

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

22<sup>nd</sup> July 2014

Our Reference: 14068:JHF809

Winslow Constructors Pty Ltd 50 Barry Road CAMPBELLFIELD VIC 3061

Dear Sirs,

# RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING ARMSTRONG, MT DUNEED (STAGE 8) – MOUNT DUNEED

Please find attached our Report Nos 14068/R001 to 14068/R020 that relates 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 February 2014 and was completed in mid April 2014.

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 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

Justin Fry

FIGURE 1





VIL GLUT LUTINICAL SLIVICLS					•	Job No Report No	14068 14068/R0(
8 Rose Avenue, Croydon 3136					I	Date Issued	27/03/14
Client WINSLOW CONSTRUC Project ARMSTRONG MT DUN Location MOUNT DUNEED	TORS EED - S	PTY LTD (CA STAGE 8	AMPBELLFI	ELD)		Tested by Date tested Checked by	JWM 21/02/14 JHF
Feature EARTHWORKS		Lay	er thickness	200 n	nm	Time:	10:18
Test procedure AS 1289.2.1.1 & 5.8	3. 1						
Test No		1	۷	5	-	-	
Location		REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1			
Approximate depth below FSL		-	-	-	-	-	<u>+</u>
Measurement depth	тт	175	175	175			<u>- </u>
Field wet density	t∕m³	1.92	1.96	1.96		-	<u> </u>
Field moisture content	%	21.3	24.5	23.4	_	-	-
Test procedure AS 1289.5.7.1							
Test No	Ì	1	2	3	-	-	-
Compactive effort				Stand	lard	I	
Oversize rock retained on sieve	mm	19.0	19.0	19.0	-	-	-
Percent of oversize material	wet	0	0	0	-	-	
Peak Converted Wet Density	t∕m³	2.02	2.05	2.05	_	-	-
Adjusted Peak Converted Wet Density	t∕m³	-	-	-	-	-	-
Optimum Moisture Content	%	21.5	22.0	20.5	-	-	-
		0.0%	2.5%	3.0%	-	-	T -
Moisture Variation From	,	1 '	wet	wet			
Moisture Variation From Optimum Moisture Content		<b></b>					

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TECHNICAL

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Approved Signatory : Justin Fry



VIL GEOTECHNI	CAL SERVICES					Jo R	ob No eport No	14068 14068/R00
8 Rose Avenue, Cr	oydon 3136					D	ate Issued	27/03/14
Client W Project AF Location M	INSLOW CONSTRUC MSTRONG MT DUNE OUNT DUNEED	TORS ED - S	PTY LTD (C/ 3TAGE 8	AMPBELLFI	ELD)	Te Di C	ested by ate tested hecked by	JWM 24/02/14 JHF
Feature E	ARTHWORKS		Lay	er thickness	200	mm	Time:	09:37
Test procedure	AS 1289.2.1.1 & 5.8.	1						
Test No			4	5	6	7	8	9
Location			REFER TO FIGURE 1	REFER TO FIGURE 1				
Approximate dep	th below FSL		-	-	-	-		
Measurement der	oth	mm	175	175	175	175	175	175
Field wet density		t∕m³	1.97	1.94	1.96	1.94	1.96	1.98
Field moisture co	ntent	%	21.8	22.7	28.3	24.0	26.6	24.7
Test procedure	AS 1289.5.7.1							
Test No	4		4	5	6 Stor		8	9
Compactive error	ainad an siava		10.0	10.0			10.0	10.0
Percent of oversi	ze material	wet	19.0 0	19.0	19.0	19.0	19.0	19.0
Peak Converted	Vet Density	t/m <sup>3</sup>	2 02	2 01	2.06	2.02	2.04	2 07
Adjusted Peak Co	onverted Wet Density	t/m <sup>3</sup>	-	-	-	-	-	-
Optimum Moistur	e Content	%	20.0	22.5	19.5	21.5	22.0	21.5
	Variation From		1.5%	0.0%	9.0% wet	2.5% wet	4.5% wet	3.0% wet
Moisture Optimum N	Noisture Content		wet			•		•

No 4 - 9 Clay Fill



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Approved Signatory : Justin Fry



VIL GEOTEC	CHNICAL SERVICES					Ji R	ob No eport No	14068 14068/R0(
8 Rose Avenu	ie, Croydon 3136					D	ate Issued	28/03/14
Client Project Location	WINSLOW CONSTRUC ARMSTRONG MT DUNE MOUNT DUNEED	TORS EED - S	PTY LTD (C/ STAGE 8	AMPBELLFIE	ELD)	T D C	ested by ate tested hecked by	JWM 25/02/14 JHF
Feature	EARTHWORKS		Lay	er thickness	200	mm	Time:	09:52
Test proced	lure AS 1289.2.1.1 & 5.8.	1				40		
Test No			10	11	12	13	14	15
Location			REFER TO FIGURE 1	REFER TO FIGURE				
Approximate	depth below FSL		-	-	-		-	
Measuremen	nt depth	mm	175	175	175	175	175	175
Field wet der	nsity	t∕m³	1.95	1.92	1.95	1.96	1.91	1.92
Field moistur	re content	%	22.0	24.0	21.7	21.6	25.4	26.5
Test proced	lure AS 1289.5.7.1							
Test No			10	11	12	13	14	15
Compactive (	effort				Stan	dard		
Oversize roc	k retained on sieve	тт	19.0	19.0	19.0	19.0	19.0	19.0
Percent of ou	versize material	wet	0	0	0	0	0	0
Peak Conver	rted Wet Density	t∕m³	2.04	2.01	2.04	1.96	1.99	1.97
Adjusted Pea	ak Converted Wet Density	t∕m³	-	-	-	-	-	-
Optimum Mo	isture Content	%	19.0	22.0	21.0	22.5	23.5	25.0
			2.00/	0.00/	0.50/	4.00/	0.0%	4.50/
Mois	ture Variation From		3.0%	2.0%	0.5%	1.0%	2.0%	1.5%
	ium Moisture Content		wet	wet	wet	ary	wet	wet
Optim								

No 10 - 15 Clay Fill



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Client         WINSLOW CONSTRUCTORS PTY LID (CAMPBELLFIELD)         Testero y         JWM           Project         ARMSTROUG MT DUNEED - STAGE 8         Date tested 0/214         Checked by         JHF           Feature         EARTHWORKS         Layer thickness         200 mm         Time: 10:30           Test procedure AS 1289.2.1.1 & 5.8.1           Test procedure AS 1289.2.1.1 & 5.8.1         Test procedure AS 1289.2.1.1 & 5.8.1           Test No         16         17         18         19         20         21           Location         REFER         To	8 Rose Avenue, Croydon 3136					D	ate Issued	31/03/14				
Project         ARMS IRONG MILDUNEED - STAGE 0         Data Boston         Data Boston         Data Boston           Checkled by JHF           Feature EARTHWORKS         Layer thickness         200 mm         Time: 10:30           Test procedure AS 1289.2.1.1 & 5.8.1           Test NO         16         17         18         19         20         21           Location         REFER To         Test NO         16         17         18         19         20         21           Location         REFER To         REFER TO         FIGURE 1         FIGUR 1 <th <="" colspan="4" th=""><th>Client WINSLOW CONSTRUC</th><th>TUKS</th><th>PTY LID (UA</th><th></th><th>ELD)</th><th></th><th>ested by</th><th>JWM</th></th>	<th>Client WINSLOW CONSTRUC</th> <th>TUKS</th> <th>PTY LID (UA</th> <th></th> <th>ELD)</th> <th></th> <th>ested by</th> <th>JWM</th>				Client WINSLOW CONSTRUC	TUKS	PTY LID (UA		ELD)		ested by	JWM
Executor         MODINE DONE DO         Consisting of the proceedure of the proceed of the proceedure of the proceed of the proceedure of the proceed of the proceed of the proceedure of the proceed of the proceedure of the proceed of the proceedure of the proceed of the proceed of the proceedure of the proceed of the proceedure of the procee	Project ARIVISTRUIND IN DUNI	2ED - C	STAGE O			C	ate testeu hockod hv	26/02/14 IHF				
Feature         EARTHWORKS         Layer thickness         200 mm         Time: 10:30           Test procedure AS 1289.2.1.1 & 5.8.1           Test No         16         17         18         19         20         21           Location         REFER         TO							leched by	JIII				
Test procedure AS 1289.2.1.1 & 5.8.1           Test No         16         17         18         19         20         21           Location         REFER         REFER         REFER         REFER         REFER         REFER         REFER         TO         TO         FIGURE 1	Feature EARTHWORKS		Lay	er thickness	200	mm	Time:	10:30				
Test procedure AS 1289.2.1.1 & 5.8.1           Test No         16         17         18         19         20         21           Location         REFER         REFER         REFER         REFER         REFER         REFER         REFER         REFER         REFER         TO         TO         TO         TO         TO         TO         TO         FIGURE 1         FIGURE 1<												
Location         REFER TO FIGURE 1         RE	Test procedure AS 1289.2.1.1 & 5.8. Test No	.1	16	17	18	19	20	21				
REFER         TO         FIGURE 1	location		ļ									
TO FIGURE 1         TO FIGURE 1 <thto FIGURE 1</thto 			REFER	REFER	REFER	REFER	REFER	REFER				
FIGURE 1			то	ТО	ТО	то	то	то				
Approximate depth below FSL         -<			FIGURE 1	FIGURE 1	FIGURE 1	FIGURE 1	FIGURE 1	FIGURE <sup>2</sup>				
Approximate depth below FSL         -<												
Measurement depth         mm         175         176         176	Approximate depth below FSL		_	-	-	-	-	-				
Field wet density       t/m³       1.97       1.95       1.93       1.89       1.86       1.91         Field moisture content       %       22.0       22.1       19.3       18.8       20.2       20.3         Test procedure AS 1289.5.7.1         Test procedure AS 1289.5.7.1         Test No       16       17       18       19       20       21         Compactive effort         Standard         Oversize rock retained on sieve       mm       19.0       19.0       19.0       19.0       19.0         Percent of oversize material       wet       0       0       0       0       0         Peak Converted Wet Density       t/m³       1.98       2.00       2.01       1.93       1.95       1.97         Adjusted Peak Converted Wet Density       t/m³       -<	Measurement depth	mm	175	175	175	175	175	175				
Field moisture content       %       22.0       22.1       19.3       18.8       20.2       20.3         Test procedure AS 1289.5.7.1         Test No       16       17       18       19       20       21         Compactive effort         Oversize rock retained on sieve mm       19.0 <t< td=""><td>Field wet density</td><td>t/m³</td><td>1.97</td><td>1.95</td><td>1.93</td><td>1.89</td><td>1.86</td><td>1.91</td></t<>	Field wet density	t/m³	1.97	1.95	1.93	1.89	1.86	1.91				
Test procedure AS 1289.5.7.1         Test No       16       17       18       19       20       21         Compactive effort         Standard         Oversize rock retained on sieve mm       19.0	Field moisture content	%	22.0	22.1	19.3	18.8	20.2	20.3				
Test No         16         17         18         19         20         21           Compactive effort         Standard           Oversize rock retained on sieve         mm         19.0	Test procedure AS 1289.5.7.1											
Compactive effort         Standard           Oversize rock retained on sieve         mm         19.0         19.7         19.7         19.7         19.7         22.0         21.5         22.0         21.5         22.0         21.5         22.0         21.5         22.0         19.5         19.7         19.7         19.7         19.7         19.7         19.7         19.7         19.7         19.7	Test No		16	17	18	19	20	21				
Oversize rock retained on sieve         mm         19.0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         19.0<	Compactive effort		<u> </u>		Stan	dard	-					
Percent of oversize material         wet         0 <t< td=""><td>Oversize rock retained on sieve</td><td>тт</td><td>19.0</td><td>19.0</td><td>19.0</td><td>19.0</td><td>19.0</td><td>19.0</td></t<>	Oversize rock retained on sieve	тт	19.0	19.0	19.0	19.0	19.0	19.0				
Peak Converted Wet Density         t/m³         1.98         2.00         2.01         1.93         1.95         1.97           Adjusted Peak Converted Wet Density         t/m³         -<	Percent of oversize material	wet	0	0	0	0	0	0				
Adjusted Peak Converted Wet Density       t/m³       - <td>Peak Converted Wet Density</td> <td>t∕m³</td> <td>1.98</td> <td>2.00</td> <td>2.01</td> <td>1.93</td> <td>1.95</td> <td>1.97</td>	Peak Converted Wet Density	t∕m³	1.98	2.00	2.01	1.93	1.95	1.97				
Optimum Moisture Content         %         22.5         22.0         19.5         22.0         21.5         22.0           Moisture Variation From Optimum Moisture Content         0.5% dry         0.0%         0.0% dry         3.0% dry         1.5% dry         1.5% dry         1.5% dry           Density Ratio ( R нр.)         %         99.5         97.5         96.0         98.0         96.0         97.0	Adjusted Peak Converted Wet Density	t∕m³	- !			-	-	-				
Moisture Variation From Optimum Moisture Content         0.5% dry         0.0%         0.0%         3.0% dry         1.5% dry         1.5% dry           Density Ratio ( R нр.)         %         99.5         97.5         96.0         98.0         96.0         97.0	Optimum Moisture Content	%	22.5	22.0	19.5	22.0	21.5	22.0				
Moisture Variation From Optimum Moisture Content         0.5% dry         0.0% dry         0.0% dry         3.0% dry         1.5% dry         1.5% dry           Density Ratio ( R HD)         %         99.5         97.5         96.0         98.0         96.0         97.0					0.00/							
Optimum Moisture Content         ary         ary <td>Moisture Variation From</td> <td></td> <td>0.5%</td> <td>0.0%</td> <td>0.0%</td> <td>3.0%</td> <td>1.5%</td> <td>1.5%</td>	Moisture Variation From		0.5%	0.0%	0.0%	3.0%	1.5%	1.5%				
Density Ratio ( R нр. ) % 99.5 97.5 96.0 98.0 96.0 97.0	Optimum Moisture Content		ary	<u> </u>	<u> </u>	ary	ary	ary				
	Density Ratio ( R up )	%	99.5	97.5	96.0	98.0	96.0	97.0				

No 16 - 21 Clay Fill



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Approved Signatory : Justin Fry



		Job No	14068
CIVIL GEOTECI	HNICAL SERVICES	Report No	14068/R005
6 - 8 Rose Avenue	, Croydon 3136	Date Issued	31/03/14
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	JWM
Project	ARMSTRONG MT DUNEED - STAGE 8	Date tested	27/02/14
Location	MOUNT DUNEED	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	<i>Time:</i> 09:50

#### Test procedure AS 1289.2.1.1 & 5.8.1

Test No		22	23	24	25	26	27
Location							
		REFER	REFER	REFER	REFER	REFER	REFER
		то	то	то	то	то	то
		FIGURE 1					
Approximate depth below FSL		-	-	-	-	-	-
Measurement depth	mm	175	175	175	175	175	175
Field wet density	t∕m³	1.93	1.87	1.92	1.88	1.97	1.92
Field moisture content	%	19.3	19.8	19.3	20.0	20.6	22.1
Test procedure AS 1289.5.7.1							
Test No		22	23	24	25	26	27
Compactive effort				Star	ndard		
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∕m³	1.96	1.97	1.96	1.99	2.04	1.98
Adjusted Peak Converted Wet Density	t∕m³	-	-	-	-	-	-
Optimum Moisture Content	%	22.0	22.0	21.5	21.0	21.5	22.5
Moisture Variation From		2.5%	2.5%	2.5%	1.0%	1.0%	0.0%
Optimum Moisture Content		dry	dry	dry	dry	dry	
Demaits Detia (D	07	00 E	05.0	00.0	05.0	06 5	07.0
Density Ratio (R <sub>HD</sub> )	%	98.5	95.0	98.0	95.0	96.5	97.0

#### Material description

No 22 - 27 Clay Fill



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Approved Signatory : Justin Fry



		Job No	14068
CIVIL GEOTE	CHNICAL SERVICES	Report No	14068/R006
6 - 8 Rose Aven	ue, Croydon 3136	Date Issued	01/04/14
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	JWM
Project	ARMSTRONG MT DUNEED - STAGE 8	Date tested	03/03/14
Location	MOUNT DUNEED	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	<i>Time:</i> 11:00

#### Test procedure AS 1289.2.1.1 & 5.8.1

		28	29	30	31	32	33
Location							
		REFER	REFER	REFER	REFER	REFER	REFER
		то	то	то	то	то	то
		FIGURE 1	FIGURE 1	FIGURE 1	FIGURE 1	FIGURE 1	FIGURE 1
Approximate depth below FSL		-	-	-	-	-	-
Measurement depth	тт	175	175	175	175	175	175
Field wet density	t∕m³	1.84	2.00	1.92	1.94	1.86	1.92
Field moisture content	%	22.4	23.6	24.0	23.3	23.5	25.6
Test procedure AS 1289.5.7.1		20	20	20	24	22	22
Test No		28	29	30	31	32	- 33
Compactive effort				Star	ndard		
Compactive effort Oversize rock retained on sieve	mm	19.0	19.0	Star 19.0	idard 19.0	19.0	19.0
Compactive effort Oversize rock retained on sieve Percent of oversize material	mm wet	19.0 0	19.0 0	Star 19.0 0	ndard 19.0 0	19.0 0	19.0 0
Compactive effort Oversize rock retained on sieve Percent of oversize material Peak Converted Wet Density	mm wet t/m³	19.0 0 1.94	19.0 0 2.00	Star 19.0 0 1.99	ndard 19.0 0 2.00	19.0 0 1.96	19.0 0 2.00
Compactive effort Oversize rock retained on sieve Percent of oversize material Peak Converted Wet Density Adjusted Peak Converted Wet Density	mm wet t/m <sup>3</sup> t/m <sup>3</sup>	19.0 0 1.94 -	19.0 0 2.00 -	Star 19.0 0 1.99 -	dard 19.0 0 2.00 -	19.0 0 1.96 -	19.0 0 2.00 -
Compactive effort Oversize rock retained on sieve Percent of oversize material Peak Converted Wet Density Adjusted Peak Converted Wet Density Optimum Moisture Content	mm wet t/m <sup>3</sup> t/m <sup>3</sup>	19.0 0 1.94 - 23.5	19.0 0 2.00 - 23.5	Star 19.0 0 1.99 - 22.0	dard 19.0 0 2.00 - 23.0	19.0 0 1.96 - 24.0	19.0 0 2.00 - 23.0
Compactive effort Oversize rock retained on sieve Percent of oversize material Peak Converted Wet Density Adjusted Peak Converted Wet Density Optimum Moisture Content	mm wet t/m <sup>3</sup> t/m <sup>3</sup>	19.0 0 1.94 - 23.5	19.0 0 2.00 - 23.5	Star 19.0 0 1.99 - 22.0	dard 19.0 0 2.00 - 23.0	19.0 0 1.96 - 24.0	19.0 0 2.00 - 23.0
Compactive effort Oversize rock retained on sieve Percent of oversize material Peak Converted Wet Density Adjusted Peak Converted Wet Density Optimum Moisture Content Moisture Variation From	mm wet t/m³ t/m³	19.0 0 1.94 - 23.5 1.0%	19.0 0 2.00 - 23.5 0.0%	Star 19.0 0 1.99 - 22.0 1.5%	dard 19.0 0 2.00 - 23.0 0.5%	19.0 0 1.96 - 24.0 0.5%	19.0 0 2.00 - 23.0 2.5%
Compactive effort Oversize rock retained on sieve Percent of oversize material Peak Converted Wet Density Adjusted Peak Converted Wet Density Optimum Moisture Content Moisture Variation From Optimum Moisture Content	mm wet t/m <sup>3</sup> t/m <sup>3</sup> %	19.0 0 1.94 - 23.5 1.0% dry	19.0 0 2.00 - 23.5 0.0%	Star 19.0 0 1.99 - 22.0 1.5% wet	0 19.0 2.00 - 23.0 0.5% wet	19.0 0 1.96 - 24.0 0.5% dry	19.0 0 2.00 - 23.0 2.5% wet

#### Material description

No 28 - 33 Clay Fill



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Approved Signatory : Justin Fry



VIL GEOTE( 8 Rose Aveni	CHNICAL SERVICES ue, Croydon 3136					l	Job No Report No Date Issued	14068 14068/R00 02/04/14
Client Project Location	WINSLOW CONSTRUC ARMSTRONG MT DUNE MOUNT DUNEED	FORS ED - S	PTY LTD (CA STAGE 8	AMPBELLFIE	ELD)		Tested by Date tested Checked by	JWM 04/03/14 JHF
Feature	EARTHWORKS		Lay	er thickness	200	mm	Time:	: 09:56
Test proces	duro 15 1289 2 1 1 8 5 8	1						
Test No		1	34	35	36	37	Τ-	Τ
LUCAUUI			REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE	1	
Approximate	e depth below FSL		-	-	-	-	-	-
Measuremer	nt depth	mm	175	175	175	175		-
Field wet de	nsity	<u>t/m³</u>	1.93	1.85	1.89	1.96		-
Test proced	dure AS 1289.5.7.1		34	35	36	37		· T
Compactive	effort			00	Stan	idard		
Oversize roc	k retained on sieve	mm	19.0	19.0	19.0	19.0	-	-
Percent of o	versize material	wet	0	0	0	0	-	-
Peak Conve	rted Wet Density	t∕m³	1.97	1.95	1.93	2.00	-	-
Adjusted Pe	ak Converted Wet Density	t∕m³	-	-	-	-	-	-
Optimum Mo	sisture Content	%	20.5	23.0	23.0	21.5	-	-
Mois Optin	sture Variation From num Moisture Content		2.5% dry	1.5% dry	1.5% dry	0.5% dry	-	-
				05.0		00.0		-

No 34 - 37 Clay Fill



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Approved Signatory : Justin Fry



					J	ob No	14068
IVIL GEOTE	CHNICAL SERVICES				F	Report No	14068/R008
- 8 Rose Aven	ue, Croydon 3136				Ľ	Date Issued	02/04/14
Client	WINSLOW CONSTRUCT	ORS PTY LTD (C/	AMPBELLFI	ELD)	7	ested by	JWM
Project	ARMSTRONG MT DUNEE	ED - STAGE 8			Ľ	Date tested	05/03/14
Location	MOUNT DUNEED				C	Checked by	JHF
	EADTHWODKS	Lav	er thickness	200	mm	Time	e: 10:30
Feature							
Feature Test proced	dure AS 1289.2.1.1 & 5.8.1	38	39	40	41	1 -	1 -
Feature Test proced Test No	dure AS 1289.2.1.1 & 5.8.1	38	39	40	41	-	-

Test No		38	39	40	41	-	-
Location		REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1		
Approximate depth below FSL		-	-	-	-	_	-
Measurement depth	тт	175	175	175	175	-	-
Field wet density	t/m³	1.94	1.92	1.97	1.93	-	-
Field moisture content	%	18.1	21.4	21.3	21.9	-	-
Test procedure AS 1289.5.7.1 Test No		38	39	40	41	-	-
Compactive effort			•	Star	dard		
Oversize rock retained on sieve	mm	19.0	19.0	19.0	19.0	-	-
Percent of oversize material	wet	0	0	0	0	-	-
Peak Converted Wet Density	t∕m³	1.96	1.96	1.98	2.01	-	-
Adjusted Peak Converted Wet Density	t∕m³	-	-	-	-	-	-
Optimum Moisture Content	%	20.5	23.0	21.0	22.5	-	-
Moisture Variation From Optimum Moisture Content		2.5% dry	1.5% dry	0.5% wet	0.5% dry	-	-
,		,	,		,		
Density Ratio (R <sub>HD</sub> )	%	99.5	98.0	99.5	96.0	-	-

#### Material description

No 38 - 41 Clay Fill



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Approved Signatory : Justin Fry



Feature

# **COMPACTION ASSESSMENT**

		Job No	14068
CIVIL GEOTE	CHNICAL SERVICES	Report No	14068/R009
6 - 8 Rose Aven	iue, Croydon 3136	Date Issued	04/04/14
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	JWM
Project	ARMSTRONG MT DUNEED - STAGE 8	Date tested	06/03/14
Location	MOUNT DUNEED	Checked by	JHF

Layer thickness

200 mm

Test procedure AS	1289.2.1.1	& 5.8.1
-------------------	------------	---------

EARTHWORKS

Test No		42	43	44	45	46	47
Location							
		REFER	REFER	REFER	REFER	REFER	REFER
		то	ТО	ТО	ТО	ТО	то
		FIGURE 1					
Approximate depth below FSL		-	-	-	-	-	-
Measurement depth	тт	175	175	175	175	175	175
Field wet density	t∕m³	1.91	1.96	1.89	1.93	1.94	1.94
Field moisture content	%	25.0	24.2	23.4	26.0	25.6	27.0
Test procedure AS 1289.5.7.1 Test No		42	43	44	45	46	47
Compactive effort		74	-10	Star	idard	40	
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/m³	1.98	2.02	1.99	2.03	2.01	2.03
Adjusted Peak Converted Wet Density	t/m³	-	-	-	-	-	-
Optimum Moisture Content	%	23.0	21.0	23.0	21.0	34.5	23.5
Moisture Variation From		1.5%	3.0%	0.0%	4.5%	7.5%	3.5%
Optimum Moisture Content		wet	wet		wet	dry	wet
	0/	07.0	07.5	05.0	05.0	00 F	05.5
Density Ratio (R <sub>HD</sub> )	%	97.0	97.5	95.0	95.0	96.5	95.5

Material description

No 42 - 47 Clay Fill



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Approved Signatory : Justin Fry

AVRLOT HILF V1.10 MAR 13

*Time:* 09:30



		Job No	14068
CIVIL GEOTEC	CHNICAL SERVICES	Report No	14068/R010
6 - 8 Rose Avenu	ue, Croydon 3136	Date Issued	04/04/14
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	JWM
Project	ARMSTRONG MT DUNEED - STAGE 8	Date tested	07/03/14
Location	MOUNT DUNEED	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	<i>Time:</i> 09:37

#### Test procedure AS 1289.2.1.1 & 5.8.1

Test No		48	49	50	51	52	53
Location							
		REFER	REFER	REFER	REFER	REFER	REFER
		то	то	то	ТО	ТО	то
		FIGURE 1					
Approximate depth below FSL		-	-	-	-	-	-
Measurement depth	mm	175	175	175	175	175	175
Field wet density	t∕m³	1.94	1.90	1.96	1.93	2.02	1.95
Field moisture content	%	23.5	23.1	22.5	22.0	24.0	23.4
Test procedure AS 1289.5.7.1		48	49	50	51	52	53
Compactive effort		10	10	Star	Idard	02	00
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/m³	1.99	1.94	2.03	1.97	1.99	1.99
Adjusted Peak Converted Wet Density	t/m³	-	-	2.03	-	-	-
Optimum Moisture Content	%	23.5	24.0	22.5	22.5	23.5	22.5
Moisture Variation From		0.0%	1.0%	0.0%	0.5%	0.5%	1.0%
Optimum Moisture Content			dry		dry	wet	wet
	0/	07 E	00.0	07.0	07 E	404 E	00.0
Density Ratio (R <sub>HD</sub> )	%	97.5	98.0	97.0	97.5	101.5	98.0

#### Material description

No 48 - 53 Clay Fill



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Approved Signatory : Justin Fry



		Job No	14068
CIVIL GEOTECH	INICAL SERVICES	Report No	14068/R011
6 - 8 Rose Avenue	, Croydon 3136	Date Issued	04/04/14
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	JWM
Project	ARMSTRONG MT DUNEED - STAGE 8	Date tested	11/03/14
Location	MOUNT DUNEED	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	<i>Time:</i> 09:40

#### Test procedure AS 1289.2.1.1 & 5.8.1

Test No		54	55	56	57	58	59
Location							
		REFER	REFER	REFER	REFER	REFER	REFER
		то	то	то	то	то	то
		FIGURE 1	FIGURE 1	FIGURE 1	FIGURE 1	FIGURE 1	FIGURE 1
Approximate depth below FSL		-	-	-	-	-	-
Measurement depth	mm	175	175	175	175	175	175
Field wet density	t∕m³	1.98	1.90	1.91	1.93	2.01	1.88
Field moisture content	%	22.2	22.8	21.9	22.1	20.5	19.7
Test procedure AS 1289.5.7.1		<b>F</b> 4		50	67	50	50
		54	55	56	57	58	59
		10.0	10.0	Stan	idard	40.0	40.0
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>	2.04	1.99	1.98	1.98	2.00	1.94
Adjusted Peak Converted Wet Density	t/m <sup>3</sup>	-	-	-	-	-	-
Optimum Moisture Content	%	22.5	23.0	22.0	22.5	21.0	23.0
Moisture Variation From		0.0%	0.0%	0.0%	0.5%	0.5%	3.0%
					dry	dry	dry
Optimum Moisture Content			-	-			
Optimum Moisture Content							

#### Material description

No 54 - 59 Clay Fill



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Approved Signatory : Justin Fry



						Job No	14068
CIVIL GEOTE	CHNICAL SERVICES					Report No	14068/R012
6 - 8 Rose Aven	ue, Croydon 3136					Date Issued	04/04/14
Client	WINSLOW CONSTRUCTO	RS PTY LTD (C	AMPBELLFI	ELD)		Tested by	JWM
Project	ARMSTRONG MT DUNEE	D - STAGE 8				Date tested	12/03/14
Location	MOUNT DUNEED					Checked by	JHF
Feature	EARTHWORKS	Lay	er thickness	200	mm	Time	: 09:30
Test proce	duro ΔS 1280 2 1 1 8 5 8 1						
Test No	dare A6 1209.2.1.1 & 0.0.1	60	61	62	63		_
Lesting		00		02	03		-

Density Ratio(R <sub>HD</sub> )	%	96.5	97.5	95.5	98.5	-	-
Optimum Moisture Content		dry	dry	wet	dry		
Moisture Variation From		1.5%	3.0%	0.5%	1.5%	-	-
Optimum Moisture Content	%	22.0	22.5	23.0	22.0	-	-
Adjusted Peak Converted Wet Density	t/m³	-	-	-	-	-	-
Peak Converted Wet Density	t∕m³	1.97	1.94	1.99	1.96	-	-
Percent of oversize material	wet	0	0	0	0	-	-
Oversize rock retained on sieve	тт	19.0	19.0	19.0	19.0	-	-
Compactive effort				Star	Idard		
Test No		60	61	62	63	-	-
	,,,						<u></u>
Field moisture content	%	20.3	19.4	23.4	20.7	-	-
Field wet density	t/m <sup>3</sup>	1.91	1.89	1.90	1.94	-	-
Measurement depth	mm	175	175	175	175	-	-
Approximate depth below FSI		-	-	-	-	-	-
		FIGURE 1	FIGURE 1	FIGURE 1	FIGURE 1		
2004.077		REFER	REFER	REFER	REFER		

Material description

No 60 - 63 Clay Fill



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		Job No	14068
CIVIL GEOTEC	HNICAL SERVICES	Report No	14068/R013
6 - 8 Rose Avenue	e, Croydon 3136	Date Issued	31/03/14
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	DK
Project	ARMSTRONG MT DUNEED - STAGE 8	Date tested	13/03/14
Location	MOUNT DUNEED	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	<i>Time:</i> 08:30
-				

#### Test procedure AS 1289.2.1.1 & 5.8.1

Test No		64	65	66	67	68	69
Location							
		REFER	REFER	REFER	REFER	REFER	REFER
		то	то	ТО	ТО	ТО	то
		FIGURE 1	FIGURE 1	FIGURE 1	FIGURE 1	FIGURE 1	FIGURE 1
Approximate depth below FSL		-	-	-	-	-	-
Measurement depth	тт	175	175	175	175	175	175
Field wet density	t∕m³	1.96	1.97	1.96	1.96	2.00	1.94
Field moisture content	%	25.6	20.2	21.0	22.9	21.8	22.6
Test procedure AS 1289.5.7.1							
Test No		64	65	66	67	68	69
Compactive effort				Star	Idard		
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∕m³	2.00	1.93	1.93	1.98	2.03	1.97
Adjusted Peak Converted Wet Density	t∕m³	-	-	-	-	-	-
Optimum Moisture Content	%	22.5	21.0	24.0	21.5	22.0	23.5
		-					
Maiatuma Maniatian Fuana		2.00/	1.00/	2.00/	1.00/	0.00/	0.50/
Moisture Variation From		3.0%	1.0%	3.0% dm/	1.0%	0.0%	0.0% dm/
Optimum Moisture Content		wet	ary	ary	wet		ary
Density Botic ( B )	0/	08.0	102.5	101 5	09.5	09.5	09.5
Density Ratio (R <sub>HD</sub> )	%	90.0	102.3	101.5	90.0	90.0	30.3

#### Material description

No 64 - 69 Clay Fill



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Approved Signatory : Justin Fry



8 Rose <u>Aven</u>	ue, Croydon 3136					/	Date Issued	31/03/14
Client	WINSLOW CONSTRUCT	FORS '	PTY LTD (C/	AMPBELLFI	ELD)		Tested by	JWM
Project	ARMSTRONG MT DUNE	:ED - S	3TAGE 8			1	Date tested	14/03/14
_ocation	MOUNT DUNEED					(	Shecked by	JHF
Feature	EARTHWORKS		Lay	er thickness	200	mm	Time:	: 08:45
Test proce	dure AS 1289.2.1.1 & 5.8.	1						
Test No		<u>.</u>	70	71	72	73	- 1	- 1
ocation		1	· · · ·	· · · ·	· · · ·	[		1
		,	REFER	REFER	REFER	REFER		
		!	то	то	то	ТО		
		ļ	FIGURE 1	FIGURE 1	FIGURE 1	FIGURE	1	
		1	1 '	1 '	1 '	1		
		!	'	'	'			
Approximate	e depth below FSL					-	-	-
Veasureme	nt depth	mm	175	175	175	175	-	-
-ield wet de	nsity	t∕m³	2.07	2.02	1.96	1.99		-
-ield moistu	re content	%	18.7	20.9	22.4	21.0		-
Test nroce	dure AS 1289 5.7.1							
Test No		,	70	71	72	73	-	-
Compactive	effort				Star	Idard	<b>L</b>	<u>.                                    </u>
Oversize roc	ck retained on sieve	тт	19.0	19.0	19.0	19.0	-	-
Percent of o	versize material	wet	0	0	0	0		
Peak Conve	erted Wet Density	t∕m³	1.97	2.05	2.00	2.02	-	-
Adjusted Pe	ak Converted Wet Density	t∕m³	<u> </u>	-	-	-	-	-
<b>Optimum M</b> e	oisture Content	%	20.5	21.0	22.5	21.0	-	-
Moi	sture Variation From		1.5%	0.0%	0.0%	0.0%	-	- 1
Optin	num Moisture Content		dry					
Density Ra	tio (R <sub>HD</sub> )	%	105.0	98.5	98.0	98.5	-	- 1
		<del>-</del>	1					



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Approved Signatory : Justin Fry



					Jo	ob No	14068
CIVIL GEOTE	CHNICAL SERVICES				R	eport No	14068/R015
ე - 8 Rose Aven	ue, Croydon 3136				Da	ate Issued	31/03/14
Client	nt WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)					ested by	JWM
Project	ARMSTRONG MT DUNEE	D - STAGE 8			Da	ate tested	18/03/14
Location	ation MOUNT DUNEED					hecked by	JHF
Feature	EARTHWORKS	Lay	er thickness	200	mm	Time:	09:58
Test proce	dure AS 1289.2.1.1 & 5.8.1						
Test No		74	75	76	77	78	79
Location							
		REFER	REFER	REFER	REFER	REFER	REFER
		то	то	то	то	то	то

		FIGURE 1					
Approximate depth below FSL		-	-	-	-	-	-
Measurement depth	mm	175	175	175	175	175	175
Field wet density	t∕m³	1.92	1.98	2.03	1.96	2.04	1.96
Field moisture content	%	17.2	17.5	16.9	18.1	15.0	16.5
Test procedure AS 1289.5.7.1							
Test No		74	75	76	77	78	79
Compactive effort				Star	Idard		
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∕m³	1.95	1.90	1.97	2.00	2.04	2.00
Adjusted Peak Converted Wet Density	t∕m³	-	-	-	-	-	-
Optimum Moisture Content	%	20.5	22.5	20.0	20.5	17.0	18.5
Moisture Variation From		3.5%	4.5%	3.0%	2.5%	2.0%	2.0%

Density Ratio ( R <sub>HD</sub> )	%	98.0	103.5	103.0	98.0	100.0	98.0
		-	-	-		-	_

Material description

No 74 - 79 Clay Fill



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Approved Signatory : Justin Fry

AVRLOT HILF V1.10 MAR 13



CIVIL GEOTECHNICAL SERVICES Report No 14	14068/R016
6 - 8 Rose Avenue, Croydon 3136 Date Issued 3	31/03/14
Client WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD) Tested by J	JWM
Project ARMSTRONG MT DUNEED - STAGE 8 Date tested 11	19/03/14
Location MOUNT DUNEED Checked by JI	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	<i>Time:</i> 07:30

#### Test procedure AS 1289.2.1.1 & 5.8.1

Test No		80	81	82	83	84	85
Location							
		REFER	REFER	REFER	REFER	REFER	REFER
		то	то	то	то	ТО	ТО
		FIGURE 1					
Approximate depth below FSL		-	-	-	-	-	-
Measurement depth	тт	175	175	175	175	175	175
Field wet density	t∕m³	1.99	2.00	2.06	2.08	2.01	2.06
Field moisture content	%	18.0	18.5	16.4	17.5	19.2	17.8
Test procedure AS 1289.5.7.1							
Test No		80	81	82	83	84	85
Compactive effort				Star	ndard		
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∕m³	2.02	2.04	2.02	2.07	2.01	2.01
Adjusted Peak Converted Wet Density	t∕m³	-	-	-	-	-	-
Optimum Moisture Content	%	19.5	19.0	18.5	17.5	20.0	19.5
Mainten Mariation France		4 50/	0.50/	0.00/	0.00/	0.50/	1 50/
Moisture Variation From		1.5%	0.5%	2.0%	0.0%	0.5%	1.5%
Optimum Moisture Content		ary	ary	ary		ary	ary
Donsity Patio (P)	0/	98.0	98.0	102.0	100 5	100.0	102 5
	70	90.0	90.0	102.0	100.5	100.0	102.3

Material description

No 80 - 85 Clay Fill



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Approved Signatory : Justin Fry



		Job No	14068
CIVIL GEOTEC	HNICAL SERVICES	Report No	14068/R017
6 - 8 Rose Avenue	e, Croydon 3136	Date Issued	01/04/14
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	DK
Project	ARMSTRONG MT DUNEED - STAGE 8	Date tested	20/03/14
Location	MOUNT DUNEED	Checked by	JHF

 Feature
 EARTHWORKS
 Layer thickness
 200 mm
 Time: 10:46

#### Test procedure AS 1289.2.1.1 & 5.8.1

Test No		86	87	88	89	-	-
Location	LOT	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1		
Approximate depth below FSL		-	-	-	-	-	-
Measurement depth	mm	175	175	175	175	-	-
Field wet density	t∕m³	1.95	1.93	1.93	2.01	-	-
Field moisture content	%	20.6	22.2	22.7	20.5	-	-
Test procedure AS 1289.5.7.1 Test No		86	87	88 Stor	89	-	-
Compactive enon	mm	10.0	10.0	3lar			
Percent of oversize material	wot	19.0	19.0	19.0	19.0		_
Peak Converted Wet Density	t/m <sup>3</sup>	2 05	2.03	2 02	2 02		_
Adjusted Peak Converted Wet Density	t/m <sup>3</sup>	-	-	-	2.04	-	-
Optimum Moisture Content	%	21.0	21.0	20.5	21.0	-	-
Moisture Variation From		0.5%	1.0%	2.0%	0.5%	-	-
Optimum Moisture Content		dry	wet	wet	dry		
Density Ratio (R <sub>HD</sub> )	%	95.5	95.0	95.5	99.0	-	-

#### Material description

No 86 - 89 Clay Fill



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Approved Signatory : Justin Fry



CIVIL GEOTECI	HNICAL SERVICES	Job No Report No	14068 14068/R018
6 - 8 Rose Avenue	, Croydon 3136	Date Issued	30/04/14
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	DK
Project	ARMSTRONG, MT DUNEED - STAGE 8	Date tested	08/04/14
Location	MOUNT DUNEED	Checked by	JHF

Feature EARTHWORKS

Layer thickness

200 mm

*Time:* 10:00

Test procedure AS 1289.2.1.1 & 5.8.1

Test No		90	91	92	93	-	-
Location							
		REFER	REFER	REFER	REFER		
		то	то	то	то		
		FIGURE 1	FIGURE 1	FIGURE 1	FIGURE 1		
Approximate depth below FSL							
Measurement depth	mm	175	175	175	175	-	-
Field wet density	t∕m³	1.90	1.91	1.88	1.93	-	-
Field moisture content	%	18.6	23.1	21.4	18.1	-	-

#### Test procedure AS 1289.5.7.1

	90	91	92	93	-	-
			Star	Idard		
тт	19.0	19.0	19.0	19.0	-	-
wet	0	0	0	0	-	-
t∕m³	1.96	1.95	1.93	2.00	-	-
t∕m³	-	-	-	-	-	-
%	20.5	24.0	22.5	20.0	-	-
	mm wet t/m <sup>3</sup> t/m <sup>3</sup>	90           mm         19.0           wet         0           t/m³         1.96           t/m³         -           %         20.5	90         91           mm         19.0         19.0           wet         0         0           t/m³         1.96         1.95           t/m³         -         -           %         20.5         24.0	90         91         92           mm         19.0         19.0         19.0           wet         0         0         0           t/m³         1.96         1.95         1.93           t/m³         -         -         -           %         20.5         24.0         22.5	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	90         91         92         93         -           Standard           mm         19.0         19.0         19.0         -           wet         0         0         0         -           t/m³         1.96         1.95         1.93         2.00         -           %         20.5         24.0         22.5         20.0         -

Optimum Moisture Content dry dry dry dry	Moisture Variation From	1.5%	1.0%	1.0%	2.0%	-	-
	Optimum Moisture Content	dry	dry	dry	dry		

Density Ratio(R <sub>HD</sub> )	%	97.5	98.0	97.5	96.5	-	-

Material description

No 90 - 93 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



CIVIL GEOTECI	HNICAL SERVICES	Job No Report No	14068 14068/R019
6 - 8 Rose Avenue	, Croydon 3136	Date Issued	30/04/14
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	DK
Project	ARMSTRONG, MT DUNEED - STAGE 8	Date tested	14/04/14
Location	MOUNT DUNEED	Checked by	JHF

Feature EARTHWORKS

Layer thickness

200 mm

*Time:* 13:00

Test procedure AS 1289.2.1.1 & 5.8.1

Test No		94	95	96	97	-	-
Location		REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1		
Approximate depth below FSL							
Measurement depth	mm	175	175	175	175	-	-
Field wet density	t∕m³	1.97	1.94	1.95	1.97	-	-
Field moisture content	%	19.1	20.6	21.0	17.9	-	-

#### Test procedure AS 1289.5.7.1

Test No		94	95	96	97	-	-
Compactive effort				Stan	Idard		
Oversize rock retained on sieve	тт	19.0	19.0	19.0	19.0	-	-
Percent of oversize material	wet	0	0	0	0	-	-
Peak Converted Wet Density	t∕m³	2.01	2.01	2.04	2.03	-	-
Adjusted Peak Converted Wet Density	t∕m³	-	-	-	-	-	-
Optimum Moisture Content	%	19.5	20.5	20.5	18.5	-	-

Ontineurs Maintum Contant	Moisture Variation From	0.0%	0.0%	0.0%	0.5%	-	-
Optimum Moisture Content dry	Optimum Moisture Content				dry		

Density Ratio (R <sub>HD</sub> )	%	98.0	96.5	96.0	97.0	-	-

Material description

No 94 - 97 Clay Fill



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Approved Signatory : Justin Fry



CIVIL GEOTECI	HNICAL SERVICES	Job No Report No	14068 14068/R020
6 - 8 Rose Avenue	e, Croydon 3136	Date Issued	30/04/14
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	DK
Project	ARMSTRONG, MT DUNEED - STAGE 8	Date tested	15/04/14
Location	MOUNT DUNEED	Checked by	JHF

EARTHWORKS Feature

Layer thickness

200 mm

*Time:* 11:40

Test procedure AS 1289.2.1.1 & 5.8.1

Test No		98	99	100	101	-	-
Location							
		REFER	REFER	REFER	REFER		
		то	то	то	то		
		FIGURE 1	FIGURE 1	FIGURE 1	FIGURE 1		
Approximate depth below FSL							
Measurement depth	mm	175	175	175	175	-	-
Field wet density	t∕m³	1.98	2.00	1.93	1.97	-	-
Field moisture content	%	18.6	25.4	22.3	24.0	-	-

#### Test procedure AS 1289.5.7.1

Test No		98	99	100	101	-	-	
Compactive effort		Standard						
Oversize rock retained on sieve	тт	19.0	19.0	19.0	19.0	-	-	
Percent of oversize material	wet	0	0	0	0	-	-	
Peak Converted Wet Density	t∕m³	2.02	2.04	2.00	2.04	-	-	
Adjusted Peak Converted Wet Density	t∕m³	-	-	-	2.04	-	-	
Optimum Moisture Content	%	18.5	20.5	21.0	19.0	-	-	

Optimum Moisture Content wet wet wet	Moisture Variation From	0.0%	5.0%	1.5%	5.0%	-	-
	Optimum Moisture Content		wet	wet	wet		

Density Ratio (R <sub>HD</sub> )	%	98.5	98.0	96.5	96.5	-	-

Material description

No 98 - 101 Clay Fill



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Approved Signatory : Justin Fry