GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Job No: 8599/117
Our Ref: 8599/117-AC-R1
19 November 2024

Daracon Contractors Pty Ltd
184 Adderley Street West
AUBURN NSW 2144
Email: SimpsonW@daracon.com.au

Attention: Mr S Wong

Dear Sir

Re: **Newpark Precinct P7J - Marsden Park**
Bulk Earthworks Completion - Compliance Certificate
Precinct 7 - Part of the BEW (DA-15-02273) and
Precinct 7 - Stage 7J Civil Works (SPP-17-00046)

Geotech Testing Pty Ltd has provided site supervision and compaction control testing during placement of fill at the above project.

Land Filling and Compaction
Site supervision and compaction control tests were undertaken within the terms of our NATA accreditation at the dates and to the procedures shown on the test results sheets, copies of which were submitted monthly during the duration of the project.

A total of 352 tests, 8599/1-R9 dated 25 October 2017, 8599/1-R10 dated 27 November 2017, 8599/1-R11 dated 21 December 2017, 8599/1-R12 dated 25 January 2018, and 8599/1-R13 dated 26 February 2018.

Additionally, the following tests were also included:

A total of 84 tests were carried out during the Precinct 7J subdivision works, period 26 February 2024 to 2 May 2024.

A total of 16 tests were carried out during the Precinct 7B Borrow Pit works, period 24 May 2021 to 27 May 2021.

The frequency of field density and compaction tests were carried out in accordance with Level 1 as defined in AS3798 “Guidelines on Earthworks for Commercial & Residential Development”. Based on the foregoing, it is considered that the fill placed at the above project is classified as "CONTROLLED FILL” and that the specified compaction level has been achieved within the lots and road reserves.

A summary of density test numbers, by relevant report is attached to this certification.

Salinity Certification
All site works were carried out in accordance with the Soil Management Plan included in Geotechnique Pty Ltd Land Capability Study (Report 12576/1-AA dated 27 February 2012). The salinity of the imported fill was confirmed as non to slightly saline soils, thus reducing the overall effect of any saline soils on ground concrete structures such as footings. Based on the foregoing, it is our opinion that the works completed at Precincts 7J comply with the salinity report.

Validation of Imported Fill
All imported fill under both stages of works BEW (DA-15-02273) & P7J civil works (SPP-17-00046) have been assessed as VENM. Based on the foregoing, it is our opinion that the site is validated in accordance with the Environment Protection Authority guidelines *(Contaminated Land Sites)*. No contaminants were encountered during bulk earthworks, other than that noted in the RAP report.

Newpark Precinct 7J is suitable for the intended land use consistent with NEPM 2013 Residential A - Residential with Garden / Accessible soil.

If you have any questions, please do not hesitate to contact the undersigned.

Yours faithfully
GEOTECH TESTING PTY LTD

MATHEW MORLEY
Laboratory Manager

Attached: Density Test Results Summary
8599/1-R9 25 October 2017 Report extracts
8599/1-R10 November 2017 Report extracts
8599/1-R11 December 2017 Report extracts
8599/1-R12 January 2018 Report extracts
8599/1-R13 February 2018 Report extracts
8599/57-AA
8599/117 FDT 1 to 84
Table Newpark P7J – Test & Report numbers

8599/1-R9	8599/1-R10	8599/1-R11	8599/1-R12	8599/1-R13
Test no 2910	3276	3876	4472	5024
Test no 2911	3277	3877	4473	5025
Test no 2912	3278	3878	4474	5025
Test no 2913	3279	3879	4476	5027
Test no 2918	3280	3880	4477	5028
Test no 2919	3281	3881	4478	5029
Test no 2920	3282	3882	4480	5030
Test no 2922	3283	3883	4481	5031
Test no 2923	3284	3884	4482	5032
Test no 3030	3304	3885	4506	5033
Test no 3031	3305	3886	4507	5034
Test no 3035	3306	3887	4508	5035
Test no 3068	3307	3888	4509	5143
Test no 3134	3308	3889	4510	5144
Test no 3135	3309	3890	4511	5145
Test no 3176	3310	3891	4512	5146
Test no 3181	3311	3892	4513	5147
Test no 3182	3312	3893	4514	5148
Test no 3234	3332	3894	4515	5149
Test no 3236	3333	3895	4516	5150
Test no 3237	3334	3896	4517	5151
Test no 3238	3335	3897	4518	5152
Test no 3239	3336	3898	4519	5175
Test no 3240	3337	3975	4520	5176
Test no 3241	3338	3976	4571	5177
Test no 3242	3339	3977	4572	5178
Test no 3243	3340	3978	4573	5179
Test no 3131	3341	3979	4574	5180
Test no 3132	3342	3980	4575	5181
	3343	3981	4576	5182
	3404	3982	4577	5183
	3405	3983	4578	5184
	3406	3984	4579	
	3407	3985	4583	
	3408	3986	4639	
	3409	3987	4640	
	3441	3988	4641	
	3442	3989	4642	
	3443	3990	4643	
	3444	3991	4644	
	3445	3992	4645	
	3446	3993	4646	
	3447	3994	4647	
	3448	4004	4648	
	3449	4006	4649	
	3450	4007	4650	
	3451	4008	4651	

	3452	4009	4652	
	3462	4013	4654	
	3463	4014	4655	
	3464	4034	4656	
	3465	4035	4657	
	3466	4036	4658	
	3467	4037	4659	
	3468	4038	4660	
	3469	4039	4661	
	3470	4040	4662	
	3471	4041	4663	
	3472	4042	4664	
	3473	4043	4665	
	3642	4044	4674	
	3643	4045	4675	
	3644	4046	4676	
	3645	4047	4677	
	3646	4052	4678	
	3647	4053	4684	
	3648	4057	4685	
	3649	4058	4686	
	3874	4059	4687	
	3875	4060	4688	
		4061	4689	
		4062	4690	
		4063	4696	
		4064	4697	
		4065	4698	
		4066	4699	
		4068	4700	
		4069	4701	
		4070	4702	
		4071	4703	
			4708	
			4709	
			4710	
			4711	
			4712	
			4713	
			4714	
			4718	
			4719	
			4720	
			4721	
			4722	
			4723	
			4724	
			4725	

			4726	
			4727	
			4728	
			4729	
			4730	
			4731	
			4732	
			4733	
			4734	
			4735	
			4736	
			4737	
			4721	
			4826	
			4827	
			4837	
			4840	
			4841	
			4842	
			4843	
			4844	
			4845	
			4846	
			4858	
			4859	
			4860	
			4865	
			4866	
			4867	
			4868	
			4869	
			4870	
			4876	
			4877	
			4900	
			4901	
			4902	
			4904	
			4931	
			4932	
			4933	
			4934	
			4953	
			4954	
			4955	

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

Our Ref: 8599/1-R9
25 October 2017

Daracon Contractors Pty Ltd
P O Box 6145
SILVERWATER BC NSW 1811
Email: SimpsonW@daracon.com.au

Attention: Mr S Wang

Dear Sir

Re: **Woorong Bulk Earthworks**
Marsden Park
Monthly Site Filling Certificate - October 2017

For the production period 26 September to 9 October 2017 inclusive, we submit our Geotech Monthly Report for the above project.

During the foregoing testing period, a total of three hundred & forty seven compaction control tests (Tests 2899 to 3245 inclusive) were carried out and reported. The locations of the 347 tests are shown on the attached Drawing Nos 8599/1-51 to 8599/1-55, inclusive (five drawings). All tests have been undertaken in accordance with the Test Methods and Specifications shown on the attached certificates. Scanned daily records and subgrade reports are also attached.

Based on the fill quantities/survey data, the frequency of field density and compaction tests was in accordance with Level 1 as defined in AS3798 “Guidelines on Earthworks for Commercial & Residential Development”. We certify that all tested locations attained the density ratio shown on the test results sheets. Where failures were encountered, the areas were re-worked and re-tested to achieve the specified density ratio.

Based on site observations and testing, it is considered that the fill placed to date at the locations shown on the attached drawings is classified as "Controlled" fill and that the specified compaction level has been achieved within the tested area.

If you have any questions, please do not hesitate to contact the undersigned.

Yours faithfully
GEOTECH TESTING PTY LTD

EMGED RIZKALLA
Director

Attached Density Test Results Certificates Tests 2899 to 3245
Test Location Drawings 8599/1-51 to 8599/1-55
Daily Records
Subgrade Approvals (S14 & S15)

Head Office:
34 Borec Road, Penrith NSW 2750
Telephone: (02) 4722 2744 Facsimile: (02) 4722 2777
e-mail: info@geotech.com.au www.geotech.com.au

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			2899	2900	2901	2902	2903	2904	2905	2906
DATE TESTED			25/09/2017							
RESULTS										
Hilf Density Ratio	Standard	%	99.5	98.5	98	98.5	99.5	99	99	97.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295711.788	295704.3	295694.606	295681.438	295667.54	295659.37	295668.74	295683.033
Northing			6268713.221	6268671.885	6268641.457	6268616.346	6268583.955	6268524.745	6268615.46	6268649.504
Reduced Level		m	19.961	20.757	21.078	21.617	21.081	20.569	21.693	21.355
Shown on Drawing No			8599/1-51							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.06	2.06	2.06	2.07	2.07	2.08	2.05
Field Moisture Content		%	16.5	18.5	17.0	16.0	15.5	16.0	16.5	16.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			2899	2900	2901	2902	2903	2904	2905	2906
Peak Converted Wet Density		t/m³	2.10	2.09	2.10	2.09	2.08	2.09	2.10	2.10
Apparent Optimum Moisture Content		%	16.5	18.0	17.0	16.0	15.5	16.0	16.5	16.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			2907	2908	2909	2910	2911	2912	2913	2914
DATE TESTED			25/09/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98.5	99	98	98	99	99.5	99.5	98
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295690.338	295703.647	295530.339	295533.7	295520.062	295507.845	295498.765	295469.439
Northing			6268693.249	6268746.696	6269593.28	6269559.383	6269566.387	6269549.8	6269529.166	6269542.341
Reduced Level		m	20.833	19.737	14.619	15.682	15.078	14.948	15.275	14.062
Shown on Drawing No			8599/1-51		8599/1-54					
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.05	2.08	2.06	2.05	2.07	2.09	2.09	2.06
Field Moisture Content		%	16.0	16.5	15.0	16.5	16.0	18.0	17.0	16.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			2907	2908	2909	2910	2911	2912	2913	2914
Peak Converted Wet Density		t/m³	2.08	2.10	2.10	2.09	2.09	2.10	2.10	2.10
Apparent Optimum Moisture Content		%	16.0	16.5	15.0	16.5	16.0	18.0	17.0	16.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			2915	2916	2917	2918	2919	2920	2921	2922
DATE TESTED			25/09/2017	26/09/2017						
RESULTS										
Hilf Density Ratio	Standard	%	99	98.5	99.5	97.5	99.5	98	99.5	98.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295468.276	295610.103	295582.065	295571.775	295576.877	295554.356	295533.379	295537.871
Northing			6269507.527	6269615.299	6269637.536	6269616.805	6269590.338	6269588.691	6269592.595	6269558.379
Reduced Level		m	15.211	17.256	14.557	15.681	16.845	16.266	15.208	16.312
Shown on Drawing No			8599/1-54							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.06	2.07	2.04	2.07	2.05	2.08	2.05
Field Moisture Content		%	17.0	16.5	16.5	15.5	17.0	19.5	19.5	19.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			2915	2916	2917	2918	2919	2920	2921	2922
Peak Converted Wet Density		t/m³	2.11	2.09	2.08	2.09	2.08	2.09	2.09	2.08
Apparent Optimum Moisture Content		%	16.5	16.5	16.5	15.5	17.0	19.5	19.5	19.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2-3	2-3	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			2923	2924	2925	2926	2927	2928	2929	2930
DATE TESTED			26/09/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98	98	100.5	98.5	97	100	97.5	98.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**-0.5**	**1.0**	**0.0**	**0.0**	**0.5**	**-1.0**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295522.085	295498.518	295722.07	295698.333	295683.632	295676.287	295678.329	295655.288
Northing			6269540.254	6269553.778	6268753.003	6268649.84	6268625.518	6268643.863	6268669.643	6268674.603
Reduced Level		m	16.166	15.171	19.582	20.916	21.886	21.927	21.755	22.032
Shown on Drawing No			8599/1-54		8599/1-51					
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.03	2.05	2.09	2.06	2.04	2.09	2.04	2.06
Field Moisture Content		%	20.5	17.0	18.5	16.5	18.0	18.0	18.0	16.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			2923	2924	2925	2926	2927	2928	2929	2930
Peak Converted Wet Density		t/m³	2.07	2.09	2.08	2.09	2.10	2.09	2.09	2.09
Apparent Optimum Moisture Content		%	20.0	17.0	17.5	16.5	17.5	17.5	18.5	17.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			2931	2932	2933	2934	2935	2936	2937	2938
DATE TESTED			26/09/2017							
RESULTS										
Hilf Density Ratio	Standard	%	99	99.5	98.5	97.5	99.5	97.5	97.5	99
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**0.0**	**0.0**	**0.5**	**0.5**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295629.42	295603.911	295646.161	295645.647	295599.426	295676.437	295692.174	295700.059
Northing			6268676.586	6268667.796	6268654.995	6268630.761	6268637.086	6268699.032	6268721.73	6268770.319
Reduced Level		m	22.151	22.488	22.694	22.977	23.063	21.071	20.467	19.492
Shown on Drawing No			8599/1-51							8599/1-52
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.08	2.07	2.05	2.08	2.05	2.04	2.06
Field Moisture Content		%	17.0	17.0	13.5	18.5	17.0	15.5	16.5	20.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			2931	2932	2933	2934	2935	2936	2937	2938
Peak Converted Wet Density		t/m³	2.09	2.09	2.10	2.10	2.09	2.10	2.09	2.08
Apparent Optimum Moisture Content		%	17.5	17.5	13.0	18.0	16.0	15.5	16.5	20.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	1-2	2	2	2	2	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			2939	2940	2941	2942	2943	2944	2945	2946
DATE TESTED			27/09/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98.5	99.5	100.5	98.5	100.5	98	99.5	100
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295703.496	295691.916	295677.365	295656.021	295623.398	295583.729	295648.315	295671.394
Northing			6268712.49	6268668.049	6268619.682	6268625.889	6268630.719	6268643.725	6268642.705	6268662.944
Reduced Level		m	19.997	21.337	21.273	22.146	22.447	22.348	22.577	22.267
Shown on Drawing No			8599/1-51							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.08	2.09	2.06	2.09	2.05	2.07	2.09
Field Moisture Content		%	18.0	17.5	17.5	15.5	17.0	17.5	18.5	19.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			2939	2940	2941	2942	2943	2944	2945	2946
Peak Converted Wet Density		t/m³	2.10	2.09	2.08	2.09	2.08	2.09	2.08	2.09
Apparent Optimum Moisture Content		%	18.0	17.5	17.0	15.5	17.0	17.5	18.5	19.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			2947	2948	2949	2950	2951	2952	2953	2954
DATE TESTED			27/09/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98.5	97	97.5	99.5	101.5	99	99	99
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295601.849	295691.786	295687.683	295683.109	295658.638	295640.826	295601.404	295585.446
Northing			6268669.165	6268700.513	6268664.951	6268635.429	6268627.608	6268641.779	6268634.418	6268656.356
Reduced Level		m	21.987	20.987	21.848	21.861	22.453	22.845	22.866	22.908
Shown on Drawing No			8599/1-51							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.05	2.04	2.04	2.08	2.11	2.08	2.07	2.07
Field Moisture Content		%	18.5	17.0	18.0	16.5	16.0	16.5	15.5	17.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			2947	2948	2949	2950	2951	2952	2953	2954
Peak Converted Wet Density		t/m³	2.08	2.10	2.09	2.09	2.08	2.10	2.09	2.09
Apparent Optimum Moisture Content		%	18.5	17.0	18.0	16.5	16.0	16.5	15.5	17.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			2955	2956	2957	2958	2959	2960	2961	2962
DATE TESTED			27/09/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97	100.5	99	99	98.5	98	99.5	100
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**-0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295613.973	295660.043	295693.052	295683.008	295655.822	295608.168	295584.371	295599.735
Northing			6268670.259	6268666.761	6268711.084	6268683.503	6268680.011	6268683.984	6268664.002	6268651.084
Reduced Level		m	22.297	22.413	20.829	22.203	22.209	22.083	22.887	23.13
Shown on Drawing No			8599/1-51							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.04	2.09	2.07	2.06	2.06	2.06	2.08	2.08
Field Moisture Content		%	17.0	17.5	17.5	17.0	16.0	17.0	16.5	17.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			2955	2956	2957	2958	2959	2960	2961	2962
Peak Converted Wet Density		t/m³	2.10	2.08	2.09	2.08	2.09	2.10	2.09	2.08
Apparent Optimum Moisture Content		%	16.5	18.0	17.5	17.0	16.0	17.0	16.5	17.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			2963	2964	2965	2966	2967	2968	2969	2970
DATE TESTED			27/09/2017							
RESULTS										
Hilf Density Ratio	Standard	%	101.5	100.5	100.5	100.5	100.5	100.5	99	99
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.5**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295651.714	295675.35	295551.081	295536.604	295514.896	295412.855	295393.321	295418.97
Northing			6268649.142	6268664.317	6269620.545	6269605.507	6269587.921	6269514.116	6269535.105	6269558.583
Reduced Level		m	23.055	22.618	14.58	14.647	14.27	12.241	11.961	11.76
Shown on Drawing No			8599/1-51		8599/1-54					
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.12	2.10	2.10	2.08	2.07	2.09	2.06	2.08
Field Moisture Content		%	17.0	17.5	18.5	16.0	17.5	16.0	16.0	18.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			2963	2964	2965	2966	2967	2968	2969	2970
Peak Converted Wet Density		t/m³	2.09	2.09	2.09	2.07	2.06	2.08	2.08	2.10
Apparent Optimum Moisture Content		%	17.0	17.5	18.5	16.0	17.0	16.0	16.0	18.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			2971	2972	2973	2974	2975	2976	2977	2978
DATE TESTED			27/09/2017						28/09/2017	
RESULTS										
Hilf Density Ratio	Standard	%	100.5	98.5	98	98	98	100.5	97.5	96
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295426.397	295453.689	295446.616	295479.422	295490.52	295512.326	295710.981	295749.398
Northing			6269548.821	6269560.926	6269585.134	6269583.547	6269619.303	6269612.83	6268998.604	6268980.993
Reduced Level		m	11.634	12.169	11.924	12.356	11.165	11.603	17.674	17.633
Shown on Drawing No			8599/1-54						8599/1-52	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.06	2.05	2.04	2.06	2.10	2.07	2.05
Field Moisture Content		%	17.0	17.5	17.0	17.0	18.0	17.5	19.5	20.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			2971	2972	2973	2974	2975	2976	2977	2978
Peak Converted Wet Density		t/m³	2.08	2.09	2.09	2.08	2.10	2.09	2.12	2.14
Apparent Optimum Moisture Content		%	17.0	17.5	17.0	17.0	18.0	17.5	19.5	20.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			2979	2980	2981	2982	2983	2984	2985	2986
DATE TESTED			28/09/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96.5	96	97.5	96	97	98	96.5	97.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295738.406	295717.373	295745.765	295732.621	295706.845	295729.826	295744.721	295713.064
Northing			6268968.565	6268955.994	6268935.401	6268924.006	6268912.702	6268904.354	6268891.03	6268876.165
Reduced Level		m	17.586	17.865	17.905	17.927	18.223	18.191	18.147	18.385
Shown on Drawing No			8599/1-52							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.06	2.05	2.09	2.04	2.07	2.08	2.07	2.09
Field Moisture Content		%	19.5	20.0	20.5	20.0	19.5	20.5	19.5	20.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			2979	2980	2981	2982	2983	2984	2985	2986
Peak Converted Wet Density		t/m³	2.13	2.13	2.14	2.12	2.13	2.12	2.14	2.14
Apparent Optimum Moisture Content		%	19.5	20.0	20.5	20.0	19.0	20.5	19.5	20.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	2-3	2-3	2-3	23	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			2987	2988	2989	2990	2991	2992	2993	2994
DATE TESTED			28/09/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96.5	96.5	97	95	96	98	98	97
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295714.546	295708.438	295697.353	295680.237	295686.359	295692.6	295674.116	295665.116
Northing			6268823.938	6268787.819	6268747.848	6268744.306	6268778.93	6268822.349	6268823.688	6268786.963
Reduced Level		m	18.535	19.207	19.98	20.5	19.933	18.988	19.03	19.969
Shown on Drawing No			8599/1-52		8599/1-51		8599/1-52			
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.06	2.06	2.06	2.04	2.05	2.08	2.09	2.08
Field Moisture Content		%	20.0	20.0	18.5	19.5	19.5	19.0	19.5	19.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			2987	2988	2989	2990	2991	2992	2993	2994
Peak Converted Wet Density		t/m³	2.14	2.13	2.12	2.15	2.14	2.12	2.13	2.14
Apparent Optimum Moisture Content		%	19.5	20.0	19.0	19.5	19.5	18.5	19.5	19.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2	2-3	2-3	2	2-3	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			2995	2996	2997	2998	2999	3000	3001	3002
DATE TESTED			28/09/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97.5	97	99	96.5	96.5	98	96.5	98
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295654.779	295640.458	295646.929	295650.858	295430.382	295449.192	295486.041	295520.213
Northing			6268749.206	6268754.558	6268796.694	6268827.555	6269520.568	6269546.309	6269572.637	6269595.591
Reduced Level		m	20.708	20.496	20.044	19.301	13.523	13.28	13.78	14.316
Shown on Drawing No			8599/1-51		8599/1-52		8599/1-54			
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.06	2.11	2.06	2.07	2.09	2.05	2.08
Field Moisture Content		%	18.5	19.0	18.5	18.5	20.0	18.0	18.0	18.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			2995	2996	2997	2998	2999	3000	3001	3002
Peak Converted Wet Density		t/m³	2.14	2.12	2.13	2.13	2.15	2.13	2.12	2.12
Apparent Optimum Moisture Content		%	18.5	18.5	18.5	18.5	20.0	18.0	18.0	18.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2-3	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3003	3004	3005	3006	3007	3008	3009	3010
DATE TESTED			28/09/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96	96	97	95.5	97.5	96.5	98	98.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295548.776	295577.101	295544.115	295507.665	295478.439	295447.575	295439.864	295472.647
Northing			6269624.926	6269658.029	6269641.987	6269617.527	6269590.215	6269570.679	6269586.895	6269614.113
Reduced Level		m	13.695	12.635	11.231	11.3	12.306	12.354	11.808	11.491
Shown on Drawing No			8599/1-54							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.05	2.04	2.06	2.04	2.07	2.06	2.10	2.09
Field Moisture Content		%	18.5	20.0	17.5	19.5	18.0	18.5	19.0	20.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3003	3004	3005	3006	3007	3008	3009	3010
Peak Converted Wet Density		t/m³	2.13	2.12	2.12	2.14	2.12	2.13	2.14	2.12
Apparent Optimum Moisture Content		%	18.5	19.5	17.5	19.5	18.0	18.5	18.5	20.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2-3	2	2-3	2	2	2	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3011	3012	3013	3014	3015	3016	3017	3018
DATE TESTED			28/09/2017	29/09/2017						
RESULTS										
Hilf Density Ratio	Standard	%	97	96.5	95.5	95	95	97	97	96
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**1.5**	**-0.5**	**0.0**	**0.0**	**0.5**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295508.839	295735.418	295752.776	295756.568	295750.838	295737.604	295732.204	295724.955
Northing			6269644.49	6268868.303	6268920.774	6268966.715	6269013.744	6268999.838	6268950.824	6268901.84
Reduced Level		m	10.632	18.619	17.956	17.734	17.8	18.046	18.07	18.402
Shown on Drawing No			8599/1-54	8599/1-52						
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.06	2.07	2.08	2.09	2.05	2.05	2.04
Field Moisture Content		%	19.0	19.5	19.5	19.0	20.0	19.5	19.5	20.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3011	3012	3013	3014	3015	3016	3017	3018
Peak Converted Wet Density		t/m³	2.14	2.13	2.17	2.19	2.20	2.11	2.11	2.12
Apparent Optimum Moisture Content		%	18.5	18.0	20.0	19.0	20.0	19.0	19.5	19.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2-3	2	2-3	2	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3019	3020	3021	3022	3023	3024	3025	3026
DATE TESTED			29/09/2017							
RESULTS										
Hilf Density Ratio	Standard	%	95	96.5	97	95	95	97	97.5	98
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**0.0**	**1.0**	**0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295703.399	295710.524	295714.282	295712.141	295694.381	295690.147	295686.75	295680.199
Northing			6268879.027	6268921.742	6268963.964	6269015.997	6268989.972	6268956.462	6268927.599	6268886.7
Reduced Level		m	18.547	18.329	18.007	17.792	17.961	18.219	18.393	18.588
Shown on Drawing No			8599/1-52							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.03	2.08	2.09	2.06	2.07	2.03	2.02	2.07
Field Moisture Content		%	19.5	18.5	19.0	20.0	20.0	17.5	19.0	20.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3019	3020	3021	3022	3023	3024	3025	3026
Peak Converted Wet Density		t/m³	2.14	2.16	2.16	2.17	2.18	2.09	2.07	2.11
Apparent Optimum Moisture Content		%	19.5	19.0	19.5	20.5	20.0	17.0	19.0	20.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2	2-3	2-3	2-3	2	2	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3027	3028	3029	3030	3031	3032	3033	3034
DATE TESTED			29/09/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96.5	96.5	96.5	96.5	96.5	95.5	96.5	96.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295655.172	295670.186	295671.981	295489.46	295473.336	295438.654	295449.296	295466.225
Northing			6268894.304	6268925.519	6268983.255	6269472.349	6269491.767	6269501.024	6269522.098	6269533.868
Reduced Level		m	18.694	18.446	18.64	15.728	15.756	15.136	14.499	14.829
Shown on Drawing No			8599/1-52			8599/1-54				
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.05	2.06	2.06	2.07	2.08	2.06	2.08	2.09
Field Moisture Content		%	18.5	19.5	16.5	18.5	19.0	19.5	20.0	19.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3027	3028	3029	3030	3031	3032	3033	3034
Peak Converted Wet Density		t/m³	2.12	2.13	2.14	2.14	2.16	2.16	2.16	2.17
Apparent Optimum Moisture Content		%	19.0	20.0	17.0	19.0	19.5	20.0	20.0	19.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2-3	2	2	2-3	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3035	3036	3037	3038	3039	3040	3041	3042
DATE TESTED			29/09/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98.5	96.5	96.5	95	95	97	97.5	96
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**0.0**	**-0.5**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295527.603	295510.954	295497.524	295480.899	295508.254	295486.716	295465.798	295437.263
Northing			6269554.157	6269566.148	6269550.559	6269544.288	6269599.71	6269611.373	6269605.398	6269583.082
Reduced Level		m	15.962	15.433	15.629	15.586	13.205	12.224	11.624	11.873
Shown on Drawing No			8599/1-54						8599/1-55	8599/1-54
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.08	2.09	2.07	2.08	2.06	2.08	2.02
Field Moisture Content		%	18.0	19.0	19.5	19.5	19.5	18.0	18.5	18.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3035	3036	3037	3038	3039	3040	3041	3042
Peak Converted Wet Density		t/m³	2.11	2.16	2.17	2.18	2.19	2.12	2.13	2.10
Apparent Optimum Moisture Content		%	18.0	19.5	20.0	20.0	20.0	18.0	18.5	19.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2-3	2-3	2-3	2-3	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3043	3044	3045	3046	3047	3048	3049	3050
DATE TESTED			29/09/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96	96.5	97.5	96.5	95	95.5	95	95.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295465.211	295034.479	294997.495	294984.323	294966.946	294956.563	294969.919	294984.939
Northing			6269583.733	6268941.173	6268930.218	6268891.997	6268856.158	6268824.381	6268850.452	6268887.68
Reduced Level		m	13.699	16.78	16.35	16.822	17.582	18.797	18.338	17.297
Shown on Drawing No			8599/1-55	8599/1-53						
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.04	2.06	2.09	2.08	2.05	2.07	2.07	2.08
Field Moisture Content		%	18.0	18.5	19.0	18.0	18.5	18.5	18.0	18.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3043	3044	3045	3046	3047	3048	3049	3050
Peak Converted Wet Density		t/m³	2.12	2.13	2.14	2.15	2.16	2.17	2.18	2.18
Apparent Optimum Moisture Content		%	18.5	19.0	19.0	18.5	18.5	18.5	18.5	19.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3051	3052	3053	3054	3055	3056	3057	3058
DATE TESTED			29/09/2017							
RESULTS										
Hilf Density Ratio	Standard	%	95	97.5	96	96.5	97	96	96.5	96.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**-0.5**	**-4.0**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295007.161	295025.504	295007.132	295023.848	295043.233	295059.451	295071.512	295123.645
Northing			6268935.62	6268912.62	6268869.317	6268858.182	6268904.199	6268903.727	6268886.034	6268880.658
Reduced Level		m	16.718	17.933	18.709	19.649	18.417	18.499	19.173	19.707
Shown on Drawing No			8599/1-53							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.07	2.11	2.06	2.08	2.06	2.08	2.09
Field Moisture Content		%	18.5	18.0	18.5	17.5	18.5	19.5	19.5	18.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3051	3052	3053	3054	3055	3056	3057	3058
Peak Converted Wet Density		t/m³	2.19	2.12	2.20	2.13	2.14	2.15	2.16	2.17
Apparent Optimum Moisture Content		%	19.0	18.0	22.5	17.5	18.5	20.0	20.5	19.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2-3	2-3	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3059	3060	3061	3062	3063	3064	3065	3066
DATE TESTED			29/09/2017							04/10/2017
RESULTS										
Hilf Density Ratio	Standard	%	95.5	95	97	97.5	97	96.5	96.5	99.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295162.673	295162.693	295114.67	295106.772	295167.054	295200.385	295234.323	295504.63
Northing			6268878.942	6268896.021	6268901.633	6268921.789	6268915.273	6268906.809	6268908.201	6269581.58
Reduced Level		m	19.552	19.103	19.191	18.616	18.873	18.879	19.206	14.802
Shown on Drawing No			8599/1-53							8599/1-54
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.07	2.08	2.10	2.09	2.06	2.07	2.08
Field Moisture Content		%	19.5	19.0	19.5	19.5	18.0	18.0	18.0	20.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3059	3060	3061	3062	3063	3064	3065	3066
Peak Converted Wet Density		t/m³	2.18	2.18	2.14	2.15	2.16	2.14	2.15	2.09
Apparent Optimum Moisture Content		%	20.0	19.5	20.0	20.0	18.5	18.5	18.5	20.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	2-3	2	2	2	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3067	3068	3069	3070	3071	3072	3073	3074
DATE TESTED			04/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96.5	97	100	96	98	98	99	98.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295504.977	295524.688	295626.177	295637.543	295613.408	295599.528	295575.905	295590.847
Northing			6269557.616	6269531.643	6269805.418	6269777.353	6269762.99	6269736.048	6269715.36	6269705.009
Reduced Level		m	15.92	17.018	13.846	14.474	14.331	14.234	14.143	14.307
Shown on Drawing No			8599/1-54		8599/1-55					
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.04	2.04	2.09	2.03	2.06	2.07	2.08	2.06
Field Moisture Content		%	19.0	18.5	19.5	19.0	19.5	19.0	19.5	18.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3067	3068	3069	3070	3071	3072	3073	3074
Peak Converted Wet Density		t/m³	2.11	2.10	2.09	2.12	2.10	2.11	2.10	2.09
Apparent Optimum Moisture Content		%	19.0	18.5	19.5	19.0	19.5	19.0	19.5	18.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2	2-3	2-3	2-3	2-3	2-3	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3075	3076	3077	3078	3079	3080	3081	3082
DATE TESTED			04/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	99	97.5	98	100.5	98	97.5	97	99.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**-0.5**	**-0.5**	**0.0**	**-0.5**	**-0.5**	**-0.5**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295624.901	295647.773	295652.589	295631.625	295593.518	295598.247	295623.755	295124.033
Northing			6269729.203	6269755.016	6269736.779	6269704.465	6269670.037	6269648.745	6269659.706	6268934.035
Reduced Level		m	15.18	15.394	15.533	15.247	14.538	15.429	15.905	18.4
Shown on Drawing No			8599/1-55							8599/1-53
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.06	2.05	2.11	2.05	2.05	2.07	2.11
Field Moisture Content		%	19.5	19.0	20.0	19.5	20.0	20.0	20.5	18.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3075	3076	3077	3078	3079	3080	3081	3082
Peak Converted Wet Density		t/m³	2.11	2.11	2.09	2.10	2.09	2.10	2.13	2.12
Apparent Optimum Moisture Content		%	20.0	19.0	20.0	19.5	20.5	20.5	20.5	18.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	2-3	2-3	2-3	2-3	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3083	3084	3085	3086	3087	3088	3089	3090
DATE TESTED			04/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96	96.5	96.5	96.5	97.5	95.5	98	99.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**0.0**	**0.0**	**0.5**	**0.5**	**0.5**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295030.195	294999.998	294976.98	294938.806	294965.496	294993.943	295019.5	295058.406
Northing			6268937.02	6268924.417	6268876.211	6268803.486	6268799.456	6268855.544	6268905.506	6268922.61
Reduced Level		m	18.128	17.864	18.319	19.424	20.318	19.26	18.337	18.226
Shown on Drawing No			8599/1-53							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.05	2.07	2.06	2.05	2.08	2.03	2.07	2.11
Field Moisture Content		%	18.5	19.5	19.5	18.0	18.5	17.5	19.0	17.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3083	3084	3085	3086	3087	3088	3089	3090
Peak Converted Wet Density		t/m³	2.13	2.14	2.14	2.12	2.13	2.13	2.11	2.12
Apparent Optimum Moisture Content		%	18.5	19.5	19.0	17.5	18.0	17.0	19.0	17.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2-3	2-3	2	2	2	2-3	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3091	3092	3093	3094	3095	3096	3097	3098
DATE TESTED			04/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98.5	97	96	99	98	97.5	96	96.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**-0.5**	**-0.5**	**0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295030.256	295721.123	295708.737	295685.302	295692.694	295672.84	295621.029	295619.149
Northing			6268872.561	6268807.335	6268757.187	6268737.933	6268785.067	6268810.585	6268812.783	6268792.614
Reduced Level		m	19.41	19.265	20.444	20.906	20.292	20.031	20.339	20.53
Shown on Drawing No			8599/1-53	8599/1-52	8599/1-51		8599/1-52			
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.07	2.05	2.10	2.08	2.07	2.04	2.06
Field Moisture Content		%	18.5	17.0	19.0	18.5	19.0	19.0	19.5	19.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3091	3092	3093	3094	3095	3096	3097	3098
Peak Converted Wet Density		t/m³	2.12	2.13	2.13	2.12	2.12	2.12	2.13	2.13
Apparent Optimum Moisture Content		%	18.0	17.5	18.5	18.5	19.5	19.5	19.5	19.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2-3	2	2-3	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3099	3100	3101	3102	3103	3104	3105	3106
DATE TESTED			04/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96	95	99	95.5	96	98.5	98.5	97.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**-0.5**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295680.071	295669.599	295609.829	295660.069	295558.22	295587.028	295609.421	295646.305
Northing			6268786.546	6268772.502	6268768.762	6268751.335	6268661.416	6268682.093	6268661.107	6268679.661
Reduced Level		m	20.595	20.757	21.16	21.081	23.003	22.468	22.987	22.423
Shown on Drawing No			8599/1-52		8599/1-51					
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.05	2.04	2.11	2.03	2.05	2.09	2.10	2.08
Field Moisture Content		%	19.5	18.0	19.5	18.5	18.5	20.0	18.0	18.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3099	3100	3101	3102	3103	3104	3105	3106
Peak Converted Wet Density		t/m³	2.14	2.15	2.13	2.13	2.14	2.12	2.13	2.13
Apparent Optimum Moisture Content		%	19.5	18.0	19.0	19.0	18.5	20.0	18.0	18.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2	2-3	2-3	2	2-3	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3107	3108	3109	3110	3111	3112	3113	3114
DATE TESTED			04/10/2017			05/10/2017				
RESULTS										
Hilf Density Ratio	Standard	%	97	97.5	96	97	97	98.5	96.5	96.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295675.339	295638.879	295574.668	295730.142	295679.593	295623.565	295606.959	295653.67
Northing			6268661.428	6268636.336	6268635.753	6268838.247	6268840.75	6268841.622	6268820.703	6268819.728
Reduced Level		m	22.76	23.11	23.134	19.096	19.767	20.372	20.649	20.397
Shown on Drawing No			8599/1-51			8599/1-52				
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.08	2.05	2.08	2.07	2.11	2.07	2.08
Field Moisture Content		%	19.0	20.0	18.5	17.5	18.5	19.5	16.0	14.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3107	3108	3109	3110	3111	3112	3113	3114
Peak Converted Wet Density		t/m³	2.13	2.13	2.14	2.14	2.13	2.14	2.15	2.16
Apparent Optimum Moisture Content		%	18.5	20.0	18.5	18.0	19.0	20.0	16.5	15.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2	2	2-3	2-3	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3115	3116	3117	3118	3119	3120	3121	3122
DATE TESTED			05/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96	96	96.5	97	96	95	97.5	96.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**0.5**	**-0.5**	**-0.5**	**-1.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295710.752	295710.875	295661.44	295605.421	295593.935	295646.032	295711.353	295684.13
Northing			6268818.287	6268801.222	6268799.698	6268799.158	6268774.925	6268772.572	6268771.998	6268751.666
Reduced Level		m	19.879	20.101	20.546	20.864	21.203	21.019	20.39	21.265
Shown on Drawing No			8599/1-52							8599/1-51
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.04	2.06	2.09	2.07	2.06	2.08	2.06
Field Moisture Content		%	18.0	17.0	13.0	17.5	18.5	16.0	16.0	17.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3115	3116	3117	3118	3119	3120	3121	3122
Peak Converted Wet Density		t/m³	2.17	2.13	2.14	2.15	2.16	2.17	2.13	2.14
Apparent Optimum Moisture Content		%	18.5	17.5	13.5	18.0	18.0	16.5	16.5	17.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	1-2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3123	3124	3125	3126	3127	3128	3129	3130
DATE TESTED			05/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97	96.5	95.5	95.5	95.5	98	98	98.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295634.406	295577.166	295577.586	295631.855	295686.118	295689.54	295656.797	295616.249
Northing			6268752.061	6268755.585	6268733.18	6268730.879	6268730.43	6268706.31	6268699.897	6268712.487
Reduced Level		m	21.21	21.432	21.757	21.373	20.981	21.327	21.63	21.465
Shown on Drawing No			8599/1-51							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.08	2.07	2.06	2.07	2.09	2.10	2.11
Field Moisture Content		%	18.5	16.5	17.5	18.0	18.5	18.0	18.0	17.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3123	3124	3125	3126	3127	3128	3129	3130
Peak Converted Wet Density		t/m³	2.15	2.15	2.17	2.16	2.17	2.13	2.14	2.14
Apparent Optimum Moisture Content		%	19.0	17.0	18.0	18.5	19.0	19.0	18.5	18.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2	2	2	2-3	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3131	3132	3133	3134	3135	3136	3137	3138
DATE TESTED			05/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	95.5	96.5	97	96	96.5	96.5	96.5	97.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295577.634	295555.3	295531.793	295545.451	295546.008	295510.564	295503.26	295484.34
Northing			6269587.481	6269603.164	6269589.317	6269563.823	6269539.004	6269560.043	6269566.155	6269569.78
Reduced Level		m	17.667	16.515	16.167	17.235	17.347	16.546	16.194	15.236
Shown on Drawing No			8599/1-55			8599/1-54				
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.06	2.08	2.09	2.07	2.06	2.07	2.09	2.09
Field Moisture Content		%	18.0	16.5	18.0	18.0	19.0	17.5	18.5	17.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3131	3132	3133	3134	3135	3136	3137	3138
Peak Converted Wet Density		t/m³	2.16	2.15	2.16	2.16	2.14	2.15	2.17	2.14
Apparent Optimum Moisture Content		%	18.5	17.0	18.5	18.5	19.5	18.0	19.0	18.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2-3	2	2-3	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3139	3140	3141	3142	3143	3144	3145	3146
DATE TESTED			05/10/2017							06/10/2017
RESULTS										
Hilf Density Ratio	Standard	%	95	95.5	97.5	97.5	97.5	96.5	95.5	99.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**-5.0**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295472.048	295496.653	295523.926	295531.786	295572.101	295557.051	295616.728	295639.385
Northing			6269589.568	6269597.216	6269598.557	6269626.067	6269661.7	6269689.315	6268885.993	6268878.907
Reduced Level		m	14.323	14.279	14.994	12.964	13.488	13.108	19.756	19.577
Shown on Drawing No			8599/1-55						8599/1-52	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.05	2.06	2.10	2.10	2.09	2.08	2.06	2.08
Field Moisture Content		%	19.5	18.5	17.0	18.0	18.5	18.5	18.0	20.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3139	3140	3141	3142	3143	3144	3145	3146
Peak Converted Wet Density		t/m³	2.16	2.16	2.15	2.15	2.14	2.16	2.16	2.09
Apparent Optimum Moisture Content		%	20.0	23.5	17.5	18.5	19.0	19.0	18.5	20.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2	2	2-3	2-3	2	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3147	3148	3149	3150	3151	3152	3153	3154
DATE TESTED			06/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	100	99.5	98	97.5	97	97	99.5	100
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295669.52	295695.334	295722.779	295722.58	295681.186	295623.208	295588.595	295633.952
Northing			6268882.856	6268882.932	6268869.165	6268848.078	6268847.014	6268849.092	6268835.729	6268827.699
Reduced Level		m	19.332	19.011	19.013	19.776	20.166	20.722	20.871	20.714
Shown on Drawing No			8599/1-52							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.09	2.05	2.04	2.04	2.03	2.05	2.08
Field Moisture Content		%	21.5	21.5	17.5	19.0	20.0	20.5	20.5	21.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3147	3148	3149	3150	3151	3152	3153	3154
Peak Converted Wet Density		t/m³	2.08	2.10	2.09	2.09	2.10	2.09	2.06	2.08
Apparent Optimum Moisture Content		%	21.0	21.5	17.5	19.0	20.0	20.5	20.5	21.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	3	2	'2-3	2-3	2-3	2-3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3155	3156	3157	3158	3159	3160	3161	3162
DATE TESTED			06/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	99	97.5	100	99.5	98	98.5	99	97.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.5**	**-0.5**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295690.177	295703.375	295660.622	295610.972	295606.524	295676.985	295658.478	295610.746
Northing			6268823.755	6268767.531	6268767.623	6268771.854	6268753.062	6268740.799	6268733.739	6268735.497
Reduced Level		m	20.533	20.524	21.092	21.211	21.432	21.254	21.225	21.595
Shown on Drawing No			8599/1-52	8599/1-51		8599/1-52	8599/1-51			
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.05	2.08	2.08	2.07	2.08	2.08	2.04
Field Moisture Content		%	21.0	20.5	20.5	19.5	20.0	21.0	18.0	20.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3155	3156	3157	3158	3159	3160	3161	3162
Peak Converted Wet Density		t/m³	2.09	2.10	2.08	2.09	2.11	2.11	2.10	2.09
Apparent Optimum Moisture Content		%	21.0	20.5	20.5	19.5	20.0	21.5	18.0	20.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	2-3	2-3	2-3	2	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3163	3164	3165	3166	3167	3168	3169	3170
DATE TESTED			06/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97	99	99	99	98	98.5	98	98
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**-0.5**	**-0.5**	**0.0**	**-0.5**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295189.436	295134.108	295090.047	295020.615	295034.583	295097.385	295140.521	295155.42
Northing			6268917.078	6268922.165	6268931.21	6268932.427	6268911.773	6268907.53	6268901.331	6268880.541
Reduced Level		m	19.177	19.072	18.457	18.094	18.669	19.18	19.368	19.8
Shown on Drawing No			8599/1-53							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.05	2.08	2.09	2.08	2.05	2.07	2.09	2.10
Field Moisture Content		%	20.0	21.0	22.5	20.5	20.5	21.0	22.0	20.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3163	3164	3165	3166	3167	3168	3169	3170
Peak Converted Wet Density		t/m³	2.11	2.10	2.11	2.10	2.09	2.10	2.13	2.14
Apparent Optimum Moisture Content		%	19.5	22.0	23.0	20.5	21.0	21.0	22.0	20.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	3	2-3	2-3	2-3	3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3171	3172	3173	3174	3175	3176	3177	3178
DATE TESTED			06/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96	96.5	95.5	98.5	99	98	96	97
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295106.602	295046.609	295010.102	295055.286	295117.057	295521.511	295494.765	295479.737
Northing			6268884.231	6268888.179	6268872.777	6268862.368	6268847.981	6269522.583	6269550.077	6269587.634
Reduced Level		m	19.999	19.248	19.412	20.186	20.843	17.525	16.305	14.449
Shown on Drawing No			8599/1-53					8599/1-54		8599/1-55
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.04	2.09	2.04	2.09	2.11	2.09	2.04	2.07
Field Moisture Content		%	19.0	20.5	18.5	19.0	19.0	20.0	21.0	19.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3171	3172	3173	3174	3175	3176	3177	3178
Peak Converted Wet Density		t/m³	2.12	2.17	2.14	2.12	2.13	2.13	2.13	2.13
Apparent Optimum Moisture Content		%	19.0	20.5	18.5	19.0	19.0	20.0	21.0	19.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2	2-3	2-3	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3179	3180	3181	3182	3183	3184	3185	3186
DATE TESTED			06/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98.5	99	98	95.5	96	95.5	96.5	99.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295467.061	295486.185	295514.168	295485.783	295450.98	295485.197	295484.618	295452.893
Northing			6269574.715	6269536.187	6269504.34	6269497.021	6269536.365	6269607.961	6269637.756	6269615.187
Reduced Level		m	14.518	16.436	16.427	16.582	15.102	13.509	10.87	11.516
Shown on Drawing No			8599/1-54					8599/1-55		
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.10	2.10	2.09	2.02	2.05	2.04	2.06	2.12
Field Moisture Content		%	19.5	21.5	20.5	19.5	21.0	18.0	19.5	21.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3179	3180	3181	3182	3183	3184	3185	3186
Peak Converted Wet Density		t/m³	2.13	2.12	2.13	2.12	2.13	2.14	2.13	2.13
Apparent Optimum Moisture Content		%	19.5	21.5	20.5	19.5	21.0	18.0	19.5	21.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	3	2-3	2-3	2-3	2	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3187	3188	3189	3190	3191	3192	3193	3194
DATE TESTED			06/10/2017				09/10/2017			
RESULTS										
Hilf Density Ratio	Standard	%	98.5	95.5	96	95.5	98.5	97	98	97.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295469.034	295491.035	295519.134	295133.45	295083.843	295022.636	294988.599	294963.632
Northing			6269642.362	6269668.54	6269675.848	6268932.606	6268935.442	6268934.665	6268891.677	6268834.565
Reduced Level		m	10.961	10.376	10.369	19.209	19.023	19.298	19.415	19.791
Shown on Drawing No			8599/1-55			8599/1-53				
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.10	2.05	2.05	2.03	2.10	2.08	2.09	2.08
Field Moisture Content		%	20.0	19.5	19.5	20.5	20.5	18.5	18.5	19.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3187	3188	3189	3190	3191	3192	3193	3194
Peak Converted Wet Density		t/m³	2.13	2.15	2.14	2.13	2.13	2.14	2.13	2.13
Apparent Optimum Moisture Content		%	20.0	19.5	19.5	20.5	20.5	18.5	18.5	19.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	2-3	2-3	2	2	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3195	3196	3197	3198	3199	3200	3201	3202
DATE TESTED			09/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96	96.5	97	96	98	97	99	98
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**-0.5**	**-0.5**	**0.5**	**0.0**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295074.087	295091.241	295112.468	295130.232	295139.141	295161.408	295184.307	295732.345
Northing			6268884.198	6268867.145	6268855.316	6268913.14	6268884.545	6268868.511	6268902.843	6268888.473
Reduced Level		m	19.85	20.421	20.652	19.58	19.859	20.04	19.544	18.84
Shown on Drawing No			8599/1-53							8599/1-52
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.05	2.06	2.08	2.04	2.09	2.08	2.07	2.09
Field Moisture Content		%	18.0	19.5	20.5	20.0	19.0	20.0	21.0	19.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3195	3196	3197	3198	3199	3200	3201	3202
Peak Converted Wet Density		t/m³	2.13	2.13	2.14	2.13	2.13	2.14	2.09	2.13
Apparent Optimum Moisture Content		%	18.0	19.5	21.0	20.5	18.5	20.0	20.5	19.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2-3	2-3	2-3	3	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3203	3204	3205	3206	3207	3208	3209	3210
DATE TESTED			09/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	95.5	97.5	98	99	97	95.5	96	98.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**-0.5**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295716.944	295683.665	295653.028	295630.882	295584.537	295611.914	295634.971	295652.577
Northing			6268869.946	6268893.394	6268888.82	6268874.221	6268851.398	6268839.255	6268851.389	6268810.001
Reduced Level		m	19.107	19.004	19.204	19.629	20.915	20.896	20.488	20.677
Shown on Drawing No			8599/1-52							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.05	2.07	2.09	2.10	2.09	2.04	2.05	2.09
Field Moisture Content		%	20.5	20.5	19.5	19.5	18.0	19.5	20.0	18.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3203	3204	3205	3206	3207	3208	3209	3210
Peak Converted Wet Density		t/m³	2.15	2.12	2.13	2.12	2.15	2.14	2.14	2.12
Apparent Optimum Moisture Content		%	20.5	20.5	19.5	19.5	18.0	19.5	19.5	18.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	2-3	2	2-3	2-3	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3211	3212	3213	3214	3215	3216	3217	3218
DATE TESTED			09/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98.5	96	95.5	96	97.5	96	96.5	95.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295654.933	295673.658	295677.666	295680.458	295701.413	295701.754	295701.672	295690.382
Northing			6268767.797	6268768.755	6268803.98	6268836.486	6268842.744	6268805.743	6268776.106	6268726.714
Reduced Level		m	21.078	20.913	20.458	20.244	20.022	20.338	20.465	20.955
Shown on Drawing No			8599/1-51		8599/1-52					8599/1-51
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.11	2.05	2.03	2.05	2.10	2.07	2.09	2.08
Field Moisture Content		%	18.0	20.5	19.5	18.0	19.0	18.5	18.0	19.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3211	3212	3213	3214	3215	3216	3217	3218
Peak Converted Wet Density		t/m³	2.14	2.13	2.13	2.14	2.15	2.16	2.17	2.18
Apparent Optimum Moisture Content		%	17.5	20.5	20.5	19.0	19.5	19.0	18.5	19.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2-3	2-3	2	2-3	2-3	2	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3219	3220	3221	3222	3223	3224	3225	3226
DATE TESTED			09/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98.5	95	96.5	96	98	99	98	97.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**-0.5**	**0.5**	**-0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295654.83	295593.901	295535.092	295540.431	295629.889	295679.681	295656.903	295590.821
Northing			6268710.811	6268710.08	6268708.987	6268687.304	6268686.583	6268685.11	6268653.082	6268654.426
Reduced Level		m	21.35	21.815	21.991	22.457	22.198	22.162	23.13	23.075
Shown on Drawing No			8599/1-51							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.06	2.05	2.04	2.10	2.10	2.09	2.08
Field Moisture Content		%	19.0	18.5	18.5	18.5	19.5	19.5	18.5	19.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3219	3220	3221	3222	3223	3224	3225	3226
Peak Converted Wet Density		t/m³	2.10	2.17	2.12	2.12	2.14	2.12	2.13	2.13
Apparent Optimum Moisture Content		%	19.5	18.0	19.0	18.5	19.5	19.5	18.5	19.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2	2-3	2	2-3	2-3	2	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3227	3228	3229	3230	3231	3232	3233	3234
DATE TESTED			09/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97	98	96.5	98.5	97.5	97	95.5	95.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.0**	**0.0**	**0.0**	**-0.5**	**-0.5**	**0.5**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295501.216	295580.383	295554.763	295539.122	295574.894	295559.552	295542.31	295501.774
Northing			6268654.436	6269694.545	6269689.135	6269667.285	6269672.603	6269648.438	6269599.477	6269533.024
Reduced Level		m	22.665	14.429	13.936	12.989	14.543	14.619	16.567	17.469
Shown on Drawing No			8599/1-51	8599/1-55						8599/1-54
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.08	2.06	2.09	2.08	2.08	2.05	2.05
Field Moisture Content		%	19.5	19.0	19.5	19.5	16.5	16.0	17.5	19.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3227	3228	3229	3230	3231	3232	3233	3234
Peak Converted Wet Density		t/m³	2.13	2.12	2.14	2.12	2.13	2.14	2.15	2.15
Apparent Optimum Moisture Content		%	19.0	19.0	19.5	19.5	17.0	16.5	17.0	19.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	2-3	2	2	2	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3235	3236	3237	3238	3239	3240	3241	3242
DATE TESTED			09/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	95	95.5	97	98	97	96	96	97.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295478.522	295497.698	295518.696	295528.906	295533.414	295552.793	295579.624	295558.282
Northing			6269506.839	6269488.617	6269516.44	6269503.931	6269476.961	6269495.105	6269535.393	6269561.423
Reduced Level		m	17.232	16.699	17.736	17.062	17.045	17.704	18.486	17.981
Shown on Drawing No			8599/1-54							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.03	2.05	2.04	2.07	2.06	2.04	2.05	2.08
Field Moisture Content		%	17.5	18.5	19.0	18.5	17.5	19.0	19.5	18.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3235	3236	3237	3238	3239	3240	3241	3242
Peak Converted Wet Density		t/m³	2.14	2.15	2.10	2.11	2.12	2.13	2.13	2.13
Apparent Optimum Moisture Content		%	18.0	19.0	19.5	19.5	18.5	19.5	20.0	18.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2-3	2-3	2-3	2	2-3	2-3	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 25/10/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER		3243	3244	3245					
DATE TESTED		09/10/2017							
RESULTS									
Hilf Density Ratio Standard	%	99	97.5	96					
Moisture Variation from OMC (-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**					
Specification Density Ratio (Standard)		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION									
Easting		295531.487	295277.991	295269.127					
Northing		6269537.342	6269011.138	6268972.988					
Reduced Level	m	17.931	17.232	17.353					
Shown on Drawing No		8599/1-54	8599/1-53						
Retested by Test		-	-	-					
FIELD & LABORATORY DATA									
Field Wet Density	t/m³	2.11	2.08	2.04					
Field Moisture Content	%	18.5	19.5	19.5					
Material retained on 19mm Sieve (wet)	%	<5	<5	<5					
Lab Compaction result from test number		3243	3244	3245					
Peak Converted Wet Density	t/m³	2.13	2.13	2.12					
Apparent Optimum Moisture Content	%	18.5	19.0	19.5					
Number of Compaction Points		3	3	3					
Test Procedures - See Note Number		12	12	12					
Material Description - see below		2	2-3	2-3					

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

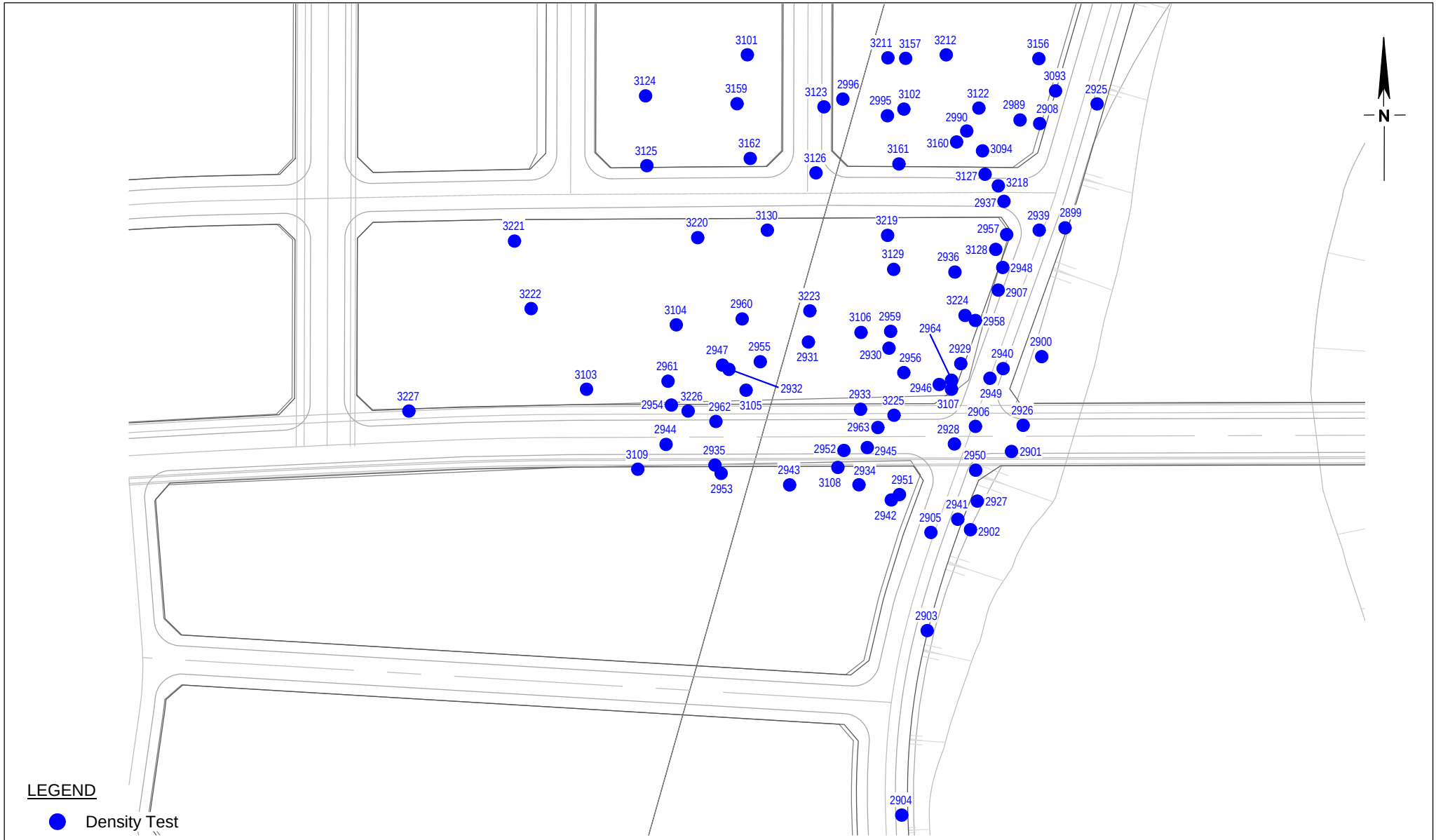
Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 25/10/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au



LEGEND

● Density Test

GEOTECH TESTING PTY LTD®
34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321
Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

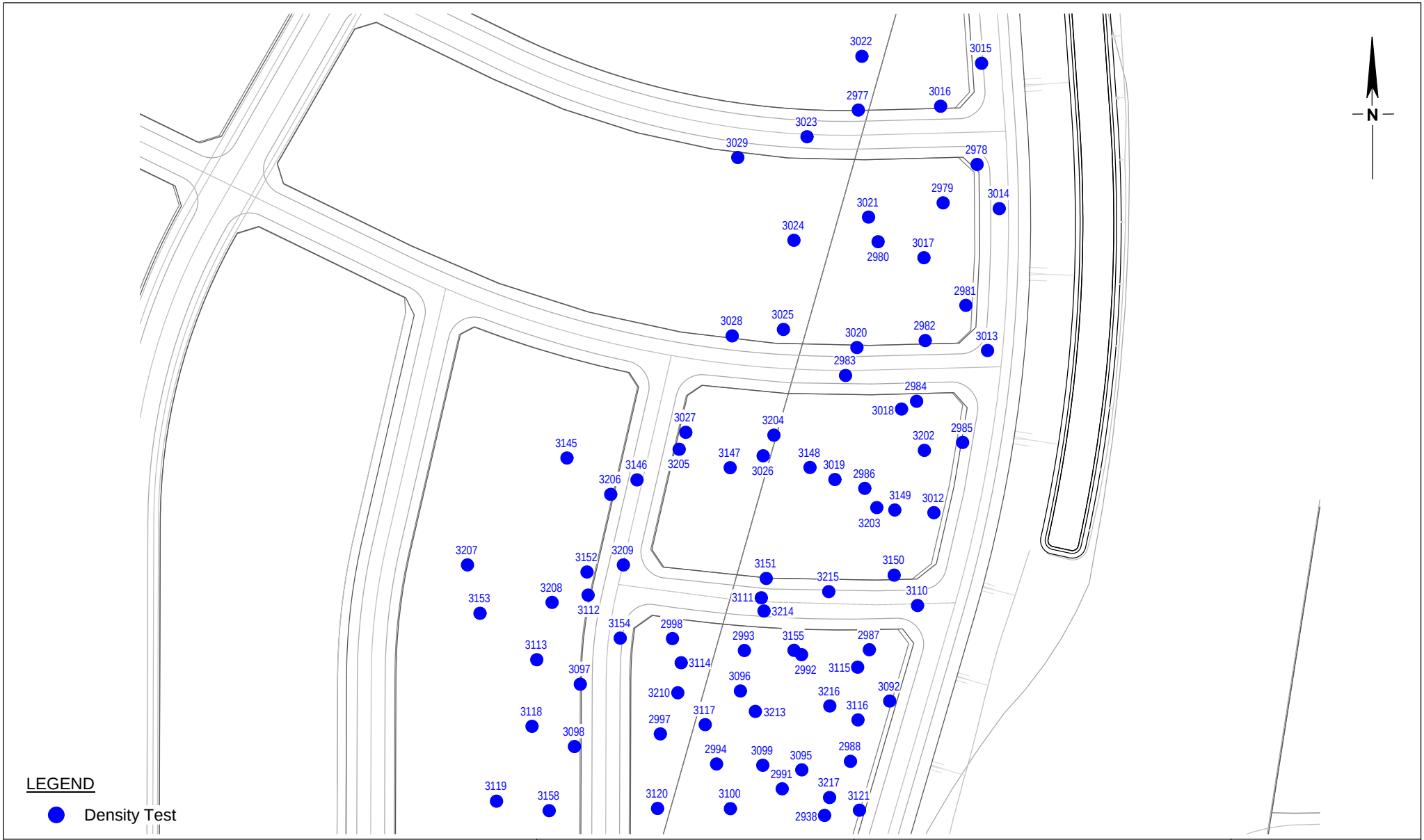
1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-51
Job No: 8599/1
Drawn By: MH
Date: 25 October 2017
Checked By: AK

File No: 8599-1
Layers: 0, Lay51



GEOTECH TESTING PTY LTD®
34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321
Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-52
Job No: 8599/1
Drawn By: MH
Date: 25 October 2017
Checked By: AK

File No: 8599-1
Layers: 0, Lay52

LEGEND

● Density Test

GEOTECH TESTING PTY LTD®
34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321
Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

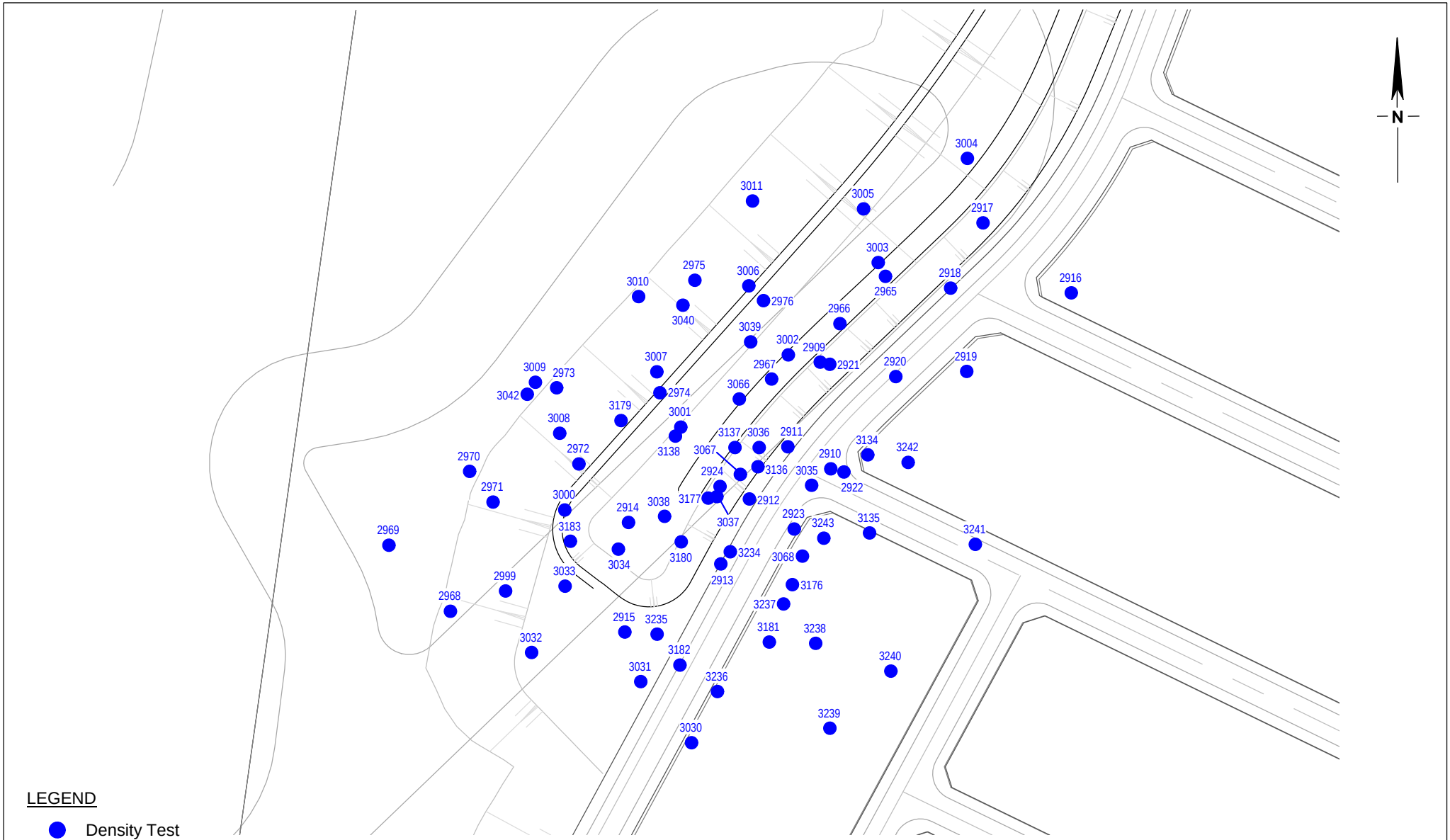
1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-53
Job No: 8599/1
Drawn By: MH
Date: 25 October 2017
Checked By: AK

File No: 8599-1
Layers: 0, Lay53



GEOTECH TESTING PTY LTD®
34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321
Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

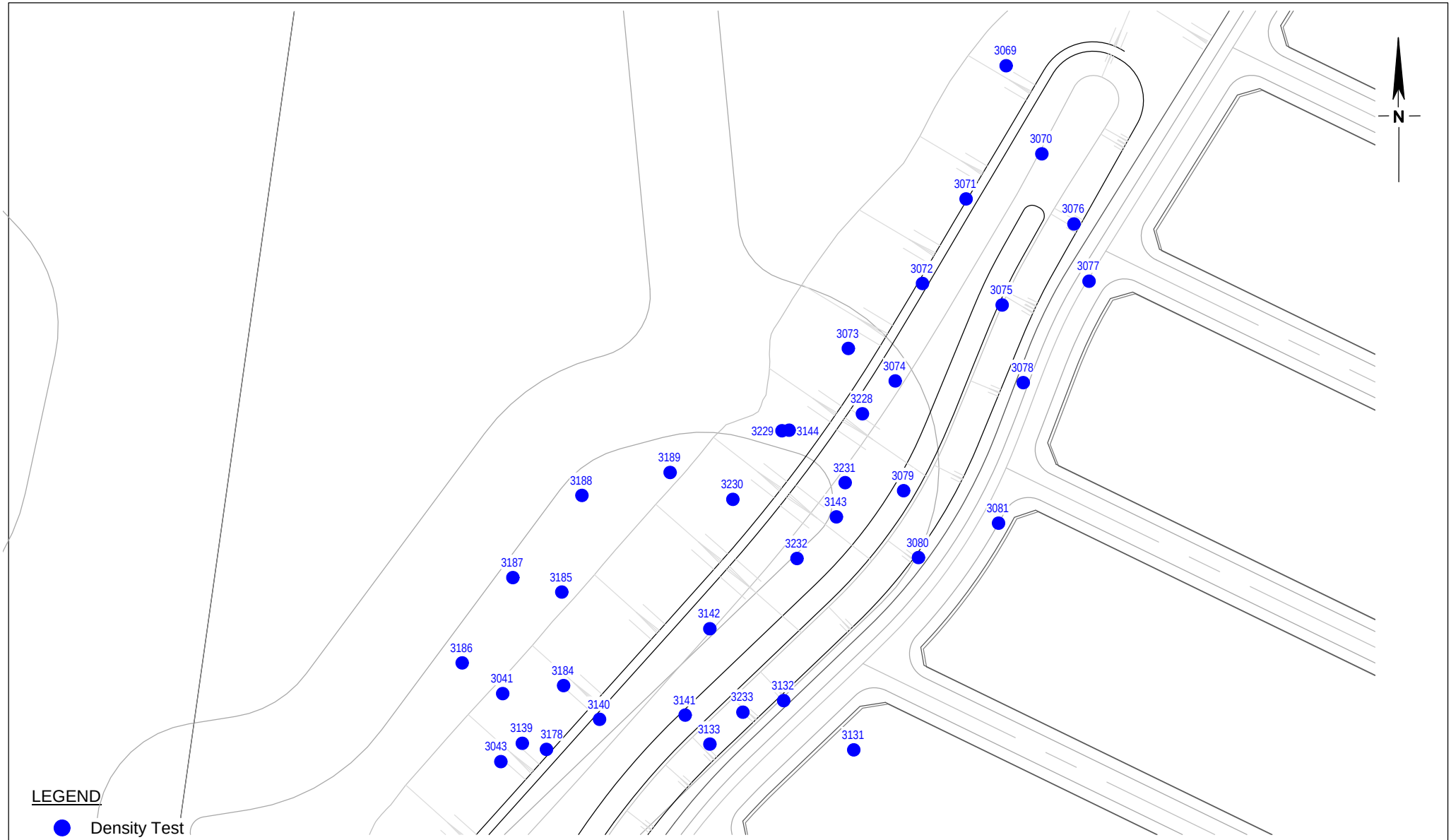
1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-54
Job No: 8599/1
Drawn By: MH
Date: 25 October 2017
Checked By: AK

File No: 8599-1
Layers: 0, Lay54



GEOTECH TESTING PTY LTD ®
34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321
Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-55
Job No: 8599/1
Drawn By: MH
Date: 25 October 2017
Checked By: AK

File No: 8599-1
Layers: 0, Lay55

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System Quality ISO 9001 SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	170
Location:	Marsden Park	Report Date:	25 /09 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 1706

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 10	TEST NO'S 2899-2908/10
APPROVED SUBGRADE	SUBGRADE 13	TEST NO'S 2909-2915/7

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

CUT TO FILL IN APPROVED SUBGRADE (13) 4x 627 SCRAPERS CARRY TO FILL AREA ALONG WITH 2x 631 PUSHED BY D10 AND ALSO PLACING IN SG #7, 12 815 COMPACTING AS PLACED
WATERCART SPRAYING AND ALSO ROLLING IN SG(11) WITH PADFOOT ROLLING

5. Instructions given on site

LONG LENGTHS UP AGAINST BOX SILT FENCE
ALL OF THE DUMP TRUCKS CARRY FROM BORROW ZONES EW AND FARM TO APPROVED (SG)13 825 COMPACTING AND ROLLING OF THE FALG AS PLACED

COMMENTS:

Signed: Date: 25-09-17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	171
Location:	Marsden Park	Report Date:	26/09/2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630
Time off site: 1700

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 13	TEST NOS 2916 - 2924/9
APPROVED SUBGRADE	SUBGRADE 12	TEST NOS 2925 - 2938/14

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

4x 627 SCRAPERS CARRY CUT TO FILL MATERIEL FROM SUBGRADE (12) HIGH SPOT AREA AND PLACING ALONG (SG) FLOOR UP NEXT TO BOX CUT FENCE TO CREATE THE BATTER IN LAYERS ALONG LOW AREA OF FILL
ANOTHER 4x 627 SCRAPERS STRIPPING BIG PADDOCK AREA ALONGSIDE

5. Instructions given on site

STONEY CREEK ROAD AND MATERIEL PLACED/STOCKPILED FOR LATER USE OVER FINISHED PAD AREAS
LARGE DAM AREA OUTSIDE BOX (SG) 13 IS BEING EXCAVATED AND LOADED OUT WITH 3x DUMPTRUCKS AND PLACED - FARMED OUT OVER (SG) 11

COMMENTS: FOR FUTURE CONTROLLED FILL
1ST LAYER OVER HALF OF FLOOR IN DAM APPROX 500MM LAYER TO BRIDGE WITH 825 PUSHING FROM TOP TO LOWER FLOOR

Signed: Date: 26/09/2017

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	172
Location:	Marsden Park	Report Date:	27 / 09 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 1700

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 12	TEST NO'S 2939-2964/26
APPROVED SUBGRADE	SUBGRADE 13	TEST NO'S 2965-2967/3

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments
EXCAVATED DAM AREA	NO APPROVED SUBGRADE	TEST NO'S 2968-2976/9

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

2x 631 SCRAPERS PUSHED BY D10 IN APPROVED SUBGRADE 12 CUT TO FILL IN LOWER PART AGAINST BOX FENCE MATERIAL PLACED BIS COMPACTOR PUSHING AND ROLLING ALSO 6x 627 SCRAPERS REMOVING AND PLACING IN THE SAME ZONE TO BE LINKED ANOTHER 2 SCRAPERS STRIPPING PADDOCK PARALLEL TO

5. Instructions given on site

STONEY CREEK ROAD AND STOCKPILING TOPSOIL FOR FUTURE USE OVER THE FINISHED FILL AREAS
DUMPTRUCKS LOADED BY 3x EXCAVATORS FROM BORROW ZONES E&F CARTED TO EXCAVATED DAM AREA BIS PUSHING DUMPED LOADS FOR FIRST SPREADING

COMMENTS: LAYER
THE HEAVY SILT FLOOR REMOVED BY PUSHING SLOPE TO EXCAVATOR AND LOADING 4x 30T DUMPTRUCKS, SLOPE PLACED IN (S4) IT PUSHED OUT TO DRY THEN WILL BE REWORKED AS FILL

Signed: Date: 27/9/2017

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

07 334 377

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	173
Location:	Marsden Park	Report Date:	28 / 09 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 1700

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 10	TEST NO'S 2977-2998/22
EXCAVATED DAM AREA	NO APPROVED SUBGRADE	TEST NO'S 2999-3011/13

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

SUBGRADE 14 HAS BEEN PICKED UP 4X 627 SCRAPERS HAVE REMOVED THE TOPSOIL AND ORGANIC MATERIEL AND STOCKPILED FOR LATER USE

ALSO ANOTHER 4X 627 SCRAPERS CARTING CUT TO FILL IN APPROVED SUBGRADES 10, 12 2X 631 SCRAPERS PUSHED BY D10 AND PLACING IN THE SAME (S4)

5. Instructions given on site

DESIGNATED DUMPTRUCKS ARE LOADED BY EXCAVATOR WITH UNSUITABLE MATERIEL FROM THE DAM AND HAULED TO (S4) II WHERE SILTY SLUG IS FARMED OUT TO DRY THEN WILL BE USED AS FILL PLACEMENT

APPROX 9 DUMPTRUCKS LOADED BY 2X 70T EXCAVATORS AND MATERIEL

COMMENTS: TO BE PLACED IN THE EXISTING DAM 825 COMPACTOR IS WORKING OUT TO FILL FROM BORROW ZONES E, F

Signed:

Date: 28-09-17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System Quality ISO 9001 SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	174
Location:	Marsden Park	Report Date:	29/09/2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 1700

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 10	TEST NO'S 3012 - 3029/18
APPROVED SUBGRADE	SUBGRADE 13	TEST NO'S 3070 - 3038/9

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments
EXCAVATED DAM AREA	NO SUBGRADE APPROVAL	TEST NO'S 3039 - 3043/5
APPROVED SUBGRADE	SUBGRADE 14	TEST NO'S 3044 - 3065/22

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

4x 627 SCRAPERS IN FILL AREA 10 PLACING CUT TO FILL OR RIPPING AREA FOR MACHINES TO PICK UP AND PLACE WHERE NEEDED
ALSO 2x 631 SCRAPERS PUSHED BY D10 IN (S4) 12 CUT AREA AND PLACED IN (S4) 10 WITH 825 COMPACTOR PUSHING AND COMPACTING 2x MATERIALS

5. Instructions given on site

SPRAYING THE FILL AREAS 10, 12, 13, 14 AS THE MATERIEL NEEDS FOR PLACEMENT
ALSO 4x SCRAPERS IN (S4) 14 CUTING TO FILL IN LOWER SPOT WHILE D10 FOOT COMPACTS WATERCARS IN (S4) 14 ALSO 1 GRADER TRIMMING HAUL ROADS INTO AND OUT OF FILL AREAS

COMMENTS:
14x DUMPTRUCKS CARTING MATERIEL OUT OF BORROW ZONES G.F LOADED BY 2x 701 EXCAVATORS AND DESTINATION S4 13. AND DAM AREA
SILTY MATERIEL FROM DAM PLACED IN (S4) 11 FARMED FOR FUTURE CONTROLLED WORKS

Signed: Date: 29.09.17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System Quality ISO 9001 SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	175
Location:	Marsden Park	Report Date:	04 /10 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630
Time off site: 1700

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 13	TEST NO'S 3066 - 3081/16
APPROVED SUBGRADE	SUBGRADE 14	TEST NO'S 3082 - 3091/10

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 11	TEST NO'S 3092 - 3102/11
APPROVED SUBGRADE	SUBGRADE 12	TEST NO'S 3103 - 3109/67

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

11x DUMPTRUCKS CARTING CUT TO FILL FROM BORROW ZONES E,F LOADED BY 2x 651 EXCAVATORS AND HAULED TO APPROVED SUBGRADE 13 & 25 PUSHING AND COMPACTING AS PLACED
EXCAVATOR STILL REMOVING UNSUITABLE SUBGRADE FROM PREVIOUS DAY

5. Instructions given on site

AREA MATERIEL PLACED IN (S4) 11 ITS FARMED TO DRY THEN WILL BE CONTROLLED AS FILL MATERIEL
IN (S4) 14 ON THE OTHER SIDE OF BOY FENCE 4x 627 SCRAPERS ARE STRIPPING TOPSOIL FOR PROPOSED (S4) 15 ALL TOPSOIL STOCKPILED FOR

COMMENTS: A LATER STAGE OF ESL PADS
4x 627 SCRAPERS CARTING MATERIEL FROM APPROVED (S4) 12 AND PLACING IN DESIGNATED FILL AREA WITH 825 COMPACTOR PUSHING AND ROLLING

Signed: Date: 04.10.17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System Quality ISO 9001 SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	176
Location:	Marsden Park	Report Date:	05 /10 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 1700

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE'S 10,12	TEST NO'S 3110 - 3130/21
APPROVED SUBGRADE	SUBGRADE 13	TEST NO'S 3131 - 3136/6

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments
NO SUBGRADE APPROVAL	DAM BASIN AREA	TEST NO'S 3137 - 3145/9

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

2x 65t EXCAVATORS LOADING 18Y DUMPTRUCKS FROM BORROW ZONES E, F AND HAULED TO APPROVED (S4) 14 ALSO PLACED INTO THE EXCAVATED BASIN/ DAM AREA AS NEARLY ALL OF THE UNSUITABLE IS REMOVED
825 COMMENCED PUSHING OF THE FACE FOR NEXT LIFT/LAYER TO

5. Instructions given on site

FOR SOUTH END TOWARDS POWERLINES
4x 627 SCRAPERS STRIPPING FURTHER AREA OPPOSITE (S4)14 ALONG THE (BAY) LINE WATERING SPRAYING AREA FOR A GOOD BASE FOR FILL PLACEMENT AS A LAYER STAGE

COMMENTS: 4x 627 SCRAPERS IN S4 10,12 REMOVING OF RIPPED MATERIAL TO BE PLACED IN LOW AREAS ALONG DESIGNATED STRIPPED AREA WITH 825 PUSHING AND SCRAPERS ALSO ROLLING TO TIGHTEN UP

Signed:

Date: 05-10-17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	177
Location:	Marsden Park	Report Date:	06 / 10 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630
Time off site: 1700

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE'S 10,12	TEST NO'S 3146-3163/18
APPROVED SUBGRADE	SUBGRADE 14	TEST NO'S 3164-3176/13

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 13 AND DAM AREA	TEST NO'S ~~3176~~ 3190 - ~~3189~~ 3177 /14

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

13x DUMPIRUCKS CARTING CUT TO FILL MATERIEL FROM BORROW ZONES TO BE LOADED BY 2x 65T EXCAVATORS MATERIEL IS PLACED INTO DAM/BASIN RUNNING INTO SUBGRADE 13, 825 PUSHING AND COMPACTING INTO THE LOWER POINT OF FILL AREA 27 DUMPIES LOADED OUT WITH SIDD TO BE FARMED OVER (S4) 11

5. Instructions given on site

4x 627 SCRAPERS CUTTING IN (S4) 14 AND ALSO PLACING IN DESIGNATED AREA IN (S4) 14 ALONG WITH 2x 631'S PUSHED BY D10 AND PLACING IN THE SAME AREA 825 PUSHING DOWN FILL TO THE NORTH WITH WATER CART SPRAYING AS NEEDED D6 RIPPING CUT IN THE SAME (S4) 14 ALSO

COMMENTS: ANOTHER 2x 627 SCRAPERS STRIPPING AREA SITED UP AGAINST (S4) 11 AND STOCKPILING TOPSOIL FOR LATER USE.
825 COMPACTING LOADS PLACED IN S4 10,12 WHILE MACHINES ARE BUSY ATM

Signed: Date: 06-10-17

D

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System Quality ISO 9001 SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	178
Location:	Marsden Park	Report Date:	09/10 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630
Time off site: 1700

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 14	TEST NO'S 3191 - 3202/12
APPROVED SUBGRADE	SUBGRADES 10, 12	TEST NO'S 3203 - 3228/28

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 13	TEST NO'S 3229/3245 - 16

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations Lot Boundaries	Geotech / Geotech /	

4. Instructions received on site

2x 631 SCRAPERS PUSHED BY D10 DOZER AND PLACING IN (SG) 15 825 COMPACTOR PUSHING AND SPREADING TO WEST
ALSO 4x 627 SCRAPERS CUTTING IN (SG) 14 AND PLACING IN PROPOSED SUBGRADE (15) 2x MORE 627 SCRAPERS CUTTING IN (SG) 10 AND PLACING

5. Instructions given on site

IN APPROVED (SG) 10 PAD FOOT COMPACTING WHILST GRADER TRIMMING PADS TO GPS 100mm LOWER TO ALLOW FOR TOPSOIL
DUMPTRUCKS HAULING CUT TO FILL FROM BORROW ZONES E? TO SG 13 / DAM AREA 815 AND 825 COMPACTORS PUSHING AND COMPACTING

COMMENTS:

Signed: [signature] Date: 09.10.17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

SUBGRADE APPROVAL REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	S 14
Location:	Marsden Park	Report Date:	28/09/2017
Subgrade Inspection Report		Technician:	Heath Wilson

Subgrade areas assessed

Area ID	Date	Approximate extent	Subgrade Description	Geometry Summary	Survey Reference	Approved (Yes/No)
8599/1-14 SUBGRADE 14	28.09.17	73682m² / 18.207 ACRE	(CL) CLAY MED PLAST, ORANGE BROWN MATERIAL LOW CLAYS	LARGE SQUARE AREA SLIGHT SLOPE TO THE WEST NORTHERN END		Y

COMMENTS:

Signed: Date: 28.09.17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

SUBGRADE APPROVAL REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	S15
Location:	Marsden Park	Report Date:	10/11/2017
Subgrade Inspection Report		Technician:	Heath Wilson

Subgrade areas assessed

Area ID	Date	Approximate extent	Subgrade Description	Geometry Summary	Survey Reference	Approved (Yes/No)
8599/1-15 SUBGRADE 15	10.09.17	82272 m² 20.330 ACRE	(H) CLAY MED PLAST BROWN MED GRAVEL TO LARGE FLOATING ROCK	LARGE RECTANGLE AREA FU(804) GPS		
			ALL ORGANIC TOPSOIL STOCKPILED FOR LATER USE			

COMMENTS:

Signed: Date: 10.09.17

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

Our Ref: 8599/1-R10
27 November 2017

Daracon Contractors Pty Ltd
P O Box 6145
SILVERWATER BC NSW 1811
Email: SimpsonW@daracon.com.au

Attention: Mr S Wong

Dear Sir

Re: **Woorong Bulk Earthworks**
Marsden Park
Monthly Site Filling Certificate - November 2017

For the production period 10 October to 10 November 2017 inclusive, we submit our Geotech Monthly Report for the above project.

During the foregoing testing period, a total of six hundred & thirty compaction control tests (Tests 3246 to 3875 inclusive) were carried out and reported. The locations of the 630 tests are shown on the attached Drawing Nos 8599/1-56 to 8599/1-64, inclusive (9 drawings). All tests have been undertaken in accordance with the Test Methods and Specifications shown on the attached certificates. Scanned daily records and subgrade reports are also attached.

Based on the fill quantities/survey data, the frequency of field density and compaction tests was in accordance with Level 1 as defined in AS3798 “Guidelines on Earthworks for Commercial & Residential Development”. We certify that all tested locations attained the density ratio shown on the test results sheets. Where failures were encountered, the areas were re-worked and re-tested to achieve the specified density ratio.

Based on site observations and testing, it is considered that the fill placed to date at the locations shown on the attached drawings is classified as "Controlled" fill and that the specified compaction level has been achieved within the tested area.

If you have any questions, please do not hesitate to contact the undersigned.

Yours faithfully
GEOTECH TESTING PTY LTD

EMGED RIZKALLA
Director

Attached Density Test Results Certificates Tests 3246 to 3875
Test Location Drawings 8599/1-56 to 8599/1-64
Daily Records
Subgrade Approvals (S16 to S19)

Head Office:
34 Borec Road, Penrith NSW 2750
Telephone: (02) 4722 2744 Facsimile: (02) 4722 2777
e-mail: info@geotech.com.au www.geotech.com.au

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3246	3247	3248	3249	3250	3251	3252	3253
DATE TESTED			10/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	100	99.5	98	98.5	98	97	100	98
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**-0.5**	**-0.5**	**0.5**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295261.341	295237.966	295243.232	295247.341	295234.783	295236.615	295233.835	295252.502
Northing			6268935.461	6268949.704	6268984.437	6269014.11	6269012.589	6268977.182	6268944.871	6268935.995
Reduced Level		m	17.621	17.213	17.113	17.001	17.061	17.212	17.586	17.816
Shown on Drawing No			8599/1-59							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.09	2.06	2.08	2.05	2.05	2.09	2.07
Field Moisture Content		%	21.5	20.0	20.5	20.5	22.0	22.0	22.0	21.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3246	3247	3248	3249	3250	3251	3252	3253
Peak Converted Wet Density		t/m³	2.09	2.10	2.10	2.11	2.09	2.11	2.09	2.11
Apparent Optimum Moisture Content		%	21.5	20.0	20.5	21.0	22.5	21.5	22.0	20.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	2-3	2-3	2-3	3	3	3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3254	3255	3256	3257	3258	3259	3260	3261
DATE TESTED			10/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98	100.5	100.5	98.5	98.5	99	97	97.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**-1.0**	**-0.5**	**0.0**	**-0.5**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295260.032	295272.444	295264.093	295237.297	295217.843	295241.795	295258.659	295245.187
Northing			6268961.635	6269001.367	6269016.529	6268987.254	6268949.792	6268941.543	6268983.401	6269011.448
Reduced Level		m	17.641	17.621	17.721	17.533	17.581	18.181	18.034	17.763
Shown on Drawing No			8599/1-59							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.11	2.10	2.07	2.08	2.08	2.04	2.07
Field Moisture Content		%	22.0	21.5	21.0	20.5	21.0	21.5	22.0	22.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3254	3255	3256	3257	3258	3259	3260	3261
Peak Converted Wet Density		t/m³	2.11	2.10	2.09	2.10	2.11	2.10	2.10	2.12
Apparent Optimum Moisture Content		%	22.5	22.0	21.5	20.5	21.5	21.5	22.0	22.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	3	3	2-3	3	3	3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3262	3263	3264	3265	3266	3267	3268	3269
DATE TESTED			10/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	99.5	100	98	98.5	97.5	98.5	99.5	98.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**-0.5**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295233.613	295219.002	295243.597	295260.006	295303.055	295262.556	295218.774	295211.423
Northing			6268990.457	6268948.32	6268948.814	6268987.693	6269001.958	6269001.354	6269008.56	6268992.77
Reduced Level		m	18.073	18.167	18.378	18.283	19.228	18.636	18.07	18.099
Shown on Drawing No			8599/1-59							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.11	2.12	2.08	2.06	2.05	2.06	2.08	2.08
Field Moisture Content		%	21.5	20.5	22.5	21.5	16.5	19.5	19.5	20.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3262	3263	3264	3265	3266	3267	3268	3269
Peak Converted Wet Density		t/m³	2.12	2.12	2.12	2.09	2.10	2.09	2.09	2.11
Apparent Optimum Moisture Content		%	21.0	20.0	22.0	22.0	16.5	19.5	19.5	20.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	3	3	2	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3270	3271	3272	3273	3274	3275	3276	3277
DATE TESTED			10/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98.5	99.5	98.5	98.5	99.5	99.5	99	98.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**-0.5**	**-0.5**	**-0.5**	**0.0**	**0.0**	**0.0**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295271.349	295288.261	295246.467	295211.439	295209.889	295261.127	295487.598	295514.537
Northing			6268979.656	6268958.507	6268958.527	6268962.755	6268940.304	6268930.464	6269508.534	6269489.444
Reduced Level		m	18.835	19.543	18.434	18.405	18.625	19.043	17.39	16.983
Shown on Drawing No			8599/1-59						8599/1-58	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.06	2.09	2.08	2.07	2.10	2.09	2.08	2.07
Field Moisture Content		%	22.5	22.0	21.5	22.0	21.0	20.0	21.5	21.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3270	3271	3272	3273	3274	3275	3276	3277
Peak Converted Wet Density		t/m³	2.09	2.10	2.11	2.10	2.11	2.10	2.10	2.10
Apparent Optimum Moisture Content		%	22.5	22.5	22.0	22.0	21.0	20.5	21.5	21.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	3	3	3	2-3	2-3	3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3278	3279	3280	3281	3282	3283	3284	3285
DATE TESTED			10/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96.5	97.5	97	99	100.5	99.5	99	98.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**-0.5**	**0.0**	**-0.5**	**-0.5**	**0.0**	**0.0**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295533.456	295515.626	295489.17	295457.9	295445.161	295488.928	295522.092	295133.317
Northing			6269470.597	6269458.138	6269476.475	6269499.962	6269483.165	6269452.506	6269430.553	6269024.101
Reduced Level		m	17.563	17.101	16.427	16.396	14.847	15.839	16.901	16.994
Shown on Drawing No			8599/1-58							8599/1-59
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.04	2.05	2.06	2.07	2.11	2.10	2.09	2.08
Field Moisture Content		%	20.5	22.0	21.0	20.0	19.0	21.5	21.5	19.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3278	3279	3280	3281	3282	3283	3284	3285
Peak Converted Wet Density		t/m³	2.11	2.10	2.12	2.09	2.10	2.11	2.11	2.11
Apparent Optimum Moisture Content		%	20.5	22.0	21.0	20.5	19.5	21.5	21.5	19.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	3	2-3	2-3	2-3	3	3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3286	3287	3288	3289	3290	3291	3292	3293
DATE TESTED			10/10/2017	11/10/2017						
RESULTS										
Hilf Density Ratio	Standard	%	100	96	97	97.5	98	96	95.5	97.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295095.465	295055.886	295092.907	295122.608	295125.53	295054.373	295048.705	295111.492
Northing			6269026.582	6269013.147	6269007.546	6269003.308	6268991.312	6268994.761	6268978.48	6268964.952
Reduced Level		m	15.944	15.512	16.449	17.254	17.282	15.945	15.916	17.337
Shown on Drawing No			8599/1-59							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.11	2.04	2.06	2.08	2.10	2.05	2.03	2.08
Field Moisture Content		%	21.0	20.0	21.5	21.5	21.0	21.5	20.5	21.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3286	3287	3288	3289	3290	3291	3292	3293
Peak Converted Wet Density		t/m³	2.11	2.13	2.12	2.13	2.14	2.14	2.13	2.13
Apparent Optimum Moisture Content		%	21.0	20.0	21.0	22.0	21.0	21.5	20.5	21.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	3	3	2-3	3	2-3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3294	3295	3296	3297	3298	3299	3300	3301
DATE TESTED			11/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	99	97	97.5	98	98	97	97.5	96
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295116.255	295052.532	295040.509	295109.607	295129.665	295080.46	295056.673	295115.91
Northing			6268940.573	6268946.756	6268963.979	6268953.273	6268965.789	6268972.43	6268991.327	6268981.781
Reduced Level		m	17.893	16.831	16.231	17.775	17.804	16.926	16.337	17.568
Shown on Drawing No			8599/1-59							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.11	2.07	2.08	2.08	2.09	2.08	2.07	2.05
Field Moisture Content		%	19.5	20.0	20.5	21.0	19.5	21.0	20.5	21.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3294	3295	3296	3297	3298	3299	3300	3301
Peak Converted Wet Density		t/m³	2.13	2.13	2.13	2.12	2.13	2.14	2.12	2.13
Apparent Optimum Moisture Content		%	19.5	20.0	20.5	21.0	19.5	20.5	20.5	21.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3302	3303	3304	3305	3306	3307	3308	3309
DATE TESTED			11/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	95.5	98	98	97.5	98	96.5	98	98
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295122.951	295064.007	295443.563	295461.902	295500.887	295505.758	295480.681	295444.647
Northing			6269001.238	6269003.942	6269486.614	6269456.231	6269427.425	6269412.357	6269421.035	6269445.523
Reduced Level		m	17.368	16.066	15.478	15.561	16.648	16.978	16.277	15.261
Shown on Drawing No			8599/1-59		8599/1-58					
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.04	2.09	2.10	2.08	2.08	2.06	2.08	2.09
Field Moisture Content		%	21.0	21.5	20.0	21.0	21.0	21.0	21.0	20.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3302	3303	3304	3305	3306	3307	3308	3309
Peak Converted Wet Density		t/m³	2.14	2.13	2.14	2.13	2.12	2.14	2.12	2.13
Apparent Optimum Moisture Content		%	21.0	21.5	20.0	20.5	21.0	21.0	21.0	20.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	3	2-3	2-3	2-3	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3310	3311	3312	3313	3314	3315	3316	3317
DATE TESTED			11/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97.5	98	97.5	96.5	98.5	96	96.5	96
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.5**	**0.0**	**0.0**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295432.32	295451.512	295489.755	295545.415	295522.321	295534.691	295560.623	295560.186
Northing			6269431.452	6269412.299	6269381.312	6269625.838	6269643.349	6269653.257	6269644.135	6269672.586
Reduced Level		m	15.109	15.801	16.387	15.056	13.836	14.034	15.014	14.728
Shown on Drawing No			8599/1-58			8599/1-57				
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.11	2.07	2.06	2.10	2.04	2.06	2.05
Field Moisture Content		%	21.0	18.0	17.5	17.0	17.0	18.0	18.5	17.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3310	3311	3312	3313	3314	3315	3316	3317
Peak Converted Wet Density		t/m³	2.14	2.15	2.12	2.13	2.13	2.13	2.13	2.13
Apparent Optimum Moisture Content		%	20.5	18.0	17.5	17.0	17.0	17.5	18.5	17.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2	2	2	2	2	2-3	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3318	3319	3320	3321	3322	3323	3324	3325
DATE TESTED			11/10/2017		12/10/2017					
RESULTS										
Hilf Density Ratio	Standard	%	97.5	97.5	96.5	96.5	98.5	95.5	98	96.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295047.631	295085.812	295123.312	295134.457	295096.738	295054.208	295048.954	295082.092
Northing			6269023.514	6269019.769	6269017.347	6268997.955	6269004.423	6269006.923	6268989.24	6268982.007
Reduced Level		m	15.005	16.104	17.16	17.618	17.166	15.778	16.16	17.069
Shown on Drawing No			8599/1-59							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.10	2.06	2.07	2.10	2.02	2.09	2.06
Field Moisture Content		%	18.0	17.5	18.5	19.0	18.5	18.0	20.0	18.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3318	3319	3320	3321	3322	3323	3324	3325
Peak Converted Wet Density		t/m³	2.13	2.15	2.13	2.14	2.13	2.12	2.13	2.13
Apparent Optimum Moisture Content		%	18.0	18.0	18.5	19.0	18.0	18.0	20.0	18.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2-3	2	2	2-3	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3326	3327	3328	3329	3330	3331	3332	3333
DATE TESTED			12/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98	96.5	96.5	97	96.5	98	96	96.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295125.924	295129.535	295087.511	295048.333	295046.786	295097.539	295540.234	295516.179
Northing			6268973.936	6268955.257	6268958.898	6268963.046	6268946.615	6268942.591	6269465.204	6269491.638
Reduced Level		m	17.685	18.227	17.414	16.584	16.932	17.986	18.207	17.67
Shown on Drawing No			8599/1-59						8599/1-58	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.06	2.04	2.07	2.06	2.08	2.05	2.07
Field Moisture Content		%	19.0	18.0	17.0	18.5	19.0	18.5	17.5	16.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3326	3327	3328	3329	3330	3331	3332	3333
Peak Converted Wet Density		t/m³	2.12	2.13	2.11	2.13	2.13	2.12	2.13	2.14
Apparent Optimum Moisture Content		%	19.0	18.0	16.5	18.5	19.5	18.5	17.5	16.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2	2	2	2-3	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3334	3335	3336	3337	3338	3339	3340	3341
DATE TESTED			12/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98	98	98	97.5	96	95.5	99.5	96.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295487.16	295477.363	295505.896	295532.442	295515.34	295482.187	295450.423	295405.682
Northing			6269511.266	6269495.501	6269477.22	6269454.436	6269443.685	6269466.52	6269490.777	6269412.182
Reduced Level		m	17.457	17.549	17.643	18.167	17.797	16.893	16.398	14.538
Shown on Drawing No			8599/1-58							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.09	2.08	2.08	2.06	2.03	2.11	2.06
Field Moisture Content		%	17.0	17.0	19.5	19.0	19.0	18.5	17.0	18.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3334	3335	3336	3337	3338	3339	3340	3341
Peak Converted Wet Density		t/m³	2.13	2.13	2.12	2.13	2.15	2.13	2.12	2.13
Apparent Optimum Moisture Content		%	16.5	17.0	19.5	19.0	19.0	18.5	17.0	17.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2-3	2-3	2-3	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3342	3343	3344	3345	3346	3347	3348	3349
DATE TESTED			12/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96	97.5	98	97.5	97	95	96.5	99
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**-0.5**	**-0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295442.606	295489.087	295614.95	295585.901	295649.105	295631.179	295628.874	295630.95
Northing			6269387.453	6269378.554	6269650.278	6269645.271	6269728.286	6269715.908	6269745.224	6269782.478
Reduced Level		m	16.009	16.709	16.713	16.079	16.248	16.454	15.905	15.151
Shown on Drawing No			8599/1-58		8599/1-57					
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.04	2.07	2.10	2.08	2.07	2.03	2.06	2.10
Field Moisture Content		%	18.5	17.5	17.0	17.5	18.0	18.0	17.5	17.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3342	3343	3344	3345	3346	3347	3348	3349
Peak Converted Wet Density		t/m³	2.12	2.12	2.14	2.13	2.13	2.14	2.14	2.12
Apparent Optimum Moisture Content		%	19.0	18.0	17.5	17.0	18.5	18.0	17.5	17.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3350	3351	3352	3353	3354	3355	3356	3357
DATE TESTED			12/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97.5	97	95	97	97	96.5	97	97.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**-1.0**	**-0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295602.115	296419.644	296371.943	296358.977	296416.079	296421.936	296372.43	296430.726
Northing			6269759.741	6268762.877	6268758.411	6268742.274	6268750.144	6268735.222	6268726.186	6268721.647
Reduced Level		m	15.088	20.997	20.172	19.806	21.032	20.817	20.003	20.984
Shown on Drawing No			8599/1-57	8599/1-64						
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.08	2.03	2.07	2.08	2.07	2.07	2.08
Field Moisture Content		%	18.5	17.5	17.0	16.0	16.0	16.0	18.5	16.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3350	3351	3352	3353	3354	3355	3356	3357
Peak Converted Wet Density		t/m³	2.14	2.14	2.14	2.13	2.14	2.15	2.13	2.13
Apparent Optimum Moisture Content		%	18.5	17.5	17.0	16.0	16.0	16.5	19.0	16.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2-3	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3358	3359	3360	3361	3362	3363	3364	3365
DATE TESTED			12/10/2017					13/10/2017		
RESULTS										
Hilf Density Ratio	Standard	%	98.5	97	97.5	96.5	98	97	98	98
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**-0.5**	**0.0**	**0.0**	**0.0**	**0.5**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296406.395	296374.437	294904.523	294875.301	294843.315	294849.254	294874.871	294902.617
Northing			6268712.038	6268699.956	6268767.041	6268772.853	6268775.386	6268755.373	6268744.513	6268729.216
Reduced Level		m	20.59	19.654	19.365	18.028	16.496	17.262	18.91	20.225
Shown on Drawing No			8599/1-64	8599/1-60						
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.10	2.08	2.08	2.07	2.09	2.06	2.04	2.10
Field Moisture Content		%	17.0	16.0	17.0	16.5	17.5	20.0	19.5	20.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3358	3359	3360	3361	3362	3363	3364	3365
Peak Converted Wet Density		t/m³	2.13	2.14	2.13	2.15	2.13	2.12	2.08	2.14
Apparent Optimum Moisture Content		%	17.0	16.5	17.5	16.5	17.5	20.0	19.5	19.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3366	3367	3368	3369	3370	3371	3372	3373
DATE TESTED			13/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97	96.5	98.5	97	96.5	96.5	97	96.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.5**	**0.5**	**0.0**	**0.0**	**0.5**	**0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			294883.795	294849.1	294831.096	294870.193	294896.329	294883.924	294849.707	294820.678
Northing			6268726.06	6268733.102	6268711.431	6268704.41	6268698.413	6268682.361	6268683.824	6268675.121
Reduced Level		m	19.302	17.761	17.096	19.139	20.294	19.704	18.217	17.085
Shown on Drawing No			8599/1-60		8599/1-61					
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.07	2.09	2.07	2.06	2.05	2.07	2.07
Field Moisture Content		%	22.5	19.5	19.5	19.5	20.5	18.0	19.5	21.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3366	3367	3368	3369	3370	3371	3372	3373
Peak Converted Wet Density		t/m³	2.13	2.14	2.12	2.13	2.14	2.12	2.13	2.14
Apparent Optimum Moisture Content		%	22.5	19.0	19.0	19.5	20.5	17.5	19.5	21.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	2-3	2-3	2-3	2-3	2	2-3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3374	3375	3376	3377	3378	3379	3380	3381
DATE TESTED			13/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96.5	96	96	3.5	96	97.5	98.5	97.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.5**	**1.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			294825.483	294855.471	294895.191	294942.693	294976.956	295011.395	295067.499	294993.3
Northing			6268653.649	6268652.247	6268655.4	6268775.34	6268790.579	6268791.136	6268783.478	6268808.085
Reduced Level		m	17.561	18.527	19.945	20.497	21.413	22.376	22.578	20.775
Shown on Drawing No			8599/1-61			8599/1-60				
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.06	2.04	2.05	0.07	2.05	2.07	2.10	2.09
Field Moisture Content		%	20.0	21.5	21.5	21.5	20.0	21.0	21.0	16.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3374	3375	3376	3377	3378	3379	3380	3381
Peak Converted Wet Density		t/m³	2.13	2.13	2.14	2.12	2.13	2.12	2.13	2.14
Apparent Optimum Moisture Content		%	19.5	21.5	21.5	21.5	20.0	20.5	20.0	16.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	3	3	3	2-3	2-3	2-3	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3382	3383	3384	3385	3386	3387	3388	3389
DATE TESTED			13/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98.5	98	96.5	96.5	97	96.5	95.5	98
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295018.573	295046.395	295062.127	295026.432	294985.535	294985.949	294999.546	295013.684
Northing			6268806.322	6268812.085	6268816.465	6268828.989	6268842.085	6268843.044	6268883.08	6268919.016
Reduced Level		m	21.84	22.047	22.127	21.199	19.876	19.871	19.743	19.606
Shown on Drawing No			8599/1-60							8599/1-59
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.10	2.08	2.06	2.07	2.09	2.07	2.07	2.08
Field Moisture Content		%	19.5	20.0	17.5	18.5	18.5	19.0	18.5	18.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3382	3383	3384	3385	3386	3387	3388	3389
Peak Converted Wet Density		t/m³	2.13	2.12	2.13	2.14	2.15	2.15	2.17	2.12
Apparent Optimum Moisture Content		%	19.5	21.0	18.0	19.5	19.0	19.5	19.0	19.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			23	2-3	2	2-3	2-3	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3390	3391	3392	3393	3394	3395	3396	3397
DATE TESTED			13/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98.5	98	98	96	95	99.5	97.5	96
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295053.653	295052.099	295041.457	295125.917	295105.477	295056.975	295054.691	295084.986
Northing			6268922.75	6268904.442	6268872.412	6268942.786	6268944.63	6268947.76	6268969.774	6268969.747
Reduced Level		m	19.553	19.785	20.259	18.752	18.63	18.002	17.542	18.049
Shown on Drawing No			8599/1-60							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.10	2.10	2.11	2.07	2.06	2.11	2.08	2.05
Field Moisture Content		%	20.0	17.0	18.5	18.0	18.5	19.0	19.0	18.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3390	3391	3392	3393	3394	3395	3396	3397
Peak Converted Wet Density		t/m³	2.13	2.14	2.15	2.16	2.17	2.12	2.13	2.13
Apparent Optimum Moisture Content		%	20.5	17.5	19.0	18.5	19.0	19.5	19.5	19.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2	2-3	2	2-3	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3398	3399	3400	3401	3402	3403	3404	3405
DATE TESTED			13/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	95.5	99.5	99	2	97	95	96.5	96
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**-0.5**	**0.0**	**0.0**	**0.0**	**-0.5**	**-0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295107.092	295116.033	295079.702	295064.887	295103.374	295131.355	295432.489	295462.046
Northing			6268970.639	6268993.962	6268999.128	6269016.798	6269019.993	6269020.918	6269424.768	6269413.049
Reduced Level		m	18.326	18.29	17.694	16.877	17.674	17.952	16.02	16.832
Shown on Drawing No			8599/1-60	8599/1-59					8599/1-58	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.05	2.11	2.11	0.04	2.08	2.05	2.09	2.08
Field Moisture Content		%	19.0	20.5	20.5	19.5	19.0	17.0	18.0	19.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3398	3399	3400	3401	3402	3403	3404	3405
Peak Converted Wet Density		t/m³	2.15	2.12	2.13	2.14	2.14	2.16	2.17	2.17
Apparent Optimum Moisture Content		%	19.5	21.0	21.0	19.5	19.0	18.0	18.5	19.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	2-3	2-3	2	2	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3406	3407	3408	3409	3410	3411	3412	3413
DATE TESTED			13/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	99	97	96	95.5	96	96	98.5	97.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**-0.5**	**-0.5**	**-0.5**	**0.0**	**-0.5**	**-0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295492.217	295503.806	295483.205	295451.776	296450.987	296416.003	296386.718	296438.593
Northing			6269395.794	6269418.529	6269433.352	6269450.058	6268713.374	6268702.831	6268693.6	6268742.712
Reduced Level		m	17.313	17.335	16.706	15.966	22.2	21.779	20.979	21.736
Shown on Drawing No			8599/1-58				8599/1-64			
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.08	2.05	2.05	2.07	2.05	2.11	2.10
Field Moisture Content		%	18.5	18.5	17.5	19.0	20.0	17.0	17.5	19.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3406	3407	3408	3409	3410	3411	3412	3413
Peak Converted Wet Density		t/m³	2.11	2.14	2.14	2.15	2.16	2.13	2.14	2.15
Apparent Optimum Moisture Content		%	18.5	19.0	18.5	20.0	20.0	17.5	18.0	19.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2-3	2	2-3	2-3	2	2	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3414	3415	3416	3417	3418	3419	3420	3421
DATE TESTED			13/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96.5	97	97	95	96	97	97	96.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**-0.5**	**0.0**	**-0.5**	**0.0**	**-0.5**	**-0.5**	**-0.5**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296402.707	296361.988	296348.591	296389.564	296426.269	294815.258	294847.267	294876.667
Northing			6268733.622	6268726.313	6268750.179	6268759.762	6268767.626	6268647.39	6268650.509	6268652.352
Reduced Level		m	21.458	20.352	20.308	21.277	21.596	17.548	18.998	20.076
Shown on Drawing No			8599/1-64					8599/1-61		
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.07	2.09	2.05	2.08	2.06	2.07	2.06
Field Moisture Content		%	19.0	19.0	19.0	19.5	18.5	20.5	21.0	18.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3414	3415	3416	3417	3418	3419	3420	3421
Peak Converted Wet Density		t/m³	2.15	2.13	2.15	2.16	2.17	2.12	2.13	2.14
Apparent Optimum Moisture Content		%	19.5	19.0	20.0	19.5	19.0	21.0	21.5	18.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	3	2-3	2-3	3	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3422	3423	3424	3425	3426	3427	3428	3429
DATE TESTED			16/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	95.5	97	96	96.5	97	95	96.5	95
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.0**	**0.5**	**0.0**	**0.0**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			294877.253	294847.325	294823.617	294826.678	294852.945	294904.982	294892.627	294868.309
Northing			6268682.702	6268684.557	6268689.44	6268720.636	6268722.747	6268720.248	6268751.835	6268763.377
Reduced Level		m	19.919	18.719	17.422	17.104	18.8	20.43	19.861	18.599
Shown on Drawing No			8599/1-61						8599/1-60	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.09	2.06	2.08	2.06	2.05	2.07	2.05
Field Moisture Content		%	20.0	17.5	20.0	19.5	19.0	20.0	18.5	19.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3422	3423	3424	3425	3426	3427	3428	3429
Peak Converted Wet Density		t/m³	2.17	2.15	2.15	2.15	2.12	2.16	2.15	2.16
Apparent Optimum Moisture Content		%	20.0	17.5	19.5	19.0	18.5	20.0	18.0	18.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2	2-3	2-3	2	2-3	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3430	3431	3432	3433	3434	3435	3436	3437
DATE TESTED			16/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97	96	97	95	96.5	95.5	96.5	96.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**0.0**	**0.0**	**0.0**	**-0.5**	**0.5**	**0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			294841.494	295135.08	295091.198	295061.54	295050.925	295081.748	295104.922	295122.962
Northing			6268774.488	6268942.396	6268947.066	6268947.01	6268966.378	6268966.06	6268965.879	6268999.655
Reduced Level		m	16.8	19.197	19.277	18.949	18.255	19.034	19.189	18.444
Shown on Drawing No			8599/1-60							8599/1-59
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.07	2.09	2.05	2.08	2.06	2.07	2.07
Field Moisture Content		%	17.0	18.5	18.5	18.0	17.5	19.5	17.5	19.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3430	3431	3432	3433	3434	3435	3436	3437
Peak Converted Wet Density		t/m³	2.16	2.16	2.15	2.16	2.15	2.16	2.15	2.15
Apparent Optimum Moisture Content		%	17.5	18.0	18.0	18.0	18.0	19.0	17.0	19.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2-3	2	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3438	3439	3440	3441	3442	3443	3444	3445
DATE TESTED			16/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96.5	96	95	95.5	95.5	95	96.5	95.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**-6.0**	**0.5**	**0.0**	**0.0**	**0.5**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295089.024	295089.024	295061.332	295579.151	295558.485	295534.047	295524.653	295498.11
Northing			6269011.107	6269011.109	6269016.936	6269540.945	6269508.399	6269461.661	6269442.308	6269443.731
Reduced Level		m	18.271	18.269	17.788	18.599	18.485	18.559	18.43	17.581
Shown on Drawing No			8599/1-59			8599/1-58				
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.06	2.05	2.05	2.04	2.05	2.06	2.05
Field Moisture Content		%	17.0	16.5	19.0	19.5	18.0	18.5	18.5	18.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3438	3439	3440	3441	3442	3443	3444	3445
Peak Converted Wet Density		t/m³	2.14	2.15	2.16	2.15	2.14	2.16	2.14	2.15
Apparent Optimum Moisture Content		%	16.5	22.5	18.0	19.5	18.0	18.5	18.5	18.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2-3	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3446	3447	3448	3449	3450	3451	3452	3453
DATE TESTED			16/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	95.5	96.5	96	96.5	96.5	95.5	96.5	97
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**-0.5**	**0.5**	**1.0**	**0.0**	**0.0**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295515.698	295536.321	295562.565	295520.381	295499.403	295472.21	295449.929	295454.113
Northing			6269479.206	6269511.182	6269548.306	6269523.583	6269504.501	6269474.683	6269476.802	6269515.756
Reduced Level		m	18.07	17.985	18.225	18.053	17.779	17.187	16.502	16.34
Shown on Drawing No			8599/1-58							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.04	2.07	2.07	2.06	2.07	2.05	2.06	2.08
Field Moisture Content		%	16.0	17.5	17.5	16.5	16.0	16.0	19.5	19.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3446	3447	3448	3449	3450	3451	3452	3453
Peak Converted Wet Density		t/m³	2.14	2.15	2.16	2.14	2.14	2.15	2.14	2.14
Apparent Optimum Moisture Content		%	16.0	18.0	17.0	15.5	15.5	15.5	19.5	19.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3454	3455	3456	3457	3458	3459	3460	3461
DATE TESTED			16/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97.5	96.5	96	97.5	96.5	96	95.5	96.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.5**	**0.0**	**0.0**	**0.5**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295583.213	295542.311	295506.436	295486.341	295485.21	295506.601	295541.013	295567.365
Northing			6269660.759	6269618.119	6269576.128	6269547.793	6269568.254	6269597.086	6269634.235	6269664.437
Reduced Level		m	15.777	15.665	15.642	15.604	15.552	15.742	15.481	15.633
Shown on Drawing No			8599/1-57		8599/1-58			8599/1-57		
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.10	2.07	2.06	2.09	2.07	2.05	2.05	2.07
Field Moisture Content		%	19.0	16.5	17.5	19.5	17.0	19.0	20.0	20.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3454	3455	3456	3457	3458	3459	3460	3461
Peak Converted Wet Density		t/m³	2.15	2.15	2.15	2.14	2.14	2.14	2.15	2.15
Apparent Optimum Moisture Content		%	18.5	16.5	17.5	19.0	17.0	18.5	19.5	20.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2-3	2	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3462	3463	3464	3465	3466	3467	3468	3469
DATE TESTED			16/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96	98.5	98	96	98	97	97.5	98
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.0**	**0.0**	**0.5**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295438.703	295431.645	295424.292	295446.959	295461.885	295475.52	295499.044	295497.856
Northing			6269467.32	6269445.357	6269424.76	6269406.062	6269418.131	6269433.178	6269423.278	6269404.767
Reduced Level		m	15.089	15.336	15.805	16.726	16.806	16.655	17.169	17.222
Shown on Drawing No			8599/1-58							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.05	2.10	2.09	2.05	2.08	2.07	2.08	2.08
Field Moisture Content		%	17.0	17.5	11.5	16.5	17.0	17.0	17.0	16.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3462	3463	3464	3465	3466	3467	3468	3469
Peak Converted Wet Density		t/m³	2.14	2.13	2.13	2.14	2.12	2.13	2.13	2.12
Apparent Optimum Moisture Content		%	16.5	16.5	11.0	16.5	16.5	17.0	17.0	16.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3470	3471	3472	3473	3474	3475	3476	3477
DATE TESTED			16/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97	98	98	98.5	97	97	99	99.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295486.428	295407.485	295418.134	295446.618	296439.669	296395.455	296356.481	296355.67
Northing			6269385.112	6269416.278	6269397.126	6269383.995	6268763.93	6268760.071	6268753.421	6268728.536
Reduced Level		m	17.295	14.573	15.366	15.897	22.102	21.689	20.856	21.155
Shown on Drawing No			8599/1-58				8599/1-64			
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.08	2.09	2.08	2.07	2.07	2.10	2.10
Field Moisture Content		%	16.5	16.5	15.5	19.0	16.5	17.0	16.5	17.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3470	3471	3472	3473	3474	3475	3476	3477
Peak Converted Wet Density		t/m³	2.13	2.12	2.13	2.11	2.13	2.13	2.12	2.11
Apparent Optimum Moisture Content		%	16.5	16.5	15.5	19.0	16.5	17.0	16.5	17.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2-3	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3478	3479	3480	3481	3482	3483	3484	3485
DATE TESTED			16/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96.5	96.5	97	97.5	96.5	98	98.5	97.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296395.69	296440.435	296452.211	296420.351	296391.254	294839.258	294846.929	294851.862
Northing			6268732.316	6268739.018	6268716.956	6268707.883	6268698.484	6268809.163	6268862.322	6268901.508
Reduced Level		m	21.916	22.107	22.532	22.221	21.575	15.922	15.3	14.977
Shown on Drawing No			8599/1-64					8599/1-60		
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.04	2.05	2.05	2.07	2.04	2.09	2.08	2.08
Field Moisture Content		%	16.5	17.0	16.5	17.0	17.0	17.0	17.0	17.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3478	3479	3480	3481	3482	3483	3484	3485
Peak Converted Wet Density		t/m³	2.11	2.12	2.11	2.12	2.11	2.13	2.11	2.13
Apparent Optimum Moisture Content		%	16.5	17.0	16.5	17.0	16.5	17.0	17.0	17.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3486	3487	3488	3489	3490	3491	3492	3493
DATE TESTED			17/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96.5	98	96	99.5	96.5	98	97.5	98.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.5**	**0.5**	**0.5**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			294857.488	294880.098	294882.76	294880.007	294877.925	294895.812	294900.603	294902.281
Northing			6268942.142	6268948.014	6268917.473	6268881.875	6268831.81	6268818.789	6268874.416	6268913.265
Reduced Level		m	14.697	14.549	14.851	15.128	16.008	16.769	15.285	14.83
Shown on Drawing No			8599/1-60							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.06	2.07	2.05	2.10	2.07	2.07	2.05	2.08
Field Moisture Content		%	17.0	17.0	17.5	16.5	17.0	17.0	17.5	17.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3486	3487	3488	3489	3490	3491	3492	3493
Peak Converted Wet Density		t/m³	2.13	2.11	2.13	2.11	2.14	2.11	2.10	2.11
Apparent Optimum Moisture Content		%	16.5	16.5	17.5	16.5	16.5	16.5	17.0	17.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3494	3495	3496	3497	3498	3499	3500	3501
DATE TESTED			17/10/2017			18/10/2017				
RESULTS										
Hilf Density Ratio	Standard	%	98	96.5	96.5	98	98.5	99.5	97.5	98.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			294904.607	294839.241	294845.428	294850.906	294859.899	294892.419	294891.435	294887.332
Northing			6268942.164	6268778.259	6268828.933	6268872.881	6268942.044	6268951.593	6268899.092	6268863.863
Reduced Level		m	14.449	16.74	16.132	15.579	15.105	14.885	15.475	16.067
Shown on Drawing No			8599/1-60	8599/1-61	8599/1-60					
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.06	2.06	2.07	2.07	2.09	2.05	2.07
Field Moisture Content		%	17.0	18.5	17.5	18.5	17.5	18.5	18.0	16.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3494	3495	3496	3497	3498	3499	3500	3501
Peak Converted Wet Density		t/m³	2.12	2.13	2.13	2.11	2.10	2.10	2.10	2.10
Apparent Optimum Moisture Content		%	17.0	18.0	17.5	18.0	17.5	18.5	17.5	15.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3502	3503	3504	3505	3506	3507	3508	3509
DATE TESTED			18/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	99.5	97.5	99	97.5	99.5	98	99	98.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**0.5**	**0.5**	**0.5**	**0.0**	**0.0**	**0.5**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			294879.7	294860.196	294866.666	294873.784	294877.169	294911.527	294907.72	294898.437
Northing			6268810.415	6268789.491	6268845.372	6268901.761	6268946.456	6268948.005	6268908.584	6268846.448
Reduced Level		m	17.009	17.277	16.097	15.606	15.024	14.787	15.248	16.485
Shown on Drawing No			8599/1-61	8599/1-60						
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.05	2.07	2.06	2.07	2.06	2.09	2.07
Field Moisture Content		%	17.5	17.0	17.5	17.0	17.0	17.5	16.5	17.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3502	3503	3504	3505	3506	3507	3508	3509
Peak Converted Wet Density		t/m³	2.10	2.10	2.09	2.11	2.08	2.10	2.11	2.10
Apparent Optimum Moisture Content		%	18.5	16.5	17.0	16.5	17.0	17.5	16.5	17.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3510	3511	3512	3513	3514	3515	3516	3517
DATE TESTED			18/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97	98	98.5	98.5	97	96.5	96.5	98
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			294920.615	294924.277	294927.548	294932.046	294950.939	294949.592	294937.722	295853.89
Northing			6268826.048	6268867.198	6268899.363	6268933.823	6268939.985	6268906.891	6268833.723	6268628.325
Reduced Level		m	17.405	16.011	15.557	14.973	15.16	15.619	17.378	18.839
Shown on Drawing No			8599/1-61	8599/1-60						8599/1-63
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.06	2.08	2.08	2.06	2.05	2.05	2.07
Field Moisture Content		%	17.5	15.0	17.5	16.5	16.5	18.0	16.0	17.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3510	3511	3512	3513	3514	3515	3516	3517
Peak Converted Wet Density		t/m³	2.13	2.10	2.11	2.11	2.12	2.12	2.12	2.11
Apparent Optimum Moisture Content		%	17.5	15.0	17.5	16.5	16.5	18.0	16.0	16.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3518	3519	3520	3521	3522	3523	3524	3525
DATE TESTED			18/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98.5	97	97	97	98	96.5	96.5	98
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.5**	**0.5**	**0.0**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295860.229	295866.093	295881.462	295908.739	295906.253	295892.388	295889.77	295908.324
Northing			6268578.962	6268549.634	6268505.29	6268476.611	6268518.621	6268576.881	6268634.271	6268619.415
Reduced Level		m	18.978	18.836	19.054	19.686	20	19.282	18.889	19.27
Shown on Drawing No			8599/1-63							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.06	2.06	2.07	2.07	2.05	2.06	2.07
Field Moisture Content		%	17.0	17.5	17.0	16.5	17.0	18.0	17.5	16.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3518	3519	3520	3521	3522	3523	3524	3525
Peak Converted Wet Density		t/m³	2.11	2.12	2.12	2.13	2.11	2.12	2.13	2.11
Apparent Optimum Moisture Content		%	17.0	17.0	17.0	16.0	16.5	18.0	17.0	16.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3526	3527	3528	3529	3530	3531	3532	3533
DATE TESTED			18/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	99.5	97.5	96	97.5	96	98	97.5	97
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295915.403	295917.097	295956.345	295958.426	295980.73	295995.174	296077.344	296108.584
Northing			6268577.504	6268540.293	6268595.164	6268623.797	6268640.948	6268614.739	6268688.031	6268691.719
Reduced Level		m	19.712	20.011	20.347	20.149	20.62	21.478	22.039	21.787
Shown on Drawing No			8599/1-63							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.10	2.07	2.05	2.06	2.05	2.08	2.06	2.07
Field Moisture Content		%	15.5	16.0	17.0	15.5	17.5	18.0	18.0	16.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3526	3527	3528	3529	3530	3531	3532	3533
Peak Converted Wet Density		t/m³	2.11	2.12	2.13	2.11	2.13	2.12	2.11	2.13
Apparent Optimum Moisture Content		%	15.0	16.0	17.0	15.5	17.0	18.0	18.0	16.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3534	3535	3536	3537	3538	3539	3540	3541
DATE TESTED			18/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97	98	99	97	97	97	96.5	98
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296170.414	296170.421	296170.424	296224.115	296202.938	296166.186	296188.097	296195.771
Northing			6268697.458	6268697.462	6268697.457	6268721.181	6268768.909	6268777.019	6268742.202	6268722.413
Reduced Level		m	20.863	20.87	20.856	18.866	18.263	18.279	18.949	19.217
Shown on Drawing No			8599/1-63			8599/1-64				8599/1-63
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.06	2.09	2.10	2.05	2.07	2.07	2.05	2.07
Field Moisture Content		%	16.0	16.5	16.5	15.5	17.0	15.5	16.0	16.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3534	3535	3536	3537	3538	3539	3540	3541
Peak Converted Wet Density		t/m³	2.12	2.13	2.12	2.11	2.13	2.13	2.12	2.11
Apparent Optimum Moisture Content		%	15.5	16.5	16.5	15.5	16.5	15.5	15.5	16.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3542	3543	3544	3545	3546	3547	3548	3549
DATE TESTED			18/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98	96	96.5	96.5	97.5	97.5	97	98
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.5**	**1.0**	**0.0**	**0.0**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296131.161	296079.853	296079.879	296113.333	296111.662	296085.666	296086.044	296123.525
Northing			6268707.28	6268710.321	6268657.784	6268658.955	6268644.478	6268637.555	6268612.509	6268608.809
Reduced Level		m	21.109	21.436	22.3	22.372	22.642	22.619	22.664	22.838
Shown on Drawing No			8599/1-64	8599/1-63						
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.05	2.06	2.05	2.08	2.06	2.07	2.07
Field Moisture Content		%	16.0	16.5	16.5	16.5	16.5	16.5	17.0	16.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3542	3543	3544	3545	3546	3547	3548	3549
Peak Converted Wet Density		t/m³	2.11	2.13	2.13	2.12	2.13	2.11	2.13	2.11
Apparent Optimum Moisture Content		%	16.0	16.5	16.5	16.0	16.5	16.0	17.0	16.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3550	3551	3552	3553	3554	3555	3556	3557
DATE TESTED			18/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97.5	97.5	99	98	97.5	97	97	98
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.5**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296027.152	295983.288	295944.013	295938.181	295977.789	296016.245	296016.821	295971.714
Northing			6268685.319	6268682.345	6268677.132	6268698.783	6268701.302	6268701.423	6268719.034	6268723.843
Reduced Level		m	21.902	20.817	19.439	19.305	20.467	21.51	21.111	19.964
Shown on Drawing No			8599/1-63							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.08	2.08	2.07	2.08	2.05	2.07	2.07
Field Moisture Content		%	16.0	17.0	16.5	16.0	16.0	16.0	15.5	17.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3550	3551	3552	3553	3554	3555	3556	3557
Peak Converted Wet Density		t/m³	2.12	2.13	2.10	2.11	2.13	2.11	2.13	2.11
Apparent Optimum Moisture Content		%	16.0	17.0	16.5	15.5	16.0	16.0	15.5	17.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3558	3559	3560	3561	3562	3563	3564	3565
DATE TESTED			18/10/2017			19/10/2017				
RESULTS										
Hilf Density Ratio	Standard	%	99	98	97.5	98.5	98	99	97	97.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**-1.0**	**-0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295934.904	296442.084	296414.198	296384.591	296349.905	296367.331	296392.377	296421.913
Northing			6268723.846	6268771.16	6268766.614	6268761.384	6268754.111	6268724.973	6268732.913	6268740.75
Reduced Level		m	18.952	22.468	22.313	21.955	21.142	21.822	22.612	22.893
Shown on Drawing No			8599/1-63	8599/1-64						
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.08	2.08	2.07	2.06	2.08	2.05	2.08
Field Moisture Content		%	16.5	16.5	17.0	16.0	17.0	16.0	16.0	16.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3558	3559	3560	3561	3562	3563	3564	3565
Peak Converted Wet Density		t/m³	2.10	2.12	2.13	2.10	2.10	2.10	2.11	2.13
Apparent Optimum Moisture Content		%	16.5	16.5	16.5	16.0	16.5	16.5	16.5	16.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3566	3567	3568	3569	3570	3571	3572	3573
DATE TESTED			19/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	99.5	99	97.5	99	98.5	97.5	98	96.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.0**	**-0.5**	**0.0**	**-0.5**	**0.5**	**0.0**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296448.136	296454.9	296428.718	296402.093	296373.844	296394.033	296412.477	296438.795
Northing			6268747.93	6268728.518	6268721.715	6268716.923	6268709.988	6268689.351	6268695.735	6268702.864
Reduced Level		m	23.087	23.681	23.518	22.865	22.152	22.773	23.253	23.829
Shown on Drawing No			8599/1-64							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.08	2.06	2.08	2.08	2.06	2.06	2.05
Field Moisture Content		%	15.5	16.5	16.0	15.0	#NUM!	16.5	#NUM!	16.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3566	3567	3568	3569	3570	3571	3572	3573
Peak Converted Wet Density		t/m³	2.10	2.10	2.11	2.10	2.11	2.11	2.10	2.12
Apparent Optimum Moisture Content		%	15.0	16.5	16.0	15.0	#NUM!	16.5	#NUM!	16.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3574	3575	3576	3577	3578	3579	3580	3581
DATE TESTED			19/10/2017					24/10/2017		
RESULTS										
Hilf Density Ratio	Standard	%	99.5	98	98	97	98.5	96.5	97	96.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**-0.5**	**0.0**	**0.0**	**-0.5**	**0.5**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296467.679	296499.183	296524.326	294842.583	294849.77	294858.017	294870.462	294891.34
Northing			6268710.554	6268721.646	6268727.049	6268820.585	6268852.555	6268892.436	6268940.783	6268949.686
Reduced Level		m	24.078	24.364	24.411	16.934	16.972	16.76	16.488	16.227
Shown on Drawing No			8599/1-64			8599/1-61	8599/1-60			
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.05	2.06	2.05	2.07	2.06	2.07	2.07
Field Moisture Content		%	15.5	16.0	16.0	16.0	17.0	20.0	19.5	19.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3574	3575	3576	3577	3578	3579	3580	3581
Peak Converted Wet Density		t/m³	2.10	2.09	2.10	2.11	2.10	2.14	2.13	2.14
Apparent Optimum Moisture Content		%	15.5	16.0	16.0	16.0	17.5	19.5	19.5	20.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3582	3583	3584	3585	3586	3587	3588	3589
DATE TESTED			24/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97	95.5	97.5	97.5	96.5	97.5	97.5	98.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**0.0**	**0.0**	**0.5**	**0.5**	**-0.5**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			294889.093	294876.755	294866.003	294895.427	294905.554	294916.617	294927.172	294951.713
Northing			6268915.206	6268874.205	6268834.981	6268822.105	6268853.485	6268884.652	6268931.183	6268935.711
Reduced Level		m	16.523	16.857	17.216	17.578	17.265	16.908	16.174	16.238
Shown on Drawing No			8599/1-60			8599/1-61	8599/1-60			
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.06	2.05	2.06	2.08	2.07	2.08	2.08	2.09
Field Moisture Content		%	20.5	20.5	20.5	20.0	19.0	20.0	20.0	20.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3582	3583	3584	3585	3586	3587	3588	3589
Peak Converted Wet Density		t/m³	2.12	2.15	2.11	2.13	2.14	2.13	2.13	2.12
Apparent Optimum Moisture Content		%	20.5	20.5	20.5	19.5	18.5	20.0	20.0	19.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	2-3	2-3	2-3	2	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3590	3591	3592	3593	3594	3595	3596	3597
DATE TESTED			24/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96.5	96	97	97	97.5	95.5	96.5	97
Moisture Variation from OMC	(-Drier/+Wetter)	%	**1.0**	**0.0**	**0.5**	**-0.5**	**0.0**	**0.5**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			294942.801	294931.104	294916.818	294935.743	294958.446	294979.746	294993.024	295250.98
Northing			6268894.403	6268863.08	6268819.392	6268816.552	6268854.309	6268901.911	6268930.569	6269120.431
Reduced Level		m	16.839	17.151	17.825	18.328	17.354	16.65	16.239	15.085
Shown on Drawing No			8599/1-60		8599/1-61			8599/1-60		8599/1-59
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.05	2.05	2.08	2.07	2.09	2.05	2.06	2.08
Field Moisture Content		%	20.0	20.0	20.0	19.5	20.0	19.5	20.0	20.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3590	3591	3592	3593	3594	3595	3596	3597
Peak Converted Wet Density		t/m³	2.12	2.14	2.14	2.13	2.14	2.15	2.13	2.14
Apparent Optimum Moisture Content		%	19.0	20.5	19.5	20.0	20.5	19.5	20.0	20.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3598	3599	3600	3601	3602	3603	3604	3605
DATE TESTED			24/10/2017	25/10/2017						
RESULTS										
Hilf Density Ratio	Standard	%	98	97	97	97	96.5	95	98	96.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295272.168	295298.28	295326.533	295313.983	295287.84	295250.926	295218.821	295201.442
Northing			6269118.105	6269112.981	6269108.188	6269089.739	6269091.61	6269095.9	6269100.083	6269084.485
Reduced Level		m	15.893	17.004	17.817	18.139	17.723	16.922	15.891	15.772
Shown on Drawing No			8599/1-59							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.06	2.07	2.08	2.08	2.05	2.06	2.05
Field Moisture Content		%	20.0	20.0	19.5	19.0	18.5	20.5	19.5	19.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3598	3599	3600	3601	3602	3603	3604	3605
Peak Converted Wet Density		t/m³	2.12	2.12	2.13	2.14	2.15	2.16	2.10	2.12
Apparent Optimum Moisture Content		%	20.0	20.5	20.0	20.0	19.5	21.0	20.0	20.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	2-3	2	3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3606	3607	3608	3609	3610	3611	3612	3613
DATE TESTED			25/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97	96.5	98	96.5	95.5	97.5	97	97
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**-0.5**	**0.0**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295224.035	295238.442	295278.123	295282.981	295277.531	295251.586	295246.438	295246.414
Northing			6269077.572	6269074.431	6269066.397	6269043.225	6269026.082	6269026.511	6269042.847	6269076.94
Reduced Level		m	16.538	17.023	17.644	18.028	18.407	18.318	17.685	16.935
Shown on Drawing No			8599/1-59							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.07	2.07	2.07	2.06	2.06	2.06	2.07
Field Moisture Content		%	20.0	20.0	20.0	19.5	20.0	20.5	19.5	20.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3606	3607	3608	3609	3610	3611	3612	3613
Peak Converted Wet Density		t/m³	2.13	2.14	2.11	2.15	2.16	2.11	2.12	2.13
Apparent Optimum Moisture Content		%	20.5	21.0	20.0	20.0	20.5	21.0	20.5	20.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	3	2-3	2-3	2-3	3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3614	3615	3616	3617	3618	3619	3620	3621
DATE TESTED			25/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97.5	97	97	98.5	96.5	97	97	96.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.0**	**0.0**	**0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295293.506	295298.993	295266.008	295218.574	295193.811	295179.254	295178.804	295213.983
Northing			6269071.118	6269050.88	6269054.547	6269061.859	6269068.362	6269077.534	6269049.222	6269040.302
Reduced Level		m	17.581	17.823	17.134	17.23	16.906	15.868	17.769	17.708
Shown on Drawing No			8599/1-59							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.07	2.07	2.08	2.07	2.05	2.06	2.08
Field Moisture Content		%	20.0	20.0	18.5	19.5	19.5	19.0	18.5	18.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3614	3615	3616	3617	3618	3619	3620	3621
Peak Converted Wet Density		t/m³	2.12	2.13	2.13	2.11	2.14	2.11	2.12	2.16
Apparent Optimum Moisture Content		%	19.5	20.0	18.5	19.0	20.0	19.5	19.5	19.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2	3	2-3	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3622	3623	3624	3625	3626	3627	3628	3629
DATE TESTED			25/10/2017				26/10/2017			
RESULTS										
Hilf Density Ratio	Standard	%	97	96	96.5	98	98	97	97.5	98
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.0**	**0.0**	**0.5**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295241.622	295286.445	294924.797	294890.804	294855.713	294824.545	294820.445	294851.807
Northing			6269034.295	6269024.972	6268655.073	6268653.362	6268651.001	6268647.86	6268670.116	6268675.21
Reduced Level		m	17.784	18.219	21.167	20.496	19.748	18.455	18.591	19.777
Shown on Drawing No			8599/1-59		8599/1-61					
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.05	2.05	2.06	2.08	2.06	2.06	2.09
Field Moisture Content		%	20.0	19.5	20.0	19.5	18.5	19.0	19.5	19.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3622	3623	3624	3625	3626	3627	3628	3629
Peak Converted Wet Density		t/m³	2.13	2.14	2.12	2.10	2.12	2.12	2.11	2.13
Apparent Optimum Moisture Content		%	20.0	19.5	20.0	19.0	18.5	19.0	19.0	19.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	2-3	2	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3630	3631	3632	3633	3634	3635	3636	3637
DATE TESTED			26/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96.5	97.5	98	96	97.5	97	97	97.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			294883.734	294914.153	294919.218	294886.168	294857.672	294835.064	294839.445	294867.302
Northing			6268677.548	6268679.607	6268707.146	6268714.061	6268714.414	6268716.682	6268740.695	6268743.585
Reduced Level		m	20.489	20.923	20.935	20.208	19.388	18.534	18.117	19.399
Shown on Drawing No			8599/1-61							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.05	2.06	2.08	2.05	2.07	2.07	2.05	2.08
Field Moisture Content		%	18.5	20.0	19.0	19.0	15.5	16.0	16.0	15.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3630	3631	3632	3633	3634	3635	3636	3637
Peak Converted Wet Density		t/m³	2.12	2.11	2.12	2.14	2.12	2.13	2.11	2.13
Apparent Optimum Moisture Content		%	18.0	19.5	19.0	19.0	15.5	15.5	15.5	15.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2-3	2-3	2-3	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3638	3639	3640	3641	3642	3643	3644	3645
DATE TESTED			26/10/2017						30/10/2017	
RESULTS										
Hilf Density Ratio	Standard	%	98	96.5	98	96.5	97.5	97.5	97	97
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.0**	**0.0**	**0.0**	**0.5**	**0.0**	**0.0**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			294910.043	294906.564	294871.656	294848.775	295555.375	295499.739	295499.182	295534.159
Northing			6268739.838	6268763.239	6268767.776	6268773.934	6269498.782	6269517.758	6269488.756	6269460.202
Reduced Level		m	20.228	19.668	18.734	17.601	18.507	17.563	17.848	18.549
Shown on Drawing No			8599/1-61				8599/1-58			
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.06	2.08	2.06	2.08	2.06	2.08	2.08
Field Moisture Content		%	16.5	16.0	17.0	16.0	19.0	20.0	15.0	15.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3638	3639	3640	3641	3642	3643	3644	3645
Peak Converted Wet Density		t/m³	2.11	2.13	2.12	2.13	2.13	2.11	2.14	2.14
Apparent Optimum Moisture Content		%	16.0	16.0	17.0	16.0	19.0	20.0	15.0	16.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2-3	2-3	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3646	3647	3648	3649	3650	3651	3652	3653
DATE TESTED			30/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98	96.5	96.5	96.5	95.5	97.5	99	95.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**-0.5**	**0.0**	**-0.5**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295505.855	295453.52	295455.817	295507.028	294839.756	294831.997	294821.064	294847.057
Northing			6269459.152	6269492.004	6269467.06	6269433.103	6268765.409	6268720.563	6268674.149	6268686.67
Reduced Level		m	18.155	16.809	16.493	17.978	18.517	19.444	18.996	19.817
Shown on Drawing No			8599/1-58				8599/1-61			
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.07	2.06	2.05	2.04	2.09	2.11	2.04
Field Moisture Content		%	15.0	14.5	13.0	14.0	14.0	14.0	13.0	14.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3646	3647	3648	3649	3650	3651	3652	3653
Peak Converted Wet Density		t/m³	2.13	2.14	2.14	2.12	2.14	2.14	2.13	2.14
Apparent Optimum Moisture Content		%	15.5	14.5	13.0	14.0	14.5	14.0	13.5	14.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	1-2	2	2	2	1-2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3654	3655	3656	3657	3658	3659	3660	3661
DATE TESTED			30/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97.5	96.5	97	98	97	97.5	99.5	96.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			294863.755	294880.603	294876.101	294865.998	294839.316	294858.757	294885.074	294903.869
Northing			6268740.544	6268750.007	6268712.821	6268673.27	6268608.89	6268618.017	6268622.17	6268625
Reduced Level		m	19.832	19.992	20.008	20.249	17.877	18.855	19.683	20.283
Shown on Drawing No			8599/1-61							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.07	2.07	2.08	2.08	2.05	2.11	2.07
Field Moisture Content		%	14.0	14.5	15.5	15.0	15.5	14.5	15.0	14.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3654	3655	3656	3657	3658	3659	3660	3661
Peak Converted Wet Density		t/m³	2.14	2.15	2.13	2.12	2.14	2.10	2.12	2.14
Apparent Optimum Moisture Content		%	14.5	14.5	15.5	15.0	15.5	14.5	15.0	15.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3662	3663	3664	3665	3666	3667	3668	3669
DATE TESTED			30/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97	96	97.5	95	96	97	97.5	98
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**0.0**	**0.0**	**0.0**	**0.5**	**0.0**	**0.5**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			294879.534	294851.9	294837.904	294861.677	294883.926	294893.185	294868.761	294847.469
Northing			6268627.541	6268612.701	6268608.504	6268619.032	6268619.96	6268608.835	6268610.759	6268593.971
Reduced Level		m	19.769	18.753	18.404	19.549	20.256	21.065	20.226	19.306
Shown on Drawing No			8599/1-61							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.05	2.08	2.03	2.05	2.06	2.09	2.10
Field Moisture Content		%	14.5	15.5	15.0	15.0	15.5	15.5	15.0	15.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3662	3663	3664	3665	3666	3667	3668	3669
Peak Converted Wet Density		t/m³	2.15	2.14	2.13	2.14	2.14	2.12	2.14	2.14
Apparent Optimum Moisture Content		%	15.0	15.5	15.0	15.0	15.0	15.0	14.5	15.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3670	3671	3672	3673	3674	3675	3676	3677
DATE TESTED			30/10/2017		31/10/2017					
RESULTS										
Hilf Density Ratio	Standard	%	97	96.5	97	96.5	98.5	98	98	97
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295254.774	295265.462	295260.455	295239.553	295225.272	295211.849	295218.32	295196.285
Northing			6269049.657	6269085.402	6269113.922	6269085.673	6269049.162	6269070.498	6269106.591	6269109.596
Reduced Level		m	18.181	17.742	16.712	17.419	17.866	17.653	16.854	16.061
Shown on Drawing No			8599/1-59							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.06	2.05	2.07	2.08	2.09	2.08	2.06
Field Moisture Content		%	15.5	14.5	14.0	14.5	14.0	14.5	15.5	15.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3670	3671	3672	3673	3674	3675	3676	3677
Peak Converted Wet Density		t/m³	2.13	2.13	2.11	2.14	2.11	2.13	2.12	2.12
Apparent Optimum Moisture Content		%	15.5	14.5	13.5	14.5	13.5	14.5	15.5	15.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	1-2	2	1-2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3678	3679	3680	3681	3682	3683	3684	3685
DATE TESTED			31/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96.5	99	96.5	98.5	96	97	100	99
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.0**	**0.0**	**0.0**	**0.5**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295179.773	296047.608	296045.226	296035.851	296029.923	296029.776	296002.365	296001.031
Northing			6269063.263	6268644.879	6268583.614	6268539.306	6268589.187	6268649.847	6268643.55	6268599.052
Reduced Level		m	17.37	22.12	22.28	22.268	21.992	21.994	21.393	21.657
Shown on Drawing No			8599/1-59	8599/1-63						
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.06	2.09	2.05	2.07	2.04	2.06	2.11	2.09
Field Moisture Content		%	15.0	15.0	14.5	15.0	14.0	15.5	14.5	14.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3678	3679	3680	3681	3682	3683	3684	3685
Peak Converted Wet Density		t/m³	2.14	2.11	2.12	2.10	2.12	2.12	2.11	2.11
Apparent Optimum Moisture Content		%	15.0	15.0	15.0	14.5	14.0	15.0	14.0	14.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	1-2	2	1-2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3686	3687	3688	3689	3690	3691	3692	3693
DATE TESTED			31/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98	97	96.5	97	98	97.5	97	98
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.0**	**0.0**	**1.0**	**0.0**	**0.5**	**0.0**	**1.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295973.745	295959.809	295931.553	295914.449	295891.933	295860.205	295862.45	296057.137
Northing			6268597.018	6268645.859	6268617.374	6268574.41	6268624.433	6268613.31	6268579.029	6269743.289
Reduced Level		m	20.624	19.891	19.655	19.639	19.073	19.021	19.035	16.934
Shown on Drawing No			8599/1-63							8599/1-56
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.06	2.05	2.06	2.07	2.08	2.07	2.08
Field Moisture Content		%	15.0	15.5	15.0	14.5	15.0	15.0	15.5	14.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3686	3687	3688	3689	3690	3691	3692	3693
Peak Converted Wet Density		t/m³	2.13	2.12	2.12	2.12	2.11	2.13	2.13	2.12
Apparent Optimum Moisture Content		%	14.5	15.0	15.0	13.5	15.0	14.5	15.5	13.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	1-2	2	1-2	2	1-2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3694	3695	3696	3697	3698	3699	3700	3701
DATE TESTED			31/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98.5	97	99	99.5	99.5	97	97.5	98.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**-0.5**	**0.0**	**0.0**	**0.0**	**0.5**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296073.625	296056.162	296034.281	296017.233	296038.965	296028.955	295998.221	295974.502
Northing			6269787.912	6269798.504	6269750.227	6269754.927	6269810.84	6269837.257	6269792.509	6269752.886
Reduced Level		m	17.026	17.559	18.02	18.477	17.95	17.908	18.649	19.377
Shown on Drawing No			8599/1-56							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.10	2.04	2.10	2.12	2.10	2.08	2.07	2.10
Field Moisture Content		%	14.0	14.5	14.5	15.0	15.5	15.5	15.0	14.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3694	3695	3696	3697	3698	3699	3700	3701
Peak Converted Wet Density		t/m³	2.13	2.10	2.12	2.13	2.11	2.14	2.12	2.13
Apparent Optimum Moisture Content		%	14.5	14.5	14.0	15.0	15.0	15.5	15.0	14.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	1-2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3702	3703	3704	3705	3706	3707	3708	3709
DATE TESTED			31/10/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98.5	97	95	99	98	97	98	96.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			294864.774	294871.715	294883.054	294869.088	294856.03	294844.298	294823.007	294827.309
Northing			6268669.07	6268703.38	6268745.448	6268762.146	6268723.584	6268680.094	6268669.343	6268698.934
Reduced Level		m	20.278	20.199	20.087	19.554	19.934	19.768	19.194	19.278
Shown on Drawing No			8599/1-61							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.07	2.02	2.08	2.08	2.06	2.09	2.06
Field Moisture Content		%	15.0	15.5	15.0	15.0	15.0	14.5	15.0	15.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3702	3703	3704	3705	3706	3707	3708	3709
Peak Converted Wet Density		t/m³	2.12	2.13	2.13	2.10	2.12	2.12	2.13	2.13
Apparent Optimum Moisture Content		%	14.5	15.0	15.0	14.5	15.0	14.5	15.0	15.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3710	3711	3712	3713	3714	3715	3716	3717
DATE TESTED			31/10/2017			01/11/2017				
RESULTS										
Hilf Density Ratio	Standard	%	96.5	97	98	96.5	98	96.5	97.5	96
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.5**	**-0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			294839.519	295418.03	295414.32	295426.412	295436.573	295449.477	295464.696	295473.627
Northing			6268751.259	6268580.728	6268614.328	6268636.138	6268602.767	6268579.177	6268614.553	6268636.633
Reduced Level		m	19.193	23.902	23.504	23.156	23.767	23.661	23.733	22.953
Shown on Drawing No			8599/1-61	8599/1-62						
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.06	2.05	2.08	2.06	2.09	2.06	2.09	2.04
Field Moisture Content		%	15.5	15.0	15.0	14.0	15.0	15.0	13.5	15.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3710	3711	3712	3713	3714	3715	3716	3717
Peak Converted Wet Density		t/m³	2.13	2.11	2.12	2.13	2.13	2.13	2.14	2.13
Apparent Optimum Moisture Content		%	14.5	15.0	14.5	14.0	15.0	14.5	14.0	14.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	1-2	2	2	1-2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3718	3719	3720	3721	3722	3723	3724	3725
DATE TESTED			01/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96	97.5	97.5	98.5	96.5	96.5	96	96.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**-0.5**	**-0.5**	**0.0**	**0.0**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295483.585	295503.127	295517.321	295531.899	295550.015	295563.222	295596.724	295619.487
Northing			6268589.698	6268574.374	6268600.891	6268639.073	6268607.773	6268566.968	6268644.518	6268588.144
Reduced Level		m	23.557	23.099	23.425	22.797	23.049	22.864	23.049	22.458
Shown on Drawing No			8599/1-62							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.04	2.08	2.07	2.11	2.06	2.07	2.05	2.07
Field Moisture Content		%	14.0	15.0	14.5	14.5	13.0	14.5	14.5	14.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3718	3719	3720	3721	3722	3723	3724	3725
Peak Converted Wet Density		t/m³	2.13	2.13	2.12	2.14	2.13	2.14	2.13	2.14
Apparent Optimum Moisture Content		%	14.0	15.0	15.0	15.0	13.0	14.5	14.5	14.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			1-2	2	2	2	1	2	2	1-2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3726	3727	3728	3729	3730	3731	3732	3733
DATE TESTED			01/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97.5	99	96	96	96.5	97.5	96.5	97
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**-0.5**	**0.0**	**0.0**	**0.5**	**0.0**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295638.695	295652.891	295840.919	295897.212	295963.965	296011.126	296018.269	295974.302
Northing			6268565.075	6268612.434	6268654.903	6268664.371	6268669.734	6268676.075	6268699.66	6268695.208
Reduced Level		m	21.93	22.732	18.267	18.365	19.943	21.629	21.524	20.359
Shown on Drawing No			8599/1-62		8599/1-63					
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.10	2.04	2.05	2.06	2.08	2.08	2.08
Field Moisture Content		%	15.0	14.5	15.0	14.0	15.0	14.5	14.5	15.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3726	3727	3728	3729	3730	3731	3732	3733
Peak Converted Wet Density		t/m³	2.14	2.12	2.13	2.13	2.13	2.13	2.15	2.14
Apparent Optimum Moisture Content		%	14.5	15.0	15.0	14.0	14.0	14.5	14.5	14.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	1-2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3734	3735	3736	3737	3738	3739	3740	3741
DATE TESTED			01/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96	97.5	96	98	96	97.5	97.5	97.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.0**	**0.5**	**-0.5**	**-0.5**	**0.0**	**-0.5**	**0.0**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295922.188	295873.099	295864.203	295901.372	295954.256	296002.702	295173.557	295128.609
Northing			6268691.616	6268689.625	6268708.657	6268722.484	6268727.093	6268730.652	6269070.214	6269072.925
Reduced Level		m	18.939	18.263	18.099	17.961	19.504	20.842	16.932	16.242
Shown on Drawing No			8599/1-63						8599/1-59	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.04	2.07	2.05	2.10	2.05	2.07	2.08	2.09
Field Moisture Content		%	15.0	15.0	15.5	15.0	14.5	15.5	14.5	15.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3734	3735	3736	3737	3738	3739	3740	3741
Peak Converted Wet Density		t/m³	2.12	2.12	2.13	2.14	2.13	2.12	2.13	2.14
Apparent Optimum Moisture Content		%	15.0	14.5	15.5	15.5	14.5	16.0	14.5	15.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3742	3743	3744	3745	3746	3747	3748	3749
DATE TESTED			01/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96.5	98.5	96.5	96.5	97.5	97	97.5	97
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.0**	**-0.5**	**0.0**	**-0.5**	**-0.5**	**0.0**	**0.0**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295085.46	295044.022	295097.59	295137.077	295136.553	295099.181	295063.072	295154.416
Northing			6269076.23	6269061.901	6269058.728	6269055.716	6269034.87	6269035.62	6269036.543	6269083.259
Reduced Level		m	15.578	14.766	16.608	17.203	17.616	17.013	16.24	16.898
Shown on Drawing No			8599/1-59							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.08	2.06	2.06	2.09	2.08	2.09	2.08
Field Moisture Content		%	13.5	15.0	14.0	14.5	13.5	14.5	15.5	15.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3742	3743	3744	3745	3746	3747	3748	3749
Peak Converted Wet Density		t/m³	2.14	2.11	2.13	2.14	2.14	2.14	2.14	2.14
Apparent Optimum Moisture Content		%	13.5	15.0	14.0	15.0	14.0	14.5	15.5	16.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			1-2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3750	3751	3752	3753	3754	3755	3756	3757
DATE TESTED			01/11/2017	02/11/2017						
RESULTS										
Hilf Density Ratio	Standard	%	98	97	97.5	98.5	96	96	96	96
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.5**	**0.0**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295098.747	295068.972	295117.471	295151.177	295117.733	295066.538	295060.002	295118.758
Northing			6269081.151	6269068.163	6269063.146	6269061.547	6269048.958	6269048.437	6269030.074	6269027.174
Reduced Level		m	16.316	16.452	17.228	17.273	17.501	16.961	17.507	17.934
Shown on Drawing No			8599/1-59							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.10	2.06	2.09	2.09	2.05	2.05	2.04	2.05
Field Moisture Content		%	14.5	17.0	16.5	17.0	17.0	16.5	17.5	17.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3750	3751	3752	3753	3754	3755	3756	3757
Peak Converted Wet Density		t/m³	2.14	2.12	2.14	2.12	2.14	2.13	2.13	2.14
Apparent Optimum Moisture Content		%	14.5	17.0	16.5	17.0	17.0	16.5	17.5	18.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3758	3759	3760	3761	3762	3763	3764	3765
DATE TESTED			02/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96.5	97	97	96	96	97.5	99	97
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.0**	**0.5**	**0.5**	**0.0**	**0.5**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295680.479	295636.184	295585.54	295576.998	295622.316	295658.832	295643.07	295599.171
Northing			6268637.005	6268637.834	6268636.865	6268618.061	6268613.292	6268605.697	6268588.501	6268596.882
Reduced Level		m	22.822	23.21	23.156	23.573	23.355	22.897	22.828	23.528
Shown on Drawing No			8599/1-62							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.06	2.08	2.07	2.05	2.04	2.07	2.09	2.08
Field Moisture Content		%	18.0	17.0	16.5	18.5	18.5	18.5	18.0	17.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3758	3759	3760	3761	3762	3763	3764	3765
Peak Converted Wet Density		t/m³	2.14	2.14	2.13	2.13	2.13	2.12	2.11	2.14
Apparent Optimum Moisture Content		%	17.0	17.0	16.0	18.0	18.0	18.5	17.5	17.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3766	3767	3768	3769	3770	3771	3772	3773
DATE TESTED			02/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96	98.5	97.5	96	97	96	96	96.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**-0.5**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295559.722	295598.3	295639.719	295643.294	295614.133	295472.836	295502.959	295519.259
Northing			6268599.685	6268585.072	6268577.137	6268554.767	6268560.373	6268609.562	6268604.266	6268622.371
Reduced Level		m	23.468	23.479	22.917	22.027	22.362	23.907	23.662	23.208
Shown on Drawing No			8599/1-62							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.05	2.09	2.07	2.04	2.07	2.05	2.03	2.06
Field Moisture Content		%	17.5	18.0	17.0	19.0	18.5	17.5	17.5	18.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3766	3767	3768	3769	3770	3771	3772	3773
Peak Converted Wet Density		t/m³	2.14	2.12	2.12	2.12	2.13	2.14	2.12	2.14
Apparent Optimum Moisture Content		%	17.5	18.0	17.0	18.5	18.5	17.5	17.5	18.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3774	3775	3776	3777	3778	3779	3780	3781
DATE TESTED			02/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98	96	97	96.5	99	95	98.5	98.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.5**	**0.5**	**0.0**	**0.5**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295499.125	295466.3	295959.339	295913.403	295888.332	295942.221	295991.879	296024.414
Northing			6268624.197	6268633.234	6268486.476	6268495.872	6268516.705	6268521.307	6268518.146	6268527.022
Reduced Level		m	23.386	23.121	21.246	19.943	19.318	20.969	21.434	22.183
Shown on Drawing No			8599/1-62		8599/1-63					
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.05	2.06	2.07	2.10	2.03	2.10	2.11
Field Moisture Content		%	17.5	16.5	17.0	16.5	18.0	18.0	17.5	17.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3774	3775	3776	3777	3778	3779	3780	3781
Peak Converted Wet Density		t/m³	2.13	2.13	2.12	2.14	2.12	2.14	2.13	2.14
Apparent Optimum Moisture Content		%	17.5	16.0	17.0	16.5	17.5	18.0	17.5	17.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3782	3783	3784	3785	3786	3787	3788	3789
DATE TESTED			02/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97.5	96.5	97.5	96.5	98	98	96	96
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.5**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295979.63	295938.707	295891.514	295864.254	295899.871	295941.718	295573.486	295622.531
Northing			6268536.193	6268542.669	6268550.003	6268559.111	6268571.82	6268574.776	6268628.972	6268629.391
Reduced Level		m	21.644	20.451	19.382	18.835	19.485	20.046	23.357	23.27
Shown on Drawing No			8599/1-63						8599/1-62	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.05	2.07	2.06	2.08	2.08	2.05	2.05
Field Moisture Content		%	17.5	17.5	18.0	18.5	18.5	17.0	17.0	17.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3782	3783	3784	3785	3786	3787	3788	3789
Peak Converted Wet Density		t/m³	2.12	2.12	2.12	2.13	2.12	2.12	2.14	2.13
Apparent Optimum Moisture Content		%	17.5	17.5	18.0	18.5	18.5	16.5	17.0	17.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3790	3791	3792	3793	3794	3795	3796	3797
DATE TESTED			03/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98.5	96.5	97	97	95.5	97	98	96
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**1.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295664.119	295660.93	295622.505	295580.345	295570.007	295606.485	295639.742	295645.657
Northing			6268628.39	6268609.847	6268611.595	6268612.626	6268590.555	6268588.672	6268584.977	6268566.267
Reduced Level		m	23.012	22.823	23.552	23.797	23.981	23.796	23.257	23.078
Shown on Drawing No			8599/1-62							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.10	2.06	2.08	2.07	2.05	2.06	2.08	2.05
Field Moisture Content		%	18.0	17.5	17.5	16.5	16.5	17.0	17.5	17.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3790	3791	3792	3793	3794	3795	3796	3797
Peak Converted Wet Density		t/m³	2.13	2.13	2.14	2.13	2.15	2.12	2.12	2.13
Apparent Optimum Moisture Content		%	18.0	16.5	17.5	16.5	16.5	17.0	17.5	16.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3798	3799	3800	3801	3802	3803	3804	3805
DATE TESTED			03/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96	95.5	96.5	98	96	96	98	98.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.5**	**0.0**	**0.0**	**0.5**	**0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295612.183	295569.1	295524.55	295487.688	295439.692	295398.977	295397.65	295431.52
Northing			6268568.181	6268574.401	6268580.53	6268584.146	6268587.671	6268588.333	6268605.982	6268599.024
Reduced Level		m	23.401	23.641	23.478	23.764	23.936	23.822	23.919	24.298
Shown on Drawing No			8599/1-62							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.03	2.04	2.05	2.07	2.04	2.05	2.08	2.10
Field Moisture Content		%	17.5	18.5	18.5	17.0	17.0	17.5	17.0	16.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3798	3799	3800	3801	3802	3803	3804	3805
Peak Converted Wet Density		t/m³	2.12	2.14	2.12	2.11	2.13	2.13	2.12	2.13
Apparent Optimum Moisture Content		%	17.0	18.5	18.5	17.0	17.0	17.0	17.0	16.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3806	3807	3808	3809	3810	3811	3812	3813
DATE TESTED			03/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96.5	96.5	96.5	95	99.5	97.5	96.5	97
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.5**	**0.0**	**0.0**	**0.5**	**0.0**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295480.073	295512.181	295210.767	295192.426	295209.128	295231.399	295253.893	295264.134
Northing			6268597.285	6268596.34	6269121.079	6269095.385	6269087.139	6269108.244	6269106.102	6269082.867
Reduced Level		m	24.117	23.74	15.774	16.295	16.901	16.803	16.985	17.81
Shown on Drawing No			8599/1-62		8599/1-59					
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.06	2.06	2.03	2.11	2.07	2.06	2.06
Field Moisture Content		%	17.0	17.0	16.0	16.0	18.5	17.5	18.5	17.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3806	3807	3808	3809	3810	3811	3812	3813
Peak Converted Wet Density		t/m³	2.14	2.13	2.13	2.14	2.12	2.12	2.13	2.12
Apparent Optimum Moisture Content		%	16.5	16.5	16.0	16.0	18.0	17.5	18.0	17.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3814	3815	3816	3817	3818	3819	3820	3821
DATE TESTED			03/11/2017		09/11/2017					
RESULTS										
Hilf Density Ratio	Standard	%	97	98	99.5	99.5	96.5	96.5	98.5	96.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.5**	**0.0**	**0.0**	**0.0**	**1.0**	**-0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295424.541	295450.123	295486.156	295511.034	295493.11	295462.612	295430.362	295401.979
Northing			6269576.868	6269601.996	6269642.978	6269669.666	6269680.32	6269649.921	6269614.435	6269579.604
Reduced Level		m	12.407	12.647	12.387	12.339	12.322	12.498	12.304	12.408
Shown on Drawing No			8599/1-58		8599/1-57				8599/1-58	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.07	2.12	2.09	2.06	2.05	2.10	2.04
Field Moisture Content		%	18.5	17.5	19.5	20.0	19.5	19.5	19.5	20.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3814	3815	3816	3817	3818	3819	3820	3821
Peak Converted Wet Density		t/m³	2.14	2.11	2.13	2.10	2.13	2.12	2.13	2.11
Apparent Optimum Moisture Content		%	18.5	17.0	19.5	20.0	19.5	18.5	20.0	20.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2-3	2-3	2-3	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3822	3823	3824	3825	3826	3827	3828	3829
DATE TESTED			09/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98.5	98	97	96	96.5	96.5	99	97.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**0.5**	**0.0**	**0.0**	**0.5**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295388.05	295424.921	295464.959	295494.851	295590.301	295609.481	295629.048	295645.186
Northing			6269596.59	6269639.512	6269680.66	6269709.551	6269623.495	6269650.23	6269686.027	6269718.382
Reduced Level		m	12.026	12.25	12.557	12.123	17.95	17.922	17.651	17.105
Shown on Drawing No			8599/1-58	8599/1-57						
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.07	2.05	2.04	2.04	2.05	2.10	2.06
Field Moisture Content		%	18.5	18.5	19.0	19.0	19.5	20.0	18.0	20.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3822	3823	3824	3825	3826	3827	3828	3829
Peak Converted Wet Density		t/m³	2.11	2.11	2.11	2.13	2.11	2.12	2.12	2.11
Apparent Optimum Moisture Content		%	19.0	18.0	19.0	18.5	19.0	20.0	17.5	19.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2	2-3	2-3	2-3	2-3	2	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3830	3831	3832	3833	3834	3835	3836	3837
DATE TESTED			09/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98.5	97	98	97.5	96	96.5	97.5	97
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.5**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295667.138	295700.215	295704.441	295680.616	295664.478	295645.285	295625.1	295656.689
Northing			6269762.881	6269815.722	6269791.482	6269742.553	6269711.069	6269680.77	6269635.769	6269632.134
Reduced Level		m	16.032	16.117	16.506	16.948	17.683	18.187	18.489	18.81
Shown on Drawing No			8599/1-57	8599/1-56			8599/1-57			
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.07	2.07	2.08	2.03	2.04	2.07	2.05
Field Moisture Content		%	22.0	19.5	18.0	18.5	22.5	21.0	20.0	20.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3830	3831	3832	3833	3834	3835	3836	3837
Peak Converted Wet Density		t/m³	2.12	2.13	2.11	2.13	2.12	2.11	2.12	2.11
Apparent Optimum Moisture Content		%	21.5	19.5	18.0	18.5	22.5	20.5	20.0	20.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	2-3	2	2	3	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3838	3839	3840	3841	3842	3843	3844	3845
DATE TESTED			09/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97	98.5	98	98.5	98	96	96	98
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**0.0**	**0.0**	**0.0**	**0.5**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295695.502	295724.441	295757.051	295774.053	295738.526	295752.195	295673.958	295652.646
Northing			6269680.916	6269725.745	6269779.939	6269761.505	6269712.455	6269707.856	6269813.356	6269783.208
Reduced Level		m	18.606	17.901	17.547	18.056	18.463	18.675	15.654	15.449
Shown on Drawing No			8599/1-56							8599/1-57
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.09	2.09	2.08	2.07	2.04	2.04	2.07
Field Moisture Content		%	20.0	20.5	22.0	20.0	20.5	20.5	19.5	19.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3838	3839	3840	3841	3842	3843	3844	3845
Peak Converted Wet Density		t/m³	2.13	2.12	2.13	2.11	2.11	2.12	2.12	2.11
Apparent Optimum Moisture Content		%	20.5	20.5	22.0	20.0	20.0	20.5	19.5	19.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	3	3	2-3	2-3	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3846	3847	3848	3849	3850	3851	3852	3853
DATE TESTED			09/11/2017					10/11/2017		
RESULTS										
Hilf Density Ratio	Standard	%	97.5	98.5	95.5	97	96.5	96.5	96.5	97.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.0**	**0.0**	**0.0**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295616.571	295635.406	295664.514	295595.851	295615.177	295635.461	295652.943	295678.963
Northing			6269729.926	6269780.265	6269830.939	6269640.008	6269676.231	6269724.202	6269760.513	6269803.205
Reduced Level		m	15.613	15.452	14.636	17.777	17.8	16.964	16.434	16.194
Shown on Drawing No			8599/1-57							8599/1-56
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.09	2.03	2.06	2.04	2.07	2.05	2.07
Field Moisture Content		%	20.5	20.5	19.5	19.5	20.0	14.0	14.5	15.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3846	3847	3848	3849	3850	3851	3852	3853
Peak Converted Wet Density		t/m³	2.12	2.12	2.13	2.12	2.11	2.14	2.12	2.12
Apparent Optimum Moisture Content		%	20.0	20.0	19.5	19.0	20.0	13.5	14.5	14.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	2-3	2-3	1-2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3854	3855	3856	3857	3858	3859	3860	3861
DATE TESTED			10/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98.5	98	96.5	96	97	98.5	97.5	97.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**-0.5**	**0.5**	**0.0**	**0.0**	**0.5**	**1.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295710.159	295692.415	295671.228	295653.526	295633.255	295653.845	295673.974	295698.2
Northing			6269818.362	6269791.696	6269753.649	6269722.819	6269664.643	6269690.195	6269724.009	6269759.272
Reduced Level		m	16.266	16.572	16.757	16.982	18.094	18.473	17.408	17.184
Shown on Drawing No			8599/1-57							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.08	2.06	2.05	2.06	2.08	2.07	2.08
Field Moisture Content		%	15.5	15.5	18.0	15.0	21.5	15.0	12.0	15.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3854	3855	3856	3857	3858	3859	3860	3861
Peak Converted Wet Density		t/m³	2.12	2.12	2.13	2.13	2.12	2.11	2.12	2.13
Apparent Optimum Moisture Content		%	14.5	15.0	18.5	14.5	21.5	15.0	11.5	15.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	3	2	1	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3862	3863	3864	3865	3866	3867	3868	3869
DATE TESTED			10/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97	96.5	97.5	99	98.5	98.5	98.5	97.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.5**	**0.5**	**0.0**	**0.0**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295729.354	295740.887	295719.306	295700.596	295669.751	295683.253	295700.996	295723.673
Northing			6269806.354	6269788.676	6269746.963	6269709.969	6269653.595	6269626.883	6269652.982	6269699.974
Reduced Level		m	16.85	17.483	17.955	18.148	18.604	18.598	18.903	18.553
Shown on Drawing No			8599/1-57							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.05	2.06	2.08	2.09	2.07	2.10	2.09	2.06
Field Moisture Content		%	15.5	18.5	17.5	19.5	18.5	22.5	22.5	22.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3862	3863	3864	3865	3866	3867	3868	3869
Peak Converted Wet Density		t/m³	2.11	2.13	2.13	2.11	2.10	2.13	2.12	2.11
Apparent Optimum Moisture Content		%	15.5	18.5	17.0	19.5	18.5	22.5	22.0	22.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2-3	2	3	3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/11/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3870	3871	3872	3873	3874	3875		
DATE TESTED			10/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97	96	97.5	98	98	98		
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.0**	**0.5**	**0.0**	**0.5**	**0.0**		
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295757.334	295782.779	295813.9	295846.422	295520.267	295549.617		
Northing			6269756.135	6269773.908	6269758.051	6269742.702	6269401.04	6269386.018		
Reduced Level		m	18.098	18.481	18.88	19.602	17.19	18.02		
Shown on Drawing No			8599/1-57	8599/1-56			8599/1-58			
Retested by Test			-	-	-	-	-	-		
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.06	2.05	2.06	2.09	2.07	2.09		
Field Moisture Content		%	23.5	17.0	19.5	17.0	15.0	14.5		
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5		
Lab Compaction result from test number			3870	3871	3872	3873	3874	3875		
Peak Converted Wet Density		t/m³	2.12	2.13	2.11	2.13	2.11	2.13		
Apparent Optimum Moisture Content		%	23.0	17.0	19.5	16.5	15.0	14.5		
Number of Compaction Points			3	3	3	3	3	3		
Test Procedures - See Note Number			12	12	12	12	12	12		
Material Description - see below			3	2	2-3	2	2	2		

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

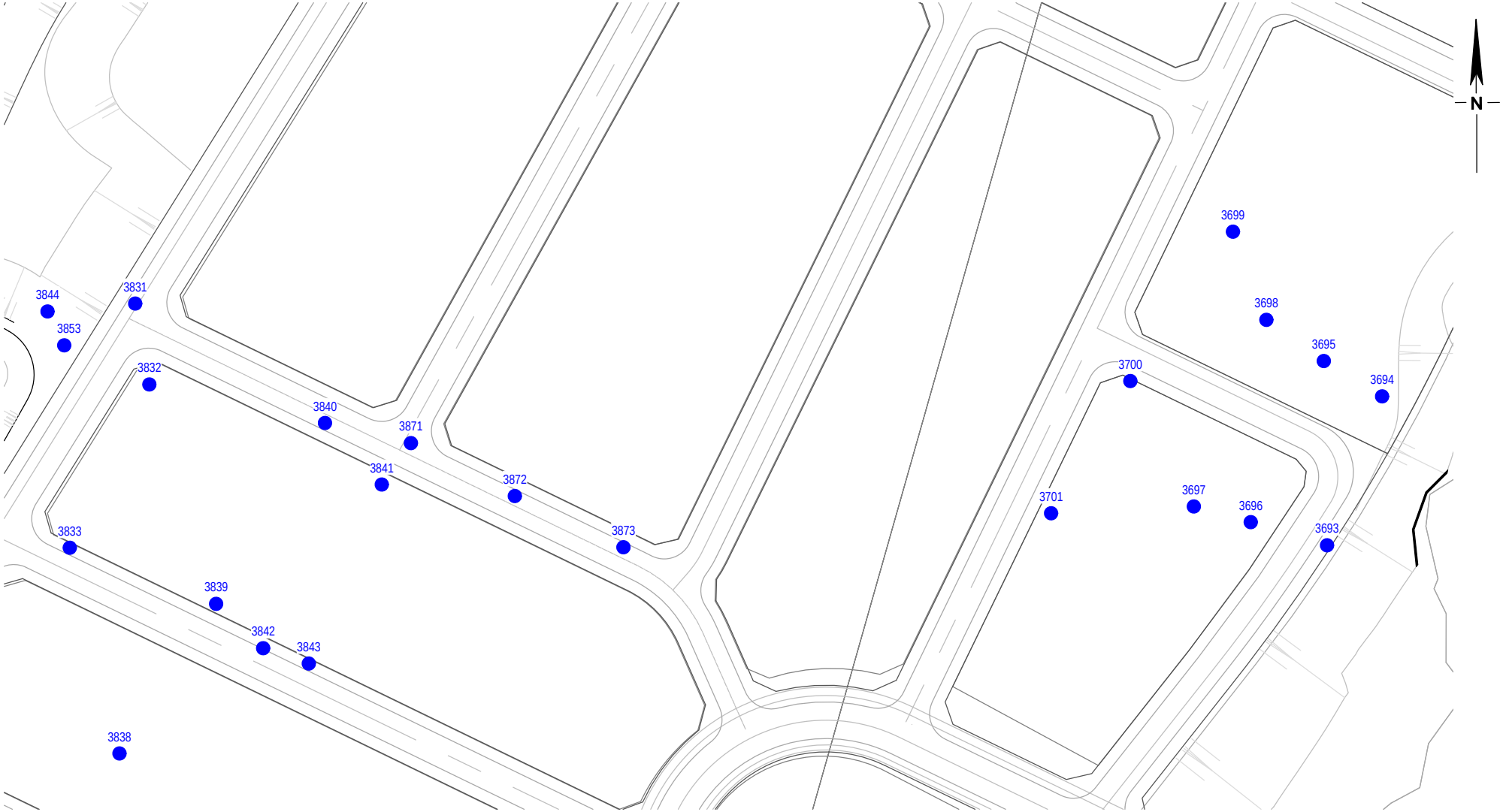
Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/11/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au



LEGEND

● Density Test

GEOTECH TESTING PTY LTD®
34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321
Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-56
Job No: 8599/1
Drawn By: MH
Date: 24 November 2017
Checked By: AK

File No: 8599-1
Layers: 0, Lay56

GEOTECH TESTING PTY LTD®
34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321
Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

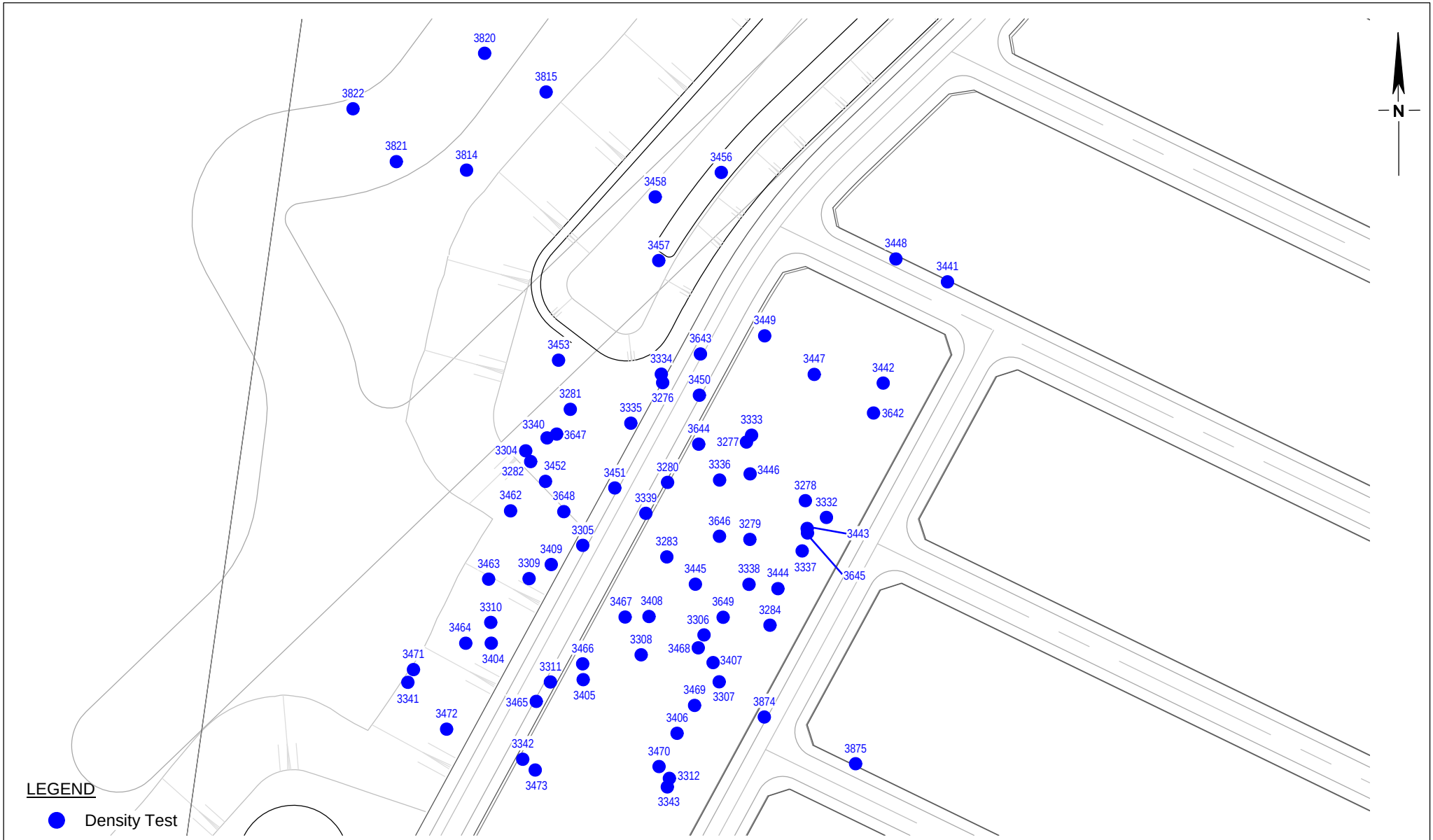
1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-57
Job No: 8599/1
Drawn By: MH
Date: 24 November 2017
Checked By: AK

File No: 8599-1
Layers: 0, Lay57



GEOTECH TESTING PTY LTD®
34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321
Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

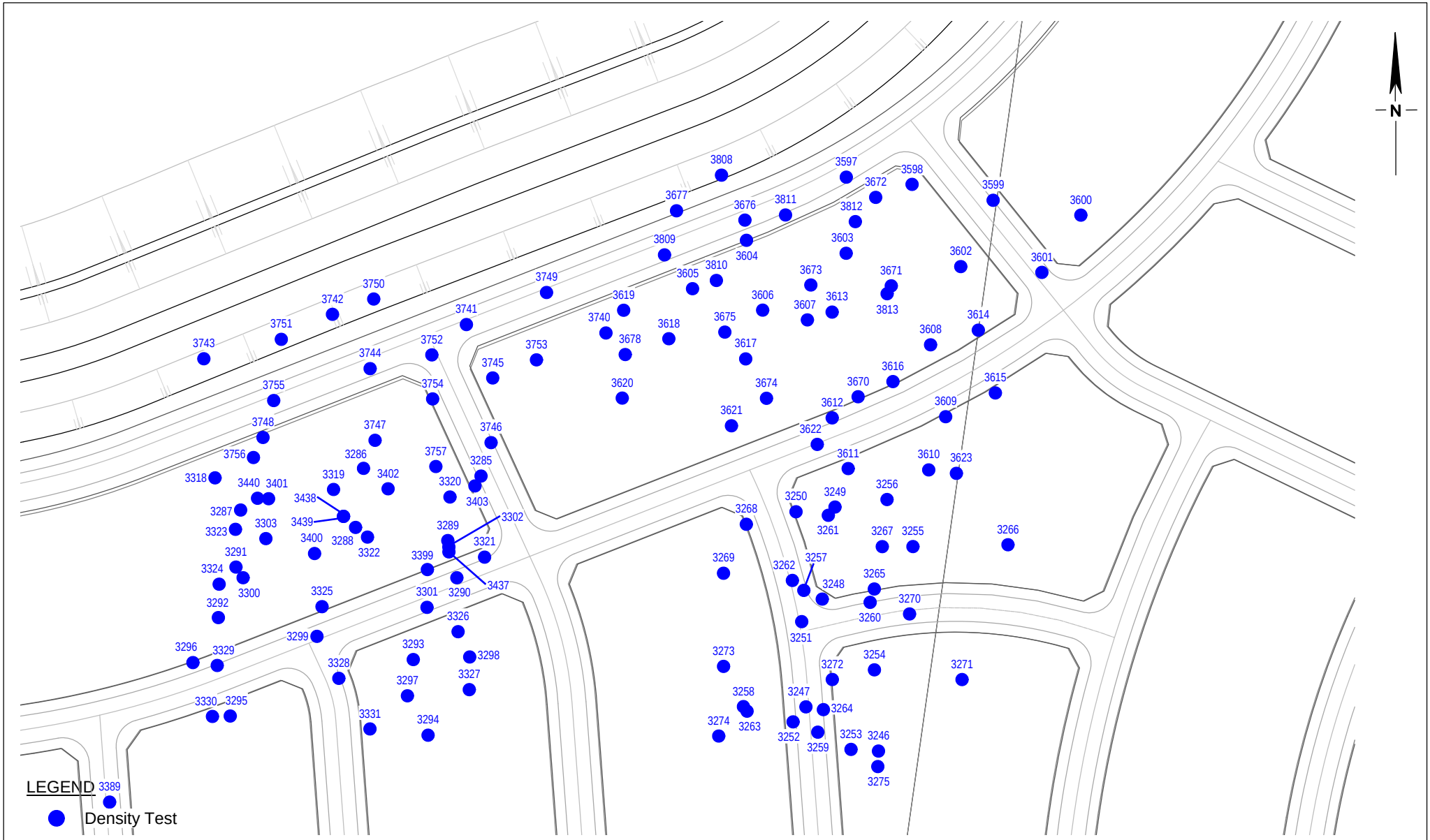
1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-58
Job No: 8599/1
Drawn By: MH
Date: 24 November 2017
Checked By: AK

File No: 8599-1
Layers: 0, Lay58



GEOTECH TESTING PTY LTD ®
34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321
Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

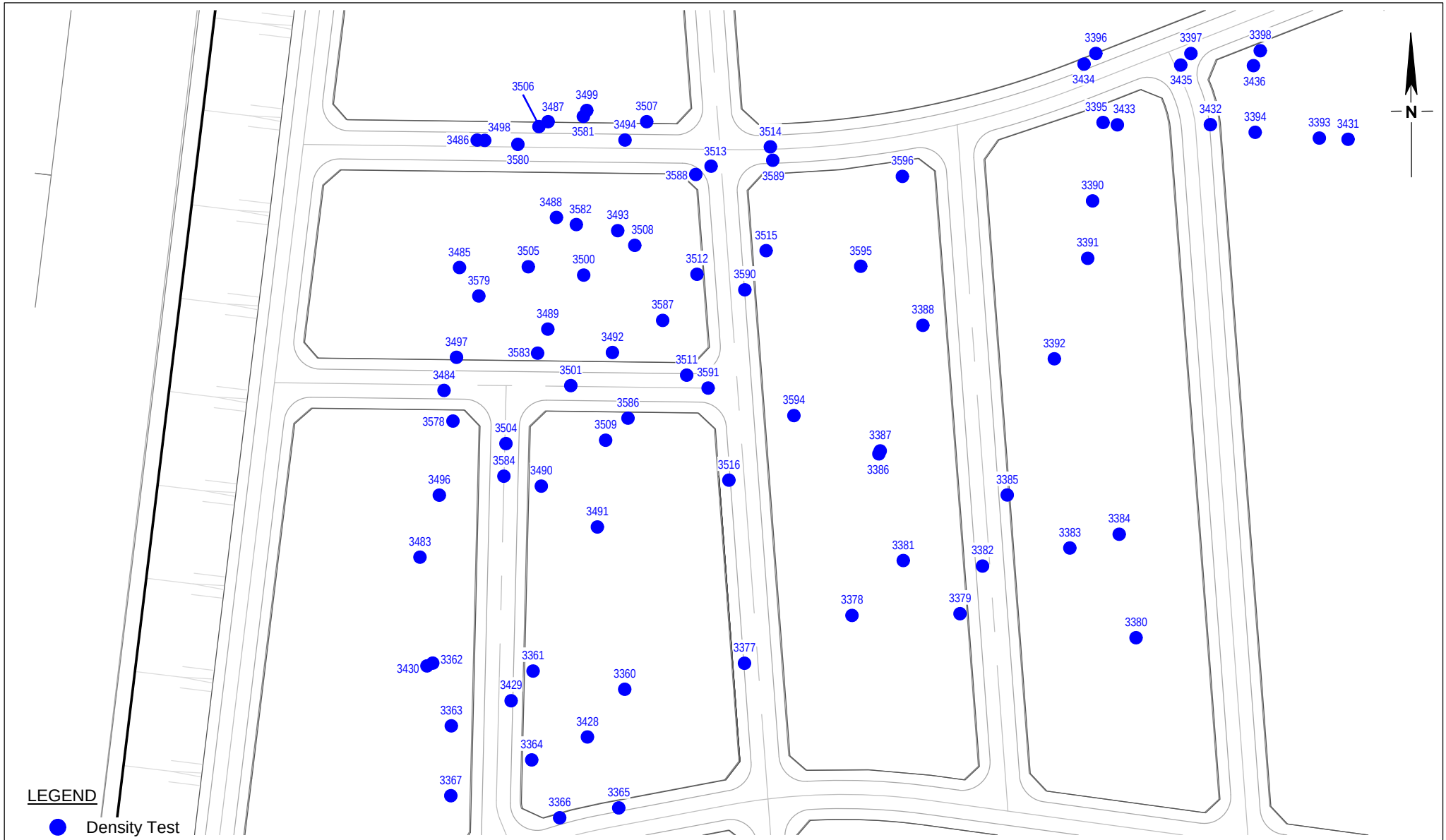
1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-59
Job No: 8599/1
Drawn By: MH
Date: 24 November 2017
Checked By: AK

File No: 8599-1
Layers: 0, Lay59



GEOTECH TESTING PTY LTD®
34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321
Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-60
Job No: 8599/1
Drawn By: MH
Date: 24 November 2017
Checked By: AK

File No: 8599-1
Layers: 0, Lay60

GEOTECH TESTING PTY LTD®
34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321
Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

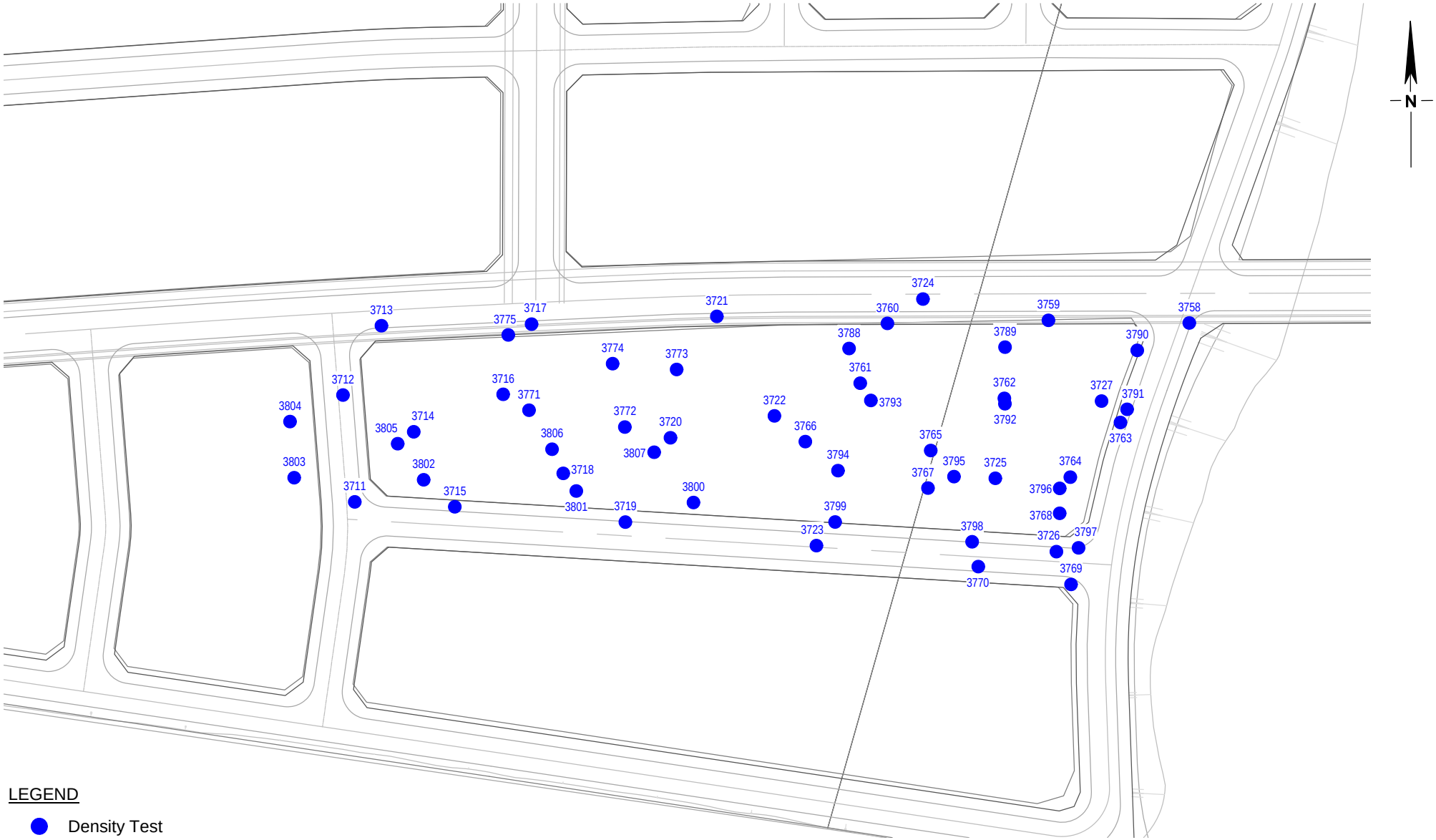
1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-61
Job No: 8599/1
Drawn By: MH
Date: 24 November 2017
Checked By: AK

File No: 8599-1
Layers: 0, Lay61



LEGEND

● Density Test

GEOTECH TESTING PTY LTD®
34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321
Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-62
Job No: 8599/1
Drawn By: MH
Date: 24 November 2017
Checked By: AK

File No: 8599-1
Layers: 0, Lay62

GEOTECH TESTING PTY LTD®
34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321
Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

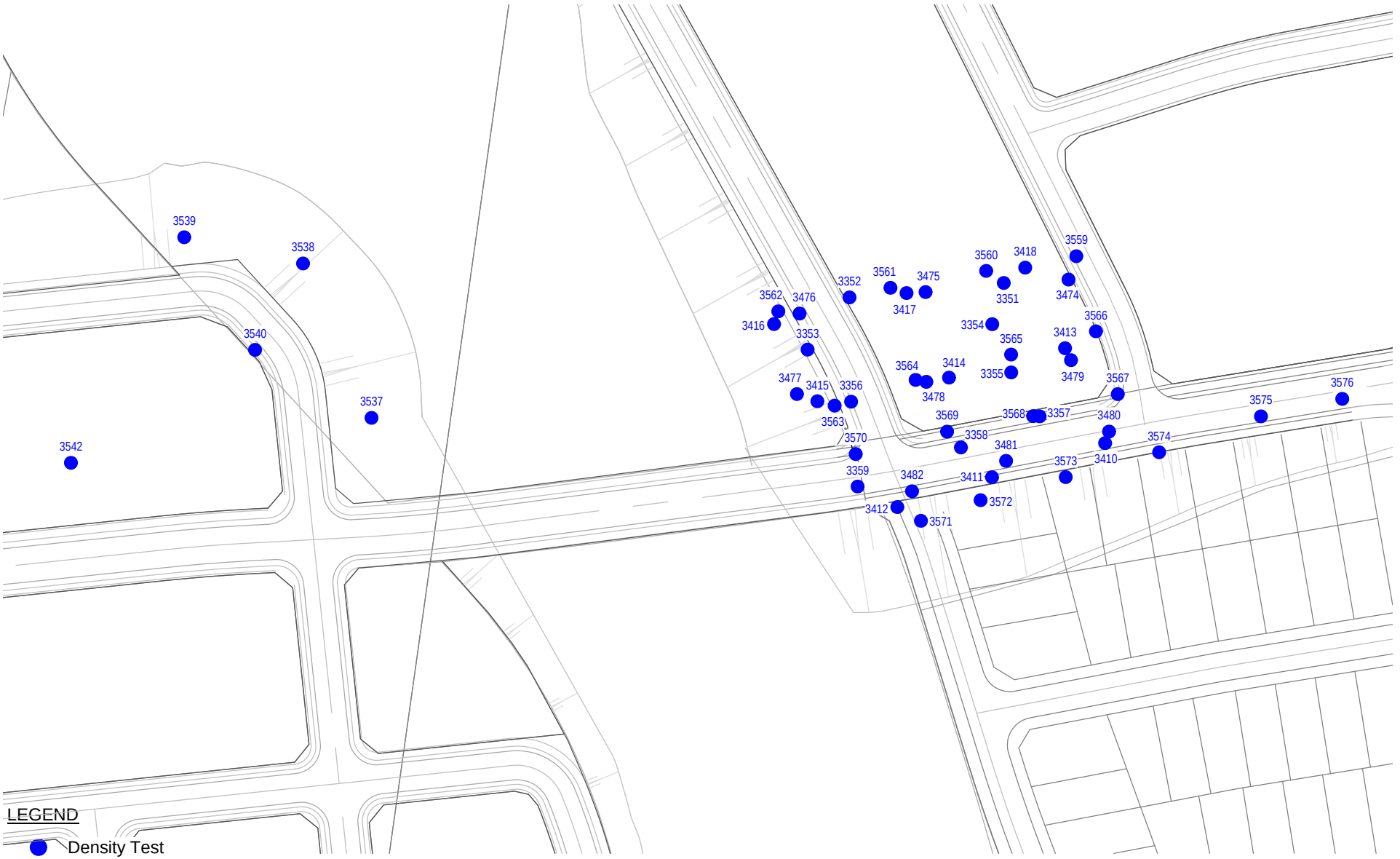
1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-63
Job No: 8599/1
Drawn By: MH
Date: 24 November 2017
Checked By: AK

File No: 8599-1
Layers: 0, Lay63



GEOTECH TESTING PTY LTD®
34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321
Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-64
Job No: 8599/1
Drawn By: MH
Date: 24 November 2017
Checked By: AK

File No: 8599-1
Layers: 0, Lay64

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	179
Location:	Marsden Park	Report Date:	10 /10 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 1700

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE #5	TEST NO'S 3246 -3277 /32
APPROVED SUBGRADE	SUBGRADE 13	TEST NO'S 3278-3296 /9

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey Test Locations Lot Boundaries	Survey undertaken by: Geotech / Geotech /	Reference

4. Instructions received on site

9 x DUMPTRUCKS LOADED BY 2x 654 EXCAVATORS FROM DESIGNATED BORROW ZONES E,F AND DESTINATION HEADED TO (S4)13 / DAM AREA
825 COMPACTOR PUSHING SOUTH TOWARDS (S4)15 BOX FENCE
2x 631 SCRAPERS PUSHED BY D10 IN CUT AREA IN (S4)15 MATERIAL PLACED

5. Instructions given on site

IN FILL AREA (S4)15
6x 627 SCRAPERS ALSO SELF LOADING IN SAME CUT AS 631'S AND PLACING IN AREA OF FILL 825 FILLING TOW SPOT TOWARDS THE WEST FOR WATER RUN OFF INTO NATURAL EVERMENT

COMMENTS: 40,000LTR WATERCART x2 RUNNING AROUND FILL AREA DAILY TO KEEP THE MATERIAL TO SPEC

Signed: Date: 10-10-17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System Quality ISO 9001 SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	190
Location:	Marsden Park	Report Date:	11 / 10 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 1700

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 14	TEST NO'S 3287 - 3305/19
APPROVED SUBGRADE	SUBGRADE 13	TEST NO'S 3306 - 3314/19

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments
NO SUBGRADE APPROVAL	DAM AREA	TEST NO'S 3315 - 3319/5

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

6x 627 SCRAPERS CARTING MATERIEL FROM CUT IN AREAS SG 12 AND 14 AND PLACING IN APPROVED SUBGRADE 14 825 COMPACTOR PUSHING TO THE WEST TOWARDS STONEY CREEK ROAD
4x 637 BBH SCRAPERS CARTING MATERIEL TO (SG) 04 WITH 825 COMPACTOR

5. Instructions given on site

ALSO PUSHING TO THE WEST TIGHT AGAINST BOY INTO (SG) 11
10 x DEMPI TRUCKS LOADED BY 2x 651 EXCAVATORS FROM BORROW ZONES E.F AND HEADED TO APPROVED SG 13 AND DAM AREA 825 AND 815 COMPACTOR PUSHING AND COMPACTING OF THE FACE, GRADER TRIMMING HAUL ROADS

COMMENTS: FOR MACHINES THE EXIT AND ENTRYS TO PLACEMENT AREAS ALSO THE FILL AREAS THAT ARE CLOSE TO FSL

Signed: Date: 11.10.17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	151
Location:	Marsden Park	Report Date:	12/10/2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 1700

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 15	TEST NO'S 3320 - 3333/14
APPROVED SUBGRADE	SUBGRADE 13 AND DAM AREA	TEST NO'S 3334 3352/19

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 04/BH MINING	TEST NO'S 3353/3362/10

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

D8 RIPPING CUT IN (SG)14 FOR SCRAPERS DIO PUSHING THE 631'S THROUGH CT AND PLACED IN (SG)15 ANOTHER 4x 627 SCRAPERS ALSO CARTING FROM THE SAME AREA AND PLACING IN DESIGNATED 10cm AREAS ALONG STONEY CREEK ROAD (BAY) 825 WORKING (SG)15 AT THE MOMENT AND WILL WORK ACROSS TO PLACED

5. Instructions given on site

MATERIEL, 40,000LTR WATERCART SPRAYING WHERE CUT AREAS TO BE PLACED BEFORE AND AFTER PLACEMENT

8 DUMPTRUCKS HAULING FROM BORROW ZONE E.I.T BY 2x 85t EXCAVATORS AND HAULED TO APPROVED SUBGRADE 13/DAM AREA 825 ALSO PUSHING EAST TO BOX

COMMENTS: FOR NEXT LIFT/LAYER

Signed: Date: 12.10.17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	182
Location:	Marsden Park	Report Date:	13 / 10 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Tomas ~~Heath Wilson~~

Time on site: 6:30

Time off site: 4:30

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
Approved Subgrade	Subgrade 16	test No's 3363 - 3379/17
Approved Subgrade	Subgrade 16	test No's 3380 - 3410/31

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments
Approved Subgrade	Subgrade 15	test No's 3411 - 3424/13
~~Approved Subgrade~~	~~Subgrade 13 & dam~~	~~test No's 3404 - 3409~~

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

5. Instructions given on site

COMMENTS:

Signed: Date: 13/10/2017

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	187
Location:	Marsden Park	Report Date:	16 / 10 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	T - S ~~Heath Wilson~~

Time on site: 6:30
Time off site: 4:30

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
Approved Subgrade	Subgrade 16	test No's 3422 - 3433/12
Approved Subgrade	Subgrade 15	test No's 3434 - 3461 / 28

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments
Approved Subgrade	13 & dam	test No's 3462 - 3485/24

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

5. Instructions given on site

COMMENTS:

Signed: Date: 16·10·2017

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	184
Location:	Marsden Park	Report Date:	17 / 10/2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 6:30
Time off site: 4:30

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
Approved Subgrade	Subgrade 16	test No's 3486-3496/11

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

5. Instructions given on site

COMMENTS:

Signed: Date: 17/10/2017

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System Quality ISO 9001 SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	195
Location:	Marsden Park	Report Date:	18 / 10 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 6:30
Time off site: 4:30

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
Approved SG	Subgrade 16	test No's 3497 - 3518/22
Approved SG	Subgrade 11	test No's - 3519 - 3560/42

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

5. Instructions given on site

COMMENTS:

Signed: Date: 18/10/2017

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	~~D~~ 186
Location:	Marsden Park	Report Date:	19 / 10 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	

Time on site: 6:30
Time off site: 4:30

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APProved Subgrade	Subgrade 14	test No's 3561-3579/18

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

5. Instructions given on site

COMMENTS:

Signed: Date: 19/10/2017

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	D 187
Location:	Marsden Park	Report Date:	24/10/2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	

Time on site: 6:30
Time off site: 4:30

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
Approved Subgrade	Subgrade 16	test no's 3577 - 3578/20

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

5. Instructions given on site

COMMENTS:

Signed: Date: 24/10/2017

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/3
Project:	Woorong Bulk Earthworks	Report No:	D 188
Location:	Marsden Park	Report Date:	25/10/2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	TS

Time on site: 0630

Time off site: 1630

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
Approved Subgrade	Subgrade IS	test No's 3599-3625/27

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

5. Instructions given on site

COMMENTS:

Signed: Date: 25/10/2017

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	D 187
Location:	Marsden Park	Report Date:	26/10/2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	TS

Time on site: 0630

Time off site: 1630

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
Approved Subgrade	Subgrade 16	Test No's 3626 - 3643/18

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

5. Instructions given on site

COMMENTS:

Signed: Date: 26/10/2017

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	D 190
Location:	Marsden Park	Report Date:	30 / 10 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	AW

Time on site: 0630

Time off site: 1700

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 13	TEST NO'S 3644 - 3651 / 8
APPROVED SUBGRADE	SUBGRADE 16	TEST NO'S 3652 - 3659 / 8

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 17	TEST NO'S 3660 - 3671 / 12

3. Survey

Type of Survey Test Locations Lot Boundaries	Survey undertaken by: Geotech / Geotech /	Reference

4. Instructions received on site

2x 631 SCRAPERS PUSHED BY D10 IN CUT AREA MATERIAL PLACED IN (B4) 3A
631 COMPACTOR PUSHING MATERIAL WEST FOR NEW LAYER / LIFT
ALSO 2x 631 SCRAPERS LOADING FROM CUT AREA IN (B4) 17 AND PLACING IN
APPROVED SUBGRADE 16 ALSO 631 COMPACTOR PUSHING EAST ALONG THE

5. Instructions given on site

FACE OF BATTER TOWARDS SG (17) OVER EXISTING HAUL ROAD
SEIT LOADING MAIN SCRAPER PLACING TOPSOIL OVER FINISHED PADS (B4) 10
AND 12 IN GPS FIELD FILES
GRADER TRIMMING UP PADS DUE TO HEAVY RAIN CLEAN UP NEEDED FOR

COMMENTS: FURTHER PLACEMENT

Signed: Date: 30-10-17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734   Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	D 191
Location:	Marsden Park	Report Date:	31 / 10 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	HW

Time on site: 0630

Time off site: 1700

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADES 14.15	TEST NO'S 3672 - 3679/8
APPROVED SUBGRADE	SUBGRADE 11	TEST NO'S 3680 - 3694/15

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 08	TEST NO'S 3695 - 3703/9
APPROVED SUBGRADE	SUBGRADE 16	TEST NO'S 3704 - 3712/12

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

D8 RIPPING CUT AREA ON HIGH SPOT OF (SG) 14 TO BE PUSHED IN (SG) 14 2 x 631 SCRAPERS PUSHED BY D10 TO BE PLACED AS FILL MATERIAL UP AGAINST FACE OF BATTER ALSO 1 x SOIL LOADING BABY-SCRAPER LAYING TO THE SAME ZONE. ALSO ANOTHER D8 RIPPING CUT FOR 6 x 631 SCRAPERS TO PLACE IN (SG) 12

5. Instructions given on site

WHERE 825 COMPACTOR IS DRIVING EAST TOWARDS ZONE (D) BOY AREA FOR THE FINAL PUSH LAYER BEFORE TOPSOILING
GRADER TRIMMING SUBGRADES FOR WATER RUNOFF AS EXPECTED

COMMENTS:

Signed: [signature]   Date: 31-10-17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System Quality ISO 9001 SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	D 192
Location:	Marsden Park	Report Date:	01 / 11 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	HW

Time on site: 0630

Time off site: 1700

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 12	TEST NO'S 3713 - 3729/17
APPROVED SUBGRADE	SUBGRADE 11	TEST NO'S 3730 - 3741/12

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 15	TEST NO'S 3742 - 3750/10

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

08 RIPPING CUT AREA AT THE START OF SUBGRADE 16 WHERE DIG A-SLING X2 631 SCRAPERS TO PLACE AT LOWER POINT TOWARDS SYDNEY BY ROAD 825 COMPACTOR PUSHING WEST ALONG CURB 2x 627 SCRAPERS WORKING INTO SUBGRADE (15) 8x 627 SCRAPERS ALSO PICKING UP RIPPED MATERIAL FOR PLACEMENT

5. Instructions given on site

IN APPROVED SUBGRADE 12 ALSO 825 PUSHING EAST TOWARDS SILT FENCE OVER THE CULVERT

GRADER TRIMMING UP FILL AREAS FOR TYRED MACHINES IN AND OUT EXITS FOR SAFE ACCESS

COMMENTS:

Signed: Date: 01-11-17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	D 193
Location:	Marsden Park	Report Date:	02 / 11 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	HW

Time on site: 0630
Time off site: 1700

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 15	TEST NO'S 3751 - 3759 / 9
APPROVED SUBGRADE	SUBGRADE 12	TEST NO'S 3760 - 3777 / 18

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 11	TEST NO'S 3778 - 3789 / 12

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

D10 PUSHING 2x 627 SCRAPERS THROUGH CUT AREA RIPPED BY D8 IN ZONE OF SUBGRADE (15) ALONG WITH 2x 627 SCRAPERS FILL BEING PLACED IN (14) 15 825 COMPACTOR PUSHING MATERIEL WEST DOWN HILL FOR NEXT COVER LAYER BRIDGING WET EXCAVATED SPOT

5. Instructions given on site

ALSO ANOTHER 4x 627 SCRAPERS CUTTING IN HIGH AREA (13) 12 AFTER D8 RIPPING MATERIEL PLACED FOR FINAL LAYER OVER EAST ENT TOWARDS (14) 11 OVER CULVERT
40,000LTR WATERCART SPRAYING AS NEEDED BETWEEN HAUL ROADS AND FILL AREA

COMMENTS: GRADER TRIMMING UP AREAS THAT HAVE FILL PLACED AND WILL DO A LATER DATE

Signed: Date: 02/11/17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System™ Quality ISO 9001 SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	194
Location:	Marsden Park	Report Date:	03/11/2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 1700

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 12	TEST NO'S 3790 -- 3809/20
APPROVED SUBGRADE	SUBGRADE 15	TEST NO'S 3810 - 3815/6

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

2x 631 SCRAPERS PUSHED BY D10 MATERIAL CUT AND PLACED BY IN APPROVED (SG)15
ALSO 2x 627 SCRAPERS PLACING IN THE SAME AREA WHILE 825 COMPACTS AND PUSHES WEST TOWARDS STONEY CREEK ROAD
SUBGRADE 18 PICKED UP RUNS UP AGAINST FACE OPPOSITE (SG) 15

5. Instructions given on site

CUT TO FILL WILL START AT SOME POINT TODAY TO CREATE WATER RUNOFF AREA AS RAIN FORCAST
2x 631 SCRAPERS BOXING OUT ROADS IN AREA WITH GRADER MATERIEL PICKED UP AS FILL IS BEING PLACED IN APPROVED SUBGRADE (03) 815 PUSHING SPREAD

COMMENTS: MATERIAL OVER PAD FOR FURTHER LAYER
7x 631 SCRAPERS CARTING RIPPED MATERIAL FROM BORROW ZONE (SG)12 AND PLACING AT THE LOW END OF (SG)12 NEAR CULVERT EDGE 825 COMPACTING AS PLACED

Signed:

Date: 03-11-17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	195
Location:	Marsden Park	Report Date:	07 / 11 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: –

Time off site: –

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

5. Instructions given on site

COMMENTS: Due to earlier rain, the job has been postponed to a later date as site access is unsafe for tyred vehicles to safely carry out tasks.

Signed: Date: 08.11.17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	196
Location:	Marsden Park	Report Date:	06/11/2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: –

Time off site: –

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

5. Instructions given on site

COMMENTS: Due to earlier rain, the job has been postponed to a later date as site access is unsafe for tyred vehicles to safely carry out tasks.

Signed: Date: 06.11.17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System Quality ISO 9001 SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	197
Location:	Marsden Park	Report Date:	08 / 11 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630
Time off site: 1700

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

GRADER TRIMMING UP AND GETTING READY FOR ROLLING WITH SMOOTH DRUM OVER CULVERT IN AREA(D) EXCESS MATERIEL PICKED UP AND PLACED IN S4(13) WHERE 825 COMPACTOR IS ROLLING
2x 631'S CUTTING MATERIEL FROM AREA OPPOSITE SITE SHEDS AND PLACED IN EG/13

5. Instructions given on site

ALSO IN THE DAM AREA WITH ANOTHER 825 PUSHING AND COMPACTING TO THE WEST DOWN BATTER
D6 DOZER RIPPING FOR THE 627 SCRAPERS x10 2x GRADERS TRIMMING PADS AND HAUL ROADS FROM PREVIOUS RAIN DAYS APPROX 30MM RAIN SOME

COMMENTS: AREAS ARE VERY WET AND HARD TO ACCESS

Signed: Date: 08-11-17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	198
Location:	Marsden Park	Report Date:	09 /11 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630
Time off site: 1700

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 19	TEST NO'S 3828 - 3850 / 23
DAM AREA	NO APPROVED SUBGRADE	TEST NO'S 3816 - 3827 / 12

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

D8 DOZER RIPPING CUT AREA IN (S4) 19 FOR THE DIO TO PUSH 2x 631 SCRAPERS AND PLACE IN FILL AREA DESIGNATED (19)
ALONG WITH 5x 627 SCRAPERS CUTTING WHILE LOOKED UP AND PLACING IN FILL AREA 2x 825 COMPACTORS PUSHING ALONG MARKED IN APPROX 300MM LAYERS

5. Instructions given on site

WHILE GRADER RUNNING A BLADE OVER THE TOP FOR FASTER TURN AROUND 5x 627 SCRAPERS STRIPPING PROPOSED FILL AREA ALL ORGANIC MATERIAL IS STOCKPILED FOR USE AT A LATER DATE

COMMENTS:

Signed: Date: 09.11.17

GEOTECH TESTING PTY LTD®

ABN 71 076 676 321

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	199
Location:	Marsden Park	Report Date:	10 / 11 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 1700

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 19	TEST NOS 3351 - 3373 / 25

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

2x 637 SCRAPERS STRIPPING PROPOSED SUBGRADE (20) MATERIAL [illegible]
IS STOCKPILED FOR USE OF A LATER DATE ON CUT AREAS
ALSO 2x 651 SCRAPERS [illegible] [illegible] THROUGH
RIPPED MATERIAL FROM HIGH POINT IN (64)17 AND PLACING IN LOT (19)

5. Instructions given on site

[illegible] 637 [illegible] AND [illegible] RIPPED SCRAPER [illegible] LOT (64)17
4x 621 SCRAPERS WORKING THIS AREA FOR THE TIME BEING,
[illegible] SMALL AREA WHERE SCRAPERS REMOVE [illegible] MARKING
WHERE THE ROAD WILL RUN THROUGH EAST APPROX 100M [illegible] BEHIND OFFICE

COMMENTS: CONTROLLED MARKERS WILL BE PLACED USING 825 IN 15CM LAYERS

Signed: [signature]

Date: 10-11-17

GEOTECH TESTING PTY LTD®

ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

SUBGRADE APPROVAL REPORT

Client: Daracon Contractors Pty Ltd	Project No: 8599/1
Project: Woorong Bulk Earthworks	Report No: S 16
Location: Marsden Park	Report Date: 12·10 / /2017
Subgrade Inspection Report	Technician: Heath Wilson

Subgrade areas assessed

Area ID	Date	Approximate extent	Subgrade Description	Geometry Summary	Survey Reference	Approved (Yes/No)
8599/1 - SUBGRADE 16	12.10.17	38218 m² 9444 ACRES	FILL/CLAY MED FIRST BROWN ORANGE MED GRAVEL, ALL ORGANIC MATERIAL	LARGE RECTANGLE SLIGHT SLOPE TOWARDS THE WEST (BOY)		Y
			STRIPPED AND STOCKPILED FOR LATER USE			

COMMENTS:

Signed: Date: 12.10.17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

SUBGRADE APPROVAL REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	S 17
Location:	Marsden Park	Report Date:	30 /10/2017
Subgrade Inspection Report		Technician:	Heath Wilson

Subgrade areas assessed

Area ID	Date	Approximate extent m2	Subgrade Description	Geometry Summary	Survey Reference	Approved (Yes/No)
SUBGRADE 17 8599/1.17	30/10/17	16573.682 4.0% ALLE	ALL TOPSOIL REMOVED AND STOCKPILED FOR FUTURE USE MATERIAL IS A (CL) CLAY	LONG RECTANGLE SHAPE TO SYDNEY CK ROAD		Y
			MED PINK/ORANGE MED GRAVEL			

COMMENTS:

Signed: Date: 30/10/17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

SUBGRADE APPROVAL REPORT

Client: Daracon Contractors Pty Ltd	Project No: 8599/1
Project: Woorong Bulk Earthworks	Report No: S 18
Location: Marsden Park	Report Date: 03-11 / /2017
Subgrade Inspection Report	Technician: Heath Wilson

Subgrade areas assessed

Area ID	Date	Approximate extent	Subgrade Description	Geometry Summary	Survey Reference	Approved (Yes/No)
SUBGRADE 18 8599/E-18	03/11/17	20142 m² 4.977 ACRE	ALL TOPSOIL AND ORGANIC MATERIAL STOCKPILED (CL) CLAY MED DARK ORANGE BROWN MED GRAVEL	RECTANGLE SHAPE FALLING TO THE WEST SYDNEY CK ROAD		Y

COMMENTS:

Signed: Date: 03/11/17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System Quality ISO 9001 SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

SUBGRADE APPROVAL REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	S 19
Location:	Marsden Park	Report Date:	09/11/2017
Subgrade Inspection Report		Technician:	Heath Wilson

Subgrade areas assessed

Area ID	Date	Approximate extent	Subgrade Description	Geometry Summary	Survey Reference	Approved (Yes/No)
SUBGRADE 19 8599/1-19	09/11/17	76021m² 18.785 ACR	R1) CLAY MED PLAST BROWN MED TO HIGH GRADES/ROCK	SQUARE SHAPE BATTERS TO THE EAST		Y

COMMENTS:

Signed: Date: 09/11/17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System Quality ISO 9001 SAI GLOBAL

Our Ref: 8599/1-R11
21 December 2017

Daracon Contractors Pty Ltd
P O Box 6145
SILVERWATER BC NSW 1811
Email: SimpsonW@daracon.com.au

Attention: Mr S Wong

Dear Sir

Re: **Woorong Bulk Earthworks**
Marsden Park
Monthly Site Filling Certificate - December 2017

For the production period 15 November to 4 December 2017 inclusive, we submit our Geotech Monthly Report for the above project.

During the foregoing testing period, a total of six hundred & thirty compaction control tests (Tests 3876 to 4366 inclusive) were carried out and reported. The locations of the 491 tests are shown on the attached Drawing Nos 8599/1-65 to 8599/1-74, inclusive (10 drawings). All tests have been undertaken in accordance with the Test Methods and Specifications shown on the attached certificates. Scanned daily records and subgrade reports are also attached.

Based on the fill quantities/survey data, the frequency of field density and compaction tests was in accordance with Level 1 as defined in AS3798 “Guidelines on Earthworks for Commercial & Residential Development”. We certify that all tested locations attained the density ratio shown on the test results sheets. Where failures were encountered, the areas were re-worked and re-tested to achieve the specified density ratio.

Based on site observations and testing, it is considered that the fill placed to date at the locations shown on the attached drawings is classified as "Controlled" fill and that the specified compaction level has been achieved within the tested area.

If you have any questions, please do not hesitate to contact the undersigned.

Yours faithfully
GEOTECH TESTING PTY LTD

Adrian Kench
Laboratory Manager

Attached Density Test Results Certificates Tests 3876 to 4366
Test Location Drawings 8599/1-65 to 8599/1-74
Daily Records
Subgrade Approvals (S13, S20 & S21)

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3876	3877	3878	3879	3880	3881	3882	3883
DATE TESTED			15/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97.5	97	96	96.5	96	97.5	98.5	97
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.5**	**0.0**	**0.5**	**-0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295553.986	295553.601	295540.901	295525.021	295549.163	295569.35	295608.102	295594.835
Northing			6269409.291	6269441.331	6269442.762	6269409.491	6269402.553	6269432.812	6269418.791	6269404.557
Reduced Level		m	17.997	18.075	18.039	17.708	18.299	18.473	18.937	19.011
Shown on Drawing No			8599/1-66							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.06	2.05	2.05	2.04	2.06	2.10	2.05
Field Moisture Content		%	14.5	13.5	14.5	14.0	15.5	14.5	15.5	14.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3876	3877	3878	3879	3880	3881	3882	3883
Peak Converted Wet Density		t/m³	2.12	2.12	2.13	2.12	2.12	2.11	2.13	2.11
Apparent Optimum Moisture Content		%	14.0	13.0	13.5	13.5	15.5	14.0	16.0	14.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	1-2	2	1-2	2	2	2	1-2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3884	3885	3886	3887	3888	3889	3890	3891
DATE TESTED			15/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	95.5	96.5	97	98.5	96.5	98.5	97	98
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.5**	**0.0**	**0.0**	**0.0**	**0.5**	**-0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295571.623	295540.062	295525.43	295566.111	295602.022	295636.788	295592.53	295550.432
Northing			6269415.555	6269429.55	6269404.536	6269381.54	6269363.888	6269390.138	6269411.401	6269432.301
Reduced Level		m	18.685	18.557	18.022	18.832	19.218	19.923	19.102	18.719
Shown on Drawing No			8599/1-66							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.03	2.06	2.06	2.08	2.07	2.09	2.07	2.08
Field Moisture Content		%	14.5	14.0	15.0	15.5	15.5	15.0	13.5	14.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3884	3885	3886	3887	3888	3889	3890	3891
Peak Converted Wet Density		t/m³	2.13	2.13	2.12	2.11	2.14	2.12	2.13	2.12
Apparent Optimum Moisture Content		%	14.5	13.5	15.0	15.5	16.0	14.5	14.5	14.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	1-2	2	2	2	2	1-2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3892	3893	3894	3895	3896	3897	3898	3899
DATE TESTED			15/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96.5	96	97.5	96.5	96	95.5	99.5	99
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.0**	**0.0**	**0.5**	**1.0**	**0.0**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295561.703	295606.066	295636.099	295582.83	295559.534	295509.46	295598.134	295620.552
Northing			6269407.614	6269383.146	6269352.451	6269372.03	6269383.574	6269410.286	6269595.296	6269640.449
Reduced Level		m	18.839	19.589	20.02	19.159	18.872	17.521	18.464	18.112
Shown on Drawing No			8599/1-66				8599/1-67		8599/1-65	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.06	2.03	2.07	2.07	2.04	2.03	2.11	2.09
Field Moisture Content		%	15.0	18.0	21.0	17.5	20.0	15.5	19.0	16.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3892	3893	3894	3895	3896	3897	3898	3899
Peak Converted Wet Density		t/m³	2.14	2.12	2.12	2.14	2.12	2.13	2.12	2.11
Apparent Optimum Moisture Content		%	14.0	18.5	21.0	17.0	19.0	15.0	18.5	15.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	3	2	2-3	2	2-3	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3900	3901	3902	3903	3904	3905	3906	3907
DATE TESTED			15/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	99	97.5	97	96	98.5	96.5	95.5	96
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**1.0**	**0.5**	**-0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295645.596	295682.57	295714.776	295733.785	295710.585	295686.101	295660.021	295632.385
Northing			6269690.189	6269757.787	6269803.279	6269790.304	6269753.73	6269708.658	6269662.984	6269600.228
Reduced Level		m	18.27	16.914	16.459	17.21	17.744	17.897	18.515	19.436
Shown on Drawing No			8599/1-65							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.12	2.08	2.05	2.04	2.08	2.06	2.02	2.03
Field Moisture Content		%	19.5	17.0	16.5	16.0	17.0	19.5	19.0	19.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3900	3901	3902	3903	3904	3905	3906	3907
Peak Converted Wet Density		t/m³	2.14	2.13	2.11	2.13	2.11	2.13	2.11	2.12
Apparent Optimum Moisture Content		%	19.0	16.5	16.0	16.5	16.5	19.0	18.5	18.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2	2	2	2	2-3	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3908	3909	3910	3911	3912	3913	3914	3915
DATE TESTED			15/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96.5	98.5	98.5	98.5	99.5	100.5	98.5	97.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295661.556	295673.931	295697.195	295722.769	295750.016	295765.985	295816.308	295837.313
Northing			6269611.219	6269641.871	6269684.863	6269733.565	6269783.041	6269785.387	6269763.033	6269740.37
Reduced Level		m	19.19	18.584	18.448	18.032	17.534	17.92	18.843	19.144
Shown on Drawing No			8599/1-65							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.06	2.08	2.08	2.10	2.11	2.12	2.09	2.08
Field Moisture Content		%	23.0	18.0	17.5	17.0	15.5	15.5	16.5	16.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3908	3909	3910	3911	3912	3913	3914	3915
Peak Converted Wet Density		t/m³	2.13	2.11	2.11	2.13	2.12	2.11	2.12	2.13
Apparent Optimum Moisture Content		%	22.5	18.0	17.0	16.5	14.5	15.0	16.0	16.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3916	3917	3918	3919	3920	3921	3922	3923
DATE TESTED			15/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98	96.5	97.5	96	97.5	98	96.5	96
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.0**	**0.5**	**0.5**	**0.5**	**0.0**	**1.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295793.848	295702.281	295673.448	295641.866	295619.476	295713.921	295728.663	295752.968
Northing			6269760.176	6269818.331	6269779.009	6269720.571	6269678.792	6269248.103	6269281.044	6269332.848
Reduced Level		m	18.467	16.042	16.303	17.219	17.826	19.85	20.077	19.781
Shown on Drawing No			8599/1-65					8599/1-66		
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.06	2.07	2.04	2.08	2.07	2.06	2.04
Field Moisture Content		%	14.0	15.0	14.5	16.5	15.5	15.0	18.0	15.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3916	3917	3918	3919	3920	3921	3922	3923
Peak Converted Wet Density		t/m³	2.11	2.13	2.12	2.12	2.13	2.11	2.14	2.13
Apparent Optimum Moisture Content		%	13.0	14.5	14.5	16.0	15.0	15.0	18.0	14.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			1-2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3924	3925	3926	3927	3928	3929	3930	3931
DATE TESTED			15/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98.5	95.5	96.5	99	100.5	96.5	96	98
Moisture Variation from OMC	(-Drier/+Wetter)	%	**1.0**	**0.5**	**1.0**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295732.84	295720.687	295697.996	295708.678	295738.548	295754.728	295738.56	295715.31
Northing			6269326.286	6269301.877	6269259.214	6269250.063	6269304.23	6269339.649	6269344.619	6269300.577
Reduced Level		m	20.56	20.657	20.769	20.39	20.377	20.137	20.963	21.165
Shown on Drawing No			8599/1-66							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.10	2.02	2.05	2.10	2.13	2.05	2.04	2.09
Field Moisture Content		%	18.0	16.5	17.0	17.0	17.5	14.5	15.0	16.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3924	3925	3926	3927	3928	3929	3930	3931
Peak Converted Wet Density		t/m³	2.13	2.12	2.12	2.12	2.12	2.12	2.12	2.13
Apparent Optimum Moisture Content		%	17.5	16.0	16.0	16.5	17.0	14.0	14.5	15.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3932	3933	3934	3935	3936	3937	3938	3939
DATE TESTED			15/11/2017					16/11/2017		
RESULTS										
Hilf Density Ratio	Standard	%	96.5	99.5	99	98.5	98	96	96	97
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.5**	**0.0**	**-0.5**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295692.498	295710.204	295722.634	295653.279	295654.773	295634.192	295627.198	295613.331
Northing			6269259.778	6269247.506	6269266.095	6268478.5	6268511.349	6268534.01	6268488.668	6268498.956
Reduced Level		m	21.483	20.412	20.728	22.182	21.958	21.885	22.765	22.823
Shown on Drawing No			8599/1-68		8599/1-66	8599/1-72				
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.06	2.10	2.09	2.08	2.07	2.04	2.03	2.06
Field Moisture Content		%	15.5	19.5	17.0	18.0	17.5	14.5	14.5	15.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3932	3933	3934	3935	3936	3937	3938	3939
Peak Converted Wet Density		t/m³	2.13	2.11	2.11	2.11	2.11	2.13	2.12	2.12
Apparent Optimum Moisture Content		%	14.5	19.0	16.5	17.5	17.5	14.5	14.5	15.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2-3	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3940	3941	3942	3943	3944	3945	3946	3947
DATE TESTED			16/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96.5	99	96.5	96.5	96	97.5	98.5	98
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295617.33	295596.663	295590.595	295586.134	295572.014	295574.935	295548.203	295535.348
Northing			6268539.476	6268548.934	6268516.837	6268491.112	6268502.713	6268540.748	6268551.338	6268516.183
Reduced Level		m	22.044	22.264	22.742	23.234	23.224	22.425	22.629	23.256
Shown on Drawing No			8599/1-72							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.06	2.10	2.06	2.05	2.05	2.08	2.10	2.09
Field Moisture Content		%	14.5	14.5	15.0	14.0	14.5	14.5	14.5	14.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3940	3941	3942	3943	3944	3945	3946	3947
Peak Converted Wet Density		t/m³	2.13	2.12	2.14	2.12	2.14	2.13	2.13	2.13
Apparent Optimum Moisture Content		%	14.0	14.5	14.5	14.0	14.5	14.5	15.0	14.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3948	3949	3950	3951	3952	3953	3954	3955
DATE TESTED			16/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96.5	99.5	95.5	98	97	96	96	98.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295515.343	295517.957	295525.296	295517.917	295534.13	295542.018	295562.143	295554.914
Northing			6268515.127	6268556.532	6268557.669	6268519.048	6268521.274	6268547.957	6268548.612	6268513.793
Reduced Level		m	23.642	23.029	23.129	23.869	23.615	23.064	22.764	23.555
Shown on Drawing No			8599/1-71		8599/1-72	8599/1-71	8599/1-72			
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.06	2.12	2.04	2.09	2.07	2.04	2.05	2.10
Field Moisture Content		%	14.5	14.0	13.5	14.5	14.5	14.5	14.5	15.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3948	3949	3950	3951	3952	3953	3954	3955
Peak Converted Wet Density		t/m³	2.14	2.13	2.14	2.13	2.13	2.13	2.13	2.13
Apparent Optimum Moisture Content		%	14.5	14.0	14.0	14.5	14.5	14.5	14.5	14.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	1-2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3956	3957	3958	3959	3960	3961	3962	3963
DATE TESTED			16/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98.5	99.5	97.5	95.5	96	97.5	98	98
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295572.048	295578.152	295586.21	295595.396	295592.212	295613.717	295619.577	295634.936
Northing			6268495.748	6268529.028	6268556.265	6268533.986	6268495.387	6268498.5	6268541.953	6268511.713
Reduced Level		m	23.684	22.957	22.529	22.768	23.378	23.135	22.244	22.669
Shown on Drawing No			8599/1-72							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.11	2.13	2.09	2.03	2.04	2.08	2.09	2.07
Field Moisture Content		%	14.5	14.0	14.5	13.5	14.0	14.0	14.5	14.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3956	3957	3958	3959	3960	3961	3962	3963
Peak Converted Wet Density		t/m³	2.14	2.14	2.14	2.13	2.13	2.13	2.13	2.11
Apparent Optimum Moisture Content		%	14.5	14.0	14.5	13.5	14.0	14.5	14.0	14.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	1-2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3964	3965	3966	3967	3968	3969	3970	3971
DATE TESTED			16/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96	97.5	99	96.5	96.5	96.5	96.5	97.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**-0.5**	**0.0**	**0.0**	**0.0**	**-0.5**	**0.0**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295632.293	295651.145	295653.179	295673.575	295660.589	295670.641	295684.044	295786.019
Northing			6268480.282	6268481.924	6268534.854	6269229.685	6269208.115	6269195.57	6269222.149	6269390.802
Reduced Level		m	22.821	22.396	22.004	21.52	21.386	20.922	21.327	19.877
Shown on Drawing No			8599/1-72			8599/1-68				8599/1-66
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.05	2.10	2.12	2.05	2.06	2.07	2.05	2.08
Field Moisture Content		%	14.5	13.5	15.5	14.0	14.5	13.5	14.0	14.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3964	3965	3966	3967	3968	3969	3970	3971
Peak Converted Wet Density		t/m³	2.13	2.15	2.14	2.12	2.14	2.15	2.12	2.13
Apparent Optimum Moisture Content		%	15.0	14.0	15.5	14.0	14.5	14.0	14.0	14.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3972	3973	3974	3975	3976	3977	3978	3979
DATE TESTED			16/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97	98.5	97.5	97	97	98	95.5	97
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**0.5**	**0.0**	**0.5**	**0.0**	**-0.5**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295815.8	295822.288	295792.22	295660.965	295659.345	295642.118	295641.527	295626.43
Northing			6269382.122	6269397.683	6269416.265	6269361.172	6269334.498	6269312.857	6269287.32	6269262.927
Reduced Level		m	18.296	18.151	19.333	20.067	20.46	20.649	21.045	21.079
Shown on Drawing No			8599/1-66						8599/1-68	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.10	2.08	2.07	2.06	2.10	2.04	2.06
Field Moisture Content		%	14.5	14.5	14.0	15.5	14.5	14.0	14.0	14.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3972	3973	3974	3975	3976	3977	3978	3979
Peak Converted Wet Density		t/m³	2.13	2.13	2.13	2.13	2.12	2.14	2.14	2.12
Apparent Optimum Moisture Content		%	15.5	14.0	14.0	15.0	14.5	14.5	14.0	14.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3980	3981	3982	3983	3984	3985	3986	3987
DATE TESTED			16/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97	97.5	97.5	97	96	95.5	95.5	95.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.5**	**0.5**	**0.0**	**0.5**	**0.0**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295619.311	295605.062	295568.091	295528.221	295486.669	295485.387	295504.948	295544.871
Northing			6269223.792	6269276.967	6269292.731	6269311.875	6269331.303	6269314.343	6269302.775	6269280.961
Reduced Level		m	20.644	20.162	19.665	18.071	16.314	17.068	17.662	19.358
Shown on Drawing No			8599/1-68	8599/1-66		8599/1-67				8599/1-66
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.08	2.09	2.06	2.05	2.04	2.03	2.05
Field Moisture Content		%	14.5	14.5	14.5	14.0	14.5	14.5	14.5	14.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3980	3981	3982	3983	3984	3985	3986	3987
Peak Converted Wet Density		t/m³	2.13	2.13	2.14	2.12	2.13	2.14	2.13	2.15
Apparent Optimum Moisture Content		%	14.5	14.0	14.0	14.0	14.5	14.5	14.5	14.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3988	3989	3990	3991	3992	3993	3994	3995
DATE TESTED			16/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96	96.5	96	95	98	98	96.5	98
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**-0.5**	**0.0**	**0.0**	**0.5**	**0.0**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295578.437	295544.491	295496.72	295460.564	295465.235	295429.602	295464.655	295455.819
Northing			6269261.855	6269260.722	6269284.535	6269279.406	6269261.87	6269258.722	6269239.403	6269224.258
Reduced Level		m	19.93	19.324	18.571	17.808	18.249	17.107	18.812	18.933
Shown on Drawing No			8599/1-66							8599/1-67
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.06	2.08	2.05	2.03	2.09	2.09	2.06	2.09
Field Moisture Content		%	15.0	14.5	14.0	14.0	14.5	14.5	14.0	13.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3988	3989	3990	3991	3992	3993	3994	3995
Peak Converted Wet Density		t/m³	2.15	2.15	2.14	2.14	2.13	2.13	2.13	2.13
Apparent Optimum Moisture Content		%	15.5	15.0	14.0	14.0	14.0	14.5	14.0	13.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	1-2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			3996	3997	3998	3999	4000	4001	4002	4003
DATE TESTED			16/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97	96.5	98.5	95	95.5	95.5	96	99.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**-0.5**	**0.0**	**-1.0**	**-0.5**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295412.003	295406.113	295419.732	295383.961	295374.336	295410.958	295393.619	295367.489
Northing			6269242.218	6269222.412	6269197.353	6269208.042	6269187.088	6269173.492	6269157.402	6269163.399
Reduced Level		m	16.946	17.296	18.549	16.454	16.561	18.533	17.884	17.016
Shown on Drawing No			8599/1-67						8599/1-68	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.07	2.11	2.02	2.03	2.04	2.05	2.11
Field Moisture Content		%	14.0	15.0	14.0	14.0	14.0	14.0	15.0	13.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			3996	3997	3998	3999	4000	4001	4002	4003
Peak Converted Wet Density		t/m³	2.14	2.14	2.14	2.13	2.13	2.14	2.13	2.12
Apparent Optimum Moisture Content		%	15.0	15.5	14.0	14.5	14.5	14.0	15.0	13.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	1-2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4004	4005	4006	4007	4008	4009	4010	4011
DATE TESTED			16/11/2017		17/11/2017					
RESULTS										
Hilf Density Ratio	Standard	%	97.5	99	97	96.5	96	97	96	95.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**-0.5**	**0.0**	**0.5**	**0.0**	**0.0**	**0.0**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295409.128	295374.825	295373.949	295402.197	295402.083	295371.458	295331.845	295322.119
Northing			6269379.098	6269390.112	6269372.138	6269362.147	6269342.922	6269345.098	6269352.42	6269332.078
Reduced Level		m	14.875	13.801	14.346	14.952	15.523	14.553	13.598	13.581
Shown on Drawing No			8599/1-67							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.09	2.07	2.08	2.05	2.07	2.04	2.04
Field Moisture Content		%	14.5	14.0	14.5	14.5	15.0	13.5	14.0	14.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4004	4005	4006	4007	4008	4009	4010	4011
Peak Converted Wet Density		t/m³	2.13	2.11	2.13	2.16	2.14	2.13	2.12	2.14
Apparent Optimum Moisture Content		%	14.0	14.5	14.5	14.5	15.0	13.5	14.0	15.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	1-2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4012	4013	4014	4015	4016	4017	4018	4019
DATE TESTED			17/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96	97	97	95.5	95.5	95.5	97	95
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**0.0**	**-0.5**	**0.0**	**-0.5**	**-0.5**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295359.861	295389.861	295386.836	295343.55	295303.758	295290.536	295327.09	295367.709
Northing			6269322.122	6269315.591	6269293.87	6269301.034	6269309.526	6269291.19	6269281.333	6269271.256
Reduced Level		m	14.414	15.652	15.997	14.299	13.534	13.5	14.121	15.601
Shown on Drawing No			8599/1-67							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.05	2.08	2.07	2.04	2.04	2.03	2.08	2.03
Field Moisture Content		%	14.0	14.5	14.0	14.0	14.5	14.0	13.5	14.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4012	4013	4014	4015	4016	4017	4018	4019
Peak Converted Wet Density		t/m³	2.14	2.14	2.13	2.14	2.14	2.13	2.14	2.14
Apparent Optimum Moisture Content		%	15.0	14.5	14.5	14.0	15.0	14.0	13.5	14.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	1-2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4020	4021	4022	4023	4024	4025	4026	4027
DATE TESTED			17/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98	96.5	95.5	97	96	95.5	96.5	97
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**-0.5**	**0.0**	**0.5**	**0.0**	**0.0**	**0.0**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295365.476	295325.902	295300.935	295266.902	295293.197	295332.411	295358.451	295349.198
Northing			6269250.111	6269261.376	6269267.523	6269263.018	6269249.882	6269238.643	6269230.313	6269210.912
Reduced Level		m	15.911	14.332	13.857	13.564	13.945	14.944	15.985	16.025
Shown on Drawing No			8599/1-68			8599/1-67	8599/1-68		8599/1-67	8599/1-68
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.07	2.04	2.07	2.03	2.03	2.08	2.09
Field Moisture Content		%	14.5	14.0	14.5	13.5	14.0	14.5	14.0	14.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4020	4021	4022	4023	4024	4025	4026	4027
Peak Converted Wet Density		t/m³	2.13	2.14	2.14	2.13	2.12	2.13	2.15	2.15
Apparent Optimum Moisture Content		%	14.0	14.5	14.5	13.0	14.0	14.5	14.5	14.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	1-2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4028	4029	4030	4031	4032	4033	4034	4035
DATE TESTED			17/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97.5	96	97	98.5	99	96.5	98	95.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**-0.5**	**-0.5**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295310.066	295270.386	295245.663	295275.65	295304.37	295346.039	295460.36	295495.287
Northing			6269218.842	6269228.85	6269210.937	6269198.958	6269193.266	6269182.716	6269274.493	6269261.697
Reduced Level		m	14.732	13.963	13.655	14.465	15.217	16.457	18.151	18.772
Shown on Drawing No			8599/1-68	8599/1-67			8599/1-68		8599/1-67	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.05	2.08	2.11	2.10	2.06	2.10	2.03
Field Moisture Content		%	13.5	14.0	14.0	13.5	14.0	14.0	14.0	14.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4028	4029	4030	4031	4032	4033	4034	4035
Peak Converted Wet Density		t/m³	2.12	2.13	2.14	2.14	2.12	2.13	2.14	2.13
Apparent Optimum Moisture Content		%	13.5	14.0	14.0	14.5	14.0	14.0	14.5	14.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			1-2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4036	4037	4038	4039	4040	4041	4042	4043
DATE TESTED			17/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96.5	95.5	96.5	97.5	97.5	96.5	96.5	96
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**-1.0**	**-0.5**	**0.0**	**0.0**	**0.5**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295542.732	295557.243	295530.822	295497.179	295469.046	295471.362	295508.673	295539.714
Northing			6269246.378	6269259.892	6269270.47	6269283.67	6269296.282	6269308.089	6269293.535	6269280.523
Reduced Level		m	19.358	19.868	19.617	18.951	18.181	17.958	18.993	19.745
Shown on Drawing No			8599/1-67							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.05	2.04	2.07	2.09	2.08	2.06	2.07	2.07
Field Moisture Content		%	13.5	14.0	14.5	14.5	14.0	14.5	14.5	15.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4036	4037	4038	4039	4040	4041	4042	4043
Peak Converted Wet Density		t/m³	2.12	2.14	2.15	2.14	2.13	2.14	2.15	2.16
Apparent Optimum Moisture Content		%	13.5	15.0	15.0	14.5	14.5	14.0	14.5	15.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			1-2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4044	4045	4046	4047	4048	4049	4050	4051
DATE TESTED			17/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96	96	98.5	98.5	96.5	95.5	97.5	98.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**-0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295572.017	295534.401	295502.454	295468.601	295397.382	295446.85	295433.561	295396.557
Northing			6269288.378	6269306.451	6269323.973	6269341.122	6269154.793	6269143.972	6269133.922	6269133.07
Reduced Level		m	20.086	19.209	17.769	16.409	19.033	19.993	19.593	19.206
Shown on Drawing No			8599/1-67				8599/1-68			
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.06	2.04	2.11	2.10	2.06	2.04	2.07	2.09
Field Moisture Content		%	14.5	15.0	15.5	14.5	15.0	15.0	15.0	15.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4044	4045	4046	4047	4048	4049	4050	4051
Peak Converted Wet Density		t/m³	2.15	2.12	2.14	2.13	2.14	2.14	2.12	2.12
Apparent Optimum Moisture Content		%	15.0	15.0	15.5	14.5	15.5	15.0	15.5	15.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4052	4053	4054	4055	4056	4057	4058	4059
DATE TESTED			17/11/2017							20/11/2017
RESULTS										
Hilf Density Ratio	Standard	%	98.5	96	97	98	96.5	98	98	96.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**-0.5**	**-0.5**	**0.0**	**0.0**	**-0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295500.264	295458.539	295425.115	295465.327	295432.708	295556.627	295525.763	295490.168
Northing			6269224.533	6269246.573	6269237.769	6269214.043	6269211.631	6269292.413	6269303.939	6269321.01
Reduced Level		m	19.49	18.838	17.978	19.362	18.988	20.415	19.743	19.126
Shown on Drawing No			8599/1-67	8599/1-68		8599/1-67		8599/1-68	8599/1-67	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.03	2.09	2.08	2.06	2.08	2.09	2.07
Field Moisture Content		%	16.0	16.5	16.0	15.5	15.5	15.5	16.0	15.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4052	4053	4054	4055	4056	4057	4058	4059
Peak Converted Wet Density		t/m³	2.12	2.12	2.15	2.12	2.13	2.12	2.13	2.14
Apparent Optimum Moisture Content		%	16.0	16.5	16.5	16.0	15.5	15.5	16.0	14.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4060	4061	4062	4063	4064	4065	4066	4067
DATE TESTED			20/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98	97.5	98	99.5	96.5	96	97	97.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**-0.5**	**0.0**	**0.5**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295476.655	295511.483	295543.744	295549.772	295507.02	295466.95	295457.802	295498.529
Northing			6269303.42	6269289.249	6269276.926	6269254.003	6269265.903	6269283.587	6269258.811	6269238.579
Reduced Level		m	18.74	19.373	19.898	19.638	19.044	18.747	19.18	19.179
Shown on Drawing No			8599/1-67	8599/1-68						
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.06	2.09	2.10	2.04	2.04	2.05	2.09
Field Moisture Content		%	16.5	15.5	15.5	15.5	15.5	16.0	15.5	16.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4060	4061	4062	4063	4064	4065	4066	4067
Peak Converted Wet Density		t/m³	2.13	2.11	2.13	2.11	2.11	2.13	2.11	2.14
Apparent Optimum Moisture Content		%	16.0	15.0	15.0	16.0	15.5	15.0	15.5	16.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4068	4069	4070	4071	4072	4073	4074	4075
DATE TESTED			20/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97.5	97	96.5	98	97	96.5	95.5	100.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.0**	**1.0**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295536.751	295531.041	295491.433	295449.925	295437.32	295473.986	295520.129	295503.119
Northing			6269219.05	6269204.902	6269223.993	6269245.648	6269224.242	6269203.108	6269177.369	6269157.882
Reduced Level		m	19.444	19.899	19.647	19.433	19.452	19.673	19.845	19.818
Shown on Drawing No			8599/1-67	8599/1-68						
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.06	2.05	2.08	2.05	2.05	2.04	2.13
Field Moisture Content		%	15.5	16.0	16.0	16.0	16.0	15.5	16.0	16.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4068	4069	4070	4071	4072	4073	4074	4075
Peak Converted Wet Density		t/m³	2.12	2.12	2.12	2.12	2.11	2.12	2.14	2.12
Apparent Optimum Moisture Content		%	15.5	15.5	15.5	15.5	15.0	15.0	15.0	16.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4076	4077	4078	4079	4080	4081	4082	4083
DATE TESTED			20/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97.5	95	95.5	96	97.5	98.5	99	99
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.0**	**0.5**	**0.5**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295462.962	295422.84	295413.397	295456.375	295495.757	295480.741	295447.227	295398.478
Northing			6269176.511	6269196.648	6269175.266	6269157.059	6269140.327	6269119.97	6269134.772	6269156.597
Reduced Level		m	19.518	19.152	19.446	20.16	20.31	20.221	19.933	19.449
Shown on Drawing No			8599/1-68		8599/1-69	8599/1-68				
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.03	2.03	2.04	2.08	2.09	2.09	2.11
Field Moisture Content		%	15.5	15.5	16.5	16.0	15.5	15.5	14.5	15.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4076	4077	4078	4079	4080	4081	4082	4083
Peak Converted Wet Density		t/m³	2.12	2.14	2.13	2.12	2.13	2.12	2.11	2.13
Apparent Optimum Moisture Content		%	14.5	15.0	16.0	16.0	15.0	15.5	14.5	15.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4084	4085	4086	4087	4088	4089	4090	4091
DATE TESTED			20/11/2017		21/11/2017					
RESULTS										
Hilf Density Ratio	Standard	%	98.5	101	97	97	96	98.5	100	97
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.0**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295405.465	295391.044	295385.034	295367.69	295359.304	295342.761	295331.586	295339.97
Northing			6269210.738	6269188.874	6269156.277	6269141.002	6269111.292	6269093.588	6269074.066	6269109.845
Reduced Level		m	17.671	17.674	18.397	17.875	18.309	18.105	18.583	18.18
Shown on Drawing No			8599/1-68	8599/1-69	8599/1-68					8599/1-69
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.13	2.06	2.07	2.05	2.09	2.12	2.07
Field Moisture Content		%	15.5	15.0	16.5	17.0	16.0	16.5	16.5	16.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4084	4085	4086	4087	4088	4089	4090	4091
Peak Converted Wet Density		t/m³	2.12	2.11	2.12	2.13	2.13	2.12	2.12	2.13
Apparent Optimum Moisture Content		%	15.0	15.0	16.0	16.0	15.5	16.0	17.0	16.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4092	4093	4094	4095	4096	4097	4098	4099
DATE TESTED			21/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98.5	96	97	98	99	98.5	98	96
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295369.674	295375.923	295393.898	295403.94	295404.717	295386.114	295383.797	295359.42
Northing			6269118.103	6269148.083	6269171.87	6269208.098	6269208.904	6269178.101	6269151.073	6269127.1
Reduced Level		m	18.766	18.503	18.716	18.003	18.336	18.447	18.979	18.444
Shown on Drawing No			8599/1-69							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.04	2.08	2.07	2.09	2.10	2.08	2.04
Field Moisture Content		%	16.5	16.0	16.5	16.5	16.5	17.0	17.0	16.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4092	4093	4094	4095	4096	4097	4098	4099
Peak Converted Wet Density		t/m³	2.12	2.12	2.14	2.11	2.11	2.13	2.12	2.13
Apparent Optimum Moisture Content		%	17.0	16.0	16.0	16.0	16.0	16.5	16.0	15.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4100	4101	4102	4103	4104	4105	4106	4107
DATE TESTED			21/11/2017				22/11/2017			
RESULTS										
Hilf Density Ratio	Standard	%	97	96.5	98.5	96	97.5	96.5	97.5	98
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**-0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295349.253	295320.732	295747.909	295711.925	295663.052	295610.018	295596.521	295641.01
Northing			6269097.5	6269075.76	6268902.359	6268905.574	6268909.154	6268912.561	6268896.054	6268890.672
Reduced Level		m	18.799	18.531	19.249	19.857	20.051	20.589	20.752	20.62
Shown on Drawing No			8599/1-69		8599/1-73					
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.06	2.06	2.08	2.03	2.07	2.06	2.06	2.09
Field Moisture Content		%	16.5	16.5	16.0	16.0	16.0	16.0	17.0	15.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4100	4101	4102	4103	4104	4105	4106	4107
Peak Converted Wet Density		t/m³	2.12	2.13	2.11	2.12	2.12	2.13	2.11	2.13
Apparent Optimum Moisture Content		%	16.0	16.0	16.5	15.5	15.5	15.5	16.5	14.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4108	4109	4110	4111	4112	4113	4114	4115
DATE TESTED			22/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96.5	96.5	96	97.5	99.5	97	97	96
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**-0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295683.104	295736.757	295729.763	295684.146	295641.851	295586.8	295120.967	295122.397
Northing			6268887.496	6268884.069	6268870.999	6268874.386	6268874.346	6268875.447	6268791.721	6268820.341
Reduced Level		m	20.238	19.762	19.491	19.953	20.433	20.732	21.552	21.416
Shown on Drawing No			8599/1-73						8599/1-70	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.05	2.05	2.04	2.06	2.11	2.05	2.06	2.03
Field Moisture Content		%	17.0	16.0	16.5	16.5	15.5	17.0	17.0	17.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4108	4109	4110	4111	4112	4113	4114	4115
Peak Converted Wet Density		t/m³	2.12	2.12	2.13	2.11	2.12	2.11	2.12	2.12
Apparent Optimum Moisture Content		%	16.5	15.5	16.0	16.0	15.0	16.5	17.5	17.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4116	4117	4118	4119	4120	4121	4122	4123
DATE TESTED			22/11/2017						23/11/2017	
RESULTS										
Hilf Density Ratio	Standard	%	97.5	99	99	98.5	97.5	97.5	97.5	97
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.5**	**0.5**	**0.5**	**0.0**	**0.0**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295134.998	295133.88	295145.883	295141.991	295614.342	295651.275	295690.761	295737.288
Northing			6268843.387	6268881.015	6268918.82	6268972.697	6268934.744	6268928.853	6268924.678	6268922.229
Reduced Level		m	20.926	20.339	19.633	18.876	20.074	19.845	19.417	19.187
Shown on Drawing No			8599/1-70				8599/1-73			
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.10	2.10	2.08	2.07	2.08	2.08	2.06
Field Moisture Content		%	16.5	16.0	15.0	16.0	16.5	17.0	15.5	16.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4116	4117	4118	4119	4120	4121	4122	4123
Peak Converted Wet Density		t/m³	2.13	2.12	2.12	2.11	2.12	2.13	2.13	2.12
Apparent Optimum Moisture Content		%	16.0	15.5	14.5	16.5	16.5	16.5	14.5	15.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4124	4125	4126	4127	4128	4129	4130	4131
DATE TESTED			23/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96.5	98.5	96.5	98.5	98	99	98.5	98
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295745.565	295707.249	295668.13	295610.43	295592.876	295633.44	295686.465	295731.105
Northing			6268909.565	6268907.146	6268907.425	6268909.657	6268893.215	6268890.261	6268888.129	6268886.744
Reduced Level		m	19.438	19.921	20.344	20.976	20.931	20.83	20.378	19.973
Shown on Drawing No			8599/1-73							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.05	2.09	2.05	2.08	2.08	2.11	2.09	2.08
Field Moisture Content		%	16.5	16.5	16.0	16.0	16.0	16.0	16.0	14.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4124	4125	4126	4127	4128	4129	4130	4131
Peak Converted Wet Density		t/m³	2.12	2.12	2.12	2.11	2.12	2.13	2.12	2.12
Apparent Optimum Moisture Content		%	16.0	16.0	15.5	15.5	15.0	15.5	15.5	14.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4132	4133	4134	4135	4136	4137	4138	4139
DATE TESTED			23/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98	98	96	96.5	97.5	98	97.5	99
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.0**	**0.0**	**0.5**	**0.5**	**0.0**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295734.352	295667.212	295622.723	295191.398	295152.705	295108.868	295071.615	295067.658
Northing			6268868.761	6268868.303	6268868.728	6269033.302	6269031.245	6269027.326	6269024.971	6269036.832
Reduced Level		m	19.622	20.344	20.754	17.954	17.807	18.133	18.077	17.71
Shown on Drawing No			8599/1-73			8599/1-69				
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.07	2.04	2.06	2.08	2.07	2.06	2.09
Field Moisture Content		%	17.0	14.5	16.0	16.0	15.0	15.0	16.5	16.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4132	4133	4134	4135	4136	4137	4138	4139
Peak Converted Wet Density		t/m³	2.13	2.11	2.13	2.13	2.13	2.11	2.11	2.11
Apparent Optimum Moisture Content		%	16.0	15.0	16.0	15.0	14.5	15.0	16.0	15.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4140	4141	4142	4143	4144	4145	4146	4147
DATE TESTED			23/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98.5	100.5	99	98	98	97	96	97.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295109.879	295150.372	295173.531	295123.711	295080.981	295080.192	295129.344	295170.84
Northing			6269039.681	6269043.101	6269059.803	6269056.455	6269053.66	6269070.006	6269075.543	6269077.809
Reduced Level		m	17.946	17.811	17.69	17.595	17.343	17.044	17.148	17.104
Shown on Drawing No			8599/1-69							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.11	2.13	2.09	2.08	2.07	2.06	2.04	2.06
Field Moisture Content		%	16.0	16.0	17.0	16.0	18.0	17.5	15.5	17.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4140	4141	4142	4143	4144	4145	4146	4147
Peak Converted Wet Density		t/m³	2.14	2.12	2.11	2.12	2.11	2.12	2.13	2.11
Apparent Optimum Moisture Content		%	15.5	15.5	16.5	16.5	17.0	17.0	15.5	16.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4148	4149	4150	4151	4152	4153	4154	4155
DATE TESTED			23/11/2017	24/11/2017						
RESULTS										
Hilf Density Ratio	Standard	%	97.5	99	97	96	96.5	96.5	96	96.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.0**	**0.0**	**-0.5**	**0.0**	**0.0**	**0.0**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295187.561	295145.609	295111.582	295072.617	295068.648	295104.525	295141.072	295179.521
Northing			6269031.532	6269027.218	6269023.978	6269019.052	6269035.007	6269036.213	6269038.446	6269041.084
Reduced Level		m	18.02	18.299	18.488	18.486	17.988	18.249	18.136	18.228
Shown on Drawing No			8599/1-69							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.10	2.07	2.06	2.06	2.07	2.05	2.08
Field Moisture Content		%	17.5	16.0	16.5	17.5	14.5	15.0	16.5	16.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4148	4149	4150	4151	4152	4153	4154	4155
Peak Converted Wet Density		t/m³	2.13	2.12	2.13	2.15	2.14	2.15	2.13	2.15
Apparent Optimum Moisture Content		%	16.5	16.0	16.5	18.0	14.5	15.0	16.5	17.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4156	4157	4158	4159	4160	4161	4162	4163
DATE TESTED			24/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97	99	95.5	96	96.5	98	98.5	96
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**-1.0**	**0.0**	**-0.5**	**0.0**	**-0.5**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295185.504	295137.782	295082.234	295068.958	295109.073	295155.117	295598.224	295641.972
Northing			6269064.93	6269060.879	6269054.796	6269069.642	6269078.621	6269081.277	6268914.977	6268914.468
Reduced Level		m	17.734	17.838	17.667	16.879	17.142	17.148	20.922	20.553
Shown on Drawing No			8599/1-69						8599/1-73	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.12	2.03	2.06	2.06	2.09	2.10	2.06
Field Moisture Content		%	17.0	15.0	16.0	16.5	16.0	15.5	15.5	16.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4156	4157	4158	4159	4160	4161	4162	4163
Peak Converted Wet Density		t/m³	2.14	2.14	2.13	2.15	2.14	2.13	2.13	2.15
Apparent Optimum Moisture Content		%	17.0	15.5	16.0	16.5	16.0	15.5	15.5	17.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4164	4165	4166	4167	4168	4169	4170	4171
DATE TESTED			24/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	95	100	98	97.5	96.5	99	96	97
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**-0.5**	**0.0**	**0.0**	**0.0**	**-0.5**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295689.238	295738.002	295754.361	295711.739	295658.061	295642.933	295721.98	295758.954
Northing			6268909.072	6268910.484	6268947.883	6268954.416	6268960.395	6268983.103	6268970.628	6268964.369
Reduced Level		m	20.27	19.721	18.073	18.562	19.158	19.924	18.54	17.746
Shown on Drawing No			8599/1-73							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.03	2.13	2.10	2.09	2.07	2.09	2.05	2.07
Field Moisture Content		%	15.0	15.5	16.5	17.0	17.5	16.0	15.0	16.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4164	4165	4166	4167	4168	4169	4170	4171
Peak Converted Wet Density		t/m³	2.14	2.13	2.14	2.14	2.14	2.11	2.14	2.13
Apparent Optimum Moisture Content		%	15.5	15.5	16.5	17.0	18.0	16.0	15.0	16.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4172	4173	4174	4175	4176	4177	4178	4179
DATE TESTED			24/11/2017	27/11/2017						
RESULTS										
Hilf Density Ratio	Standard	%	96.5	98	97	98	99	97	98	97
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295229.06	295259.417	295312.565	295329.999	295276.091	295225.082	295238.095	295286.796
Northing			6268536.468	6268532.881	6268526.283	6268539.554	6268547.468	6268556.354	6268566.104	6268562.043
Reduced Level		m	26.03	26.202	25.964	25.857	26.015	25.798	25.551	25.649
Shown on Drawing No			8599/1-71							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.08	2.06	2.06	2.09	2.06	2.07	2.07
Field Moisture Content		%	16.5	15.5	15.5	16.0	15.5	17.0	15.5	16.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4172	4173	4174	4175	4176	4177	4178	4179
Peak Converted Wet Density		t/m³	2.15	2.12	2.12	2.10	2.11	2.12	2.11	2.13
Apparent Optimum Moisture Content		%	16.5	14.5	15.0	15.5	15.0	16.5	15.5	15.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4180	4181	4182	4183	4184	4185	4186	4187
DATE TESTED			27/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98	96	96	96	97	99	97.5	100.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295330.532	295358.737	295384.46	295400.372	295343.066	295268.637	295223.346	295245.943
Northing			6268559.333	6268550.127	6268559.647	6268582.959	6268593.266	6268601.782	6268608.66	6268627.411
Reduced Level		m	25.465	25.628	25.271	25.054	24.847	24.619	24.439	23.98
Shown on Drawing No			8599/1-71							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.06	2.03	2.03	2.05	2.05	2.10	2.07	2.12
Field Moisture Content		%	16.0	15.5	16.0	15.5	16.0	15.5	16.0	16.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4180	4181	4182	4183	4184	4185	4186	4187
Peak Converted Wet Density		t/m³	2.10	2.12	2.12	2.13	2.11	2.12	2.12	2.11
Apparent Optimum Moisture Content		%	16.0	15.0	15.5	15.0	15.5	15.0	15.5	16.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4188	4189	4190	4191	4192	4193	4194	4195
DATE TESTED			27/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98	97.5	95.5	95.5	99	98.5	96	97.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295281.469	295359.356	295439.062	295499.004	295515.407	295477.399	295436.157	295441.918
Northing			6268626.13	6268623.213	6268530.387	6268519.019	6268530.762	6268540.272	6268550.763	6268566.738
Reduced Level		m	24.146	24.02	24.48	24.191	23.755	23.994	24.206	24.2
Shown on Drawing No			8599/1-71							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.06	2.02	2.03	2.08	2.08	2.04	2.07
Field Moisture Content		%	16.5	17.0	17.0	17.5	17.0	17.0	17.5	18.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4188	4189	4190	4191	4192	4193	4194	4195
Peak Converted Wet Density		t/m³	2.13	2.11	2.12	2.13	2.10	2.11	2.12	2.12
Apparent Optimum Moisture Content		%	16.0	16.5	16.5	17.0	16.5	17.0	16.5	17.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4196	4197	4198	4199	4200	4201	4202	4203
DATE TESTED			27/11/2017		28/11/2017					
RESULTS										
Hilf Density Ratio	Standard	%	97	100	96.5	97.5	97.5	98.5	96	96
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295500.83	295522.471	295463.052	295425.681	295472.118	295508.309	295517.809	295442.667
Northing			6268555.814	6268570.789	6268578.918	6268566.345	6268559.093	6268552.56	6268534.183	6268544.479
Reduced Level		m	23.64	23.794	24.561	24.826	24.785	24.277	24.383	25.062
Shown on Drawing No			8599/1-71	8599/1-72	8599/1-71				8599/1-72	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.11	2.05	2.08	2.08	2.09	2.03	2.04
Field Moisture Content		%	17.0	16.5	16.5	17.5	18.0	16.5	17.0	17.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4196	4197	4198	4199	4200	4201	4202	4203
Peak Converted Wet Density		t/m³	2.13	2.11	2.12	2.13	2.13	2.12	2.12	2.12
Apparent Optimum Moisture Content		%	16.0	16.0	16.0	17.0	17.5	16.0	16.5	16.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4204	4205	4206	4207	4208	4209	4210	4211
DATE TESTED			28/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96	96	99.5	96	96.5	97.5	95	96
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.0**	**-0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295421.045	295460.781	295502.862	295746.632	295721.02	295682.7	295627.239	295612.744
Northing			6268531.145	6268522.005	6268511.923	6268895.331	6268907.63	6268908.821	6268909.499	6268926.353
Reduced Level		m	25.18	24.943	24.466	19.888	19.885	20.294	20.891	20.46
Shown on Drawing No			8599/1-72			8599/1-73				
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.04	2.04	2.11	2.03	2.07	2.06	2.03	2.04
Field Moisture Content		%	17.5	17.5	18.0	17.0	18.0	18.5	17.0	17.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4204	4205	4206	4207	4208	4209	4210	4211
Peak Converted Wet Density		t/m³	2.13	2.13	2.12	2.12	2.14	2.11	2.14	2.13
Apparent Optimum Moisture Content		%	17.0	17.0	17.0	16.5	17.5	18.5	17.5	16.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4212	4213	4214	4215	4216	4217	4218	4219
DATE TESTED			28/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97.5	99	99	100	98	96.5	99.5	98
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295666.21	295706.598	295742.282	296177.447	296178.03	296155.824	296149.494	296133.542
Northing			6268923.066	6268923.343	6268921.082	6268742.118	6268701.394	6268705.52	6268735.438	6268738.996
Reduced Level		m	20.014	19.439	19.422	20.143	20.647	20.858	20.918	20.8
Shown on Drawing No			8599/1-73			8599/1-74				
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.10	2.11	2.12	2.09	2.04	2.11	2.08
Field Moisture Content		%	16.5	17.0	17.0	17.0	16.5	17.0	18.0	18.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4212	4213	4214	4215	4216	4217	4218	4219
Peak Converted Wet Density		t/m³	2.12	2.12	2.13	2.12	2.13	2.11	2.12	2.12
Apparent Optimum Moisture Content		%	16.0	16.5	16.5	17.0	16.0	16.5	17.5	17.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4220	4221	4222	4223	4224	4225	4226	4227
DATE TESTED			28/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97.5	96	96	97.5	97.5	97	98.5	98.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296084.498	296086.544	296131.477	296139.816	296092.448	296060.172	296105.033	296130.031
Northing			6268737.824	6268723.91	6268724.341	6268707.581	6268709.582	6268731.765	6268732.693	6268724.438
Reduced Level		m	20.57	20.735	20.957	21.137	21.032	20.44	21.154	21.343
Shown on Drawing No			8599/1-74							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.05	2.05	2.06	2.07	2.07	2.08	2.09
Field Moisture Content		%	17.5	18.0	17.0	17.0	17.0	17.5	17.0	16.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4220	4221	4222	4223	4224	4225	4226	4227
Peak Converted Wet Density		t/m³	2.13	2.13	2.14	2.11	2.12	2.13	2.11	2.12
Apparent Optimum Moisture Content		%	17.0	17.5	16.5	16.5	16.5	17.0	16.5	16.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4228	4229	4230	4231	4232	4233	4234	4235
DATE TESTED			28/11/2017					29/11/2017		
RESULTS										
Hilf Density Ratio	Standard	%	98	99.5	96	98.5	98.5	97.5	97	97.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296141.636	296114.664	296068.677	295067.012	295110.556	295178.638	295180.812	295138.086
Northing			6268697.716	6268710.26	6268715.76	6269067.124	6269074.24	6269078.191	6269063.849	6269057.885
Reduced Level		m	21.512	21.219	21.053	16.885	17.566	17.803	18.032	18.14
Shown on Drawing No			8599/1-74			8599/1-69				
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.10	2.04	2.09	2.10	2.08	2.06	2.07
Field Moisture Content		%	17.5	16.5	16.5	17.0	16.5	20.5	20.5	20.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4228	4229	4230	4231	4232	4233	4234	4235
Peak Converted Wet Density		t/m³	2.13	2.11	2.13	2.12	2.13	2.13	2.12	2.12
Apparent Optimum Moisture Content		%	17.0	16.0	16.0	16.5	16.0	20.0	20.0	20.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4236	4237	4238	4239	4240	4241	4242	4243
DATE TESTED			29/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98.5	99.5	99	97.5	97.5	97	97	96
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.0**	**0.5**	**0.5**	**0.5**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295100.503	295063.919	295062.939	295105.11	295148.724	295192.91	296075.585	296115.57
Northing			6269049.596	6269037.636	6269016.525	6269027.156	6269037.472	6269047.426	6268688.56	6268693.505
Reduced Level		m	18.193	18.19	18.641	18.542	18.342	18.006	22.098	22.32
Shown on Drawing No			8599/1-69						8599/1-74	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.10	2.09	2.09	2.07	2.08	2.06	2.03
Field Moisture Content		%	20.5	20.0	20.0	21.0	20.5	21.5	22.0	19.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4236	4237	4238	4239	4240	4241	4242	4243
Peak Converted Wet Density		t/m³	2.11	2.11	2.11	2.14	2.12	2.14	2.12	2.11
Apparent Optimum Moisture Content		%	20.0	19.5	20.0	20.5	20.0	21.0	21.5	18.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	2-3	2-3	2-3	3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4244	4245	4246	4247	4248	4249	4250	4251
DATE TESTED			29/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96	99	99	98	98.5	98.5	97.5	99
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.5**	**0.0**	**0.0**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296173.899	296173.676	296123.493	296077.45	296094.28	296144.053	296176.274	295211.152
Northing			6268702.898	6268716.368	6268710.656	6268708.826	6268733.955	6268735.581	6268733.999	6268546.837
Reduced Level		m	21.946	21.98	21.916	21.742	21.394	21.866	21.41	26.198
Shown on Drawing No			8599/1-74							8599/1-71
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.04	2.08	2.09	2.08	2.09	2.07	2.08	2.09
Field Moisture Content		%	20.0	19.5	20.5	22.0	20.5	20.5	21.0	22.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4244	4245	4246	4247	4248	4249	4250	4251
Peak Converted Wet Density		t/m³	2.12	2.10	2.11	2.12	2.12	2.10	2.13	2.11
Apparent Optimum Moisture Content		%	19.5	19.5	20.0	21.5	20.0	20.0	21.0	21.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	3	2-3	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4252	4253	4254	4255	4256	4257	4258	4259
DATE TESTED			29/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98.5	97.5	96.5	97	99	100	99	98.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.0**	**0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295247.612	295285.748	295335.247	295362.824	295320.007	295254.546	295227.293	295279.426
Northing			6268540.591	6268535.348	6268528.925	6268546.916	6268551.583	6268559.6	6268577.464	6268578.586
Reduced Level		m	26.558	26.546	26.182	25.692	25.85	25.932	25.214	25.085
Shown on Drawing No			8599/1-71			8599/1-72	8599/1-71			
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.06	2.06	2.07	2.09	2.11	2.09	2.09
Field Moisture Content		%	21.0	20.5	20.5	21.5	22.0	20.5	21.0	21.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4252	4253	4254	4255	4256	4257	4258	4259
Peak Converted Wet Density		t/m³	2.12	2.11	2.13	2.13	2.11	2.11	2.11	2.12
Apparent Optimum Moisture Content		%	20.0	20.0	20.0	21.0	21.5	20.0	20.5	21.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4260	4261	4262	4263	4264	4265	4266	4267
DATE TESTED			29/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98.5	100.5	98	98	98.5	96	96.5	98.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.0**	**0.5**	**0.5**	**0.0**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295335.019	295414.775	295458.946	295488.18	295523.547	295567.521	295574.75	295524.377
Northing			6268572.491	6268533.128	6268522.485	6268511.426	6268492.832	6268486.567	6268499.868	6268508.73
Reduced Level		m	25.248	25.185	25.137	24.932	24.584	24.133	23.667	24.83
Shown on Drawing No			8599/1-71	8599/1-72						
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.10	2.12	2.08	2.07	2.07	2.05	2.06	2.08
Field Moisture Content		%	21.5	21.0	21.5	21.0	22.0	19.5	21.0	21.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4260	4261	4262	4263	4264	4265	4266	4267
Peak Converted Wet Density		t/m³	2.13	2.11	2.12	2.11	2.10	2.13	2.14	2.11
Apparent Optimum Moisture Content		%	21.0	20.5	21.5	20.5	21.5	19.5	20.5	20.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4268	4269	4270	4271	4272	4273	4274	4275
DATE TESTED			29/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98	99	96.5	97	96.5	98	97.5	98.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.5**	**0.5**	**0.5**	**0.0**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295478.053	295418.914	295472.886	295536.538	295574.988	295574.158	295518.972	295446.378
Northing			6268534.419	6268557.763	6268550.814	6268539.1	6268534.508	6268554.161	6268561.797	6268571.853
Reduced Level		m	24.914	24.959	24.839	23.824	23.442	22.914	23.939	24.791
Shown on Drawing No			8599/1-72							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.11	2.04	2.07	2.05	2.06	2.07	2.09
Field Moisture Content		%	20.5	20.0	20.0	21.0	20.0	22.0	22.5	23.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4268	4269	4270	4271	4272	4273	4274	4275
Peak Converted Wet Density		t/m³	2.13	2.13	2.11	2.13	2.12	2.10	2.12	2.12
Apparent Optimum Moisture Content		%	20.5	20.0	19.5	20.5	19.5	22.0	22.0	22.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	2-3	2-3	3	3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4276	4277	4278	4279	4280	4281	4282	4283
DATE TESTED			29/11/2017		30/11/2017					
RESULTS										
Hilf Density Ratio	Standard	%	97	101.5	96	96.5	96.5	97.5	95.5	99
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.0**	**0.0**	**-1.0**	**0.0**	**-0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295490.461	295527.978	295565.017	295568.199	295526.857	295485.099	295488.284	295528.326
Northing			6268572.181	6268565.844	6268559.991	6268546.548	6268550.908	6268556.499	6268540.959	6268533.246
Reduced Level		m	24.246	23.917	23.577	23.584	24.314	24.687	24.813	24.499
Shown on Drawing No			8599/1-72							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.05	2.13	2.04	2.06	2.07	2.10	2.06	2.09
Field Moisture Content		%	22.0	22.5	22.0	22.0	22.0	22.5	21.0	22.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4276	4277	4278	4279	4280	4281	4282	4283
Peak Converted Wet Density		t/m³	2.11	2.10	2.12	2.14	2.14	2.15	2.16	2.11
Apparent Optimum Moisture Content		%	21.5	22.0	22.0	22.5	22.5	22.5	21.0	22.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			1-3	3	3	3	3	3	2-3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4284	4285	4286	4287	4288	4289	4290	4291
DATE TESTED			30/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97	97	96	97.5	99	96.5	98.5	96.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**-0.5**	**0.0**	**0.0**	**-0.5**	**0.0**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295569.999	295580.341	295534.962	295500.728	295502.286	295552.672	295594.031	296068.034
Northing			6268524.3	6268505.254	6268514.502	6268522.411	6268500.477	6268487.049	6268481.6	6268689.492
Reduced Level		m	23.913	23.778	24.682	24.908	24.967	24.292	23.856	21.889
Shown on Drawing No			8599/1-72							8599/1-74
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.09	2.05	2.09	2.11	2.07	2.10	2.07
Field Moisture Content		%	22.5	22.5	21.5	23.0	22.0	22.5	22.5	18.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4284	4285	4286	4287	4288	4289	4290	4291
Peak Converted Wet Density		t/m³	2.13	2.15	2.13	2.14	2.13	2.14	2.13	2.15
Apparent Optimum Moisture Content		%	23.0	22.5	22.0	23.0	22.0	23.0	22.5	19.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	3	3	3	3	3	3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4292	4293	4294	4295	4296	4297	4298	4299
DATE TESTED			30/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97.5	97.5	97	97.5	96.5	95	95.5	98
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.0**	**0.0**	**0.0**	**-1.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296116.933	296168.412	296161.449	296113.699	296076.762	296074.606	296111.698	296165.318
Northing			6268696.384	6268703.797	6268721.604	6268714.984	6268710.668	6268735.951	6268736.459	6268736.84
Reduced Level		m	22.271	22.429	22.113	21.892	21.676	20.952	21.433	21.827
Shown on Drawing No			8599/1-74							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.08	2.06	2.08	2.06	2.04	2.04	2.12
Field Moisture Content		%	18.5	20.0	22.0	21.5	22.0	22.0	23.0	22.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4292	4293	4294	4295	4296	4297	4298	4299
Peak Converted Wet Density		t/m³	2.13	2.13	2.12	2.13	2.14	2.15	2.14	2.16
Apparent Optimum Moisture Content		%	18.5	20.0	22.5	21.5	23.0	22.0	23.0	22.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2-3	3	2-3	3	3	3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4300	4301	4302	4303	4304	4305	4306	4307
DATE TESTED			30/11/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97	97	95.5	96	96.5	96.5	95	95.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**0.0**	**-0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296094.545	296130.408	296158.186	296139.192	296104.551	296093.185	296134.007	296142.098
Northing			6268660.352	6268662.302	6268657.76	6268648.633	6268646.243	6268655.935	6268657.975	6268649.162
Reduced Level		m	22.342	22.236	22.441	22.517	22.476	22.605	22.676	22.84
Shown on Drawing No			8599/1-74							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.07	2.06	2.05	2.08	2.06	2.03	2.06
Field Moisture Content		%	22.0	22.5	22.0	22.0	22.0	23.0	21.5	22.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4300	4301	4302	4303	4304	4305	4306	4307
Peak Converted Wet Density		t/m³	2.15	2.13	2.16	2.14	2.15	2.13	2.14	2.16
Apparent Optimum Moisture Content		%	22.5	22.5	22.5	22.0	22.0	23.0	22.0	22.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	3	3	3	3	3	3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4308	4309	4310	4311	4312	4313	4314	4315
DATE TESTED			30/11/2017			01/12/2017				
RESULTS										
Hilf Density Ratio	Standard	%	97.5	96.5	97	98	96.5	96.5	96.5	98
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**0.0**	**0.0**	**0.5**	**-0.5**	**-0.5**	**0.0**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296108.085	295191.419	295150.796	295098.22	295098.118	295149.268	295203.637	295199.004
Northing			6268642.294	6269082.414	6269080.991	6269076.019	6269059.401	6269062.989	6269062.577	6269051.072
Reduced Level		m	22.87	17.675	17.837	17.331	17.98	18.187	17.931	17.957
Shown on Drawing No			8599/1-74	8599/1-69						
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.06	2.07	2.06	2.07	2.08	2.06	2.09
Field Moisture Content		%	22.0	21.5	22.0	22.0	22.5	22.0	22.5	21.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4308	4309	4310	4311	4312	4313	4314	4315
Peak Converted Wet Density		t/m³	2.13	2.14	2.13	2.10	2.15	2.15	2.13	2.13
Apparent Optimum Moisture Content		%	22.0	21.5	22.0	21.5	22.5	22.0	23.0	21.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	2-3	3	2-3	3	3	3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4316	4317	4318	4319	4320	4321	4322	4323
DATE TESTED			01/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	95	99	98	99	97	96.5	95	98
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**-0.5**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295159.568	295111.495	295067.842	295139.302	295184.721	295178.039	295124.397	295071.079
Northing			6269047.857	6269038.271	6269091.401	6269090.729	6269091.007	6269106.606	6269108.968	6269110.697
Reduced Level		m	18.199	18.37	14.677	15.78	16.654	15.66	15.038	14.6
Shown on Drawing No			8599/1-69							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.02	2.12	2.08	2.11	2.07	2.04	2.03	2.09
Field Moisture Content		%	22.0	21.0	21.5	21.5	21.5	21.5	21.5	21.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4316	4317	4318	4319	4320	4321	4322	4323
Peak Converted Wet Density		t/m³	2.13	2.14	2.12	2.13	2.13	2.11	2.14	2.13
Apparent Optimum Moisture Content		%	22.0	21.0	21.5	21.5	21.5	21.5	21.5	22.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	2-3	2-3	2-3	2-3	3	2-3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4324	4325	4326	4327	4328	4329	4330	4331
DATE TESTED			01/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	100.5	96.5	95	96	96.5	95	96	95.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**0.0**	**0.0**	**-0.5**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295079.698	295132.903	295195.228	296210.4	296179.295	296176.668	296209.108	296231.053
Northing			6269128.13	6269125.269	6269115.76	6268666.984	6268663.953	6268648.268	6268648.888	6268637.964
Reduced Level		m	14.669	14.842	15.706	22.264	22.33	22.552	22.565	22.142
Shown on Drawing No			8599/1-69			8599/1-74				
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.13	2.06	2.03	2.05	2.06	2.03	2.04	2.03
Field Moisture Content		%	21.5	22.0	22.0	20.5	21.5	22.5	22.0	22.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4324	4325	4326	4327	4328	4329	4330	4331
Peak Converted Wet Density		t/m³	2.12	2.13	2.14	2.13	2.13	2.14	2.12	2.13
Apparent Optimum Moisture Content		%	22.0	22.5	22.0	21.0	21.5	22.5	22.0	22.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	3	3	2-3	2-3	3	3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4332	4333	4334	4335	4336	4337	4338	4339
DATE TESTED			01/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96.5	96	96.5	95	96.5	97	96.5	97
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**-0.5**	**0.0**	**0.0**	**0.0**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296180.27	296156.09	296205.367	296219.183	296175.679	296175.771	296223.985	294921.554
Northing			6268632.353	6268655.597	6268663.154	6268648.974	6268646.716	6268628.173	6268631	6268944.222
Reduced Level		m	22.228	22.857	22.685	22.719	22.809	22.466	22.496	17.241
Shown on Drawing No			8599/1-74							8599/1-70
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.06	2.05	2.06	2.02	2.05	2.07	2.06	2.07
Field Moisture Content		%	21.5	20.5	22.0	21.5	21.0	21.5	21.0	21.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4332	4333	4334	4335	4336	4337	4338	4339
Peak Converted Wet Density		t/m³	2.14	2.13	2.14	2.13	2.12	2.13	2.13	2.13
Apparent Optimum Moisture Content		%	21.5	20.5	22.0	21.5	21.0	21.5	21.0	21.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	3	2-3	2-3	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4340	4341	4342	4343	4344	4345	4346	4347
DATE TESTED			01/12/2017	04/12/2017						
RESULTS										
Hilf Density Ratio	Standard	%	96.5	96.5	95	95.5	97	97.5	95.5	95
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**-0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			294913.642	294905.384	294897.683	294891.217	294875.375	294879.65	294884.857	294889.531
Northing			6268912.072	6268867.845	6268829.555	6268791.574	6268790.855	6268833.288	6268877.68	6268913.345
Reduced Level		m	17.434	18.009	18.099	18.736	18.445	18.06	17.896	17.625
Shown on Drawing No			8599/1-70							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.06	2.03	2.03	2.08	2.10	2.03	2.03
Field Moisture Content		%	22.0	21.0	22.0	22.0	20.5	22.0	21.0	21.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4340	4341	4342	4343	4344	4345	4346	4347
Peak Converted Wet Density		t/m³	2.15	2.13	2.14	2.13	2.14	2.15	2.13	2.14
Apparent Optimum Moisture Content		%	22.0	21.5	22.0	22.0	20.5	22.0	21.0	21.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	2-3	3	3	2-3	3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4348	4349	4350	4351	4352	4353	4354	4355
DATE TESTED			04/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97.5	98	98	96	97.5	96.5	96	95.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**-0.5**	**0.0**	**0.0**	**-0.5**	**-0.5**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			294893.976	294875.311	294868.868	294862.542	294855.509	294842.368	294848.689	294855.524
Northing			6268942.906	6268934.836	6268889.252	6268848.402	6268797.434	6268805.665	6268852.908	6268897.424
Reduced Level		m	17.386	17.466	17.795	18.137	18.015	17.399	17.659	17.687
Shown on Drawing No			8599/1-70							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.11	2.09	2.04	2.08	2.08	2.05	2.03
Field Moisture Content		%	21.5	21.0	21.5	21.5	21.0	21.5	21.5	21.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4348	4349	4350	4351	4352	4353	4354	4355
Peak Converted Wet Density		t/m³	2.12	2.15	2.13	2.13	2.13	2.15	2.14	2.13
Apparent Optimum Moisture Content		%	21.5	21.0	21.5	21.5	21.5	21.5	21.5	21.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4356	4357	4358	4359	4360	4361	4362	4363
DATE TESTED			04/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96	97.5	97	95	97	100	97	99.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**-0.5**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			294862.623	295820.02	295860.412	295893.888	295900.435	295872.755	295835.545	295845.692
Northing			6268944.363	6269859.231	6269846.154	6269830.437	6269844.409	6269858.453	6269875.781	6269888.589
Reduced Level		m	17.475	18.636	19.151	19.455	19.64	19.433	18.98	19.096
Shown on Drawing No			8599/1-70	8599/1-65						
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.03	2.09	2.06	2.03	2.08	2.13	2.08	2.12
Field Moisture Content		%	21.0	21.0	21.0	21.5	21.0	21.5	20.5	21.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4356	4357	4358	4359	4360	4361	4362	4363
Peak Converted Wet Density		t/m³	2.12	2.14	2.12	2.14	2.14	2.13	2.14	2.13
Apparent Optimum Moisture Content		%	21.0	21.5	21.5	21.5	21.5	21.5	20.5	21.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 20/12/2017

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER		4364	4365	4366					
DATE TESTED		04/12/2017							
RESULTS									
Hilf Density Ratio Standard	%	95.5	97.5	98.5					
Moisture Variation from OMC (-Drier/+Wetter)	%	**0.0**	**-0.5**	**0.0**					
Specification Density Ratio (Standard)		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION									
Easting		295894.702	295848.101	295887.57					
Northing		6269863.288	6268628.765	6268632.723					
Reduced Level	m	19.486	18.978	19.108					
Shown on Drawing No		8599/1-65	8599/1-74						
Retested by Test		-	-	-					
FIELD & LABORATORY DATA									
Field Wet Density	t/m³	2.03	2.10	2.09					
Field Moisture Content	%	21.5	20.0	21.0					
Material retained on 19mm Sieve (wet)	%	<5	<5	<5					
Lab Compaction result from test number		4364	4365	4366					
Peak Converted Wet Density	t/m³	2.13	2.15	2.12					
Apparent Optimum Moisture Content	%	22.0	20.5	21.0					
Number of Compaction Points		3	3	3					
Test Procedures - See Note Number		12	12	12					
Material Description - see below		2-3	2-3	2-3					

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

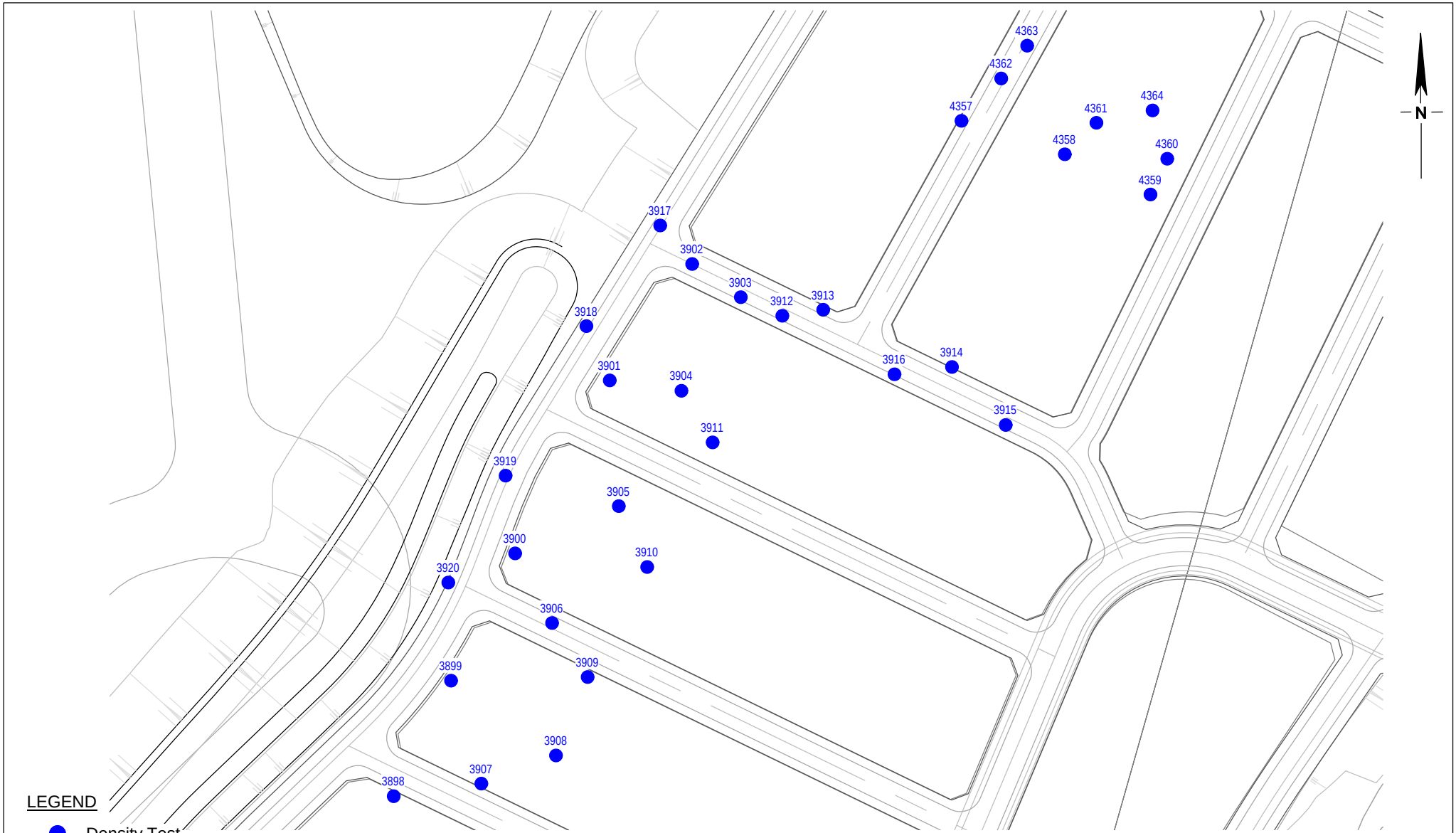
Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 20/12/2017
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au



GEOTECH TESTING PTY LTD®
34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321
Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

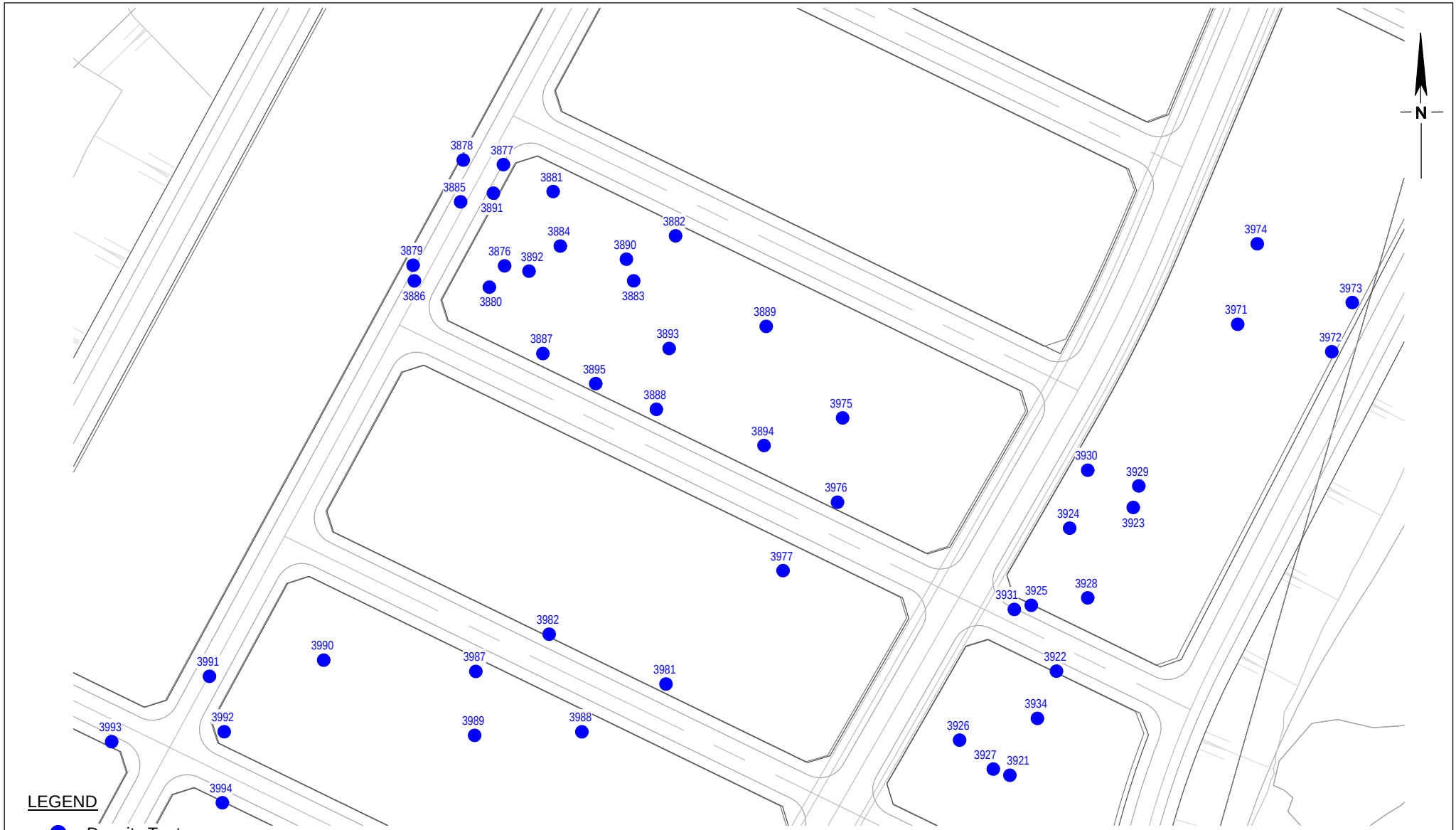
1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-65
Job No: 8599/1
Drawn By: MH
Date: 20 December 2017
Checked By: AK

File No: 8599-1
Layers: 0, Lay65



GEOTECH TESTING PTY LTD®
34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321
Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

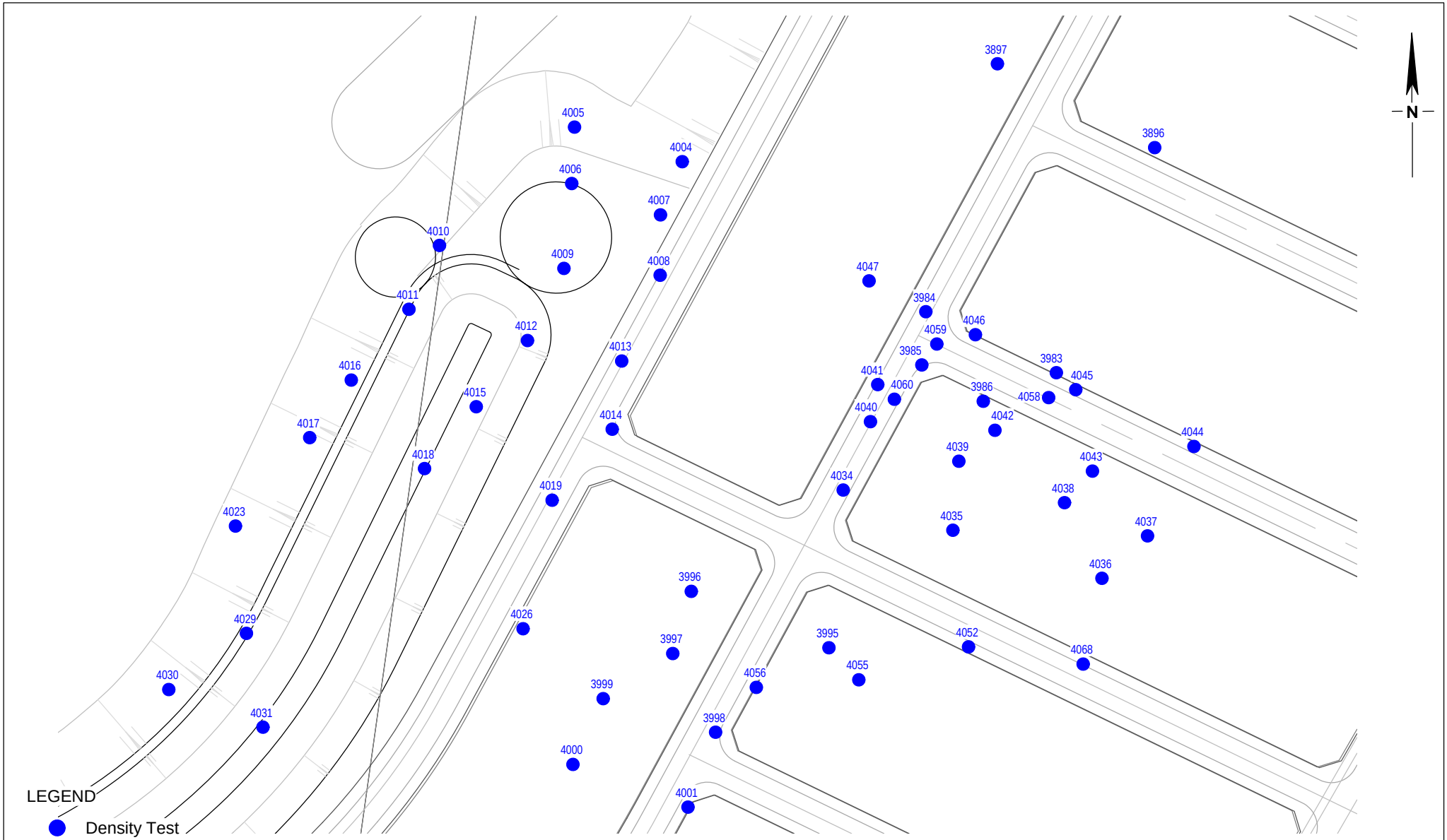
1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-66
Job No: 8599/1
Drawn By: MH
Date: 20 December 2017
Checked By: AK

File No: 8599-1
Layers: 0, Lay66



GEOTECH TESTING PTY LTD ®
34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321
Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

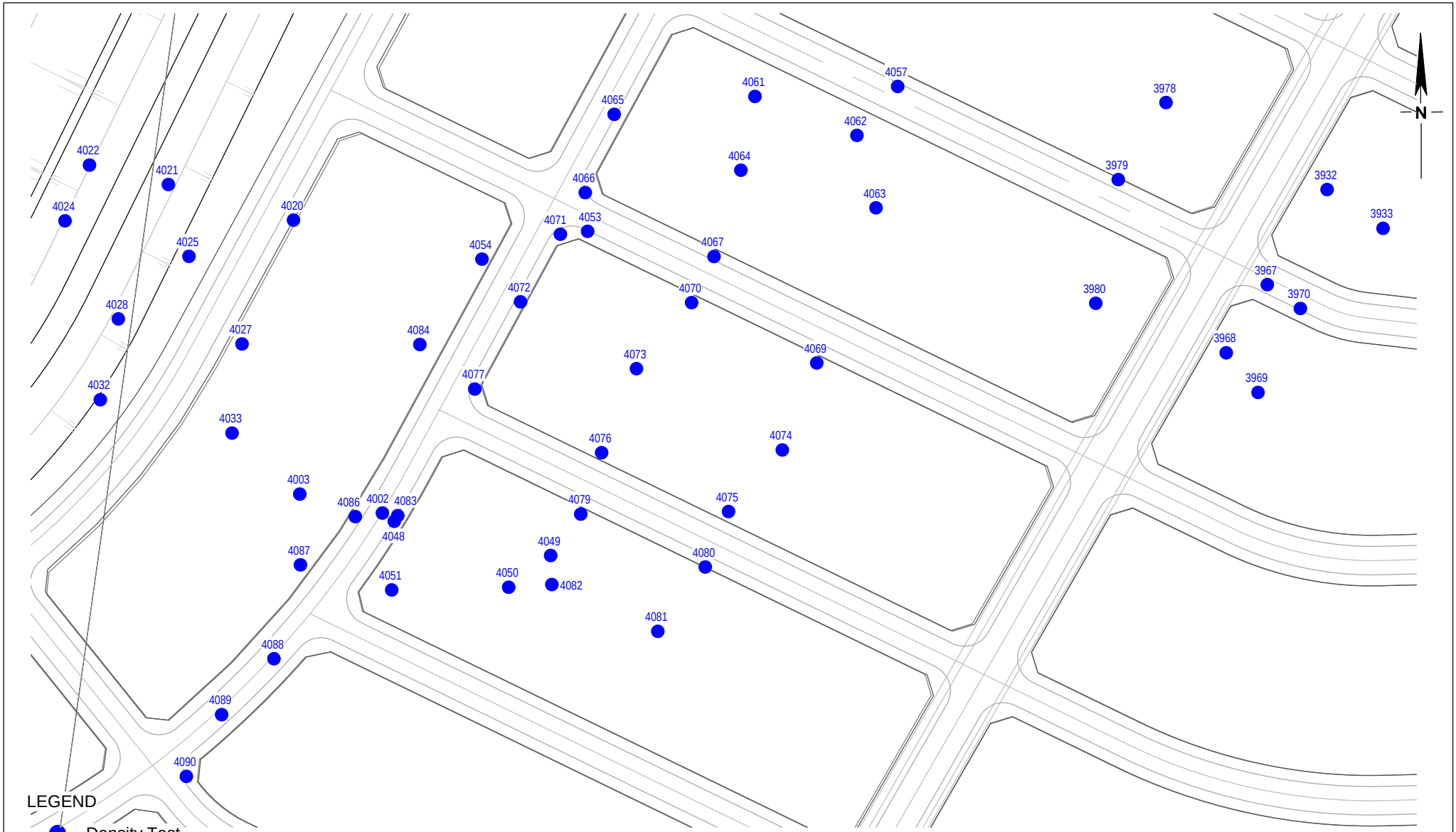
1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-67
Job No: 8599/1
Drawn By: MH
Date: 20 December 2017
Checked By: AK

File No: 8599-1
Layers: 0, Lay67



GEOTECH TESTING PTY LTD®
34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321
Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

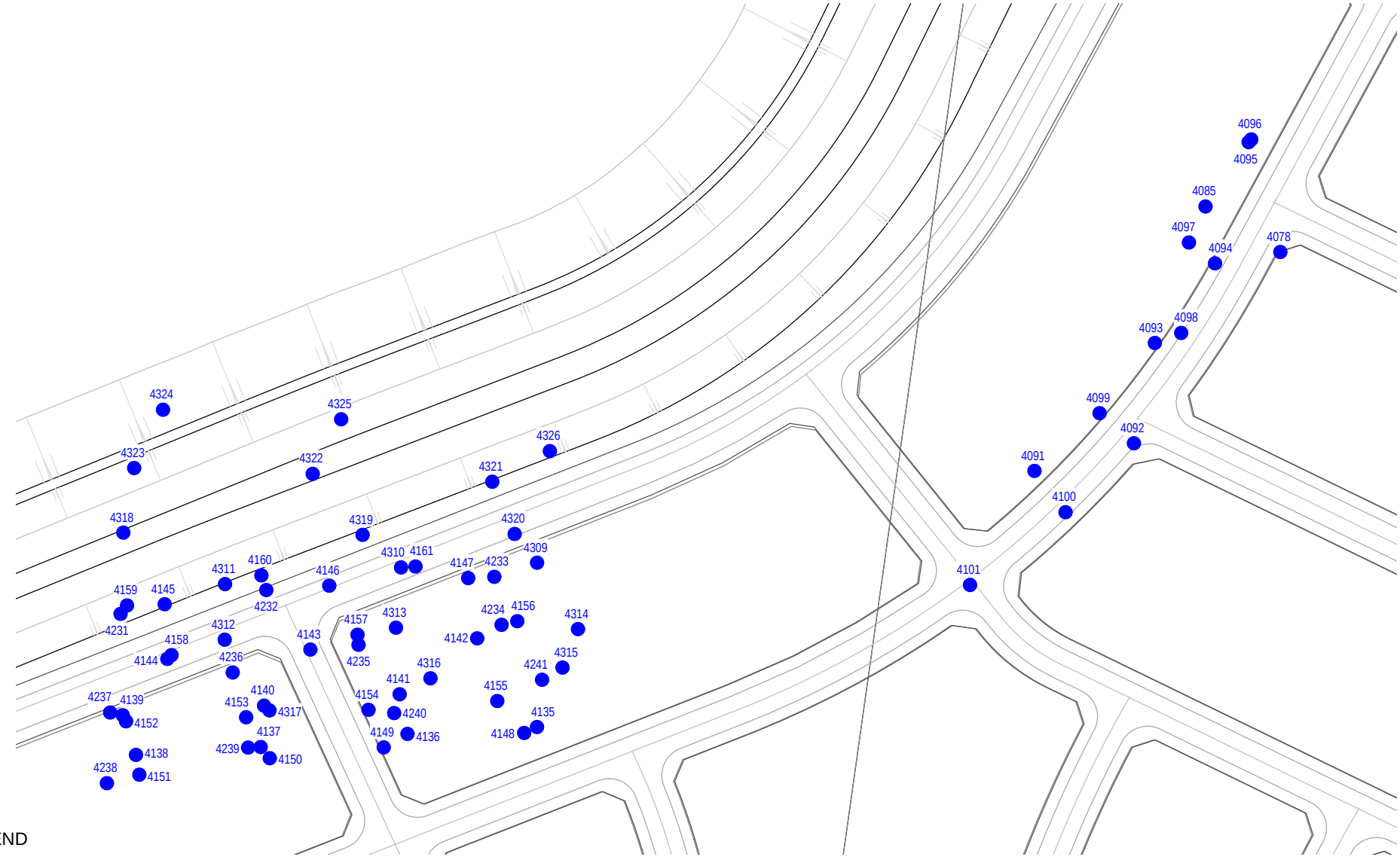
1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-68
Job No: 8599/1
Drawn By: MH
Date: 20 December 2017
Checked By: AK

File No: 8599-1
Layers: 0, Lay68



GEOTECH TESTING PTY LTD®
34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321
Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-69
Job No: 8599/1
Drawn By: MH
Date: 20 December 2017
Checked By: AK

File No: 8599-1
Layers: 0, Lay69

LEGEND

● Density Test

GEOTECH TESTING PTY LTD®

34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321

Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

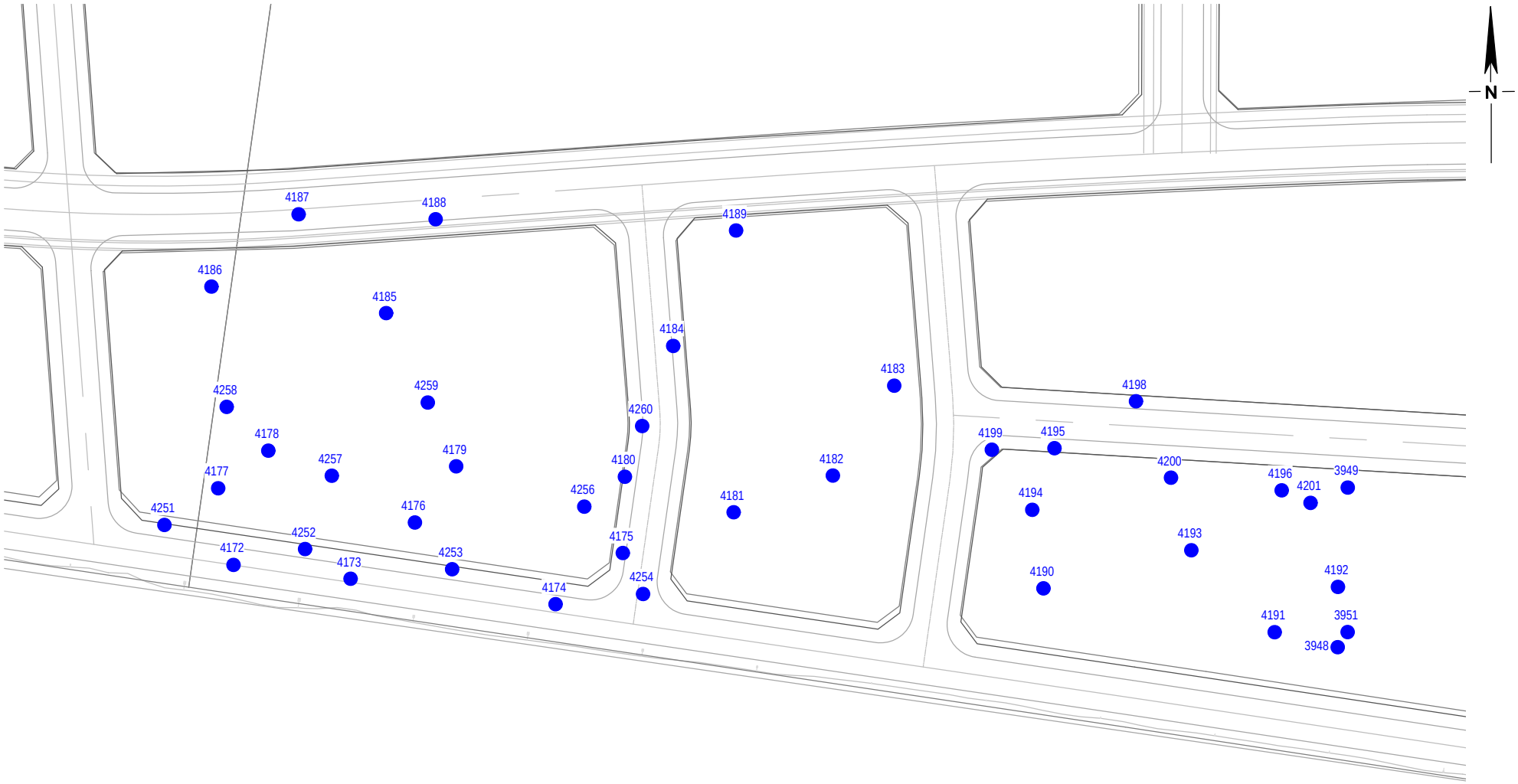
1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-70
Job No: 8599/1
Drawn By: MH
Date: 20 December 2017
Checked By: AK

File No: 8599-1
Layers: 0, Lay70



LEGEND

● Density Test

GEOTECH TESTING PTY LTD®
34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321
Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

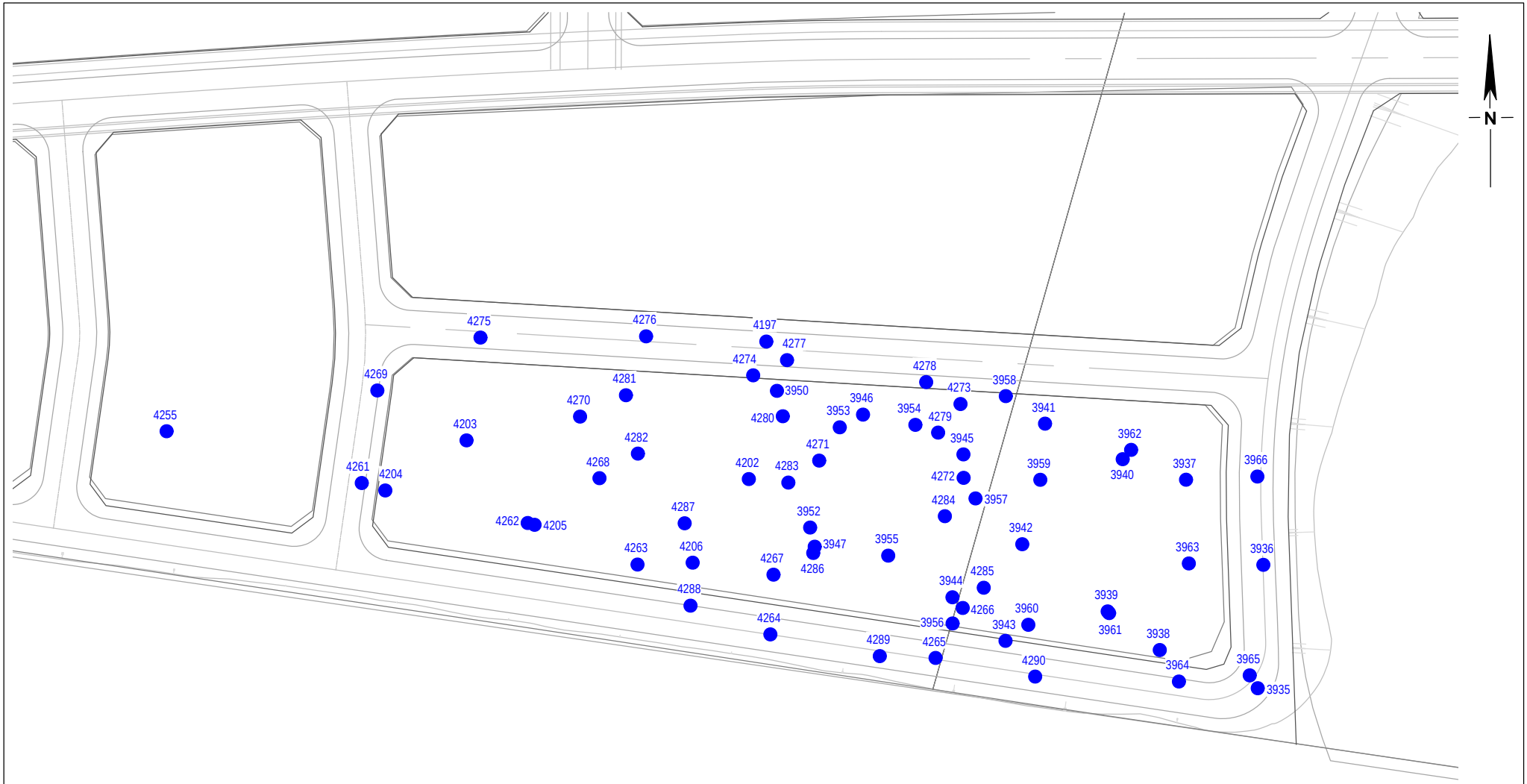
1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-71
Job No: 8599/1
Drawn By: MH
Date: 20 December 2017
Checked By: AK

File No: 8599-1
Layers: 0, Lay71



LEGEND

● Density Test

GEOTECH TESTING PTY LTD®
34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321
Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

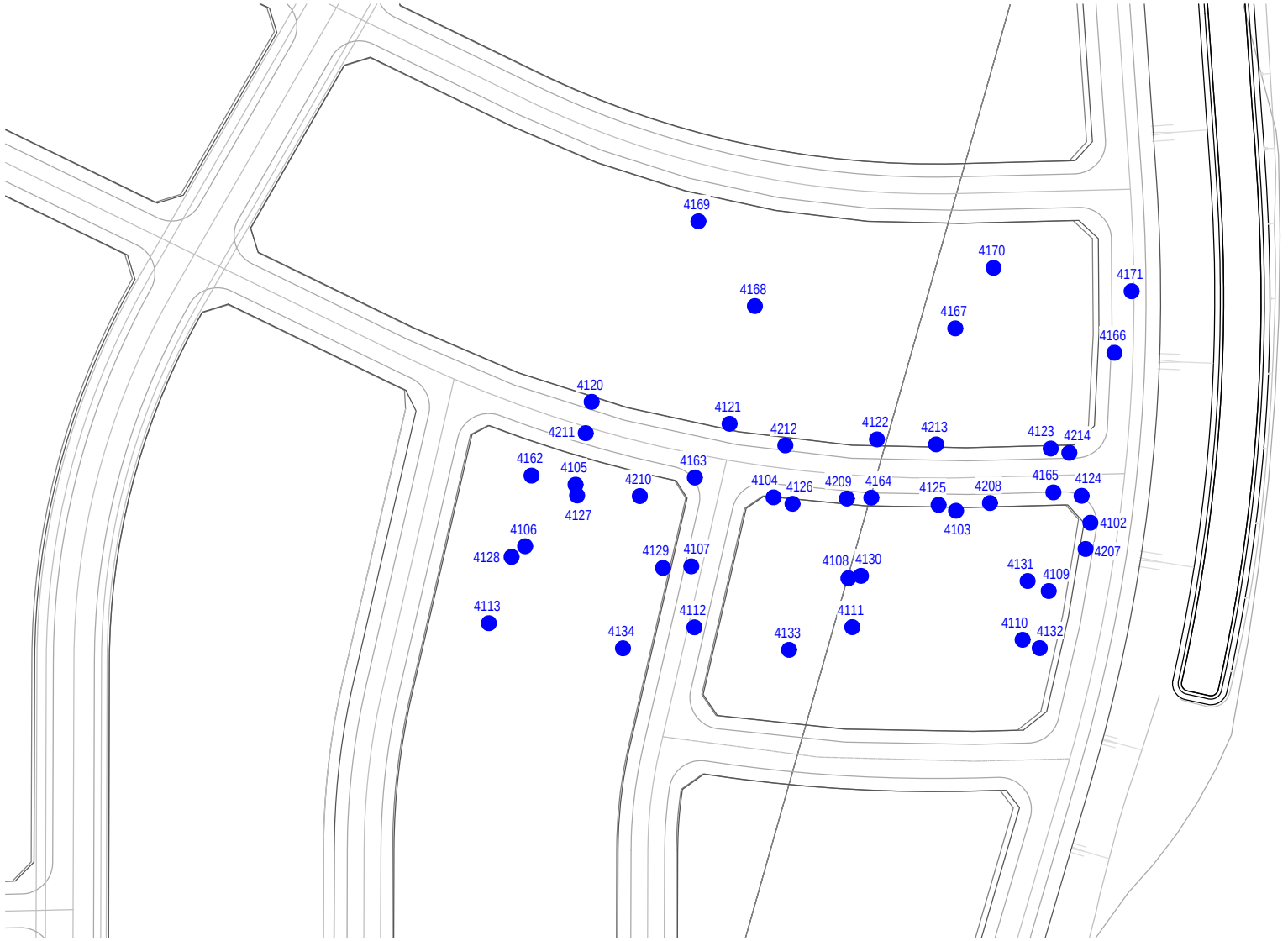
1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-72
Job No: 8599/1
Drawn By: MH
Date: 20 December 2017
Checked By: AK

File No: 8599-1
Layers: 0, Lay72



LEGEND

● Density Test

GEOTECH TESTING PTY LTD®
34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321
Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-73
Job No: 8599/1
Drawn By: MH
Date: 20 December 2017
Checked By: AK

File No: 8599-1
Layers: 0, Lay73

LEGEND

● Density Test

GEOTECH TESTING PTY LTD®
34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321
Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-74
Job No: 8599/1
Drawn By: MH
Date: 20 December 2017
Checked By: AK

File No: 8599-1
Layers: 0, Lay74

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System Quality ISO 9001 SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	200
Location:	Marsden Park	Report Date:	15 / 11 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 1700

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 20	TEST NO'S 3876 - 3899 / 24
APPROVED SUBGRADE	SUBGRADE 19	TEST NO'S 3900 - 3922 / 23

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments
TEMP SUBGRADE	SUBGRADE TEMP	TEST NO'S 3923 - 3936 / 14

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

ROAD TRUCKS CARTING FILL MATERIEL FROM DESIGNATED SITES AROUND SYDNEY TO APPROVED SUBGRADE 12
825 COMPACTOR RUNNING OVER THE TOP PUSHING OF THE FACE WHILE WATER CART SPRAYING AS MATERIEL IS PLACED

5. Instructions given on site

ALSO ROAD TRUCKS CARTING SANDSTONE TO THE BOXED OUT ROAD AREAS WITH 825 PUSHING AND COMPACTING IN APPROX 150MM LAYER
2x 627 SCRAPERS TOPSOILING FSL PADS 10, 11 IN SPOTS IT STILL NEEDS TO COME UP APPROX 500MM

COMMENTS: 6x 627 SCRAPERS CARTING CUT TO FILL MATERIEL FROM * CUT ZONE 6 AND PLACED OVER SG 15, 16 825 COMPACTOR ALSO PUSHING DOWN SOUTH AGAINST HALL ROAD TO SUBG 5, 2x D8 DOZERS TRIMMING BATTERS AND PADS WHERE PADS ARE CLOSE TO FINISHED

Signed: Date: 15-11-17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	201
Location:	Marsden Park	Report Date:	16 /11 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 1700

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 12	TEST NOS 3937-3968 / 32
TEMP SUBGRADE	TEMP	3969-3982 / 14

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 21	TEST NOS 3983-4003 / 23

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

2x 825 COMPACTORS PUSHING FILL MATERIEL WEST DOWN SUBGRADE 21 TOWARDS STONEY CREEK ROAD
7x 627 SCRAPERS PICKING UP MATERIEL ALL OVER WHERE SPOTS ARE HIGH OR FROM ROADS BEING BOXED OUT ALONG WITH 2x D8 DOZERS PUSHING UP

5. Instructions given on site

TRIMMED MATERIEL FOR SCRAPER PICK UP
GRADER PUSHING STOCKPILED SANDSTONE AROUND ON ROADS WAITING FOR MORE MATERIEL TO ARRIVE BY ROAD TRUCK AND DOG
30,000LTR WATERCART SPRAYING HAUL ROAD AND FILL AREAS BETWEEN LOADS

COMMENTS:

Signed: Date: 16.11.17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System Quality ISO 9001 SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	202
Location:	Marsden Park	Report Date:	17 /11 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 1700

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 21	TEST NO'S 4006-4058 / 53

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

6x 627 SCRAPERS BOXING OUT ROADS IN APPROVED SUBGRADE (21) EXCESS MATERIEL IS PLACED IN LOW AREAS AROUND (S4) L1 2x 825 COMPACTORS WORKING MATERIEL TO THE EAST WHILE GRADER TRIMMING AREA TO DESIGN ALONGSIDE 2x D8 DOZERS

5. Instructions given on site

1x GRADER MAKING PADS WATER RUNOFF SAFE AS 4x DAYS RAIN PREDICTED WATER WILL RUN THROUGH SILT FENCE'S PLACED
2x 627 SCRAPERS PLACING TOPSOIL OVER FSL (S4) 10 FROM STOCKPILED MATERIEL PREVIOUSLY PLACED

COMMENTS:

Signed: Date: 17.11.17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	203
Location:	Marsden Park	Report Date:	20 / 11 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 1706

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 21	TEST NOS : 4057-4083 / 27

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

2x 627 SCRAPERS PLACING TOPSOIL ON FSL PADS IN APPROVED SUBGRADE 21 FROM PREVIOUS STOCKPILED MATERIAL GRADER PUSHING TOPSOIL OVER IN APPROX 100mm LAYER FOR COVER

4x 627 SCRAPERS REMOVING OF CUT MATERIAL FROM HIGH AREAS AROUND

5. Instructions given on site

APPROVED SUBGRADED AND PLACED IN (S4) 21 825 PUSHING AND COMPACTING ALONG WITH WATERCART SPRAYING AND TYRE ROLLING TO HIEP

ALSO ROAD BEING BOXED IN (S4) 21 MATERIAL REMOVED TO BE PLACED IN THE SAME AREA FOR FURTHER LIFT OVER TOP

COMMENTS:

Signed:

Date: 20.11.17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	204
Location:	Marsden Park	Report Date:	21 /11 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 1700

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 21	TEST NO'S 4086-4103 18/18

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

JB RIPPING MAIN HAUL ROAD FROM SYDNEY CK ENTRANCE TO CRIB SHEDS
4x 627 SCRAPERS PICKING UP MATERIEL AND BEING PLACED IN (SL) 16-14 825 COMPACTOR PUSHING AND ROLLING MATERIEL INTO BOXED OUT ROAD FOR SUBGRADE LEVEL

5. Instructions given on site

ALSO 4x 627 SCRAPERS CARTING CUT TO FILL TO (SL) 10,12 MATERIEL PICKED UP FROM HIGH SPOTS AROUND AND PLACED IN LOW AREAS
ALSO 1x 825 COMPACTING AREAS UP FOR AND AROUND BOXED OUT ROADS FOR A SUBGRADE LEVEL READY FOR SMOOTH DRUM ROLLER

COMMENTS:

Signed: Date: 21-11-17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	205
Location:	Marsden Park	Report Date:	22 / 11 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 1700

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADES 10, 12	TEST NO'S 4104-4115 1/12
APPROVED SUBGRADE	SUBGRADES 14, 15	TEST NO'S 4116-4121 1/6

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

5x 627 SCRAPERS REMOVING OF MAIN HAUL ROAD INTO WORKS AND PLACING CUT IN (SG) 14,15 ALONG PROPOSED ROAD 825 COMMPACTOR PUSHING AND ROLLING TO THE NORTH WHILST DS CONTINUES RIPPING FOR EASY LOAD UP AND REMOVAL
4x 627 SCRAPERS CUTTING AND BUILDING OUT ROAD THROUGH SUBGRADE 12 REMOVED

5. Instructions given on site

MATERIAL IS PLACED ON (SG) 12 SINGLE PASS 825 COMMPACTOR ALSO COMMPACTING AND PUSHING TO THE EAST
GRADER TRIMMING PADS TO FILE ALONG WITH WATERCART SPRAYING 10PS AS NEEDED

COMMENTS:

Signed:

Date: 22/11/17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	206
Location:	Marsden Park	Report Date:	23 / 11 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 1700

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADES 10,12	TEST NO'S : 4122-4136 / 15
APPROVED SUBGRADE	SUBGRADES 15·18	TEST NO'S : 4137-4148 / 17

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

2x 627 SCRAPERS TOPSOILING FINISHED GAS FILES FROM STOCKPILED MATERIEL UP TO BOXED ROAD HEIGHT
08 RIPPING ROADS DOWN TO LEVEL FOR SCRAPERS TO PICK UP AND PLACE IN SUBGRADE 1 8 825 COMPACTOR PROVING AND WORKING PAD

5. Instructions given on site

ALSO 4x 627 SCRAPERS HAULING TO (S4) 10,12 FROM ROAD WHERE NEOS LEFT AND 825 COMPACTOR WORKING AREA TO BRING IT TO BEGIN 100MM FOR TOPSOIL PLACEMENT
MATERIEL IN ROUNDABOUT ZONE (K) IS HEAVY CLAY UNSUITABLE FOR

COMMENTS: PAVEMENT 08 AND 2x 627 SCRAPERS REMOVING UNTIL SOLID GROUND ACHIEVED FOR SUBGRADE PREP
APPROX 600MM FROM SUBGRADE LEVEL REMOVED

Signed: Date: 23.11.17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	207
Location:	Marsden Park	Report Date:	24 / 11 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630
Time off site: 1700

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADES 15, 18	TEST NO'S 4149-4162 / 14
APPROVED SUBGRADE	SUBGRADES 10, 12	TEST NO'S 4163-4172 / 10

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

5. Instructions given on site

4x 627 SCRAPERS BOXING OUT ROADS IN ZONE(S) OF PLACING PROPOSED AREA CUT MATERIAL PLACED IN FOLL SPOT TO RIE EAST IN SUBGRADE'S 15, 18
825 COMPACTOR PASSING AND COMPACTING PASSING NORTH TO (BOT)
TAE UNSUITABLE MATERIAL FROM ROAD / ROUNDABOUT REMOVED GOOD BASE

COMMENTS: IRONSTONE MATERIAL VISABLE
3x 627 SCRAPERS PLACING TOPSOIL OVER FINISHED PADS / LOTS FROM PREVIOUS STOCKPILED MATERIAL
GRADER TRIMMING TOPSOILED PADS WHERE SCRAPERS PLACING

Signed: Date: 24-11-17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System Quality ISO 9001 SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	208
Location:	Marsden Park	Report Date:	27 /11 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630
Time off site: 1900

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	APPROVED SUBGRADE 12	TEST NO'S 4173-4197 /25 / 1

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

5x SCRAPERS CARTING CUT TO FILL FROM [illegible] ROAD INTO JOB MATERIAL PLACED IN (SG)12 825 COMPACTOR PUSHING EAST TOWARDS (SG)11 INTO BMD WORKS
4x 627 SCRAPERS CARTING TOPSOIL FROM STOCKPILED MATERIAL PLACING OVER

5. Instructions given on site

ESI PADS ALONGSIDE STONEY CREEK ROAD
GRADER TRIMMING ROADS/SUBGRADES CLOSE TO FILL ESI WATER IN LOW AREAS GRADER MAKING RUNNOFF AREA DOWN TO STORMWATER SILT FENCE
2x D8 DOZERS RIPPING FOR SCRAPER PICK UP

COMMENTS:

Signed: [signature] Date: 27.11.17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System Quality ISO 9001 SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	208
Location:	Marsden Park	Report Date:	28 / 11 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 1700

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 12, 12	TEST NOS 4198-4215 / 18
APPROVED SUBGRADE	SUBGRADE 11 - END	TEST NOS 4216-4232 1/17

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

3x 637 SCRAPERS LOADING CUT TO FILL MATERIAL FROM BULK SITE AREA TO (S4)11 ALONG 2x 20T DUMP TRUCKS LOADED BY 20T EXCAVATOR 321 DUMPING & SPREADING PLACED MATERIAL EAST TO BASIN SUBGRADE MATERIAL SPREADING AS NEEDED / PLACED

5. Instructions given on site

2x 627 SCRAPERS TOPSOILING FSL PADS / SUBGRADES WHICH UNDER TRIMMING UP TO LEVEL AS TEST POINTS BELOW
2x D8 DOZERS RIPPING IN S4 FOR 6x 627 SCRAPERS TO PICK UP AND PLACE IN (S4)12 WHEEL ROLLING FOR NON UNIF. 825 COMES FROM (S4) 14 TO

COMMENTS: COMPACT WHAT HAS BEEN PLACED IN (S4)12

Signed: Date: 28-11-17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System Quality ISO 9001 SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	209
Location:	Marsden Park	Report Date:	29 / 11 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 1700

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 15	TEST NO'S 4233-4243 / 11
APPROVED SUBGRADE	SUBGRADE 11	TEST NO'S 4244-4252 C/9

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 12	TEST NO'S 4253-4277 / 25

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

5 3x 637 SCRAPERS CARRYING CUT TO FILL MATERIEL FROM (S4) LOWERING 2x D8 DOZERS RIPPING EXISTING HAUL ROADS FOR FILL
MATERIEL PLACED IN (S4) 12 FAR EAST END 825 COMPACTOR PUSHING FOR NEXT LIFT/LAYER NEAR CULVERT

5. Instructions given on site

3x 637 SCRAPERS FROM B4 MINING PLACING IN (S4) 11 BMD SITE MATERIEL HAULED FROM FAR SIDE TO 825 COMPACTOR ALSO 3x 30t AMAROOKS LOADED BY 20t EXCAVATOR FROM STOCKPILED MATERIEL TO BE PLACED ALSO IN (S4) 11

COMMENTS: 3x DUMPTRUCKS CARRYING STOCKPILED MATERIEL FROM ZONE(D) OVER THE OTHER SIDE OF WORKS
GRADER PUSHING SANDSTONE IN BOXED OUT ROADS 825 ROLLING READY FOR SMOOTH DRUM

Signed: Date: 29.11.17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	210 30
Location:	Marsden Park	Report Date:	29/11/2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630
Time off site: 1700

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 12	TEST NO'S 4278-4292/15
APPROVED SUBGRADE	SUBGRADE 11, BMD	TEST NO'S 4293-4310/18

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

TRUCK AND DOGS CARRYING IMPORT FROM DESIGNATED SITES MATERIEL IS BEING PLACED IN (54) 16 ALONGSIDE STONEY CK ROAD MATERIEL PLACED PUSHED OF THE FACE WITH 825 COMPACTOR
4x 627 SCRAPERS CARRYING CUT TO FILL FROM BORROW ZONES (54) 12

5. Instructions given on site

AND PLACING IN LOW AREAS ALSO 825 PUSHING AND COMPACTING NEXT LOWER AND LAYERS
3x 637 BH SCRAPERS PLACING IN (54) 11 WITH BMD MACHINES ALSO 3x 301 SCRAPTRUCKS LOADED BY 20T EXCAVATOR WITH 825 ALSO

COMMENTS:

Signed: Date: 30.11.17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System Quality ISO 9001 SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	211
Location:	Marsden Park	Report Date:	01 /12 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630
Time off site: 1700

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 15	TEST NO'S 4311 - 4319 - 19
APPROVED SUBGRADE	SUBGRADE 18	TEST NO'S 4320 - 4328 /9

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 11 - BMD	TEST NO'S 4329-4340 /12

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

08 RIPPING HIGH AREA (SL4) & 4X 627 SCRAPERS PICKING UP AND PLACING OVER (SL4)09 WATERCART SPRAYING AS 825 COMPACTOR PUSHES NORTH FOR FILL ~~FILL~~ OVER PAD
2X 627 ALONG WITH 08 AND GRADER BOXING OUT ROADS THROUGH SL 10

5. Instructions given on site

READY FOR SUBGRADE REPLACEMENT/SANDSTONE WHITE
3X 637 SCRAPERS LOADING FROM BMD SITE WITH 3X 30T DUMPTRUCKS TO (SL4)11
825 COMPACTOR WORKING EAST FOR TOP LAYERS OVER WHOLE AREA
LOW SPOTS NEAR BOY SILT FENCE CREEK

COMMENTS:

Signed: Date: 01.12.17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System Quality ISO 9001 SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	212
Location:	Marsden Park	Report Date:	04 / 11 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 1700

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 16	TEST NO'S 4341-4358 18
APPROVED SUBGRADE	SUBGRADE'S 09-09	TEST NO'S 4359-4366 8

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

5. Instructions given on site

COMMENTS:

Signed: Date: 04-11-17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

SUBGRADE APPROVAL REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	S 13
Location:	Marsden Park	Report Date:	21.09 / /2017
Subgrade Inspection Report		Technician:	Heath Wilson

Subgrade areas assessed

Area ID	Date	Approximate extent	Subgrade Description	Geometry Summary	Survey Reference	Approved (Yes/No)
8599/1 - SUBGRADE 13	21.09.17	5713 m² 1.279 ACRE	(CH)(CLAY) MED PLAST ORANGE BROWN LOW GRAVELS LOW SILTY AREA AROUND DAM	BIG DOG LEG BOY SLOPES TO THE WEST DAM		Y
			TOPSOIL STRIPPED STOCKPILED AND UNDER TINED FLOOR BEFORE			
			PLACEMENT			

COMMENTS:

Signed: Date: 21.09.17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System Quality ISO 9001 SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

SUBGRADE APPROVAL REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	S 20
Location:	Marsden Park	Report Date:	15·11 / /2017
Subgrade Inspection Report		Technician:	Heath Wilson

Subgrade areas assessed

Area ID	Date	Approximate extent	Subgrade Description	Geometry Summary	Survey Reference	Approved (Yes/No)
8599/1 SUBGRADE 20	15-11-17	19801m² 4.893 ACRE	MED PINK, BROWN, ORANGE LOW - MED GRAVEL FRAGS ALL TOPSOIL STOCKPILED	SQUARE AREA SLIVE BAIZE TO THE WEST		Y

COMMENTS:

Signed: Date: 15-11-17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System Quality ISO 9001 SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734   Corporate Site No 2727

SUBGRADE APPROVAL REPORT

Client: Daracon Contractors Pty Ltd	Project No: 8599/1
Project: Woorong Bulk Earthworks	Report No: S 21
Location: Marsden Park	Report Date: 16-11 / /2017
Subgrade Inspection Report	Technician: Heath Wilson

Subgrade areas assessed

Area ID	Date	Approximate extent	Subgrade Description	Geometry Summary	Survey Reference	Approved (Yes/No)
SUBGRADE 21 8599/1	16.11.17	126779m² 31 328 ACRE	(CI) CLAY MED PLAST BROWN SILTY SPOTS LOW GRAVEL TRACES	SQUARE SHAPED AREA WITH OUT LETS TO THE WEST		Y

COMMENTS:

Signed: [signature]   Date: 16.10.17

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

Our Ref: 8599/1-R12
25 January 2018

Daracon Contractors Pty Ltd
P O Box 6145
SILVERWATER BC NSW 1811
Email: SimpsonW@daracon.com.au

Attention: Mr S Wong

Dear Sir

Re: **Woorong Bulk Earthworks**
Marsden Park
Monthly Site Filling Certificate – January 2018

For the production period 5 December 2017 to 18 January 2018 inclusive, we submit our Geotech Monthly Report for the above project.

During the foregoing testing period, a total of six hundred & nine compaction control tests (Tests 4367 to 4975 inclusive) were carried out and reported. The locations of the 609 tests are shown on the attached Drawing Nos 8599/1-75 to 8599/1-82, inclusive (8 drawings). All tests have been undertaken in accordance with the Test Methods and Specifications shown on the attached certificates. Scanned daily records and subgrade reports are also attached.

Based on the fill quantities/survey data, the frequency of field density and compaction tests was in accordance with Level 1 as defined in AS3798 “Guidelines on Earthworks for Commercial & Residential Development”. We certify that all tested locations attained the density ratio shown on the test results sheets. Where failures were encountered, the areas were re-worked and re-tested to achieve the specified density ratio.

Based on site observations and testing, it is considered that the fill placed to date at the locations shown on the attached drawings is classified as "Controlled" fill and that the specified compaction level has been achieved within the tested area.

If you have any questions, please do not hesitate to contact the undersigned.

Yours faithfully
GEOTECH TESTING PTY LTD

Adrian Kench
Laboratory Manager

Attached Density Test Results Certificates Tests 4367 to 4975
Test Location Drawings 8599/1-75 to 8599/1-82
Daily Records

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4367	4368	4369	4370	4371	4372	4373	4374
DATE TESTED			05/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98.5	98	95	97	96	96.5	97	97
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**1.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295941.929	295967.112	295920.108	295872.479	295858.251	295906.532	295957.774	296226.64
Northing			6268637.699	6268620.675	6268616.065	6268611.96	6268599.864	6268594.33	6268598.989	6268711.205
Reduced Level		m	19.826	20.282	19.658	19.327	18.988	19.501	20.443	19.113
Shown on Drawing No			8599/1-80							8599/1-81
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.09	2.02	2.08	2.04	2.06	2.06	2.07
Field Moisture Content		%	16.5	16.0	16.0	17.0	16.5	16.0	16.5	16.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4367	4368	4369	4370	4371	4372	4373	4374
Peak Converted Wet Density		t/m³	2.11	2.13	2.13	2.14	2.12	2.13	2.12	2.13
Apparent Optimum Moisture Content		%	16.0	15.5	15.5	16.0	16.0	15.5	15.5	16.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4375	4376	4377	4378	4379	4380	4381	4382
DATE TESTED			05/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	95.5	96	98	97.5	99.5	99.5	96.5	98.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296235.613	296204.804	296202.886	296204.35	296181.123	296153.887	295068.44	295107.394
Northing			6268735.295	6268744.1	6268762.229	6268784.676	6268773.739	6268760.709	6269086.819	6269090.685
Reduced Level		m	18.545	18.704	18.429	18.093	18.361	18.68	14.859	15.723
Shown on Drawing No			8599/1-81						8599/1-77	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.04	2.03	2.07	2.06	2.11	2.11	2.06	2.09
Field Moisture Content		%	16.0	16.0	16.5	15.5	15.5	16.5	16.5	16.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4375	4376	4377	4378	4379	4380	4381	4382
Peak Converted Wet Density		t/m³	2.14	2.12	2.11	2.11	2.12	2.12	2.14	2.12
Apparent Optimum Moisture Content		%	15.5	15.0	16.0	15.0	15.0	16.0	16.0	16.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4383	4384	4385	4386	4387	4388	4389	4390
DATE TESTED			06/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	99.5	96	97	97.5	96	98.5	98.5	96
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**0.5**	**0.5**	**0.0**	**0.5**	**0.0**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295146.879	295183.201	295190.39	295149.316	295114.754	295077.476	295070.931	295108.608
Northing			6269091.145	6269089.411	6269102.165	6269104.657	6269104.744	6269102.352	6269118.579	6269121.939
Reduced Level		m	16.189	16.657	16.436	15.807	15.494	14.935	14.784	15.155
Shown on Drawing No			8599/1-77							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.13	2.04	2.08	2.06	2.03	2.09	2.10	2.03
Field Moisture Content		%	16.5	16.0	16.0	15.5	16.5	16.5	16.0	16.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4383	4384	4385	4386	4387	4388	4389	4390
Peak Converted Wet Density		t/m³	2.14	2.12	2.14	2.11	2.12	2.12	2.13	2.11
Apparent Optimum Moisture Content		%	17.0	16.0	15.5	15.5	16.0	16.0	16.0	16.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4391	4392	4393	4394	4395	4396	4397	4398
DATE TESTED			06/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98	96.5	98	96	97	96.5	98	97.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295157.438	295969.377	295925.313	295873.664	295863.056	295911.927	295961.284	295980.552
Northing			6269119.882	6268726.607	6268723.912	6268719.711	6268702.551	6268702.931	6268705.182	6268683.375
Reduced Level		m	15.209	19.477	19.429	19.274	19.424	19.929	20.09	20.483
Shown on Drawing No			8599/1-77	8599/1-80						
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.07	2.09	2.03	2.06	2.06	2.10	2.09
Field Moisture Content		%	16.0	16.5	16.5	16.0	16.0	16.0	16.0	16.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4391	4392	4393	4394	4395	4396	4397	4398
Peak Converted Wet Density		t/m³	2.12	2.14	2.13	2.12	2.12	2.13	2.14	2.14
Apparent Optimum Moisture Content		%	16.0	16.0	16.0	16.0	15.5	15.5	16.0	15.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4399	4400	4401	4402	4403	4404	4405	4406
DATE TESTED			06/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	100	96.5	96	96.5	98.5	96	97	96.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295934.045	295893.22	295859.974	295850.287	295914.423	295957.528	295963.999	295906.204
Northing			6268682.468	6268680.173	6268676.995	6268707.262	6268722.485	6268723.333	6268701.13	6268702.128
Reduced Level		m	20.41	20.456	20.25	19.752	19.743	19.891	20.485	20.191
Shown on Drawing No			8599/1-80							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.12	2.06	2.05	2.07	2.09	2.05	2.06	2.06
Field Moisture Content		%	16.0	16.5	16.0	16.0	16.0	16.5	16.0	16.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4399	4400	4401	4402	4403	4404	4405	4406
Peak Converted Wet Density		t/m³	2.12	2.14	2.13	2.14	2.12	2.14	2.12	2.14
Apparent Optimum Moisture Content		%	15.5	16.0	15.5	15.0	15.5	16.0	16.0	15.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4407	4408	4409	4410	4411	4412	4413	4414
DATE TESTED			06/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98.5	98	96.5	96	95	100	98	96
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.5**	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295861.811	295840.602	295891.269	295935.756	295975.846	295981.155	295925.088	295877.113
Northing			6268699.692	6268679.339	6268678.461	6268680.718	6268681.84	6268723.349	6268721.998	6268719.121
Reduced Level		m	19.781	19.961	20.764	20.717	20.797	20.361	20.109	19.886
Shown on Drawing No			8599/1-80							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.10	2.07	2.03	2.02	2.12	2.08	2.03
Field Moisture Content		%	15.5	16.0	16.0	16.5	16.5	16.5	16.0	16.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4407	4408	4409	4410	4411	4412	4413	4414
Peak Converted Wet Density		t/m³	2.11	2.14	2.14	2.12	2.13	2.12	2.12	2.12
Apparent Optimum Moisture Content		%	15.5	15.5	16.0	16.0	16.0	16.0	15.5	16.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4415	4416	4417	4418	4419	4420	4421	4422
DATE TESTED			06/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97.5	97	96.5	96	96.5	96	95.5	96.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295846.86	295892.002	295932.994	295980.816	295971.195	295937.155	295896.524	295856.058
Northing			6268703.065	6268699.052	6268701.032	6268699.461	6268682.205	6268677.844	6268674.396	6268672.694
Reduced Level		m	20.16	20.539	20.623	21.005	21.047	20.926	20.923	20.61
Shown on Drawing No			8599/1-80							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.06	2.06	2.05	2.07	2.05	2.03	2.07
Field Moisture Content		%	16.0	16.0	16.5	16.5	16.5	16.0	16.0	16.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4415	4416	4417	4418	4419	4420	4421	4422
Peak Converted Wet Density		t/m³	2.13	2.12	2.13	2.13	2.14	2.14	2.13	2.14
Apparent Optimum Moisture Content		%	16.0	15.5	16.0	15.5	16.0	15.5	15.5	15.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4423	4424	4425	4426	4427	4428	4429	4430
DATE TESTED			06/12/2017		07/12/2017					
RESULTS										
Hilf Density Ratio	Standard	%	98.5	98.5	95.5	99	96	97	96.5	96
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.0**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			294989.22	294978.557	294958.039	294933.785	294914.447	294930.42	294942.414	294951.745
Northing			6268926.52	6268901.475	6268858.636	6268810.4	6268810.983	6268851.934	6268886.487	6268925.416
Reduced Level		m	17.681	17.824	18.179	19.062	18.779	18.385	17.988	17.721
Shown on Drawing No			8599/1-78							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.11	2.04	2.09	2.05	2.06	2.06	2.05
Field Moisture Content		%	16.5	15.5	16.0	16.0	16.0	16.0	14.0	14.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4423	4424	4425	4426	4427	4428	4429	4430
Peak Converted Wet Density		t/m³	2.12	2.14	2.14	2.11	2.13	2.12	2.13	2.14
Apparent Optimum Moisture Content		%	16.0	15.0	15.5	15.5	15.5	16.0	14.0	13.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	1-2	1

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4431	4432	4433	4434	4435	4436	4437	4438
DATE TESTED			07/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96	97.5	97	97.5	97.5	98.5	95.5	96
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			294933.637	294926.03	294907.3	294897.561	294890.886	294874.603	294884.21	294892.865
Northing			6268924.614	6268901.124	6268852.006	6268817.271	6268785.644	6268784.887	6268816.757	6268852.432
Reduced Level		m	17.2	17.764	18.517	18.579	18.78	18.423	18.393	18.45
Shown on Drawing No			8599/1-78							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.04	2.08	2.06	2.08	2.09	2.11	2.03	2.04
Field Moisture Content		%	14.5	14.0	15.0	14.5	14.5	14.0	14.5	13.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4431	4432	4433	4434	4435	4436	4437	4438
Peak Converted Wet Density		t/m³	2.12	2.13	2.12	2.13	2.14	2.14	2.13	2.12
Apparent Optimum Moisture Content		%	14.0	13.5	14.5	14.0	14.0	13.5	14.0	13.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	1	2	1-2	1-2	1	1-2	1

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4439	4440	4441	4442	4443	4444	4445	4446
DATE TESTED			07/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96	96.5	98	98.5	97	96	97	99.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			294898.512	294882.611	294871.57	294867.122	294848.277	294845.918	294851.939	295346.843
Northing			6268881.225	6268888.887	6268848.642	6268816.118	6268791.079	6268820.381	6268857.421	6269097.882
Reduced Level		m	17.958	17.798	18.257	18.295	17.901	17.959	17.874	18.662
Shown on Drawing No			8599/1-78							8599/1-77
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.04	2.05	2.11	2.10	2.07	2.05	2.05	2.11
Field Moisture Content		%	14.5	14.5	14.0	14.0	15.0	14.5	14.5	14.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4439	4440	4441	4442	4443	4444	4445	4446
Peak Converted Wet Density		t/m³	2.13	2.12	2.15	2.13	2.13	2.14	2.11	2.12
Apparent Optimum Moisture Content		%	14.0	14.0	13.5	13.5	14.5	14.0	14.0	14.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			1-2	1-2	1	1	1-2	1-2	1-2	1-2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4447	4448	4449	4450	4451	4452	4453	4454
DATE TESTED			07/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	100.5	97.5	97	98.5	96.5	98	96	96.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.0**	**0.5**	**0.5**	**0.5**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295301.163	295261.059	295235.241	295280.628	295319.925	295353.039	295343.775	295311.031
Northing			6269076.841	6269058.725	6269066.791	6269082.534	6269097.261	6269111.532	6269126.793	6269112.247
Reduced Level		m	18.313	18.153	17.907	18.379	18.331	18.622	18.358	18.182
Shown on Drawing No			8599/1-77							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.13	2.08	2.06	2.10	2.07	2.09	2.05	2.05
Field Moisture Content		%	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4447	4448	4449	4450	4451	4452	4453	4454
Peak Converted Wet Density		t/m³	2.12	2.13	2.12	2.13	2.14	2.13	2.13	2.12
Apparent Optimum Moisture Content		%	14.0	14.0	14.5	14.5	13.5	13.5	14.0	13.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			1-2	1-2	2	1-2	1	1	1-2	1

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4455	4456	4457	4458	4459	4460	4461	4462
DATE TESTED			07/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96.5	97	96	95.5	97.5	98.5	100.5	98
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.0**	**0.5**	**0.5**	**0.0**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295264.997	295246.609	295284.931	295331.719	295342.404	295301.874	295992.261	295958.752
Northing			6269091.546	6269094.47	6269113.74	6269134.707	6269154.735	6269143.334	6268682.519	6268681.154
Reduced Level		m	18.013	17.36	17.89	18.296	18.062	17.672	21.523	21.889
Shown on Drawing No			8599/1-77						8599/1-80	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.06	2.04	2.02	2.08	2.09	2.13	2.09
Field Moisture Content		%	14.5	13.5	14.0	14.0	14.0	14.5	14.0	14.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4455	4456	4457	4458	4459	4460	4461	4462
Peak Converted Wet Density		t/m³	2.14	2.12	2.13	2.12	2.13	2.12	2.12	2.13
Apparent Optimum Moisture Content		%	14.0	13.0	14.0	13.5	13.5	14.5	13.5	13.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			1-2	1	1-2	1	1	2	1	1

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4463	4464	4465	4466	4467	4468	4469	4470
DATE TESTED			08/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97.5	97	98	97.5	96	96.5	98	97.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295923.115	295878.421	295871.665	295917.134	295963.972	295959.219	295917.527	295880.28
Northing			6268678.26	6268674.803	6268686.53	6268690.326	6268692.226	6268708.822	6268710.51	6268711.383
Reduced Level		m	21.762	21.874	21.214	21.293	21.301	20.751	20.392	20.124
Shown on Drawing No			8599/1-80							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.08	2.09	2.08	2.04	2.06	2.08	2.09
Field Moisture Content		%	14.5	14.5	14.0	14.5	14.0	14.5	14.0	14.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4463	4464	4465	4466	4467	4468	4469	4470
Peak Converted Wet Density		t/m³	2.12	2.14	2.13	2.13	2.12	2.14	2.12	2.14
Apparent Optimum Moisture Content		%	13.5	13.5	13.5	14.0	13.0	14.0	13.5	13.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			1	1	1	1-2	1	1-2	1	1

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4471	4472	4473	4474	4475	4476	4477	4478
DATE TESTED			08/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98.5	96.5	96	95.5	97	97	99.5	97.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295922.901	295441.934	295409.82	295373.757	295356.524	295390.248	295447.923	295405.667
Northing			6268721.567	6269332.72	6269334.245	6269336.415	6269352.009	6269348.929	6269345.935	6269365.443
Reduced Level		m	20.091	16.201	15.994	15.095	14.283	15.36	16.189	15.112
Shown on Drawing No			8599/1-80	8599/1-75						
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.11	2.05	2.05	2.04	2.06	2.06	2.11	2.08
Field Moisture Content		%	14.0	14.5	14.5	14.5	14.5	14.5	14.0	14.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4471	4472	4473	4474	4475	4476	4477	4478
Peak Converted Wet Density		t/m³	2.14	2.12	2.14	2.14	2.12	2.12	2.12	2.13
Apparent Optimum Moisture Content		%	14.0	14.5	14.0	14.0	14.0	14.0	13.5	14.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			1-2	2	1-2	1-2	1-2	1-2	1	1-2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4479	4480	4481	4482	4483	4484	4485	4486
DATE TESTED			08/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98	97	96	97.5	98	98	98.5	97
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.0**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295368.083	295373.062	295421.055	295456.287	294981.936	294941.881	294913.653	294871.082
Northing			6269375.747	6269395.872	6269386.201	6269374.051	6268930.839	6268940.05	6268945.289	6268929.07
Reduced Level		m	14.411	14.065	15.591	16.212	17.699	17.9	17.589	17.777
Shown on Drawing No			8599/1-75				8599/1-78			
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.05	2.04	2.09	2.09	2.07	2.09	2.08
Field Moisture Content		%	14.5	15.5	15.0	16.0	14.5	14.5	15.5	15.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4479	4480	4481	4482	4483	4484	4485	4486
Peak Converted Wet Density		t/m³	2.13	2.11	2.13	2.14	2.13	2.11	2.12	2.14
Apparent Optimum Moisture Content		%	14.0	15.0	14.5	15.5	14.0	14.5	15.0	14.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			1-2	2	2	2	1-2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4487	4488	4489	4490	4491	4492	4493	4494
DATE TESTED			08/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96	96	96.5	95.5	96.5	98.5	99.5	99
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.0**	**0.5**	**0.5**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			294903.77	294914.772	294964.374	294955.176	294921.317	294895.267	294864.18	294857.615
Northing			6268921.941	6268920.254	6268910.348	6268890.135	6268899.87	6268905.865	6268911.196	6268888.418
Reduced Level		m	17.898	17.915	17.999	18.071	18.058	18.032	17.767	18.035
Shown on Drawing No			8599/1-78							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.04	2.03	2.07	2.02	2.06	2.09	2.11	2.09
Field Moisture Content		%	15.0	14.5	14.5	15.0	15.0	15.5	15.5	16.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4487	4488	4489	4490	4491	4492	4493	4494
Peak Converted Wet Density		t/m³	2.13	2.12	2.14	2.11	2.14	2.12	2.12	2.11
Apparent Optimum Moisture Content		%	14.5	14.0	14.0	15.0	14.5	15.0	15.5	15.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	1-2	1-2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4495	4496	4497	4498	4499	4500	4501	4502
DATE TESTED			08/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96	96.5	95	96	96.5	97	96	98
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**	**0.0**	**0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			294888.9	294925.831	294926.06	294890.41	294859.388	294845.346	294874.534	294915.776
Northing			6268875.613	6268864.841	6268842.338	6268843.021	6268846.169	6268825.558	6268816.208	6268806.182
Reduced Level		m	18.425	18.633	18.892	18.683	18.55	18.303	18.706	18.929
Shown on Drawing No			8599/1-78							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.04	2.07	2.02	2.04	2.06	2.07	2.04	2.07
Field Moisture Content		%	15.0	15.0	15.5	15.5	14.5	15.0	16.0	14.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4495	4496	4497	4498	4499	4500	4501	4502
Peak Converted Wet Density		t/m³	2.13	2.14	2.13	2.12	2.13	2.13	2.13	2.11
Apparent Optimum Moisture Content		%	15.0	14.5	14.5	14.5	14.5	15.0	15.5	14.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4503	4504	4505	4506	4507	4508	4509	4510
DATE TESTED			08/12/2017					11/12/2017		
RESULTS										
Hilf Density Ratio	Standard	%	96	95	98	98	98.5	96.5	95.5	98.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			294912.664	294876.786	294844.045	295575.729	295561.857	295530.463	295504.488	295476.921
Northing			6268787.576	6268789.957	6268797.409	6269301.473	6269325.054	6269327.397	6269355.644	6269351.971
Reduced Level		m	19.119	18.842	18.323	19.696	18.912	18.175	17.207	16.855
Shown on Drawing No			8599/1-78			8599/1-75				
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.04	2.03	2.08	2.08	2.10	2.06	2.02	2.09
Field Moisture Content		%	14.5	14.5	14.5	14.5	15.0	19.0	21.0	20.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4503	4504	4505	4506	4507	4508	4509	4510
Peak Converted Wet Density		t/m³	2.13	2.14	2.12	2.12	2.13	2.13	2.11	2.12
Apparent Optimum Moisture Content		%	14.0	14.0	14.0	14.0	14.5	18.5	20.5	20.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			1-2	1-2	1-2	1-2	2	2	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4511	4512	4513	4514	4515	4516	4517	4518
DATE TESTED			11/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96.5	98	99.5	99.5	98	96	96	96
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.0**	**0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295446.349	295420.006	295391.253	295392.123	295434.444	295460.343	295433.138	295398.43
Northing			6269377.316	6269376.453	6269393.518	6269374.476	6269363.871	6269335.084	6269334.263	6269348.585
Reduced Level		m	15.958	15.715	14.855	15.158	16	16.825	16.472	15.513
Shown on Drawing No			8599/1-75			8599/1-76	8599/1-75			8599/1-76
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.05	2.07	2.13	2.09	2.08	2.03	2.03	2.04
Field Moisture Content		%	17.5	18.5	18.5	21.5	20.0	23.0	21.0	21.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4511	4512	4513	4514	4515	4516	4517	4518
Peak Converted Wet Density		t/m³	2.12	2.11	2.14	2.10	2.12	2.11	2.11	2.12
Apparent Optimum Moisture Content		%	17.0	18.5	18.0	21.0	19.5	23.0	20.5	21.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	3	2-3	3	2-3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4519	4520	4521	4522	4523	4524	4525	4526
DATE TESTED			11/12/2017					12/12/2017		
RESULTS										
Hilf Density Ratio	Standard	%	97.5	96.5	97.5	95.5	97	100.5	98.5	96.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.5**	**0.0**	**1.0**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295375.307	295370.702	295367.268	295332.611	295298.254	295254.239	295314.792	295332.993
Northing			6269350.156	6269340.905	6269148.747	6269121.807	6269093.689	6269085.997	6269128.413	6269158.807
Reduced Level		m	14.928	14.969	18.844	18.717	18.434	18.175	18.161	17.79
Shown on Drawing No			8599/1-75		8599/1-77					
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.05	2.06	2.02	2.07	2.12	2.09	2.04
Field Moisture Content		%	23.5	21.0	20.0	21.0	22.5	24.0	23.0	23.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4519	4520	4521	4522	4523	4524	4525	4526
Peak Converted Wet Density		t/m³	2.13	2.12	2.11	2.12	2.13	2.11	2.12	2.11
Apparent Optimum Moisture Content		%	23.0	20.5	20.0	20.5	22.5	23.0	22.5	23.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	2-3	2-3	2-3	3	3	3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4527	4528	4529	4530	4531	4532	4533	4534
DATE TESTED			12/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97.5	96.5	96	95.5	95.5	100.5	100	96.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295308.951	295272.728	295233.169	294935.556	294949.816	294967.483	294987.107	294972.123
Northing			6269139.002	6269108.335	6269086.515	6268803.801	6268830.415	6268865.132	6268906.674	6268916.521
Reduced Level		m	17.707	17.803	17.45	19.551	19.143	18.773	18.157	18.202
Shown on Drawing No			8599/1-77			8599/1-78				
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.06	2.04	2.03	2.02	2.13	2.12	2.06
Field Moisture Content		%	24.0	21.5	22.0	20.0	20.5	22.5	20.0	18.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4527	4528	4529	4530	4531	4532	4533	4534
Peak Converted Wet Density		t/m³	2.12	2.13	2.12	2.13	2.11	2.12	2.12	2.13
Apparent Optimum Moisture Content		%	23.5	21.0	21.5	19.5	20.0	22.0	19.5	18.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	3	3	2-3	2-3	3	2-3	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4535	4536	4537	4538	4539	4540	4541	4542
DATE TESTED			12/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96	96.5	95.5	98	98.5	96.5	98	98.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			294949.215	294926.82	294898.965	294901.342	294913.914	294926.656	294938.438	294920.611
Northing			6268883.942	6268852.037	6268816.747	6268836.192	6268866.357	6268895.129	6268924.101	6268940.636
Reduced Level		m	18.807	19.111	19.384	19.135	19.09	18.865	18.614	18.496
Shown on Drawing No			8599/1-78							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.04	2.05	2.02	2.08	2.09	2.06	2.07	2.09
Field Moisture Content		%	18.5	20.0	18.0	18.0	16.5	18.0	19.0	19.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4535	4536	4537	4538	4539	4540	4541	4542
Peak Converted Wet Density		t/m³	2.12	2.12	2.12	2.12	2.12	2.14	2.11	2.12
Apparent Optimum Moisture Content		%	18.0	19.5	18.0	17.5	16.0	17.5	18.5	19.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2-3	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4543	4544	4545	4546	4547	4548	4549	4550
DATE TESTED			12/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98	96	98.5	99	98	96	97.5	99
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.0**	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			294906.421	294895.852	294884.455	294866.686	294854.314	294878.673	294887.403	294892.503
Northing			6268899.196	6268870.825	6268828.959	6268783.692	6268796.382	6268861.502	6268896.108	6268941.518
Reduced Level		m	18.609	19.024	19.242	19.286	18.733	18.968	18.548	18.247
Shown on Drawing No			8599/1-78							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.03	2.08	2.10	2.09	2.05	2.07	2.08
Field Moisture Content		%	18.0	19.5	20.5	20.0	23.5	18.0	21.5	21.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4543	4544	4545	4546	4547	4548	4549	4550
Peak Converted Wet Density		t/m³	2.13	2.11	2.11	2.12	2.13	2.13	2.12	2.10
Apparent Optimum Moisture Content		%	18.0	19.0	20.0	20.0	23.0	17.5	21.0	20.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2-3	2-3	3	2	3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4551	4552	4553	4554	4555	4556	4557	4558
DATE TESTED			12/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96	96	95.5	96.5	95.5	96.5	98.5	99.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			294875.404	294866.049	294856.175	294858.23	294866.1	295841.138	295872.408	295914.696
Northing			6268944.431	6268909.203	6268875.024	6268905.903	6268945.175	6268627.536	6268634.084	6268638.896
Reduced Level		m	17.82	18.134	18.3	17.986	17.998	19.284	20.156	20.561
Shown on Drawing No			8599/1-78					8599/1-80		
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.03	2.04	2.01	2.03	2.02	2.03	2.09	2.12
Field Moisture Content		%	17.5	22.0	22.0	21.0	22.5	19.5	20.0	22.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4551	4552	4553	4554	4555	4556	4557	4558
Peak Converted Wet Density		t/m³	2.11	2.13	2.11	2.10	2.12	2.10	2.12	2.13
Apparent Optimum Moisture Content		%	17.5	21.5	21.5	20.5	22.0	19.0	19.0	22.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	3	3	2-3	3	2	2-3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4559	4560	4561	4562	4563	4564	4565	4566
DATE TESTED			12/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	99	100.5	99	96	96	97.5	97.5	99
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295956.872	295958.677	295925.191	295891.643	295851.803	295862.164	295894.309	295923.06
Northing			6268644.144	6268629.89	6268625.158	6268620.151	6268614.181	6268601.84	6268604.795	6268608.347
Reduced Level		m	20.861	20.826	20.813	20.41	19.76	19.773	20.19	20.54
Shown on Drawing No			8599/1-80							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.11	2.12	2.09	2.05	2.04	2.07	2.08	2.09
Field Moisture Content		%	23.0	19.0	21.5	21.0	21.5	20.5	23.5	19.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4559	4560	4561	4562	4563	4564	4565	4566
Peak Converted Wet Density		t/m³	2.13	2.11	2.11	2.13	2.12	2.12	2.13	2.11
Apparent Optimum Moisture Content		%	22.5	18.5	21.0	20.5	21.0	20.0	23.0	19.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	2	3	2-3	3	2-3	3	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4567	4568	4569	4570	4571	4572	4573	4574
DATE TESTED			12/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	99	99	98	98.5	99.5	99.5	99	97.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295958.081	295950.062	295918.779	295875.522	295486.099	295439.669	295409.122	295379.031
Northing			6268607.54	6268592.219	6268590.403	6268588.881	6269371.205	6269383.964	6269391.969	6269384.459
Reduced Level		m	20.795	20.63	20.104	19.67	16.898	16.086	15.261	14.749
Shown on Drawing No			8599/1-80				8599/1-75			
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.09	2.08	2.09	2.11	2.10	2.09	2.09
Field Moisture Content		%	22.5	20.0	17.5	20.5	21.0	21.5	22.5	20.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4567	4568	4569	4570	4571	4572	4573	4574
Peak Converted Wet Density		t/m³	2.11	2.11	2.12	2.12	2.12	2.11	2.11	2.14
Apparent Optimum Moisture Content		%	22.0	19.5	17.5	20.0	20.5	21.0	22.0	19.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	2-3	2	2-3	2-3	3	3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4575	4576	4577	4578	4579	4580	4581	4582
DATE TESTED			12/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	95	98	98.5	96.5	96.5	97.5	96	96
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.5**	**0.0**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295412.182	295440.676	295428.611	295399.843	295373.602	295336.644	295326.713	295357.121
Northing			6269362.754	6269349.898	6269338.678	6269342.987	6269345.123	6269351.923	6269332.851	6269319.205
Reduced Level		m	15.87	16.626	16.541	15.986	15.354	13.994	13.84	14.806
Shown on Drawing No			8599/1-75				8599/1-76	8599/1-75		
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.03	2.08	2.09	2.07	2.05	2.09	2.03	2.04
Field Moisture Content		%	21.0	20.0	21.0	17.0	16.0	19.5	20.0	19.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4575	4576	4577	4578	4579	4580	4581	4582
Peak Converted Wet Density		t/m³	2.14	2.12	2.12	2.14	2.12	2.14	2.12	2.13
Apparent Optimum Moisture Content		%	20.5	19.5	20.0	17.0	15.5	19.0	19.5	18.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	2	2	2	2-3	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4583	4584	4585	4586	4587	4588	4589	4590
DATE TESTED			12/12/2017			13/12/2017				
RESULTS										
Hilf Density Ratio	Standard	%	95.5	95.5	96	97	96.5	98	96	98
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295380.933	294838.616	294840.352	294843.69	294850.831	294857.406	294866.02	294886.996
Northing			6269310.594	6268733.469	6268760.425	6268788.794	6268839.952	6268877.178	6268925.896	6268942.143
Reduced Level		m	15.737	19.559	19.437	19.242	18.815	18.498	18.22	18.433
Shown on Drawing No			8599/1-75	8599/1-78						
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.02	2.03	2.05	2.06	2.07	2.08	2.05	2.09
Field Moisture Content		%	20.5	19.0	21.5	20.0	22.0	22.5	21.5	18.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4583	4584	4585	4586	4587	4588	4589	4590
Peak Converted Wet Density		t/m³	2.12	2.13	2.14	2.12	2.14	2.12	2.13	2.13
Apparent Optimum Moisture Content		%	20.0	18.5	21.0	19.5	21.5	22.0	20.5	18.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2	3	2-3	3	3	3	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4591	4592	4593	4594	4595	4596	4597	4598
DATE TESTED			13/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	99.5	97	96	95.5	96	95.5	96	97.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			294893.882	294882.205	294884.575	294877.89	294902.495	294912.392	294917.2	294919.514
Northing			6268917.334	6268892.566	6268871.648	6268845.825	6268846.457	6268867.082	6268903.478	6268921.122
Reduced Level		m	18.586	19.004	19.431	19.551	19.391	19.117	18.821	18.654
Shown on Drawing No			8599/1-78							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.11	2.08	2.05	2.04	2.04	2.03	2.04	2.08
Field Moisture Content		%	19.5	19.5	21.5	21.5	19.5	21.0	18.5	19.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4591	4592	4593	4594	4595	4596	4597	4598
Peak Converted Wet Density		t/m³	2.12	2.14	2.14	2.14	2.13	2.13	2.12	2.13
Apparent Optimum Moisture Content		%	19.5	19.0	21.0	21.0	19.5	20.5	18.0	19.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	3	3	2-3	2-3	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4599	4600	4601	4602	4603	4604	4605	4606
DATE TESTED			13/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96.5	95.5	95.5	99	98	97	96	97
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			294944.759	294944.49	294944.489	294940.403	294934.091	294936.261	295313.638	295329.329
Northing			6268932.826	6268904.297	6268904.296	6268884.621	6268865.836	6268849.727	6269325.552	6269301.12
Reduced Level		m	18.893	19.033	19.027	19.206	19.301	19.5	13.623	14.619
Shown on Drawing No			8599/1-78						8599/1-75	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.02	2.03	2.11	2.09	2.07	2.04	2.08
Field Moisture Content		%	20.5	20.5	21.0	17.5	21.5	20.0	19.0	17.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4599	4600	4601	4602	4603	4604	4605	4606
Peak Converted Wet Density		t/m³	2.15	2.12	2.13	2.13	2.13	2.13	2.13	2.14
Apparent Optimum Moisture Content		%	20.0	20.0	20.5	17.5	21.0	19.5	19.0	16.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	2	3	2-3	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4607	4608	4609	4610	4611	4612	4613	4614
DATE TESTED			14/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98	97	96.5	98	96	95	98	99
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**1.0**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295355.52	295392.012	295379.952	295358.238	295336.852	295308.993	295282.75	295314.873
Northing			6269276.351	6269264.339	6269244.999	6269250.104	6269262.892	6269281.588	6269275.048	6269252.984
Reduced Level		m	15.69	16.495	16.403	16.017	15.06	14.298	14.015	14.744
Shown on Drawing No			8599/1-75		8599/1-76		8599/1-75			8599/1-76
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.07	2.08	2.09	2.04	2.02	2.08	2.09
Field Moisture Content		%	23.0	20.0	21.5	21.5	21.5	20.5	19.5	21.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4607	4608	4609	4610	4611	4612	4613	4614
Peak Converted Wet Density		t/m³	2.12	2.13	2.15	2.13	2.13	2.13	2.12	2.11
Apparent Optimum Moisture Content		%	23.0	19.5	20.5	21.0	21.0	19.5	19.0	20.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	2-3	2-3	3	3	2-3	2	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4615	4616	4617	4618	4619	4620	4621	4622
DATE TESTED			14/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	100.5	98	99	96.5	96	96.5	97.5	98.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295341.674	295370.292	295369.517	295344.166	295313.955	295279.894	295313.458	295337.478
Northing			6269235.738	6269216.003	6269191.692	6269207.505	6269227.433	6269246.116	6269319.309	6269295.45
Reduced Level		m	15.651	16.477	16.633	16.177	15.405	14.34	14.452	15.243
Shown on Drawing No			8599/1-76		8599/1-77		8599/1-76		8599/1-75	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.13	2.08	2.09	2.06	2.03	2.04	2.07	2.10
Field Moisture Content		%	21.5	21.0	21.5	21.0	22.5	20.0	21.0	22.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4615	4616	4617	4618	4619	4620	4621	4622
Peak Converted Wet Density		t/m³	2.12	2.12	2.11	2.13	2.12	2.11	2.12	2.13
Apparent Optimum Moisture Content		%	21.5	20.5	21.0	21.0	22.0	19.5	20.5	21.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	2-3	3	2-3	3	2-3	2-3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4623	4624	4625	4626	4627	4628	4629	4630
DATE TESTED			14/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	99	98	96.5	96	97	96	95.5	97.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.0**	**0.5**	**0.0**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295361.569	295385.338	295381.582	295350.319	295322.534	295295.79	295288.907	295327.849
Northing			6269272.291	6269264.995	6269240.341	6269253.475	6269268.003	6269281.751	6269264.399	6269244.65
Reduced Level		m	16.217	16.736	16.796	15.916	14.919	14.385	14.416	15.375
Shown on Drawing No			8599/1-75		8599/1-76			8599/1-75		8599/1-76
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.10	2.07	2.06	2.04	2.07	2.03	2.03	2.09
Field Moisture Content		%	21.5	22.0	20.5	20.0	18.0	19.5	19.0	21.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4623	4624	4625	4626	4627	4628	4629	4630
Peak Converted Wet Density		t/m³	2.12	2.11	2.13	2.12	2.13	2.12	2.13	2.14
Apparent Optimum Moisture Content		%	21.0	21.5	20.5	19.5	18.0	19.0	18.5	21.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	3	2-3	2-3	2	2	2	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4631	4632	4633	4634	4635	4636	4637	4638
DATE TESTED			14/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98.5	98	97.5	96.5	99	98.5	97.5	98
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295352.243	295374.332	295382.948	295357.869	295327.72	295281.165	295339.067	295362.271
Northing			6269232.076	6269219.683	6269196.779	6269198.052	6269211.041	6269246.06	6269336.214	6269321.664
Reduced Level		m	16.198	16.864	17.018	17.001	16.332	14.594	14.21	15.615
Shown on Drawing No			8599/1-76		8599/1-77		8599/1-76		8599/1-75	8599/1-76
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.06	2.06	2.05	2.11	2.09	2.08	2.08
Field Moisture Content		%	21.5	24.0	23.0	23.5	17.5	18.0	18.5	16.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4631	4632	4633	4634	4635	4636	4637	4638
Peak Converted Wet Density		t/m³	2.12	2.10	2.11	2.12	2.13	2.12	2.13	2.12
Apparent Optimum Moisture Content		%	21.0	23.5	22.5	23.0	17.0	17.5	18.5	16.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	3	3	3	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4639	4640	4641	4642	4643	4644	4645	4646
DATE TESTED			14/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96.5	96	96.5	95.5	98.5	97	96	98.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295392.877	295405.007	295384.921	295368.31	295374.855	295397.437	295427.56	295435.719
Northing			6269296.411	6269302.799	6269328.647	6269347.249	6269358.471	6269344.297	6269328.325	6269341.016
Reduced Level		m	16.881	16.921	16.26	15.339	15.294	16.419	17.059	16.968
Shown on Drawing No			8599/1-75		8599/1-76				8599/1-75	8599/1-76
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.05	2.03	2.04	2.04	2.09	2.06	2.04	2.08
Field Moisture Content		%	18.0	18.0	16.5	16.0	15.0	17.0	18.5	20.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4639	4640	4641	4642	4643	4644	4645	4646
Peak Converted Wet Density		t/m³	2.12	2.12	2.11	2.14	2.12	2.12	2.12	2.11
Apparent Optimum Moisture Content		%	17.5	17.5	16.0	15.5	14.5	16.5	18.0	19.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4647	4648	4649	4650	4651	4652	4653	4654
DATE TESTED			14/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96	98	98	97	96	96	99	97
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.5**	**0.0**	**0.5**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295411.778	295390.726	295417.389	295450.727	295462.084	295435.953	295352.004	295376.293
Northing			6269362.276	6269375.149	6269376.492	6269360.244	6269380.899	6269399.558	6269335.475	6269309.724
Reduced Level		m	16.208	15.717	16.031	16.897	16.811	16.388	15.417	16.569
Shown on Drawing No			8599/1-76	8599/1-75	8599/1-76	8599/1-75				8599/1-76
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.05	2.08	2.09	2.06	2.12	2.04	2.10	2.07
Field Moisture Content		%	18.0	19.5	17.5	19.5	19.5	20.5	21.5	19.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4647	4648	4649	4650	4651	4652	4653	4654
Peak Converted Wet Density		t/m³	2.13	2.12	2.13	2.12	2.21	2.13	2.12	2.13
Apparent Optimum Moisture Content		%	17.5	19.0	17.0	19.0	19.5	20.0	21.5	19.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2-3	2-3	3	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4655	4656	4657	4658	4659	4660	4661	4662
DATE TESTED			14/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	95.5	97	99	100	99	97	97.5	98
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.0**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295395.511	295406.097	295388.152	295365.071	295390.377	295419.771	295439.717	295409.48
Northing			6269294.161	6269308.58	6269330.184	6269353.716	6269353.709	6269334.068	6269349.849	6269376.063
Reduced Level		m	17.163	17.297	16.794	15.311	16.364	17.165	17.264	16.259
Shown on Drawing No			8599/1-76		8599/1-75				8599/1-76	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.02	2.06	2.10	2.11	2.10	2.07	2.08	2.09
Field Moisture Content		%	17.0	19.0	19.0	18.5	19.0	19.0	20.5	19.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4655	4656	4657	4658	4659	4660	4661	4662
Peak Converted Wet Density		t/m³	2.12	2.12	2.12	2.11	2.12	2.13	2.13	2.13
Apparent Optimum Moisture Content		%	16.5	18.5	18.5	18.0	18.5	19.0	20.0	18.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2-3	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4663	4664	4665	4666	4667	4668	4669	4670
DATE TESTED			14/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	100	100	98.5	98	96	95	96	96
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295412.198	295444.666	295476.337	295961.671	295930.427	295895.752	295859.999	295860.567
Northing			6269390.105	6269379.154	6269362.976	6268643.538	6268640.137	6268636.242	6268632.109	6268616.652
Reduced Level		m	16.2	16.97	17.207	20.859	21.045	20.611	20.2	20.045
Shown on Drawing No			8599/1-76		8599/1-75	8599/1-80				
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.11	2.12	2.09	2.08	2.04	2.02	2.04	2.03
Field Moisture Content		%	20.0	20.5	17.5	19.5	19.5	19.0	19.0	19.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4663	4664	4665	4666	4667	4668	4669	4670
Peak Converted Wet Density		t/m³	2.11	2.12	2.12	2.12	2.13	2.13	2.12	2.12
Apparent Optimum Moisture Content		%	19.5	20.0	17.0	19.0	19.0	18.5	18.5	19.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4671	4672	4673	4674	4675	4676	4677	4678
DATE TESTED			14/12/2017					15/12/2017		
RESULTS										
Hilf Density Ratio	Standard	%	96	96	96.5	98	95.5	99.5	100	98.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.0**	**0.5**	**0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295899.182	295926.784	295962.825	295457.771	295435.173	295426.066	295397.579	295371.775
Northing			6268621.515	6268623.462	6268625.334	6269445.537	6269422.441	6269414.608	6269387.026	6269358.731
Reduced Level		m	20.544	20.804	20.742	16.746	16.544	16.462	15.929	15.272
Shown on Drawing No			8599/1-80			8599/1-75				8599/1-76
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.03	2.05	2.06	2.09	2.03	2.05	2.08	2.07
Field Moisture Content		%	17.5	19.0	18.0	18.5	18.0	19.0	20.0	18.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4671	4672	4673	4674	4675	4676	4677	4678
Peak Converted Wet Density		t/m³	2.12	2.13	2.14	2.13	2.13	2.06	2.08	2.10
Apparent Optimum Moisture Content		%	17.0	19.0	17.5	18.0	18.5	19.5	20.5	19.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4679	4680	4681	4682	4683	4684	4685	4686
DATE TESTED			15/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	97.5	95	98.5	97	95.5	95	99	96.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**0.0**	**-0.5**	**-0.5**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295337.509	295310.747	295298.485	295307.777	295338.658	295380.46	295409.972	295441.961
Northing			6269327.41	6269297.284	6269306.31	6269278.112	6269310.027	6269351.66	6269380.398	6269409.522
Reduced Level		m	14.929	14.843	14.657	15.144	15.065	16.012	16.241	16.999
Shown on Drawing No			8599/1-75							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.04	2.11	2.09	2.06	2.09	2.10	2.07
Field Moisture Content		%	19.5	19.5	19.0	17.5	18.5	18.0	19.5	18.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4679	4680	4681	4682	4683	4684	4685	4686
Peak Converted Wet Density		t/m³	2.12	2.15	2.14	2.15	2.16	2.20	2.12	2.14
Apparent Optimum Moisture Content		%	20.0	20.0	19.5	18.0	19.0	18.5	20.5	18.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	2	2	2	2-3	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4687	4688	4689	4690	4691	4692	4693	4694
DATE TESTED			15/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	95	97.5	96	95.5	95	96.5	97.5	96.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295469.812	295477.311	295444.387	295409.482	295370.033	295336.841	295313.377	295327.186
Northing			6269434.366	6269422.762	6269389.173	6269354.442	6269308.023	6269272.289	6269246.248	6269232.592
Reduced Level		m	17.039	17.234	16.925	16.663	16.288	15.443	15.485	16.007
Shown on Drawing No			8599/1-75		8599/1-76	8599/1-75	8599/1-76	8599/1-75	8599/1-76	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.04	2.11	2.08	2.08	2.07	2.03	2.06	2.06
Field Moisture Content		%	18.5	20.0	20.0	18.5	20.5	19.5	21.0	20.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4687	4688	4689	4690	4691	4692	4693	4694
Peak Converted Wet Density		t/m³	2.15	2.16	2.17	2.18	2.18	2.10	2.11	2.13
Apparent Optimum Moisture Content		%	19.0	20.5	20.5	19.5	20.5	20.0	21.5	21.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2-3	2-3	2	3	2-3	3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4695	4696	4697	4698	4699	4700	4701	4702
DATE TESTED			15/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	95.5	98	97	96	95.5	97	96.5	95.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295361.283	295391.466	295431.449	295460.095	295497.912	295454.777	295438.887	295401.222
Northing			6269277.818	6269311.408	6269351.997	6269388.97	6269397.793	6269454.342	6269428.755	6269392.254
Reduced Level		m	16.185	17.013	17.138	17.138	17.763	16.641	16.773	16.102
Shown on Drawing No			8599/1-76	8599/1-75		8599/1-76	8599/1-75			8599/1-76
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.04	2.11	2.09	2.08	2.08	2.09	2.09	2.08
Field Moisture Content		%	19.5	20.0	17.0	19.5	19.0	18.0	19.5	14.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4695	4696	4697	4698	4699	4700	4701	4702
Peak Converted Wet Density		t/m³	2.14	2.15	2.16	2.17	2.18	2.16	2.17	2.18
Apparent Optimum Moisture Content		%	20.0	20.5	17.5	20.0	19.5	18.5	20.0	15.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2	2-3	2.3	2	2-3	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4703	4704	4705	4706	4707	4708	4709	4710
DATE TESTED			15/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96	97	98	101.5	96.5	96.5	98.5	96.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295371.986	295325.943	295295.896	295306.285	295333.236	295372.995	295424.706	295456.577
Northing			6269361.697	6269319.148	6269273.899	6269267.656	6269297.764	6269342.003	6269393.418	6269422.303
Reduced Level		m	15.532	14.885	15.378	15.537	15.402	16.247	16.837	17.34
Shown on Drawing No			8599/1-75			8599/1-76			8599/1-75	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.06	2.08	2.09	2.08	2.10	2.08	2.05
Field Moisture Content		%	18.0	21.5	19.0	19.5	19.0	17.5	16.5	19.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4703	4704	4705	4706	4707	4708	4709	4710
Peak Converted Wet Density		t/m³	2.17	2.12	2.12	2.06	2.16	2.18	2.11	2.12
Apparent Optimum Moisture Content		%	18.5	22.0	19.5	20.0	19.5	18.0	17.0	19.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	3	2-3	2-3	2-3	2	2	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4711	4712	4713	4714	4715	4716	4717	4718
DATE TESTED			15/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	95.5	95	96.5	96	95.5	97	96.5	96.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295471.56	295450.71	295418.662	295386.471	295359.661	295330.237	295347.4	295372.438
Northing			6269417.39	6269394.016	6269360.479	6269325.256	6269295.407	6269235.969	6269251.818	6269286.088
Reduced Level		m	17.484	17.419	17.194	17.161	16.112	16.288	16.341	16.784
Shown on Drawing No			8599/1-75		8599/1-76		8599/1-75	8599/1-76		8599/1-75
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.03	2.03	2.08	2.07	2.07	2.11	2.04	2.05
Field Moisture Content		%	16.0	15.0	21.0	18.0	20.5	11.5	15.5	18.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4711	4712	4713	4714	4715	4716	4717	4718
Peak Converted Wet Density		t/m³	2.13	2.14	2.15	2.16	2.17	2.18	2.11	2.12
Apparent Optimum Moisture Content		%	16.5	15.5	21.5	18.5	21.0	12.0	16.0	19.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	3	2	3	1	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4719	4720	4721	4722	4723	4724	4725	4726
DATE TESTED			15/12/2017						18/12/2017	
RESULTS										
Hilf Density Ratio	Standard	%	96	95.5	95	96	96.5	95.5	96.5	97
Moisture Variation from OMC	(-Drier/+Wetter)	%	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**0.5**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295410.794	295439.396	295460.225	295496.956	295485.411	295464.227	295433.597	295402.793
Northing			6269326.491	6269356.438	6269373.276	6269412.54	6269354.865	6269365.631	6269382.009	6269395.942
Reduced Level		m	17.442	17.579	17.578	17.771	17.873	17.558	16.985	15.851
Shown on Drawing No			8599/1-75			8599/1-76				8599/1-75
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.04	2.05	2.04	2.07	2.10	2.07	2.07	2.08
Field Moisture Content		%	18.5	16.5	18.0	20.0	20.0	18.5	19.5	21.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4719	4720	4721	4722	4723	4724	4725	4726
Peak Converted Wet Density		t/m³	2.13	2.15	2.15	2.16	2.18	2.17	2.15	2.14
Apparent Optimum Moisture Content		%	19.0	17.0	19.0	21.0	20.5	18.0	19.5	21.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2-3	2-3	2	2-3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4727	4728	4729	4730	4731	4732	4733	4734
DATE TESTED			18/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	95	96	96	95.5	95	96	97	96.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295393.772	295418.663	295451.808	295437.676	295407.993	295378.087	295367.018	295392.83
Northing			6269381.052	6269361.129	6269339.496	6269327.124	6269343.598	6269360.269	6269346.649	6269320.331
Reduced Level		m	16.019	17.175	17.77	17.928	17.234	16.084	16.1	17.181
Shown on Drawing No			8599/1-75	8599/1-76			8599/1-75	8599/1-76		
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.06	2.05	2.07	2.04	2.04	2.05	2.09	2.08
Field Moisture Content		%	22.0	23.0	18.0	19.5	20.0	21.0	18.5	18.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4727	4728	4729	4730	4731	4732	4733	4734
Peak Converted Wet Density		t/m³	2.17	2.13	2.16	2.14	2.15	2.14	2.16	2.15
Apparent Optimum Moisture Content		%	22.0	23.0	18.0	19.5	20.0	20.5	18.5	18.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	3	2	2-3	2-3	3	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4735	4736	4737	4738	4739	4740	4741	4742
DATE TESTED			18/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96.5	96.5	97	97	95	97	96.5	95.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.5**	**0.0**	**0.5**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295426.448	295420.613	295382.832	295350.635	295313.532	295302.477	295328.081	295363.127
Northing			6269289.546	6269265.503	6269280.745	6269294.318	6269308.846	6269296.116	6269277.929	6269255.867
Reduced Level		m	18.295	18.22	17.12	15.879	14.869	15.103	15.534	16.709
Shown on Drawing No			8599/1-76	8599/1-77	8599/1-76					8599/1-77
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.09	2.08	2.09	2.04	2.09	2.08	2.06
Field Moisture Content		%	20.5	17.5	21.5	21.5	20.5	22.0	20.0	22.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4735	4736	4737	4738	4739	4740	4741	4742
Peak Converted Wet Density		t/m³	2.14	2.17	2.14	2.16	2.15	2.16	2.16	2.16
Apparent Optimum Moisture Content		%	20.0	17.5	21.0	21.5	20.0	21.5	20.0	21.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2	3	3	2-3	3	2-3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4743	4744	4745	4746	4747	4748	4749	4750
DATE TESTED			18/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	95	95.5	98	95.5	96	96.5	95	97
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295391.477	295374.782	295337.419	295312.381	295283.28	295281.896	295315.158	295336.593
Northing			6269238.338	6269226.947	6269241.255	6269251.622	6269264.285	6269243.483	6269225.797	6269216.51
Reduced Level		m	17.9	17.353	16.35	15.762	15.305	15.34	16.198	16.958
Shown on Drawing No			8599/1-77		8599/1-76	8599/1-77				
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.05	2.06	2.10	2.04	2.03	2.08	2.06	2.08
Field Moisture Content		%	23.0	23.5	21.0	19.5	20.5	20.5	20.5	18.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4743	4744	4745	4746	4747	4748	4749	4750
Peak Converted Wet Density		t/m³	2.16	2.16	2.14	2.14	2.12	2.16	2.17	2.14
Apparent Optimum Moisture Content		%	23.0	23.5	20.5	19.5	20.5	20.0	20.0	18.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	3	2-3	2-3	2-3	2-3	2-3	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4751	4752	4753	4754	4755	4756	4757	4758
DATE TESTED			18/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96	96	96.5	96.5	98.5	98	98.5	96.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.5**	**0.0**	**0.5**	**0.5**	**0.0**	**0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295339.396	295300.452	295271.344	295259.443	295280.342	295316.459	295343.723	294967.331
Northing			6269201.632	6269210.16	6269220.735	6269206.533	6269200.491	6269181.777	6269170.512	6268935.39
Reduced Level		m	17.035	15.862	15.392	14.469	15.765	17.005	17.348	19.008
Shown on Drawing No			8599/1-77							8599/1-78
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.05	2.03	2.07	2.07	2.09	2.08	2.10	2.06
Field Moisture Content		%	19.0	21.0	19.5	20.5	21.5	20.0	19.5	20.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4751	4752	4753	4754	4755	4756	4757	4758
Peak Converted Wet Density		t/m³	2.14	2.12	2.15	2.14	2.12	2.12	2.13	2.13
Apparent Optimum Moisture Content		%	19.0	20.5	19.5	20.0	21.0	20.0	19.5	19.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	2-3	3	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4759	4760	4761	4762	4763	4764	4765	4766
DATE TESTED			18/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98	98	98.5	97.5	95.5	97.5	95.5	95.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			294949.892	294931.011	294924.624	294917.794	294931.913	294940.23	294949.434	294964.452
Northing			6268938.139	6268912.305	6268872.622	6268832.64	6268825.025	6268855.025	6268894.818	6268899.259
Reduced Level		m	18.806	18.454	18.821	19.174	19.576	19.336	19.047	19.19
Shown on Drawing No			8599/1-78							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.08	2.09	2.08	2.04	2.08	2.02	2.02
Field Moisture Content		%	21.5	21.0	20.0	19.0	20.0	21.0	19.0	21.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4759	4760	4761	4762	4763	4764	4765	4766
Peak Converted Wet Density		t/m³	2.12	2.12	2.12	2.13	2.14	2.13	2.12	2.12
Apparent Optimum Moisture Content		%	21.0	21.0	20.0	18.5	19.5	21.0	19.0	21.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	3	2-3	2	2-3	2-3	2	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4767	4768	4769	4770	4771	4772	4773	4774
DATE TESTED			18/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96	97.5	98	98	98	96.5	97.5	97.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.0**	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			294954.9	294940.652	294877.57	294863.821	294858.598	294844.065	294852.014	294859.795
Northing			6268856.851	6268822.233	6268831.443	6268790.878	6268747.095	6268737.167	6268774.373	6268811.696
Reduced Level		m	19.568	19.731	19.377	19.697	19.888	19.628	19.492	19.279
Shown on Drawing No			8599/1-78							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.04	2.06	2.09	2.08	2.08	2.06	2.08	2.07
Field Moisture Content		%	20.0	22.5	21.5	20.0	22.5	21.5	21.0	22.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4767	4768	4769	4770	4771	4772	4773	4774
Peak Converted Wet Density		t/m³	2.12	2.11	2.13	2.12	2.12	2.14	2.13	2.12
Apparent Optimum Moisture Content		%	19.5	22.0	21.5	20.0	22.0	21.0	20.5	22.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	3	3	2-3	3	3	2-3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4775	4776	4777	4778	4779	4780	4781	4782
DATE TESTED			18/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	96.5	96	99.5	98	100	98	96.5	98
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			294864.945	294871.345	294876.439	294860.111	294854.644	294847.829	294840.64	294835.681
Northing			6268842.479	6268881.204	6268920.949	6268934.57	6268895.411	6268844.697	6268794.949	6268735.481
Reduced Level		m	18.994	18.68	18.316	17.68	17.991	18.358	18.754	19.428
Shown on Drawing No			8599/1-78							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.05	2.04	2.12	2.08	2.13	2.08	2.05	2.06
Field Moisture Content		%	21.0	22.5	20.0	21.5	20.5	22.0	20.5	19.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4775	4776	4777	4778	4779	4780	4781	4782
Peak Converted Wet Density		t/m³	2.12	2.12	2.13	2.12	2.13	2.12	2.12	2.10
Apparent Optimum Moisture Content		%	21.0	22.5	19.5	21.0	20.0	21.0	20.0	19.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	3	2-3	3	2-3	3	2-3	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4783	4784	4785	4786	4787	4788	4789	4790
DATE TESTED			18/12/2017						21/12/2017	
RESULTS										
Hilf Density Ratio	Standard	%	98	98	99	100	96	100	97.5	98.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			294908.968	294914.764	294904.401	294894.392	295702.878	295708.929	295716.908	295728.547
Northing			6268833.745	6268878.975	6268931.841	6268863.285	6269072.371	6269104.308	6269144.38	6269142.61
Reduced Level		m	19.259	18.824	18.566	19.233	17.823	17.685	17.664	17.499
Shown on Drawing No			8599/1-78				8599/1-79			
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.09	2.10	2.12	2.03	2.13	2.08	2.09
Field Moisture Content		%	22.0	21.5	18.0	21.5	22.0	23.5	16.5	16.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4783	4784	4785	4786	4787	4788	4789	4790
Peak Converted Wet Density		t/m³	2.12	2.13	2.12	2.12	2.12	2.13	2.13	2.12
Apparent Optimum Moisture Content		%	21.5	21.5	17.5	21.0	21.5	23.0	16.0	16.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	3	2	3	3	3	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4791	4792	4793	4794	4795	4796	4797	4798
DATE TESTED			21/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98.5	98	99	97	97	97	97.5	96.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.0**	**0.5**	**0.5**	**0.0**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295727.519	295724.822	295746.355	295744.226	295751.119	295714.123	295662.421	295668.712
Northing			6269115.801	6269080.603	6269072.007	6269110.318	6269007.171	6269011.844	6269021.818	6269006.485
Reduced Level		m	17.475	17.703	17.843	17.361	18.029	18.147	19.296	19.18
Shown on Drawing No			8599/1-79							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.08	2.10	2.07	2.05	2.06	2.07	2.06
Field Moisture Content		%	16.0	16.5	16.5	16.0	16.0	16.0	17.5	17.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4791	4792	4793	4794	4795	4796	4797	4798
Peak Converted Wet Density		t/m³	2.12	2.12	2.12	2.13	2.11	2.12	2.12	2.13
Apparent Optimum Moisture Content		%	16.0	16.5	16.0	15.5	16.0	16.0	17.5	16.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4799	4800	4801	4802	4803	4804	4805	4806
DATE TESTED			21/12/2017							
RESULTS										
Hilf Density Ratio	Standard	%	98	96.5	96	96	97	98	98	96
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295707.509	295742.533	295741.202	295702.117	295655.599	295646.696	295683.787	295731.349
Northing			6268998.986	6268992.929	6268978.089	6268984.338	6268993.317	6268980.654	6268972.296	6268963.879
Reduced Level		m	18.842	18.883	19.141	19.299	19.813	20.039	19.785	19.378
Shown on Drawing No			8599/1-79							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.05	2.05	2.04	2.06	2.06	2.09	2.03
Field Moisture Content		%	17.0	16.5	15.5	17.0	16.5	15.5	17.5	16.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4799	4800	4801	4802	4803	4804	4805	4806
Peak Converted Wet Density		t/m³	2.12	2.12	2.13	2.12	2.12	2.10	2.13	2.11
Apparent Optimum Moisture Content		%	17.0	16.0	15.0	16.0	16.0	15.0	17.0	16.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4807	4808	4809	4810	4811	4812	4813	4814
DATE TESTED			21/12/2017					12/01/2018		
RESULTS										
Hilf Density Ratio	Standard	%	97.5	97.5	96.5	99	98.5	100	98.5	100.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.0**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295746.2	295699.867	295654.998	295305.748	295322.043	295345.953	295351.598	295329.336
Northing			6268946.077	6268948.901	6268955.063	6269100.206	6269110.822	6269139.777	6269161.565	6269144.115
Reduced Level		m	19.261	19.528	19.745	18.579	18.692	18.916	18.745	18.964
Shown on Drawing No			8599/1-79			8599/1-77				
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.06	2.08	2.09	2.10	2.08	2.06	2.09
Field Moisture Content		%	17.5	16.5	18.0	18.0	18.5	21.0	22.5	22.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4807	4808	4809	4810	4811	4812	4813	4814
Peak Converted Wet Density		t/m³	2.12	2.11	2.16	2.11	2.13	2.08	2.09	2.08
Apparent Optimum Moisture Content		%	17.0	16.0	17.5	17.5	18.0	21.0	22.0	21.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	3	3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4815	4816	4817	4818	4819	4820	4821	4822
DATE TESTED			12/01/2018							
RESULTS										
Hilf Density Ratio	Standard	%	99.5	99	98	99.5	99.5	100.5	98.5	99.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.0**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295297.832	295280.09	295310.847	295365.712	295391.529	295407.683	295411.513	295390.617
Northing			6269120.392	6269124.16	6269156.079	6269173.517	6269216.284	6269242.227	6269279.493	6269251.743
Reduced Level		m	18.655	18.172	18.272	18.609	18.362	18.455	18.153	18.06
Shown on Drawing No			8599/1-77						8599/1-76	8599/1-77
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.06	2.07	2.05	2.08	2.07	2.09	2.07	2.08
Field Moisture Content		%	22.0	22.0	22.5	22.0	21.5	22.5	23.5	23.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4815	4816	4817	4818	4819	4820	4821	4822
Peak Converted Wet Density		t/m³	2.07	2.09	2.09	2.09	2.08	2.08	2.10	2.09
Apparent Optimum Moisture Content		%	22.0	22.0	22.0	21.5	21.0	22.5	23.0	22.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	3	3	3	3	3	3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4823	4824	4825	4826	4827	4828	4829	4830
DATE TESTED			12/01/2018							
RESULTS										
Hilf Density Ratio	Standard	%	101	98	98.5	99.5	100.5	99.5	98	99
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295367.456	295352.874	295367.357	295386.977	295371.9	295356.413	295334.588	295304.744
Northing			6269216.213	6269211.991	6269247.116	6269284.934	6269286.8	6269258.469	6269218.252	6269172.383
Reduced Level		m	17.953	17.902	17.512	17.434	17.059	16.843	17.192	16.824
Shown on Drawing No			8599/1-77			8599/1-76		8599/1-77		
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.10	2.05	2.06	2.08	2.09	2.08	2.05	2.07
Field Moisture Content		%	22.5	22.5	22.0	23.0	22.0	22.0	22.0	22.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4823	4824	4825	4826	4827	4828	4829	4830
Peak Converted Wet Density		t/m³	2.08	2.09	2.09	2.09	2.08	2.09	2.09	2.09
Apparent Optimum Moisture Content		%	22.0	22.0	21.5	23.0	21.5	21.5	21.5	22.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	3	3	3	3	3	3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4831	4832	4833	4834	4835	4836	4837	4838
DATE TESTED			12/01/2018							
RESULTS										
Hilf Density Ratio	Standard	%	98.5	96.5	100	101	98.5	101	100	99.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.0**	**0.5**	**0.5**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295268.919	295227.972	295253.799	295279.632	295311.574	295344.549	295368.262	295348.116
Northing			6269136.866	6269123.234	6269142.266	6269166.634	6269197.146	6269252.903	6269292.492	6269292.923
Reduced Level		m	16.92	16.563	16.597	16.617	16.861	16.665	16.919	16.013
Shown on Drawing No			8599/1-77						8599/1-76	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.09	2.08	2.09	2.05	2.11	2.09	2.07
Field Moisture Content		%	22.0	19.5	19.5	21.0	19.0	20.5	21.0	21.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4831	4832	4833	4834	4835	4836	4837	4838
Peak Converted Wet Density		t/m³	2.10	2.17	2.08	2.07	2.08	2.09	2.09	2.08
Apparent Optimum Moisture Content		%	21.5	19.0	19.5	21.0	18.5	20.0	20.5	20.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	2	2	3	2	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4839	4840	4841	4842	4843	4844	4845	4846
DATE TESTED			12/01/2018		15/01/2018					
RESULTS										
Hilf Density Ratio	Standard	%	99.5	99	99	99	98	99	99.5	99.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295321.28	295480.063	295458.52	295446.486	295456.62	295436.485	295412.797	295411.348
Northing			6269244.433	6269339.38	6269347.767	6269329.979	6269299.01	6269292.559	6269286.684	6269252.898
Reduced Level		m	16.094	18.062	17.715	18.042	18.387	18.661	18.332	18.766
Shown on Drawing No			8599/1-77	8599/1-76						8599/1-77
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.06	2.06	2.06	2.07	2.06	2.07	2.07
Field Moisture Content		%	21.5	20.0	22.5	20.0	21.0	20.0	22.0	22.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4839	4840	4841	4842	4843	4844	4845	4846
Peak Converted Wet Density		t/m³	2.09	2.08	2.08	2.08	2.11	2.08	2.08	2.08
Apparent Optimum Moisture Content		%	21.0	20.0	22.0	19.5	21.0	19.5	21.5	22.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	2-3	3	2-3	3	2-3	3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4847	4848	4849	4850	4851	4852	4853	4854
DATE TESTED			15/01/2018							
RESULTS										
Hilf Density Ratio	Standard	%	97.5	98	101.5	102	100.5	100.5	100	100
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.0**	**0.0**	**0.5**	**0.0**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295421.625	295393.499	295363.816	295380.484	296360.464	296344.298	296352.739	296374.993
Northing			6269220.853	6269217.305	6269211.226	6269188.342	6268733.568	6268764.449	6268777.986	6268745.995
Reduced Level		m	19.191	18.991	18.273	18.949	21.454	20.809	20.762	22.018
Shown on Drawing No			8599/1-77				8599/1-81			
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.04	2.04	2.10	2.11	2.09	2.07	2.07	2.07
Field Moisture Content		%	21.0	23.0	21.0	21.0	22.5	21.5	20.0	20.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4847	4848	4849	4850	4851	4852	4853	4854
Peak Converted Wet Density		t/m³	2.09	2.08	2.07	2.07	2.08	2.06	2.07	2.07
Apparent Optimum Moisture Content		%	20.5	22.5	21.0	21.0	22.0	21.0	19.5	19.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	3	3	3	3	3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4855	4856	4857	4858	4859	4860	4861	4862
DATE TESTED			15/01/2018				16/01/2018			
RESULTS										
Hilf Density Ratio	Standard	%	100	99.5	97.5	98	96	96.5	96	95
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.0**	**0.5**	**0.5**	**0.0**	**0.5**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296397.771	296400.037	296418.155	295428.493	295409.615	295391.461	295371.973	295352.824
Northing			6268749.29	6268791.809	6268754.611	6269358.131	6269324.851	6269291.488	6269255.579	6269217.779
Reduced Level		m	22.436	22.134	22.61	17.755	18.004	18.116	18.157	18.301
Shown on Drawing No			8599/1-81			8599/1-76			8599/1-77	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.05	2.04	2.05	2.07	2.06	2.10	2.06
Field Moisture Content		%	21.0	20.0	21.0	20.5	20.5	22.5	21.0	21.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4855	4856	4857	4858	4859	4860	4861	4862
Peak Converted Wet Density		t/m³	2.09	2.06	2.09	2.09	2.16	2.14	2.19	2.17
Apparent Optimum Moisture Content		%	20.5	20.0	20.5	20.0	20.5	22.0	21.0	21.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	2-3	2-3	3	3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4863	4864	4865	4866	4867	4868	4869	4870
DATE TESTED			16/01/2018							
RESULTS										
Hilf Density Ratio	Standard	%	96	97	97	97	97	97	95	98.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.5**	**0.0**	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295354.42	295388.195	295408.91	295429.041	295445.164	295453.336	295434.486	295414.209
Northing			6269190.025	6269242.444	6269278.142	6269313.272	6269344.03	6269326.639	6269290.014	6269253.35
Reduced Level		m	18.624	18.628	18.599	18.46	18.227	18.635	18.853	19
Shown on Drawing No			8599/1-77		8599/1-76					8599/1-77
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.07	2.08	2.10	2.09	2.07	2.05	2.08
Field Moisture Content		%	19.0	20.0	20.0	20.5	20.0	20.0	21.5	22.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4863	4864	4865	4866	4867	4868	4869	4870
Peak Converted Wet Density		t/m³	2.17	2.13	2.14	2.17	2.15	2.13	2.16	2.11
Apparent Optimum Moisture Content		%	18.5	19.5	20.0	21.0	19.5	19.5	21.0	21.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2-3	2-3	2-3	2-3	2-3	3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4871	4872	4873	4874	4875	4876	4877	4878
DATE TESTED			16/01/2018							
RESULTS										
Hilf Density Ratio	Standard	%	97	97	96.5	97.5	96.5	96.5	97	97.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.0**	**0.0**	**0.5**	**0.0**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295386.622	295370.801	295397.693	295421.208	295443.602	295463.217	295484.439	296288.175
Northing			6269203.002	6269169.4	6269173.798	6269219.216	6269263.475	6269299.765	6269339.86	6268622.241
Reduced Level		m	18.889	19.014	18.993	19.171	19.024	18.612	17.968	20.773
Shown on Drawing No			8599/1-77					8599/1-76		8599/1-82
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.09	2.06	2.08	2.09	2.06	2.08	2.08
Field Moisture Content		%	19.5	19.0	23.5	22.5	20.5	19.5	21.0	22.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4871	4872	4873	4874	4875	4876	4877	4878
Peak Converted Wet Density		t/m³	2.13	2.15	2.13	2.13	2.17	2.13	2.14	2.13
Apparent Optimum Moisture Content		%	19.0	18.5	23.5	22.0	20.5	19.5	20.5	22.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	3	3	2-3	2-3	2-3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4879	4880	4881	4882	4883	4884	4885	4886
DATE TESTED			16/01/2018							
RESULTS										
Hilf Density Ratio	Standard	%	98	97	96.5	98	97	97.5	96.5	95.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296261.814	296255.184	296277.373	296271.884	296242.216	296248.318	296270.671	296300.621
Northing			6268615.231	6268635.437	6268649.249	6268666.751	6268665.949	6268681.327	6268690.792	6268691.24
Reduced Level		m	21.001	20.744	20.368	20.232	20.255	20.02	20.487	20.844
Shown on Drawing No			8599/1-82			8599/1-81				
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.10	2.06	2.07	2.10	2.06	2.08	2.09	2.05
Field Moisture Content		%	20.5	20.5	21.5	21.0	21.0	21.0	20.0	18.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4879	4880	4881	4882	4883	4884	4885	4886
Peak Converted Wet Density		t/m³	2.14	2.12	2.14	2.14	2.12	2.13	2.17	2.15
Apparent Optimum Moisture Content		%	20.0	20.0	21.0	21.0	20.5	20.0	20.0	18.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	3	3	2-3	2-3	2-3	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4887	4888	4889	4890	4891	4892	4893	4894
DATE TESTED			16/01/2018							
RESULTS										
Hilf Density Ratio	Standard	%	95.5	95	97.5	96.5	95.5	96.5	97.5	98
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.0**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296318.931	296353.161	296240.117	296205.224	296199.514	296218.937	296227.964	296208.838
Northing			6268697.159	6268699.073	6268695.214	6268702.55	6268717.02	6268723.854	6268740.621	6268744.467
Reduced Level		m	21.036	21.505	19.495	19.8	19.729	19.416	19.263	19.206
Shown on Drawing No			8599/1-81							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.05	2.04	2.08	2.08	2.04	2.07	2.09	2.09
Field Moisture Content		%	20.5	21.5	21.0	19.5	18.5	17.5	18.5	18.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4887	4888	4889	4890	4891	4892	4893	4894
Peak Converted Wet Density		t/m³	2.15	2.15	2.13	2.15	2.14	2.14	2.14	2.13
Apparent Optimum Moisture Content		%	20.0	21.0	20.5	19.0	18.0	17.5	18.0	18.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	3	2-3	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4895	4896	4897	4898	4899	4900	4901	4902
DATE TESTED			16/01/2018						17/01/2018	
RESULTS										
Hilf Density Ratio	Standard	%	95.5	99	97.5	96.5	96.5	96.5	95.5	96
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.0**	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296188.84	296210.471	296191.839	296167.137	296176.209	295424.132	295401.379	295395.881
Northing			6268752.489	6268767.776	6268778.212	6268763.403	6268788.417	6269374.432	6269359.432	6269333.656
Reduced Level		m	19.404	19.064	18.985	19.316	19.12	16.868	17.081	17.373
Shown on Drawing No			8599/1-81					8599/1-76		
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.03	2.11	2.12	2.08	2.06	2.08	2.04	2.07
Field Moisture Content		%	17.0	16.0	20.0	15.5	21.0	22.0	20.0	21.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4895	4896	4897	4898	4899	4900	4901	4902
Peak Converted Wet Density		t/m³	2.13	2.13	2.17	2.15	2.14	2.15	2.14	2.16
Apparent Optimum Moisture Content		%	17.0	16.0	20.0	15.5	20.5	21.5	19.5	20.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2-3	2	2-3	3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4903	4904	4905	4906	4907	4908	4909	4910
DATE TESTED			17/01/2018							
RESULTS										
Hilf Density Ratio	Standard	%	96.5	97	96.5	96.5	95.5	98	96	98.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295373.359	295368.326	295351.31	295347.387	295330.436	295321.845	295331.11	295368.924
Northing			6269316.133	6269287.044	6269272.317	6269248.484	6269232.574	6269199.089	6269185.234	6269168.042
Reduced Level		m	17.073	17.402	17.207	17.467	17.266	17.52	18.005	19.179
Shown on Drawing No			8599/1-76			8599/1-77				
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.09	2.08	2.06	2.06	2.09	2.05	2.09
Field Moisture Content		%	17.0	20.5	20.0	21.0	20.0	20.5	20.5	21.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4903	4904	4905	4906	4907	4908	4909	4910
Peak Converted Wet Density		t/m³	2.17	2.15	2.15	2.13	2.16	2.13	2.13	2.12
Apparent Optimum Moisture Content		%	17.0	20.0	19.5	20.5	19.5	20.0	20.0	20.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2-3	2-3	2-3	2-3	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4911	4912	4913	4914	4915	4916	4917	4918
DATE TESTED			17/01/2018							
RESULTS										
Hilf Density Ratio	Standard	%	95.5	96.5	96	98.5	97	98.5	97.5	95.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.5**	**0.0**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296288.464	296264.02	296269.567	296292.153	296300.276	296283.637	296264.385	296261.766
Northing			6268624.836	6268613.537	6268597.115	6268599.342	6268586.877	6268581.97	6268577.207	6268553.634
Reduced Level		m	20.774	20.949	21.167	21.154	21.347	21.531	21.838	22.194
Shown on Drawing No			8599/1-82							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.04	2.06	2.06	2.10	2.10	2.09	2.09	2.04
Field Moisture Content		%	21.0	21.5	21.5	24.5	21.0	21.0	20.5	21.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4911	4912	4913	4914	4915	4916	4917	4918
Peak Converted Wet Density		t/m³	2.14	2.13	2.15	2.13	2.16	2.12	2.14	2.14
Apparent Optimum Moisture Content		%	20.5	21.0	21.0	24.0	21.0	20.5	20.0	20.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	3	3	3	3	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4919	4920	4921	4922	4923	4924	4925	4926
DATE TESTED			17/01/2018							
RESULTS										
Hilf Density Ratio	Standard	%	95.5	98	95.5	97	98.5	100	96.5	97
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296282.02	296305.571	296303.14	296265.597	296276.176	296293.479	296301.585	296308.976
Northing			6268552.226	6268551.105	6268537.743	6268474.362	6268637.873	6268615.805	6268592.504	6268562.146
Reduced Level		m	21.949	21.711	21.883	22.832	20.319	20.609	20.925	21.245
Shown on Drawing No			8599/1-82				8599/1-81		8599/1-82	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.03	2.09	2.04	2.08	2.09	2.10	2.08	2.09
Field Moisture Content		%	20.5	21.5	20.5	20.5	21.0	21.0	21.0	21.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4919	4920	4921	4922	4923	4924	4925	4926
Peak Converted Wet Density		t/m³	2.13	2.13	2.14	2.14	2.12	2.10	2.16	2.15
Apparent Optimum Moisture Content		%	20.0	20.5	20.0	20.0	20.5	20.5	20.5	21.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	2-3	2-3	2-3	2-3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4927	4928	4929	4930	4931	4932	4933	4934
DATE TESTED			17/01/2018					18/01/2018		
RESULTS										
Hilf Density Ratio	Standard	%	96.5	97	96.5	96	97	96.5	96	97
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.5**	**0.5**	**0.0**	**0.5**	**0.5**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296297.022	296292.819	296282.928	296275.047	295417.061	295398.583	295390.296	295369.866
Northing			6268558.714	6268577.319	6268605.139	6268629.925	6269365.966	6269350.277	6269320.728	6269297.358
Reduced Level		m	21.376	21.233	20.676	20.387	17.008	17.174	17.26	17.343
Shown on Drawing No			8599/1-82			8599/1-81	8599/1-76			
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.06	2.07	2.07	2.05	2.07	2.06	2.07	2.09
Field Moisture Content		%	21.0	22.5	20.5	20.5	20.0	21.5	21.0	21.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4927	4928	4929	4930	4931	4932	4933	4934
Peak Converted Wet Density		t/m³	2.13	2.13	2.14	2.13	2.13	2.14	2.16	2.15
Apparent Optimum Moisture Content		%	20.5	22.0	20.5	20.0	19.5	21.5	21.0	21.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	3	2-3	2-3	2-3	3	3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4935	4936	4937	4938	4939	4940	4941	4942
DATE TESTED			18/01/2018							
RESULTS										
Hilf Density Ratio	Standard	%	95.5	97	95.5	96.5	95.5	96	95.5	97.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295362.694	295346.815	295339.188	295321.286	295304.102	295282.487	295269.131	295246.515
Northing			6269272.201	6269248.288	6269227.05	6269202.27	6269176.059	6269165.176	6269143.38	6269133.097
Reduced Level		m	17.294	17.295	17.332	17.407	17.238	17.207	17.181	17.206
Shown on Drawing No			8599/1-76	8599/1-77						
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.04	2.08	2.06	2.08	2.05	2.05	2.06	2.10
Field Moisture Content		%	20.5	20.0	20.5	20.0	20.0	19.5	20.0	20.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4935	4936	4937	4938	4939	4940	4941	4942
Peak Converted Wet Density		t/m³	2.14	2.14	2.16	2.15	2.15	2.14	2.16	2.15
Apparent Optimum Moisture Content		%	20.5	19.5	20.5	20.0	19.5	19.5	20.0	20.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4943	4944	4945	4946	4947	4948	4949	4950
DATE TESTED			18/01/2018							
RESULTS										
Hilf Density Ratio	Standard	%	96.5	95.5	96	96	96.5	97	97.5	97
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**1.0**	**0.5**	**0.5**	**0.0**	**0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295215.504	295195.846	295173.09	295141.395	295166.98	295210.48	295299.731	295318.094
Northing			6269109.712	6269110.718	6269095.664	6269092.022	6269115.045	6269126.148	6269187.661	6269217.266
Reduced Level		m	17.169	17.019	16.947	16.744	15.512	16.088	17.099	17.174
Shown on Drawing No			8599/1-77							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.05	2.06	2.07	2.08	2.11	2.10	2.09
Field Moisture Content		%	21.0	19.5	20.0	21.0	20.5	20.5	19.5	17.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4943	4944	4945	4946	4947	4948	4949	4950
Peak Converted Wet Density		t/m³	2.15	2.15	2.15	2.16	2.15	2.17	2.15	2.16
Apparent Optimum Moisture Content		%	21.0	19.5	19.0	20.5	19.5	20.5	19.0	17.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	2-3	2	2-3	2-3	2-3	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4951	4952	4953	4954	4955	4956	4957	4958
DATE TESTED			18/01/2018							
RESULTS										
Hilf Density Ratio	Standard	%	96.5	98	97	96	96.5	96	95.5	96
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.5**	**0.0**	**1.0**	**0.0**	**0.0**	**0.0**	**1.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295340.35	295358.904	295383.94	295400.573	295384.692	296300.516	296278.293	296271.964
Northing			6269254.931	6269294.846	6269338.264	6269369.767	6269377.905	6268546.24	6268541.602	6268525.675
Reduced Level		m	17.051	16.808	16.863	16.535	16.117	21.484	21.882	22.208
Shown on Drawing No			8599/1-77	8599/1-76				8599/1-82		
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.11	2.10	2.08	2.08	2.05	2.06	2.07
Field Moisture Content		%	20.5	19.0	19.5	21.5	21.0	20.5	21.5	21.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4951	4952	4953	4954	4955	4956	4957	4958
Peak Converted Wet Density		t/m³	2.14	2.15	2.17	2.17	2.15	2.14	2.16	2.16
Apparent Optimum Moisture Content		%	20.0	18.5	19.5	20.5	21.0	20.5	21.5	20.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2	2-3	2-3	3	2-3	3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4959	4960	4961	4962	4963	4964	4965	4966
DATE TESTED			18/01/2018							
RESULTS										
Hilf Density Ratio	Standard	%	95.5	97.5	95.5	95	95.5	97.5	96	95
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296291.208	296311.62	296296.201	296275.358	296270.662	296306.362	296303.364	296276.516
Northing			6268526.066	6268517.816	6268505.866	6268500.992	6268480.329	6268484.774	6268543.836	6268548.857
Reduced Level		m	21.878	21.554	21.962	22.353	22.602	22.191	21.736	22.114
Shown on Drawing No			8599/1-82							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.12	2.05	2.04	2.06	2.09	2.06	2.04
Field Moisture Content		%	21.5	20.5	21.5	21.0	19.5	22.0	22.0	20.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4959	4960	4961	4962	4963	4964	4965	4966
Peak Converted Wet Density		t/m³	2.17	2.17	2.15	2.15	2.16	2.14	2.15	2.15
Apparent Optimum Moisture Content		%	21.5	20.0	21.5	21.0	19.0	22.0	21.5	20.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	2-3	3	3	2	3	3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4967	4968	4969	4970	4971	4972	4973	4974
DATE TESTED			18/01/2018							
RESULTS										
Hilf Density Ratio	Standard	%	95.5	95.5	97	96	96	96.5	97	96.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.5**	**1.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296265.683	296285.309	296306.072	296311.867	296291.218	296270.411	296271.53	296303.899
Northing			6268528.007	6268525.324	6268526.943	6268507.425	6268500.763	6268497.702	6268475.396	6268478.386
Reduced Level		m	22.511	22.281	21.9	22.044	22.425	22.749	23.039	22.635
Shown on Drawing No			8599/1-82							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.05	2.06	2.09	2.08	2.05	2.07	2.10	2.08
Field Moisture Content		%	19.0	19.5	20.5	21.5	20.0	21.0	22.5	21.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4967	4968	4969	4970	4971	4972	4973	4974
Peak Converted Wet Density		t/m³	2.15	2.16	2.15	2.17	2.14	2.15	2.17	2.15
Apparent Optimum Moisture Content		%	19.0	19.5	20.5	21.5	20.0	20.5	21.5	21.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2-3	2-3	3	2-3	2-3	3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
PO BOX 299
WALLSEND NSW 2287

Laboratory: Penrith
Job No: 8599/1
Date: 24/01/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER		4975							
DATE TESTED		18/01/2018							
RESULTS									
Hilf Density Ratio	Standard %	96.5							
Moisture Variation from OMC (-Drier/+Wetter)	%	**0.0**							
Specification	**Density Ratio (Standard)**	**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION									
Easting		296385.19							
Northing		6268723.347							
Reduced Level	m	22.665							
Shown on Drawing No		8599/1-81							
Retested by Test		-							
FIELD & LABORATORY DATA									
Field Wet Density	t/m³	2.08							
Field Moisture Content	%	20.5							
Material retained on 19mm Sieve (wet)	%	<5							
Lab Compaction result from test number		4975							
Peak Converted Wet Density	t/m³	2.16							
Apparent Optimum Moisture Content	%	20.0							
Number of Compaction Points		3							
Test Procedures - See Note Number		12							
Material Description - see below		2-3							

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

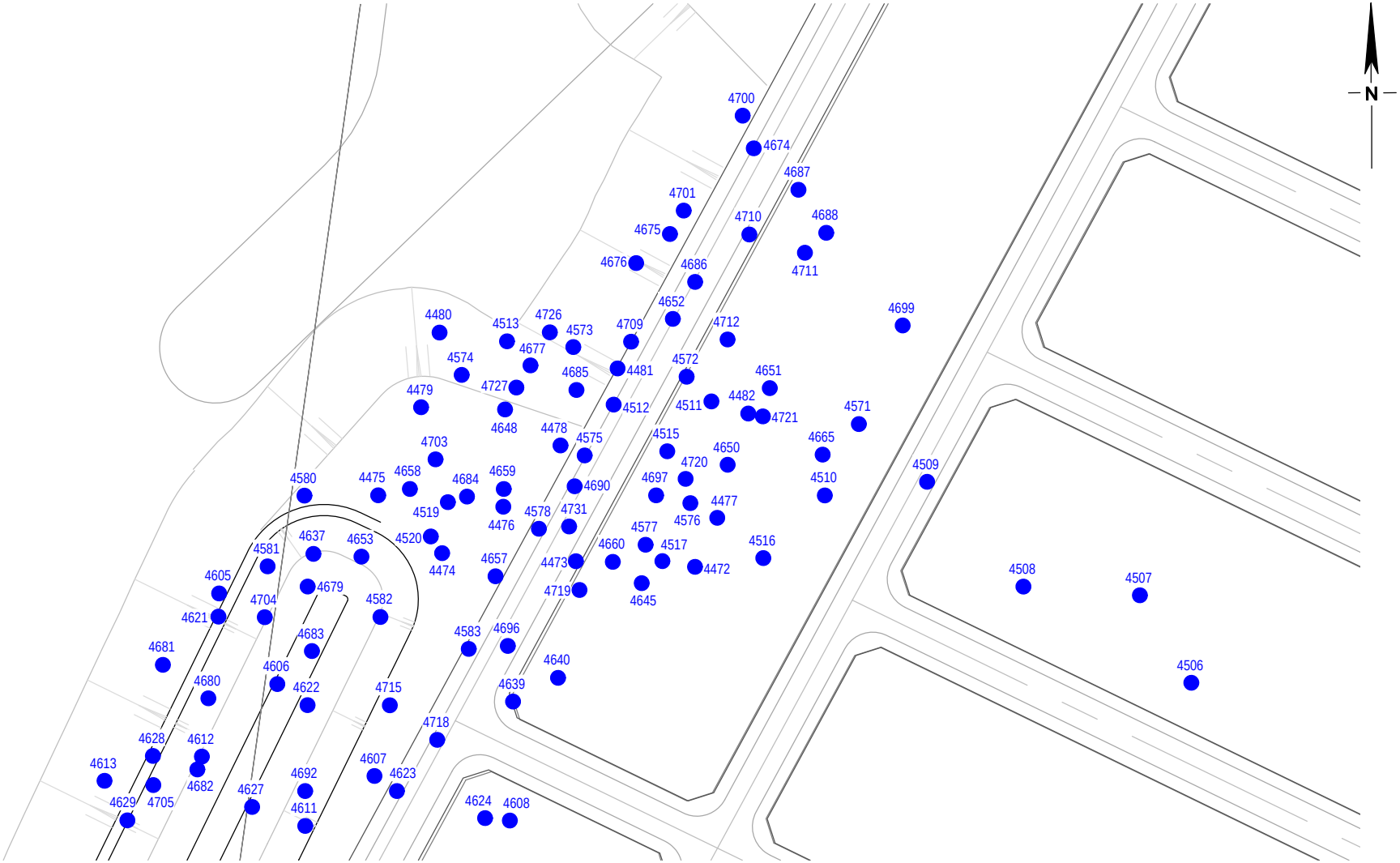
Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/01/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au



LEGEND

● Density Test

GEOTECH TESTING PTY LTD®

34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321

Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

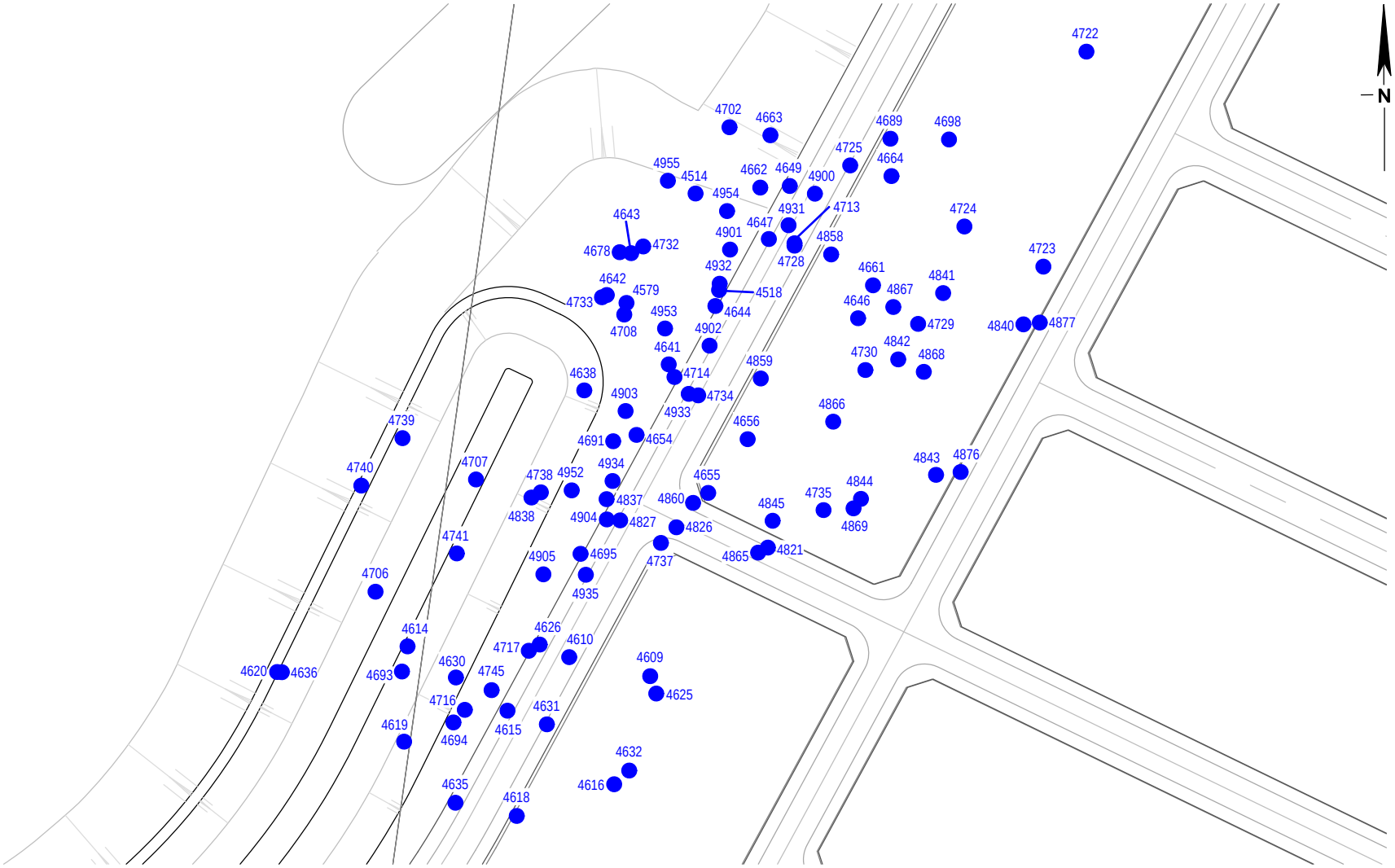
1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-75
Job No: 8599/1
Drawn By: MH
Date: 24 January 2018
Checked By: AK

File No: 8599-1
Layers: 0, Lay75



LEGEND

● Density Test

GEOTECH TESTING PTY LTD®
34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321
Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

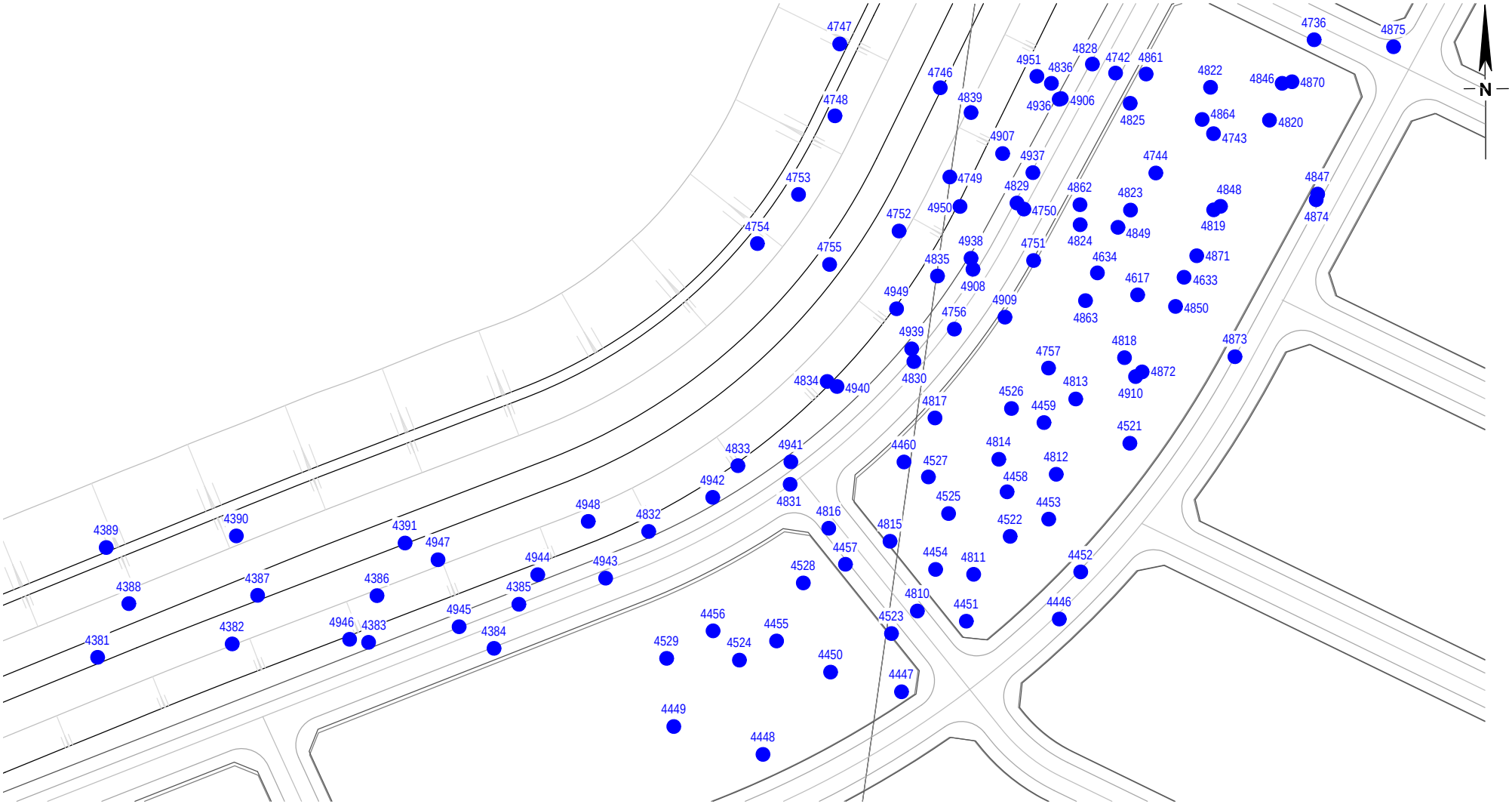
1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-76
Job No: 8599/1
Drawn By: MH
Date: 24 January 2018
Checked By: AK

File No: 8599-1
Layers: 0, Lay76



LEGEND

● Density Test

GEOTECH TESTING PTY LTD®

34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321

Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

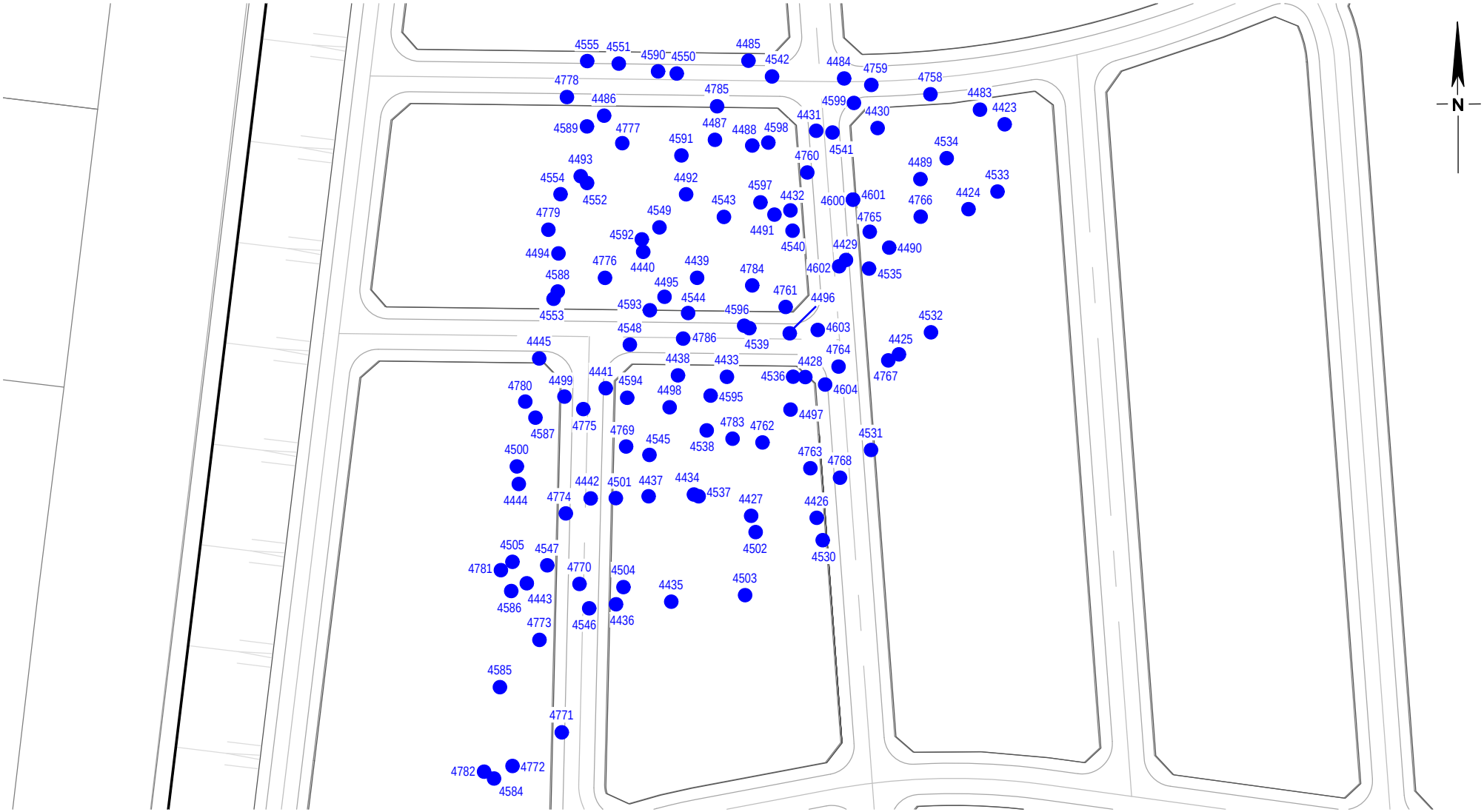
1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-77
Job No: 8599/1
Drawn By: MH
Date: 24 January 2018
Checked By: AK

File No: 8599-1
Layers: 0, Lay77



LEGEND

● Density Test

GEOTECH TESTING PTY LTD®
34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321
Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

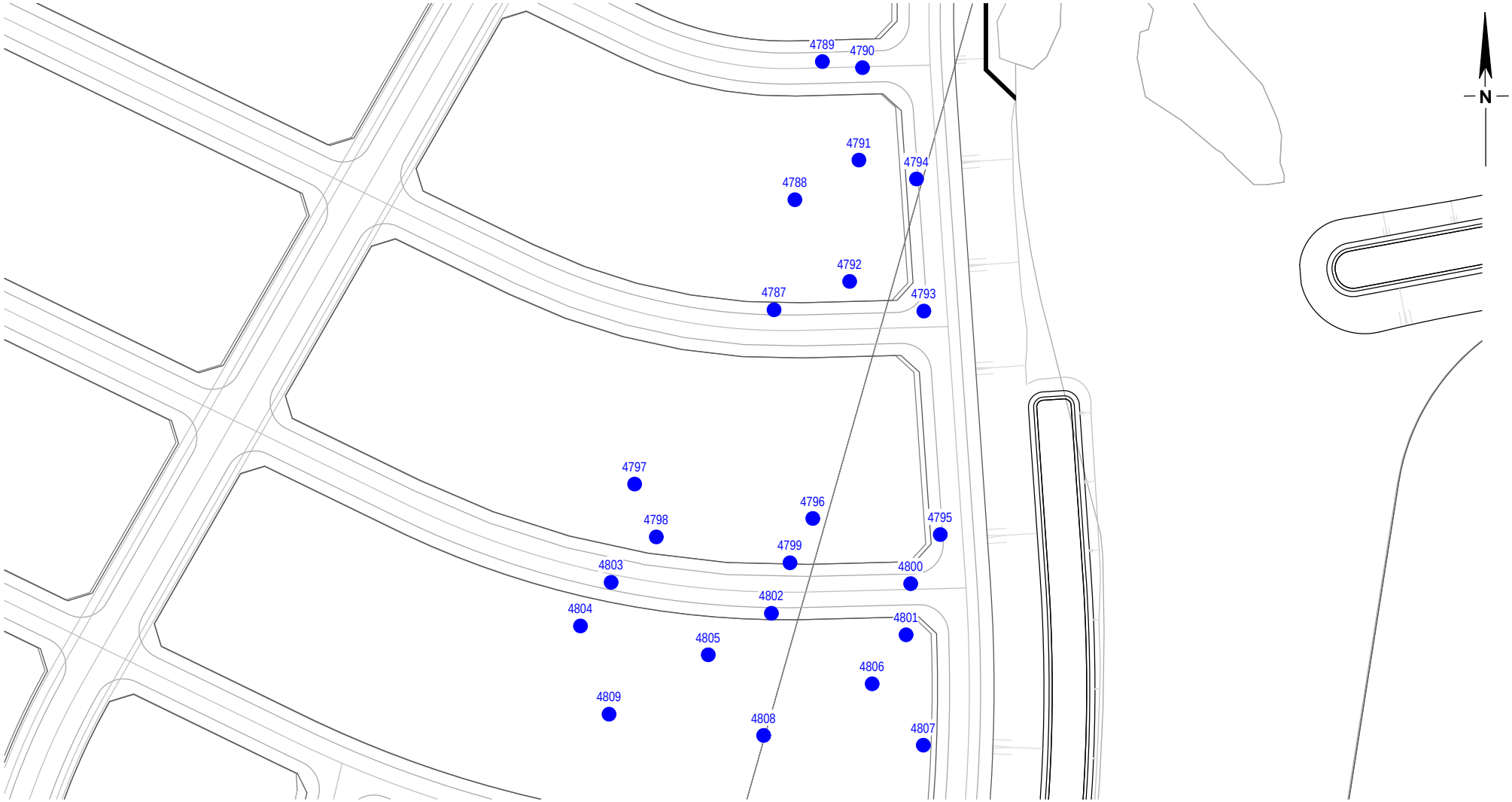
1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-78
Job No: 8599/1
Drawn By: MH
Date: 24 January 2018
Checked By: AK

File No: 8599-1
Layers: 0, Lay78



LEGEND

● Density Test

GEOTECH TESTING PTY LTD®

34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321

Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-79
Job No: 8599/1
Drawn By: MH
Date: 24 January 2018
Checked By: AK

File No: 8599-1
Layers: 0, Lay79

LEGEND

● Density Test

GEOTECH TESTING PTY LTD®
34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321
Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-80
Job No: 8599/1
Drawn By: MH
Date: 24 January 2018
Checked By: AK

File No: 8599-1
Layers: 0, Lay80

LEGEND

● Density Test

GEOTECH TESTING PTY LTD®

34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321

Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-81
Job No: 8599/1
Drawn By: MH
Date: 24 January 2018
Checked By: AK

File No: 8599-1
Layers: 0, Lay81

LEGEND

● Density Test

GEOTECH TESTING PTY LTD®
34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321
Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-82
Job No: 8599/1
Drawn By: MH
Date: 24 January 2018
Checked By: AK

File No: 8599-1
Layers: 0, Lay82

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	213
Location:	Marsden Park	Report Date:	05 / 12 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 5:00

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 11	TEST NO'S 4367 - 4382 / 16
APPROVED SUBGRADE	SUBGRADE 09	TEST NO'S 4383 .

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

2x 627 SCRAPERS CUTTING PADS THAT ARE HIGH AND PLACING IN LOWER AREAS
825 COMMENCING AND PUSHING AS PLACED 08 ALSO HEADING TRIM BULK OF PADS READY FOR TOPSOILING
ANOTHER 4x 627 SCRAPERS CARTING TOPSOIL FROM STOCKPILE AND

5. Instructions given on site

PLACING OVER FINISHED AREAS (SS)18-16 UNDER TRIMMING TO LOS FIVE FOR FSL
3x 637 6H MIXING SCRAPERS HAULING CUT TO FILL MATERIEL FROM BMO SW TO (SS) 11 WHERE 825 PUSHING WEST TO MAKE SHIFT ALIGNE / OVERPASS

COMMENTS:

Signed: Date: 05.12.17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/3 1
Project:	Woorong Bulk Earthworks	Report No:	214
Location:	Marsden Park, Precinct 2	Report Date:	06/12/2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 5:00

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 18	TEST NO'S 4383 - 4397/11
APPROVED SUBGRADE	SUBGRADE 11	TEST NO'S 4393 - 4424/31

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey Test Locations Lot Boundaries	Survey undertaken by: Geotech / Geotech /	Reference

4. Instructions received on site

ROADTRUCKS CARTING IMPORT MATERIEL FROM DESIGNATED SITES AROUND WESTERN SYDNEY MATERIEL TO (SG) 16 825 COMPACTOR PUSHING EAST IN A ORGANISED MANNOR OF CAOS WITH ALL THE TRUCKS
2x 627 SCRAPERS FEEDING 825 IN APPROVED SUBGRADE 18

5. Instructions given on site

ALSO ANOTHER 825 PUSHING AND COMPACTING MATERIEL TO THE WEST HEADING TO STONEY CREEK ROAD BOX.
3x 637 SCRAPERS CARTING CUT TO FILL FROM (BM3) SITE TO (SG) 11 DARACON
825 COMPACTOR WORKING WEST TO CREEK OPPOSITE CULVERT

COMMENTS: 4x 627 SCRAPERS PLACING TOPSOIL OVER FINISHED PADS WITHIN SUBGRADES FROM STOCKPILED TOPSOIL FROM BEGINING

Signed: Date: 06.12.17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/~~8~~ 1
Project:	Woorong Bulk Earthworks	Report No:	215
Location:	Marsden Park, Precinct 2	Report Date:	07/12/2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 5:00

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 16	TEST NO'S 4425 ... 4447, 23
APPROVED SUBGRADE	SUBGRADE 18	TEST NO'S 4448 ... 4462/15

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

ROADTRUCKS CARTING IMPORT MATERIEL TO (S4) 16 825 AND D8 DOZER PUSHING AND COMPACTING OF THE FACE TOWARDS THE WEST WATERCART SPRAYING AS PLACED
4x 627'S CUTTING OVER FILLED 10% IN SUBGRADE 08.09 MATERIEL

5. Instructions given on site

PLACED IN LOWER AREAS WHILE 825 ROLLS IN FILL MATERIEL FOR ESC LAYER/LIFT
4x 627 SCRAPERS ALSO PLACING STOCKPILED TOPSOIL OVER FINISHED AREAS READY FOR GRASS TRACTOR FOR LOCAL LAWNS

COMMENTS: 3x 637 SCRAPERS CARTING MATERIEL FROM BMD SITE TO (S4)11 ALONG WITH 2x 30t DUMPTRUCKS LOADED BY 25t EXCAVATOR AND 1 825 COMPACTING WITH WATERCART

Signed: Date: 07.12.17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System Quality ISO 9001 SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	216
Location:	Marsden Park	Report Date:	08 /12 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 5:00

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 17 11	TEST NO'S 4463 - 4473 / 11
APPROVED SUBGRADE	SUBGRADE 18	TEST NO'S 4474 - 4484 / 11

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 16	TEST NO'S 4485 - 4501 / 23

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

ROAD TRUCKS CARTING IMPORT MATERIEL TO SUBGRADE 16 825 AND 06 PUSHING MATERIEL TO THE WEST TOWARDS STONEY CREEK ROAD 30,000LTR WATERCART SPRAYING AS DIRECTED

3x637 SCRAPERS PLACING CUT TO FILL FROM BMD SITE TO SUBGRADE 11

5. Instructions given on site

ALSO 825 COMPACTOR ROLLING AS EARTHED OUT OVER TOW ROADS ALONG WITH ANOTHER 30,000LTR WATERCART ROLLING IN AS SPRAYED

ALL SCRAPERS TOPSOILING AREAS THAT ARE 100 BELOW FSL READY FOR GRASS TRACTOR TO SPREAD SEEDS.

COMMENTS: GRADERS ALSO TRIMMING HAUL ROADS FOR SCRAPERS AND ROADTRUCKS

TRUCKS ENTERING RICHMOND ROAD AND EXITING STONEY CK ROAD AFTER TIP OFF

Signed: Date: 08/12/17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	217
Location:	Marsden Park	Report Date:	11 /12 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 5:00

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 18	TEST NO'S 45301/24

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

ROAD TRUCKS CARTING IMPORT MATERIEL TO SUBGRADES 16 18 24 825 COMPACTORS PUSHING AS DUMPED WATERCART SPRAYING AS IT'S SAFE TO ALONG WITH D6 PUSHING MATERIEL OF THE TALL TOWARDS STONEY CK ROAD TRUCKS ALSO HAULING SANDSTONE STOCKPILING FOR WHEN ROADS BOXED

5. Instructions given on site

D6 GRADER WILL PUSH AND TRIM WITH COMPACTOR
24 627 SCRAPERS PICKING UP STOCKPILED MATERIEL PUSHED UP BY D8 MATERIEL DUMPED ON SG) 16

COMMENTS:

Signed: Date: 11-12-17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System Quality ISO 9001 SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	218
Location:	Marsden Park	Report Date:	12 / 12 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 5:00

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 16	TEST NOS 4532 -4557/26
APPROVED SUBGRADE	SUBGRADE 11	TEST NOS 4558. 4572/15

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 18	TEST NOS 4573-4585/13

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

ROAD TRUCKS CARTING IMPORT MATERIEL TO SUBGRADES 18 16 ENTRY THROUGH RICHMOND ROAD EXITING STONEY CREEK ROAD
2x 825 COMPACTORS AND 1x D6 PUSHING AND WORKING MATERIEL CLOSER TO GPS FILE FSL 30, OTHER MATERIALS SPREADING BETWEEN ROAD SHAPES

5. Instructions given on site

GRADER BOXING OUT ROADS NAILE ROAD TRUCKS STOCKPILE SANDSTONE UNTIL READY FOR PLACEMENT
6x 627 SCRAPERS PLACING TOPSOIL OVER FINISHED AREA GRADER TRIMING WHILST PLACED

COMMENTS: 3x 637 SCRAPERS FROM BMD CARTING CLAY TO (54)11 WITH 825 COMPACTOR PUSHING EAST TOWARDS BMD SITE

Signed:

Date: 12.12.17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	219
Location:	Marsden Park	Report Date:	13/12/2017
Test Methods:	AS-1289 5.1.1, 5.8.1	Technician:	Heath Wilson / TS

Time on site: 0800

Time off site: 1600

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 16	TEST NO'S 4586 - 4606 /21

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

TOM TOLD LOCATIONS AS I WAS OF SITE.

5. Instructions given on site

COMMENTS:

Signed: Date: 13/12/17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System Quality ISO 9001 SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	220
Location:	Marsden Park	Report Date:	14/12/2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 5:00

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 18	TEST NO'S 4607 - 4677/60
APPROVED SUBGRADE	SUBGRADE 16	TEST NO'S 4668 - 4675/8

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

TRUCKS CARTING IMPORT MATERIEL TO SUBGRADE 18 DAM AREA TOWARDS THE FARMERS HOUSE
2x 825 COMPACTORS WORKING SEPERATE ROADS WATERCART SPRAYING MATERIEL AS PLACED FOR SPEC

5. Instructions given on site

ALSO 3x 637 SCRAPERS CARTING CUT TO FILL TO (SG)1 FROM BMD SITE ALSO 825 DOZING AND COMPACTING TO THE EAST AWAY FROM RIVER CROSSING ANOTHER WATERCART RUNNING ALONG FARMERS MATERIEL SPRAYING 2x GRADERS TRIMMING ROADS FOR STOCKPILED SANDSTONE PLACEMENT

COMMENTS: 6x 627 SCRAPERS TRIMMING FINISHED ROADS AND PLACING STOCKPILED TOPSOIL FROM PREVIOUS AREAS

Signed: Date: 14/12/17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	221
Location:	Marsden Park	Report Date:	15/12/2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 5:00

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 18	TEST NO'S 4676 - 4724/49

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

ROAD TRUCKS CARTING IMPORTAN MATERIEL TO APPROVED (SG) 18 ENTERING RICHMOND ROAD DROPPING AND EXITING STONEY CK ROAD
2X 825 COMPACTORS PUSHING AND OS PUSHING MATERIEL OF THE FACE
WATERCART SPRAYING AS NEEDED

5. Instructions given on site

6X SCRAPERS BOWING OUT ROADS AND PLACING MATERIEL ON (SG)11 AT A LATER STAGE MATERIEL WILL BE CONTROLLED AND PLACED
BETWEEN ROADS SCRAPERS CARTING TOPSOIL PREVIOUSLY STOCKPILED TO FINISHED ROADS

COMMENTS: 825 COMPACTING SANDSTONE IN ROADS WHILE GRADER PUSHES AND TRIMS FOR SG REPLACEMENT

Signed: Date: 15.12.17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System Quality ISO 9001 SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	222
Location:	Marsden Park	Report Date:	18/12/2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 1500

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 18	TEST NO'S 4725 - 4759 / 35
APPROVED SUBGRADE	SUBGRADE 16	TEST NO'S 4760 - 4788 / 29

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

4x 627 SCRAPERS CARTING CLAY TO FILL FROM (SG) 16 AND PLACING IN LOW AREAS SUCH AS (SG) 18
825 COMPACTOR CONTROLLING PLACED MATERIEL WITH WATER CART SPRAYING AS PLACED
2x 627 SCRAPERS PLACING STOCKPILED TOPSOIL OVER FINISHED LOTS

5. Instructions given on site

WHILST GRADER TRIMMING TO FILE
ANOTHER 825 COMPACTOR PUSHING TO THE NORTH AGAINST BOXED ROADS
STOCKPILED SANDSTONE ALSO PUSHED INTO ROADS AND COMPACTED

COMMENTS: BY 825 WITH WATERCART WETTING AREAS TO BE PLACED ON

Signed: Date: 18-12-17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	223
Location:	Marsden Park	Report Date:	19 / 12 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 5:00

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

5. Instructions given on site

ROAD TRUCKS HAVE STOPPED CARTING DUE TO STONEY CREEK ROAD UPGRADES
4x 627 SCRAPERS CARTING STOCKPILED TOPSOIL TO FINISHED PADS WHILE GRADER TRIMMING TO FILE LEFT BELOW -100

COMMENTS: 2x 627 SCRAPERS CARTING CUT TO FILL TO PAD 16 TOMORROW I WILL PICK IT UP AND TEST SO I HAVE A SUFFICIANT AMOUNT OF BULK MATERIEL,

Signed: Date: 19.12.17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	224
Location:	Marsden Park	Report Date:	20/12/2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 5:00

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 16	TEST NO'S

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

ROAD TRUCKS STOCKPILING OVERSIZE SANDSTONE ON (S4) OF USED FOR PAVEMENT IN THE NEW YEAR
3x 627 SCRAPERS CARTING CUT TO FILL MATERIEL TO (S4) 16 825 COMPACTOR PUSHING EAST FOR CLOSE TO ESC ON GPS FILE

5. Instructions given on site

GRADER BOXING OUT ROADS WHICH ROAD TRUCKS UNLOAD SANDSTONE
ALSO ANOTHER 825 COMPACTING AFTER WATERCART SPRAYS
ALSO 3x 627 SCRAPERS TOPSOILING FROM STOCKPILED MATERIEL GRASS SEEDING TRACTOR RUNNING ALONG FINISHED AREAS

COMMENTS: MY GPS IS NOT LINKING TO INTERNET MAYBE NO LOCATIONS TODAY

Signed:

Date: 20-12-17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	225
Location:	Marsden Park	Report Date:	21 / 12 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 5.00

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 10	TEST NO'S 4789. 4911/23

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

3 x 627 SCRAPERS REMOVING MATERIEL FROM HIGH AREAS ON RACING ALONGSIDE BOX 12 INTO SUB 825 WORKING MATERIEL AS PLACED
ALSO 3 x 627'S CARTING TOPSOIL TO FINISHED AREAS READY FOR GRASS SEEDING TRACTOR

5. Instructions given on site

ALSO ANOTHER 825 COMPACTOR WORKING (SUB) 12 IN SEPERATE AREA
GRADER STILL BOXING OUT ROADS FOR STOCKPILED SANDSTONE TO BE PLACED NEXT YEAR
825 WILL ROLL AND PUSH AS EXCAVATOR LOADS OUT TRUCKS AND

COMMENTS: PLACES WHERE IS NEEDED

Signed:

Date: 21.12.17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System Quality ISO 9001 SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	226
Location:	Marsden Park	Report Date:	11 / 01 ~~/2017~~ 2018
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 5:00

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 18	

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

5. Instructions given on site

4 × 627 SCRAPERS CARRYING CUT TO FILL MATERIEL FROM HIGH AREAS AND PLACING OVER SUBGRADE 16, 17 ALONG WITH DOZ PUSHING UP WET MATERIEL TO FARM OVER LARGE AREA

825 SPREADING PLACED MATERIEL AND COMPACTING WHILST MIXING

COMMENTS: IN THE DRY MATERIEL OF TO THE SIDE

GRADER REFORMING HAUL ROADS FOR SAFE ENTRY AND EXIT CANNOT ACCESS JOB FROM STONEY CREEK ROAD NEW ENTRY FROM RICHMOND ROAD MARSDEN PARK

Signed: Date: 11-01-18

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System Quality ISO 9001 SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	227
Location:	Marsden Park	Report Date:	12/01/2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 1700

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 18	TEST NOS 4812 - 4840 / 29

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

5x 627 SCRAPERS CARTING CUT TO FILL TO 2x 825 COMPACTORS IN SUBGRADE 18 IN LOWER WESTERN END OF DOZER FARMING OUT THE WET MATERIEL FOR NEXT LAYER/LIFT ALSO 2x GRADERS WORKING HAUL ROAD INTO AND OUT OF THE JOB SITE

5. Instructions given on site

TRUCK AND DOGS CARTING IMPORT FILL MATERIEL ENTERING FROM OLD RICHMOND ROAD AND DRIVING THROUGH (BMD) SITE WORKS
MATERIEL PLACED IN SUBGRADE 12 OF AND COMPACTOR PUSHING AND COMPACTING WATERCART SPRAYING AS MATERIEL PLACED

COMMENTS:

Signed: Date: 12.01.17

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	228 2018
Location:	Marsden Park	Report Date:	15 / 01 ~~/2017~~
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 5:00

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 18	TEST NO'S 4441 - 4451 / 11
APPROVED SUBGRADE	DMD SITE	TEST NO'S 4852 - 4858 / 7

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

ROAD TRUCKS CARRYING IMPORT MATERIEL TO SUBGRADE 18 FROM OLD RICHMOND ROAD SIDE AS ITS THE ONLY ENTRY AND EXIT 2x 825 COMPACTORS PUSHING AND RIPPING AS DUMPED FOR NEXT LIFTS WATERCART SPRAYING AS NEEDED FOR DENSITY AND COMPACTION

5. Instructions given on site

5x 627 SCRAPERS CARRYING CUT TO FILL MATERIEL TO APPROVED SUBGRADE 18
1x 825 PUSHING RUN OUT MATERIEL NORTH ALONG EXISTING DAM BATTER
DS RIPPING FOR EASY SCRAPER PICK UP
30,000 CM WATERCART SPRAYING LAYER AS NEEDED

COMMENTS:

Signed: Date: 15 / 01 / 18

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System Quality ISO 9001 SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	224
Location:	Marsden Park	Report Date:	16/01/2018 ~~/2017~~
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 5.00

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 18	TEST NO'S 4859 - 4878/20
APPROVED SUBGRADE	SUBGRADE 12/BMD	TEST NO'S 4879 - 4900/22

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

ROAD TRUCK AND DOGS CARTING IMPORT MATERIAL TO FILL AREA SUBGRADE 12 AND PART(BMD) SITE WITH NO SUBGRADE APPROVAL
SCRAPER ALSO PLACING IN (S4) 12 875 COMPACTOR PUSHING AND COMPACTING OR DOZER HELPING PUSH OVER LOADS AS PLACED

5. Instructions given on site

4x 627 SCRAPERS CARTING MATERIEL TO APPROVED (S4) 18 GRADER PUSHING MATERIEL TO SMOOTH LAYER WHILST WATERCART SPRAYS AND COMPACTOR FOLLOWS TO ACHIEVE DENSITY
ROADTRUCKS ALSO STOCKPILING SANDSTONE ON (S4) OR OR PUSHING

COMMENTS: MATERIEL UP FOR FUTURE USE IN ROAD ZONES

Signed: Date: 16.01.18

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	~~8599/3~~ 8599/1
Project:	Woorong Bulk Earthworks	Report No:	230
Location:	Marsden Park, ~~Precinct~~ 2	Report Date:	17 / 01 /2018
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 5.00

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 12	TEST NO'S 4901 - 4911 ✓11
APPROVED SUBGRADE	SUBGRADE 12 BND	TEST NO'S 4912 - 4931 ✓20

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

4x 627 SCRAPERS CARTING CUT TO FILL MATERIEL TO APPROVED SUBGRADE (12) CLOSE TO FARMERS FENCE (B04) NORTHERN END 825 COMPACTOR ROLLING PLACED MATERIEL WHILST WATERCART SPRAYING FROM FACE OF OPPOSITE SIDE FROM FILL AREA

5. Instructions given on site

ROAD TRUCKS CARTING IMPORT MATERIEL TO FILL AREA (12) ONTO BND SIDE ACCROSS RIVER / CREEK
FILL PLACED 825 PUSHING OFF THE FACE TO THE SOUTH (08) PUSHING UP ONTO THE EASTERN EDGE TO CREATE BATTER

COMMENTS: 627 SCRAPER BOXING OUT ROADS STG (B) FOR SANDSTONE SUBGRADE REPLACEMENT
2Y ROADTRUCKS IMPORTING SANDSTONE AND STOCKPILING IT FOR FUTURE USE ON ROADS

Signed: Date: 17-01-18

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System Quality ISO 9001 SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	~~8599/3~~ 8599/1
Project:	Woorong Bulk Earthworks	Report No:	231
Location:	Marsden Park, ~~Precinct 2~~	Report Date:	18 / 01 /2017
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 5:00

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 18	TEST NO'S 4932 - 4956 / 25
APPROVED SUBGRADE	SUBGRADE 12 BMD	TEST NO'S 4957 - 4975 / 19

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

4x 627 SCRAPERS TOP SOILING FROM STOCKPILED MATERIEL OVER FINISHED LOTS IN APPROVED (SG) 18
GRADER TRIMMING TOPSOIL TO LEVEL WHERE PLACED IN 627 CARTING CUT TO FILL TO (SG) 18 825 COMPACTOR ROLLING AND SPREADING

5. Instructions given on site

2x D8 DOZERS RIPPING AND BOXING OUT ROADS MATERIEL PLACED IN A STOCKPILED MANNOR SCRAPERS WILL REMOVE AT A LATER STAGE
ROAD TRUCKS CARTING IMPORT MATERIEL TO (SG) 12 AND PART BMD SITE
2x 825 COMPACTORS PUSHING MATERIEL OF THE FACE WITH D8

COMMENTS: DOZER SHAPING BATTER INTO REGEN AREA ON SOUTH EASTERN SIDE
ALSO WATERCART SPRAYING AS NEEDED

Signed: Date: 18.01.18

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

Our Ref: 8599/1-R13
26 February 2018

Daracon Contractors Pty Ltd
P O Box 6145
SILVERWATER BC NSW 1811
Email: SimpsonW@daracon.com.au

Attention: Mr S Wong

Dear Sir

Re: **Woorong Bulk Earthworks**
Marsden Park
Monthly Site Filling Certificate – February 2018

For the production period 19 January 2018 to 21 February 2018 inclusive, we submit our Geotech Monthly Report for the above project.

During the foregoing testing period, a total of five hundred & seventy-nine compaction control tests (Tests 4976 to 5554 inclusive) were carried out and reported. The locations of the 579 tests are shown on the attached Drawing Nos 8599/1-83 to 8599/1-91 inclusive (9 drawings). All tests have been undertaken in accordance with the Test Methods and Specifications shown on the attached certificates. Scanned daily records and subgrade reports are also attached.

Based on the fill quantities/survey data, the frequency of field density and compaction tests was in accordance with Level 1 as defined in AS3798 “Guidelines on Earthworks for Commercial & Residential Development”. We certify that all tested locations attained the density ratio shown on the test results sheets. Where failures were encountered, the areas were re-worked and re-tested to achieve the specified density ratio.

Based on site observations and testing, it is considered that the fill placed to date at the locations shown on the attached drawings is classified as "Controlled" fill and that the specified compaction level has been achieved within the tested area.

If you have any questions, please do not hesitate to contact the undersigned.

Yours faithfully
GEOTECH TESTING PTY LTD

Adrian Kench
Laboratory Manager

Attached Density Test Results Certificates Tests 4976 to 5554
Test Location Drawings 8599/1-83 to 8599/1-91
Daily Records

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4976	4977	4978	4979	4980	4981	4982	4983
DATE TESTED			18/01/2018							
RESULTS										
Hilf Density Ratio	Standard	%	97	96.5	97	95.5	96	97	97	95.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**1.0**	**0.0**	**1.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296381.01	296366.51	296360.316	296372.737	296379.753	296389.704	296386.769	296374.773
Northing			6268741.103	6268764.894	6268793.489	6268797.948	6268771.146	6268750.829	6268730.308	6268743.729
Reduced Level		m	22.489	21.999	21.658	22.005	22.217	22.633	23.012	22.716
Shown on Drawing No			8599/1-86							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.08	2.08	2.07	2.06	2.12	2.08	2.06
Field Moisture Content		%	16.0	17.5	17.0	16.5	17.0	17.5	18.0	18.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4976	4977	4978	4979	4980	4981	4982	4983
Peak Converted Wet Density		t/m³	2.13	2.15	2.14	2.17	2.15	2.18	2.14	2.16
Apparent Optimum Moisture Content		%	16.0	17.5	17.0	16.5	16.5	16.5	18.0	17.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4984	4985	4986	4987	4988	4989	4990	4991
DATE TESTED			18/01/2018							
RESULTS										
Hilf Density Ratio	Standard	%	96	95	95	96.5	96.5	96.5	96.5	97
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.0**	**0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296360.269	296353.655	296391.858	296401.805	296412.774	296265.032	296286.35	296309.446
Northing			6268770.606	6268801.821	6268791.649	6268763.245	6268731.499	6268466.466	6268459.098	6268459.871
Reduced Level		m	22.161	21.853	22.007	22.502	22.911	22.86	22.837	22.28
Shown on Drawing No			8599/1-86					8599/1-91		
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.05	2.06	2.07	2.08	2.09	2.08	2.08
Field Moisture Content		%	19.0	17.5	18.0	18.0	16.5	15.5	16.5	18.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4984	4985	4986	4987	4988	4989	4990	4991
Peak Converted Wet Density		t/m³	2.16	2.16	2.17	2.14	2.15	2.17	2.15	2.14
Apparent Optimum Moisture Content		%	19.0	17.0	18.0	18.0	16.0	15.0	16.0	17.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			4992	4993	4994	4995	4996	4997	4998	4999
DATE TESTED			18/01/2018							
RESULTS										
Hilf Density Ratio	Standard	%	96	96	95	96.5	95.5	97	97.5	95.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.0**	**0.0**	**0.5**	**0.5**	**0.0**	**0.5**	**0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296315.696	296294.124	296273.509	296264.492	296289.718	296311.707	296316.634	296294.325
Northing			6268441.021	6268436.96	6268436.127	6268458.964	6268466.425	6268467.84	6268440.738	6268435.294
Reduced Level		m	22.306	22.821	23.049	23.2	23.029	22.508	22.635	23.128
Shown on Drawing No			8599/1-91							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.07	2.06	2.07	2.06	2.09	2.10	2.05
Field Moisture Content		%	20.5	19.5	19.5	21.0	18.5	19.0	19.0	17.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			4992	4993	4994	4995	4996	4997	4998	4999
Peak Converted Wet Density		t/m³	2.17	2.16	2.17	2.15	2.16	2.15	2.15	2.15
Apparent Optimum Moisture Content		%	20.5	19.0	19.0	20.5	18.5	18.5	18.0	17.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2	2	2-3	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5000	5001	5002	5003	5004	5005	5006	5007
DATE TESTED			18/01/2018						22/01/2018	
RESULTS										
Hilf Density Ratio	Standard	%	97	97	98.5	96.5	98	95.5	101.5	103
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.5**	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**	**-0.5**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296266.575	295915.833	295889.329	295868.042	295847.666	296202.244	296231.641	296257.753
Northing			6268434.545	6268656.843	6268651.505	6268653.068	6268649.144	6268673.745	6268675.953	6268679.806
Reduced Level		m	23.418	19.838	19.676	19.463	19.28	20.889	20.731	20.678
Shown on Drawing No			8599/1-91	8599/1-88					8599/1-90	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.10	2.09	2.08	2.06	2.06	2.04	2.05	2.09
Field Moisture Content		%	18.0	17.5	17.5	19.5	17.0	19.0	17.5	18.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5000	5001	5002	5003	5004	5005	5006	5007
Peak Converted Wet Density		t/m³	2.16	2.15	2.11	2.13	2.10	2.14	2.02	2.03
Apparent Optimum Moisture Content		%	18.0	17.5	17.0	19.0	17.0	19.0	18.5	19.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5008	5009	5010	5011	5012	5013	5014	5015
DATE TESTED			22/01/2018							
RESULTS										
Hilf Density Ratio	Standard	%	101	101.5	101.5	100	99	98.5	100.5	99
Moisture Variation from OMC (-Drier/+Wetter)		%	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296242.939	296206.019	296193.844	296216.739	296224.278	296197.538	296189.932	296205.75
Northing			6268691.978	6268693.186	6268706.825	6268710.3	6268727.445	6268730.585	6268742.171	6268755.717
Reduced Level		m	20.61	20.734	20.622	20.455	20.129	20.311	20.233	20.056
Shown on Drawing No			8599/1-90							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.09	2.09	2.08	2.06	2.06	2.11	2.09
Field Moisture Content		%	18.0	17.0	17.5	19.0	18.5	16.0	18.5	17.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5008	5009	5010	5011	5012	5013	5014	5015
Peak Converted Wet Density		t/m³	2.05	2.06	2.06	2.08	2.08	2.09	2.10	2.11
Apparent Optimum Moisture Content		%	19.0	17.5	18.0	19.5	19.0	16.5	19.0	18.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2-3	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5016	5017	5018	5019	5020	5021	5022	5023
DATE TESTED			22/01/2018							
RESULTS										
Hilf Density Ratio	Standard	%	96	96.5	96.5	99	97	95.5	95.5	99
Moisture Variation from OMC (-Drier/+Wetter)		%	**-1.0**	**-1.0**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**0.5**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296258.139	296287.36	296311.539	296317.774	296292.48	296265.266	296260.39	296294.456
Northing			6268422.139	6268415.49	6268415.774	6268402.171	6268399.128	6268402.708	6268386.019	6268377.2
Reduced Level		m	23.264	23.106	22.442	22.445	23.084	23.461	23.494	23.33
Shown on Drawing No			8599/1-91							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.05	2.07	2.08	2.13	2.10	2.07	2.05	2.07
Field Moisture Content		%	18.5	16.5	19.0	17.5	19.0	19.0	16.5	15.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5016	5017	5018	5019	5020	5021	5022	5023
Peak Converted Wet Density		t/m³	2.13	2.15	2.15	2.15	2.16	2.17	2.15	2.09
Apparent Optimum Moisture Content		%	19.5	17.5	20.0	18.5	19.5	19.5	16.0	16.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2	2-3	2	2-3	2-3	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5024	5025	5026	5027	5028	5029	5030	5031
DATE TESTED			22/01/2018	23/01/2018						
RESULTS										
Hilf Density Ratio	Standard	%	98	98.5	96	98	96.5	96.5	96.5	96.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**-0.5**	**0.5**	**0.5**	**0.5**	**0.0**	**0.5**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295606.165	295576.765	295544.112	295511.4	295492.625	295512.495	295545.562	295587.396
Northing			6269317.254	6269330.942	6269346.162	6269361.43	6269351.029	6269341.491	6269325.899	6269305.791
Reduced Level		m	19.755	19.387	18.772	18.202	18.12	18.405	18.959	20.067
Shown on Drawing No			8599/1-83							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.06	2.07	2.05	2.09	2.08	2.05	2.05	2.06
Field Moisture Content		%	18.0	19.5	20.5	20.0	19.5	19.0	20.0	19.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5024	5025	5026	5027	5028	5029	5030	5031
Peak Converted Wet Density		t/m³	2.10	2.10	2.13	2.13	2.16	2.12	2.12	2.14
Apparent Optimum Moisture Content		%	18.5	19.0	20.0	19.5	19.5	18.5	19.5	19.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2-3	2-3	2-3	2	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5032	5033	5034	5035	5036	5037	5038	5039
DATE TESTED			23/01/2018							
RESULTS										
Hilf Density Ratio	Standard	%	97	100.5	97	97	96	96	96	97
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.0**	**0.5**	**0.5**	**0.5**	**0.0**	**0.0**	**0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295586.613	295558.583	295530.007	295501.468	296286.08	296277.701	296261.166	296265.555
Northing			6269288.156	6269301.803	6269315.466	6269329.427	6268621.969	6268654.952	6268674.378	6268643.624
Reduced Level		m	20.501	19.955	19.362	18.761	21.334	21.093	20.798	21.301
Shown on Drawing No			8599/1-83				8599/1-90			
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.10	2.11	2.08	2.06	2.07	2.04	2.04	2.08
Field Moisture Content		%	20.0	21.0	20.5	20.0	20.0	20.5	20.5	21.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5032	5033	5034	5035	5036	5037	5038	5039
Peak Converted Wet Density		t/m³	2.16	2.10	2.14	2.12	2.16	2.13	2.13	2.14
Apparent Optimum Moisture Content		%	20.0	20.5	20.0	20.0	20.0	20.5	20.0	21.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	2-3	2-3	2-3	2-3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5040	5041	5042	5043	5044	5045	5046	5047
DATE TESTED			23/01/2018							
RESULTS										
Hilf Density Ratio	Standard	%	98.5	99	96.5	96	96	96.5	96	97.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.5**	**0.5**	**0.5**	**0.0**	**0.0**	**0.5**	**1.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296259.396	296240.824	295706.612	295717.373	295719.365	295701.242	295682.797	295694.736
Northing			6268617.418	6268657.013	6269153.104	6269182.563	6269212.54	6269181.845	6269164.622	6269208.919
Reduced Level		m	21.577	21.042	18.418	18.468	18.546	18.969	19.809	19.964
Shown on Drawing No			8599/1-90		8599/1-84					
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.08	2.08	2.06	2.08	2.06	2.05	2.09
Field Moisture Content		%	20.5	20.5	20.5	21.5	21.0	19.5	20.5	19.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5040	5041	5042	5043	5044	5045	5046	5047
Peak Converted Wet Density		t/m³	2.11	2.10	2.15	2.15	2.17	2.14	2.13	2.14
Apparent Optimum Moisture Content		%	20.0	20.0	20.0	21.0	21.0	19.0	20.0	19.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	3	3	2	2-3	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5048	5049	5050	5051	5052	5053	5054	5055
DATE TESTED			24/01/2018							
RESULTS										
Hilf Density Ratio	Standard	%	99	98.5	97.5	97	96.5	95	96.5	95.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296197.404	296168.673	296149.508	296173.71	296189.634	296172.118	296145.862	296152.146
Northing			6268766.842	6268776.818	6268762.466	6268750.863	6268755.923	6268763.502	6268747.987	6268773.84
Reduced Level		m	19.946	19.713	20.016	20.048	20.175	20.189	20.46	20.021
Shown on Drawing No			8599/1-90							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.09	2.08	2.08	2.07	2.06	2.09	2.08
Field Moisture Content		%	19.5	20.0	20.0	20.5	20.0	20.0	19.5	20.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5048	5049	5050	5051	5052	5053	5054	5055
Peak Converted Wet Density		t/m³	2.11	2.12	2.13	2.14	2.15	2.17	2.17	2.18
Apparent Optimum Moisture Content		%	20.5	20.5	20.5	21.0	20.5	20.5	20.0	21.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	3	2-3	2-3	2-3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5056	5057	5058	5059	5060	5061	5062	5063
DATE TESTED			24/01/2018				25/01/2018			
RESULTS										
Hilf Density Ratio	Standard	%	95	100	105	103	99.5	100.5	96.5	96
Moisture Variation from OMC (-Drier/+Wetter)		%	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296129.506	296110.179	296082.51	295974.621	295969.408	295962.302	295955.963	295949.995
Northing			6268747.285	6268755.199	6268746.586	6268903.997	6268875.791	6268838.587	6268801.602	6268766.003
Reduced Level		m	20.102	19.886	20.188	17	17.216	17.431	17.741	18.231
Shown on Drawing No			8599/1-90		8599/1-87					
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.10	2.11	2.09	2.05	2.09	2.08	2.05
Field Moisture Content		%	20.0	21.5	22.0	22.5	20.0	19.0	19.0	21.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5056	5057	5058	5059	5060	5061	5062	5063
Peak Converted Wet Density		t/m³	2.19	2.10	2.01	2.03	2.06	2.08	2.15	2.14
Apparent Optimum Moisture Content		%	20.5	22.0	22.5	23.0	20.5	20.0	19.0	21.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	3	3	3	2-3	2-3	2	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5064	5065	5066	5067	5068	5069	5070	5071
DATE TESTED			25/01/2018							
RESULTS										
Hilf Density Ratio	Standard	%	96.5	96	96	95.5	96.5	97.5	96.5	96.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**1.0**	**0.0**	**0.0**	**0.5**	**0.0**	**0.0**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295944.891	295940.501	295940.575	295942.398	295945.437	295949.341	295934.493	295928.886
Northing			6268736.041	6268752.287	6268801.17	6268830.325	6268863.796	6268896.279	6268905.153	6268875.206
Reduced Level		m	18.816	18.712	17.763	17.57	17.284	17.027	16.742	16.933
Shown on Drawing No			8599/1-87							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.05	2.05	2.04	2.08	2.10	2.07	2.08
Field Moisture Content		%	20.0	19.5	21.0	20.0	15.0	18.0	17.5	20.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5064	5065	5066	5067	5068	5069	5070	5071
Peak Converted Wet Density		t/m³	2.16	2.14	2.14	2.14	2.16	2.15	2.15	2.15
Apparent Optimum Moisture Content		%	19.0	19.5	21.0	19.5	15.0	17.5	17.5	20.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2-3	3	2-3	2	2	2	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5072	5073	5074	5075	5076	5077	5078	5079
DATE TESTED			25/01/2018							
RESULTS										
Hilf Density Ratio	Standard	%	97.5	95.5	96.5	96.5	97.5	96	96	96.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295927.562	295926.126	295924.572	295923.371	295917.084	295915.184	295914.116	295913.102
Northing			6268843.096	6268812.426	6268778.749	6268753.412	6268767.893	6268793.295	6268831.94	6268888.127
Reduced Level		m	17.129	17.402	17.757	18.348	18.052	17.674	17.173	16.722
Shown on Drawing No			8599/1-87							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.06	2.07	2.08	2.09	2.07	2.06	2.06
Field Moisture Content		%	21.0	21.0	20.5	20.0	17.5	20.0	21.0	20.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5072	5073	5074	5075	5076	5077	5078	5079
Peak Converted Wet Density		t/m³	2.14	2.16	2.15	2.15	2.14	2.16	2.15	2.14
Apparent Optimum Moisture Content		%	20.5	21.0	20.5	19.5	17.5	20.0	20.5	21.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	3	2-3	2-3	2	2-3	2-3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5080	5081	5082	5083	5084	5085	5086	5087
DATE TESTED			25/01/2018							
RESULTS										
Hilf Density Ratio	Standard	%	97.5	99	96.5	96.5	99.5	99.5	98	97
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.0**	**0.5**	**0.0**	**0.0**	**-0.5**	**-0.5**	**-0.5**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295898.54	295906.832	295893.971	295945.176	295949.833	295949.128	295948.432	295926.108
Northing			6268878.695	6268851.237	6268799.331	6268752.419	6268812.733	6268854.178	6268895.741	6268891.36
Reduced Level		m	16.775	17.037	17.322	19.078	18.057	17.746	17.416	17.423
Shown on Drawing No			8599/1-87							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.10	2.12	2.07	2.05	2.09	2.10	2.09	2.07
Field Moisture Content		%	19.0	19.5	19.5	19.0	20.5	20.5	21.5	21.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5080	5081	5082	5083	5084	5085	5086	5087
Peak Converted Wet Density		t/m³	2.15	2.14	2.15	2.12	2.10	2.11	2.13	2.13
Apparent Optimum Moisture Content		%	19.0	19.0	19.0	18.5	21.0	21.5	22.0	22.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2-3	2	3	3	3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5088	5089	5090	5091	5092	5093	5094	5095
DATE TESTED			25/01/2018							
RESULTS										
Hilf Density Ratio	Standard	%	95.5	95.5	95.5	96	100.5	99	99	97
Moisture Variation from OMC (-Drier/+Wetter)		%	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295926.012	295923.244	295923.313	295910.58	295911.16	295912.466	296381.04	296371.031
Northing			6268853.146	6268809.757	6268767.04	6268778.052	6268835.52	6268880.243	6268729.015	6268756.972
Reduced Level		m	17.721	18.107	18.664	18.506	17.881	17.433	22.955	22.464
Shown on Drawing No			8599/1-87		8599/1-88		8599/1-87		8599/1-86	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.04	2.06	2.07	2.06	2.09	2.08	2.08	2.06
Field Moisture Content		%	22.5	22.0	21.5	21.5	19.5	19.5	20.5	19.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5088	5089	5090	5091	5092	5093	5094	5095
Peak Converted Wet Density		t/m³	2.14	2.16	2.17	2.15	2.08	2.10	2.10	2.12
Apparent Optimum Moisture Content		%	23.5	22.5	22.5	22.0	20.0	20.5	21.0	20.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	3	3	3	2-3	2-3	3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5096	5097	5098	5099	5100	5101	5102	5103
DATE TESTED			25/01/2018			30/01/2018				
RESULTS										
Hilf Density Ratio	Standard	%	99.5	98	96.5	98.5	97	98.5	98	97
Moisture Variation from OMC (-Drier/+Wetter)		%	**-0.5**	**-0.5**	**-0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296354.325	296361.319	295910.052	295904.571	295905.612	295906.024	295884.431	295883.954
Northing			6268770.99	6268742.063	6268764.178	6268793.463	6268827.851	6268867.851	6268867.615	6268828.545
Reduced Level		m	22.07	22.57	18.441	17.811	17.558	17.142	17.35	17.258
Shown on Drawing No			8599/1-86							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.11	2.09	2.08	2.09	2.07	2.09	2.09	2.08
Field Moisture Content		%	18.0	20.5	19.0	20.5	19.5	20.5	17.5	20.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5096	5097	5098	5099	5100	5101	5102	5103
Peak Converted Wet Density		t/m³	2.12	2.13	2.15	2.12	2.13	2.12	2.13	2.14
Apparent Optimum Moisture Content		%	18.5	21.0	19.5	20.0	19.0	20.0	17.0	19.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	3	2-3	2-3	2	2-3	2	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5104	5105	5106	5107	5108	5109	5110	5111
DATE TESTED			30/01/2018							
RESULTS										
Hilf Density Ratio	Standard	%	97	96.5	98	98.5	96.5	96.5	97	98.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.5**	**0.5**	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295882.914	295871.76	295876.612	296455.714	296445.498	296423.763	296429.524	296437.271
Northing			6268790.211	6268765.909	6268846.764	6268739.434	6268776.776	6268820.382	6268773.431	6268739.436
Reduced Level		m	17.385	17.522	17.077	24.145	23.662	23.16	23.051	23.402
Shown on Drawing No			8599/1-86							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.06	2.08	2.11	2.06	2.07	2.06	2.10
Field Moisture Content		%	19.0	21.0	20.5	20.5	20.0	21.0	20.5	21.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5104	5105	5106	5107	5108	5109	5110	5111
Peak Converted Wet Density		t/m³	2.13	2.13	2.12	2.14	2.13	2.14	2.12	2.13
Apparent Optimum Moisture Content		%	19.0	20.5	20.0	20.5	19.5	20.5	20.0	20.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2-3	2-3	2-3	2-3	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5112	5113	5114	5115	5116	5117	5118	5119
DATE TESTED			30/01/2018							
RESULTS										
Hilf Density Ratio	Standard	%	96	96.5	96.5	97	97	96.5	96.5	99
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.0**	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296423.299	296414.724	296394.411	296397.082	296405.889	296386.311	296374.944	296362.914
Northing			6268736.556	6268778.673	6268817.25	6268770.486	6268732.384	6268731.432	6268771.819	6268817.756
Reduced Level		m	23.261	22.697	22.479	22.654	23.292	23.239	22.357	22.287
Shown on Drawing No			8599/1-86							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.04	2.06	2.06	2.08	2.08	2.06	2.06	2.12
Field Moisture Content		%	20.0	21.0	21.5	20.5	20.5	21.5	21.0	21.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5112	5113	5114	5115	5116	5117	5118	5119
Peak Converted Wet Density		t/m³	2.13	2.14	2.14	2.14	2.14	2.13	2.14	2.14
Apparent Optimum Moisture Content		%	20.0	21.0	20.5	20.0	20.0	21.5	21.0	21.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	3	2-3	2-3	2-3	3	3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5120	5121	5122	5123	5124	5125	5126	5127
DATE TESTED			30/01/2018	31/01/2018						
RESULTS										
Hilf Density Ratio	Standard	%	97	98.5	97.5	97.5	97	99	97	96
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296091.826	296101.9	296125.773	296143.141	296159.199	296179.633	296189.421	296201.363
Northing			6268681.53	6268672.447	6268678.318	6268689.524	6268671.9	6268681.856	6268700.927	6268676.528
Reduced Level		m	21.624	21.697	21.552	21.472	21.515	21.464	21.297	21.519
Shown on Drawing No			8599/1-90							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.09	2.09	2.07	2.06	2.11	2.06	2.05
Field Moisture Content		%	20.5	19.5	20.5	20.5	20.5	19.5	20.0	20.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5120	5121	5122	5123	5124	5125	5126	5127
Peak Converted Wet Density		t/m³	2.15	2.12	2.14	2.12	2.12	2.13	2.12	2.13
Apparent Optimum Moisture Content		%	20.0	19.0	20.0	20.0	20.0	19.0	19.5	20.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2	2-3	2-3	2-3	2	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5128	5129	5130	5131	5132	5133	5134	5135
DATE TESTED			31/01/2018							
RESULTS										
Hilf Density Ratio	Standard	%	97	97	98.5	98.5	97	97.5	98	98.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296233.022	296178.8	296151.766	296145.395	296116.226	296093.222	296066.168	296044.079
Northing			6268677.435	6268747.935	6268753.184	6268752.297	6268746.135	6268752.864	6268741.992	6268759.904
Reduced Level		m	21.646	20.227	20.379	20.426	20.337	20.397	20.651	20.295
Shown on Drawing No			8599/1-90					8599/1-87		
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.06	2.07	2.09	2.10	2.07	2.08	2.08	2.10
Field Moisture Content		%	20.5	19.5	19.5	20.5	20.5	20.0	20.0	20.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5128	5129	5130	5131	5132	5133	5134	5135
Peak Converted Wet Density		t/m³	2.12	2.13	2.12	2.13	2.13	2.13	2.12	2.13
Apparent Optimum Moisture Content		%	20.0	19.5	19.0	20.0	20.0	20.0	20.0	20.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2	2-3	2-3	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5136	5137	5138	5139	5140	5141	5142	5143
DATE TESTED			31/01/2018							
RESULTS										
Hilf Density Ratio	Standard	%	97.5	97.5	97	98	99.5	97.5	97.5	97.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.5**	**0.5**	**0.5**	**0.5**	**0.0**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295965.55	295938.555	295913.218	295887.38	295860.968	295840.901	295832.546	295627.231
Northing			6268741.741	6268755.398	6268731.403	6268750.871	6268733.737	6268708.333	6268727.558	6269318.318
Reduced Level		m	18.907	18.498	18.627	18.428	18.637	18.883	18.695	20.467
Shown on Drawing No			8599/1-87	8599/1-88		8599/1-87		8599/1-88		8599/1-83
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.08	2.08	2.09	2.11	2.08	2.09	2.08
Field Moisture Content		%	18.5	20.0	20.5	20.5	20.0	19.5	19.5	19.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5136	5137	5138	5139	5140	5141	5142	5143
Peak Converted Wet Density		t/m³	2.14	2.13	2.14	2.13	2.12	2.13	2.14	2.13
Apparent Optimum Moisture Content		%	18.5	19.0	20.0	20.0	20.0	19.0	19.0	18.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2-3	2-3	2-3	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5144	5145	5146	5147	5148	5149	5150	5151
DATE TESTED			31/01/2018							
RESULTS										
Hilf Density Ratio	Standard	%	98	99	99.5	97	98	97	98	96.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.5**	**0.5**	**0.5**	**0.5**	**0.0**	**0.5**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295613.527	295590.602	295564.238	295531.43	295508.898	295520.443	295547.853	295570.858
Northing			6269336.055	6269338.607	6269353.696	6269360.305	6269378.413	6269381.524	6269373.199	6269362.017
Reduced Level		m	20.179	19.963	19.383	18.962	18.508	18.752	19.058	19.317
Shown on Drawing No			8599/1-83							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.10	2.10	2.06	2.09	2.08	2.07	2.06
Field Moisture Content		%	20.0	20.0	20.0	19.0	20.5	18.0	18.5	18.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5144	5145	5146	5147	5148	5149	5150	5151
Peak Converted Wet Density		t/m³	2.13	2.12	2.11	2.12	2.13	2.14	2.11	2.14
Apparent Optimum Moisture Content		%	19.5	20.0	19.5	18.5	20.5	18.0	18.5	18.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	2	2-3	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5152	5153	5154	5155	5156	5157	5158	5159
DATE TESTED			31/01/2018	01/02/2018						
RESULTS										
Hilf Density Ratio	Standard	%	96	97	97.5	97	98.5	96	96.5	96.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.0**	**0.5**	**0.5**	**0.5**	**0.0**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295606.468	296233.388	296266.495	296279.737	296266.156	296246.472	296235.575	296240.292
Northing			6269350.031	6268654.417	6268656.471	6268642.758	6268645.991	6268621.176	6268630.599	6268660.511
Reduced Level		m	19.939	21.441	21.582	21.889	21.682	22.006	22.235	21.736
Shown on Drawing No			8599/1-83	8599/1-90						
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.05	2.07	2.08	2.06	2.10	2.05	2.06	2.07
Field Moisture Content		%	18.5	17.5	18.5	18.5	18.5	18.5	18.5	19.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5152	5153	5154	5155	5156	5157	5158	5159
Peak Converted Wet Density		t/m³	2.13	2.13	2.13	2.12	2.13	2.14	2.13	2.14
Apparent Optimum Moisture Content		%	18.5	17.5	18.5	18.0	18.0	18.0	18.0	19.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5160	5161	5162	5163	5164	5165	5166	5167
DATE TESTED			01/02/2018							
RESULTS										
Hilf Density Ratio	Standard	%	97	98	98	98.5	96	96	98	96
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.5**	**0.5**	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296275.912	296251.219	296217.115	295971.875	295965.81	295950.211	295946.119	295925.582
Northing			6268647.397	6268629.69	6268621.984	6268758.151	6268736.938	6268735.596	6268757.121	6268765.062
Reduced Level		m	22.101	22.141	22.236	19.361	19.505	19.226	19.113	18.893
Shown on Drawing No				8599/1-90		8599/1-87		8599/1-88		8599/1-87
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.06	2.08	2.09	2.09	2.05	2.05	2.08	2.04
Field Moisture Content		%	19.0	18.5	17.5	18.5	18.0	18.5	18.5	19.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5160	5161	5162	5163	5164	5165	5166	5167
Peak Converted Wet Density		t/m³	2.12	2.12	2.13	2.12	2.14	2.14	2.12	2.13
Apparent Optimum Moisture Content		%	18.5	18.0	17.5	18.0	17.5	18.0	18.0	19.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5168	5169	5170	5171	5172	5173	5174	5175
DATE TESTED			01/02/2018							
RESULTS										
Hilf Density Ratio	Standard	%	96	97	99	98	99	99	99	99.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295912.43	295828.559	295859.41	295891.825	295914.739	295944.204	295990.034	295610.711
Northing			6268744.274	6268653.175	6268651.607	6268648.818	6268657.754	6268656.146	6268666.592	6269289.887
Reduced Level		m	18.964	19.06	19.728	20.148	20.453	20.586	20.792	20.867
Shown on Drawing No			8599/1-87	8599/1-88						8599/1-83
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.05	2.07	2.11	2.10	2.12	2.11	2.10	2.13
Field Moisture Content		%	20.0	18.5	19.0	18.0	19.0	18.0	18.5	18.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5168	5169	5170	5171	5172	5173	5174	5175
Peak Converted Wet Density		t/m³	2.13	2.13	2.13	2.14	2.14	2.13	2.12	2.14
Apparent Optimum Moisture Content		%	20.0	18.0	18.5	17.5	18.5	17.5	18.0	18.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5176	5177	5178	5179	5180	5181	5182	5183
DATE TESTED			01/02/2018							
RESULTS										
Hilf Density Ratio	Standard	%	97	97	98.5	98.5	100	96.5	97.5	96.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.5**	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295582.837	295567.89	295542.711	295522.584	295496.813	295514.097	295545.632	295569.191
Northing			6269291.618	6269311.178	6269317.211	6269332.219	6269341.716	6269396.212	6269381.141	6269361.542
Reduced Level		m	20.658	20.029	19.639	19.316	18.826	18.645	19.04	19.337
Shown on Drawing No			8599/1-83							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.06	2.10	2.11	2.12	2.07	2.08	2.06
Field Moisture Content		%	18.5	18.5	18.5	18.5	18.5	19.0	18.5	18.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5176	5177	5178	5179	5180	5181	5182	5183
Peak Converted Wet Density		t/m³	2.14	2.12	2.13	2.14	2.12	2.14	2.13	2.14
Apparent Optimum Moisture Content		%	18.0	18.0	18.5	18.0	18.0	18.5	18.5	17.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5184	5185	5186	5187	5188	5189	5190	5191
DATE TESTED			01/02/2018	02/02/2018						
RESULTS										
Hilf Density Ratio	Standard	%	97	97	96	98	97	97	96	96
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.5**	**0.5**	**0.0**	**0.5**	**0.5**	**0.0**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295601.279	296226.419	296207.695	296182.212	296169.447	296193.146	296196.736	296203.56
Northing			6269353.684	6268918.905	6268921.161	6268932.219	6268956.318	6268981.159	6268965.066	6268940.678
Reduced Level		m	19.843	20.272	19.878	19.674	19.469	19.504	19.523	19.909
Shown on Drawing No			8599/1-83	8599/1-85						
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.07	2.05	2.08	2.07	2.06	2.04	2.04
Field Moisture Content		%	18.5	18.5	18.5	18.5	18.5	18.5	18.0	18.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5184	5185	5186	5187	5188	5189	5190	5191
Peak Converted Wet Density		t/m³	2.13	2.13	2.13	2.12	2.13	2.12	2.13	2.12
Apparent Optimum Moisture Content		%	18.0	18.5	18.5	18.0	18.0	18.5	17.5	18.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5192	5193	5194	5195	5196	5197	5198	5199
DATE TESTED			02/02/2018							
RESULTS										
Hilf Density Ratio	Standard	%	98	97.5	96.5	97.5	97.5	99.5	98	97.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.5**	**0.5**	**0.0**	**0.0**	**0.5**	**0.0**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296216.826	296243.859	296269.64	296275.947	296257.16	296232.512	296226.26	296268.503
Northing			6268611.77	6268605.288	6268603.389	6268584.71	6268584.279	6268581.579	6268564.207	6268559.842
Reduced Level		m	22.318	22.355	22.368	22.536	22.547	22.412	22.254	22.508
Shown on Drawing No			8599/1-90						8599/1-91	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.07	2.06	2.07	2.08	2.10	2.09	2.08
Field Moisture Content		%	18.5	18.5	18.5	18.5	18.5	19.0	18.5	18.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5192	5193	5194	5195	5196	5197	5198	5199
Peak Converted Wet Density		t/m³	2.12	2.12	2.13	2.12	2.13	2.11	2.13	2.13
Apparent Optimum Moisture Content		%	18.0	18.0	18.0	18.5	18.5	18.5	18.0	18.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5200	5201	5202	5203	5204	5205	5206	5207
DATE TESTED			02/02/2018							
RESULTS										
Hilf Density Ratio	Standard	%	96	100.5	98.5	97	99	98	98.5	97.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.0**	**0.0**	**0.5**	**0.5**	**0.0**	**0.0**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296282.594	296253.636	296232.068	296229.537	296251.17	296275.615	296282.768	296263.031
Northing			6268588.38	6268597.539	6268598.726	6268575.864	6268575.708	6268576.369	6268560.444	6268556.944
Reduced Level		m	22.5	22.78	22.563	22.68	22.878	22.798	22.368	22.845
Shown on Drawing No				8599/1-90				8599/1-91		
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.05	2.12	2.09	2.08	2.09	2.09	2.08	2.06
Field Moisture Content		%	18.5	19.0	18.0	18.0	19.0	18.5	19.0	18.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5200	5201	5202	5203	5204	5205	5206	5207
Peak Converted Wet Density		t/m³	2.13	2.11	2.12	2.14	2.11	2.13	2.11	2.11
Apparent Optimum Moisture Content		%	18.5	19.0	17.5	17.5	18.5	18.5	18.5	18.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5208	5209	5210	5211	5212	5213	5214	5215
DATE TESTED			02/02/2018							
RESULTS										
Hilf Density Ratio	Standard	%	97.5	97.5	97.5	96	97.5	98.5	97	98
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296235.849	295892.946	295876.611	295859.695	295839.235	295832.19	295828.903	295817.834
Northing			6268559.605	6268730.662	6268742.846	6268730.912	6268728.047	6268706.381	6268689.722	6268691.903
Reduced Level		m	22.773	18.649	18.779	18.957	19.002	18.861	18.969	19.257
Shown on Drawing No			8599/1-91	8599/1-88	8599/1-87	8599/1-88				
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.08	2.07	2.05	2.06	2.08	2.06	2.07
Field Moisture Content		%	18.0	19.0	19.0	18.0	18.5	18.0	19.5	17.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5208	5209	5210	5211	5212	5213	5214	5215
Peak Converted Wet Density		t/m³	2.12	2.13	2.12	2.13	2.11	2.11	2.12	2.11
Apparent Optimum Moisture Content		%	18.0	18.5	18.5	17.5	18.5	18.0	19.0	17.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5216	5217	5218	5219	5220	5221	5222	5223
DATE TESTED			02/02/2018					05/02/2018		
RESULTS										
Hilf Density Ratio	Standard	%	98	98.5	98.5	98	97.5	97.5	96.5	98
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.5**	**0.0**	**0.5**	**1.0**	**0.5**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295834.236	295840.758	295858.822	295878.801	295899.254	296226.442	296254.207	296283.105
Northing			6268702.509	6268720.949	6268729.778	6268735.804	6268755.267	6268559.796	6268553.412	6268558.797
Reduced Level		m	19.264	19.277	19.24	19.078	19.035	22.545	22.84	22.825
Shown on Drawing No			8599/1-88				8599/1-87	8599/1-91		
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.09	2.09	2.09	2.08	2.09	2.06	2.10
Field Moisture Content		%	18.0	17.0	18.5	18.5	18.0	14.0	14.5	14.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5216	5217	5218	5219	5220	5221	5222	5223
Peak Converted Wet Density		t/m³	2.13	2.12	2.12	2.13	2.13	2.14	2.13	2.14
Apparent Optimum Moisture Content		%	17.5	17.0	18.0	17.5	17.5	14.0	14.5	14.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5224	5225	5226	5227	5228	5229	5230	5231
DATE TESTED			05/02/2018							
RESULTS										
Hilf Density Ratio	Standard	%	98.5	96.5	96	96	98	99	96.5	97
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.0**	**0.0**	**0.0**	**0.0**	**0.5**	**0.0**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296284.629	296258.946	296233.562	296231.428	296263.99	296291.086	296282.569	296246.09
Northing			6268542.229	6268535.276	6268532.913	6268513.357	6268511.672	6268505.077	6268491.269	6268485.201
Reduced Level		m	22.994	23.105	23.034	23.126	23.436	23.406	23.693	23.863
Shown on Drawing No			8599/1-91							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.11	2.07	2.05	2.06	2.07	2.11	2.08	2.08
Field Moisture Content		%	14.0	14.0	14.5	14.0	14.0	13.5	15.0	13.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5224	5225	5226	5227	5228	5229	5230	5231
Peak Converted Wet Density		t/m³	2.14	2.14	2.14	2.15	2.11	2.13	2.15	2.14
Apparent Optimum Moisture Content		%	14.0	14.0	14.0	13.5	13.5	13.5	14.5	13.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	1-2	1-2	1-2	2	1-2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5232	5233	5234	5235	5236	5237	5238	5239
DATE TESTED			05/02/2018							
RESULTS										
Hilf Density Ratio	Standard	%	97	97.5	96.5	97	98	99	98	96.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.5**	**0.0**	**0.0**	**0.0**	**0.5**	**0.5**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**	**≥95%**	**Specification Moisture Variance from OMC**							**±2%**
TEST LOCATION										
Easting			295924.711	295920.073	295903.01	295894.82	295883.293	295861.13	295838.5	295821.959
Northing			6268724.066	6268757.885	6268749.873	6268727.037	6268744.377	6268731.701	6268726.431	6268714.386
Reduced Level		m	19.831	19.414	19.347	19.389	19.363	19.421	19.623	19.629
Shown on Drawing No			8599/1-88							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.08	2.08	2.09	2.07	2.10	2.07	2.06
Field Moisture Content		%	14.5	13.5	14.0	15.0	14.5	14.0	13.0	14.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5232	5233	5234	5235	5236	5237	5238	5239
Peak Converted Wet Density		t/m³	2.13	2.13	2.15	2.15	2.11	2.12	2.11	2.14
Apparent Optimum Moisture Content		%	14.0	13.5	13.5	15.0	14.5	13.5	12.5	14.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	1-2	1-2	2	2	1-2	1	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5240	5241	5242	5243	5244	5245	5246	5247
DATE TESTED			05/02/2018		06/02/2018				
RESULTS										
Hilf Density Ratio	Standard	%	96	98.5	97.5	97	96.5	96.5	96	96
Moisture Variation from OMC (-Drier/+Wetter)		%	**-0.5**	**0.0**	**0.5**	**0.0**	**0.5**	**0.5**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295832.489	295816.882	296303.965	296311.551	296295.192	296284.583	296258.055	296227.581
Northing			6268690.63	6268664.195	6268533.037	6268503.554	6268543.997	6268536.848	6268533.547	6268520.433
Reduced Level		m	19.674	20.111	22.824	22.901	22.728	22.969	23.13	23.015
Shown on Drawing No			8599/1-88		8599/1-91					
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.11	2.09	2.09	2.06	2.07	2.06	2.05
Field Moisture Content		%	13.5	14.0	13.5	14.0	13.5	14.0	13.0	14.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5240	5241	5242	5243	5244	5245	5246	5247
Peak Converted Wet Density		t/m³	2.17	2.14	2.14	2.15	2.14	2.14	2.15	2.14
Apparent Optimum Moisture Content		%	14.0	14.0	13.0	14.0	13.0	13.5	13.0	13.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	1	2	1	1-2	1	1-2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5248	5249	5250	5251	5252	5253	5254	5255
DATE TESTED			06/02/2018							
RESULTS										
Hilf Density Ratio	Standard	%	98	98	99.5	99.5	97	100	96.5	96
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.5**	**0.5**	**0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296242.622	296277.168	296304.403	296294.348	296268.213	296233.493	296239.939	296269.393
Northing			6268509.774	6268518.287	6268523.543	6268500.305	6268497.459	6268494.28	6268466.822	6268474.318
Reduced Level		m	23.4	23.294	23.223	23.462	23.713	23.542	23.899	24.099
Shown on Drawing No			8599/1-91							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.10	2.09	2.12	2.10	2.09	2.13	2.08	2.05
Field Moisture Content		%	13.5	13.5	13.0	13.0	13.0	13.0	12.0	13.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5248	5249	5250	5251	5252	5253	5254	5255
Peak Converted Wet Density		t/m³	2.14	2.13	2.13	2.11	2.16	2.13	2.16	2.13
Apparent Optimum Moisture Content		%	13.0	13.0	13.0	12.5	13.0	13.0	12.5	12.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			1	1	1	1	1	1	1	1

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5256	5257	5258	5259	5260	5261	5262	5263
DATE TESTED			06/02/2018							
RESULTS										
Hilf Density Ratio	Standard	%	94.5	97.5	97	96	99.5	98	97	97.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**	**0.0**	**0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296304.441	296136.816	296113.716	296105.842	296144.998	295836.879	295817.086	295836.406
Northing			6268489.909	6268783.279	6268780.694	6268764.309	6268766.261	6268689.229	6268684.886	6268702.615
Reduced Level		m	23.602	18.978	19.143	19.559	19.538	20.041	20.161	20.068
Shown on Drawing No			8599/1-91	8599/1-90	8599/1-87		8599/1-90		8599/1-88	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.04	2.06	2.08	2.06	2.10	2.11	2.08	2.08
Field Moisture Content		%	13.5	13.5	12.5	14.0	13.5	13.0	12.5	12.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5256	5257	5258	5259	5260	5261	5262	5263
Peak Converted Wet Density		t/m³	2.16	2.11	2.14	2.15	2.11	2.15	2.14	2.13
Apparent Optimum Moisture Content		%	13.5	13.0	12.5	14.0	13.0	12.5	12.0	13.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			1-2	1	1	2	1	1	1	1

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5264	5265	5266	5267	5268	5269	5270	5271
DATE TESTED			06/02/2018			07/02/2018				
RESULTS										
Hilf Density Ratio	Standard	%	98.5	97	101	97	97.5	97	95	100.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.0**	**0.0**	**1.0**	**0.0**	**0.5**	**0.0**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295833.426	295862.345	295856.096	295869.333	295877.307	295896.872	295898.568	295913.379
Northing			6268720.767	6268742.648	6268713.788	6268746.821	6268723.234	6268714.331	6268736.373	6268753.887
Reduced Level		m	20.098	19.911	20.33	19.808	20.011	20.14	19.854	19.962
Shown on Drawing No			8599/1-88						8599/1-87	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.09	2.13	2.07	2.06	2.09	2.06	2.11
Field Moisture Content		%	14.0	14.0	13.5	13.0	13.0	14.5	13.5	20.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5264	5265	5266	5267	5268	5269	5270	5271
Peak Converted Wet Density		t/m³	2.12	2.15	2.11	2.13	2.11	2.15	2.17	2.10
Apparent Optimum Moisture Content		%	14.0	14.0	12.5	12.5	12.5	14.0	13.5	19.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	1	1	1	2	1-2	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5272	5273	5274	5275	5276	5277	5278	5279
DATE TESTED			07/02/2018							
RESULTS										
Hilf Density Ratio	Standard	%	100	101	100.5	100.5	101.5	99	99	99
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295918.6	295937.771	295942.591	295956.701	296233.865	296260.09	296284.9	296310.549
Northing			6268727.135	6268730.676	6268752.708	6268747.882	6268484.657	6268481.653	6268483.889	6268486.804
Reduced Level		m	19.877	19.773	20.021	19.951	23.672	23.918	23.733	23.465
Shown on Drawing No			8599/1-88				8599/1-91			
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.10	2.08	2.09	2.12	2.06	2.05	2.09
Field Moisture Content		%	20.5	20.5	20.0	18.0	19.5	20.5	21.5	21.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5272	5273	5274	5275	5276	5277	5278	5279
Peak Converted Wet Density		t/m³	2.07	2.08	2.07	2.08	2.09	2.08	2.07	2.11
Apparent Optimum Moisture Content		%	20.5	20.0	19.5	17.5	19.0	20.0	21.0	20.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	2	2	2-3	3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5280	5281	5282	5283	5284	5285	5286	5287
DATE TESTED			07/02/2018							
RESULTS										
Hilf Density Ratio	Standard	%	99.5	98.5	99	101	100	98.5	98.5	99.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296309.152	296283.71	296255.274	296234.888	296237.96	296263.417	296287.71	296230.08
Northing			6268471.555	6268470.076	6268470.433	6268470.822	6268454.88	6268453.12	6268454.094	6268526.199
Reduced Level		m	23.676	23.973	24.036	23.578	23.554	24.407	24.123	23.105
Shown on Drawing No			8599/1-91							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.05	2.09	2.12	2.10	2.07	2.05	2.09
Field Moisture Content		%	21.0	20.5	20.0	20.0	19.0	20.5	20.5	21.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5280	5281	5282	5283	5284	5285	5286	5287
Peak Converted Wet Density		t/m³	2.09	2.08	2.11	2.10	2.10	2.10	2.08	2.10
Apparent Optimum Moisture Content		%	20.5	20.0	20.0	19.5	18.5	20.0	20.5	20.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	2-3	2	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5288	5289	5290	5291	5292	5293	5294	5295
DATE TESTED			07/02/2018			09/02/2018			
RESULTS										
Hilf Density Ratio	Standard	%	99	98.5	99	96.5	97	96	97.5	96.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.5**	**0.5**	**0.0**	**0.0**	**0.5**	**0.5**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296222.128	296226.174	296215.014	295949.731	295948.968	296141.834	296124.922	296094.823
Northing			6268537.132	6268562.318	6268588.68	6268728.913	6268749.42	6268759.413	6268760.585	6268756.464
Reduced Level		m	22.97	22.613	22.863	19.828	19.953	20.462	20.084	20.337
Shown on Drawing No			8599/1-91		8599/1-90	8599/1-88	8599/1-87		8599/1-90	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.07	2.08	2.07	2.06	2.05	2.09	2.06
Field Moisture Content		%	21.0	21.5	21.0	20.5	20.0	20.5	21.0	20.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5288	5289	5290	5291	5292	5293	5294	5295
Peak Converted Wet Density		t/m³	2.10	2.10	2.10	2.14	2.12	2.14	2.14	2.14
Apparent Optimum Moisture Content		%	20.5	21.0	21.0	20.0	19.5	20.0	21.0	19.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	3	3	2-3	2-3	2-3	3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5296	5297	5298	5299	5300	5301	5302	5303
DATE TESTED			09/02/2018							
RESULTS										
Hilf Density Ratio	Standard	%	97	97.5	97.5	97.5	97.5	96.5	96	98
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.0**	**0.0**	**0.0**	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296094.762	296122.307	296157.409	296315.713	296296.871	296273.313	296242.023	296251.145
Northing			6268770.965	6268775.901	6268778.944	6268455.952	6268451.135	6268450.316	6268448.054	6268438.73
Reduced Level		m	20.202	19.711	20.043	23.298	23.658	23.937	23.319	23.688
Shown on Drawing No			8599/1-87	8599/1-90		8599/1-91				
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.08	2.10	2.08	2.09	2.06	2.05	2.11
Field Moisture Content		%	20.5	20.0	20.0	20.0	19.0	20.0	19.5	19.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5296	5297	5298	5299	5300	5301	5302	5303
Peak Converted Wet Density		t/m³	2.13	2.13	2.15	2.13	2.14	2.14	2.14	2.15
Apparent Optimum Moisture Content		%	20.5	19.5	20.0	19.5	18.5	19.5	19.0	19.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	2-3	2	2-3	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5304	5305	5306	5307	5308	5309	5310	5311
DATE TESTED			09/02/2018							
RESULTS										
Hilf Density Ratio	Standard	%	97	99.5	96.5	96.5	96.5	97.5	96.5	97
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.0**	**0.0**	**0.5**	**0.5**	**0.0**	**0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296278.228	296313.904	296293.842	296271.184	296248.572	296241.382	296268.541	296287.269
Northing			6268435.72	6268438.41	6268427.578	6268418.67	6268420.987	6268460.702	6268464.94	6268466.829
Reduced Level		m	23.844	23.263	23.864	24.099	23.748	23.741	24.182	23.944
Shown on Drawing No			8599/1-91							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.11	2.08	2.06	2.08	2.08	2.07	2.08
Field Moisture Content		%	18.5	19.5	20.0	20.0	18.0	20.0	20.0	19.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5304	5305	5306	5307	5308	5309	5310	5311
Peak Converted Wet Density		t/m³	2.15	2.12	2.16	2.14	2.16	2.13	2.14	2.14
Apparent Optimum Moisture Content		%	19.0	19.5	19.5	19.5	18.0	19.5	19.5	19.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2-3	2-3	2-3	2	2-3	2-3	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5312	5313	5314	5315	5316	5317	5318	5319
DATE TESTED			09/02/2018							10/02/2018
RESULTS										
Hilf Density Ratio	Standard	%	96.5	95.5	97.5	97	97	96.5	96.5	100.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.5**	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**	**0.0**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296309.675	296306.526	296276.793	296238.794	296241.333	296272.703	296305.282	296230.186
Northing			6268469.353	6268452.453	6268445.512	6268441.635	6268427.41	6268427.665	6268428.82	6268449.68
Reduced Level		m	23.737	23.763	24.37	23.795	23.812	24.408	23.941	23.457
Shown on Drawing No			8599/1-91							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.06	2.05	2.09	2.06	2.07	2.06	2.08	2.08
Field Moisture Content		%	21.0	19.5	19.0	18.0	19.5	20.0	20.0	13.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5312	5313	5314	5315	5316	5317	5318	5319
Peak Converted Wet Density		t/m³	2.13	2.15	2.14	2.12	2.13	2.14	2.16	2.07
Apparent Optimum Moisture Content		%	20.5	19.5	19.0	17.5	19.0	19.5	20.5	14.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2	2	2	2-3	2-3	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5320	5321	5322	5323	5324	5325	5326	5327
DATE TESTED			10/02/2018							
RESULTS										
Hilf Density Ratio	Standard	%	100	99	97.5	97.5	98.5	98.5	98.5	96
Moisture Variation from OMC (-Drier/+Wetter)		%	**-0.5**	**0.5**	**-0.5**	**-1.0**	**0.0**	**-0.5**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296227.01	296221.513	296214.938	296209.761	296191.663	296193.024	296194.072	296200.73
Northing			6268477.386	6268518.464	6268562.198	6268611.853	6268617.729	6268592.533	6268566.662	6268529.965
Reduced Level		m	23.459	23.077	22.635	22.638	22.754	22.807	22.951	23.24
Shown on Drawing No				8599/1-91			8599/1-90		8599/1-91	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.06	2.05	2.06	2.08	2.09	2.10	2.05
Field Moisture Content		%	14.5	15.0	139.5	13.5	14.0	13.5	13.5	14.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5320	5321	5322	5323	5324	5325	5326	5327
Peak Converted Wet Density		t/m³	2.08	2.08	2.10	2.11	2.11	2.12	2.13	2.14
Apparent Optimum Moisture Content		%	15.0	14.5	140.0	14.0	14.0	14.0	13.0	13.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	1-2	2	2	2	1	1-2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5328	5329	5330	5331	5332	5333	5334	5335
DATE TESTED			10/02/2018							
RESULTS										
Hilf Density Ratio	Standard	%	101	100.5	100	102	99.5	100	98	97
Moisture Variation from OMC (-Drier/+Wetter)		%	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296210.457	296208.907	295995.212	295975.906	295957.134	295929.599	295910.12	295884.961
Northing			6268497.218	6268463.084	6268666.275	6268665.441	6268664.119	6268662.675	6268662.809	6268663.411
Reduced Level		m	23.471	23.394	21.395	21.274	21.316	21.072	21.074	20.749
Shown on Drawing No			8599/1-91		8599/1-88					
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.07	2.08	2.12	2.08	2.10	2.09	2.06
Field Moisture Content		%	13.0	13.5	14.5	13.5	14.5	14.0	14.0	14.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5328	5329	5330	5331	5332	5333	5334	5335
Peak Converted Wet Density		t/m³	2.05	2.06	2.08	2.08	2.09	2.10	2.13	2.12
Apparent Optimum Moisture Content		%	13.5	14.5	15.0	14.0	15.0	14.5	14.5	14.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			1-2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5336	5337	5338	5339	5340	5341	5342	5343
DATE TESTED			10/02/2018							
RESULTS										
Hilf Density Ratio	Standard	%	96	96.5	97	97.5	96	102	104	101.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**0.0**	**-0.5**	**-0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295850.711	295850.714	295874.411	295892.937	295900.063	295916.038	295926.471	295940.997
Northing			6268655.51	6268655.512	6268655.039	6268663.272	6268646.402	6268646.452	6268664.301	6268670.035
Reduced Level		m	20.069	20.064	20.623	21.046	21.262	21.408	21.417	21.433
Shown on Drawing No			8599/1-88							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.05	2.07	2.09	2.11	2.08	2.05	2.10	2.06
Field Moisture Content		%	14.0	13.0	14.0	14.0	14.0	14.0	14.0	14.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5336	5337	5338	5339	5340	5341	5342	5343
Peak Converted Wet Density		t/m³	2.13	2.14	2.15	2.16	2.17	2.01	2.02	2.03
Apparent Optimum Moisture Content		%	14.5	13.5	14.5	14.5	14.0	14.0	15.0	14.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	1-2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5344	5345	5346	5347	5348	5349	5350	5351
DATE TESTED			10/02/2018						12/02/2018	
RESULTS										
Hilf Density Ratio	Standard	%	101.5	99.5	99.5	98	102	100.5	99.5	98
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.5**	**0.0**	**-0.5**	**-0.5**	**0.0**	**-0.5**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**	**≥95%**	**Specification Moisture Variance from OMC**							**±2%**
TEST LOCATION										
Easting			295944.406	295959.167	295968.955	295968.679	295986.826	295984.231	296198.576	296193.784
Northing			6268648.263	6268640.796	6268646.993	6268667.572	6268661.687	6268638.473	6268461.437	6268483.048
Reduced Level		m	21.534	21.561	21.701	21.634	21.549	21.52	23.621	23.584
Shown on Drawing No			8599/1-88						8599/1-91	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.08	2.09	2.05	2.09	2.08	2.06	2.05
Field Moisture Content		%	14.0	14.0	14.5	13.5	14.0	13.5	13.5	13.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5344	5345	5346	5347	5348	5349	5350	5351
Peak Converted Wet Density		t/m³	2.04	2.09	2.10	2.09	2.05	2.07	2.07	2.09
Apparent Optimum Moisture Content		%	13.0	14.0	14.5	14.0	14.0	14.0	13.5	13.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	1-2	1

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5352	5353	5354	5355	5356	5357	5358	5359
DATE TESTED			12/02/2018							
RESULTS										
Hilf Density Ratio	Standard	%	100	100	99.5	99	100.5	99	98	99.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.0**	**0.0**	**0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296190.3	296182.624	296175.583	296170.262	296164.74	296144.34	296149.665	296153.003
Northing			6268498.003	6268526.019	6268555.844	6268580.316	6268610.956	6268615.111	6268576.975	6268561.53
Reduced Level		m	23.626	23.367	23.137	23.026	23.122	22.962	23.076	23.142
Shown on Drawing No				8599/1-91			8599/1-90			8599/1-91
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.10	2.08	2.07	2.10	2.07	2.05	2.07
Field Moisture Content		%	12.5	14.0	14.0	14.0	14.0	14.0	13.0	13.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5352	5353	5354	5355	5356	5357	5358	5359
Peak Converted Wet Density		t/m³	2.08	2.10	2.09	2.09	2.09	2.09	2.09	2.08
Apparent Optimum Moisture Content		%	12.5	14.0	13.5	14.0	14.0	14.0	13.0	13.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			1	2	1-2	2	2	2	1	1

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5360	5361	5362	5363	5364	5365	5366	5367
DATE TESTED			12/02/2018							
RESULTS										
Hilf Density Ratio	Standard	%	99.5	99	98.5	100	100	102.5	99.5	101.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296158.754	296165.57	296149.459	296146.447	296145.882	296145.508	296263.102	296257.065
Northing			6268532.935	6268490.827	6268494.762	6268513.825	6268542.605	6268575.343	6268400.9	6268453.758
Reduced Level		m	23.306	23.622	23.433	23.34	23.223	23.15	24.367	24.02
Shown on Drawing No			8599/1-91							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.08	2.11	2.10	2.10	2.13	2.08	2.12
Field Moisture Content		%	12.5	13.5	14.0	14.0	13.5	13.0	13.5	13.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5360	5361	5362	5363	5364	5365	5366	5367
Peak Converted Wet Density		t/m³	2.08	2.10	2.14	2.10	2.10	2.08	2.09	2.09
Apparent Optimum Moisture Content		%	12.5	13.5	13.5	13.5	13.5	13.0	13.5	13.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			1	1-2	1-2	2	1-2	1	1-2	1-2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5368	5369	5370	5371	5372	5373	5374	5375
DATE TESTED			12/02/2018							
RESULTS										
Hilf Density Ratio	Standard	%	99	99.5	99.5	98.5	100.5	99.5	99.5	98
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.0**	**0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296267.852	296275.348	296276.45	296295.816	296293.767	296304.713	296310.993	296313.208
Northing			6268473.838	6268445.026	6268398.287	6268394.967	6268430.862	6268536.866	6268500.29	6268461.448
Reduced Level		m	24.431	24.355	24.225	23.96	24.145	23.512	23.773	23.816
Shown on Drawing No			8599/1-91							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.09	2.08	2.06	2.09	2.07	2.08	2.06
Field Moisture Content		%	13.5	14.5	13.5	12.5	14.0	13.0	13.5	12.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5368	5369	5370	5371	5372	5373	5374	5375
Peak Converted Wet Density		t/m³	2.10	2.10	2.09	2.09	2.08	2.08	2.09	2.10
Apparent Optimum Moisture Content		%	13.5	14.0	13.5	12.5	14.0	13.0	13.5	12.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			1-2	2	1-2	1	2	1	1-2	1

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5376	5377	5378	5379	5380	5381	5382	5383
DATE TESTED			12/02/2018		13/02/2018					
RESULTS										
Hilf Density Ratio	Standard	%	98.5	100	100	99	100	99	98.5	97
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296316.433	296320.284	296151.047	296146.888	296141.978	296136.55	296130.928	296115.22
Northing			6268429.245	6268396.767	6268475.166	6268507.825	6268539.236	6268571.471	6268610.934	6268618.983
Reduced Level		m	23.862	23.769	23.505	23.496	23.207	23.174	23.147	23.355
Shown on Drawing No			8599/1-91						8599/1-90	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.06	2.10	2.06	2.08	2.08	2.07	2.07	2.06
Field Moisture Content		%	13.0	12.5	13.0	12.0	13.0	11.5	12.5	13.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5376	5377	5378	5379	5380	5381	5382	5383
Peak Converted Wet Density		t/m³	2.09	2.10	2.06	2.10	2.08	2.09	2.10	2.12
Apparent Optimum Moisture Content		%	13.0	12.0	12.5	12.0	13.0	11.0	12.5	13.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			1	1	1	1	1	1	1-2	1

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5384	5385	5386	5387	5388	5389	5390	5391
DATE TESTED			13/02/2018							
RESULTS										
Hilf Density Ratio	Standard	%	99.5	99	100	100	99.5	100.5	99.5	103
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.5**	**0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296117.149	296120.054	296123.379	296127.259	296121.567	296112.102	296106.554	296100.198
Northing			6268595.775	6268564.652	6268537.288	6268502.738	6268511.666	6268540.705	6268565.359	6268594.963
Reduced Level		m	23.142	23.374	23.457	23.456	23.522	23.454	23.228	23.172
Shown on Drawing No			8599/1-90	8599/1-91						8599/1-90
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.09	2.10	2.10	2.08	2.09	2.08	2.07
Field Moisture Content		%	12.5	10.5	13.5	13.5	13.5	0.0	13.5	13.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5384	5385	5386	5387	5388	5389	5390	5391
Peak Converted Wet Density		t/m³	2.10	2.11	2.10	2.10	2.09	2.08	2.09	2.01
Apparent Optimum Moisture Content		%	12.0	10.0	13.0	13.5	13.5	0.0	13.5	13.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			1	1	1	1-2	1-2	1	1-2	1-2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5392	5393	5394	5395	5396	5397	5398	5399
DATE TESTED			13/02/2018							
RESULTS										
Hilf Density Ratio	Standard	%	100.5	99.5	100.5	98.5	100	98.5	101.5	99.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**	**≥95%**	**Specification Moisture Variance from OMC**							**±2%**
TEST LOCATION										
Easting			295995.262	295965.748	295942.693	295923.761	295897.997	295858.215	295865.796	295898.435
Northing			6268627.603	6268626.573	6268625.726	6268625.101	6268624.117	6268622.695	6268606.054	6268608.661
Reduced Level		m	21.307	21.225	21.26	21.252	20.877	20.291	20.218	20.705
Shown on Drawing No			8599/1-88							8599/1-89
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.06	2.10	2.06	2.08	2.06	2.12	2.07
Field Moisture Content		%	12.5	14.5	13.0	13.0	13.0	12.5	13.0	13.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5392	5393	5394	5395	5396	5397	5398	5399
Peak Converted Wet Density		t/m³	2.08	2.07	2.09	2.09	2.08	2.09	2.09	2.08
Apparent Optimum Moisture Content		%	12.5	14.5	13.0	13.0	12.5	12.5	12.5	13.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			1	2	1	1	1	1	1	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5400	5401	5402	5403	5404	5405	5406	5407
DATE TESTED			13/02/2018							
RESULTS										
Hilf Density Ratio	Standard	%	100	99	100.5	100	101	98.5	98.5	98.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295934.823	295957.734	295976.819	295938.109	295914.339	295883.866	295873.323	295894.865
Northing			6268609.493	6268610.017	6268588.422	6268591.333	6268594.008	6268597.597	6268625.895	6268631.094
Reduced Level		m	21.165	21.276	21.428	21.19	20.972	20.957	20.766	21.109
Shown on Drawing No			8599/1-89	8599/1-88	8599/1-89	8599/1-88				
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.06	2.10	2.09	2.09	2.06	2.08	2.06
Field Moisture Content		%	14.0	13.0	13.0	13.5	13.5	13.5	13.5	13.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5400	5401	5402	5403	5404	5405	5406	5407
Peak Converted Wet Density		t/m³	2.09	2.08	2.09	2.09	2.07	2.09	2.11	2.09
Apparent Optimum Moisture Content		%	13.5	12.5	13.0	13.0	13.5	13.5	13.0	13.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			1-2	1	1	1	1-2	1-2	1	1-2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5408	5409	5410	5411	5412	5413	5414	5415
DATE TESTED			13/02/2018	14/02/2018						
RESULTS										
Hilf Density Ratio	Standard	%	103	100.5	100	99.5	99	102	100.5	100
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295918.924	295987.936	295965.364	295943.019	295912.188	295886.077	295855.13	295827.759
Northing			6268634.269	6268588.945	6268586.811	6268587.213	6268586.7	6268587.179	6268588.86	6268591.515
Reduced Level		m	21.414	21.532	21.291	21.184	20.819	20.618	20.332	19.529
Shown on Drawing No			8599/1-88	8599/1-89						
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.15	2.08	2.08	2.07	2.05	2.13	2.10	2.07
Field Moisture Content		%	14.0	22.0	22.5	22.0	23.5	22.5	24.0	23.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5408	5409	5410	5411	5412	5413	5414	5415
Peak Converted Wet Density		t/m³	2.09	2.07	2.08	2.08	2.07	2.09	2.09	2.07
Apparent Optimum Moisture Content		%	14.0	22.0	22.5	22.0	23.5	22.0	24.0	23.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	3	3	3	3	3	3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5416	5417	5418	5419	5420	5421	5422	5423
DATE TESTED			14/02/2018							
RESULTS										
Hilf Density Ratio	Standard	%	102	99	98	101	100.5	100.5	97	98.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.0**	**0.0**	**0.0**	**1.0**	**0.0**	**0.0**	**-0.5**	**-0.5**
Specification	**Density Ratio (Standard)**	**≥95%**	**Specification Moisture Variance from OMC**							**±2%**
TEST LOCATION										
Easting			295833.767	295876.793	295907.296	295943.496	295975.908	295964.086	295941.217	295915.442
Northing			6268575.649	6268575.633	6268572.527	6268576.171	6268571.911	6268563.14	6268564.029	6268556.137
Reduced Level		m	18.974	20.185	20.519	20.927	21.458	21.295	20.978	20.715
Shown on Drawing No			8599/1-89							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.10	2.11	2.07	2.10	2.09	2.09	2.07	2.06
Field Moisture Content		%	22.5	22.5	23.0	23.0	23.5	23.0	23.5	22.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5416	5417	5418	5419	5420	5421	5422	5423
Peak Converted Wet Density		t/m³	2.06	2.13	2.11	2.08	2.08	2.08	2.13	2.09
Apparent Optimum Moisture Content		%	22.5	22.5	23.0	22.0	23.5	23.5	23.5	23.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	3	3	3	3	3	3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5424	5425	5426	5427	5428	5429	5430	5431
DATE TESTED			14/02/2018							
RESULTS										
Hilf Density Ratio	Standard	%	98	96.5	99	99.5	100.5	99.5	98	99.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**-0.5**	**-0.5**	**0.0**	**0.0**	**0.5**	**0.0**	**-0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295895.516	295876.531	295838.608	296120.443	296114.573	296107.844	296103.462	296083.252
Northing			6268553.633	6268558.23	6268563.656	6268497.271	6268521.584	6268553.778	6268583.863	6268592.003
Reduced Level		m	20.479	19.982	19.141	23.567	23.488	23.288	23.177	22.97
Shown on Drawing No				8599/1-89			8599/1-91		8599/1-90	8599/1-89
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.06	2.05	2.08	2.08	2.12	2.09	2.08
Field Moisture Content		%	23.0	23.0	23.0	23.0	23.0	24.0	23.5	23.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5424	5425	5426	5427	5428	5429	5430	5431
Peak Converted Wet Density		t/m³	2.13	2.14	2.07	2.09	2.07	2.13	2.13	2.09
Apparent Optimum Moisture Content		%	23.5	23.5	23.0	22.5	22.5	24.0	24.0	22.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	3	3	3	3	3	3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5432	5433	5434	5435	5436	5437	5438	5439
DATE TESTED			14/02/2018							
RESULTS										
Hilf Density Ratio	Standard	%	99	96.5	98	100	98.5	97.5	98.5	99
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.5**	**-0.5**	**-0.5**	**0.0**	**0.5**	**-0.5**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296084.129	296085.814	296094.938	296078.083	296069.246	296060.97	296042.294	296043.93
Northing			6268567.524	6268537.173	6268504.164	6268525.006	6268550.113	6268577.555	6268599.254	6268569.585
Reduced Level		m	23.292	23.254	23.462	23.076	22.954	22.805	22.814	22.988
Shown on Drawing No			8599/1-91	8599/1-89	8599/1-91		8599/1-89			8599/1-91
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.07	2.06	2.09	2.09	2.06	2.08	2.06	2.07
Field Moisture Content		%	22.5	23.5	22.5	23.0	22.0	22.0	23.5	22.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5432	5433	5434	5435	5436	5437	5438	5439
Peak Converted Wet Density		t/m³	2.09	2.13	2.13	2.09	2.09	2.13	2.09	2.09
Apparent Optimum Moisture Content		%	22.0	23.5	23.0	23.0	22.0	22.5	23.0	22.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	3	3	3	3	3	3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5440	5441	5442	5443	5444	5445	5446	5447
DATE TESTED			14/02/2018	15/02/2018						
RESULTS										
Hilf Density Ratio	Standard	%	98	100	100.5	100	99	98.5	97.5	98
Moisture Variation from OMC (-Drier/+Wetter)		%	**-0.5**	**0.0**	**0.5**	**0.0**	**0.5**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296058.814	295830.268	295868.334	295909.3	295942.399	295980.734	295970.674	295940.298
Northing			6268532.989	6268560.597	6268560.952	6268564.645	6268568	6268570.204	6268557.825	6268555.094
Reduced Level		m	22.79	19.373	19.771	20.502	20.944	21.602	21.563	21.032
Shown on Drawing No			8599/1-91	8599/1-89						
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.08	2.10	2.09	2.08	2.08	2.05	2.06
Field Moisture Content		%	23.0	22.5	22.0	23.0	22.0	22.5	23.5	23.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5440	5441	5442	5443	5444	5445	5446	5447
Peak Converted Wet Density		t/m³	2.13	2.08	2.09	2.09	2.10	2.11	2.10	2.10
Apparent Optimum Moisture Content		%	23.5	22.5	21.5	22.5	22.0	22.5	23.5	23.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	3	3	3	3	3	3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5448	5449	5450	5451	5452	5453	5454	5455
DATE TESTED			15/02/2018							
RESULTS										
Hilf Density Ratio	Standard	%	97	98.5	99	98.5	99.5	101.5	99.5	100.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295903.22	295870.679	295844.671	295845.507	295886.125	295919.699	295913.308	295889.683
Northing			6268551.777	6268550.355	6268549.319	6268528.142	6268528.868	6268530.053	6268518.84	6268514.767
Reduced Level		m	20.419	19.64	19.063	19.192	20.038	20.746	20.686	19.981
Shown on Drawing No			8599/1-89							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.04	2.07	2.05	2.06	2.08	2.11	2.08	2.09
Field Moisture Content		%	25.5	23.0	22.5	22.5	23.5	23.0	23.0	23.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5448	5449	5450	5451	5452	5453	5454	5455
Peak Converted Wet Density		t/m³	2.10	2.10	2.07	2.09	2.09	2.08	2.09	2.08
Apparent Optimum Moisture Content		%	25.5	23.0	22.5	22.5	23.5	23.5	23.0	22.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	3	3	3	3	3	3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5456	5457	5458	5459	5460	5461	5462	5463
DATE TESTED			15/02/2018							
RESULTS										
Hilf Density Ratio	Standard	%	98.5	100.5	100.5	99.5	100.5	99	100	98
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.0**	**0.0**	**0.5**	**0.5**	**0.5**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295861.733	296214.784	296185.319	296165.845	296138.86	296108.264	296110.03	296148.922
Northing			6268512.216	6268693.932	6268703.536	6268703.881	6268704.121	6268704.261	6268691.267	6268696.3
Reduced Level		m	19.381	22.342	22.407	22.437	22.258	22.057	22.323	22.385
Shown on Drawing No			8599/1-89	8599/1-90						
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.06	2.10	2.09	2.09	2.10	2.08	2.09	2.06
Field Moisture Content		%	23.0	22.5	23.5	23.0	23.0	22.0	22.5	21.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5456	5457	5458	5459	5460	5461	5462	5463
Peak Converted Wet Density		t/m³	2.09	2.09	2.08	2.10	2.09	2.10	2.09	2.10
Apparent Optimum Moisture Content		%	23.0	22.0	23.5	22.5	23.0	22.0	22.5	21.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	3	3	3	3	3	3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5464	5465	5466	5467	5468	5469	5470	5471
DATE TESTED			15/02/2018							
RESULTS										
Hilf Density Ratio	Standard	%	100	101	97.5	97.5	98	100	99	98.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.0**	**0.0**	**0.0**	**0.0**	**0.5**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296175.616	296169.158	296132.163	296097.219	296102.403	296147.878	296190.552	296189.026
Northing			6268693.903	6268681.045	6268678.25	6268676.188	6268660.802	6268663.955	6268663.517	6268649.194
Reduced Level		m	22.479	22.526	22.346	22.239	22.646	22.636	22.716	22.825
Shown on Drawing No			8599/1-90							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.11	2.04	2.04	2.05	2.10	2.07	2.05
Field Moisture Content		%	25.0	19.5	20.0	20.0	20.0	19.5	21.5	17.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5464	5465	5466	5467	5468	5469	5470	5471
Peak Converted Wet Density		t/m³	2.08	2.09	2.09	2.09	2.09	2.10	2.09	2.08
Apparent Optimum Moisture Content		%	25.5	19.5	20.0	20.0	19.5	19.5	21.5	18.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			3	2-3	2-3	2-3	2-3	2-3	3	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5472	5473	5474	5475	5476	5477	5478	5479
DATE TESTED			15/02/2018				16/02/2018			
RESULTS										
Hilf Density Ratio	Standard	%	98	101.5	100.5	101.5	98	97	98	95
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.5**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296160.381	296130.59	296101.604	296081.997	296091.585	296087.224	296087.574	296087.681
Northing			6268645.439	6268641.265	6268637.662	6268635.575	6268733.183	6268715.987	6268695.223	6268665.06
Reduced Level		m	22.966	22.938	23.098	23.056	21.28	21.67	22.163	22.369
Shown on Drawing No				8599/1-90		8599/1-88		8599/1-90		
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.05	2.12	2.10	2.13	2.11	2.09	2.10	2.06
Field Moisture Content		%	19.5	19.5	19.5	20.0	19.5	20.5	19.5	19.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5472	5473	5474	5475	5476	5477	5478	5479
Peak Converted Wet Density		t/m³	2.09	2.09	2.09	2.10	2.15	2.16	2.14	2.17
Apparent Optimum Moisture Content		%	19.5	19.5	19.0	19.5	19.5	20.0	19.5	19.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5480	5481	5482	5483	5484	5485	5486	5487
DATE TESTED			16/02/2018							
RESULTS										
Hilf Density Ratio	Standard	%	96	95	95	96.5	97	96.5	96	96.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.0**	**0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296074.629	296073.595	296075.828	296061.083	296062.733	296064.246	296063.806	296046.382
Northing			6268653.944	6268678.526	6268703.523	6268706.181	6268677.416	6268646.448	6268623.186	6268625.995
Reduced Level		m	22.506	22.349	21.927	21.877	22.233	22.556	22.837	22.606
Shown on Drawing No			8599/1-88							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.06	2.05	2.05	2.06	2.09	2.08	2.05	2.08
Field Moisture Content		%	19.5	19.0	20.0	20.0	20.0	20.5	20.0	23.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5480	5481	5482	5483	5484	5485	5486	5487
Peak Converted Wet Density		t/m³	2.15	2.16	2.16	2.14	2.15	2.15	2.14	2.15
Apparent Optimum Moisture Content		%	19.5	18.5	20.0	20.0	20.0	20.0	20.0	23.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2	2-3	2-3	2-3	2-3	2-3	3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5488	5489	5490	5491	5492	5493	5494	5495
DATE TESTED			16/02/2018							
RESULTS										
Hilf Density Ratio	Standard	%	97	96.5	95.5	96.5	96.5	96.5	96.5	97.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296041.148	296037.47	296033.795	296020.704	296019.054	296023.818	296009.538	295995.743
Northing			6268653.664	6268675.79	6268701.733	6268697.57	6268663.292	6268632.937	6268621.703	6268645.763
Reduced Level		m	22.404	22.183	21.868	21.863	22.21	22.389	22.226	21.821
Shown on Drawing No			8599/1-88					8599/1-90		8599/1-88
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.10	2.08	2.06	2.07	2.06	2.08	2.06	2.10
Field Moisture Content		%	19.5	20.0	19.5	20.0	19.5	19.5	19.5	20.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5488	5489	5490	5491	5492	5493	5494	5495
Peak Converted Wet Density		t/m³	2.16	2.15	2.16	2.15	2.14	2.15	2.14	2.15
Apparent Optimum Moisture Content		%	19.0	19.5	19.5	19.5	19.5	19.5	19.5	19.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2-3	2-3	2-3	2-3	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5496	5497	5498	5499	5500	5501	5502	5503
DATE TESTED			16/02/2018							
RESULTS										
Hilf Density Ratio	Standard	%	98	96.5	98	97	95.5	95	97.5	97
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295985.051	295979.137	295846.775	295877.052	295901.785	295922.108	295944.832	295971.815
Northing			6268673.159	6268690.135	6268504.438	6268504.83	6268507.729	6268508.988	6268514.929	6268526.053
Reduced Level		m	22.015	21.879	19.241	19.706	20.464	21.107	21.619	22.144
Shown on Drawing No			8599/1-88		8599/1-89					
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.11	2.08	2.12	2.08	2.05	2.05	2.09	2.09
Field Moisture Content		%	19.5	19.5	20.0	20.0	19.5	20.0	20.0	20.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5496	5497	5498	5499	5500	5501	5502	5503
Peak Converted Wet Density		t/m³	2.15	2.16	2.16	2.14	2.15	2.16	2.14	2.15
Apparent Optimum Moisture Content		%	19.5	19.5	20.0	20.0	19.5	20.0	20.0	20.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5504	5505	5506	5507	5508	5509	5510	5511
DATE TESTED			16/02/2018			19/02/2018				
RESULTS										
Hilf Density Ratio	Standard	%	96	96.5	95	97.5	97.5	96.5	96.5	96
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**1.0**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295929.344	295894.94	295867.874	295865.623	295881.217	295901.918	295926.03	295948.658
Northing			6268501.202	6268492.143	6268485.058	6268480.668	6268480.645	6268482.625	6268483.932	6268483.943
Reduced Level		m	21.35	20.273	19.504	19.468	19.801	20.365	21.105	21.771
Shown on Drawing No			8599/1-89							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.05	2.07	2.05	2.11	2.09	2.08	2.08	2.06
Field Moisture Content		%	19.5	20.0	20.0	20.0	20.0	20.0	19.5	19.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5504	5505	5506	5507	5508	5509	5510	5511
Peak Converted Wet Density		t/m³	2.14	2.14	2.16	2.16	2.14	2.15	2.15	2.15
Apparent Optimum Moisture Content		%	19.0	20.0	20.0	20.0	20.0	19.0	19.0	19.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2-3	2-3	2-3	2-3	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5512	5513	5514	5515	5516	5517	5518	5519
DATE TESTED			19/02/2018							
RESULTS										
Hilf Density Ratio	Standard	%	96.5	96.5	96.5	96.5	97	96.5	97	97
Moisture Variation from OMC (-Drier/+Wetter)		%	**1.0**	**0.0**	**0.0**	**-0.5**	**0.5**	**0.5**	**0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295971.677	295968.184	295919.115	295879.034	295900.064	295936.852	295962.18	295945.13
Northing			6268483.021	6268473.795	6268484.807	6268467.486	6268463.773	6268465.074	6268464.034	6268461.373
Reduced Level		m	21.93	21.905	20.915	19.787	19.985	21.458	21.684	21.539
Shown on Drawing No			8599/1-89							
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.06	2.07	2.06	2.08	2.07	2.09	2.09
Field Moisture Content		%	19.5	20.0	15.5	19.0	20.0	20.0	19.5	20.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5512	5513	5514	5515	5516	5517	5518	5519
Peak Converted Wet Density		t/m³	2.17	2.14	2.15	2.14	2.14	2.15	2.16	2.15
Apparent Optimum Moisture Content		%	18.5	19.5	15.0	19.5	19.5	19.5	19.0	19.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2-3	2-3	2-3	2-3	2-3	2	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5520	5521	5522	5523	5524	5525	5526	5527
DATE TESTED			19/02/2018							
RESULTS										
Hilf Density Ratio	Standard	%	96.5	97	96.5	95.5	96.5	96.5	97	96.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**-0.5**	**0.0**	**0.0**	**0.5**	**0.0**	**0.0**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			295927.274	295911.151	296218.158	296214.195	296188.512	296152.509	296113.894	296092.617
Northing			6268453.789	6268444.202	6268714.049	6268743.239	6268766.054	6268776.216	6268750.758	6268741.318
Reduced Level		m	20.977	20.497	21.676	21.037	20.785	21.032	21.282	21.35
Shown on Drawing No			8599/1-89		8599/1-90				8599/1-87	8599/1-90
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.09	2.06	2.06	2.07	2.07	2.10	2.07
Field Moisture Content		%	19.5	19.0	19.5	20.0	20.0	19.5	19.5	18.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5520	5521	5522	5523	5524	5525	5526	5527
Peak Converted Wet Density		t/m³	2.16	2.15	2.14	2.16	2.14	2.14	2.16	2.15
Apparent Optimum Moisture Content		%	19.5	19.0	19.5	19.5	19.5	19.5	19.0	18.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2	2-3	2-3	2-3	2-3	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5528	5529	5530	5531	5532	5533	5534	5535
DATE TESTED			19/02/2018							
RESULTS										
Hilf Density Ratio	Standard	%	99	98	96.5	97	97	98	101.5	98.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.0**	**0.0**	**0.0**	**0.0**	**0.5**	**0.5**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296077.565	296041.981	296001.862	295978.04	295995.603	296015.972	296039.795	296072.038
Northing			6268736.925	6268730.134	6268720.354	6268701.325	6268698.325	6268707.911	6268715.027	6268723.569
Reduced Level		m	21.303	21.608	21.516	21.563	21.909	21.871	21.581	21.568
Shown on Drawing No			8599/1-90			8599/1-88				8599/1-90
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.12	2.12	2.07	2.08	2.09	2.12	2.19	2.11
Field Moisture Content		%	20.0	20.0	19.5	20.0	19.0	19.5	19.5	19.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5528	5529	5530	5531	5532	5533	5534	5535
Peak Converted Wet Density		t/m³	2.14	2.16	2.14	2.14	2.16	2.16	2.16	2.14
Apparent Optimum Moisture Content		%	20.0	20.0	19.5	20.0	18.5	19.0	19.5	19.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	2-3	2	2	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5536	5537	5538	5539	5540	5541	5542	5543
DATE TESTED			19/02/2018		21/02/2018					
RESULTS										
Hilf Density Ratio	Standard	%	95	98.5	97.5	96.5	98.5	95	96	97
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.5**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**	**≥95%**	**Specification Moisture Variance from OMC**							**±2%**
TEST LOCATION										
Easting			296116.553	296155.522	295976.867	295973.703	295994.659	295994.855	296008.232	296026.749
Northing			6268740.283	6268753.26	6268694.886	6268718.593	6268703.606	6268733.172	6268731.271	6268724.686
Reduced Level		m	21.37	21.208	21.75	21.033	21.69	21.62	21.643	21.674
Shown on Drawing No			8599/1-90		8599/1-88				8599/1-90	
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.04	2.10	2.10	2.07	2.12	2.05	2.05	2.07
Field Moisture Content		%	19.5	20.0	20.0	20.5	20.0	20.0	20.0	20.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5536	5537	5538	5539	5540	5541	5542	5543
Peak Converted Wet Density		t/m³	2.15	2.13	2.15	2.14	2.15	2.16	2.14	2.13
Apparent Optimum Moisture Content		%	19.5	20.0	20.0	20.5	20.0	19.5	20.5	20.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER			5544	5545	5546	5547	5548	5549	5550	5551
DATE TESTED			21/02/2018							
RESULTS										
Hilf Density Ratio	Standard	%	96.5	96	96.5	97	97	98.5	96	98.5
Moisture Variation from OMC (-Drier/+Wetter)		%	**0.5**	**0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Easting			296026.362	296034.181	296057.321	296081.703	295891.534	295915.917	295954.156	295970.447
Northing			6268747.581	6268723.802	6268745.412	6268738.596	6268458.044	6268441.222	6268430.968	6268439.373
Reduced Level		m	20.783	21.548	21.39	21.369	19.817	20.614	21.026	21.542
Shown on Drawing No			8599/1-87	8599/1-90		8599/1-87	8599/1-89			
Retested by Test			-	-	-	-	-	-	-	-
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.08	2.07	2.07	2.07	2.09	2.10	2.06	2.11
Field Moisture Content		%	20.0	19.5	19.0	20.0	20.0	19.5	19.5	19.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			5544	5545	5546	5547	5548	5549	5550	5551
Peak Converted Wet Density		t/m³	2.15	2.16	2.15	2.13	2.15	2.13	2.15	2.14
Apparent Optimum Moisture Content		%	19.5	19.5	19.0	20.0	20.0	19.5	19.0	19.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2-3	2-3	2	2-3	2-3	2-3	2	2-3

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/1
Date: 24/02/2018

PROJECT: SITE FILL TESTING - AREA B
RESIDENTIAL DEVELOPMENT.WOORONG PARK, MARSDEN PARK

TEST NUMBER		5552	5553	5554					
DATE TESTED		21/02/2018							
RESULTS									
Hilf Density Ratio Standard	%	99	97	97.5					
Moisture Variation from OMC (-Drier/+Wetter)	%	**0.0**	**0.5**	**0.0**					
Specification **Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION									
Easting		295936.383	296118.105	296090.183					
Northing		6268447.457	6268494.25	6268509.995					
Reduced Level	m	21.155	23.568	23.6					
Shown on Drawing No		8599/1-89	8599/1-91	8599/1-89					
Retested by Test		-	-	-					
FIELD & LABORATORY DATA									
Field Wet Density	t/m³	2.12	2.09	2.10					
Field Moisture Content	%	19.0	20.0	19.5					
Material retained on 19mm Sieve (wet)	%	<5	<5	<5					
Lab Compaction result from test number		5552	5553	5554					
Peak Converted Wet Density	t/m³	2.14	2.16	2.15					
Apparent Optimum Moisture Content	%	19.0	19.5	19.5					
Number of Compaction Points		3	3	3					
Test Procedures - See Note Number		12	12	12					
Material Description - see below		2-3	2-3	2-3					

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020c Version 01 06/17 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

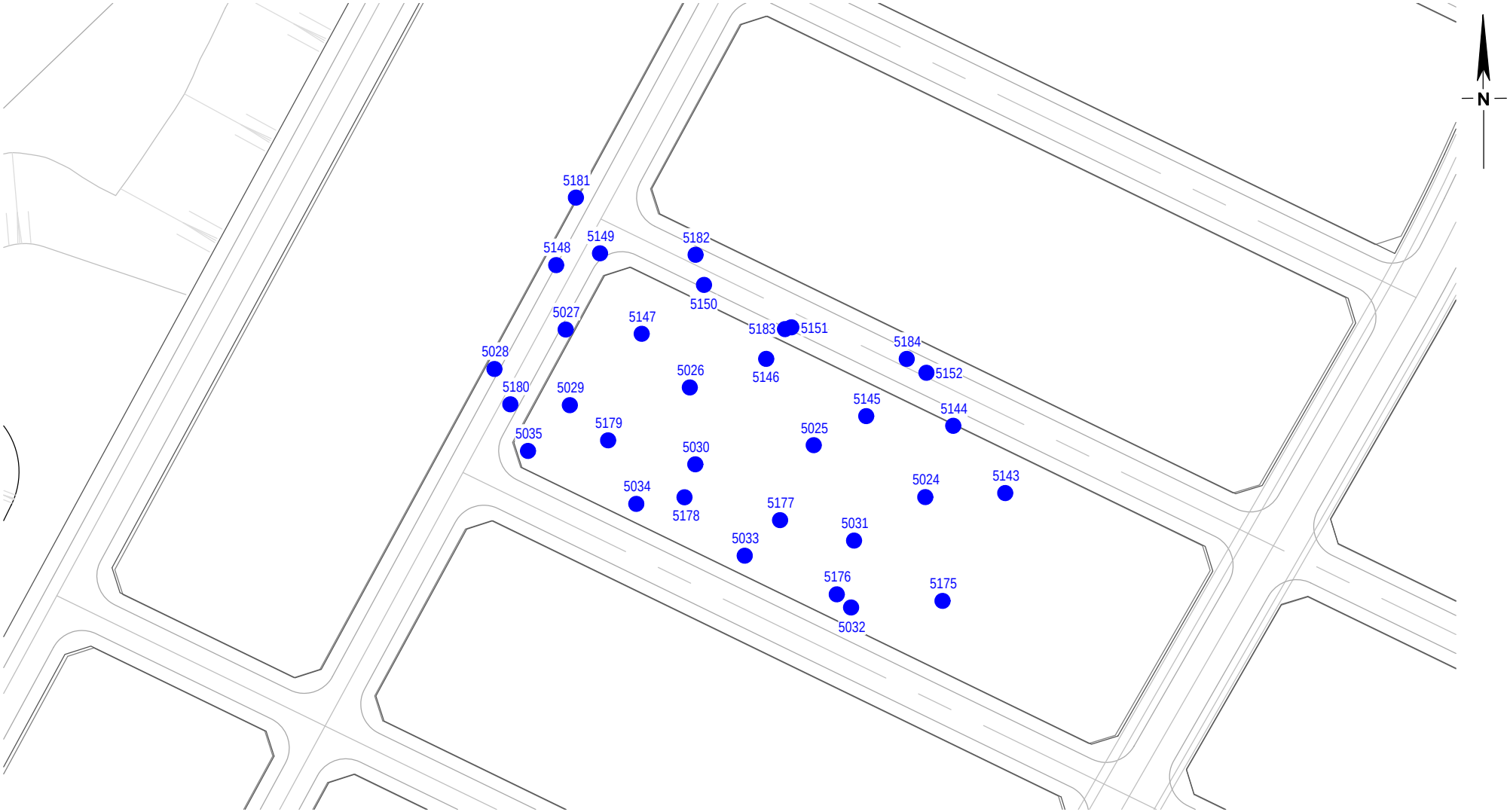
Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/02/2018
Approved Signatory

Head Office:
34 Borec Road, Penrith NSW 2750
P O Box 880 Penrith NSW 2751
Telephone: (02) 4722 2

Prestons Laboratory:
Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111 Facsimile: (02) 9607 6200

email: info@geotech.com.au www.geotech.com.au



LEGEND

● Density Test

GEOTECH TESTING PTY LTD®
34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321
Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

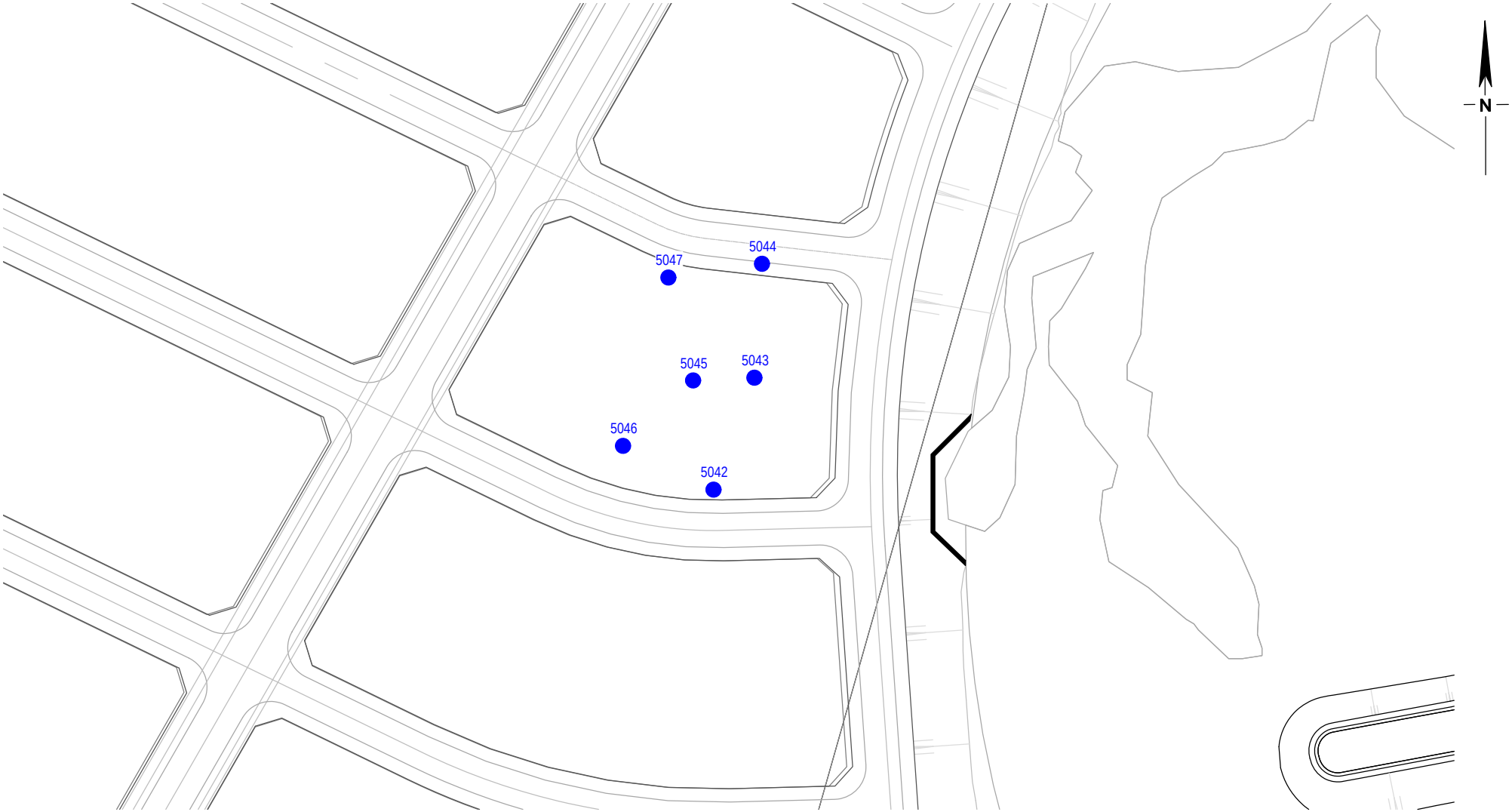
1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-83
Job No: 8599/1
Drawn By: MH
Date: 23 February 2018
Checked By: AK

File No: 8599-1
Layers: 0, Lay83



LEGEND

● Density Test

GEOTECH TESTING PTY LTD®
34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321
Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-84
Job No: 8599/1
Drawn By: MH
Date: 23 February 2018
Checked By: AK

File No: 8599-1
Layers: 0, Lay84

LEGEND

● Density Test

GEOTECH TESTING PTY LTD®
34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321
Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-85
Job No: 8599/1
Drawn By: MH
Date: 23 February 2018
Checked By: AK

File No: 8599-1
Layers: 0, Lay85

LEGEND

● Density Test

GEOTECH TESTING PTY LTD®

34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321

Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

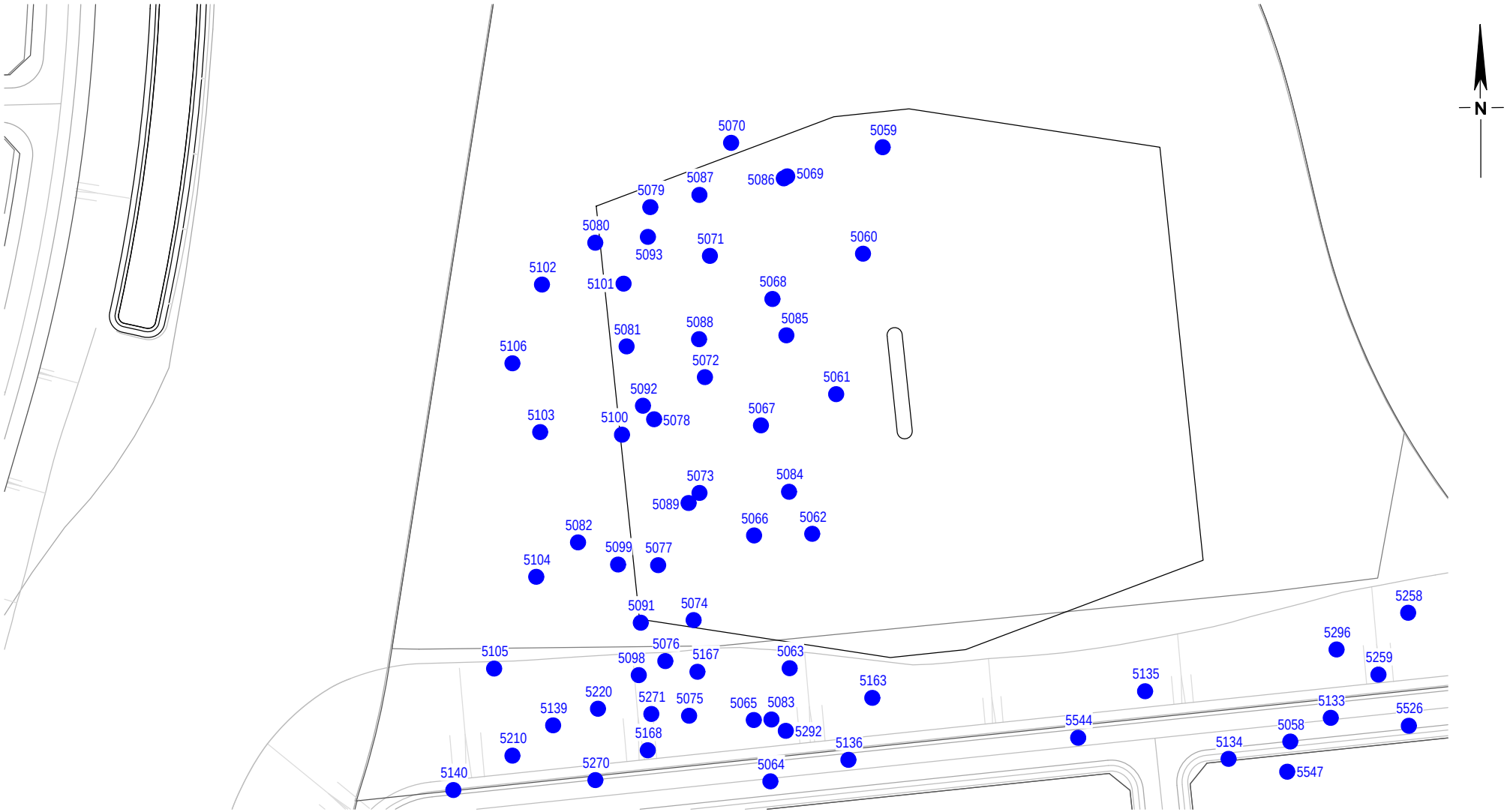
1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-86
Job No: 8599/1
Drawn By: MH
Date: 23 February 2018
Checked By: AK

File No: 8599-1
Layers: 0, Lay86



LEGEND

● Density Test

GEOTECH TESTING PTY LTD®
34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321
Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

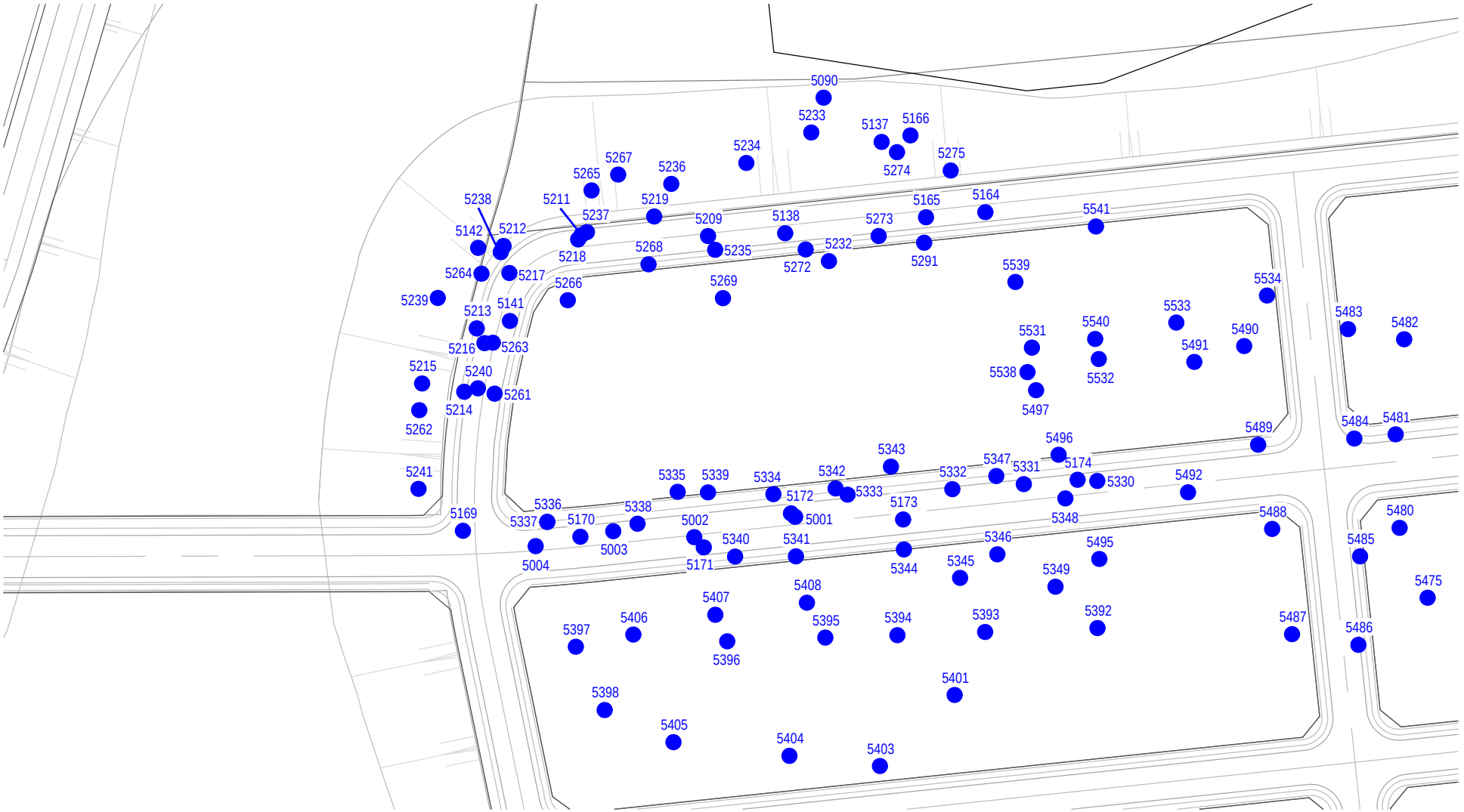
1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-87
Job No: 8599/1
Drawn By: MH
Date: 23 February 2018
Checked By: AK

File No: 8599-1
Layers: 0, Lay87



LEGEND

● Density Test

GEOTECH TESTING PTY LTD®
34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321
Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-88
Job No: 8599/1
Drawn By: MH
Date: 23 February 2018
Checked By: AK

File No: 8599-1
Layers: 0, Lay88

LEGEND

● Density Test

GEOTECH TESTING PTY LTD®
34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321
Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-89
Job No: 8599/1
Drawn By: MH
Date: 23 February 2018
Checked By: AK

File No: 8599-1
Layers: 0, Lay89

LEGEND

● Density Test

GEOTECH TESTING PTY LTD®
34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321
Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

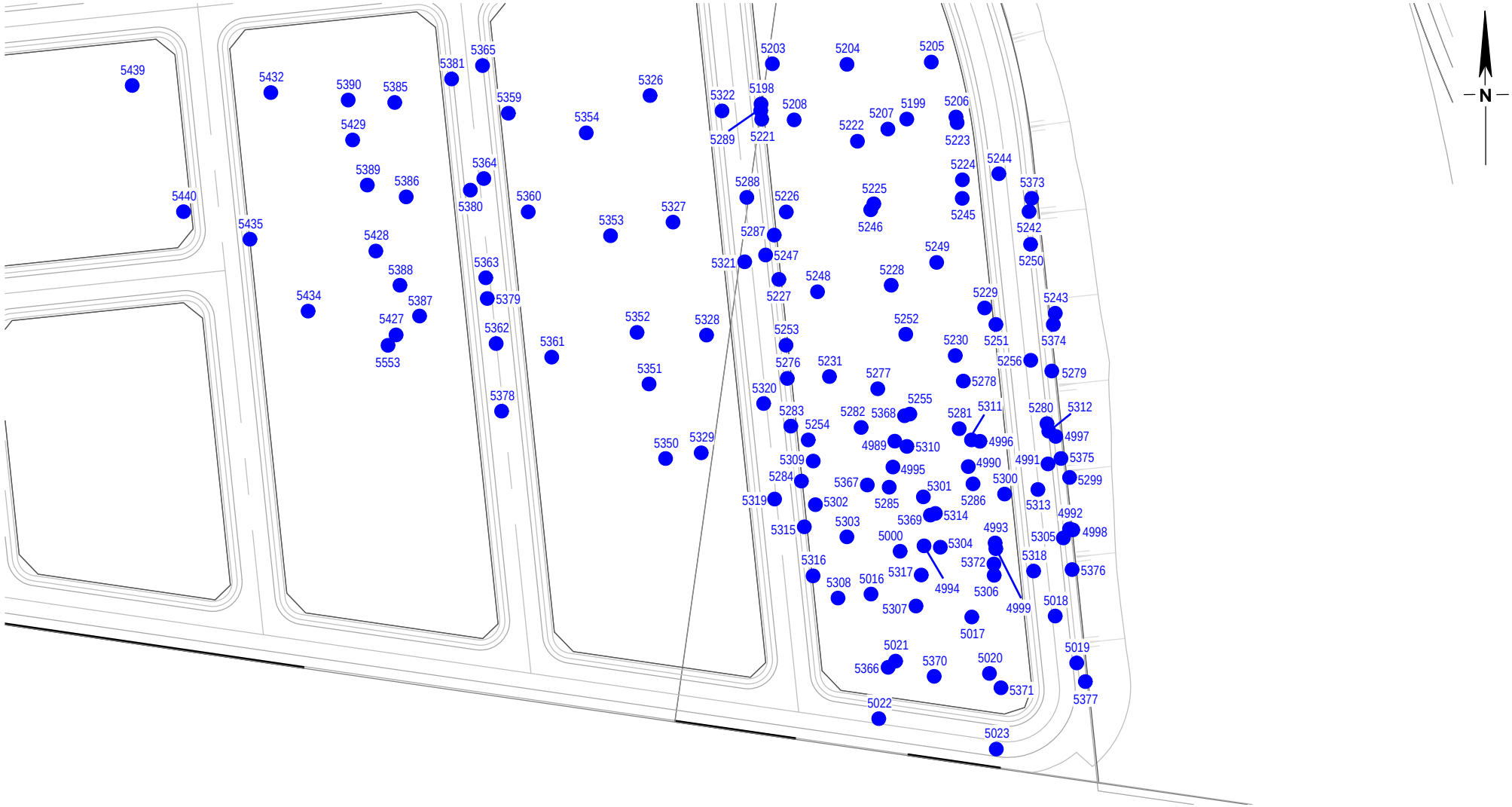
1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-90
Job No: 8599/1
Drawn By: MH
Date: 23 February 2018
Checked By: AK

File No: 8599-1
Layers: 0, Lay90



LEGEND

● Density Test

GEOTECH TESTING PTY LTD®
34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321
Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Woorong Park - Area B
Marsden Park

Location of Field Density Tests

Drawing No: 8599/1-91
Job No: 8599/1
Drawn By: MH
Date: 23 February 2018
Checked By: AK

File No: 8599-1
Layers: 0, Lay91

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	232
Location:	Marsden Park	Report Date:	18 /01 /2018
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 5:00

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 12, BMD	TEST NO'S 4996 - 5005 /30

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

5X 627 SCRAPERS REMOVING STOCKPILED TOPSOIL AND PLACING ON AND AROUND (FSL) AREAS IN SUBGRADE 18
GRADER TRIMMING TO FILE READY FOR GRASS TRACTOR WHILST WATERCART BATER SPRAYING TO MINIMIZE MESS ON FINISHED PRODUCT

5. Instructions given on site

ROAD TRUCKS CARRYING IMPORT SANDSTONE OVERSIZED STOCKPILED TO BE CRUSHED FINES THAT COME IN IS PILED IN BOXED OUT ROADS GOING PREPED AS REPLACEMENT (S4)
TRUCK AND DOGS CARRYING IMPORT MATERIEL TO SUBGRADE (12) AND BMD

COMMENTS: SITE, 2V 825 COMPACTORS PUSHING OFF THE FACE FOR NEXT LIFT LAYER

Signed: Date: 18.01.18

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

4976

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	233
Location:	Marsden Park	Report Date:	22/01/2018
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 5:00

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 12, BMD	TEST No's 5006 - 5024 / 19

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

ROAD TRUCKS CARRING IMPORT MATERIAL FROM EAR ENTRANCE TO APPROVED SUBGRADE 12, BMD
2x 825 COMPACTORS PUSHING DUMPED MATERIAL OF THE TOP FACE MATERIAL SPRAYING MATERIAL AS DUMPED TO DUMPY TO SPEL

5. Instructions given on site

ALSO ROAD TRUCKS CARRING SANDSTONE FROM THE CITY TUNNELS MAJORITY OF STONE IS OVERSIZE IT IS THEN STOCKPILED
THE FINE STONE IS USED IN THE BOXED OUT ROADS GRADER TRIMMING MATERIAL SPRAYING IT WILL BE ROLLED AND REWORKED AFTER SERVICES

COMMENTS: 2x 627 SCRAPERS CARRING CUT TO FILL FROM HIGH AREAS IN (54) 18 TO APPROVED 13 / JAM AREA 825 WORKING WEST DOWN HILL
3x 627 SCRAPERS TOPPING UP FINISHED LOTS WITH TOPSOIL FROM STOCKPILED MATERIEL

Signed: Date: 22.01.18

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	234
Location:	Marsden Park	Report Date:	25/01/2018
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 5:00

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 12/SOCCER OVAL	TEST NO'S 5060 - 5074 1/35
APPROVED SUBGRADE	SUBGRADE 12 BMD	TEST NO'S 5075 - 5078 1/4

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

4x 627 SCRAPERS PLACING TOPSOIL IN (54)12 FROM PREVIOUSLY STOCKPILED MATERIAL GRADER TRIMMING PLACED/RAN OUT TOPSOIL ALONG WITH TRIMMING ROADS FOR REPLACEMENT SUBGRADE SPARING FOLLOWING WEEK

5. Instructions given on site

4x 627 SCRAPERS BOXING OUT ROADS IN ZONE A MATERIAL PLACED IN (54)12 2x 825 COMPACTORS PUSHING AND ROLLING DOWN WEST TO CULVERT TRUCK AND DOGS CARTING TO (54)12 ALSO ENTERING RICHMOND ROAD WATERCART SPRAYING FILL AREA/SOCCER OVAL

COMMENTS: PREVIOUS EVALUATED UNSUITABLE MATERIAL PLACED IN (54)12 IS BEIN PLACED WITH PICKERS SIEVING THROUGH TO REMOVE ANY FOREIGN MATERIALS

Signed: Date: 25/01/18

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System Quality ISO 9001 SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	235
Location:	Marsden Park	Report Date:	30 /01/2018
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 5:00

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SOCCER OVAL	TEST NO'S S099 - S107 / 9
APPROVED SUBGRADE	SUBGRADE 12. BMD	TEST NO'S S108 - S120 / 13

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

TRUCK AND DOGS CARTING IMPORT FROM RICHMOND ROAD ENTRY TO SOCCER OVAL OPPOSITE (S4) 12 D8 AND 825 PUSHING MATERIAL OFF THE FACE AS PLACED
WATERCART SPRAYING WITH CANNON AS DUMPED
GRADER TRIMMING UP SOCCER FIELD IN AREAS ON FCL

5. Instructions given on site

5x 627 SCRAPERS PLACING TOPSOIL ON FINISHED ROADS FROM PREVIOUSLY STOCKPILED MATERIAL
ALSO GRADER TRIMMING MATERIAL TO FILE WHILST WATERCART SPRAYING FROM SIDE HAUL ROADS

COMMENTS:

Signed: Date: 30.01.18

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System Quality ISO 9001 SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	236
Location:	Marsden Park	Report Date:	01 / 02 /2018
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 5:00

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 12, SOCCER OVAL	TEST NO'S 5153-5174/22
APPROVED SUBGRADE	SUBGRADE 18	TEST NO'S 5175 - 5184/10

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

3 x 627 SCRAPERS BOXING OUT ROADS IN ZONE A MATERIEL PLACED IN (S4) 05 WHERE 825 COMPACTOR PUSHING WEST TO ACHIEVE FSL READY FOR TOPSOIL ALSO 3x 627 SCRAPERS CARTING MATERIEL FROM 010 CAMP AREA TO (S4) 18 ALSO 825 COMPACTING TO THE WEST FROM TOP TO LOWER END

5. Instructions given on site

ROAD TRUCKS CARTING IMPORT MATERIEL TO ZONE B (S4)12 2x 825 COMPACTORS BRINGING UP TO 2M BELOW TO MAKE ALL FILL AREA AT SAME AREA HEIGHT TO BEABLE TO START AT THE BACK END AND WORK FORWARD AS AREAS ARE ALL OVER THE SHOP DUE TO PREVIOUS RAIN

COMMENTS: TRUCKS CARTING SANDSTONE TO GRADERS FOR SUBGRADE REPLACEMENT OVERSIZED IS STOCKPILED AND WILL BE CRUSHED AT A LATER STAGE FOR SUBGRADE/SUBBASE

Signed: Date: 01-02-18

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System Quality ISO 9001 SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	237
Location:	Marsden Park	Report Date:	02 / 02 /2018
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 5:00

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 12, BMD	TEST NOS 5185-5220 / 36

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

TRUCK AND DOGS CARTING IMPORT MATERIEL TO APPROVED SUBGRADE 12, BMD
2x COMPACTORS WORKING FROM OF THE FACE TO CREATE A CONSTANT LEVEL APPROX 2m BELOW
WATERCART SPRAYING HAUL ROADS INTO SITE ALSO FILL AREA AS NEEDED

5. Instructions given on site

8x 627 SCRAPERS TOPSOILING FINISHED PAD AREAS USING STOCKPILED MATERIEL FROM THE BEGINING OF TIME
ALONG WITH TRUCKS CARTING SANDSTONE TO GRADERS IN BOXED ROADS FOR REPLACEMENT SUBGRADE

COMMENTS: ALL OVERSIZED SANDSTONE STOCKPILED THEN WILL BE CRUSHED TO BE USED AT A LATER DATE

Signed: Date: 02.02.18

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System Quality ISO 9001 SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	238
Location:	Marsden Park	Report Date:	05 / 02 / 2018
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 5.00

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 12.8MD	TEST NO'S 5221-5241/21

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

ROAD TRUCKS CARRY IMPORT MATERIEL TO APPROVED SUBGRADE 12.8MD
2x 825 COMPACTORS PUSHING OFF THE FACE WHILST WATER CART SPRAYING AS NEEDED TO BRING FILL AREA TO 2M UNDER FSL ROAD TRUCKS ALSO CARRY SANDSTONE TO STOCKPILE FOR FUTURE USE

5. Instructions given on site

3x 627 SCRAPERS PLACING STOCKPILED TOPSOIL OVER FINISHED LOTS IN (54) 18
GRADER TRIMMING UP TOPSOIL TO (FSL) WITHIN APPROVED SPEC
2x 627 SCRAPERS BOXING OUT ROADS FOR PLACEMENT OF SUBGRADE

COMMENTS: PIPE BOYS DIGGING TRENCHES READY FOR STORM WATER PIPES TO BE PLACED INTO PITS REPLACEMENT WHICH RECYCLED SANDS WILL BE USED

Signed:

Date: 05 02 18

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	239
Location:	Marsden Park	Report Date:	06 /02/2018
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 5pm

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 12. BMD	TEST NO'S S242 - S266/25

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

5x 627 SCRAPERS TOPSOILING FINISHED PADS IN (S4)18 FROM PREVIOUSLY STOCKPILED MATERIAL
WATERCART SPRAYING AS REQUIRED WHILST GRADER TRIMS TO GAS LINE ALONG WITH ROAD TRUCKS CARTING IMPORT FILL MATERIEL TO APPROVED (S4)12

5. Instructions given on site

2x 825 COMPACTORS PUSHING OF THE FACE IN SEPERATE AREAS
ANOTHER WATERCART SPRAYING ROADS AS REQUIRED WITH WATER SPRAYS
ROAD TRUCKS CARTING SANDSTONE ALSO TO BOXED OUT ROADS DOZER PUSHING AND PAD FOOT COMPACTING

COMMENTS:

Signed: Date: 06.02.18

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System Quality ISO 9001 SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	240
Location:	Marsden Park	Report Date:	07/02/2018
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 1500

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 12.8MD	TEST NOS 5268 - 5290 / 24

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

GRADER TRIMMING HAUL ROADS FROM RICHMOND ROAD ENTRY TO APPROVED SUBGRADE 12.8MD
IMPORT MATERIEL PLACED OF THE FACE 2x 825 COMPACTORS PUSHING WEST WATERCART SPRAYING AS PLACED

5. Instructions given on site

D6 DOZER AND SCRAPER BOXING OUT ROADS IN ZONE(A) IMPORT SANDSTONE PLACED IF FINES STRAIGHT INTO ROAD
OVERSIZED SANASTONE IS STOCKPILED TO A LATER DATE WHEN A CRUSHER ARRIVES TO USE STONE IN ROADS FOR REPLACEMENT

COMMENTS: 4x 627 SCRAPERS STILL TOPSOILING FINISHED PADS IN ZONE(B) FROM PREVIOUSLY STOCKPILED MATERIEL
GRADER TRIMMING MATERIEL TO ESTABLISH GRASS TRACTOR READY FOR SEEDING

Signed: Date: 07.02.18

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	241
Location:	Marsden Park	Report Date:	09/02/2018
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site:

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 12. BMD	TEST NOS 5291-5318/28

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

ROAD TRUCKS CARING IMPORT FROM HOMEBUSH TO ZONE (B) APPROVED SUBGRADE 12 MATERIEL IS PLACED ON THE TOP FOR NOW AND DUSHED OF THE FACE TO MAKE LOWER AREAS EQUAL TO 2M BELOW (ESL) 3X COMPACTORS WORKING WEST

5. Instructions given on site

WATERCART SPRAYING AS NEEDED ALONG WITH HALL ROAD ENTRY FROM RICHMOND ROAD
GRADER TRIMMING HALL ROADS AS THE TRUCKS WINGE AND COMPAIN THEY MAY GET A BREAK

COMMENTS: SANDSTONE TRUCKS CARING FILL FINES TO BOXED OUT ROADS DOZER SPREADING AND OVERSIZED MATERIEL STOCKPILED

Signed: Date: 09.02.18

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	242
Location:	Marsden Park	Report Date:	10/02/2018
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 5:00

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 12.8MO	TEST NO'S 5319-5349/31

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

2x 627 SCRAPERS PLACING TOPSOIL IN ZONE (B) SUBGRADE 18 WITH STOCKPILED MATERIEL AFTER PLACED GRADER TRIMMING TO FINAL FILL
TRUCK AND DOGS HAVING IMPORT MATERIEL TO SUBGRADE 12.8MO
2x 825 COMPACTORS PUSHING MATERIEL OF THE EDGE

5. Instructions given on site

WATERCART SPRAYING AS PLACED MAIN HAUL ROAD OVER BRIDGE PLACED WITH FILL
D6 AND GRADE BOXING ON ROADS IN ZONE (A) WHILST TRUCKS CART SAND STONE. PAD FOOT ROLLING OVERSIZED MATERIEL STOCKPILED

COMMENTS:

Signed: Date: 10.02.18

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	243
Location:	Marsden Park	Report Date:	12/02/2018
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 5:00

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADES 12.6MD	TEST NO'S 5350-5377/28

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

ROAD TRUCKS CARRYING IMPORT MATERIAL TO ABOVE (S4) MATERIAL PLACED AND PUSHED OF THE FACE TO THE WEST
ALSO ANOTHER 825 PUSHING TO THE NORTH OF THE BOTTOM FILL AREA
WATERCART SPRAYING MATERIAL AS PLACED

5. Instructions given on site

SOME MATERIAL PLACED ROCKS OVERSIZED MACHINE 825 WAS INSTRUCTED TO PUSH OUT AFTER ADRIAN WAS INFORMED
ALONG WITH SANDSTONE PLACED IN BOXED ROADS DOZER AND GRADER TRIMING TO REDIRECTMENT FILL OVERSIZED STONE IS STOCKPILED

COMMENTS: AND WILL BE CRUSHED AND USED AT A LATER DATE

Signed: [signature] Date: 12.02.18

QUAKERS HILL PRECINCT EDUCATION CENTRE

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	244
Location:	Marsden Park	Report Date:	13 / 02 /2018
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 5:00

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 12, BMD	TEST NO'S 5378 - 5408/31

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

ROAD TRUCKS CARRYING IMPORT FILL MATERIEL TO (SG) 12 2x 825 COMPACTOR AND DS PUSHING MATERIEL OF THE FACE TOWARDS THE WEST WATER CART SPRAYING MATERIEL AS PLACED
TRUCKS ALSO CARRYING SANDSTONE FOR SUBGRADE REPLACEMENT

5. Instructions given on site

OVERSIZED STONE STOCKPILED AND WILL BE CRUSHED LATER FOR USE IN ROADS
GRADER TRIMMING HAUL ROADS FROM RICHMOND ROAD TO AREAS NEEDED DEPENDS ON MATERIEL TOPSOIL STOCKPILES USED FOR

COMMENTS: FINISHED PADS EXCAVATOR LOADING BOGGIE THEN AGTER PLACED GRADER PUSHING OVER AND TRIMMING

Signed: Date: 13.02.18

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	245
Location:	Marsden Park	Report Date:	14/02/2018
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 1500

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADES 12.8MD	TEST NO'S 5409-5440/32

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

2x 627 SCRAPERS TOPSOILING FINISHED PADS IN (S4) 18 FROM PREVIOUSLY STOCKPILED MATERIEL GRADER TRIMMING AS DIASED FOR GRASS TRACTOR TO SEED FOR FINISHED PRODUCT
TRUCK AND DOGS CARTING IMPORT MATERIEL TO (S4) 12-8MD 2x 825

5. Instructions given on site

COMPACTORS PUSHING OVER LOWER SPOTS TO CREATE A LEVEL SURFACE OVER THE WHOLE AREA MAKING IT EASIER FOR EARTHWORKS TO PROCEED.
WATERCARTS SPRAYING MATERIEL AS DIRECTED ALONG WITH THE HAL ROADS

COMMENTS: INTO AND OUT OF JOB TO RICHMOND ROAD
TRUCKS ALSO CARTING SANDSTONE FOR SUBGRADE REPLACEMENT OVERSIZE MATERIEL IS STOCKPILED AND WILL BE CRUSHED

Signed: Date: 14.02.18

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	246
Location:	Marsden Park	Report Date:	15 /02/2018
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 5:00

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE 12 BMD	TEST NO'S 5441 - 5475/35

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey Test Locations Lot Boundaries	Survey undertaken by: Geotech / Geotech /	Reference

4. Instructions received on site

ROAD TRUCKS CARRYING IMPORT MATERIEL TO THE ABSLE (SG) MATERIEL TIPPED ON TOP OF THE FACE 2x 825 COMMENCERS PUSHING IT UP ONE 825 IS WORKING FURTHER TO THE WEST
ROAD ALSO CARRYING SANDSTONE OVERSIZED MATERIEL STOCKPILED WILL BE

5. Instructions given on site

CRUSHED AT A LATER STAGE TO BE USED AS SUBGRADE REPLACEMENT THE 75MM MATERIEL IS PLACED IN ROADS OF PUSHING WHILST DAD FOOT COMPACTS READY FOR GRADER TO TRIM

COMMENTS:

Signed: Date: 15-02-18

16.02/5476-5506 19.02 5507-5537

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	247
Location:	Marsden Park	Report Date:	16/02/2018
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0650

Time off site: 5:00

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE , 12-800	TEST NO'S 5476-5506/31
APPROVED SUBGRADE	SUBGRADE ,	TEST NO'S

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

5. Instructions given on site

COMMENTS:

Signed:

Date: 16.02.18

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	248
Location:	Marsden Park	Report Date:	19/02/2018
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 0630

Time off site: 5:00

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE , 12 , 6MO	TEST NO'S 5507-5537/31
APPROVED SUBGRADE	SUBGRADE ,	TEST NO'S

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

5. Instructions given on site

ROAD TRUCKS CARRING IMPORT MATERIEL ENTERING RICHMOND ROAD TO APPROVED SUBGRADE (12) ZONE C 2x 825 COMPACTORS PUSHING PLACED MATERIEL OF THE EDGE WHIST WATERCART SPRAYING AS NEEDED GRADER TRIMMING FINISHED PADS ALSO HAUL ROADS INTO AND OUT

COMMENTS: OF FILL AREAS

Signed: Date: 19.02.18

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Certified System
Quality
ISO 9001
SAI GLOBAL

GEOTECHNICAL INSPECTION AND TESTING AUTHORITY

Accreditation No 2734 Corporate Site No 2727

LEVEL 1 DAILY REPORT

Client:	Daracon Contractors Pty Ltd	Project No:	8599/1
Project:	Woorong Bulk Earthworks	Report No:	249
Location:	Marsden Park	Report Date:	21 / 02 /2018
Test Methods:	AS 1289 5.1.1, 5.8.1	Technician:	Heath Wilson

Time on site: 06:30

Time off site: 5:00

1. Subgrade Approval

Areas ID	Subgrade Approval Report No:	Comments
APPROVED SUBGRADE	SUBGRADE , 12 AMD	TEST NO'S 5538 - 5554/11
APPROVED SUBGRADE	SUBGRADE ,	TEST NO'S

2. Lot Approval

Lot ID	Lot Approval Report No:	Comments

3. Survey

Type of Survey	Survey undertaken by:	Reference
Test Locations	Geotech /	
Lot Boundaries	Geotech /	

4. Instructions received on site

ROAD TRUCKS CARTING SANDSTONE FROM THE TUNNELS OVERSIZED STONE IS STOCKPILED OR DOZER PUSHING IT UP AT A LATER DATE OVERSIZED WILL BE CRUSHED AND USED IN ROADS
75MM STONE IS DEST STRAIGHT INTO ROADS GRADER SPREADING

5. Instructions given on site

AND PAD FOOT ROLLER COMPACTING (1ST) LAYER OF REPLACEMENT SUBGRADE, TRUCKS STILL CARTING IMPORT MATERIEL TO EG) 12 24 825 COMPACTORS WORKING OF THE FACE WHILST WATERCART SPRAYING AS MATERIEL NEEDS

COMMENTS: GRADER TRIMMING HAUL ROADS EXIT AND ENTRY TO AND FROM FILL AREAS

Signed:

Date: 21.02.18

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

Job No: 8599/57
Our Ref: 8599/57-AA
5 October 2022

Daracon Contractors Pty Ltd
184 Adderley Street West
AUBURN NSW 2144
Email: Sabina.Moktan@daracon.com.au

Attention: Ms S Moktan

Dear Madam

Re: **Newpark Precinct 7 Stage 7B - Borrow Pit, Marsden Park**
Bulk Earthworks Practical Completion, Compliance Certificate

Geotech Testing Pty Ltd has provided site supervision and compaction control testing during placement of fill at the above project.

Land Filling and Compaction
Site supervision and compaction control tests were undertaken within the terms of our NATA accreditation at the dates and to the procedures shown on the test results sheets, copies of which were submitted monthly during the duration of the project. Sixteen FDT tests were carried out. Based on the fill quantities/survey data provided by the client, the frequency of field density and compaction tests is in accordance with Level 1 as defined in AS3798 “Guidelines on Earthworks for Commercial & Residential Development”. Based on the foregoing, it is considered that the fill placed at the above project is classified as "CONTROLLED FILL” and that the specified compaction level has been achieved within the lots and road reserves.

Salinity Certification
Based on the Bulk Earthworks Plan, the site was filled, with some areas of cut. All site works were carried out in accordance with the Soil Management Plan included in Geotechnique Pty Ltd Land Capability Study (Report 12576/1-AA dated 27 February 2012). The salinity of the imported fill was confirmed as non to slightly saline soils, thus reducing the overall effect of any saline soils on ground concrete structures such as footings. Based on the foregoing, it is our opinion that the works completed at Precinct 7D comply with the salinity report.

Validation of Imported Fill
Imported fill, if any, have been assessed as VENM, as per Geotech Testing Report 8599/61-AC dated 25 March 2022). Based on the foregoing, it is our opinion that the site is validated in accordance with the Environment Protection Authority guidelines *(Contaminated Land Sites)*. No contaminants were encountered during bulk earthworks, other than that noted in the RAP report.

Newpark Precinct 7 Stage 7B Borrow Pit is suitable for the intended land use consistent with NEPM 2013 Residential A - Residential with Garden / Accessible soil.

If you have any questions, please do not hesitate to contact the undersigned.

Yours faithfully
GEOTECH TESTING PTY LTD

EMGED RIZKALLA
Director

Attached Density Test Results Certificates - 8599/57 Nos 1 to 16
Drawing No 8599/57-1 FDT#1to16

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/57
Date: 24/06/2021

PROJECT: SITE FILL TESTING
RESIDENTIAL DEVELOPMENT WOORONG PARK MARSDEN PARK PRECINCT, NEWPARK PRECINCT 7B BORROW PIT

TEST NUMBER			1	2	3	4	5	6	7	8
DATE TESTED & SAMPLED			24/05/2021				25/05/2021			
RESULTS										
Hilf Density Ratio	**Standard**	**%**	**98**	**100**	**99**	**99.5**	**100**	**98**	**100.5**	**97.5**
Moisture Variation from OMC	**(-Drier/+Wetter)**	**%**	**0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.5**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Chainage	(Carriageway L/R)	m	-	-	-	-	-	-	-	-
Shown on Drawing No			8599/57-1							
Retested by Test			-	-	-	-	-	-	-	-
Reduced Level		m	18.91	18.64	17.50	19.61	18.90	18.46	17.82	17.63
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.17	2.16	2.15	2.15	2.15	2.16	2.16	2.17
Field Moisture Content		%	17.5	17.5	17.5	18.0	18.5	16.5	18.5	18.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			1	2	3	4	5	6	7	8
Lab Compaction Date Tested			26/05/2021	26/05/2021	07/06/2021	07/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021
Peak Converted Wet Density		t/m³	2.21	2.16	2.17	2.16	2.15	2.20	2.15	2.22
Apparent Optimum Moisture Content		%	17.0	17.5	17.0	18.0	18.5	16.0	18.5	18.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
# Lime Stabilised
$ Gypsum Stabilised

Form No R 020 Version 10 10/20 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/06/2021
Approved Signatory

34 Borec Road, Penrith NSW 2750
Telephone: (02) 4722 2744

Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON CONTRACTORS PTY LTD
184 ADDERLEY STREET WEST
AUBURN NSW 2144

Laboratory: Penrith
Job No: 8599/57
Date: 24/06/2021

PROJECT: SITE FILL TESTING
RESIDENTIAL DEVELOPMENT WOORONG PARK MARSDEN PARK PRECINCT, NEWPARK PRECINCT 7B BORROW PIT

TEST NUMBER			9	10	11	12	13	14	15	16
DATE TESTED & SAMPLED			26/05/2021				27/05/2021			
RESULTS										
Hilf Density Ratio	**Standard**	**%**	**98.5**	**99**	**98**	**97.5**	**98**	**99.5**	**98.5**	**100.5**
Moisture Variation from OMC	**(-Drier/+Wetter)**	**%**	**0.5**	**0.0**	**0.5**	**0.5**	**0.5**	**0.0**	**0.5**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Chainage	(Carriageway L/R)	m	-	-	-	-	-	-	-	-
Shown on Drawing No			8599/57-1							
Retested by Test			-	-	-	-	-	-	-	-
Reduced Level		m	18.48	18.76	19.60	20.11	19.52	18.97	18.29	18.763
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.17	2.15	2.17	2.15	2.15	2.16	2.17	2.16
Field Moisture Content		%	18.5	17.5	19.0	17.5	17.0	17.0	17.0	16.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			9	10	11	12	13	14	15	16
Lab Compaction Date Tested			10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	22/06/2021
Peak Converted Wet Density		t/m³	2.20	2.17	2.21	2.20	2.19	2.17	2.20	2.15
Apparent Optimum Moisture Content		%	18.5	17.5	18.5	17.5	16.5	16.5	16.5	16.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020 Version 10 10/20 - issued by ER

NATA
Accreditation Number 2734
Corporate Site Number 2727

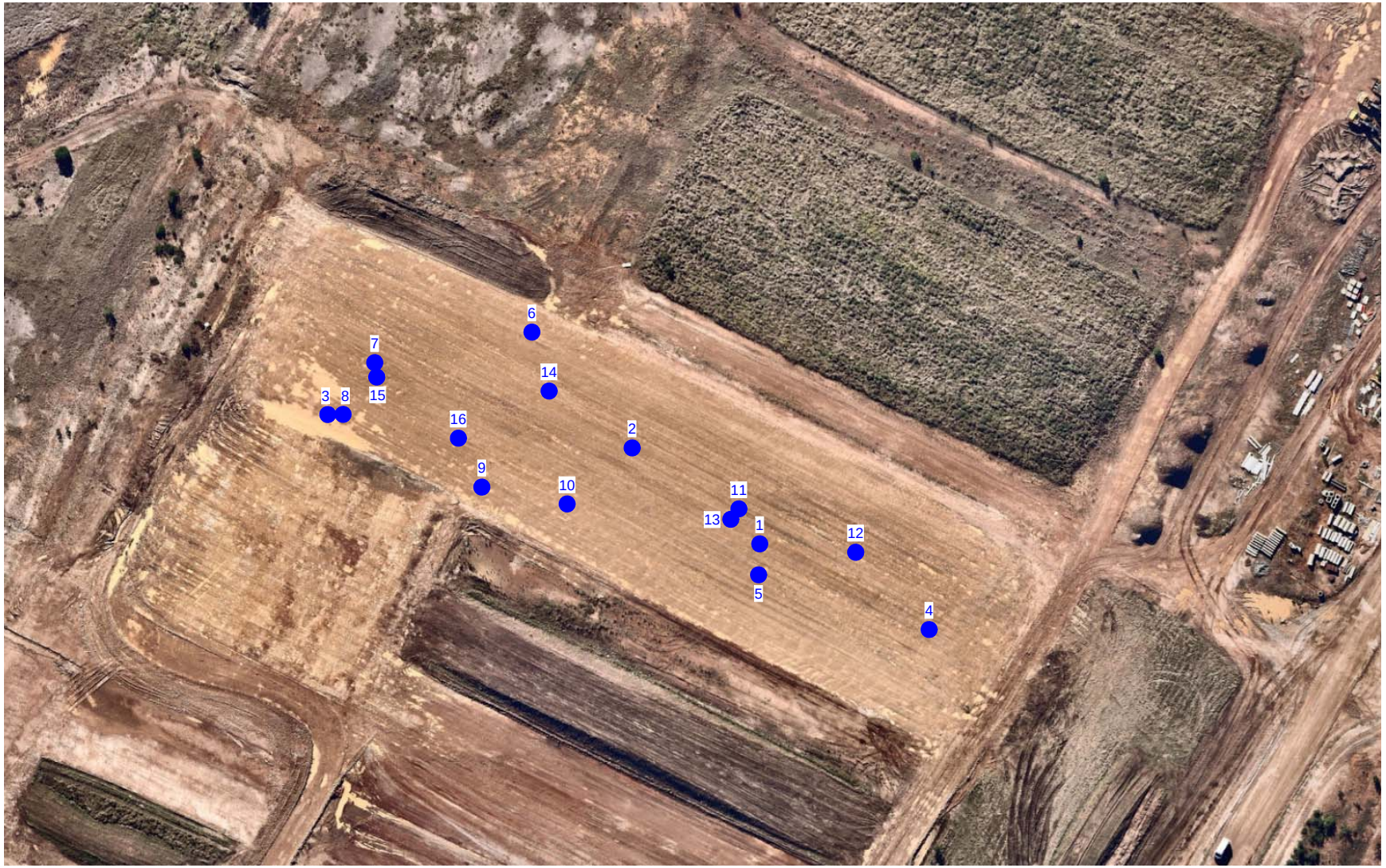
Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench 24/06/2021
Approved Signatory

34 Borec Road, Penrith NSW 2750
Telephone: (02) 4722 2744

Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111

email: info@geotech.com.au www.geotech.com.au



LEGEND

● Density Test

Imagery ©2021 NearMap.com

0 15 30 45 60 75m

Scale 1:1500

GEOTECH TESTING PTY LTD®

34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321

Ph: 02 4722 2744
Fx: 02 4722 2777
www.geotech.com.au
e-mail:info@geotech.com.au

NOTES

1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Contractors Pty Ltd
Residential Development
Newpark Precinct 7B Borrow Pit
Woorong Park

Location of Field Density Tests

Drawing No: 8599/57-1
Job No: 8599/57
Drawn By: MH
Date: 24 June 2021
Checked By: BN

File No: 8599-57
Layers: 0, Lay1

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON ENGINEERING PTY LIMITED
20 KULLARA CLOSE
BERESFIELD NSW 2322

Laboratory: Penrith
Job No: 8599/117

PROJECT: SITE FILL TESTING
NEWPARK PRECINCT 7J, MARSDEN PARK

TEST NUMBER			1	2	3	4	5	6	7	8
DATE TESTED & SAMPLED			26/02/2024				27/02/2024			
RESULTS										
Hilf Density Ratio	Standard	%	98.5	98	97.5	98	99	97.5	97.5	96
Moisture Variation from OMC	(-Drier/+Wetter)	%	-0.5	-0.5	-0.5	-0.5	-1.5	-0.5	0.0	-0.5
Specification	Density Ratio (Standard)		≥95%	Specification Moisture Variance from OMC						±2%
TEST LOCATION										
Chainage	(Carriageway L/R)	m	-	-	-	-	-	-	-	-
Shown on Drawing No			8599/117-1							
Retested by Test			-	-	-	-	-	-	-	-
Layer Thickness		mm	150	150	150	150	150	150	150	150
Reduced Level		m	18.92	18.99	18.78	18.89	18.24	19.97	20.24	20.01
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.13	2.12	2.11	2.11	2.11	2.13	2.12	2.11
Field Moisture Content		%	14.0	12.5	13.5	11.5	11.5	14.0	14.5	13.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			1	2	3	4	5	6	7	8
Lab Compaction Date Tested			06/03/2024	07/03/2024	07/03/2024	06/03/2024	07/03/2024	07/03/2024	07/03/2024	07/03/2024
Peak Converted Wet Density		t/m³	2.16	2.16	2.16	2.15	2.13	2.18	2.17	2.20
Apparent Optimum Moisture Content		%	14.5	13.0	14.0	12.5	13.0	14.0	14.5	14.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	1-2	2	1	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Report Date 21/03/2024

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench

Approved Signatory

34 Borec Road, Penrith NSW 2750
Telephone: (02) 4722 2744

Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON ENGINEERING PTY LIMITED
20 KULLARA CLOSE
BERESFIELD NSW 2322

Laboratory: Penrith
Job No: 8599/117

PROJECT: SITE FILL TESTING
NEWPARK PRECINCT 7J, MARSDEN PARK

TEST NUMBER			9	10	11	12	13	14	15	16
DATE TESTED & SAMPLED			28/02/2024				29/02/2024			
RESULTS										
Hilf Density Ratio	**Standard**	**%**	**97**	**97.5**	**100**	**97**	**97**	**99.5**	**98.5**	**97**
Moisture Variation from OMC	**(-Drier/+Wetter)**	**%**	**0.0**	**-0.5**	**0.0**	**-0.5**	**0.0**	**-1.0**	**-1.5**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Chainage	(Carriageway L/R)	m	-	-	-	-	-	-	-	-
Shown on Drawing No			8599/117-1							
Retested by Test			-	-	-	-	-	-	-	-
Layer Thickness		mm	150	150	150	150	150	150	150	150
Reduced Level		m	21.02	18.02	18.21	18.74	19.24	17.94	18.07	18.34
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.12	2.13	2.13	2.10	2.12	2.12	2.11	2.12
Field Moisture Content		%	12.5	13.5	12.5	13.0	15.0	12.0	13.5	12.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			9	10	11	12	13	14	15	16
Lab Compaction Date Tested			07/03/2024	07/03/2024	07/03/2024	07/03/2024	08/03/2024	08/03/2024	07/03/2024	08/03/2024
Peak Converted Wet Density		t/m³	2.18	2.18	2.13	2.16	2.19	2.13	2.14	2.19
Apparent Optimum Moisture Content		%	12.5	14.0	12.5	13.5	15.0	13.0	15.0	12.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			1-2	2	1-2	2	2	2	2	1-2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020 Version 12 05/22 - issued by ER

Report Date 21/03/2024

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench

Approved Signatory

34 Borec Road, Penrith NSW 2750
Telephone: (02) 4722 2744

Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON ENGINEERING PTY LIMITED
20 KULLARA CLOSE
BERESFIELD NSW 2322

Laboratory: Penrith
Job No: 8599/117

PROJECT: SITE FILL TESTING
NEWPARK PRECINCT 7J, MARSDEN PARK

TEST NUMBER			17	18	19	20	21	22	23	24
DATE TESTED & SAMPLED			01/03/2024				02/03/2024			
RESULTS										
Hilf Density Ratio	Standard	%	96	96.5	97.5	95.5	98	97	97	97
Moisture Variation from OMC	(-Drier/+Wetter)	%	-0.5	0.5	-0.5	0.0	-0.5	0.5	0.0	0.0
Specification	Density Ratio (Standard)		≥95%	Specification Moisture Variance from OMC						±2%
TEST LOCATION										
Chainage	(Carriageway L/R)	m	-	-	-	-	-	-	-	-
Shown on Drawing No			8599/117-1							
Retested by Test			-	-	-	-	-	-	-	-
Layer Thickness		mm	150	150	150	150	150	150	150	150
Reduced Level		m	19.27	19.39	19.86	19.94	18.21	18.27	18.01	18.24
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.10	2.11	2.14	2.09	2.12	2.12	2.11	2.10
Field Moisture Content		%	12.5	14.0	14.0	14.0	14.0	14.0	14.0	14.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			17	18	19	20	21	22	23	24
Lab Compaction Date Tested			08/03/2024	08/03/2024	08/03/2024	08/03/2024	11/03/2024	11/03/2024	11/03/2024	08/03/2024
Peak Converted Wet Density		t/m³	2.19	2.19	2.19	2.19	2.16	2.19	2.18	2.17
Apparent Optimum Moisture Content		%	13.0	14.0	14.0	14.0	14.5	13.5	14.0	15.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			1-2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020 Version 12 05/22 - issued by ER

Report Date
A Kench 21/03/2024

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

Approved Signatory

34 Borec Road, Penrith NSW 2750
Telephone: (02) 4722 2744

Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON ENGINEERING PTY LIMITED
20 KULLARA CLOSE
BERESFIELD NSW 2322

Laboratory: Penrith
Job No: 8599/117

PROJECT: SITE FILL TESTING
NEWPARK PRECINCT 7J, MARSDEN PARK

TEST NUMBER			25	26	27	28	29	30	31	32
DATE TESTED & SAMPLED			04/03/2024				05/03/2024			
RESULTS										
Hilf Density Ratio	Standard	%	98.5	97	98	99	97.5	97.5	97.5	95.5
Moisture Variation from OMC	(-Drier/+Wetter)	%	-1.0	0.0	-0.5	-1.0	0.5	0.0	-0.5	-0.5
Specification	Density Ratio (Standard)		≥95%	Specification Moisture Variance from OMC						±2%
TEST LOCATION										
Chainage	(Carriageway L/R)	m	-	-	-	-	-	-	-	-
Shown on Drawing No			8599/117-1							
Retested by Test			-	-	-	-	-	-	-	-
Layer Thickness		mm	150	150	150	150	150	150	150	150
Reduced Level		m	18.84	19.21	18.02	18.24	19.82	19.97	20.21	20.45
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.12	2.11	2.11	2.12	2.13	2.13	2.13	2.11
Field Moisture Content		%	13.0	12.5	12.0	13.0	14.0	14.0	13.5	13.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			25	26	27	28	29	30	31	32
Lab Compaction Date Tested			08/03/2024	08/03/2024	08/03/2024	08/03/2024	08/03/2024	08/03/2024	08/03/2024	08/03/2024
Peak Converted Wet Density		t/m³	2.15	2.17	2.15	2.14	2.19	2.19	2.19	2.21
Apparent Optimum Moisture Content		%	13.5	12.5	12.5	14.0	13.5	14.0	14.0	13.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	1	1-2	2	2	2	2	1-2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020 Version 12 05/22 - issued by ER

Report Date 21/03/2024

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench

Approved Signatory

34 Borec Road, Penrith NSW 2750
Telephone: (02) 4722 2744

Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON ENGINEERING PTY LIMITED
20 KULLARA CLOSE
BERESFIELD NSW 2322

Laboratory: Penrith
Job No: 8599/117

PROJECT: SITE FILL TESTING
NEWPARK PRECINCT 7J, MARSDEN PARK

TEST NUMBER			33	34	35	36	37	38	39	40
DATE TESTED & SAMPLED			06/03/2024			07/03/2024				11/03/2024
RESULTS										
Hilf Density Ratio	**Standard**	**%**	**99**	**101**	**101**	**100**	**102**	**102**	**101.5**	**99.5**
Moisture Variation from OMC	**(-Drier/+Wetter)**	**%**	**-0.5**	**-0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Chainage	(Carriageway L/R)	m	-	-	-	-	-	-	-	-
Shown on Drawing No			8599/117-1							
Retested by Test			-	-	-	-	-	-	-	-
Layer Thickness		mm	150	150	150	150	150	150	150	150
Reduced Level		m	20.72	20.40	21.16	21.29	20.97	20.51	20.47	20.24
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.04	2.05	2.04	2.05	2.12	2.14	2.11	2.11
Field Moisture Content		%	16.5	15.0	15.5	17.5	17.0	17.5	17.0	18.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			33	34	35	36	37	38	39	40
Lab Compaction Date Tested			14/03/2024	14/03/2024	14/03/2024	14/03/2024	13/03/2024	13/03/2024	13/03/2024	13/03/2024
Peak Converted Wet Density		t/m³	2.06	2.03	2.02	2.05	2.08	2.10	2.08	2.12
Apparent Optimum Moisture Content		%	17.0	15.5	15.5	17.5	17.0	17.5	17.0	18.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
# Lime Stabilised
$ Gypsum Stabilised

Form No R 020 Version 12 05/22 - issued by ER

Report Date 21/03/2024

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench

Approved Signatory

34 Borec Road, Penrith NSW 2750
Telephone: (02) 4722 2744

Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON ENGINEERING PTY LIMITED
20 KULLARA CLOSE
BERESFIELD NSW 2322

Laboratory: Penrith
Job No: 8599/117

PROJECT: SITE FILL TESTING
NEWPARK PRECINCT 7J, MARSDEN PARK

TEST NUMBER		41	42	43	44	45			
DATE TESTED & SAMPLED		11/03/2024		12/03/2024					
RESULTS									
Hilf Density Ratio	**Standard** %	**100**	**99.5**	**100**	**99.5**	**100**			
Moisture Variation from OMC	**(-Drier/+Wetter)** %	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**			
Specification	**Density Ratio (Standard)**	**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION									
Chainage	(Carriageway L/R) m	-	-	-	-	-			
Shown on Drawing No		8599/117-1							
Retested by Test		-	-	-	-	-			
Layer Thickness	mm	150	150	150	150	150			
Reduced Level	m	20.94	21.01	19.74	19.77	19.62			
FIELD & LABORATORY DATA									
Field Wet Density	t/m³	2.10	2.08	2.11	2.11	2.12			
Field Moisture Content	%	17.0	17.0	17.5	18.5	17.0			
Material retained on 19mm Sieve (wet)	%	<5	<5	<5	<5	<5			
Lab Compaction result from test number		41	42	43	44	45			
Lab Compaction Date Tested		13/03/2024	13/03/2024	13/03/2024	13/03/2024	13/03/2024			
Peak Converted Wet Density	t/m³	2.10	2.09	2.11	2.12	2.12			
Apparent Optimum Moisture Content	%	17.0	17.0	17.5	18.5	17.0			
Number of Compaction Points		3	3	3	3	3			
Test Procedures - See Note Number		12	12	12	12	12			
Material Description - see below		2	2	2	2	2			

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: RMS T111, T119, T120, T166
14: RMS T111, T120, T166, T173
15: RMS T120, T119, T162
16. RMS T120, T162, T173
17. RMS T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. Cl-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Report Date 21/03/2024

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

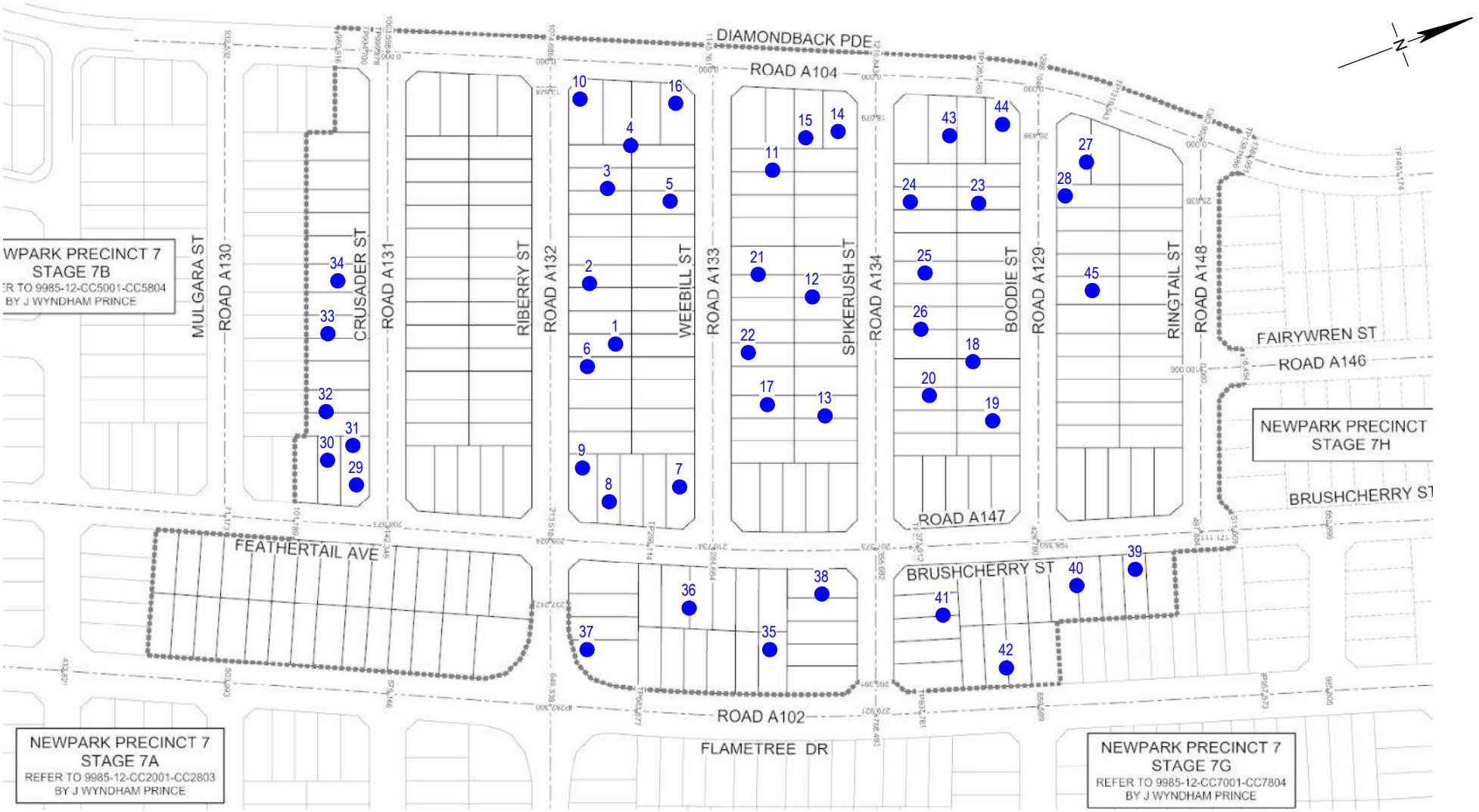
A Kench

Approved Signatory

34 Borec Road, Penrith NSW 2750
Telephone: (02) 4722 2744

Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111

email: info@geotech.com.au www.geotech.com.au



LEGEND

● Density Test

GEOTECH TESTING PTY LTD ®
34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321
Ph: 02 4722 2744
e-mail:info@geotech.com.au
www.geotech.com.au

NOTES

1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Engineering Pty Limited
Newpark Precicnt 7J
Marsden Park

Field Density Test Locations

Drawing No: 8599/117-1
Job No: 8599/117
Drawn By: MH
Date: 14 March 2024
Checked By: BN

File No: 8599-117
Layers: 0, Lay1

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON ENGINEERING PTY LIMITED
20 KULLARA CLOSE
BERESFIELD NSW 2322

Laboratory: Penrith
Job No: 8599/117

PROJECT: SITE FILL TESTING
NEWPARK PRECINCT 7J, MARSDEN PARK

TEST NUMBER			46	47	48	49	50	51	52	53
DATE TESTED & SAMPLED			15/03/2024			21/03/2024			22/03/2024	
RESULTS										
Hilf Density Ratio	**Standard**	**%**	**98.5**	**99**	**102**	**101**	**99.5**	**100.5**	**99.5**	**98.5**
Moisture Variation from OMC	**(-Drier/+Wetter)**	**%**	**0.0**	**0.0**	**-0.5**	**-0.5**	**0.0**	**-0.5**	**0.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Chainage	(Carriageway L/R)	m	-	-	-	-	-	-	-	-
Shown on Drawing No			8599/117-2							
Retested by Test			-	-	-	-	-	-	-	-
Layer Thickness		mm	150	150	150	150	150	150	150	150
Reduced Level		m	12.01	12.09	12.34	12.45	12.69	12.80	12.91	12.98
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.12	2.12	2.11	2.11	2.13	2.11	2.10	2.10
Field Moisture Content		%	15.0	14.0	13.0	12.5	15.0	13.5	12.5	13.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			46	47	48	49	50	51	52	53
Lab Compaction Date Tested			10/05/2024	10/05/2024	07/05/2024	07/05/2024	07/05/2024	08/05/2024	08/05/2024	08/05/2024
Peak Converted Wet Density		t/m³	2.15	2.14	2.07	2.09	2.14	2.10	2.11	2.13
Apparent Optimum Moisture Content		%	15.0	14.0	13.5	13.0	15.0	14.0	12.5	13.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	12	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: TfNSW T111, T119, T120, T166
14: TfNSW T111, T120, T166, T173
15: TfNSW T120, T119, T162
16. TfNSW T120, T162, T173
17. TfNSW T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Report Date
21/05/2024

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench

Approved Signatory

34 Borec Road, Penrith NSW 2750
Telephone: (02) 4722 2744

Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON ENGINEERING PTY LIMITED
20 KULLARA CLOSE
BERESFIELD NSW 2322

Laboratory: Penrith
Job No: 8599/117

PROJECT: SITE FILL TESTING
NEWPARK PRECINCT 7J, MARSDEN PARK

TEST NUMBER			54	55	56	57	58	59	60	61
DATE TESTED & SAMPLED			22/03/2024	01/04/2024			02/04/225			04/04/2024
RESULTS										
Hilf Density Ratio	**Standard**	**%**	**99**	**100.5**	**102.5**	**101.5**	**105**	**101**	**100.5**	**98.5**
Moisture Variation from OMC	**(-Drier/+Wetter)**	**%**	**0.0**	**0.0**	**0.0**	**0.0**	**-0.5**	**0.0**	**0.0**	**0.5**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Chainage	(Carriageway L/R)	m	-	-	-	-	-	-	-	-
Shown on Drawing No			8599/117-2							
Retested by Test			-	-	-	-	-	-	-	-
Layer Thickness		mm	150	150	150	150	150	150	150	150
Reduced Level		m	13.01	13.10	13.17	13.24	13.56	13.60	13.70	13.94
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.09	2.13	2.13	2.12	2.09	2.11	2.11	2.13
Field Moisture Content		%	15.5	13.0	18.0	18.0	17.0	16.0	14.5	15.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			54	55	56	57	58	59	60	61
Lab Compaction Date Tested			07/05/2024	07/05/2024	09/05/2024	09/05/2024	11/04/2024	07/05/2024	07/05/2024	09/05/2024
Peak Converted Wet Density		t/m³	2.11	2.12	2.08	2.09	1.99	2.09	2.10	2.16
Apparent Optimum Moisture Content		%	15.5	13.0	18.0	18.0	17.5	16.0	14.5	14.5
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: TfNSW T111, T119, T120, T166
14: TfNSW T111, T120, T166, T173
15: TfNSW T120, T119, T162
16. TfNSW T120, T162, T173
17. TfNSW T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Report Date
21/05/2024

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench

Approved Signatory

34 Borec Road, Penrith NSW 2750
Telephone: (02) 4722 2744

Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON ENGINEERING PTY LIMITED
20 KULLARA CLOSE
BERESFIELD NSW 2322

Laboratory: Penrith
Job No: 8599/117

PROJECT: SITE FILL TESTING
NEWPARK PRECINCT 7J, MARSDEN PARK

TEST NUMBER			62	63	64	65	66	67	68	69
DATE TESTED & SAMPLED			04/04/2024		12/04/2024			15/04/2024		
RESULTS										
Hilf Density Ratio	**Standard**	**%**	**100.5**	**100.5**	**98.5**	**99.5**	**97.5**	**102.5**	**102**	**101**
Moisture Variation from OMC	**(-Drier/+Wetter)**	**%**	**-0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**-1.0**	**-1.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Chainage	(Carriageway L/R)	m	-	-	-	-	-	-	-	-
Shown on Drawing No			8599/117-2							
Retested by Test			-	-	-	-	-	-	-	-
Layer Thickness		mm	150	150	150	150	150	150	150	150
Reduced Level		m	14.17	14.30	14.92	14.86	14.92	15.62	15.72	15.84
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.12	2.13	2.11	2.11	2.08	2.13	2.14	2.14
Field Moisture Content		%	15.0	15.5	13.5	15.5	16.0	15.5	13.5	16.5
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			62	63	64	65	66	67	68	69
Lab Compaction Date Tested			09/05/2024	09/05/2024	08/05/2024	08/05/2024	08/05/2024	08/05/2024	08/05/2024	09/05/2024
Peak Converted Wet Density		t/m³	2.11	2.12	2.14	2.12	2.13	2.08	2.10	2.12
Apparent Optimum Moisture Content		%	15.5	15.5	13.5	15.5	16.0	17.0	15.0	16.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: TfNSW T111, T119, T120, T166
14: TfNSW T111, T120, T166, T173
15: TfNSW T120, T119, T162
16. TfNSW T120, T162, T173
17. TfNSW T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Report Date
21/05/2024

A Kench

Approved Signatory

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

34 Borec Road, Penrith NSW 2750
Telephone: (02) 4722 2744

Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON ENGINEERING PTY LIMITED
20 KULLARA CLOSE
BERESFIELD NSW 2322

Laboratory: Penrith
Job No: 8599/117

PROJECT: SITE FILL TESTING
NEWPARK PRECINCT 7J, MARSDEN PARK

TEST NUMBER			70	71	72	73	74	75	76	77
DATE TESTED & SAMPLED			17/04/2024			18/04/2024			02/05/2024	
RESULTS										
Hilf Density Ratio	**Standard**	**%**	**101.5**	**101.5**	**102**	**97.5**	**97**	**104.5**	**99.5**	**100**
Moisture Variation from OMC	**(-Drier/+Wetter)**	**%**	**0.0**	**0.0**	**0.0**	**0.0**	**-0.5**	**-1.0**	**1.0**	**0.0**
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Chainage	(Carriageway L/R)	m	-	-	-	-	-	-	-	-
Shown on Drawing No			8599/117-2							
Retested by Test			-	-	-	-	-	-	-	-
Layer Thickness		mm	150	150	150	150	150	150	150	150
Reduced Level		m	16.24	16.51	16.72	16.94	17.01	17.23	FSL	FSL
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.13	2.14	2.16	2.09	2.08	2.10	2.10	2.11
Field Moisture Content		%	16.5	16.0	16.0	13.5	12.5	14.0	17.5	16.0
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	<5
Lab Compaction result from test number			70	71	72	73	74	75	76	77
Lab Compaction Date Tested			09/05/2024	07/05/2024	07/05/2024	09/05/2024	08/05/2024	08/05/2024	08/05/2024	08/05/2024
Peak Converted Wet Density		t/m³	2.10	2.11	2.12	2.14	2.14	2.01	2.11	2.11
Apparent Optimum Moisture Content		%	16.5	16.0	16.0	13.5	13.0	15.0	16.5	16.0
Number of Compaction Points			3	3	3	3	3	3	3	3
Test Procedures - See Note Number			12	12	12	12	12	12	12	12
Material Description - see below			2	2	2	2	2	2	2	2

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: TfNSW T111, T119, T120, T166
14: TfNSW T111, T120, T166, T173
15: TfNSW T120, T119, T162
16. TfNSW T120, T162, T173
17. TfNSW T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Form No R 020 Version 13 04/24 - issued by ER

Report Date
21/05/2024

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

A Kench

Approved Signatory

34 Borec Road, Penrith NSW 2750
Telephone: (02) 4722 2744

Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111

email: info@geotech.com.au www.geotech.com.au

GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

FIELD DENSITY RESULTS

DARACON ENGINEERING PTY LIMITED
20 KULLARA CLOSE
BERESFIELD NSW 2322

Laboratory: Penrith
Job No: 8599/117

PROJECT: SITE FILL TESTING
NEWPARK PRECINCT 7J, MARSDEN PARK

TEST NUMBER			78	79	80	81	82	83	84	
DATE TESTED & SAMPLED			02/05/2024							
RESULTS										
Hilf Density Ratio	**Standard**	**%**	**97.5**	**98.5**	**98.5**	**98.5**	**98.5**	**98.5**	**98.5**	
Moisture Variation from OMC	**(-Drier/+Wetter)**	**%**	**0.0**	**0.5**	**0.0**	**0.5**	**0.5**	**0.5**	**0.5**	
Specification	**Density Ratio (Standard)**		**≥95%**	**Specification Moisture Variance from OMC**						**±2%**
TEST LOCATION										
Chainage	(Carriageway L/R)	m	-	-	-	-	-	-	-	
Shown on Drawing No			8599/117-2							
Retested by Test			-	-	-	-	-	-	-	
Layer Thickness		mm	150	150	150	150	150	150	150	
Reduced Level		m	FSL	FSL	FSL	FSL	FSL	FSL	FSL	
FIELD & LABORATORY DATA										
Field Wet Density		t/m³	2.11	2.11	2.11	2.11	2.12	2.11	2.11	
Field Moisture Content		%	15.0	15.0	15.0	16.5	16.0	15.5	15.5	
Material retained on	19mm Sieve (wet)	%	<5	<5	<5	<5	<5	<5	<5	
Lab Compaction result from test number			78	79	80	81	82	83	84	
Lab Compaction Date Tested			07/05/2024	02/05/2024	02/05/2024	02/05/2024	02/05/2024	02/05/2024	02/05/2024	
Peak Converted Wet Density		t/m³	2.16	2.14	2.14	2.14	2.15	2.14	2.14	
Apparent Optimum Moisture Content		%	15.0	15.0	15.0	16.0	16.0	15.0	15.0	
Number of Compaction Points			3	3	3	3	3	3	3	
Test Procedures - See Note Number			12	12	12	12	12	12	12	
Material Description - see below			2	2	2	2	2	2	2	

Notes

1: Assigned Values have been obtained from our Penrith laboratory – Accreditation No 2734
2: Assigned Values have been obtained from our Prestons laboratory – Accreditation No 14234
3. Results have been calculated using infinite decimal places. Therefore, calculated values may vary from those shown
4: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.1.1, 5.3.1, 5.4.1
5: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.3.1, 5.4.1
6: AS 1289 1.2.1 clause 6.4 (b),
7: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.2.1, 5.4.1, 5.8.1
8: AS 1289 1.2.1 clause 6.4 (b), 2.1.1., 5.5.1, 5.6.1, 5.8.1
9: Full details of Test Procedure 5.8.1 available on request
10: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.5.1, 5.6.1
11: AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.3.1, 5.7.1
12. AS 1289 1.2.1 clause 6.4 (b), 2.1.1, 5.7.1, 5.8.1
13: TfNSW T111, T119, T120, T166
14: TfNSW T111, T120, T166, T173
15: TfNSW T120, T119, T162
16. TfNSW T120, T162, T173
17. TfNSW T120, T164, T173

Material Description

1. CL-Clays of low plasticity, gravelly clays, sandy clays, silty clays
2. CI-Clay of medium plasticity, gravelly clays, sandy clays, silty clays
3. CH-Clays of high plasticity
4. SC-Clayey sands, sand-clay mixtures
5. SM-Silty sands, sand-silt mixtures
6. GC-Clayey gravels, gravel-sand-clay mixtures
7. SP-Sand, crushed dust, filling sand, washed sand
8. DGB20
9. DGB40
10. DGS20
11. DGS40
12. FCR20
13. FCR40
14. RC - Recycled Concrete
15. Recycled Roadbase
16. RSB - Recycled Sub-base
17. CSS - Crushed Sandstone
18. RSS - Ripped Sandstone
19. Cowels Brown

* Cement Stabilised
\# Lime Stabilised
$ Gypsum Stabilised

Report Date
21/05/2024

NATA
Accreditation Number 2734
Corporate Site Number 2727

Accredited for compliance with ISO/IEC 17025 - Testing.

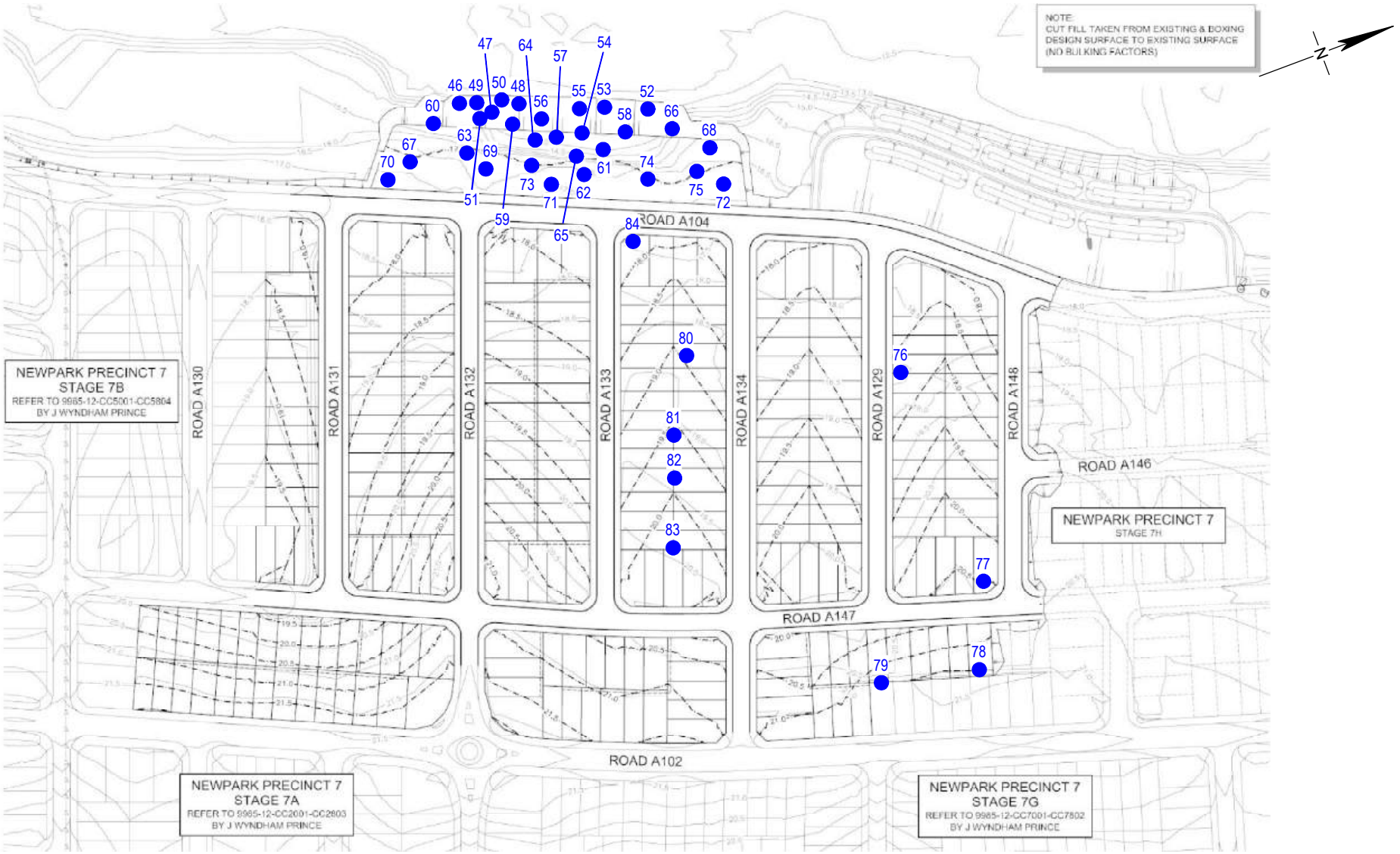
A Kench

Approved Signatory

34 Borec Road, Penrith NSW 2750
Telephone: (02) 4722 2744

Unit 4, 18-20 Whyalla Place, Prestons NSW 2170
Telephone: (02) 9607 6111

email: info@geotech.com.au www.geotech.com.au



LEGEND

● Density Test

GEOTECH TESTING PTY LTD ®
34 Borec Road
Penrith
NSW 2750
ABN 71 076 676 321
Ph: 02 4722 2744
e-mail:info@geotech.com.au
www.geotech.com.au

NOTES

1. Site features are indicative and are not to scale.
2. This drawing has been produced using a base plan provided by others to which additional information e.g test pits, borehole locations or notes have been added. Some or all of the plan may not be relevant at the time of producing this drawing

Daracon Engineering Pty Limited
Newpark Precinct 7J
Marsden Park

Field Density Test Locations

Drawing No: 8599/117-2
Job No: 8599/117
Drawn By: MH
Date: 13 May 2024
Checked By: BN

File No: 8599-117
Layers: 0, Lay2