



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

14th June 2016

Our Reference: 16087:GB005

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 3, TARNIET

Please find attached our Report Nos 16087/R001 to 16087/R006 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 commenced in mid February 2016 and was completed in late February 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

Griffin Brown



COMPACTION ASSESSMENT

Job No 16087
 Report No 16087/R001
 Date Issued 29/02/16

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Tested by GB
 Date tested 22/02/16
 Checked by JHF

Client PEETS FUNDS MANAGEMENT
 Project HAVEN ESTATE - STAGE 3
 Location TARNEIT

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 09:51
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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 ³	1.83	1.86	1.87	1.89	1.93	1.96
Field moisture content %	16.0	17.1	21.4	21.5	23.7	24.2

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	6	7	4	4	0	4
Peak Converted Wet Density t/m ³	1.89	1.89	1.95	1.97	1.95	1.96
Adjusted Peak Converted Wet Density t/m ³	1.92	1.92	1.97	1.99	-	1.98
Optimum Moisture Content %	18.5	19.5	21.0	22.0	24.0	22.5

Moisture Variation From Optimum Moisture Content	2.5% dry	2.5% dry	0.0%	0.5% dry	0.5% dry	2.0% wet
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Density Ratio (R_{HD})	%	95.0	97.0	95.0	95.0	98.5	99.0
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Material description

No 1 - 6 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 16087
 Report No 16087/R002
 Date Issued 29/02/16

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Tested by GB
 Date tested 22/02/16
 Checked by JHF

Client PEETS FUNDS MANAGEMENT
 Project HAVEN ESTATE - STAGE 3
 Location TARNEIT

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 10:30
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	7	8	-	-	-	-
	REFER TO FIGURE 1	REFER TO FIGURE 1				
Approximate depth below FSL						
Measurement depth mm	175	175	-	-	-	-
Field wet density t/m ³	1.88	1.90	-	-	-	-
Field moisture content %	19.3	18.8	-	-	-	-

Test procedure AS 1289.5.7.1

Test No	7	8	-	-	-	-
Compactive effort	Standard					
Oversize rock retained on sieve mm	19.0	19.0	-	-	-	-
Percent of oversize material wet	1	2	-	-	-	-
Peak Converted Wet Density t/m ³	1.95	1.94	-	-	-	-
Adjusted Peak Converted Wet Density t/m ³	1.96	1.98	-	-	-	-
Optimum Moisture Content %	21.5	21.0	-	-	-	-

Moisture Variation From Optimum Moisture Content	2.0% dry	2.5% dry	-	-	-	-
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Density Ratio (R_{HD})	%	95.5	96.0	-	-	-	-
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Material description

No 7 - 8 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 16087
 Report No 16087/R003
 Date Issued 25/02/16

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Tested by GB
 Date tested 23/02/16
 Checked by JHF

Client PEETS FUNDS MANAGEMENT
 Project HAVEN ESTATE - STAGE 3
 Location TARNEIT

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 08:38
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	9	10	-	-	-	-
	REFER TO FIGURE 1	REFER TO FIGURE 1				
Approximate depth below FSL						
Measurement depth mm	175	175	-	-	-	-
Field wet density t/m ³	1.96	1.94	-	-	-	-
Field moisture content %	13.6	17.4	-	-	-	-

Test procedure AS 1289.5.7.1

Test No	9	10	-	-	-	-
Compactive effort	Standard					
Oversize rock retained on sieve mm	19.0	19.0	-	-	-	-
Percent of oversize material wet	6	5	-	-	-	-
Peak Converted Wet Density t/m ³	1.95	1.96	-	-	-	-
Adjusted Peak Converted Wet Density t/m ³	1.98	1.98	-	-	-	-
Optimum Moisture Content %	16.0	20.0	-	-	-	-

Moisture Variation From Optimum Moisture Content	2.0% dry	2.5% dry	-	-	-	-
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Density Ratio (R_{HD})	%	99.5	98.0	-	-	-	-
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Material description

No 9 - 10 Clay Fill



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Approved Signatory : Justin Fry



COMPACTION ASSESSMENT

Job No 16087
 Report No 16087/R004
 Date Issued 29/02/16

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Tested by GB
 Date tested 24/02/16
 Checked by JHF

Client PEETS FUNDS MANAGEMENT
 Project HAVEN ESTATE - STAGE 3
 Location TARNEIT

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 12:14
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	11	12	-	-	-	-
	REFER TO FIGURE 1	REFER TO FIGURE 1				
Approximate depth below FSL						
Measurement depth	mm	175	175	-	-	-
Field wet density	t/m ³	1.94	1.94	-	-	-
Field moisture content	%	14.3	25.7	-	-	-

Test procedure AS 1289.5.7.1

Test No	11	12	-	-	-	-
Compactive effort	Standard					
Oversize rock retained on sieve	mm	19.0	19.0	-	-	-
Percent of oversize material	wet	8	9	-	-	-
Peak Converted Wet Density	t/m ³	2.01	1.97	-	-	-
Adjusted Peak Converted Wet Density	t/m ³	2.04	2.00	-	-	-
Optimum Moisture Content	%	16.5	24.0	-	-	-

Moisture Variation From Optimum Moisture Content	2.5% dry	1.5% wet	-	-	-	-
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Density Ratio (R_{HD})	%	95.0	96.5	-	-	-	-
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Material description

No 11 - 12 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 16087
 Report No 16087/R005
 Date Issued 02/03/16

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Tested by GB
 Date tested 25/02/16
 Checked by JHF

Client PEETS FUNDS MANAGEMENT
 Project HAVEN ESTATE - STAGE 3
 Location TARNEIT

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 12:08
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	13	14	15	16	17	18
	REFER TO FIGURE 1					
Approximate depth below FSL						
Measurement depth mm	175	175	175	175	175	175
Field wet density t/m ³	1.87	1.92	1.90	1.76	1.77	1.95
Field moisture content %	15.3	24.7	19.7	25.9	25.2	23.5

Test procedure AS 1289.5.7.1

Test No	13	14	15	16	17	18
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	3	2	2	1	0	2
Peak Converted Wet Density t/m ³	1.95	1.86	1.90	1.79	1.80	1.86
Adjusted Peak Converted Wet Density t/m ³	1.96	1.87	1.93	1.81	-	1.90
Optimum Moisture Content %	16.5	27.5	22.0	28.5	28.0	26.5

Moisture Variation From Optimum Moisture Content	1.5% dry	2.5% dry				
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Density Ratio (R_{HD})	%	95.5	102.5	98.5	97.0	98.0	102.5
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Material description

No 13 - 18 Clay Fill



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Approved Signatory : Justin Fry



COMPACTION ASSESSMENT

Job No 16087
 Report No 16087/R006
 Date Issued 02/03/16

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Tested by GB
 Date tested 25/02/16
 Checked by JHF

Client PEETS FUNDS MANAGEMENT
 Project HAVEN ESTATE - STAGE 3
 Location TARNEIT

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 13:02
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	19	20	-	-	-	-
	REFER TO FIGURE 1	REFER TO FIGURE 1				
Approximate depth below FSL						
Measurement depth mm	175	175	-	-	-	-
Field wet density t/m ³	1.91	1.86	-	-	-	-
Field moisture content %	27.0	25.9	-	-	-	-

Test procedure AS 1289.5.7.1

Test No	19	20	-	-	-	-
Compactive effort	Standard					
Oversize rock retained on sieve mm	19.0	19.0	-	-	-	-
Percent of oversize material wet	6	3	-	-	-	-
Peak Converted Wet Density t/m ³	1.85	1.84	-	-	-	-
Adjusted Peak Converted Wet Density t/m ³	1.88	1.86	-	-	-	-
Optimum Moisture Content %	29.5	28.5	-	-	-	-

Moisture Variation From Optimum Moisture Content	2.0% dry	2.5% dry	-	-	-	-
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Density Ratio (R_{HD})	%	102.0	100.5	-	-	-	-
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Material description

No 19 - 20 Clay Fill



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Approved Signatory : Justin Fry