark brown, low plasticity	TOPSOIL		CL	FIRM	DA
		0.5	SILTY CLAY: orange brown, medium plasticit	y		CL	STIFF TO VERY STIFF	M
			SILTY CLAY: light grey with orange brown, m	edium plasticity		CL	VERY STIFF	M
			SHALE: dark brown/grey, trace fine sand, angul (Cy seams)	ar pieces shale	2		EXTREMELY LOW STRENGTH	
		2.0						
OTES:	D - disturbed		UGER REFUSAL AT 2.7 M ON WEATHEREI					
JIE9:		of water table or	U - undisturbed tube sample free water ee explanation sheets for meaning of all descript	B - bulk sample N - Standard Penetration Test (S ive terms and symbols	SPT) Eq		: STS : Edson RP70 eter (mm): 100	

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