

WORKS INSPECTION & TESTING

PROPOSED
RESIDENTIAL
DEVELOPMENT

LOT 4 DALMA
STREET

ORMEAU

JOB NO: P1078 comp01



Prepared for
CCA Winslow

16th October 2019

Document Information

Prepared for CCA Winslow
Project Name Proposed Residential Development - Lot 4 Dalma Street, Ormeau
Job Number P1078
Date 16th October 2019

Document Control

Document Control - This Document Is:- ORIGINAL COPY

Report ID	Date	Author	Reviewer			
P1078 comp 01	16/10/19	Mathew Tyrrell	Andrew Dickie			
Distributed to:			No.	Original	Copy	Electronic
CCA Winslow			3	✓	✓	✓
<i>Construction Sciences - Archives</i>			1			✓

Contact : Mathew Tyrrell
mathew.tyrrell@constructionsciences.net
PO Box 2789
NERANG QLD 4211
Ph: 07 5597 2720

© Construction Sciences 2017. Copyright in the whole and every part of this document belongs to CS and may not be used, sold, transferred, copied or reproduced in whole or in part in any manner or form or in or on any media to any person other than by agreement with CS.

This document is produced by CS solely for the benefit and use by the client in accordance with the terms of the engagement. CS does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by any third party on the content of this document.

Table of Contents

INTRODUCTION	4
SCOPE OF WORKS	4
Level 1	
SPECIFICATION REQUIREMENTS	4
SITE WORKS - BULK EARTHWORKS	5
General	
Compaction Control Testing	
CONCLUSION	5
SITE PHOTOGRAPHS	

Appendices

Appendix A Bulk Earthworks - Compaction

INTRODUCTION

Construction Sciences was commissioned by **CCA Winslow** to carry out the geotechnical inspection and testing required for a proposed residential development at Lot 4 Dalma Street, Ormeau which was carried out between 17th July and 1st October 2019.

SCOPE OF WORKS

Works on this development were monitored in accordance with the scope of our commission as follows:-

Level 1 : Bulk earthworks stripping and filling was inspected and tested on a Level 1 basis, in accordance with AS 3798.

Scope of Level 1 responsibility: ***“The primary objective of Level 1 Inspection and Testing is for the geotechnical inspection and testing authority (GITA) to be able to express an opinion on the compliance of the work. The GITA is responsible for ensuring that the inspection and testing is sufficient for this purpose.***

The GITA needs to have competent personnel on site at all times while earthwork operations are undertaken. Such operations include the following:

- (a) Completion of removal of topsoil.***
- (b) Placing of imported or cut material.***
- (c) Compaction and adding/removal of moisture.***
- (d) Trenching and backfilling, where applicable.***
- (e) Test rolling.***
- (f) Testing.***

The superintendent should agree on a suitable inspection and testing plan prior to the commencement of the works”.

reference AS3798 – Section 8.2

SPECIFICATION REQUIREMENTS

Earthworks on this development was inspected and tested in accordance with the specification of the design engineer, **Mortons Urban Solutions** and / or to the specifications of the local authority, **City of Gold Coast**.

The following table is a summary of the basic compaction requirements for the project.

Testing procedures used to confirm that these requirements were met were all in accordance with Australian Standard test methods.

SPECIFICATIONS	
Item	Minimum Compaction Requirement
<i>Bulk Earthworks Fill</i>	<i>95% Wet Density Ratio – Standard</i>

SITE WORKS - BULK EARTHWORKS

General : Full time site inspection was maintained in accordance with Level 1 requirements whilst earthworks were carried out on this development.

The natural ground in the areas of filling generally comprised medium to high plasticity residual clays, silty or sandy clays and weathered rock.

The material used in the bulk earthworks filling was sourced from site cutting to design levels.

Compaction Control Testing : Compaction control testing via the nuclear densometer method was carried out at regular intervals throughout the placement of fill, in accordance with the minimum test frequency recommendations included in AS3798 "Guidelines on Earthworks for Commercial and Residential Developments".

Forty Four (44) field density tests were carried out throughout the earthworks. The average wet density ratio was recorded to be 100.0%. Approximate test locations are shown on attached sketch P1078 SK1 included in Appendix A. Test reports are also included in Appendix A.

CONCLUSION

We confirm that:

(a) Our representative was in full time site attendance whilst bulk earthworks filling was in progress between 17th July and 1st October 2019 at :- Lot 4 Dalma Street, Ormeau.

(b) Pre – fill ground preparation was carried out in accordance with the specifications and site instruction given.

(c) The structural filling placed to design levels (per supplied construction drawing numbers 35701-CLL-040D to CLL-042C & 35701-CLL-050C to CLL-054C) during the term of our engagement on a "Level 1" basis can be termed "controlled filling".

(d) The results of the compaction control testing indicate that the fill placed during the term of our site attendance, was compacted to at least the minimum specified wet density ratio.

(e) All test results pertaining to the development are included within appendix A to C of this report.



MATHEW TYRRELL
LABORATORY SUPERVISOR
Construction Sciences





Unsuitable Material - excavated & removed





Oversized rock/boulders encountered - removed from area to be filled































APPENDIX

A

BULK EARTHWORKS
FILL



TABLE 1 : SUMMARY OF BULK EARTHWORKS FILL FIELD DENSITY TESTING

CLIENT : CCA WINSLOW

JOB NO: P1078

PROJECT : LOT 4 DALMA STREET - ORMEAU

Mean %: 100.0

SITE TEST No.	GENERAL LOCATION	EASTING	NORTHING	ELEVATION LEVEL / RL	WET DENSITY RATIO (%)	
						FAILED TESTS RETESTED
13385/S/ 90107	Lot 4	525468.0	6925286.0	RL 22.61	96.5	
13385/S/ 90395	Lot 66	525478.2	6925262.2	RL 22.99	101.5	
13385/S/ 90288	Lot 4	525475.1	6925258.3	RL 23.22	100.5	
13385/S/ 90289	Lot 4	525468.5	6925263.1	RL 23.23	99.0	
13385/S/ 90286	Lot 4	525481.2	6925239.2	RL 21.80	100.5	
13385/S/ 90287	Lot 4	525478.2	6925263.8	RL 21.85	98.5	
13385/S/ 90478	Lot 63	525464.5	6925304.8	RL 23.60	100.5	
13385/S/ 90752	Lot 24	525391.4	6925595.3	RL 17.20	98.5	
13385/S/ 90810	Lot 22	525338.0	6925588.5	RL 17.58	100.0	
13385/S/ 90919	Lot 21	525304.1	6925582.4	RL 19.20	101.5	
13385/S/ 90920	Lot 20	525326.8	6925582.9	RL 18.93	98.0	
13385/S/ 91185	Lot 61	525467.2	6925358.0	RL 23.06	95.0	
13385/S/ 91086	Lot 61	525471.3	6925331.1	RL 22.79	98.5	
13385/S/ 91087	Lot 62	525470.5	6925322.3	RL 23.12	99.5	
13385/S/ 91226	Lot 60	525478.1	6925360.3	RL 22.58	101.5	
13385/S/ 91455	Lot 57	525468.9	6925384.3	RL 22.32	99.0	
13385/S/ 91456	Lot 900 Eastern Side	525470.0	6925435.3	RL 20.09	101.5	
13385/S/ 91385	Lot 59	525457.9	6925364.8	RL 22.37	98.5	
13385/S/ 91386	Lot 23	525385.6	6925591.3	RL 17.99	101.5	
13385/S/ 91879	Lot 56	525468.6	6925386.1	RL 23.32	100.0	
13385/S/ 91880	Lot 54	525466.0	6925406.1	RL 21.56	101.5	
13385/S/ 92517	Lot 76	525313.2	6925395.2	RL 34.58	100.5	
13385/S/ 92737	Lot 10	525325.6	6925457.0	RL 25.58	100.5	
13385/S/ 92738	Lot 44	525296.8	6925465.5	RL 25.78	101.0	
13385/S/ 92917	Lot 44	525350.3	6925460.4	RL 26.30	99.0	
13385/S/ 92918	Lot 45	525336.7	6925453.6	RL 26.19	100.0	
13385/S/ 92919	Road 2	525308.0	6925461.3	RL 26.70	101.0	
13385/S/ 93183	Lot 10	525292.0	6925456.8	RL 29.30	102.0	
13385/S/ 93184	Lot 45	525327.7	6925457.9	RL 26.88	99.0	
13385/S/ 92961	Lot 11	525295.9	6925471.1	RL 26.69	101.0	
13385/S/ 92962	Road 2	525309.8	6925468.4	RL 26.89	98.0	
13385/S/ 93126	Lot 12	525295.0	6925479.6	RL 26.91	100.5	
13385/S/ 93127	Lot 11	525293.9	6925469.1	RL 27.62	100.5	
13385/S/ 93373	Lot 46	525339.8	6925465.0	RL 26.98	101.0	
13385/S/ 93751	Lot 45	525334.6	6925453.0	RL 27.91	99.5	
13385/S/ 93752	Lot 44	525319.8	6925453.8	RL 28.35	99.0	
13385/S/ 93582	Lot 34	525437.3	6925471.8	RL 20.86	99.0	
13385/S/ 94381	Lot 83	525398.8	6925376.5	RL 25.60	102.0	
13385/S/ 94382	Lot 45	525333.6	6925454.0	RL 28.30	103.0	
13385/S/ 95257	Lot 24	525399.0	6925595.8	RL 17.67	102.0	
13385/S/ 95258	Lot 22	525373.9	6925581.5	RL 17.87	101.0	
13385/S/ 95259	Lot 21	525344.0	6925590.4	RL 18.23	100.5	
13385/S/ 95615	Lot 32	525387.0	6925532.6	RL 22.96	102.0	
13385/S/ 95616	Lot 24	525387.4	6925595.1	RL 18.32	98.5	



⊕ denotes approx field density test location



WET DENSITY RATIO REPORT

Client: CCA Winslow Client Address: 1587 Ipswich Road, ROCKLEA Project: Lot 4 Dalma Street Location: Ormeau Component: Bulk Earthworks Area Description: Lot 4 Dalma Street	Report Number: 13385/R/33347-1 Project Number: 13385/P/1078 Lot Number: - Internal Test Request: 13385/T/18898 Client Reference/s: WR: 19849 Report Date / Page: 23/07/2019 Page 1 of 1
--	---

Test Procedures:	AS1289.5.7.1, AS1289.5.8.1, AS1289.2.1.1
------------------	--

Sample Number	13385/S/90107		
ID / Client ID	-		
Lot Number	-		
Date / Time Tested	19/07/2019		
Material Source	Site Won - Cut to Fill		
Material Type	General Fill		
Sampling Method	AS1289.1.2.1 Cl 6.4b		
Depths: Test / Nom / Actual (mm)	300 / 300+ / 300+		
Standard or Modified	Standard		
Location	Lot 4		
Easting	525468		
Northing	6925286		
Level	RL 22.614		
Test Fraction (mm)	< 19.0 mm		
Sample Oversize (%)	17		
Compaction Sample Number	13385/S/90107		
Sample Description	CL SILTY CLAY w- gravel brown		
Moisture Test Results:			
Field Moisture Content (%)	9.6		
Adjusted / Moisture Variation (%)	2.0		
Optimum Moisture Content (%)	11.5		
Moisture Variation from OMC	(Drier than OMC)		
Moisture Ratio (%)	82.0		
Density Test Results:			
Field Wet Density (t/m ³)	2.03		
Adj/Peak Conv Wet Density (t/m ³)	2.10		
Density Ratio Required (%)	95		
Hilf Density Ratio (%)	96.5		

Remarks

	<p style="text-align: center; font-size: small;">The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. Accredited for compliance with ISO/IEC 17025 - Testing</p> <p>Accreditation Number: 1986 Corporate Site Number: 13385</p>	 Approved Signatory: Andrew Dickie Form ID: W5ASRep Rev 2
--	---	--



WET DENSITY RATIO REPORT

Client: CCA Winslow Client Address: 1587 Ipswich Road, ROCKLEA Project: Lot 4 Dalma Street Location: Ormeau Component: Bulk Earthworks Area Description: Lot 4 Dalma Street	Report Number: 13385/R/33412-1 Project Number: 13385/P/1078 Lot Number: - Internal Test Request: 13385/T/18953 Client Reference/s: WR: 20253 Report Date / Page: 26/07/2019 Page 1 of 1
--	---

Test Procedures:	AS1289.5.7.1, AS1289.5.8.1, AS1289.2.1.1
------------------	--

Sample Number	13385/S/90396		
ID / Client ID	WR: 20253		
Lot Number	-		
Date / Time Tested	24/07/2019 10:05		
Material Source	Site Won - Cut to Fill		
Material Type	Bulk Earthworks Fill		
Sampling Method	AS1289.1.2.1 Cl 6.4b		
Depths: Test / Nom / Actual (mm)	175 / 200 / -		
Standard or Modified	Standard		
Location	Lot 66		
Easting	525478.195		
Northing	6925262.154		
Level	22.991		
Test Fraction (mm)	< 19.0 mm		
Sample Oversize (%)	6		
Compaction Sample Number	13385/S/90396		
Sample Description	GC Clayey GRAVEL, brown		
Moisture Test Results:			
Field Moisture Content (%)	9.4		
Adjusted / Moisture Variation (%)	2.5		
Optimum Moisture Content (%)	12.0		
Moisture Variation from OMC	(Drier than OMC)		
Moisture Ratio (%)	77.5		
Density Test Results:			
Field Wet Density (t/m ³)	2.37		
Adj/Peak Conv Wet Density (t/m ³)	2.33		
Density Ratio Required (%)	95		
Hilf Density Ratio (%)	101.5		

Remarks

	<p style="text-align: center;">The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. Accredited for compliance with ISO/IEC 17025 - Testing</p> <p>Accreditation Number: 1986 Corporate Site Number: 13385</p>	 Approved Signatory: Andrew Dickie Form ID: W5ASRep Rev 2
---	---	--



WET DENSITY RATIO REPORT

Client: CCA Winslow Client Address: 1587 Ipswich Road, ROCKLEA Project: Lot 4 Dalma Street Location: Ormeau Component: Bulk Earthworks Area Description: Lot 4	Report Number: 13385/R/33417-1 Project Number: 13385/P/1078 Lot Number: - Internal Test Request: 13385/T/18938 Client Reference/s: - Report Date / Page: 26/07/2019 Page 1 of 1
---	---

Test Procedures:	AS1289.5.7.1, AS1289.5.8.1, AS1289.2.1.1
------------------	--

Sample Number	13385/S/90288	13385/S/90289		
ID / Client ID	-	-		
Lot Number	-	-		
Date / Time Tested	23/07/2019 13:00	23/07/2019 16:45		
Material Source	Site Won - Cut to Fill	Site Won - Cut to Fill		
Material Type	Bulk Earthworks Fill	Bulk Earthworks Fill		
Sampling Method	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b		
Depths: Test / Nom / Actual (mm)	175 / 200 / 200	175 / 200 / 200		
Standard or Modified	Standard	Standard		
Location	Lot 4	Lot 4		
Easting	525475.061	525468.480		
Northing	6925258.291	6925263.113		
Level	RL: 23.221	RL 23.226		
Test Fraction (mm)	< 19.0 mm	< 19.0 mm		
Sample Oversize (%)	5	5		
Compaction Sample Number	13385/S/90288	13385/S/90289		
Sample Description	GC Clayey GRAVEL, brown	GC Clayey GRAVEL, brown		
Moisture Test Results:				
Field Moisture Content (%)	9.8	9.2		
Adjusted / Moisture Variation (%)	2.5	2.5		
Optimum Moisture Content (%)	12.5	12.0		
Moisture Variation from OMC	(Drier than OMC)	(Drier than OMC)		
Moisture Ratio (%)	79.5	77.5		
Density Test Results:				
Field Wet Density (t/m ³)	2.21	2.15		
Adj/Peak Conv Wet Density (t/m ³)	2.20	2.18		
Density Ratio Required (%)	95	95		
Hilf Density Ratio (%)	100.5	99.0		

Remarks

	<p style="text-align: center; font-size: small;">The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. Accredited for compliance with ISO/IEC 17025 - Testing</p> <p>Accreditation Number: 1986 Corporate Site Number: 13385</p>	 Approved Signatory: Andrew Dickie Form ID: W5ASRep Rev 2
--	---	--



WET DENSITY RATIO REPORT

Client: CCA Winslow	Report Number: 13385/R/33418-1
Client Address: 1587 Ipswich Road, ROCKLEA	Project Number: 13385/P/1078
Project: Lot 4 Dalma Street	Lot Number: -
Location: Ormeau	Internal Test Request: 13385/T/18937
Component: Bulk Earthworks	Client Reference/s: WR: 19850
Area Description: Lot 4 Dalma Street	Report Date / Page: 26/07/2019 Page 1 of 1

Test Procedures:	AS1289.5.7.1, AS1289.5.8.1, AS1289.2.1.1
------------------	--

Sample Number	13385/S/90286	13385/S/90287	
ID / Client ID	-	-	
Lot Number	-	-	
Date / Time Tested	22/07/2019 13:00	22/07/2019 13:20	
Material Source	Site Won - Cut to Fill	Site Won - Cut to Fill	
Material Type	Bulk Earthworks Fill	Bulk Earthworks Fill	
Sampling Method	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b	
Depths: Test / Nom / Actual (mm)	175 / 200 / 200	175 / 200 / 200	
Standard or Modified	Standard	Standard	
Location	Lot 4	Lot 4	
Easting	525481.966	525478.153	
Northing	6925239.176	6925263.792	
Level	RL: 21.800	RL: 21.848	
Test Fraction (mm)	< 19.0 mm	< 19.0 mm	
Sample Oversize (%)	0	0	
Compaction Sample Number	13385/S/90286	13385/S/90287	
Sample Description	GC Clayey GRAVEL, brown	GC Clayey GRAVEL, brown	
Moisture Test Results:			
Field Moisture Content (%)	8.7	8.2	
Adjusted / Moisture Variation (%)	2.5	2.5	
Optimum Moisture Content (%)	11.5	11.0	
Moisture Variation from OMC	(Drier than OMC)	(Drier than OMC)	
Moisture Ratio (%)	77.0	76.0	
Density Test Results:			
Field Wet Density (t/m ³)	2.22	2.13	
Adj/Peak Conv Wet Density (t/m ³)	2.20	2.16	
Density Ratio Required (%)	95	95	
Hilf Density Ratio (%)	100.5	98.5	

Remarks

	<p style="text-align: center; font-size: small;">The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. Accredited for compliance with ISO/IEC 17025 - Testing</p> <p>Accreditation Number: 1986 Corporate Site Number: 13385</p>	 Approved Signatory: Andrew Dickie Form ID: W5ASRep Rev 2
--	---	--



WET DENSITY RATIO REPORT

Client: CCA Winslow	Report Number: 13385/R/33494-1
Client Address: 1587 Ipswich Road, ROCKLEA	Project Number: 13385/P/1078
Project: Lot 4 Dalma Street	Lot Number: -
Location: Ormeau	Internal Test Request: 13385/T/18974
Component: Bulk Earthworks	Client Reference/s: WR 20255
Area Description: Lot 4 Dalma Street	Report Date / Page: 30/07/2019 Page 1 of 1

Test Procedures:	AS1289.5.7.1, AS1289.5.8.1, AS1289.2.1.1
------------------	--

Sample Number	13385/S/90478		
ID / Client ID	-		
Lot Number	-		
Date / Time Tested	25/07/2019 13:05		
Material Source	Site Won - Cut to Fill		
Material Type	Bulk Earthworks Fill		
Sampling Method	AS1289.1.2.1 Cl 6.4b		
Depths: Test / Nom / Actual (mm)	175 / 200 / 200		
Standard or Modified	Standard		
Location	Lot 63		
Easting	525464.514		
Northing	6925304.782		
Level	RL 23.600		
Test Fraction (mm)	< 19.0 mm		
Sample Oversize (%)	6		
Compaction Sample Number	13385/S/90478		
Sample Description	GC CLayey GRAVEL, brown		
Moisture Test Results:			
Field Moisture Content (%)	11.1		
Adjusted / Moisture Variation (%)	2.5		
Optimum Moisture Content (%)	13.5		
Moisture Variation from OMC	(Drier than OMC)		
Moisture Ratio (%)	82.0		
Density Test Results:			
Field Wet Density (t/m ³)	2.20		
Adj/Peak Conv Wet Density (t/m ³)	2.18		
Density Ratio Required (%)	95		
Hilf Density Ratio (%)	100.5		

Remarks

	<p style="text-align: center; font-size: small;">The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. Accredited for compliance with ISO/IEC 17025 - Testing</p> <p>Accreditation Number: 1986 Corporate Site Number: 13385</p>	 Approved Signatory: Andrew Dickie Form ID: W5ASRep Rev 2
---	---	--



WET DENSITY RATIO REPORT

Client: CCA Winslow Client Address: 1587 Ipswich Road, ROCKLEA Project: Lot 4 Dalma Street Location: Ormeau Component: Bulk Earthworks Area Description: Dalma Street, Ormeau Lot 4	Report Number: 13385/R/33585-1 Project Number: 13385/P/1078 Lot Number: - Internal Test Request: 13385/T/19016 Client Reference/s: WR 20258 Report Date / Page: 1/08/2019 Page 1 of 1
--	---

Test Procedures:	AS1289.5.7.1, AS1289.5.8.1, AS1289.2.1.1
------------------	--

Sample Number	13385/S/90752		
ID / Client ID	-		
Lot Number	-		
Date / Time Tested	30/07/2019 13:05		
Material Source	Site Won - Cut to Fill		
Material Type	Bulk Earthworks Fill		
Sampling Method	AS1289.1.2.1 Cl 6.4b		
Depths: Test / Nom / Actual (mm)	175 / 200 / -		
Standard or Modified	Standard		
Location	Lot 24		
Easting	525391.427		
Northing	6925595.336		
Level	RL 17.196		
Test Fraction (mm)	< 19.0 mm		
Sample Oversize (%)	0		
Compaction Sample Number	13385/S/90752		
Sample Description	GC Clayey GRAVEL, brown		
Moisture Test Results:			
Field Moisture Content (%)	10.9		
Adjusted / Moisture Variation (%)	2.0		
Optimum Moisture Content (%)	13.0		
Moisture Variation from OMC	(Drier than OMC)		
Moisture Ratio (%)	83.0		
Density Test Results:			
Field Wet Density (t/m ³)	2.14		
Adj/Peak Conv Wet Density (t/m ³)	2.18		
Density Ratio Required (%)	95		
Hilf Density Ratio (%)	98.5		

Remarks

	The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. Accredited for compliance with ISO/IEC 17025 - Testing	 Approved Signatory: Andrew Dickie Form ID: W5ASRep Rev 2
	Accreditation Number: 1986 Corporate Site Number: 13385	



WET DENSITY RATIO REPORT

Client: CCA Winslow Client Address: 1587 Ipswich Road, ROCKLEA Project: Lot 4 Dalma Street Location: Ormeau Component: Bulk Earthworks Fill Area Description: Dalma Street, Ormeau Lot 4	Report Number: 13385/R/33595-1 Project Number: 13385/P/1078 Lot Number: - Internal Test Request: 13385/T/19024 Client Reference/s: WR 20259 Report Date / Page: 2/08/2019 Page 1 of 1
---	---

Test Procedures:	AS1289.5.7.1, AS1289.5.8.1, AS1289.2.1.1
-------------------------	--

Sample Number	13385/S/90810		
ID / Client ID	WR 20259		
Lot Number	-		
Date / Time Tested	31/07/2019 13:05		
Material Source	Site Won - Cut to Fill		
Material Type	Bulk Earthworks Fill		
Sampling Method	AS1289.1.2.1 Cl 6.4b		
Depths: Test / Nom / Actual (mm)	175 / 200 / -		
Standard or Modified	Standard		
Location	Lot 22		
Easting	525338.040		
Northing	6925588.450		
Level	RL 17.580		
Test Fraction (mm)	< 19.0 mm		
Sample Oversize (%)	0		
Compaction Sample Number	13385/S/90810		
Sample Description	GC Clayey GRAVEL, brown		
Moisture Test Results:			
Field Moisture Content (%)	6.9		
Adjusted / Moisture Variation (%)	2.5		
Optimum Moisture Content (%)	9.5		
Moisture Variation from OMC	(Drier than OMC)		
Moisture Ratio (%)	72.0		
Density Test Results:			
Field Wet Density (t/m ³)	2.14		
Adj/Peak Conv Wet Density (t/m ³)	2.13		
Density Ratio Required (%)	95		
Hilf Density Ratio (%)	100.0		

Remarks

	<p style="text-align: center; font-size: small;">The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. Accredited for compliance with ISO/IEC 17025 - Testing</p> <p>Accreditation Number: 1986 Corporate Site Number: 13385</p>	 Approved Signatory: Andrew Dickie Form ID: W5ASRep Rev 2
---	---	--



WET DENSITY RATIO REPORT

Client: CCA Winslow Client Address: 1587 Ipswich Road, ROCKLEA Project: Lot 4 Dalma Street Location: Ormeau Component: Bulk Earthworks Fill Area Description: Dalma Street, Ormeau Lot 4	Report Number: 13385/R/33610-1 Project Number: 13385/P/1078 Lot Number: - Internal Test Request: 13385/T/19043 Client Reference/s: WR 20260 Report Date / Page: 5/08/2019 Page 1 of 1
---	---

Test Procedures:	AS1289.5.7.1, AS1289.5.8.1, AS1289.2.1.1
------------------	--

Sample Number	13385/S/90919	13385/S/90920	
ID / Client ID	WR 20260	WR 20260	
Lot Number	-	-	
Date / Time Tested	1/08/2019 10:05	1/08/2019 10:10	
Material Source	Site Won - Cut to Fill	Site Won - Cut to Fill	
Material Type	Bulk Earthworks Fill	Bulk Earthworks Fill	
Sampling Method	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b	
Depths: Test / Nom / Actual (mm)	175 / 200 / 200	175 / 200 / 200	
Standard or Modified	Standard	Standard	
Location	Lot 21	Lot 20	
Easting	525304.104	525326.803	
Northing	6925582.369	6925582.904	
Level	RL 19.198	RL 18.930	
Test Fraction (mm)	< 19.0 mm	< 19.0 mm	
Sample Oversize (%)	13	13	
Compaction Sample Number	13385/S/90919	13385/S/90920	
Sample Description	GC Clayey GRAVEL, brown	GC Clayey GRAVEL, brown	
Moisture Test Results:			
Field Moisture Content (%)	8.6	11.6	
Adjusted / Moisture Variation (%)	2.0	2.0	
Optimum Moisture Content (%)	11.0	14.0	
Moisture Variation from OMC	(Drier than OMC)	(Drier than OMC)	
Moisture Ratio (%)	79.5	82.5	
Density Test Results:			
Field Wet Density (t/m ³)	2.11	2.16	
Adj/Peak Conv Wet Density (t/m ³)	2.08	2.20	
Density Ratio Required (%)	95	95	
Hilf Density Ratio (%)	101.5	98.0	

Remarks

	The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. Accredited for compliance with ISO/IEC 17025 - Testing	 Approved Signatory: Andrew Dickie Form ID: W5ASRep Rev 2
	Accreditation Number: 1986 Corporate Site Number: 13385	



WET DENSITY RATIO REPORT

Client: CCA Winslow Client Address: 1587 Ipswich Road, ROCKLEA Project: Lot 4 Dalma Street Location: Ormeau Component: Bulk Earthworks Fill Area Description: Dalma St, Ormeau Lot 4	Report Number: 13385/R/33655-1 Project Number: 13385/P/1078 Lot Number: - Internal Test Request: 13385/T/19079 Client Reference/s: WR 20262 Report Date / Page: 7/08/2019 Page 1 of 1
---	---

Test Procedures:	AS1289.5.7.1, AS1289.5.8.1, AS1289.2.1.1
------------------	--

Sample Number	13385/S/91185			
ID / Client ID	WR 20262			
Lot Number	-			
Date / Time Tested	5/08/2019 10:05			
Material Source	Site Won - Cut to Fill			
Material Type	Bulk Earthworks Fill			
Sampling Method	AS1289.1.2.1 Cl 6.4b			
Depths: Test / Nom / Actual (mm)	175 / 200 / 200			
Standard or Modified	Standard			
Location	Lot 61			
Easting	525467.225			
Northing	6925357.982			
Level	RL 23.060			
Test Fraction (mm)	< 19.0 mm			
Sample Oversize (%)	19			
Compaction Sample Number	13385/S/91185			
Sample Description	GC Clayey GRAVEL, brown			
Moisture Test Results:				
Field Moisture Content (%)	8.8			
Adjusted / Moisture Variation (%)	2.0			
Optimum Moisture Content (%)	11.0			
Moisture Variation from OMC	(Drier than OMC)			
Moisture Ratio (%)	80.5			
Density Test Results:				
Field Wet Density (t/m ³)	2.13			
Adj/Peak Conv Wet Density (t/m ³)	2.24			
Density Ratio Required (%)	95			
Hilf Density Ratio (%)	95.0			

Remarks

	<p style="text-align: center; font-size: small;">The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. Accredited for compliance with ISO/IEC 17025 - Testing</p> <p>Accreditation Number: 1986 Corporate Site Number: 13385</p>	 Approved Signatory: Andrew Dickie Form ID: W5ASRep Rev 2
--	---	--



WET DENSITY RATIO REPORT

Client: CCA Winslow Client Address: 1587 Ipswich Road, ROCKLEA Project: Lot 4 Dalma Street Location: Ormeau Component: Bulk Earthworks Fill Area Description: Dalma Street, Ormeau Lot 4	Report Number: 13385/R/33657-1 Project Number: 13385/P/1078 Lot Number: - Internal Test Request: 13385/T/19062 Client Reference/s: WR 20261 Report Date / Page: 7/08/2019 Page 1 of 1
---	---

Test Procedures:	AS1289.5.7.1, AS1289.5.8.1, AS1289.2.1.1
------------------	--

Sample Number	13385/S/91086	13385/S/91087		
ID / Client ID	WR 20261	WR 20261		
Lot Number	-	-		
Date / Time Tested	2/08/2019 10:05	2/08/2019 13:05		
Material Source	Site Won - Cut to Fill	Site Won - Cut to Fill		
Material Type	Bulk Earthworks Fill	Bulk Earthworks Fill		
Sampling Method	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b		
Depths: Test / Nom / Actual (mm)	175 / 200 / -	175 / 200 / -		
Standard or Modified	Standard	Standard		
Location	Lot 61	Lot 62		
Easting	525471.347	525470.479		
Northing	6925331.124	6925322.262		
Level	RL 22.789	RL 23.122		
Test Fraction (mm)	< 19.0 mm	< 19.0 mm		
Sample Oversize (%)	17	16		
Compaction Sample Number	13385/S/91086	13385/S/91087		
Sample Description	GC Clayey GRAVEL, brown	GC Clayey GRAVEL, brown		
Moisture Test Results:				
Field Moisture Content (%)	11.2	6.0		
Adjusted / Moisture Variation (%)	2.0	2.0		
Optimum Moisture Content (%)	13.5	8.5		
Moisture Variation from OMC	(Drier than OMC)	(Drier than OMC)		
Moisture Ratio (%)	83.5	72.5		
Density Test Results:				
Field Wet Density (t/m ³)	2.13	2.15		
Adj/Peak Conv Wet Density (t/m ³)	2.16	2.17		
Density Ratio Required (%)	95	95		
Hilf Density Ratio (%)	98.5	99.5		

Remarks

	<p style="text-align: center; font-size: small;">The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. Accredited for compliance with ISO/IEC 17025 - Testing</p> <p>Accreditation Number: 1986 Corporate Site Number: 13385</p>	 Approved Signatory: Andrew Dickie Form ID: W5ASRep Rev 2
---	---	--



WET DENSITY RATIO REPORT

Client: CCA Winslow Client Address: 1587 Ipswich Road, ROCKLEA Project: Lot 4 Dalma Street Location: Ormeau Component: Bulk Earthworks Fill Area Description: Dalma St, Ormeau Lot 4	Report Number: 13385/R/33683-1 Project Number: 13385/P/1078 Lot Number: - Internal Test Request: 13385/T/19094 Client Reference/s: WR 20263 Report Date / Page: 7/08/2019 Page 1 of 1
---	---

Test Procedures:	AS1289.5.7.1, AS1289.5.8.1, AS1289.2.1.1
------------------	--

Sample Number	13385/S/91226		
ID / Client ID	WR 20263		
Lot Number	-		
Date / Time Tested	6/08/2019 10:05		
Material Source	Site Won - Cut to Fill		
Material Type	Bulk Earthworks Fill		
Sampling Method	AS1289.1.2.1 Cl 6.4b		
Depths: Test / Nom / Actual (mm)	175 / 200 / 200		
Standard or Modified	Standard		
Location	Lot 60		
Easting	525478.129		
Northing	6925360.299		
Level	RL 22.580		
Test Fraction (mm)	< 19.0 mm		
Sample Oversize (%)	7		
Compaction Sample Number	13385/S/91226		
Sample Description	GC Clayey GRAVEL, brown		
Moisture Test Results:			
Field Moisture Content (%)	7.5		
Adjusted / Moisture Variation (%)	2.5		
Optimum Moisture Content (%)	10.0		
Moisture Variation from OMC	(Drier than OMC)		
Moisture Ratio (%)	75.0		
Density Test Results:			
Field Wet Density (t/m ³)	2.16		
Adj/Peak Conv Wet Density (t/m ³)	2.13		
Density Ratio Required (%)	95		
Hilf Density Ratio (%)	101.5		

Remarks

	<p style="text-align: center; font-size: small;">The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. Accredited for compliance with ISO/IEC 17025 - Testing</p> <p>Accreditation Number: 1986 Corporate Site Number: 13385</p>	 Approved Signatory: Andrew Dickie Form ID: W5ASRep Rev 2
--	---	--



WET DENSITY RATIO REPORT

Client: CCA Winslow	Report Number: 13385/R/33791-1
Client Address: 1587 Ipswich Road, ROCKLEA	Project Number: 13385/P/1078
Project: Lot 4 Dalma Street	Lot Number: -
Location: Ormeau	Internal Test Request: 13385/T/19130
Component: Bulk Earthworks Fill	Client Reference/s: WR 20265
Area Description: Dalma St, Ormeau Lot 4	Report Date / Page: 12/08/2019 Page 1 of 1

Test Procedures:	AS1289.5.7.1, AS1289.5.8.1, AS1289.2.1.1
------------------	--

Sample Number	13385/S/91455	13385/S/91456	
ID / Client ID	WR 20265	WR 20265	
Lot Number	-	-	
Date / Time Tested	8/08/2019 10:05	8/08/2019 10:15	
Material Source	Site Won - Cut to Fill	Site Won - Cut to Fill	
Material Type	Bulk Earthworks Fill	Bulk Earthworks Fill	
Sampling Method	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b	
Depths: Test / Nom / Actual (mm)	175 / 200 / 200	175 / 200 / 200	
Standard or Modified	Standard	Standard	
Location	Lot 57	Lot 900 Eastern Side	
Easting	525468.947	525469.998	
Northing	6925384.288	6925435.331	
Level	RL 22.316	RL 20.088	
Test Fraction (mm)	< 19.0 mm	< 19.0 mm	
Sample Oversize (%)	14	5	
Compaction Sample Number	13385/S/91455	13385/S/91456	
Sample Description	GC Clayey GRAVEL, brown	GC Clayey GRAVEL, brown	
Moisture Test Results:			
Field Moisture Content (%)	15.2	9.8	
Adjusted / Moisture Variation (%)	2.0	2.0	
Optimum Moisture Content (%)	17.5	12.0	
Moisture Variation from OMC	(Drier than OMC)	(Drier than OMC)	
Moisture Ratio (%)	87.5	82.5	
Density Test Results:			
Field Wet Density (t/m ³)	2.12	2.15	
Adj/Peak Conv Wet Density (t/m ³)	2.15	2.12	
Density Ratio Required (%)	95	95	
Hilf Density Ratio (%)	99.0	101.5	

Remarks

	<p style="text-align: center; font-size: small;">The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. Accredited for compliance with ISO/IEC 17025 - Testing</p> <p>Accreditation Number: 1986 Corporate Site Number: 13385</p>	 Approved Signatory: Andrew Dickie Form ID: W5ASRep Rev 2
---	---	--



WET DENSITY RATIO REPORT

Client: CCA Winslow Client Address: 1587 Ipswich Road, ROCKLEA Project: Lot 4 Dalma Street Location: Ormeau Component: Bulk Earthworks Fill Area Description: Dalma St, Ormeau Lot 4	Report Number: 13385/R/33797-1 Project Number: 13385/P/1078 Lot Number: - Internal Test Request: 13385/T/19119 Client Reference/s: WR 20264 Report Date / Page: 13/08/2019 Page 1 of 1
---	--

Test Procedures:	AS1289.5.7.1, AS1289.5.8.1, AS1289.2.1.1
------------------	--

Sample Number	13385/S/91385	13385/S/91386	
ID / Client ID	WR 20264	WR 20264	
Lot Number	-	-	
Date / Time Tested	7/08/2019 10:05	7/08/2019 13:05	
Material Source	Site Won - Cut to Fill	Site Won - Cut to Fill	
Material Type	Bulk Earthworks Fill	Bulk Earthworks Fill	
Sampling Method	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b	
Depths: Test / Nom / Actual (mm)	175 / 200 / 200	175 / 200 / 200	
Standard or Modified	Standard	Standard	
Location	Lot 59	Lot 23	
Easting	525457.926	525385.575	
Northing	6925364.843	6925591.296	
Level	RL 22.371	RL 17.988	
Test Fraction (mm)	< 19.0 mm	< 19.0 mm	
Sample Oversize (%)	10	7	
Compaction Sample Number	13385/S/91385	13385/S/91386	
Sample Description	GC Clayey GRAVEL, brown	GC Clayey GRAVEL, brown	
Moisture Test Results:			
Field Moisture Content (%)	11.2	10.6	
Adjusted / Moisture Variation (%)	2.0	2.5	
Optimum Moisture Content (%)	13.5	13.0	
Moisture Variation from OMC	(Drier than OMC)	(Drier than OMC)	
Moisture Ratio (%)	82.5	81.0	
Density Test Results:			
Field Wet Density (t/m ³)	2.13	2.13	
Adj/Peak Conv Wet Density (t/m ³)	2.16	2.10	
Density Ratio Required (%)	95	95	
Hilf Density Ratio (%)	98.5	101.5	

Remarks

	<p style="text-align: center; font-size: small;">The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. Accredited for compliance with ISO/IEC 17025 - Testing</p> <p>Accreditation Number: 1986 Corporate Site Number: 13385</p>	 Approved Signatory: Andrew Dickie Form ID: W5ASRep Rev 2
---	---	--



WET DENSITY RATIO REPORT

Client: CCA Winslow Client Address: 1587 Ipswich Road, ROCKLEA Project: Lot 4 Dalma Street Location: Ormeau Component: Bulk Earthworks Fill Area Description: Lot 4 Dalma St, Ormeau	Report Number: 13385/R/33898-1 Project Number: 13385/P/1078 Lot Number: - Internal Test Request: 13385/T/19201 Client Reference/s: WR 20270 Report Date / Page: 16/08/2019 Page 1 of 1
---	--

Test Procedures:	AS1289.5.7.1, AS1289.5.8.1, AS1289.2.1.1
------------------	--

Sample Number	13385/S/91879	13385/S/91880	
ID / Client ID	WR 20270	WR 20270	
Lot Number	-	-	
Date / Time Tested	14/08/2019 10:05	14/08/2019 10:15	
Material Source	Site Won - Cut to Fill	Site Won - Cut to Fill	
Material Type	Bulk Earthworks Fill	Bulk Earthworks Fill	
Sampling Method	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b	
Depths: Test / Nom / Actual (mm)	175 / 200 / -	175 / 200 / -	
Standard or Modified	Standard	Standard	
Location	Lot 56	Lot 54	
Easting	525468.572	525466.005	
Northing	6925386.077	6925406.123	
Level	RL 22.320	RL 21.560	
Test Fraction (mm)	< 19.0 mm	< 19.0 mm	
Sample Oversize (%)	14	12	
Compaction Sample Number	13385/S/91879	13385/S/91880	
Sample Description	GC Clayey GRAVEL, brown	GC Clayey GRAVEL, brown	
Moisture Test Results:			
Field Moisture Content (%)	7.4	7.3	
Adjusted / Moisture Variation (%)	2.0	2.0	
Optimum Moisture Content (%)	9.5	9.5	
Moisture Variation from OMC	(Drier than OMC)	(Drier than OMC)	
Moisture Ratio (%)	78.0	76.0	
Density Test Results:			
Field Wet Density (t/m ³)	2.13	2.12	
Adj/Peak Conv Wet Density (t/m ³)	2.13	2.09	
Density Ratio Required (%)	95	95	
Hilf Density Ratio (%)	100.0	101.5	

Remarks

	<p style="text-align: center;">The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. Accredited for compliance with ISO/IEC 17025 - Testing</p> Accreditation Number: 1986 Corporate Site Number: 13385	 Approved Signatory: Andrew Dickie Form ID: W5ASRep Rev 2
---	---	--



WET DENSITY RATIO REPORT

Client: CCA Winslow	Report Number: 13385/R/34117-1
Client Address: 1587 Ipswich Road, ROCKLEA	Project Number: 13385/P/1078
Project: Lot 4 Dalma Street	Lot Number: -
Location: Ormeau	Internal Test Request: 13385/T/19300
Component: Bulk Earthworks Fill	Client Reference/s: WR 20272
Area Description: Lot 4 Dalma St, Ormeau	Report Date / Page: 27/08/2019 Page 1 of 1

Test Procedures:	AS1289.5.7.1, AS1289.5.8.1, AS1289.2.1.1
------------------	--

Sample Number	13385/S/92517		
ID / Client ID	WR 20272		
Lot Number	-		
Date / Time Tested	21/08/2019 10:15		
Material Source	Site Won - Cut to Fill		
Material Type	Bulk Earthworks Fill		
Sampling Method	AS1289.1.2.1 Cl 6.4b		
Depths: Test / Nom / Actual (mm)	175 / 200 / 200		
Standard or Modified	Standard		
Location	Lot 76		
Easting	525313.232		
Northing	6925395.225		
Level	RL 34.580		
Test Fraction (mm)	< 19.0 mm		
Sample Oversize (%)	7		
Compaction Sample Number	13385/S/92517		
Sample Description	GC Clayey GRAVEL, brown		
Moisture Test Results:			
Field Moisture Content (%)	8.5		
Adjusted / Moisture Variation (%)	2.5		
Optimum Moisture Content (%)	11.0		
Moisture Variation from OMC	(Drier than OMC)		
Moisture Ratio (%)	78.0		
Density Test Results:			
Field Wet Density (t/m ³)	2.10		
Adj/Peak Conv Wet Density (t/m ³)	2.09		
Density Ratio Required (%)	95		
Hilf Density Ratio (%)	100.5		

Remarks

	<p style="text-align: center; font-size: small;">The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. Accredited for compliance with ISO/IEC 17025 - Testing</p> <p>Accreditation Number: 1986 Corporate Site Number: 13385</p>	 Approved Signatory: Andrew Dickie Form ID: W5ASRep Rev 2
--	---	--



WET DENSITY RATIO REPORT

Client: CCA Winslow Client Address: 1587 Ipswich Road, ROCKLEA Project: Lot 4 Dalma Street Location: Ormeau Component: Bulk Earthworks Fill Area Description: Lot 4 Dalma St, Ormeau	Report Number: 13385/R/34118-1 Project Number: 13385/P/1078 Lot Number: - Internal Test Request: 13385/T/19326 Client Reference/s: WR 20273 Report Date / Page: 27/08/2019 Page 1 of 1
---	--

Test Procedures:	AS1289.5.7.1, AS1289.5.8.1, AS1289.2.1.1
------------------	--

Sample Number	13385/S/92737	13385/S/92738	
ID / Client ID	WR 20273	WR 20273	
Lot Number	-	-	
Date / Time Tested	22/08/2019 10:05	22/08/2019 10:20	
Material Source	Site Won - Cut to Fill	Site Won - Cut to Fill	
Material Type	Bulk Earthworks Fill	Bulk Earthworks Fill	
Sampling Method	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b	
Depths: Test / Nom / Actual (mm)	175 / 200 / 200	175 / 200 / 200	
Standard or Modified	Standard	Standard	
Location	Lot 10	Lot 44	
Easting	525325.564	525296.795	
Northing	6925457.036	6925465.464	
Level	RL 25.583	RL 25.780	
Test Fraction (mm)	< 19.0 mm	< 19.0 mm	
Sample Oversize (%)	10	11	
Compaction Sample Number	13385/S/92737	13385/S/92738	
Sample Description	GC Clayey GRAVEL, brown	GC Clayey GRAVEL, brown	
Moisture Test Results:			
Field Moisture Content (%)	8.8	8.9	
Adjusted / Moisture Variation (%)	4.0	4.0	
Optimum Moisture Content (%)	13.0	13.0	
Moisture Variation from OMC	(Drier than OMC)	(Drier than OMC)	
Moisture Ratio (%)	67.5	68.5	
Density Test Results:			
Field Wet Density (t/m ³)	2.07	2.09	
Adj/Peak Conv Wet Density (t/m ³)	2.06	2.07	
Density Ratio Required (%)	95	95	
Hilf Density Ratio (%)	100.5	101.0	

Remarks

	<p style="text-align: center; font-size: small;">The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. Accredited for compliance with ISO/IEC 17025 - Testing</p> <p>Accreditation Number: 1986 Corporate Site Number: 13385</p>	 Approved Signatory: Andrew Dickie Form ID: W5ASRep Rev 2
--	---	--



WET DENSITY RATIO REPORT

Client: CCA Winslow Client Address: 1587 Ipswich Road, ROCKLEA Project: Lot 4 Dalma Street Location: Ormeau Component: Bulk Earthworks Fill Area Description: Lot 4 Dalma St, Ormeau	Report Number: 13385/R/34120-1 Project Number: 13385/P/1078 Lot Number: - Internal Test Request: 13385/T/19352 Client Reference/s: WR 20274 Report Date / Page: 27/08/2019 Page 1 of 1
---	--

Test Procedures:	AS1289.5.7.1, AS1289.5.8.1, AS1289.2.1.1
------------------	--

Sample Number	13385/S/92917	13385/S/92918	13385/S/92919	
ID / Client ID	WR 20274	WR 20274	WR 20274	
Lot Number	-	-	-	
Date / Time Tested	26/08/2019 07:30	26/08/2019 07:50	26/08/2019 10:05	
Material Source	Site Won - Cut to Fill	Site Won - Cut to Fill	Site Won - Cut to Fill	
Material Type	Bulk Earthworks Fill	Bulk Earthworks Fill	Bulk Earthworks Fill	
Sampling Method	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b	
Depths: Test / Nom / Actual (mm)	175 / 200 / 200	175 / 200 / 200	175 / 200 / 200	
Standard or Modified	Standard	Standard	Standard	
Location	Lot 44	Lot 45	Road 02	
Easting	525350.330	525336.670	525307.970	
Northing	6925460.386	6925453.603	6925461.305	
Level	RL 26.300	RL 26.186	RL 26.700	
Test Fraction (mm)	< 19.0 mm	< 19.0 mm	< 19.0 mm	
Sample Oversize (%)	5	6	9	
Compaction Sample Number	13385/S/92917	13385/S/92918	13385/S/92919	
Sample Description	GC Clayey GRAVEL, brown	GC Clayey GRAVEL, brown	GC Clayey GRAVEL, brown	
Moisture Test Results:				
Field Moisture Content (%)	9.8	9.8	12.5	
Adjusted / Moisture Variation (%)	2.0	2.0	2.0	
Optimum Moisture Content (%)	12.0	12.0	15.0	
Moisture Variation from OMC	(Drier than OMC)	(Drier than OMC)	(Drier than OMC)	
Moisture Ratio (%)	81.0	81.0	83.5	
Density Test Results:				
Field Wet Density (t/m ³)	2.12	2.12	2.19	
Adj/Peak Conv Wet Density (t/m ³)	2.14	2.12	2.17	
Density Ratio Required (%)	95	95	95	
Hilf Density Ratio (%)	99.0	100.0	101.0	

Remarks

	<p style="text-align: center;">The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. Accredited for compliance with ISO/IEC 17025 - Testing</p> <p>Accreditation Number: 1986 Corporate Site Number: 13385</p>	 Approved Signatory: Andrew Dickie Form ID: W5ASRep Rev 2
---	---	--



WET DENSITY RATIO REPORT

Client: CCA Winslow Client Address: 1587 Ipswich Road, ROCKLEA Project: Lot 4 Dalma Street Location: Ormeau Component: Bulk Earthworks Fill Area Description: Lot 4 Dalma St, Ormeau	Report Number: 13385/R/34218-1 Project Number: 13385/P/1078 Lot Number: - Internal Test Request: 13385/T/19390 Client Reference/s: WR 20277 Report Date / Page: 2/09/2019 Page 1 of 1
---	---

Test Procedures:	AS1289.5.7.1, AS1289.5.8.1, AS1289.2.1.1
------------------	--

Sample Number	13385/S/93183	13385/S/93184	
ID / Client ID	WR 20277	WR 20277	
Lot Number	-	-	
Date / Time Tested	28/08/2019 10:05	28/08/2019 13:05	
Material Source	Site Won - Cut to Fill	Site Won - Cut to Fill	
Material Type	Bulk Earthworks Fill	Bulk Earthworks Fill	
Sampling Method	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b	
Depths: Test / Nom / Actual (mm)	175 / 200 / -	175 / 200 / -	
Standard or Modified	Standard	Standard	
Location	Lot 10	Lot 45	
Easting	525292.023	525327.674	
Northing	6925456.840	6925457.917	
Level	RL 29.300	RL 26.879	
Test Fraction (mm)	< 19.0 mm	< 19.0 mm	
Sample Oversize (%)	9	12	
Compaction Sample Number	13385/S/93183	13385/S/93184	
Sample Description	GC Clayey GRAVEL, brown	GC Clayey GRAVEL, brown	
Moisture Test Results:			
Field Moisture Content (%)	9.9	9.9	
Adjusted / Moisture Variation (%)	2.0	2.0	
Optimum Moisture Content (%)	12.0	12.5	
Moisture Variation from OMC	(Drier than OMC)	(Drier than OMC)	
Moisture Ratio (%)	81.0	80.5	
Density Test Results:			
Field Wet Density (t/m ³)	2.31	2.13	
Adj/Peak Conv Wet Density (t/m ³)	2.26	2.15	
Density Ratio Required (%)	95	95	
Hilf Density Ratio (%)	102.0	99.0	

Remarks

	<p style="text-align: center;">The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. Accredited for compliance with ISO/IEC 17025 - Testing</p> <p>Accreditation Number: 1986 Corporate Site Number: 13385</p>	 Approved Signatory: Andrew Dickie Form ID: W5ASRep Rev 2
---	---	--



WET DENSITY RATIO REPORT

Client: CCA Winslow	Report Number: 13385/R/34221-1
Client Address: 1587 Ipswich Road, ROCKLEA	Project Number: 13385/P/1078
Project: Lot 4 Dalma Street	Lot Number: -
Location: Ormeau	Internal Test Request: 13385/T/19358
Component: Bulk Earthworks Fill	Client Reference/s: WR 20275
Area Description: Lot 4 Dalma St, Ormeau	Report Date / Page: 2/09/2019 Page 1 of 1

Test Procedures:	AS1289.5.7.1, AS1289.5.8.1, AS1289.2.1.1
------------------	--

Sample Number	13385/S/92961	13385/S/92962		
ID / Client ID	WR 20275	WR 20275		
Lot Number	-	-		
Date / Time Tested	26/08/2019 10:05	26/08/2019 10:15		
Material Source	Site Won - Cut to Fill	Site Won - Cut to Fill		
Material Type	Bulk Earthworks Fill	Bulk Earthworks Fill		
Sampling Method	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b		
Depths: Test / Nom / Actual (mm)	175 / 200 / 200	175 / 200 / 200		
Standard or Modified	Standard	Standard		
Location	Lot 11	Road 02		
Easting	525295.870	525309.823		
Northing	6925471.116	6925468.368		
Level	RL 26.685	RL 26.890		
Test Fraction (mm)	< 19.0 mm	< 19.0 mm		
Sample Oversize (%)	10	13		
Compaction Sample Number	13385/S/92961	13385/S/92962		
Sample Description	GC Clayey GRAVEL, brown	GC Clayey GRAVEL, brown		
Moisture Test Results:				
Field Moisture Content (%)	6.4	9.7		
Adjusted / Moisture Variation (%)	4.0	2.0		
Optimum Moisture Content (%)	10.5	12.0		
Moisture Variation from OMC	(Drier than OMC)	(Drier than OMC)		
Moisture Ratio (%)	60.0	81.0		
Density Test Results:				
Field Wet Density (t/m ³)	2.10	2.11		
Adj/Peak Conv Wet Density (t/m ³)	2.08	2.15		
Density Ratio Required (%)	95	95		
Hilf Density Ratio (%)	101.0	98.0		

Remarks

	<p style="text-align: center; font-size: small;">The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. Accredited for compliance with ISO/IEC 17025 - Testing</p> <p>Accreditation Number: 1986 Corporate Site Number: 13385</p>	 Approved Signatory: Andrew Dickie Form ID: W5ASRep Rev 2
--	---	--



WET DENSITY RATIO REPORT

Client: CCA Winslow Client Address: 1587 Ipswich Road, ROCKLEA Project: Lot 4 Dalma Street Location: Ormeau Component: Bulk Earthworks Fill Area Description: Lot 4 Dalma St, Ormeau	Report Number: 13385/R/34260-1 Project Number: 13385/P/1078 Lot Number: - Internal Test Request: 13385/T/19378 Client Reference/s: WR 20276 Report Date / Page: 3/09/2019 Page 1 of 1
---	---

Test Procedures:	AS1289.5.7.1, AS1289.5.8.1, AS1289.2.1.1
------------------	--

Sample Number	13385/S/93126	13385/S/93127	
ID / Client ID	WR 20276	WR 20276	
Lot Number	-	-	
Date / Time Tested	27/08/2019 10:05	27/08/2019 10:15	
Material Source	Site Won - Cut to Fill	Site Won - Cut to Fill	
Material Type	Bulk Earthworks Fill	Bulk Earthworks Fill	
Sampling Method	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b	
Depths: Test / Nom / Actual (mm)	175 / 200 / 200	175 / 200 / 200	
Standard or Modified	Standard	Standard	
Location	Lot 12	Lot 11	
Easting	525294.999	525293.946	
Northing	6925479.603	6925469.052	
Level	RL 26.914	RL 27.618	
Test Fraction (mm)	< 19.0 mm	< 19.0 mm	
Sample Oversize (%)	5	6	
Compaction Sample Number	13385/S/93126	13385/S/93127	
Sample Description	GC Clayey GRAVEL, brown	GC Clayey GRAVEL, brown	
Moisture Test Results:			
Field Moisture Content (%)	9.5	13.3	
Adjusted / Moisture Variation (%)	2.0	0.0	
Optimum Moisture Content (%)	11.5	13.5	
Moisture Variation from OMC	(Drier than OMC)	(Drier than OMC)	
Moisture Ratio (%)	82.0	99.5	
Density Test Results:			
Field Wet Density (t/m ³)	2.12	2.09	
Adj/Peak Conv Wet Density (t/m ³)	2.10	2.08	
Density Ratio Required (%)	95	95	
Hilf Density Ratio (%)	100.5	100.5	

Remarks

	<p style="text-align: center;">The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. Accredited for compliance with ISO/IEC 17025 - Testing</p> <p>Accreditation Number: 1986 Corporate Site Number: 13385</p>	 Approved Signatory: Andrew Dickie Form ID: W5ASRep Rev 2
--	---	--



WET DENSITY RATIO REPORT

Client: CCA Winslow Client Address: 1587 Ipswich Road, ROCKLEA Project: Lot 4 Dalma Street Location: Ormeau Component: Bulk Earthworks Fill Area Description: Lot 4 Dalma St, Ormeau	Report Number: 13385/R/34263-1 Project Number: 13385/P/1078 Lot Number: - Internal Test Request: 13385/T/19423 Client Reference/s: WR 20278 Report Date / Page: 3/09/2019 Page 1 of 1
---	---

Test Procedures:	AS1289.5.7.1, AS1289.5.8.1, AS1289.2.1.1
------------------	--

Sample Number	13385/S/93373		
ID / Client ID	WR20278		
Lot Number	-		
Date / Time Tested	29/08/2019 08:50		
Material Source	Site Won - Cut to Fill		
Material Type	Bulk Earthworks Fill		
Sampling Method	AS1289.1.2.1 CI 6.4b		
Depths: Test / Nom / Actual (mm)	175 / 200 / 200		
Standard or Modified	Standard		
Location	Lot 46		
Easting	525339.811		
Northing	6925465.004		
Level	RL 26.978		
Test Fraction (mm)	< 19.0 mm		
Sample Oversize (%)	11		
Compaction Sample Number	13385/S/93373		
Sample Description	GC Clayey GRAVEL, brown		
Moisture Test Results:			
Field Moisture Content (%)	8.1		
Adjusted / Moisture Variation (%)	2.0		
Optimum Moisture Content (%)	10.5		
Moisture Variation from OMC	(Drier than OMC)		
Moisture Ratio (%)	77.0		
Density Test Results:			
Field Wet Density (t/m ³)	2.26		
Adj/Peak Conv Wet Density (t/m ³)	2.24		
Density Ratio Required (%)	95		
Hilf Density Ratio (%)	101.0		

Remarks

	<p style="text-align: center; font-size: small;">The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. Accredited for compliance with ISO/IEC 17025 - Testing</p> <p>Accreditation Number: 1986 Corporate Site Number: 13385</p>	 Approved Signatory: Andrew Dickie Form ID: W5ASRep Rev 2
---	---	--



WET DENSITY RATIO REPORT

Client: CCA Winslow Client Address: 1587 Ipswich Road, ROCKLEA Project: Lot 4 Dalma Street Location: Ormeau Component: Bulk Earthwork Fill Area Description: Lot 4 Dalma St, Ormeau	Report Number: 13385/R/34405-1 Project Number: 13385/P/1078 Lot Number: - Internal Test Request: 13385/T/19492 Client Reference/s: WR 20282 Report Date / Page: 9/09/2019 Page 1 of 1
--	---

Test Procedures:	AS1289.5.7.1, AS1289.5.8.1, AS1289.2.1.1
-------------------------	--

Sample Number	13385/S/93751	13385/S/93752		
ID / Client ID	WR 20282	WR 20282		
Lot Number	-	-		
Date / Time Tested	5/09/2019 10:10	5/09/2019 12:00		
Material Source	Site Won - Cut to Fill	Site Won - Cut to Fill		
Material Type	Bulk Earthworks Fill	Bulk Earthworks Fill		
Sampling Method	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b		
Depths: Test / Nom / Actual (mm)	175 / 200 / 200	175 / 200 / 200		
Standard or Modified	Standard	Standard		
Location	Lot 45	Lot 44		
Easting	525334.637	525319.802		
Northing	6925453.000	6925453.809		
Level	RL 27.912	RL 28.349		
Test Fraction (mm)	< 19.0 mm	< 19.0 mm		
Sample Oversize (%)	15	15		
Compaction Sample Number	13385/S/93751	13385/S/93752		
Sample Description	GC Clayey GRAVEL, brown	GC Clayey GRAVEL, brown		
Moisture Test Results:				
Field Moisture Content (%)	9.3	6.5		
Adjusted / Moisture Variation (%)	3.5	2.5		
Optimum Moisture Content (%)	13.5	9.0		
Moisture Variation from OMC	(Drier than OMC)	(Drier than OMC)		
Moisture Ratio (%)	69.0	73.0		
Density Test Results:				
Field Wet Density (t/m ³)	2.07	2.08		
Adj/Peak Conv Wet Density (t/m ³)	2.08	2.11		
Density Ratio Required (%)	95	95		
Hilf Density Ratio (%)	99.5	99.0		

Remarks

	<p style="text-align: center; font-size: small;">The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. Accredited for compliance with ISO/IEC 17025 - Testing</p> <p>Accreditation Number: 1986 Corporate Site Number: 13385</p>	 Approved Signatory: Andrew Dickie Form ID: W5ASRep Rev 2
--	---	--



WET DENSITY RATIO REPORT

Client: CCA Winslow Client Address: 1587 Ipswich Road, ROCKLEA Project: Lot 4 Dalma Street Location: Ormeau Component: Bulk Earthworks Fill Area Description: Lot 4 Dalma St, Ormeau	Report Number: 13385/R/34406-1 Project Number: 13385/P/1078 Lot Number: - Internal Test Request: 13385/T/19462 Client Reference/s: WR 20280 Report Date / Page: 9/09/2019 Page 1 of 1
---	---

Test Procedures:	AS1289.5.7.1, AS1289.5.8.1, AS1289.2.1.1
------------------	--

Sample Number	13385/S/93582		
ID / Client ID	WR 20280		
Lot Number	-		
Date / Time Tested	3/09/2019 10:50		
Material Source	Site Won - Cut to Fill		
Material Type	Bulk Earthworks Fill		
Sampling Method	AS1289.1.2.1 Cl 6.4b		
Depths: Test / Nom / Actual (mm)	175 / 200 / 200		
Standard or Modified	Standard		
Location	Lot 34		
Easting	525437.272		
Northing	6925471.769		
Level	RL 20.858		
Test Fraction (mm)	< 19.0 mm		
Sample Oversize (%)	20		
Compaction Sample Number	13385/S/93582		
Sample Description	GC Clayey GRAVEL, brown		
Moisture Test Results:			
Field Moisture Content (%)	6.4		
Adjusted / Moisture Variation (%)	2.0		
Optimum Moisture Content (%)	8.5		
Moisture Variation from OMC	(Drier than OMC)		
Moisture Ratio (%)	73.5		
Density Test Results:			
Field Wet Density (t/m ³)	2.08		
Adj/Peak Conv Wet Density (t/m ³)	2.11		
Density Ratio Required (%)	95		
Hilf Density Ratio (%)	99.0		

Remarks

	<p style="text-align: center; font-size: small;">The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. Accredited for compliance with ISO/IEC 17025 - Testing</p> <p>Accreditation Number: 1986 Corporate Site Number: 13385</p>	 Approved Signatory: Andrew Dickie Form ID: W5ASRep Rev 2
---	---	--



WET DENSITY RATIO REPORT

Client: CCA Winslow Client Address: 1587 Ipswich Road, ROCKLEA Project: Lot 4 Dalma Street Location: Ormeau Component: Bulk Earthworks Area Description: Lot 4 Dalma Street	Report Number: 13385/R/34619-1 Project Number: 13385/P/1078 Lot Number: - Internal Test Request: 13385/T/19587 Client Reference/s: WR 19434 Report Date / Page: 17/09/2019 Page 1 of 1
--	--

Test Procedures:	AS1289.5.7.1, AS1289.5.8.1, AS1289.2.1.1
------------------	--

Sample Number	13385/S/94381	13385/S/94382	
ID / Client ID	-	-	
Lot Number	-	-	
Date / Time Tested	12/09/2019 14:05	12/09/2019 14:10	
Material Source	Site Won - Cut to Fill	Site Won - Cut to Fill	
Material Type	Bulk Earthworks Fill	Bulk Earthworks Fill	
Sampling Method	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b	
Depths: Test / Nom / Actual (mm)	175 / 200 / 200	175 / 200 / 200	
Standard or Modified	Standard	Standard	
Location	Lot 83	Lot 45	
Easting	525398.8	525333.6	
Northing	6925376.5	6925454.0	
Level	RL 25.6	RL 28.3	
Test Fraction (mm)	< 19.0 mm	< 19.0 mm	
Sample Oversize (%)	8	7	
Compaction Sample Number	13385/S/94381	13385/S/94382	
Sample Description	GC Clayey GRAVEL brown	GC Clayey GRAVEL brown	
Moisture Test Results:			
Field Moisture Content (%)	5.7	5.5	
Adjusted / Moisture Variation (%)	4.0	4.5	
Optimum Moisture Content (%)	10.0	10.0	
Moisture Variation from OMC	(Drier than OMC)	(Drier than OMC)	
Moisture Ratio (%)	57.5	54.5	
Density Test Results:			
Field Wet Density (t/m ³)	2.27	2.17	
Adj/Peak Conv Wet Density (t/m ³)	2.22	2.11	
Density Ratio Required (%)	95	95	
Hilf Density Ratio (%)	102.0	103.0	

Remarks

	<p style="text-align: center; font-size: small;">The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. Accredited for compliance with ISO/IEC 17025 - Testing</p> <p>Accreditation Number: 1986 Corporate Site Number: 13385</p>	 Approved Signatory: Andrew Dickie Form ID: W5ASRep Rev 2
---	---	--



WET DENSITY RATIO REPORT

Client: CCA Winslow	Report Number: 13385/R/34842-1
Client Address: 1587 Ipswich Road, ROCKLEA	Project Number: 13385/P/1078
Project: Lot 4 Dalma Street	Lot Number: -
Location: Ormeau	Internal Test Request: 13385/T/19720
Component: Bulk Earthworks	Client Reference/s: WR: 20170
Area Description: Lot 4 Dalma Street	Report Date / Page: 27/09/2019 Page 1 of 1

Test Procedures:	AS1289.5.7.1, AS1289.5.8.1, AS1289.2.1.1
------------------	--

Sample Number	13385/S/95257	13385/S/95258	13385/S/95259	
ID / Client ID	-	-	-	
Lot Number	-	-	-	
Date / Time Tested	24/09/2019 09:00	24/09/2019 09:20	24/09/2019 09:30	
Material Source	Site Won - Cut to Fill	Site Won - Cut to Fill	Site Won - Cut to Fill	
Material Type	Bulk Earthworks Fill	Bulk Earthworks Fill	Bulk Earthworks Fill	
Sampling Method	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b	
Depths: Test / Nom / Actual (mm)	175 / 300 / 200	175 / 300 / 200	175 / 300 / 200	
Standard or Modified	Standard	Standard	Standard	
Location	Lot 24	Lot 22	Lot 21	
Easting	525398.98	525373.91	525344.02	
Northing	6925595.80	6925581.52	6925590.38	
Level	17.670	17.866	18.230	
Test Fraction (mm)	< 19.0 mm	< 19.0 mm	< 19.0 mm	
Sample Oversize (%)	9	12	0	
Compaction Sample Number	13385/S/95257	13385/S/95258	13385/S/95259	
Sample Description	GC Clayey GRAVEL, brown	clayey gravel brown	clayey gravel brown	
Moisture Test Results:				
Field Moisture Content (%)	7.4	6.3	7.6	
Adjusted / Moisture Variation (%)	2.5	4.5	4.5	
Optimum Moisture Content (%)	10.5	11.0	12.0	
Moisture Variation from OMC	(Drier than OMC)	(Drier than OMC)	(Drier than OMC)	
Moisture Ratio (%)	72.0	58.0	62.5	
Density Test Results:				
Field Wet Density (t/m ³)	2.16	2.01	2.11	
Adj/Peak Conv Wet Density (t/m ³)	2.12	1.99	2.10	
Density Ratio Required (%)	95	95	95	
Hilf Density Ratio (%)	102.0	101.0	100.5	

Remarks

	<p style="text-align: center;">The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. Accredited for compliance with ISO/IEC 17025 - Testing</p> <p>Accreditation Number: 1986 Corporate Site Number: 13385</p>	 Approved Signatory: Andrew Dickie Form ID: W5ASRep Rev 2
--	---	--



WET DENSITY RATIO REPORT

Client: CCA Winslow	Report Number: 13385/R/34934-1
Client Address: 1587 Ipswich Road, ROCKLEA	Project Number: 13385/P/1078
Project: Lot 4 Dalma Street	Lot Number: N/A
Location: Ormeau	Internal Test Request: 13385/T/19782
Component: Bulk Earthworks Fill	Client Reference/s: WR: 20235
Area Description: Lot 4 Dalma Street	Report Date / Page: 2/10/2019 Page 1 of 1

Test Procedures:	AS1289.5.7.1, AS1289.5.8.1, AS1289.2.1.1
------------------	--

Sample Number	13385/S/95615	13385/S/95616	
ID / Client ID	-	-	
Lot Number	N/A	N/A	
Date / Time Tested	1/10/2019 08:30	1/10/2019 09:00	
Material Source	Site Won - Cut to Fill	Site Won - Cut to Fill	
Material Type	Bulk Earthworks Fill	Bulk Earthworks Fill	
Sampling Method	AS1289.1.2.1 Cl 6.4b	AS1289.1.2.1 Cl 6.4b	
Depths: Test / Nom / Actual (mm)	175 / 200 / 200	175 / 200 / 200	
Standard or Modified	Standard	Standard	
Location	Lot 32	Lot 24	
Easting	525386.96	5235387.44	
Northing	6925532.55	6925595.05	
Level	RL 22.96	RL 18.32	
Test Fraction (mm)	< 19.0 mm	< 19.0 mm	
Sample Oversize (%)	0	0	
Compaction Sample Number	13385/S/95615	13385/S/95616	
Sample Description	CL Sandy CLAY, brown	CL Sandy CLAY, brown	
Moisture Test Results:			
Field Moisture Content (%)	4.8	10.5	
Adjusted / Moisture Variation (%)	4.0	2.5	
Optimum Moisture Content (%)	9.0	13.0	
Moisture Variation from OMC	(Drier than OMC)	(Drier than OMC)	
Moisture Ratio (%)	54.0	82.0	
Density Test Results:			
Field Wet Density (t/m ³)	2.17	2.15	
Adj/Peak Conv Wet Density (t/m ³)	2.13	2.19	
Density Ratio Required (%)	95	95	
Hilf Density Ratio (%)	102.0	98.5	

Remarks

	<p style="text-align: center;">The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. Accredited for compliance with ISO/IEC 17025 - Testing</p> <p>Accreditation Number: 1986 Corporate Site Number: 13385</p>	 Approved Signatory: Andrew Dickie Form ID: W5ASRep Rev 2
--	---	--