

# **Australian Geotechnical Testing**

## **Level One Inspection and Testing**

Report No: AGTE21310 Project: Miravale Stage 4A Suburb: Angle Vale



# Client: T & J Construction Date: 6<sup>th</sup> September 2021

| Geotechnical | Pavement | Environmental | Residential | Design | | Slope Stability Assessment | Land Capability Assessments | Erosion and Sediment Control Plan | | Retaining Walls | Level 1 Supervision | Earthworks Specification's | Percolation |

Adelaide | Brisbane | Ballarat | Melbourne | Warrnambool

## Contents

Сог	ntents	2
1	Introduction	1
2	Scope of Works	1
3	Inspections / Supervision	1
4	Testing	2
5	Conclusion	2
6	Applicability	2
Ар	pendix A – Site Plan	4
Ар	pendix B – Laboratory Testing	5

### 1 Introduction

Australian Geotechnical Testing (AGT) has been engaged by T & J Constructions to provide Level 1 Geotechnical Supervision for the Miravale Stage 4A project. The Estate is located at Angle Vale.

This Level 1 report presents the results of supervision activities, compaction and moisture control, material placement and laboratory testing for ground works undertaken for the project. This report covers construction activities carried out from the 6<sup>th</sup> of July 2021 **to** 12<sup>th</sup> of August 2021.

#### 2 Scope of Works

The scope of works involved the placement of on-site General Fill. Fill Material was placed in Level one fill areas, in accordance with **AS 3798-2007**, **Guidelines on earthworks for** *commercial and residential developments and project specifications*. The level of FILL to be placed is less than 5m as per AS3798 Section 1.1.

The fill material is required as per AS3798 and the project specification to achieve:

- 95% Standard Maximum Dry Density (Compaction)
- +/- 2% Optimum Moisture Content

General fill material used for the construction was locally sourced and predominantly comprising of Sandy Clay.

#### 3 Inspections / Supervision

Full-time Level 1 supervision and inspection was undertaken including the supervision and inspections regarding the stripping and removal as per AS3798 Section 3 shall have removed:

- Organic soils, such as topsoils, severely root affected subsoils and peat;
- Contaminated soils are part of the brief;
- Materials which undergo volume change or loss of strength when disturbed and exposed to moisture;
- Silts, or materials that have deleterious engineering properties of silt;
- Other materials with properties that are unsuitable for the forming of structural fill;
- Fill that contains wood, metal plastic, boulders or other deleterious material, in sufficient proportions to affect the required performance of the fill.
- The maximum particle size of any rocks or other lumps, within the layer, has not exceeded two-thirds (<sup>2</sup>/<sub>3</sub>) of the compacted layer thickness.

The lots inspected were essentially homogeneous in relation to material type and moisture condition, rolling response and compaction technique and which has been used for the assessment of relative compaction of an area of work (AS3798 Section 1.2.8).

Prior to placement any existing filled ground, for which the conditions of the placement are not adequately documented have not been assumed to have been of either standard compaction or of the composition adequate to support fill or any loads has been removed (AS3798 Section 2).

### 4 Testing

The project was classified as **Residential**, thereby requiring a minimum compaction result of **95%** density ratio Standard Compaction for the **cohesive soils** (AS 1289 5.7.1 & 5.1.1) throughout the Level 1 Fill and in accordance with AS 3798-2007 – Table 5.2. The test was performed using a Nuclear Density Gauge for field density determination *AS* 1289.5.8.1.

As a minimum testing was undertaken either 3 tests per lot, 1 test per 2,500m<sup>2</sup> per layer, or 1 test per 500m<sup>3</sup> throughout the placement of fill as per AS3798 Table 8.1.

The material was site derived Sandy *Clay and imported Gravelly Sandy Clay Fill.* The material was placed in approximately 250 mm loose layers, rolling effort with on-site Compactor (to seal of each layer of placed General Fill material) to a compacted 200 mm layer that achieved 95% Standard Compaction which met Australian Standards specifications. This was considered the best method to achieve compaction using the plant and machinery available.

The NATA compaction reports verify the achievement of the minimum density requirement of 95% Standard Compaction throughout the full depth area, with each layer tested accordingly. All test results were provided to our client: T & J Constructions for inclusion within their internal quality system.

At the completion of the structural layers and material within 150mm of permanent subgrade level in cuttings, test rolling was undertaken and the layers withstood test rolling without visible deformation or springing (AS 3798 Section 5.5).

The area covered by this Level 1 Supervision report is shown in the Site Plan (Refer to Appendix A). The results of the laboratory Testing are indicated in Appendix B.

#### 5 Conclusion

On the completion of the earthworks and after analysing the materials used, it has been concluded that the filling procedure conducted by **our client** T & J Constructions **satisfied** the general requirements of AS 3798 regards to the placement of fill materials on a project under Level 1 Supervision and in accordance with the project specification as provided to AGT.

The fill meets the requirements for "structural fill for residential applications" in accordance with AS3798. The fill has been placed, compacted and tested in accordance with AS3798 and the fill meets the requirements for controlled fill in accordance with AS2870 (2011) "Residential Slabs and Footings".

This report has been prepared for the benefit of our client with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose without our prior review and agreement. No responsibility for this report will be taken by AGT if it is altered in any way, or not reproduced in full.

### 6 Applicability

The findings and conclusions contained in this Report are made based on site conditions that existed at the time this work was conducted. The conclusions presented in this report are relevant to the conditions of the site and the state of legislation currently enacted as at the date of this report.

Findings and conclusions are made assuming that the soil, groundwater, geological and chemical conditions detailed within this report are accurate and remain applicable to the site at the time of writing. The conclusions of this report may become invalid if filling or

excavation occurs after the boreholes and test pits referred to in this report were drilled or excavated. No other warranties are made or intended.

AGT has used a degree of skill and care ordinarily exercised by reputable members of our profession practicing in the same or similar locality.

AGT does not make any representation or warranty that the conclusions in this report will be applicable in the future as there may be changes in the condition of the site, applicable legislation or other factors that would affect the conclusions contained in this report. This report has been prepared exclusively for use by our Client. This report cannot be reproduced without the written authorisation of AGT and then can only be reproduced in its entirety.

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Document No: AGT.REP.310

Appendix A – Site Plan



Appendix B – Laboratory Testing

#### **Project Summary Report**

Report Date:03/09/2021Client:T&J Constructions Pty Ltd<br/>132 Ryans Road, Green Fields SA 5107Project Number:AGT40956Project Location:Miravale Stage 4Project Location:95% Standard AS1289 5.1.1Test Methods:AS 1289 5.1.1 STD & 5.4.1 & 5.8.1 & 2.1.1



Australian Geotechnical Testing Adelaide Laboratory

37 Nicholson Road Evanston South SA 5116 Phone: 0435 111 647

Email: keithv@ausgeotest.com.au

Lot #	Sample #	Date Sampled	Location	Line / Offset	Offset	Elevation (m)	Layer	Relative Compaction (%)	Moisture Variation (%)	Moisture Content (%)	Field Wet Density (t/m3)
**	40956-1	06/07/2021	Allotment Fill - Lot 776 - Locations From SE Corner Of Lots	8m N	6m W	**	Subgrade	99.0	1.5	20.2	1.98
**	40956-2	06/07/2021	Allotment Fill - Lot 778 - Locations From SE Corner Of Lots	3m N	25m W	**	Subgrade	98.0	0.0	20.5	2.00
**	40956-3	06/07/2021	Allotment Fill - Lot 780 - Locations From SE Corner Of Lots	5m N	20m W	**	Subgrade	98.5	-1.0	20.0	2.02
**	40956-4	06/07/2021	Allotment Fill - Lot 718 - Locations From SE Corner Of Lots	12m N	12m W	**	Subgrade	100.5	0.5	14.7	2.08
**	40956-5	06/07/2021	Allotment Fill - Lot 720 - Locations From SE Corner Of Lots	25m N	6m W	**	Subgrade	99.0	-0.5	16.0	2.07
**	40956-6	06/07/2021	Allotment Fill - Lot 722 - Locations From SE Corner Of Lots	18m N	10m W	**	Subgrade	99.5	-0.5	15.2	2.08
**	40956-7	06/07/2021	Allotment Fill - Lot 724 - Locations From SE Corner Of Lots	5m N	4m W	**	Subgrade	102.5	2.0	17.2	2.06
**	40956-8	06/07/2021	Allotment Fill - Lot 777 - Locations From SE Corner Of Lots	5m N	14m W	**	Layer 1	97.0	0.0	14.0	2.04
**	40956-9	06/07/2021	Allotment Fill - Lot 779 - Locations From SE Corner Of Lots	12m N	6m W	**	Layer 1	97.5	0.0	14.7	2.03
**	40956-10	06/07/2021	Allotment Fill - Lot 781 - Locations From SE Corner Of Lots	2m N	24m W	**	Layer 1	97.0	0.0	14.0	2.05
**	40956-11	06/07/2021	Allotment Fill - Lot 719 - Locations From SE Corner Of Lots	6m N	6m W	**	Layer 1	99.5	0.0	14.3	2.04
**	40956-12	06/07/2021	Allotment Fill - Lot 721 - Locations From SE Corner Of Lots	20m N	13m W	**	Layer 1	98.5	0.0	13.8	2.04
**	40956-13	06/07/2021	Allotment Fill - Lot 723 - Locations From SE Corner Of Lots	26m N	10m W	**	Layer 1	98.5	0.0	14.3	2.04
**	40956-14	06/07/2021	Allotment Fill - Lot 725 - Locations From SE Corner Of Lots	12m N	4m W	**	Layer 1	97.5	-0.5	14.0	2.03
**	40956-15	09/07/2021	Allotment Fill - Lot 715 - Locations From NW Corner Of Lots	5m E	3m S	**	Subgrade	95.0	1.5	15.5	1.96
**	40956-16	09/07/2021	Allotment Fill - Lot 712 - Locations From NW Corner Of Lots	2m E	6m S	**	Subgrade	95.0	1.0	16.2	1.98
**	40956-17	09/07/2021	Allotment Fill - Lot 709 - Locations From NW Corner Of Lots	5m E	1m S	**	Subgrade	101.0	1.5	16.0	2.16
**	40956-18	09/07/2021	Allotment Fill - Lot 717 - Locations From NW Corner Of Lots	12m E	7m S	**	Subgrade	98.5	0.5	15.4	2.08
**	40956-19	09/07/2021	Allotment Fill - Lot 710 - Locations From NW Corner Of Lots	8m E	10m S	**	Layer 1	96.0	0.5	17.3	2.03
**	40956-20	09/07/2021	Allotment Fill - Lot 714 - Locations From NW Corner Of Lots	3m E	12m S	**	Layer 1	98.0	1.5	15.8	2.05
**	40956-21	09/07/2021	Allotment Fill - Lot 718 - Locations From NW Corner Of Lots	6m E	6m S	**	Layer 1	98.5	-0.5	15.7	2.06

Lot #	Sample #	Date Sampled	Location	Line / Offset	Offset	Elevation (m)	Layer	Relative Compaction	Moisture Variation (%)	Moisture Content (%)	Field Wet Density (t/m3)
**	40956-22	09/07/2021	Allotment Fill - Lot 711 - Locations From NW Corner Of Lots	13m E	5m S	**	Layer 1	97.0	0.0	15.5	2.06
**	40956-23	29/07/2021	Allotment Fill - Lot 711 - Locations From SE Corner Of Lots	5m W	4m N	**	Layer 2	101.5	0.5	12.8	2.11
**	40956-24	04/08/2021	Allotment Fill - Lot 717 - Locations From SE Corner Of Lots	2m N	6m W	**	Layer 2	97.0	0.0	9.4	2.16
**	40956-25	04/08/2021	Allotment Fill - Lot 713 - Locations From SE Corner Of Lots	6m N	8m W	**	Layer 2	98.0	1.5	8.3	2.16
**	40956-26	04/08/2021	Allotment Fill - Lot 709 - Locations From SE Corner Of Lots	12m N	5m W	**	Layer 2	97.5	0.5	9.3	2.18
**	40956-27	09/08/2021	Allotment Fill - Lot 725 - Locations From SE Corner Of Lots	2m N	11m W	**	Layer 2	98.5	0.5	12.7	2.22
**	40956-28	09/08/2021	Allotment Fill - Lot 722 - Locations From SE Corner Of Lots	6m N	9m W	**	Layer 2	99.0	-0.5	13.6	2.27
**	40956-29	09/08/2021	Allotment Fill - Lot 719 - Locations From SE Corner Of Lots	10m N	6m W	**	Layer 2	98.0	1.0	12.6	2.21
**	40956-30	09/08/2021	Allotment Fill - Lot 724 - Locations From SE Corner Of Lots	12m N	6m W	**	Layer 3	98.5	0.5	13.0	2.21
**	40956-31	09/08/2021	Allotment Fill - Lot 721 - Locations From SE Corner Of Lots	3m N	8m W	**	Layer 3	98.5	0.0	13.0	2.21
**	40956-32	09/08/2021	Allotment Fill - Lot 718 - Locations From SE Corner Of Lots	5m N	5m W	**	Layer 3	98.5	0.5	12.8	2.20
**	40956-33	09/08/2021	Allotment Fill - Lot 777 - Locations From SE Corner Of Lots	13m N	8m W	**	Layer 2	102.0	-0.5	11.7	2.37
**	40956-34	09/08/2021	Allotment Fill - Lot 780 - Locations From SE Corner Of Lots	2m N	7w W	**	Layer 2	102.0	-2.0	13.2	2.39
**	40956-35	12/08/2021	Allotment Fill - Lot 781 - Locations From SE Corner Of Lots	3m N	8m W	**	Layer 3	100.0	0.5	9.9	2.13
**	40956-36	12/08/2021	Allotment Fill - Lot 776 - Locations From SE Corner Of Lots	10m N	6m W	**	Layer 3	98.5	0.5	11.0	2.10
**	40956-37	12/08/2021	Allotment Fill - Lot 710 - Locations From SE Corner Of Lots	11m N	2m W	**	Layer 3	99.5	1.5	10.5	2.10
**	40956-38	12/08/2021	Allotment Fill - Lot 714 - Locations From SE Corner Of Lots	5m N	12m W	**	Layer 3	99.0	0.5	11.1	2.12
**	40956-39	12/08/2021	Allotment Fill - Lot 721 - Locations From SE Corner Of Lots	3m N	6m W	**	Layer 4	101.5	2.0	10.0	2.22
**	40956-40	12/08/2021	Allotment Fill - Lot 718 - Locations From SE Corner Of Lots	11m N	6m W	**	Layer 4	99.5	1.5	10.1	2.14
**	40956-41	12/08/2021	Allotment Fill - Lot 709 - Locations From SE Corner Of Lots	6m N	3m W	**	Layer 4	102.0	1.0	10.2	2.18
**	40956-42	12/08/2021	Allotment Fill - Lot 715 - Locations From SE Corner Of Lots	3m N	2m W	**	Layer 4	99.5	0.5	10.7	2.16

Moisture Variation Note:

Positive values = test is dry of OMC

### **Project Summary Report**

 
 Report Date:
 03/09/2021

 Client:
 T&J Constructions Pty Ltd 132 Ryans Road, Green Fields SA 5107

 Project Number:
 AGT40956

 Project Location:
 Miravale Stage 4



Australian Geotechnical Testing Adelaide Laboratory 37 Nicholson Road Evanston South SA 5116 Phone: 0435 111 647 Email: keithv@ausgeotest.com.au

Moisture Variation Note:

Positive values = test is dry of OMC Negative values = test is wet of OMC

Report Number:	AGT40956-1
Issue Number:	1
Date Issued:	25/08/2021
Client:	T&J Constructions Pty Ltd
	132 Ryans Road, Green Fields SA 5107
Project Number:	AGT40956
Project Name:	Miravale Stage 4
Work Request:	3916
Date Sampled:	06/07/2021
Dates Tested:	07/07/2021 - 09/07/2021
Sampling Method:	AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification:	95% Standard AS1289 5.1.1
Site Selection:	Selected by Client



Australian Geotechnical Testing Adelaide Laboratory 37 Nicholson Road Evanston South SA 5116 Phone: 0435 111 647 Email: LokyM@ausgeotest.com.au Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Loky Maynard Laboratory Manager NATA Accredited Laboratory Number: 20247

NATA

WORLD RECOGNISED

Compaction Control AS 1289 5.1.1 & 5.4	4.1 & 5.8.1 & 2.1.1					
Sample Number	40956-1	40956-2	40956-3	40956-4	40956-5	40956-6
Date Tested	06/07/2021	06/07/2021	06/07/2021	06/07/2021	06/07/2021	06/07/2021
Time Tested	07:00	07:10	07:20	07:30	07:40	07:50
Test Request #/Location	Allotment Fill - Lot 776 - Locations From SE Corner Of Lots	Allotment Fill - Lot 778 - Locations From SE Corner Of Lots	Allotment Fill - Lot 780 - Locations From SE Corner Of Lots	Allotment Fill - Lot 718 - Locations From SE Corner Of Lots	Allotment Fill - Lot 720 - Locations From SE Corner Of Lots	Allotment Fill - Lot 722 - Locations From SE Corner Of Lots
Line / Offset	8m N	3m N	5m N	12m N	25m N	18m N
Offset	6m W	25m W	20m W	12m W	6m W	10m W
Layer / Reduced Level	Subgrade	Subgrade	Subgrade	Subgrade	Subgrade	Subgrade
Thickness of Layer (mm)	200	200	200	200	200	200
Soil Description	Sandy Clay					
Test Depth (mm)	150	150	150	150	150	150
Fraction Tested (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Oversize (wet basis) %	**	**	**	**	**	**
Oversize (dry basis) %	**	**	**	**	**	**
Curing Hours	48.0	24.0	48.0	48.0	48.0	48.0
Method used to Determine Plasticity	Visual/tactile	Visual/tactile	Visual/tactile	Visual/tactile	Visual/tactile	Visual/tactile
Field Wet Density t/m <sup>3</sup>	1.98	2.00	2.02	2.08	2.07	2.08
Field Moisture Content %	20.2	20.5	20.0	14.7	16.0	15.2
Field Dry Density t/m <sup>3</sup>	1.65	1.66	1.68	1.81	1.78	1.80
Maximum Dry Density t/m <sup>3</sup>	1.67	1.69	1.71	1.80	1.80	1.82
Adjusted Maximum Dry Density t/m <sup>3</sup>	**	**	**	**	**	**
Optimum Moisture Content (OMC) %	21.5	20.5	19.0	15.0	16.0	15.0
Adjusted Optimum Moisture Content (OMC) %	**	**	**	**	**	**
Moisture Variation %	1.5	0.0	-1.0	0.5	-0.5	-0.5
Moisture Ratio %	94.0	101.0	104.5	96.5	101.5	102.0
Density Ratio %	99.0	98.0	98.5	100.5	99.0	99.5
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard

Moisture Variation Note:

Positive values = test is dry of OMC

Report Number:	AGT40956-2
Issue Number:	1
Date Issued:	26/08/2021
Client:	T&J Constructions Pty Ltd
	132 Ryans Road, Green Fields SA 5107
Project Number:	AGT40956
Project Name:	Miravale Stage 4
Work Request:	3917
Date Sampled:	06/07/2021
Dates Tested:	07/07/2021 - 09/07/2021
Sampling Method:	AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification:	95% Standard AS1289 5.1.1
Site Selection:	Selected by Client



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Approved Signatory: Loky Maynard Laboratory Manager NATA Accredited Laboratory Number: 20247

Compaction Control AS 1289 5.1.1 & 5.4	4.1 & 5.8.1 & 2.1.1
Sample Number	40956-

Sample Number	40956-7	
Date Tested	06/07/2021	
Time Tested	08:00	
Test Request #/Location	Allotment Fill - Lot 724 - Locations From SE Corner Of Lots	
Line / Offset	5m N	
Offset	4m W	
Layer / Reduced Level	Subgrade	
Thickness of Layer (mm)	200	
Soil Description	Sandy Clay	
Test Depth (mm)	150	
Fraction Tested (mm)	19.0	
Oversize (wet basis) %	**	
Oversize (dry basis) %	**	
Curing Hours	48.0	
Method used to Determine Plasticity	Visual/tactile	
Field Wet Density t/m <sup>3</sup>	2.06	
Field Moisture Content %	17.2	
Field Dry Density t/m <sup>3</sup>	1.76	
Maximum Dry Density t/m <sup>3</sup>	1.72	
Adjusted Maximum Dry Density t/m <sup>3</sup>	**	
Optimum Moisture Content (OMC) %	19.5	
Adjusted Optimum Moisture Content (OMC) %	**	
Moisture Variation %	2.0	
Moisture Ratio %	88.5	
Density Ratio %	102.5	
Compaction Method	Standard	

Moisture Variation Note:

Positive values = test is dry of OMC

AGT40956-3
1
27/08/2021
T&J Constructions Pty Ltd
132 Ryans Road, Green Fields SA 5107
AGT40956
Miravale Stage 4
3933
06/07/2021
08/07/2021 - 20/07/2021
AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
95% Standard AS1289 5.1.1
Selected by Client



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Approved Signa

NATA

Approved Signatory: Loky Maynard Laboratory Manager NATA Accredited Laboratory Number: 20247

Compaction Control AS 1289 5.1.1 & 5.	4.1 & 5.8.1 & 2.1.1					
Sample Number	40956-8	40956-9	40956-10	40956-11	40956-12	40956-13
Date Tested	06/07/2021	06/07/2021	06/07/2021	06/07/2021	06/07/2021	06/07/2021
Time Tested	14:00	14:10	14:20	14:30	14:40	14:50
Test Request #/Location	Allotment Fill - Lot 777 - Locations From SE Corner Of Lots	Allotment Fill - Lot 779 - Locations From SE Corner Of Lots	Allotment Fill - Lot 781 - Locations From SE Corner Of Lots	Allotment Fill - Lot 719 - Locations From SE Corner Of Lots	Allotment Fill - Lot 721 - Locations From SE Corner Of Lots	Allotment Fill - Lot 723 - Locations From SE Corner Of Lots
Line / Offset	5m N	12m N	2m N	6m N	20m N	26m N
Offset	14m W	6m W	24m W	6m W	13m W	10m W
Layer / Reduced Level	Layer 1					
Thickness of Layer (mm)	200	200	200	200	200	200
Soil Description	Sandy Clay					
Test Depth (mm)	150	150	150	150	150	150
Fraction Tested (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Oversize (wet basis) %	**	**	**	**	**	**
Oversize (dry basis) %	**	**	**	**	**	**
Curing Hours	26.5	26.0	26.0	26.0	26.0	26.0
Method used to Determine Plasticity	Visual/tactile	Visual/tactile	Visual/tactile	Visual/tactile	Visual/tactile	Visual/tactile
Field Wet Density t/m <sup>3</sup>	2.04	2.03	2.05	2.04	2.04	2.04
Field Moisture Content %	14.0	14.7	14.0	14.3	13.8	14.3
Field Dry Density t/m <sup>3</sup>	1.79	1.77	1.80	1.78	1.79	1.78
Maximum Dry Density t/m <sup>3</sup>	1.84	1.82	1.86	1.80	1.81	1.82
Adjusted Maximum Dry Density t/m <sup>3</sup>	**	**	**	**	**	**
Optimum Moisture Content (OMC) %	14.0	15.0	14.0	14.5	13.5	14.5
Adjusted Optimum Moisture Content (OMC) %	**	**	**	**	**	**
Moisture Variation %	0.0	0.0	0.0	0.0	0.0	0.0
Moisture Ratio %	99.5	99.0	100.5	99.0	101.5	99.0
Density Ratio %	97.0	97.5	97.0	99.5	98.5	98.5
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard
Noisture Variation Note:						

Positive values = test is dry of OMC

Report Number:	AGT40956-4
Issue Number:	1
Date Issued:	27/08/2021
Client:	T&J Constructions Pty Ltd
	132 Ryans Road, Green Fields SA 5107
Project Number:	AGT40956
Project Name:	Miravale Stage 4
Work Request:	3934
Date Sampled:	06/07/2021
Dates Tested:	08/07/2021 - 26/07/2021
Sampling Method:	AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification:	95% Standard AS1289 5.1.1
Site Selection:	Selected by Client



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Approved Signatory: Loky Maynard Laboratory Manager NATA Accredited Laboratory Number: 20247

Compaction Control AS 1289 5.1.1 & 5.4	4.1 & 5.8.1 & 2.1.1
Sample Number	40956-1

Sample Number	40956-14	
Date Tested	06/07/2021	
Time Tested	15:00	
Test Request #/Location	Allotment Fill - Lot 725 - Locations From SE Corner Of Lots	
Line / Offset	12m N	
Offset	4m W	
Layer / Reduced Level	Layer 1	
Thickness of Layer (mm)	200	
Soil Description	Sandy Clay	
Test Depth (mm)	150	
Fraction Tested (mm)	19.0	
Oversize (wet basis) %	**	
Oversize (dry basis) %	**	
Curing Hours	70.0	
Method used to Determine Plasticity	Visual/tactile	
Field Wet Density t/m <sup>3</sup>	2.03	
Field Moisture Content %	14.0	
Field Dry Density t/m <sup>3</sup>	1.78	
Maximum Dry Density t/m <sup>3</sup>	1.83	
Adjusted Maximum Dry Density t/m <sup>3</sup>	**	
Optimum Moisture Content (OMC) %	13.5	
Adjusted Optimum Moisture Content (OMC) %	**	
Moisture Variation %	-0.5	
Moisture Ratio %	102.0	
Density Ratio %	97.5	
Compaction Method	Standard	

Moisture Variation Note:

Positive values = test is dry of OMC

Report Number:	AGT40956-5
Issue Number:	1
Date Issued:	27/08/2021
Client:	T&J Constructions Pty Ltd
	132 Ryans Road, Green Fields SA 5107
Project Number:	AGT40956
Project Name:	Miravale Stage 4
Work Request:	3947
Date Sampled:	09/07/2021
Dates Tested:	09/07/2021 - 21/07/2021
Sampling Method:	AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification:	95% Standard AS1289 5.1.1



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Approved Signatory: Loky Maynard Laboratory Manager NATA Accredited Laboratory Number: 20247

Compaction Control AS 1289 5.1.1 & 5.	4.1 & 5.8.1 & 2.1.1					
Sample Number	40956-15	40956-16	40956-17	40956-18	40956-19	40956-20
Date Tested	09/07/2021	09/07/2021	09/07/2021	09/07/2021	09/07/2021	09/07/2021
Time Tested	02:00	02:09	02:16	02:23	02:33	02:39
Test Request #/Location	Allotment Fill - Lot 715 - Locations From NW Corner Of Lots	Allotment Fill - Lot 712 - Locations From NW Corner Of Lots	Allotment Fill - Lot 709 - Locations From NW Corner Of Lots	Allotment Fill - Lot 717 - Locations From NW Corner Of Lots	Allotment Fill - Lot 710 - Locations From NW Corner Of Lots	Allotment Fill - Lot 714 - Locations From NW Corner Of Lots
Line / Offset	5m E	2m E	5m E	12m E	8m E	3m E
Offset	3m S	6m S	1m S	7m S	10m S	12m S
Layer / Reduced Level	Subgrade	Subgrade	Subgrade	Subgrade	Layer 1	Layer 1
Thickness of Layer (mm)	200	200	200	200	200	200
Soil Description	Sandy Clay					
Test Depth (mm)	150	150	150	150	150	150
Fraction Tested (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Oversize (wet basis) %	**	**	**	**	**	**
Oversize (dry basis) %	**	**	**	**	**	**
Curing Hours	24.0	24.0	24.0	24.0	24.0	24.0
Method used to Determine Plasticity	Visual/tactile	Visual/tactile	Visual/tactile	Visual/tactile	Visual/tactile	Visual/tactile
Field Wet Density t/m <sup>3</sup>	1.96	1.98	2.16	2.08	2.03	2.05
Field Moisture Content %	15.5	16.2	16.0	15.4	17.3	15.8
Field Dry Density t/m <sup>3</sup>	1.70	1.70	1.86	1.80	1.73	1.77
Maximum Dry Density t/m <sup>3</sup>	1.79	1.79	1.84	1.83	1.80	1.81
Adjusted Maximum Dry Density t/m <sup>3</sup>	**	**	**	**	**	**
Optimum Moisture Content (OMC) %	17.0	17.0	17.5	16.0	18.0	17.5
Adjusted Optimum Moisture Content (OMC) %	**	**	**	**	**	**
Moisture Variation %	1.5	1.0	1.5	0.5	0.5	1.5
Moisture Ratio %	92.5	94.5	92.0	96.5	97.0	91.0
Density Ratio %	95.0	95.0	101.0	98.5	96.0	98.0
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard

#### Moisture Variation Note:

Positive values = test is dry of OMC

Report Number:	AGT40956-6
Issue Number:	1
Date Issued:	27/08/2021
Client:	T&J Constructions Pty Ltd
	132 Ryans Road, Green Fields SA 5107
Project Number:	AGT40956
Project Name:	Miravale Stage 4
Work Request:	3948
Date Sampled:	09/07/2021
Dates Tested:	09/07/2021 - 17/07/2021
Sampling Method:	AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification:	95% Standard AS1289 5.1.1
Site Selection:	Selected by Client
Location:	Angle Vale



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Approved Signatory: Loky Maynard Laboratory Manager NATA Accredited Laboratory Number: 20247

## Compaction Control AS 1289 5.1.1 & 5.4.1 & 5.8.1 & 2.1.1

Sample Number	40956-21	40956-22	
Date Tested	09/07/2021	09/07/2021	
Time Tested	02:46	02:59	
Test Request #/Location	Allotment Fill - Lot 718 - Locations From NW Corner Of Lots	Allotment Fill - Lot 711 - Locations From NW Corner Of Lots	
Line / Offset	6m E	13m E	
Offset	6m S	5m S	
Layer / Reduced Level	Layer 1	Layer 1	
Thickness of Layer (mm)	200	200	
Soil Description	Sandy Clay	Sandy Clay	
Test Depth (mm)	150	150	
Fraction Tested (mm)	19.0	19.0	
Oversize (wet basis) %	**	**	
Oversize (dry basis) %	**	**	
Curing Hours	23.3	25.0	
Method used to Determine Plasticity	Visual/tactile	Visual/tactile	
Field Wet Density t/m <sup>3</sup>	2.06	2.06	
Field Moisture Content %	15.7	15.5	
Field Dry Density t/m <sup>3</sup>	1.78	1.78	
Maximum Dry Density t/m <sup>3</sup>	1.81	1.83	
Adjusted Maximum Dry Density t/m <sup>3</sup>	**	**	
Optimum Moisture Content (OMC) %	15.0	15.5	
Adjusted Optimum Moisture Content (OMC) %	**	**	
Moisture Variation %	-0.5	0.0	
Moisture Ratio %	103.5	100.5	
Density Ratio %	98.5	97.0	
Compaction Method	Standard	Standard	

Moisture Variation Note:

Positive values = test is dry of OMC

Report Number:	AGT40956-7
Issue Number:	1
Date Issued:	27/08/2021
Client:	T&J Constructions Pty Ltd
	132 Ryans Road, Green Fields SA 5107
Project Number:	AGT40956
Project Name:	Miravale Stage 4
Work Request:	4049
Dates Tested:	30/07/2021 - 30/07/2021
Sampling Method:	AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification:	98% Standard AS1289 5.1.1
Site Selection:	Selected by Client

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Approved Signatory: Loky Maynard Laboratory Manager NATA Accredited Laboratory Number: 20247

## Compaction Control AS 1289 5.1.1 & 5.4.1 & 5.8.1 & 2.1.1

Sample Number	40956-23	
Date Tested	29/07/2021	
Time Tested	01:30	
Test Request #/Location	Allotment Fill - Lot 711 - Locations From SE Corner Of Lots	
Line / Offset	5m W	
Offset	4m N	
Layer / Reduced Level	Layer 2	
Thickness of Layer (mm)	200	
Soil Description	Sandy Clay	
Test Depth (mm)	150	
Fraction Tested (mm)	19.0	
Oversize (wet basis) %	**	
Oversize (dry basis) %	**	
Curing Hours	20.5	
Method used to Determine Plasticity	Visual/tactile	
Field Wet Density t/m <sup>3</sup>	2.11	
Field Moisture Content %	12.8	
Field Dry Density t/m <sup>3</sup>	1.87	
Maximum Dry Density t/m <sup>3</sup>	1.84	
Adjusted Maximum Dry Density t/m <sup>3</sup>	**	
Optimum Moisture Content (OMC) %	13.5	
Adjusted Optimum Moisture Content (OMC) %	**	
Moisture Variation %	0.5	
Moisture Ratio %	96.0	
Density Ratio %	101.5	
Compaction Method	Standard	

Moisture Variation Note:

Positive values = test is dry of OMC

Report Number:	AGT40956-8
ssue Number:	1
Date Issued:	27/08/2021
Client:	T&J Constructions Pty Ltd
	132 Ryans Road, Green Fields SA 5107
Project Number:	AGT40956
Project Name:	Miravale Stage 4
Work Request:	4087
Date Sampled:	04/08/2021
Dates Tested:	04/08/2021 - 05/08/2021
Sampling Method:	AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification:	95% Standard AS1289 5.1.1
Site Selection:	Selected by Client



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#### Laboratory Manager NATA Accredited Laboratory Number: 20247

Compaction Control AS 1289 5.1.1 & 5.	4.1 & 5.8.1 & 2.1.1		
Sample Number	40956-24 40956-25		40956-26
Date Tested	04/08/2021	04/08/2021	04/08/2021
Time Tested	10:19	10:26	10:33
Test Request #/Location	Allotment Fill - Lot 717 - Locations From SE Corner Of Lots	Allotment Fill - Lot 713 - Locations From SE Corner Of Lots	Allotment Fill - Lot 709 - Locations From SE Corner Of Lots
Line / Offset	2m N	6m N	12m N
Offset	6m W	8m W	5m W
Layer / Reduced Level	Layer 2	Layer 2	Layer 2
Thickness of Layer (mm)	200	200	200
Soil Description	Gravelly Sandy Clay	Gravelly Sandy Clay	Gravelly Sandy Clay
Test Depth (mm)	150	150	150
Fraction Tested (mm)	19.0	19.0	19.0
Oversize (wet basis) %	**	**	**
Oversize (dry basis) %	**	**	**
Curing Hours	24.0	24.0	24.0
Method used to Determine Plasticity	Visual/tactile	Visual/tactile	Visual/tactile
Field Wet Density t/m <sup>3</sup>	2.16	2.16	2.18
Field Moisture Content %	9.4	8.3	9.3
Field Dry Density t/m <sup>3</sup>	1.98	2.00	1.99
Maximum Dry Density t/m <sup>3</sup>	2.04	2.04	2.04
Adjusted Maximum Dry Density t/m <sup>3</sup>	**	**	**
Optimum Moisture Content (OMC) %	9.5	10.0	10.0
Adjusted Optimum Moisture Content (OMC) %	**	**	**
Moisture Variation %	0.0	1.5	0.5
Moisture Ratio %	98.0	83.5	95.0
Density Ratio %	97.0	98.0	97.5
Compaction Method	Standard	Standard	Standard

Moisture Variation Note:

Positive values = test is dry of OMC

Report Number:	AGT40956-9
Issue Number:	1
Date Issued:	27/08/2021
Client:	T&J Constructions Pty Ltd
	132 Ryans Road, Green Fields SA 5107
Project Number:	AGT40956
Project Name:	Miravale Stage 4
Work Request:	4127
Date Sampled:	09/08/2021
Dates Tested:	10/08/2021 - 11/08/2021
Sampling Method:	AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification:	95% Standard AS1289 5.1.1
Site Selection:	Selected by Client



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Compaction Control AS 1289 5.1.1 & 5.	4.1 & 5.8.1 & 2.1.1					
Sample Number	40956-27	40956-28	40956-29	40956-30	40956-31	40956-32
Date Tested	09/08/2021	09/08/2021	09/08/2021	09/08/2021	09/08/2021	09/08/2021
Time Tested	10:30	10:35	10:44	10:52	10:59	11:06
Test Request #/Location	Allotment Fill - Lot 725 - Locations From SE Corner Of Lots	Allotment Fill - Lot 722 - Locations From SE Corner Of Lots	Allotment Fill - Lot 719 - Locations From SE Corner Of Lots	Allotment Fill - Lot 724 - Locations From SE Corner Of Lots	Allotment Fill - Lot 721 - Locations From SE Corner Of Lots	Allotment Fill - Lot 718 - Locations From SE Corner Of Lots
Line / Offset	2m N	6m N	10m N	12m N	3m N	5m N
Offset	11m W	9m W	6m W	6m W	8m W	5m W
Layer / Reduced Level	Layer 2	Layer 2	Layer 2	Layer 3	Layer 3	Layer 3
Thickness of Layer (mm)	200	200	200	200	200	200
Soil Description	Clayey Sandy Gravel					
Test Depth (mm)	150	150	150	150	150	150
Fraction Tested (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Oversize (wet basis) %	**	**	**	**	**	**
Oversize (dry basis) %	**	**	**	**	**	**
Curing Hours	48.0	24.0	24.0	24.0	24.0	24.0
Method used to Determine Plasticity	Visual/tactile	Visual/tactile	Visual/tactile	Visual/tactile	Visual/tactile	Visual/tactile
Field Wet Density t/m <sup>3</sup>	2.22	2.27	2.21	2.21	2.21	2.20
Field Moisture Content %	12.7	13.6	12.6	13.0	13.0	12.8
Field Dry Density t/m <sup>3</sup>	1.96	2.00	1.96	1.96	1.95	1.95
Maximum Dry Density t/m <sup>3</sup>	1.99	2.02	2.00	1.98	1.98	1.98
Adjusted Maximum Dry Density t/m <sup>3</sup>	**	**	**	**	**	**
Optimum Moisture Content (OMC) %	13.5	13.0	13.5	13.0	13.0	13.0
Adjusted Optimum Moisture Content (OMC) %	**	**	**	**	**	**
Moisture Variation %	0.5	-0.5	1.0	0.5	0.0	0.5
Moisture Ratio %	96.0	104.5	94.0	98.0	100.0	97.0
Density Ratio %	98.5	99.0	98.0	98.5	98.5	98.5
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard

Moisture Variation Note:

Positive values = test is dry of OMC

Report Number:	AGT40956-10
Issue Number:	1
Date Issued:	27/08/2021
Client:	T&J Constructions Pty Ltd
	132 Ryans Road, Green Fields SA 5107
Project Number:	AGT40956
Project Name:	Miravale Stage 4
Work Request:	4128
Date Sampled:	09/08/2021
Dates Tested:	10/08/2021 - 11/08/2021
Sampling Method:	AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification:	95% Standard AS1289 5.1.1
Site Selection:	Selected by Client



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Approved Signatory: Loky Maynard Laboratory Manager NATA Accredited Laboratory Number: 20247

Compaction Control AS 1289 5.1.1 & 5.4	4.1 & 5.8.1 & 2.1.1
Sample Number	40956-

Sample Number	40956-33	40956-34	
Date Tested	09/08/2021	09/08/2021	
Time Tested	11:10	11:19	
Test Request #/Location	Allotment Fill - Lot 777 - Locations From SE Corner Of Lots	Allotment Fill - Lot 780 - Locations From SE Corner Of Lots	
Line / Offset	13m N	2m N	
Offset	8m W	7w W	
Layer / Reduced Level	Layer 2	Layer 2	
Thickness of Layer (mm)	200	200	
Soil Description	Gravelly Sandy Clay	Gravelly Sandy Clay	
Test Depth (mm)	150	150	
Fraction Tested (mm)	19.0	19.0	
Oversize (wet basis) %	16	18	
Oversize (dry basis) %	15	18	
Curing Hours	22.5	22.5	
Method used to Determine Plasticity	Visual/tactile	Visual/tactile	
Field Wet Density t/m <sup>3</sup>	2.37	2.39	
Field Moisture Content %	11.7	13.2	
Field Dry Density t/m <sup>3</sup>	2.12	2.11	
Maximum Dry Density t/m <sup>3</sup>	**	**	
Adjusted Maximum Dry Density t/m <sup>3</sup>	2.08	2.07	
Optimum Moisture Content (OMC) %	**	**	
Adjusted Optimum Moisture Content (OMC) %	11.0	11.0	
Moisture Variation %	-0.5	-2.0	
Moisture Ratio %	104.0	117.5	
Density Ratio %	102.0	102.0	
Compaction Method	Standard	Standard	

Moisture Variation Note:

Positive values = test is dry of OMC

AGT40956-11
1
27/08/2021
T&J Constructions Pty Ltd
132 Ryans Road, Green Fields SA 5107
AGT40956
Miravale Stage 4
4157
12/08/2021
12/08/2021 - 23/08/2021
AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
95% Standard AS1289 5.1.1
Selected by Client



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Approved Signatory: Loky Maynard Laboratory Manager NATA Accredited Laboratory Number: 20247

Compaction Control AS 1289 5.1.1 & 5.4.1 & 5.8.1 & 2.1.1				
Sample Number	40956-35	40956-36	40956-37	40956-38
Date Tested	12/08/2021	12/08/2021	12/08/2021	12/08/2021
Time Tested	11:00	11:11	11:19	11:26
Test Request #/Location	Allotment Fill - Lot 781 - Locations From SE Corner Of Lots	Allotment Fill - Lot 776 - Locations From SE Corner Of Lots	Allotment Fill - Lot 710 - Locations From SE Corner Of Lots	Allotment Fill - Lot 714 - Locations From SE Corner Of Lots
Line / Offset	3m N	10m N	11m N	5m N
Offset	8m W	6m W	2m W	12m W
Layer / Reduced Level	Layer 3	Layer 3	Layer 3	Layer 3
Thickness of Layer (mm)	200	200	200	200
Soil Description	Clayey Sandy Gravel	Clayey Sandy Gravel	Clayey Sandy Gravel	Clayey Sandy Gravel
Test Depth (mm)	150	150	150	150
Fraction Tested (mm)	19.0	19.0	19.0	19.0
Oversize (wet basis) %	**	**	**	**
Oversize (dry basis) %	**	**	**	**
Curing Hours	48.0	48.0	48.0	48.0
Method used to Determine Plasticity	Visual/tactile	Visual/tactile	Visual/tactile	Visual/tactile
Field Wet Density t/m <sup>3</sup>	2.13	2.10	2.10	2.12
Field Moisture Content %	9.9	11.0	10.5	11.1
Field Dry Density t/m <sup>3</sup>	1.94	1.90	1.90	1.91
Maximum Dry Density t/m <sup>3</sup>	1.94	1.92	1.91	1.93
Adjusted Maximum Dry Density t/m <sup>3</sup>	**	**	**	**
Optimum Moisture Content (OMC) %	10.5	11.5	12.0	11.5
Adjusted Optimum Moisture Content (OMC) %	**	**	**	**
Moisture Variation %	0.5	0.5	1.5	0.5
Moisture Ratio %	93.5	94.5	86.0	96.5
Density Ratio %	100.0	98.5	99.5	99.0
Compaction Method	Standard	Standard	Standard	Standard

Moisture Variation Note:

Positive values = test is dry of OMC

Report Number:	AGT40956-12
Issue Number:	1
Date Issued:	27/08/2021
Client:	T&J Constructions Pty Ltd
	132 Ryans Road, Green Fields SA 5107
Project Number:	AGT40956
Project Name:	Miravale Stage 4
Work Request:	4158
Date Sampled:	12/08/2021
Dates Tested:	12/08/2021 - 24/08/2021
Sampling Method:	AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification:	98% Standard AS1289 5.1.1
Site Selection:	Selected by Client



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Compaction Control AS 1289 5.1.1 & 5.4.1 & 5.8.1 & 2.1.1				
Sample Number	40956-39	40956-40	40956-41	40956-42
Date Tested	12/08/2021	12/08/2021	12/08/2021	12/08/2021
Time Tested	14:00	14:16	14:21	14:30
Test Request #/Location	Allotment Fill - Lot 721 - Locations From SE Corner Of Lots	Allotment Fill - Lot 718 - Locations From SE Corner Of Lots	Allotment Fill - Lot 709 - Locations From SE Corner Of Lots	Allotment Fill - Lot 715 - Locations From SE Corner Of Lots
Easting	3m N	11m N	6m N	3m N
Northing	6m W	6m W	3m W	2m W
Layer / Reduced Level	Layer 4	Layer 4	Layer 4	Layer 4
Thickness of Layer (mm)	200	200	200	200
Soil Description	Gravelly Sandy Clay	Gravelly Sandy Clay	Gravelly Sandy Clay	Gravelly Sandy Clay
Test Depth (mm)	150	150	150	150
Fraction Tested (mm)	19.0	19.0	19.0	19.0
Oversize (wet basis) %	**	**	**	**
Oversize (dry basis) %	**	**	**	**
Curing Hours	48.0	48.0	48.0	24.0
Method used to Determine Plasticity	Visual/tactile	Visual/tactile	Visual/tactile	Visual/tactile
Field Wet Density t/m <sup>3</sup>	2.22	2.14	2.18	2.16
Field Moisture Content %	10.0	10.1	10.2	10.7
Field Dry Density t/m <sup>3</sup>	2.02	1.94	1.98	1.95
Maximum Dry Density t/m <sup>3</sup>	1.99	1.95	1.94	1.96
Adjusted Maximum Dry Density t/m <sup>3</sup>	**	**	**	**
Optimum Moisture Content (OMC) %	12.5	11.5	11.0	11.0
Adjusted Optimum Moisture Content (OMC) %	**	**	**	**
Moisture Variation %	2.0	1.5	1.0	0.5
Moisture Ratio %	82.0	87.0	91.5	97.0
Density Ratio %	101.5	99.5	102.0	99.5
Compaction Method	Standard	Standard	Standard	Standard

**Moisture Variation Note:** 

Positive values = test is dry of OMC