



CIVIL GEOTECHNICAL SERVICES
ABN 26 474 013 724
PO Box 678 Croydon Vic 3136
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20th June 2016

Our Reference: 16286:GB010

Peets Funds Management Pty Ltd
Level 3, 492 St Kilda Road
MELBOURNE VIC 3004

Dear Sirs,

**RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING
HAVEN ESTATE – STAGE 2, TARNIET**

Please find attached our Report Nos 16286/R001 to 16286/R003 that relate to the field density testing that was conducted across the filled allotments at the above subdivision. The level 1 inspections and associated field density testing was performed in mid June 2016.

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 inspection and testing was performed by experienced geotechnicians 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 reported 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 reported 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

A handwritten signature in black ink, appearing to read 'Griffin Brown', written over a white background.

Griffin Brown



COMPACTION ASSESSMENT

Job No 16286
 Report No 16286/R001
 Date Issued 20/06/16

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	PEETS FUNDS MANAGEMENT	Tested by	NB
Project	HAVEN ESTATE - STAGE 2	Date tested	15/06/16
Location	TARNEIT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 11:42
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	1	2	3	4	-	-
Location	REFER TO FIGURE 1					
Approximate depth below FSL						
Measurement depth mm	175	175	175	175	-	-
Field wet density t/m ³	1.91	1.81	1.87	1.83	-	-
Field moisture content %	22.8	23.2	23.6	21.9	-	-

Test procedure AS 1289.5.7.1

Test No	1	2	3	4	-	-
Compactive effort	Standard					
Oversize rock retained on sieve mm	19.0	19.0	19.0	19.0	-	-
Percent of oversize material wet	1	3	3	1	-	-
Peak Converted Wet Density t/m ³	1.87	1.85	1.87	1.80	-	-
Adjusted Peak Converted Wet Density t/m ³	1.90	1.91	1.93	1.82	-	-
Optimum Moisture Content %	24.5	25.0	26.0	23.0	-	-

Moisture Variation From Optimum Moisture Content	2.0% dry	2.0% dry	2.5% dry	1.0% dry	-	-
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Density Ratio (R _{HD})	%	100.5	95.0	96.5	100.5	-	-
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Material description

No 1 - 4 Clay Fill



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 16286
 Report No 16286/R002
 Date Issued 20/06/16

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Tested by NB
 Date tested 15/06/16
 Checked by JHF

Client	PEETS FUNDS MANAGEMENT	Tested by	NB
Project	HAVEN ESTATE - STAGE 2	Date tested	15/06/16
Location	TARNEIT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 11:37
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	5	6	7	-	-	-
Location	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1			
Approximate depth below FSL						
Measurement depth <i>mm</i>	175	175	175	-	-	-
Field wet density <i>t/m³</i>	1.94	1.89	1.88	-	-	-
Field moisture content <i>%</i>	23.2	24.0	24.2	-	-	-

Test procedure AS 1289.5.7.1

Test No	5	6	7	-	-	-
Compactive effort	Standard					
Oversize rock retained on sieve <i>mm</i>	19.0	19.0	19.0	-	-	-
Percent of oversize material <i>wet</i>	1	8	3	-	-	-
Peak Converted Wet Density <i>t/m³</i>	1.93	1.86	1.87	-	-	-
Adjusted Peak Converted Wet Density <i>t/m³</i>	1.95	1.90	1.93	-	-	-
Optimum Moisture Content <i>%</i>	24.0	26.5	26.5	-	-	-

Moisture Variation From Optimum Moisture Content	0.5% dry	2.5% dry	2.5% dry	-	-	-
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Density Ratio (R_{HD})	%	99.5	100.0	97.5	-	-	-
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Material description

No 5 - 7 Clay Fill



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 16286
 Report No 16286/R003
 Date Issued 20/06/16

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client PEETS FUNDS MANAGEMENT
 Project HAVEN ESTATE - STAGE 2
 Location TARNEIT

Tested by GB
 Date tested 15/06/16
 Checked by JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 12:16
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	8	9	10	11	12	13
	REFER TO FIGURE 1					
Approximate depth below FSL						
Measurement depth mm	175	175	175	175	175	175
Field wet density t/m ³	1.83	1.84	1.83	1.92	1.90	1.90
Field moisture content %	19.8	17.7	20.3	22.6	22.6	19.1

Test procedure AS 1289.5.7.1

Test No	8	9	10	11	12	13
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	1	2	5	15	4	5
Peak Converted Wet Density t/m ³	1.85	1.93	1.91	1.97	1.89	1.88
Adjusted Peak Converted Wet Density t/m ³	1.87	1.94	1.93	2.03	1.90	1.91
Optimum Moisture Content %	22.0	19.0	22.5	23.0	23.5	20.5

Moisture Variation From Optimum Moisture Content	2.5% dry	1.5% dry	2.0% dry	0.5% dry	1.0% dry	1.5% dry
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Density Ratio (R_{HD})	%	98.0	95.0	95.0	95.0	100.0	100.0
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Material description

No 8 - 13 Clay Fill



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