

**Test Certificate – Moisture Content, Particle Size Distribution, Atterberg Limits, Linear Shrinkage, pH Value & Clay & Fine Silt**

Client	THARWA SANDS	Job No	0040
Principal		Date Tested	24.8.13
Project	Quality Control Testing	Tested By	J.S
Location	Ginninderra Quarry ACT	Date Checked	3.9.13
Test Procedures		Checked By	J.S
<input type="checkbox"/> AS 1141.19 <input checked="" type="checkbox"/> AS 1289 2.1.1 <input type="checkbox"/> AS 1289 3.1.1 <input checked="" type="checkbox"/> AS 1289 3.1.2 <input checked="" type="checkbox"/> AS 1289 3.2.1 <input checked="" type="checkbox"/> AS 1289 3.3.1 <input checked="" type="checkbox"/> AS 1289 3.4.1 <input checked="" type="checkbox"/> AS 1289 3.6.1 <input type="checkbox"/> AS 1141.33 <input type="checkbox"/> AS 1289 4.3.1 <input type="checkbox"/> RMS T102 <input type="checkbox"/> RMS T108 <input type="checkbox"/> RMS T109 <input type="checkbox"/> RMS T113 <input type="checkbox"/> RMS T120 <input type="checkbox"/> RMS T180			

Gradation			
AS Sieve Size	Percent Finer Than AS Sieve	Specification Limits	
		From	To
75.0 mm			
53.0 mm			100
37.5 mm		95	100
26.5 mm		90	100
19.0 mm	100	80	100
13.2 mm	94		
9.5 mm	78		
6.7 mm	65		
4.75 mm	53		
2.36 mm	35	35	65
1.18 mm	23		
0.600 mm	17		
425 µm	15	15	50
300 µm	13		
150 µm	10		
75 µm	8		
13.5 µm	-		
Comments			

Natural Moisture Content, Atterberg Limits and Linear Shrinkage <input type="checkbox"/> Wet Prep <input checked="" type="checkbox"/> Dry Prep		
Liquid Limit	%	29
Plastic Limit	%	18
Plasticity Index	%	11
Linear Shrinkage	%	5.5
Natural Moisture Content	%	-

Sample Description/Material Source
Proposed Wearing Course Material 2:1 Ratio Sampled in accordance with AS1289 1.2.1 clause 6.2 on 15.8.13

pH Value	-pH
Clay & Fine Silt Settling Method	-%



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 The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Manager/3.9.13
 Justin Smith



J & A GEOTECH TESTING PTY LTD

Unit 2/25 Dacre Street Mitchell ACT 2911

Certificate No

162995

Test Certificate – California Bearing Ratio – CBR

Client	THARWA SANDS	Job No	0040
Principal		Date Tested	23.8.13
Project	Quality Control Testing	Tested By	D.J
Location	Ginninderra Quarry ACT	Date Checked	3.9.13
Test Procedures		Checked By	J.S
<input type="checkbox"/> AS 1289 6.1.1 <input type="checkbox"/> AS 1289 2.1.1 <input type="checkbox"/> AS 1289 2.1.4 <input type="checkbox"/> AS 1289 5.1.1 <input type="checkbox"/> AS 1289 5.2.1 <input type="checkbox"/> RMS T102 <input type="checkbox"/> RMS T111 <input type="checkbox"/> RMS T112 <input type="checkbox"/> RMS 117 <input type="checkbox"/> RMS 117A <input type="checkbox"/> RMS T120 <input type="checkbox"/> RMS T132 <input type="checkbox"/> RMS T180			

Sample Location	Wearing Course Material			
Level at Test Taken	BFL	Stock pile		
Remoulding Parameters	100%SMDD@OMC			
Compactive Effort	Standard			
Maximum Particle Size	mm	19.0		
Percentage Oversize of Material	%	0.0		
Oversize Material included in Sample	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Maximum Dry Density	t/m ³	2.04		
Optimum Moisture Content	%	10.0		
Dry Density Before Soak	t/m ³	2.04		
Dry Density After Soak	t/m ³	2.03		
Dry Density Ratio Before Soak	%	100.0		
Dry Density Ratio After Soak	%	99.5		
Moisture Ratio Before Soak	%	100.0		
Moisture Content Before Soak	%	9.8		
Soaking				
Period of Soak days		4		
Surcharge kg		4.5		
Swell%		0.0		
Penetration Test				
Sample Moisture Content	%	4.6		
Top 30 mm	%	11.2		
Whole Sample	%	10.4		
CBR Value		40		
Penetration at Which CBR Determined mm		5.0		
Material Classification: Sampled in accordance with AS1289 1.2.1 clause 6.2 on 15.8.13	Gravelly sandy clay red brown colour			



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NATA Accredited Laboratory
Number: 15049

Manger/3.9.13
Justin Smith

LOS ANGELES VALUE REPORT

AS1141 23

Client:	J & A Geotech	Source:	Tharwa Sands - Gininderra Quarry
Address:	Unit 2/25 Dacre Street, Mitchell ACT 2911	Sample Description:	GRAVEL
Project:	Quality Control Testing (Job No. 0040)	Report No.:	01-LA
Job No.:	13-350	Lab No.:	11452

Test Procedure: ☒ AS1141 23 Los Angeles value

Sampling: Sampled by Client Date Sampled: 15/08/2013

Preparation: Prepared in accordance with the test method

TEST GRADING	Table 2 - B
LOS ANGELES VALUE (%)	19



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NATA Accredited Laboratory Number: 14874

Authorised Signatory:

Jason Lewis

30/08/2013

Date:

**MACQUARIE
GEO TECH**

Macquarie Geotechnical
3 Watt Drive
BATHURST NSW 2795

Aitken Rowe Testing Laboratories Pty Ltd

4/2 Riedell Street, Wagga Wagga 2650

PERMEABILITY / DISPERSION REPORT

CLIENT: J & A GEOTECH TESTING, MITCHELL
PROJECT: QUALITY CONTROL TESTING
PROPOSED WEARING COURSE MATERIAL
*

PAGE: 1

OF: 1

DATE SUBMITTED: 21/08/2013

SUBMITTED BY: CLIENT

No.OF SAMPLES: 1

ORDER No.: 0040

TEST METHODS: AS1289.6.7.2

AS1289.2.1.1

AS1289.5.1.1

*

REGISTRATION No: S13-257

MATERIAL TYPE: N/K
SOURCE OF MATERIAL: GININDERRA QUARRY
PORTION OF STRUCTURE: *
SURCHARGES ADDED: 5.55kg (2.0L mould)
PRESSURE APPLIED: 3kPa
% RETAINED ON NOMINAL SIEVE: Nil
NOMINAL SIEVE SIZE: 19mm

SAMPLE No.	SAMPLE DEPTH (m)	MAX. STD. DRY DENSITY (t/m ³)	OPTIMUM MOISTURE (%)	DRY DENSITY OF SPECIMEN (t/m ³)	MOULDING MOISTURE (%)	ACTUAL % OF MMDD	PERMEABILITY m / sec AS1289.6.7.2	EMERSON CLASS AS1289.3.8.1
1	*	2.04	9.8	2.04	9.7	100	1 x 10 ⁻⁶	*
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WORLD RECOGNISED
ACCREDITATION

Number: 4679

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REMARKS: AS1289.5.1.1 Results by J&A Geotech. NATA Accred. 15049. Certificate Dated 19/08/2013.

APPROVED SIGNATORY:

G.D.LYONS

DATE: 26/08/2013