



**CIVIL GEOTECHNICAL SERVICES**  
**ABN 26 474 013 724**  
**PO Box 678 Croydon Vic 3136**  
**Telephone: 9723 0744 Facsimile: 9723 0799**

27<sup>th</sup> November 2015

Our Reference: 15293:DK094

Winslow Constructors Pty Ltd  
50 Barry Road  
CAMPBELLFIELD VIC 3061

Dear Sirs,

**RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING  
ARMSTRONG (STAGE 18) – MOUNT DUNEED**

Please find attached our Report Nos 15293/R001 to 15293/R002 that relate to the field density testing that was conducted within the filled allotments at the above subdivision. The level 1 inspections and associated field density testing commenced in late June 2015 and was completed in mid October 2015.

The inspections and testing of the earthworks was undertaken in general accordance with the Level 1 requirements of AS 3798 - Guidelines on Earthworks for Commercial and Residential Developments.

The site inspections and testing was performed by an experienced geotechnician from this office. Any areas that were deemed unsatisfactory were reworked and retested under their supervision. The testing was performed to the relevant Australian Standards and the accompanying test reports carry NATA endorsement. The attached compaction results, which were located randomly throughout the fill profile, are considered to be representative of the bulk fill materials that were placed across the filled allotments by Winslow Constructors during the aforementioned period. The approximate locations of the field density tests can be seen on the attached plan (Figure 1).

We are of the view that the bulk fill materials that have been placed across the filled allotments by Winslow Constructors during the aforementioned period can be considered as having been placed in a controlled manner to a minimum density ratio of 95% (standard compactive effort).

Please contact the undersigned if you require any additional information.

Civil Geotechnical Services

Dino Kondzic





# COMPACTION ASSESSMENT

Job No 15293  
 Report No 15293/R001  
 Date Issued 24/07/15

## CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	FCF
Project	ARMSTRONG, MT DUNEED - STAGE 18	Date tested	26/06/15
Location	MOUNT DUNEED	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 10:00
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	1	2	3	4	5	6
	REFER TO FIGURE 1					
Approximate depth below FSL						
Measurement depth mm	175	175	175	175	175	175
Field wet density t/m <sup>3</sup>	2.09	2.11	2.13	2.14	1.99	2.04
Field moisture content %	20.2	20.2	20.2	20.5	20.9	20.7

Test procedure AS 1289.5.7.1

Test No	1	2	3	4	5	6
Compactive effort	Standard					
Oversize rock retained on sieve mm	19.0	19.0	19.0	19.0	19.0	19.0
Percent of oversize material wet	0	0	0	0	0	0
Peak Converted Wet Density t/m <sup>3</sup>	2.07	2.08	2.12	2.10	2.10	2.11
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	-	-	-	-	-	-
Optimum Moisture Content %	20.0	19.0	18.5	18.5	19.0	18.5

Moisture Variation From Optimum Moisture Content	0.5% wet	1.5% wet	2.0% wet	2.0% wet	1.5% wet	2.5% wet
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Density Ratio ( R <sub>HD</sub> )	%	101.5	101.5	100.0	101.5	95.0	96.5
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Material description

No 1 - 6 Clay Fill
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The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/National standards. Accredited for compliance to ISO/IEC 17025. Accreditation No 9909

Approved Signatory : Justin Fry



# COMPACTION ASSESSMENT

Job No 15293  
 Report No 15293/R002  
 Date Issued 27/10/15

## CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	NB
Project	ARMSTRONG, MT DUNEED - STAGE 18	Date tested	20/10/15
Location	MOUNT DUNEED	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 09:28
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	7	8	9	10	11	12
	REFER TO FIGURE 1					
Approximate depth below FSL	0.3	0.3	0.3	FSL	FSL	FSL
Measurement depth mm	175	175	175	175	175	175
Field wet density t/m <sup>3</sup>	1.94	1.98	2.06	2.06	2.07	2.08
Field moisture content %	10.7	12.3	14.0	11.0	13.0	14.7

Test procedure AS 1289.5.7.1

Test No	7	8	9	10	11	12
Compactive effort	Standard					
Oversize rock retained on sieve mm	19.0	19.0	19.0	19.0	19.0	19.0
Percent of oversize material wet	0	2	0	0	0	0
Peak Converted Wet Density t/m <sup>3</sup>	2.02	2.04	2.14	2.02	2.09	2.17
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	-	2.08	-	-	-	-
Optimum Moisture Content %	12.0	14.0	14.5	13.5	14.0	14.5

Moisture Variation From Optimum Moisture Content	1.5% dry	2.0% dry	0.5% dry	2.5% dry	1.0% dry	0.5% wet
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Density Ratio ( R <sub>HD</sub> )	%	96.0	95.5	96.5	102.0	99.0	96.0
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Material description

No 7 - 12 Clay Fill
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The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/National standards. Accredited for compliance to ISO/IEC 17025. Accreditation No 9909

Approved Signatory : Justin Fry