

178-182 Murphy Street
East Bendigo

Earthworks Supervision Report for
DPJ Civil Pty Ltd

Report 23C 0449
July 2023

178-182 Murphy Street

East Bendigo

Earthworks Supervision Report

for
 DPJ Civil Pty Ltd

Revision

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1 INTRODUCTION

DPJ Civil Pty Ltd commissioned Geotechnical Testing Services (GTS) to undertake Level 1 Supervision and testing (AS3798-2007) for the earthworks at the industrial subdivision located at 178-182 Murphy Street, East Bendigo.

Level 1 Testing was generally performed in line with AS3798-2007 "Guidelines on Earthworks for Commercial and Residential Development" and provides inspection of the construction of controlled fill and compaction testing in accordance with AS1289 "Methods of Testing Soils for Engineering Purposes". The Level 1 testing was undertaken by Geotechnicians with supervision provided by a Geotechnical Engineer from GTS.

2 SCOPE OF WORKS

2.1 AREA OF WORK

Geotechnical Testing Services provided Level 1 inspection and testing of the engineered fill placed for Lots 1 to 12, and Lots 17 to 18.

The depth of fill across the site varied from none to around 1500mm with the approximate locations shown on the attached site plan. It is noted that sites with less than 300mm were not included in the controlled fill.

2.2 PLACEMENT SPECIFICATION

Whilst there was no earthworks specification compiled for this project, the placement of the fill and associated works generally followed the recommendations outlined in AS3798-2007 "Guidelines for Earthworks for Commercial and Residential Developments" and the construction specification.

In summary, the earthworks comply with the following:

- The layers for commercial lots are to be compacted to at least 98% of the density ratio in accordance with AS1289 5.1.1 (or 5.7.1), based on Standard compaction.

In accordance with Table 8.1 of AS3798-2007, the filling may be considered a large scale (greater than 1500m²) and therefore a minimum of 1 test per layer per material type per 2500m² or 1 test per 500m³ is required. It is noted that under this scale not every lot needs to be tested. However, the testing conducted was generally conducted at 1 test per commercial lot per layer, with the conducted testing satisfying the minimum requirement for these operations.

3 INSPECTION AND TESTING

Inspection of the excavated bases were conducted by a Senior Geotechnical Engineer and it was observed that the unsuitable material (vegetation, topsoil/silt) had been removed with the base generally consisting of a (gravelly) silty clay material of suitable strength.

Level 1 inspection and testing was undertaken by a geotechnician from GTS who nominated the timing and location of the in-situ density tests. The approximate location of each test is recorded on the test reports and attached fill plan.

Laboratory compaction testing was undertaken on a one-to-one basis at our Bendigo laboratory. A summary of the results of the compaction control testing is presented in a table below with the full NATA endorsed test reports included in the Appendix.

4 SUMMARY OF TEST RESULTS

A summary of the test results is included in the following table with full NATA accredited reports included in the Appendix.

| Project No. | Sample No. | Test Date | Location | Reduced Level (mm) | Moisture Variation %O.M.C | Hilf Density Ratio % |
|-------------|------------|------------|----------|--------------------|---------------------------|----------------------|
| 1 | B20-5738A | 23/01/2020 | Lot 3 | -600 | 1.5 Dry | 106.0 |
| 2 | B20-5742A | 24/01/2020 | Lot 3 | -300 | 0.0 | 100.5 |
| 3 | B20-5751A | 28/01/2020 | Lot 4 | -900 | 1.0 Dry | 110.5 |
| 4 | B20-5785A | 29/01/2020 | Lot 4 | -600 | 1.0 Wet | 99.0 |
| 5 | B20-5785B | 29/01/2020 | Lot 3 | FSL | 0.5 Wet | 102.0 |
| 6 | B20-5801A | 30/01/2020 | Lot 4 | -300 | 2.5 Wet | 98.5 |
| 7 | B20-5809A | 31/01/2020 | Lot 4 | FSL | 1.0 Wet | 102.0 |
| 8 | B20-5872A | 11/02/2020 | Lot 5 | -600 | 1.0 Wet | 95.0 |
| 9 | B22-11009A | 01/04/2022 | Lot 9 | -250 | 2.0 Dry | 101.5 |
| 10 | B22-11009B | 01/04/2022 | Lot 9 | -300 | 0.5 Dry | 102.5 |
| 11 | B22-11009C | 01/04/2022 | Lot 12 | -300 | 1.0 Dry | 103.0 |
| 12 | B22-11075A | 08/04/2022 | Lot 12 | FSL | 2.5 Dry | 105.0 |
| 13 | B22-11075B | 08/04/2022 | Lot 12 | FSL | 1.5 Dry | 99.5 |
| 14 | B22-11075C | 08/04/2022 | Lot 11 | FSL | 0.0 Dry | 99.5 |
| 15 | B22-11075D | 08/04/2022 | Lot 10 | FSL | 2.0 Dry | 102.0 |
| 16 | B22-11075E | 08/04/2022 | Lot 9 | FSL | 2.0 Dry | 100.0 |
| 17 | B22-11075F | 08/04/2022 | Lot 9 | FSL | 0.0 | 100.0 |
| 18 | B22-11230A | 02/05/2022 | Lot 8 | -550 | 0.5 Dry | 104.0 |

| | | | | | | |
|------------|------------|------------|--------|------|---------|-------|
| 19 | B22-11230B | 02/05/2022 | Lot 7 | -550 | 0.5 Dry | 102.0 |
| 20 | B22-11230C | 02/05/2022 | Lot 6 | -650 | 1.0 Wet | 102.5 |
| 21 (RT #8) | B22-11230D | 02/05/2022 | Lot 5 | -550 | 0.5 Wet | 100.0 |
| 22 | B22-11275A | 06/05/2022 | Lot 8 | -300 | 0.5 Dry | 102.0 |
| 23 | B22-11275B | 06/05/2022 | Lot 7 | -300 | 0.5 Dry | 100.0 |
| 24 | B22-11275C | 06/05/2022 | Lot 6 | -300 | 0.0 | 99.5 |
| 25 | B22-11275D | 06/05/2022 | Lot 5 | -300 | 1.5 Dry | 100.0 |
| 26 | B22-11275E | 06/05/2022 | Lot 2 | -300 | 0.5 Dry | 103.0 |
| 27 | B22-11287A | 09/05/2022 | Lot 1 | -300 | 0.5 Dry | 98.0 |
| 28 | B22-11322A | 17/05/2022 | Lot 8 | FSL | 0.0 | 103.0 |
| 29 | B22-11322B | 17/05/2022 | Lot 7 | FSL | 1.0 Dry | 103.0 |
| 30 | B22-11322C | 17/05/2022 | Lot 6 | FSL | 1.0 Wet | 101.0 |
| 31 | B22-11322D | 17/05/2022 | Lot 5 | FSL | 0.5 Wet | 100.0 |
| 32 | B22-11322E | 17/05/2022 | Lot 4 | FSL | 0.5 Dry | 105.5 |
| 33 | B22-11322F | 17/05/2022 | Lot 3 | FSL | 1.0 Wet | 100.5 |
| 34 | B22-11322G | 17/05/2022 | Lot 1 | FSL | 0.5 Dry | 102.0 |
| 35 | B22-11322H | 17/05/2022 | Lot 2 | FSL | 0.5 Dry | 108.0 |
| 36 | B23-13234A | 02/06/2023 | Lot 18 | FSL | 1.5 Dry | 99.0 |

5 STATEMENT OF COMPLIANCE

GTS personnel have provided Level 1 inspection and testing services during the placement of material for Lots 1 to 12, 17 and 18. The placement of fill and construction techniques adopted was observed throughout the project.

Based on observations made by GTS personnel and the results of field and laboratory tests, we consider that the fill has been placed and compacted, and is considered to be Level 1 controlled fill, subject to commercial site classifications and/or geotechnical investigations.

It is noted that topsoil material is expected to be spread across the sites following completion of these earthworks and that this topsoil material is not considered controlled fill.

Ethan Doyle (BE (Hons) GradEAust)
Graduate Geotechnical Engineer

APPENDIX

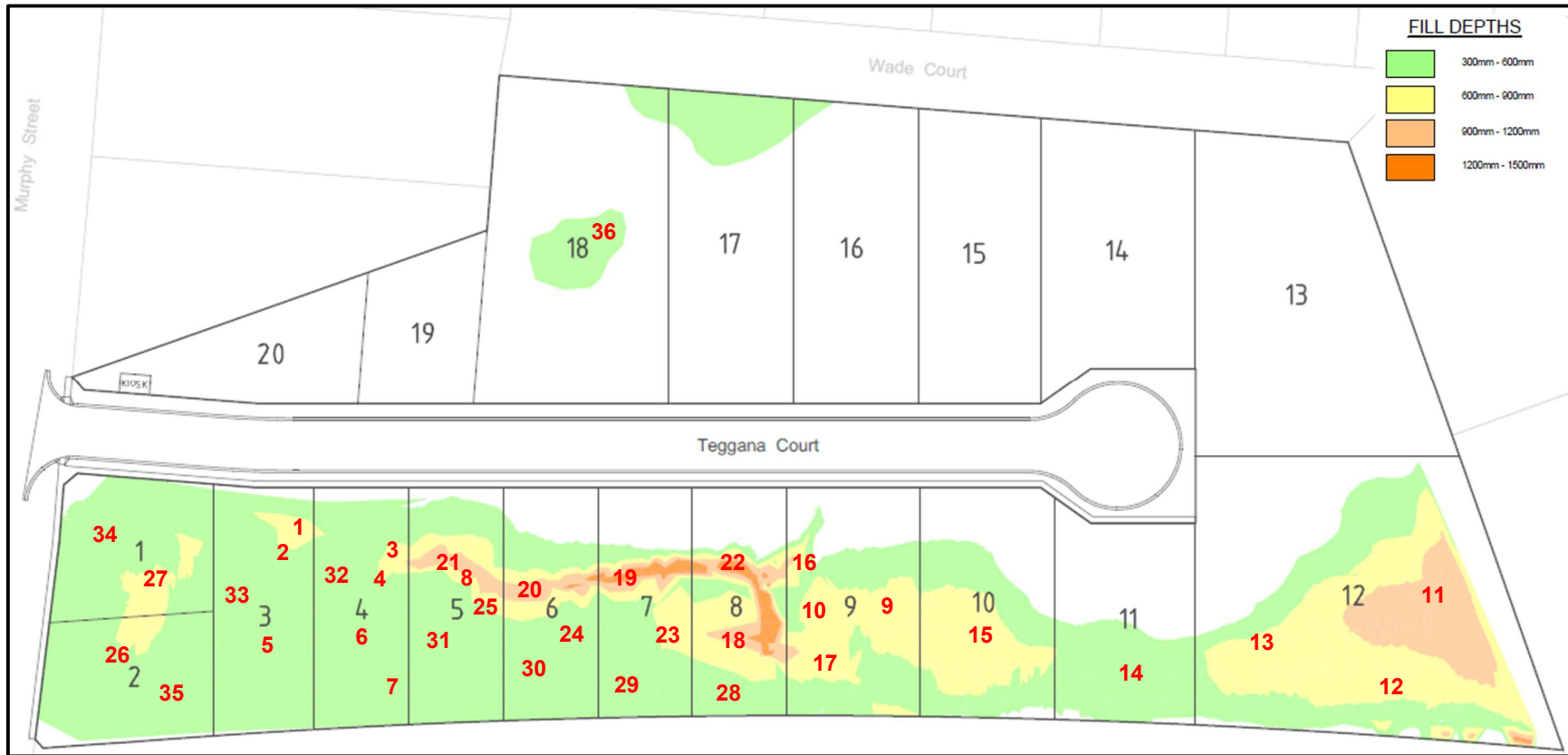


Fig 1. 178-182 Murphy Street - Site Plan – Approximate testing locations (red)

Material Test Report



Report Number: P201044-1
Issue Number: 2 - This version supersedes all previous issues
Reissue Reason: Lot added to report
Date Issued: 24/01/2020
Client: Dunlop & Pitson
 24 Jewell Court , Bendigo VIC 3550
Project Number: P201044
Project Name: Industrial Building Pads
Project Location: Murphy St East Bendigo
Work Request: 5738
Date Sampled: 23/01/2020
Dates Tested: 23/01/2020 - 24/01/2020
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Site Selection: Selected by Client
Material Source: Test Location

Geotechnical Testing Services (Southern)
 Bendigo Soil and Concrete Testing Laboratory
 Gate 7, Sharon Street Bendigo VIC 3550
 Phone: (03) 5441 4881
 Email: joshl@gts.com.au

Accredited for compliance with ISO/IEC 17025 - Testing



Approved Signatory: Josh Lagodzki
 NATA Accredited Laboratory Number: 19506

| Compaction Control AS 1289 5.7.1 & 5.8.1 | | | |
|--|-----------------------|--|--|
| Sample Number | B20-5738A | | |
| Date Tested | 23/01/2020 | | |
| Time Tested | 13:10 | | |
| Test Request #/Location | Industrial Block | | |
| Chainage (m) | Lot 3 Front RH Corner | | |
| Location Offset (m) | Centre | | |
| Layer / Reduced Level | -600 | | |
| Thickness of Layer (mm) | 300 | | |
| Soil Description | Gravelly Silty Clay | | |
| Test Depth (mm) | 275 | | |
| Sieve used to determine oversize (mm) | 19.0 | | |
| Percentage of Wet Oversize (%) | 0.0 | | |
| Field Wet Density (FWD) t/m ³ | 2.26 | | |
| Field Dry Density (FDD) t/m ³ | ** | | |
| Peak Converted Wet Density t/m ³ | 2.13 | | |
| Adjusted Peak Converted Wet Density t/m ³ | ** | | |
| Moisture Variation (Wv) % | 1.5 | | |
| Adjusted Moisture Variation % | ** | | |
| Hilf Density Ratio (%) | 106.0 | | |
| Compaction Method | Standard | | |

Moisture Variation Note:

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

Material Test Report



Report Number: P201044-2
Issue Number: 1
Date Issued: 24/01/2020
Client: Dunlop & Pitson
 24 Jewell Court , Bendigo VIC 3550

Project Number: P201044
Project Name: Industrial Building Pads
Project Location: Murphy St East Bendigo
Work Request: 5742
Date Sampled: 24/01/2020
Dates Tested: 24/01/2020 - 24/01/2020
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Site Selection: Selected by Client
Material Source: Test Location

Geotechnical Testing Services (Southern)
 Bendigo Soil and Concrete Testing Laboratory
 Gate 7, Sharon Street Bendigo VIC 3550
 Phone: (03) 5441 4881
 Email: joshl@gts.com.au

Accredited for compliance with ISO/IEC 17025 - Testing



Approved Signatory: Josh Lagodzki
 NATA Accredited Laboratory Number: 19506

| Compaction Control AS 1289 5.7.1 & 5.8.1 | | | |
|--|---------------------------------------|--|--|
| Sample Number | B20-5742A | | |
| Date Tested | 24/01/2020 | | |
| Time Tested | 11:04 | | |
| Test Request #/Location | Industrial Block | | |
| Chainage (m) | Block 3 | | |
| Location Offset (m) | 10m from RH Crn 0.5m in from boundary | | |
| Elevation (m) | -300 | | |
| Layer / Reduced Level | Layer 2 | | |
| Thickness of Layer (mm) | 300 | | |
| Soil Description | Gravelly Silty Clay | | |
| Test Depth (mm) | 275 | | |
| Sieve used to determine oversize (mm) | 19.0 | | |
| Percentage of Wet Oversize (%) | 0.0 | | |
| Field Wet Density (FWD) t/m ³ | 2.21 | | |
| Field Dry Density (FDD) t/m ³ | ** | | |
| Peak Converted Wet Density t/m ³ | 2.20 | | |
| Adjusted Peak Converted Wet Density t/m ³ | ** | | |
| Moisture Variation (Wv) % | 0.0 | | |
| Adjusted Moisture Variation % | ** | | |
| Hilf Density Ratio (%) | 100.5 | | |
| Compaction Method | Standard | | |

Moisture Variation Note:

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

Material Test Report

Report Number: P201044-3
Issue Number: 1
Date Issued: 28/01/2020
Client: Dunlop & Pitson
 24 Jewell Court , Bendigo VIC 3550
Project Number: P201044
Project Name: Industrial Building Pads
Project Location: Murphy St East Bendigo
Work Request: 5751
Date Sampled: 28/01/2020 8:30
Dates Tested: 28/01/2020 - 28/01/2020
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Site Selection: Selected by Client
Material Source: Test Location



Geotechnical Testing Services (Southern)
 Bendigo Soil and Concrete Testing Laboratory
 Gate 7, Sharon Street Bendigo VIC 3550
 Phone: (03) 5441 4881
 Email: joshl@gts.com.au

Accredited for compliance with ISO/IEC 17025 - Testing



Approved Signatory: Josh Lagodzki
 NATA Accredited Laboratory Number: 19506

| Compaction Control AS 1289 5.7.1 & 5.8.1 | | | |
|--|------------------|--|--|
| Sample Number | B20-5751A | | |
| Date Tested | 28/01/2020 | | |
| Time Tested | 08:32 | | |
| Test Request #/Location | Industrial Block | | |
| Chainage (m) | Pad 4 | | |
| Location Offset (m) | North East Cnr | | |
| Layer / Reduced Level | -700 | | |
| Thickness of Layer (mm) | 300 | | |
| Soil Description | Clayey Silt | | |
| Test Depth (mm) | 275 | | |
| Sieve used to determine oversize (mm) | 19.0 | | |
| Percentage of Wet Oversize (%) | 0.0 | | |
| Field Wet Density (FWD) t/m ³ | 2.23 | | |
| Field Dry Density (FDD) t/m ³ | ** | | |
| Peak Converted Wet Density t/m ³ | 2.02 | | |
| Adjusted Peak Converted Wet Density t/m ³ | ** | | |
| Moisture Variation (Wv) % | 1.0 | | |
| Adjusted Moisture Variation % | ** | | |
| Hilf Density Ratio (%) | 110.5 | | |
| Compaction Method | Standard | | |

Moisture Variation Note:

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

Material Test Report



Report Number: P201044-4
Issue Number: 1
Date Issued: 30/01/2020
Client: Dunlop & Pitson
 24 Jewell Court , Bendigo VIC 3550

Geotechnical Testing Services (Southern)
 Bendigo Soil and Concrete Testing Laboratory
 Gate 7, Sharon Street Bendigo VIC 3550
 Phone: (03) 5441 4881
 Email: joshl@gts.com.au

Project Number: P201044
Project Name: Industrial Building Pads
Project Location: Murphy St East Bendigo
Work Request: 5785
Date Sampled: 29/01/2020
Dates Tested: 29/01/2020 - 29/01/2020
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Site Selection: Selected by Client
Material Source: Test Location

Accredited for compliance with ISO/IEC 17025 - Testing



Approved Signatory: Josh Lagodzki
 NATA Accredited Laboratory Number: 19506

| Compaction Control AS 1289 5.7.1 & 5.8.1 | | | |
|--|-----------------|-----------------|--|
| Sample Number | B20-5785A | B20-5785B | |
| Date Tested | 29/01/2020 | 29/01/2020 | |
| Time Tested | 08:11 | 08:19 | |
| Test Request #/Location | Industrial Pad | Industrial Pad | |
| Chainage (m) | Pad 4 | Pad 3 | |
| Location Offset (m) | Centre | Centre | |
| Layer / Reduced Level | -600 | FSL | |
| Thickness of Layer (mm) | 300 | 300 | |
| Soil Description | Silty Clay | Silty Clay | |
| Test Depth (mm) | 275 | 275 | |
| Sieve used to determine oversize (mm) | 19.0 | 19.0 | |
| Percentage of Wet Oversize (%) | ** | 1.0 | |
| Field Wet Density (FWD) t/m ³ | 2.13 | 2.07 | |
| Field Dry Density (FDD) t/m ³ | ** | ** | |
| Peak Converted Wet Density t/m ³ | 2.15 | ** | |
| Adjusted Peak Converted Wet Density t/m ³ | ** | 2.03 | |
| Moisture Variation (Wv) % | -1.0 | ** | |
| Adjusted Moisture Variation % | ** | -0.5 | |
| Hilf Density Ratio (%) | 99.0 | 102.0 | |
| Compaction Method | Standard | Standard | |

Moisture Variation Note:

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

Material Test Report



Report Number: P201044-5
Issue Number: 1
Date Issued: 31/01/2020
Client: Dunlop & Pitson
 24 Jewell Court , Bendigo VIC 3550

Geotechnical Testing Services (Southern)
 Bendigo Soil and Concrete Testing Laboratory
 Gate 7, Sharon Street Bendigo VIC 3550
 Phone: (03) 5441 4881
 Email: joshl@gts.com.au

Project Number: P201044
Project Name: Industrial Building Pads
Project Location: Murphy St East Bendigo
Work Request: 5801
Date Sampled: 30/01/2020
Dates Tested: 30/01/2020 - 30/01/2020
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Site Selection: Selected by Client
Material Source: Test Location

Accredited for compliance with ISO/IEC 17025 - Testing



Approved Signatory: Josh Lagodzki
 NATA Accredited Laboratory Number: 19506

| Compaction Control AS 1289 5.7.1 & 5.8.1 | | | |
|--|-----------------|--|--|
| Sample Number | B20-5801A | | |
| Date Tested | 30/01/2020 | | |
| Time Tested | 07:03 | | |
| Test Request #/Location | Industrial Pad | | |
| Chainage (m) | Pad 4 | | |
| Location Offset (m) | Centre | | |
| Layer / Reduced Level | -300 | | |
| Thickness of Layer (mm) | 300 | | |
| Soil Description | Silty Clay | | |
| Test Depth (mm) | 275 | | |
| Sieve used to determine oversize (mm) | 19.0 | | |
| Percentage of Wet Oversize (%) | 4.9 | | |
| Field Wet Density (FWD) t/m ³ | 2.12 | | |
| Field Dry Density (FDD) t/m ³ | ** | | |
| Peak Converted Wet Density t/m ³ | ** | | |
| Adjusted Peak Converted Wet Density t/m ³ | 2.16 | | |
| Moisture Variation (Wv) % | ** | | |
| Adjusted Moisture Variation % | -2.5 | | |
| Hilf Density Ratio (%) | 98.5 | | |
| Compaction Method | Standard | | |

Moisture Variation Note:

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

Material Test Report

Report Number: P201044-6
Issue Number: 1
Date Issued: 31/01/2020
Client: Dunlop & Pitson
 24 Jewell Court , Bendigo VIC 3550
Project Number: P201044
Project Name: Industrial Building Pads
Project Location: Murphy St East Bendigo
Work Request: 5809
Date Sampled: 31/01/2020
Dates Tested: 31/01/2020 - 31/01/2020
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Site Selection: Selected by Client
Material Source: Test Location



Geotechnical Testing Services (Southern)
 Bendigo Soil and Concrete Testing Laboratory
 Gate 7, Sharon Street Bendigo VIC 3550
 Phone: (03) 5441 4881
 Email: joshl@gts.com.au

Accredited for compliance with ISO/IEC 17025 - Testing



Approved Signatory: Josh Lagodzki
 NATA Accredited Laboratory Number: 19506

| Compaction Control AS 1289 5.7.1 & 5.8.1 | | | |
|--|-----------------|--|--|
| Sample Number | B20-5809A | | |
| Date Tested | 31/01/2020 | | |
| Time Tested | 10:19 | | |
| Test Request #/Location | Industrial Pad | | |
| Chainage (m) | Pad 4 | | |
| Location Offset (m) | Centre | | |
| Layer / Reduced Level | FSL | | |
| Thickness of Layer (mm) | 300 | | |
| Soil Description | Silty Clay | | |
| Test Depth (mm) | 275 | | |
| Sieve used to determine oversize (mm) | 19.0 | | |
| Percentage of Wet Oversize (%) | 0.0 | | |
| Field Wet Density (FWD) t/m ³ | 2.03 | | |
| Field Dry Density (FDD) t/m ³ | ** | | |
| Peak Converted Wet Density t/m ³ | 1.99 | | |
| Adjusted Peak Converted Wet Density t/m ³ | ** | | |
| Moisture Variation (Wv) % | -1.0 | | |
| Adjusted Moisture Variation % | ** | | |
| Hilf Density Ratio (%) | 102.0 | | |
| Compaction Method | Standard | | |

Moisture Variation Note:

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

Material Test Report



Report Number: P201044-7
Issue Number: 1
Date Issued: 11/02/2020
Client: Dunlop & Pitson
 24 Jewell Court , Bendigo VIC 3550
Project Number: P201044
Project Name: Industrial Building Pads
Project Location: Murphy St East Bendigo
Work Request: 5872
Date Sampled: 11/02/2020
Dates Tested: 11/02/2020 - 11/02/2020
Sampling Method: AS1289 1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Site Selection: Selected by Client
Material Source: Test Location

Geotechnical Testing Services (Southern)
 Bendigo Soil and Concrete Testing Laboratory
 Gate 7, Sharon Street Bendigo VIC 3550
 Phone: (03) 5441 4881
 Email: joshl@gts.com.au

Accredited for compliance with ISO/IEC 17025 - Testing



Approved Signatory: Josh Lagodzki
 NATA Accredited Laboratory Number: 19506

| Compaction Control AS 1289 5.7.1 & 5.8.1 | | | |
|--|-----------------|--|--|
| Sample Number | B20-5872A | | |
| Date Tested | 11/02/2020 | | |
| Time Tested | 10:08 | | |
| Test Request #/Location | Industrial Pad | | |
| Chainage (m) | Pad 5 | | |
| Location Offset (m) | Centre | | |
| Layer / Reduced Level | -600 | | |
| Thickness of Layer (mm) | 300 | | |
| Soil Description | Silty Clay | | |
| Test Depth (mm) | 250 | | |
| Sieve used to determine oversize (mm) | 19.0 | | |
| Percentage of Wet Oversize (%) | 0.0 | | |
| Field Wet Density (FWD) t/m ³ | 1.90 | | |
| Field Dry Density (FDD) t/m ³ | ** | | |
| Peak Converted Wet Density t/m ³ | 2.00 | | |
| Adjusted Peak Converted Wet Density t/m ³ | ** | | |
| Moisture Variation (Wv) % | -1.0 | | |
| Adjusted Moisture Variation % | ** | | |
| Hilf Density Ratio (%) | 95.0 | | |
| Compaction Method | Standard | | |

Moisture Variation Note:

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

Material Test Report



Report Number: P201044-8
Issue Number: 1
Date Issued: 01/04/2022
Client: Dunlop & Pitson Pty Ltd
 24 Jewell Court , Bendigo VIC 3550
Project Number: P201044
Project Name: Industrial Building Pads
Project Location: Murphy St East Bendigo
Work Request: 11009
Date Sampled: 01/04/2022
Dates Tested: 01/04/2022 - 01/04/2022
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Site Selection: Selected by Client
Location: East Bendigo
Material Source: Test Location

Geotechnical Testing Services (Southern)
 Bendigo Soil and Concrete Testing Laboratory
 13 Alstonvale Court East Bendigo VIC 3550
 Phone: (03) 5441 4881
 Email: joshl@gts.com.au

Accredited for compliance with ISO/IEC 17025 - Testing



Approved Signatory: Josh Lagodzki
 CMT Manager

NATA Accredited Laboratory Number: 19506

| Compaction Control AS 1289 5.7.1 & 5.8.1 | | | |
|--|---------------------------|---------------------------|---------------------------|
| Sample Number | B22-11009A | B22-11009B | B22-11009C |
| Date Tested | 01/04/2022 | 01/04/2022 | 01/04/2022 |
| Time Tested | 07:48 | 07:53 | 07:59 |
| Test Request #/Location | Lot 9 | Drain Backfill Lot 9 | Lot 12 |
| Easting | 259611 | 259601 | 259748 |
| Northing | 5930018 (Zone 55H), 217 m | 5930036 (Zone 55H), 215 m | 5929975 (Zone 55H), 210 m |
| Layer / Reduced Level | -250 | -300 | -300 |
| Thickness of Layer (mm) | 300 | 300 | 300 |
| Soil Description | Silty Sandy Clay | Silty Sandy Clay | Silty Sandy Clay |
| Test Depth (mm) | 275 | 275 | 275 |
| Sieve used to determine oversize (mm) | 19.0 | 19.0 | 19.0 |
| Percentage of Wet Oversize (%) | 0 | 0 | 0 |
| Field Wet Density (FWD) t/m ³ | 2.07 | 2.17 | 2.06 |
| Field Dry Density (FDD) t/m ³ | ** | ** | ** |
| Peak Converted Wet Density t/m ³ | 2.03 | 2.11 | 2.00 |
| Adjusted Peak Converted Wet Density t/m ³ | ** | ** | ** |
| Moisture Variation (Wv) % | 2.0 | 0.5 | 1.0 |
| Adjusted Moisture Variation % | ** | ** | ** |
| Hilf Density Ratio (%) | 101.5 | 102.5 | 103.0 |
| Compaction Method | Standard | Standard | Standard |
| Report Remarks | ** | ** | ** |

Moisture Variation Note:

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

Material Test Report



Report Number: P201044-9
Issue Number: 1
Date Issued: 11/04/2022
Client: DPJ Civil Pty Ltd
 24 Jewell Court , Bendigo VIC 3550
Project Number: P201044
Project Name: Industrial Building Pads
Project Location: Murphy St East Bendigo
Work Request: 11075
Date Sampled: 08/04/2022
Dates Tested: 08/04/2022 - 11/04/2022
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Site Selection: Selected by Client
Location: East Bendigo
Material Source: Test Location

Geotechnical Testing Services (Southern)
 Bendigo Soil and Concrete Testing Laboratory
 13 Alstonvale Court East Bendigo VIC 3550
 Phone: (03) 5441 4881
 Email: joshl@gts.com.au

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Approved Signatory: Josh Lagodzki
 CMT Manager

NATA Accredited Laboratory Number: 19506

| Compaction Control AS 1289 5.7.1 & 5.8.1 | | | | | | |
|--|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------|--|
| Sample Number | B22-11075A | B22-11075B | B22-11075C | B22-11075D | B22-11075E | B22-11075F |
| Date Tested | 08/04/2022 | 08/04/2022 | 08/04/2022 | 08/04/2022 | 08/04/2022 | 08/04/2022 |
| Time Tested | 07:11 | 07:17 | 07:22 | 07:27 | 07:32 | 07:39 |
| Test Request #/Location | Industrial Blocks Lot 12 | Industrial Blocks Lot 12 | Industrial Blocks Lot 11 | Industrial Blocks Lot 10 | Industrial Blocks Lot 9 | Industrial Blocks Lot 9 / Old Creek Backfill |
| Easting | 259753 | 259728 | 259663 | 259630 | 259605 | 259593 |
| Northing | 5929975 | 5929970 | 5929990 | 5930001 | 5930019 | 5930027 |
| Layer / Reduced Level | FSL | FSL | FSL | FSL | FSL | FSL |
| Thickness of Layer (mm) | 300 | 300 | 300 | 300 | 250 | 300 |
| Soil Description | Gravelly Silty Clay | Gravelly Silty Clay | Gravelly Silty Clay | Gravelly Silty Clay | Gravelly Silty Clay | Gravelly Silty Clay |
| Test Depth (mm) | 275 | 275 | 275 | 275 | 225 | 275 |
| Sieve used to determine oversize (mm) | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 |
| Percentage of Wet Oversize (%) | 0 | 0 | 0 | 0 | 0 | 0 |
| Field Wet Density (FWD) t/m ³ | 2.05 | 2.03 | 2.07 | 2.07 | 2.02 | 2.09 |
| Field Dry Density (FDD) t/m ³ | ** | ** | ** | ** | ** | ** |
| Peak Converted Wet Density t/m ³ | 1.96 | 2.04 | 2.08 | 2.03 | 2.03 | 2.10 |
| Adjusted Peak Converted Wet Density t/m ³ | ** | ** | ** | ** | ** | ** |
| Moisture Variation (Wv) % | 2.5 | 1.5 | 0.0 | 2.0 | 2.0 | 0.0 |
| Adjusted Moisture Variation % | ** | ** | ** | ** | ** | ** |
| Hilf Density Ratio (%) | 105.0 | 99.5 | 99.5 | 102.0 | 100.0 | 100.0 |
| Compaction Method | Standard | Standard | Standard | Standard | Standard | Standard |
| Report Remarks | ** | ** | ** | ** | ** | ** |

Moisture Variation Note:

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

Material Test Report



Report Number: P201044-10
Issue Number: 1
Date Issued: 03/05/2022
Client: DPJ Civil Pty Ltd
 24 Jewell Court , Bendigo VIC 3550
Project Number: P201044
Project Name: Industrial Building Pads
Project Location: Murphy St East Bendigo
Work Request: 11230
Date Sampled: 02/05/2022
Dates Tested: 02/05/2022 - 03/05/2022
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Site Selection: Selected by Client
Location: East Bendigo
Material Source: Test Location

Geotechnical Testing Services (Southern)
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Handwritten signature

Approved Signatory: Josh Lagodzki
 CMT Manager

NATA Accredited Laboratory Number: 19506

| Compaction Control AS 1289 5.7.1 & 5.8.1 | | | | |
|--|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Sample Number | B22-11230A | B22-11230B | B22-11230C | B22-11230D |
| Date Tested | 02/05/2022 | 02/05/2022 | 02/05/2022 | 02/05/2022 |
| Time Tested | 11:26 | 11:33 | 11:36 | 11:40 |
| Test Request #/Location | Industrial Building Pads Block 8 | Industrial Building Pads Block 7 | Industrial Building Pads Block 6 | Industrial Building Pads Block 5 |
| Easting | 259596 | 259552 | 259530 | 259516 |
| Northing | 5930025 | 5930049 | 5930059 | 5930061 |
| Layer / Reduced Level | -550 | -550 | -650 | -550 |
| Thickness of Layer (mm) | 300 | 300 | 300 | 300 |
| Soil Description | Gravelly Silty Clay | Gravelly Silty Clay | Gravelly Silty Clay | Gravelly Silty Clay |
| Test Depth (mm) | 275 | 275 | 275 | 275 |
| Sieve used to determine oversize (mm) | 19.0 | 19.0 | 19.0 | 19.0 |
| Percentage of Wet Oversize (%) | 0 | 0 | 1 | 4 |
| Field Wet Density (FWD) t/m ³ | 2.21 | 2.21 | 2.23 | 2.17 |
| Field Dry Density (FDD) t/m ³ | ** | ** | ** | ** |
| Peak Converted Wet Density t/m ³ | 2.13 | 2.16 | ** | ** |
| Adjusted Peak Converted Wet Density t/m ³ | ** | ** | 2.18 | 2.17 |
| Moisture Variation (Wv) % | 0.5 | 0.5 | ** | ** |
| Adjusted Moisture Variation % | ** | ** | -1.0 | -0.5 |
| Hilf Density Ratio (%) | 104.0 | 102.0 | 102.5 | 100.0 |
| Compaction Method | Standard | Standard | Standard | Standard |
| Report Remarks | ** | ** | ** | ** |

Moisture Variation Note:

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

Material Test Report

Report Number: P201044-11
Issue Number: 1
Date Issued: 09/05/2022
Client: DPJ Civil Pty Ltd
 24 Jewell Court , Bendigo VIC 3550
Project Number: P201044
Project Name: Industrial Building Pads
Project Location: Murphy St East Bendigo
Work Request: 11275
Date Sampled: 06/05/2022
Dates Tested: 06/05/2022 - 09/05/2022
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Site Selection: Selected by Client
Location: East Bendigo
Material Source: Test Location



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Bryan Mott

Approved Signatory: Bryan Mott
 NATA Accredited Laboratory Number: 19506

| Compaction Control AS 1289 5.7.1 & 5.8.1 | | | | | |
|--|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Sample Number | B22-11275A | B22-11275B | B22-11275C | B22-11275D | B22-11275E |
| Date Tested | 06/05/2022 | 06/05/2022 | 06/05/2022 | 06/05/2022 | 06/05/2022 |
| Time Tested | 10:38 | 10:41 | 10:45 | 10:47 | 10:50 |
| Test Request #/Location | Industrial Building Pads Block 8 | Industrial Building Pads Block 7 | Industrial Building Pads Block 6 | Industrial Building Pads Block 5 | Industrial Building Pads Block 2 |
| Easting | 259592 | 259564 | 259549 | 259535 | 259447 |
| Northing | 5930016 | 5930024 | 5930028 | 5930031 | 5930047 |
| Layer / Reduced Level | -300 | -300 | -300 | -300 | -300 |
| Thickness of Layer (mm) | 250 | 250 | 300 | 250 | 200 |
| Soil Description | Gravelly Silty Clay | Gravelly Silty Clay | Gravelly Silty Clay | Gravelly Silty Clay | Gravelly Silty Clay |
| Test Depth (mm) | 225 | 225 | 275 | 225 | 175 |
| Sieve used to determine oversize (mm) | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 |
| Percentage of Wet Oversize (%) | 0 | 0 | 0 | 0 | 0 |
| Field Wet Density (FWD) t/m ³ | 2.19 | 2.12 | 2.14 | 2.12 | 2.19 |
| Field Dry Density (FDD) t/m ³ | ** | ** | ** | ** | ** |
| Peak Converted Wet Density t/m ³ | 2.14 | 2.12 | 2.15 | 2.13 | 2.13 |
| Adjusted Peak Converted Wet Density t/m ³ | ** | ** | ** | ** | ** |
| Moisture Variation (Wv) % | 0.5 | 0.5 | 0.0 | 1.5 | 0.5 |
| Adjusted Moisture Variation % | ** | ** | ** | ** | ** |
| Hilf Density Ratio (%) | 102.0 | 100.0 | 99.5 | 100.0 | 103.0 |
| Compaction Method | Standard | Standard | Standard | Standard | Standard |
| Report Remarks | ** | ** | ** | ** | ** |

Moisture Variation Note:

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

Material Test Report



Report Number: P201044-12
Issue Number: 1
Date Issued: 09/05/2022
Client: DPJ Civil Pty Ltd
 24 Jewell Court , Bendigo VIC 3550

Project Number: P201044
Project Name: Industrial Building Pads
Project Location: Murphy St East Bendigo
Work Request: 11287
Date Sampled: 09/05/2022
Dates Tested: 09/05/2022 - 09/05/2022
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Site Selection: Selected by Client
Location: East Bendigo
Material Source: Test Location

Geotechnical Testing Services (Southern)
 Bendigo Soil and Concrete Testing Laboratory
 13 Alstonvale Court East Bendigo VIC 3550
 Phone: (03) 5441 4881
 Email: bryanm@gts.com.au

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Bryan Mott

Approved Signatory: Bryan Mott
 NATA Accredited Laboratory Number: 19506

| Compaction Control AS 1289 5.7.1 & 5.8.1 | | | |
|--|-------------------------------------|--|--|
| Sample Number | B22-11287A | | |
| Date Tested | 09/05/2022 | | |
| Time Tested | 11:37 | | |
| Test Request #/Location | Industrial Building Pads Block 1 | | |
| Chainage (m) | 259454 | | |
| Location Offset (m) | 5930080 | | |
| Layer / Reduced Level | -300 | | |
| Thickness of Layer (mm) | 230 | | |
| Soil Description | Gravelly Silty Clay | | |
| Test Depth (mm) | 200 | | |
| Sieve used to determine oversize (mm) | 19.0 | | |
| Percentage of Wet Oversize (%) | 0 | | |
| Field Wet Density (FWD) t/m ³ | 2.09 | | |
| Field Dry Density (FDD) t/m ³ | ** | | |
| Peak Converted Wet Density t/m ³ | 2.13 | | |
| Adjusted Peak Converted Wet Density t/m ³ | ** | | |
| Moisture Variation (Wv) % | 0.5 | | |
| Adjusted Moisture Variation % | ** | | |
| Hilf Density Ratio (%) | 98.0 | | |
| Compaction Method | Standard | | |
| Report Remarks | ** | | |

Moisture Variation Note:
 Positive values = test is dry of OMC
 Negative values = test is wet of OMC

Material Test Report



Report Number: P201044-13
Issue Number: 1
Date Issued: 18/05/2022
Client: DPJ Civil Pty Ltd
 24 Jewell Court , Bendigo VIC 3550
Project Number: P201044
Project Name: Industrial Building Pads
Project Location: Murphy St East Bendigo
Work Request: 11322
Date Sampled: 17/05/2022
Dates Tested: 17/05/2022 - 18/05/2022
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Site Selection: Selected by Client
Location: East Bendigo
Material Source: Test Location

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Bryan Mott

Approved Signatory: Bryan Mott
 NATA Accredited Laboratory Number: 19506

| Compaction Control AS 1289 5.7.1 & 5.8.1 | | | | |
|--|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Sample Number | B22-11322A | B22-11322B | B22-11322C | B22-11322D |
| Date Tested | 17/05/2022 | 17/05/2022 | 17/05/2022 | 17/05/2022 |
| Time Tested | 11:01 | 11:05 | 11:10 | 11:13 |
| Test Request #/Location | Industrial Building Pads Block 8 | Industrial Building Pads Block 7 | Industrial Building Pads Block 6 | Industrial Building Pads Block 5 |
| Chainage (m) | Centre of Block | Centre of Block | Centre of Block | Centre of Block |
| Location Offset (m) | ** | ** | ** | ** |
| Layer / Reduced Level | FSL | FSL | FSL | FSL |
| Thickness of Layer (mm) | 300 | 300 | 300 | 300 |
| Soil Description | Gravelly Silty Clay | Gravelly Silty Clay | Gravelly Silty Clay | Gravelly Silty Clay |
| Test Depth (mm) | 275 | 275 | 275 | 275 |
| Sieve used to determine oversize (mm) | 19.0 | 19.0 | 19.0 | 19.0 |
| Percentage of Wet Oversize (%) | 0 | 0 | 0 | 0 |
| Field Wet Density (FWD) t/m ³ | 2.05 | 2.06 | 2.08 | 2.04 |
| Field Dry Density (FDD) t/m ³ | ** | ** | ** | ** |
| Peak Converted Wet Density t/m ³ | 1.99 | 1.99 | 2.06 | 2.05 |
| Adjusted Peak Converted Wet Density t/m ³ | ** | ** | ** | ** |
| Moisture Variation (Wv) % | 0.0 | 1.0 | -1.0 | -0.5 |
| Adjusted Moisture Variation % | ** | ** | ** | ** |
| Hilf Density Ratio (%) | 103.0 | 103.0 | 101.0 | 100.0 |
| Compaction Method | Standard | Standard | Standard | Standard |
| Report Remarks | ** | ** | ** | ** |

Moisture Variation Note:

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

Material Test Report



Report Number: P201044-13
Issue Number: 1
Date Issued: 18/05/2022
Client: DPJ Civil Pty Ltd
 24 Jewell Court , Bendigo VIC 3550
Project Number: P201044
Project Name: Industrial Building Pads
Project Location: Murphy St East Bendigo
Work Request: 11322
Date Sampled: 17/05/2022
Dates Tested: 17/05/2022 - 18/05/2022
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Site Selection: Selected by Client
Location: East Bendigo
Material Source: Test Location

Geotechnical Testing Services (Southern)
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Bryan Mott

Approved Signatory: Bryan Mott
 NATA Accredited Laboratory Number: 19506

| Compaction Control AS 1289 5.7.1 & 5.8.1 | | | | |
|--|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Sample Number | B22-11322E | B22-11322F | B22-11322G | B22-11322H |
| Date Tested | 17/05/2022 | 17/05/2022 | 17/05/2022 | 17/05/2022 |
| Time Tested | 11:16 | 11:21 | 11:25 | 11:29 |
| Test Request #/Location | Industrial Building Pads Block 4 | Industrial Building Pads Block 3 | Industrial Building Pads Block 1 | Industrial Building Pads Block 2 |
| Chainage (m) | Centre of Block | Centre of Block | Centre of Block | Centre of Block |
| Location Offset (m) | ** | ** | ** | ** |
| Layer / Reduced Level | FSL | FSL | FSL | FSL |
| Thickness of Layer (mm) | 300 | 300 | 300 | 300 |
| Soil Description | Gravelly Silty Clay | Gravelly Silty Clay | Gravelly Silty Clay | Gravelly Silty Clay |
| Test Depth (mm) | 275 | 275 | 275 | 275 |
| Sieve used to determine oversize (mm) | 19.0 | 19.0 | 19.0 | 19.0 |
| Percentage of Wet Oversize (%) | 0 | 0 | 0 | 0 |
| Field Wet Density (FWD) t/m ³ | 2.06 | 2.08 | 2.09 | 2.13 |
| Field Dry Density (FDD) t/m ³ | ** | ** | ** | ** |
| Peak Converted Wet Density t/m ³ | 1.95 | 2.06 | 2.04 | 1.97 |
| Adjusted Peak Converted Wet Density t/m ³ | ** | ** | ** | ** |
| Moisture Variation (Wv) % | 0.5 | -1.0 | 0.5 | 0.5 |
| Adjusted Moisture Variation % | ** | ** | ** | ** |
| Hilf Density Ratio (%) | 105.5 | 100.5 | 102.0 | 108.0 |
| Compaction Method | Standard | Standard | Standard | Standard |
| Report Remarks | ** | ** | ** | ** |

Moisture Variation Note:

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

Material Test Report



Report Number: P201044-15
Issue Number: 1
Date Issued: 02/06/2023
Client: DPJ Civil Pty Ltd
 24 Jewell Court , Bendigo VIC 3550

Project Number: P201044
Project Name: Industrial Estate
Project Location: Murphy St East Bendigo
Work Request: 13234
Date Sampled: 01/06/2023
Dates Tested: 02/06/2023 - 02/06/2023
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Site Selection: Selected by Client
Location: East Bendigo
Material Source: Test Location

Geotechnical Testing Services (Southern)
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 Email: joshl@gts.com.au

Accredited for compliance with ISO/IEC 17025 - Testing



Approved Signatory: Josh Lagodzki
 CMT Manager

NATA Accredited Laboratory Number: 19506

| Compaction Control AS 1289 5.7.1 & 5.8.1 | | | |
|--|------------------------|--|--|
| Sample Number | B23-13234A | | |
| Date Tested | 02/06/2023 | | |
| Time Tested | 08:10 | | |
| Test Request #/Location | Building Pad Lot 18 | | |
| Chainage (m) | Middle | | |
| Location Offset (m) | ** | | |
| Layer / Reduced Level | FSL | | |
| Thickness of Layer (mm) | 300 | | |
| Soil Description | Silty Gravelly Clay | | |
| Test Depth (mm) | 275 | | |
| Sieve used to determine oversize (mm) | 19.0 | | |
| Percentage of Wet Oversize (%) | 6 | | |
| Field Wet Density (FWD) t/m ³ | 2.07 | | |
| Field Dry Density (FDD) t/m ³ | ** | | |
| Peak Converted Wet Density t/m ³ | ** | | |
| Adjusted Peak Converted Wet Density t/m ³ | 2.09 | | |
| Moisture Variation (Wv) % | ** | | |
| Adjusted Moisture Variation % | 1.5 | | |
| Hilf Density Ratio (%) | 99.0 | | |
| Compaction Method | Standard | | |
| Report Remarks | ** | | |

Moisture Variation Note:

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