

**JOB NO: ML20/105**

**JULY 2022**

**HALL CONTRACTING PTY LTD  
LEVEL ONE COMPLIANCE REPORT  
FOR EARTHWORKS FILLING OPERATIONS  
NORTH HARBOUR PHASE 4B (STAGES 28, 29, 30, 31, 32, 38, 39, 40)  
BURPENGARY EAST**



Sunshine Coast Office  
Job Number: ML20/105  
Ref No: 3355  
Author: H. Henderson

6<sup>th</sup> July 2022

Hall Contracting Pty Ltd  
PO Box 519  
Buderim QLD 4006

**ATTENTION: MR HAYDYN CLIFF**  
Email: [HaydynCliff@hallcontracting.com.au](mailto:HaydynCliff@hallcontracting.com.au)

Dear Sir,

**RE: LEVEL ONE COMPLIANCE REPORT FOR  
EARTHWORKS FILLING OPERATIONS  
NORTH HARBOUR PHASE 4B - STAGES 28,29,30,31,32,38,39 and 40.**

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## 1.0 INTRODUCTION

### 1.1 General

This report presents results of Level One Earthworks Inspections and associated Compaction Compliance testing carried out on Earthworks Fill constructed to form filled residential building platforms and filled embankments below subgrade at the North Harbour Phase 4B (Stages 28,29,30,31,32,38,39 & 40) Development.

The work was commissioned by Mr. Nelson Riddle represented Hall Contracting (The Client).

Earthworks were carried out by The Client.

Earthworks filling operations were carried out between the following dates: -

- May 2017 and June 2017;
- 4th August 2020 and September 2020.

The extent of fill covered by this report is presented on the site plan attached as Appendix A.

**Picture 1: Aerial View of the Site** (Image Source: Nearmap.com - dated 24<sup>th</sup> January 2022)



### 1.2 Previous Earthworks

Previous earthworks filling was present at The Site. The existing fill at The Site was constructed by Hall Contracting between May 2017 and September 2017. Details of the previous earthworks are contained in: -

“12052-DL17-006 – Hall Contracting – North Harbour Phase 3 dated October 2017.

The existing fill at this site is Controlled Fill as defined in AS2870 – Residential Slabs and Footings.

### 1.3 The Project

The Purpose for filling at The Site is to construct filled building platforms to support proposed residential dwellings and embankment fill supporting subgrades proposed pavements.

The approximate extent of fill covered by this report is presented on the attached marked up Site Plan.

The actual thickness of fill on an individual Lot can be obtained from the Developer as a Lot Disclosure Plan.

The Site is bounded by undeveloped land to the North, East and South and existing developments to the West.

## **2.0 THE BRIEF**

The Brief from the Client was limited to:

- Level One Inspection and Testing of the placement and compaction of fill materials in accordance with AS3798 2007 – “Guidelines on Earthworks for Commercial and Residential Developments”,
- Relative Density Control Testing in accordance with AS1289 – Testing of Soils for Engineering Purposes and at frequencies required in AS3798 Table 8.1.
- KN Group drawings and notes on drawings.

All other design requirements such as CBR and Quality of Materials, site classification, material, settlement assessments and existing filling were not included in the Brief and are therefore excluded from this Report.

## **3.0 METHODOLOGY**

Earthworks Inspections and Testing was carried out on the stripped and exposed ground surfaces and during the placement and compaction of fill materials.

Field and laboratory testing included a walk over assessments of the existing ground conditions, observation of filling and compaction activities and compaction testing.

### **3.1 Stripped Surface Assessment**

The areas to be filled at The Site were observed to be stripped and cleared of all visible organic matter, deleterious, loose, unsuitable materials and sediments in an old dam to depths exposing natural soils suitable for the support of the construction of new fill.

The materials forming the fill foundation exposed after the stripping and clearing can be summarised as:

- Sandy Clay (CI-CH) at least very stiff, medium to high plasticity, fine to medium grained sands, orange grey brown and red brown

Following the stripped surface assessment of the fill areas, the fill foundation was approved for filling using the following process:

- Walk over assessments confirming that the competent natural ground was exposed.
- Proof roll testing an Articulated Dump Truck confirming no discernible movement of the exposed natural foundation.
- Heavy compaction of the surface of the existing fill.

On this basis, the compliant assessments in accordance with above indicate that the exposed natural ground forming the fill foundation is capable of supporting new fill materials.

### **3.2 Filling Operations**

Fill material was sourced from onsite cuts within the North Harbour Development and Hastings Deering borrow pit.

Fill materials can be broadly summarised as:

- Onsite – Sandy Clay (CI - CH) medium to high plasticity, fine to medium grained sands, red grey brown and moist.

Placement and compaction of the fill materials was carried out using the following plant:

- Excavator
- Grader
- Articulated dump Trucks
- Water Cart
- 815 Compactor
- Pad Foot Roller

The fill materials were moisture conditioned at the source and during placement to moisture contents suitable for compaction. Deleterious materials such as organics, sticks, roots and over size particles were sorted and removed during placement or were rejected for use.

Placement of the fill materials was carried in layers appropriate for the above plant and compacted using the above plant carrying out multiple passes. Fill placed against slopes was placed on prepared benches and well as keyed into the slope with each lift.

Our representative observed the filling process as described above and it was assessed to be consistent for the entire thickness of fill.

Compaction Testing was carried out on the compacted fill materials in accordance with Table 5.1 and 8.1 of AS3798 2007 (Guidelines on Earthworks for Commercial and Residential Developments) and tested to AS1289 test methods (Testing of Soils for Engineering Purposes). Testing achieved the required specification of 95% of the Hilf Density.

Fill placed and compacted at measured density ratios less than 95% were tyned, moisture conditioned and re-compacted until the required specification was achieved. Retesting was carried out using Random Stratified Location methods.

The Location of the field density tests are shown on the Site Plan contained in Appendix A. These test locations and levels were not obtained by survey and therefore should only be considered as approximate.

#### 4.0 STATEMENT OF COMPLIANCE

Our representative observed all the relevant earthworks operations including the stripped surfaces, filling operations and carried out compaction tests in accordance with the required standard.

It is confirmed that Level 1 Inspection has been carried out on the earthworks fill at this project.

Based on the observations made by our Geotechnicians and the results of the field and laboratory tests, the placed and compacted fill at the above project has, as far as we have been able to assess, been constructed in general accordance with the intent of AS3798.

The fill can be deemed as “Controlled” in accordance with AS2870 (Residential Slabs and Footings).

#### 5.0 EXCLUSIONS

This statement does not include any topsoil, which may be placed for use as dressing, backfill to services, fill outside the area shown on the attached site plan, fill constructed by others or any other subsequent earthworks after August 2020.

Assessments of material quality such as soaked CBR and site classifications are excluded from this commission.

Our on-site attendance specifically excludes assessments of fill material quality and engineering properties that are outside the requirements of AS3798 - 2007, including soil or fill reactivity and soaked CBR values. We note that the fill materials used may result in unfavourable site classifications and low subgrade design strengths.

This report is not to be relied upon for settlement analysis and soft soils engineering advice. This is beyond the scope of this report and outside our engagement.

#### 6.0 LIMITATIONS

This Report has been prepared by Morrison Geotechnic Pty Ltd (**Morrison Geotechnic**) and may include contributions from Morrison Geotechnic’s officers and employees, sub-contractors, sub-consultants or agents (**Contributors**).

This Report is for the sole benefit and use of **Hall Contracting (Client)**, its designers, clients and relevant statutory authorities for the sole purpose of providing geotechnical advice and recommendations in respect of the Proposed Residential Development at North Harbour Phase 4B [Stages 42, 43, 44, & 45] (**Project**). The Report is only intended to address those issues expressly described in the Brief/ Work Instructions in this Report.

This Report should not be used or relied upon for any other purpose without Morrison Geotechnic’s prior written consent. Morrison Geotechnic and the Contributors do not accept any responsibility or liability in any way whatsoever for the use or reliance of this Report by anyone other than the **Client**, its designers, its clients and relevant statutory authorities or by anyone else for any purpose other than that for which it has been prepared.

Except with Morrison Geotechnic’s prior written consent, this Report may not be:

- (a) released to any other party, whether in whole or in part (other than to the Client’s officers, employees, advisers, designers, clients and relevant statutory authorities);
- (b) used or relied upon by any other party.

Morrison Geotechnic and the Contributors, do not accept any liability or responsibility whatsoever for, or in respect of, any use or reliance upon this Report by any other party. Morrison Geotechnic is not obliged to enter into discussions with any third party in respect of this Report.

The information (including technical information and information obtained through discussions) on which this report is based has been provided by the Client and third parties. Morrison Geotechnic and the Contributors:

- (a) have relied upon and presumed the accuracy of this information;
- (b) have not verified the accuracy or reliability of this information (other than as expressly stated in this Report);
- (c) have not made any independent investigations or enquiries in respect of those matters of which it has no actual knowledge at the time of giving this Report to the Client; and
- (d) make no warranty or guarantee, expressed or implied, as to the accuracy or reliability of this information.

Morrison Geotechnic and the Contributors do not accept responsibility or liability for any incorrect assumptions related to this Report. For the avoidance of doubt, this Report:

- (a) is not an environmental, contamination or hazardous materials assessment; may be invalid, incomplete or inaccurate (including errors in the scope of work, investigation methodology, observations, opinions and advice) where the information provided to Morrison Geotechnic was invalid, incomplete or inaccurate;
- (b) is limited to observations of those parts of the site described in Section 1.0.

No warranty or guarantee, whether express or implied, is made in respect of the geotechnical data, information, advice, opinions and recommendations present in this Report.

If further information becomes available, or additional assumptions need to be made, Morrison Geotechnic reserves its right to amend this Report.

If you have any queries regarding the above, please contact our Maroochydore office.

Yours faithfully,

Reviewed by



**HERBERT HENDERSON**  
For and on behalf of  
**MORRISON GEOTECHNIC PTY LIMITED**

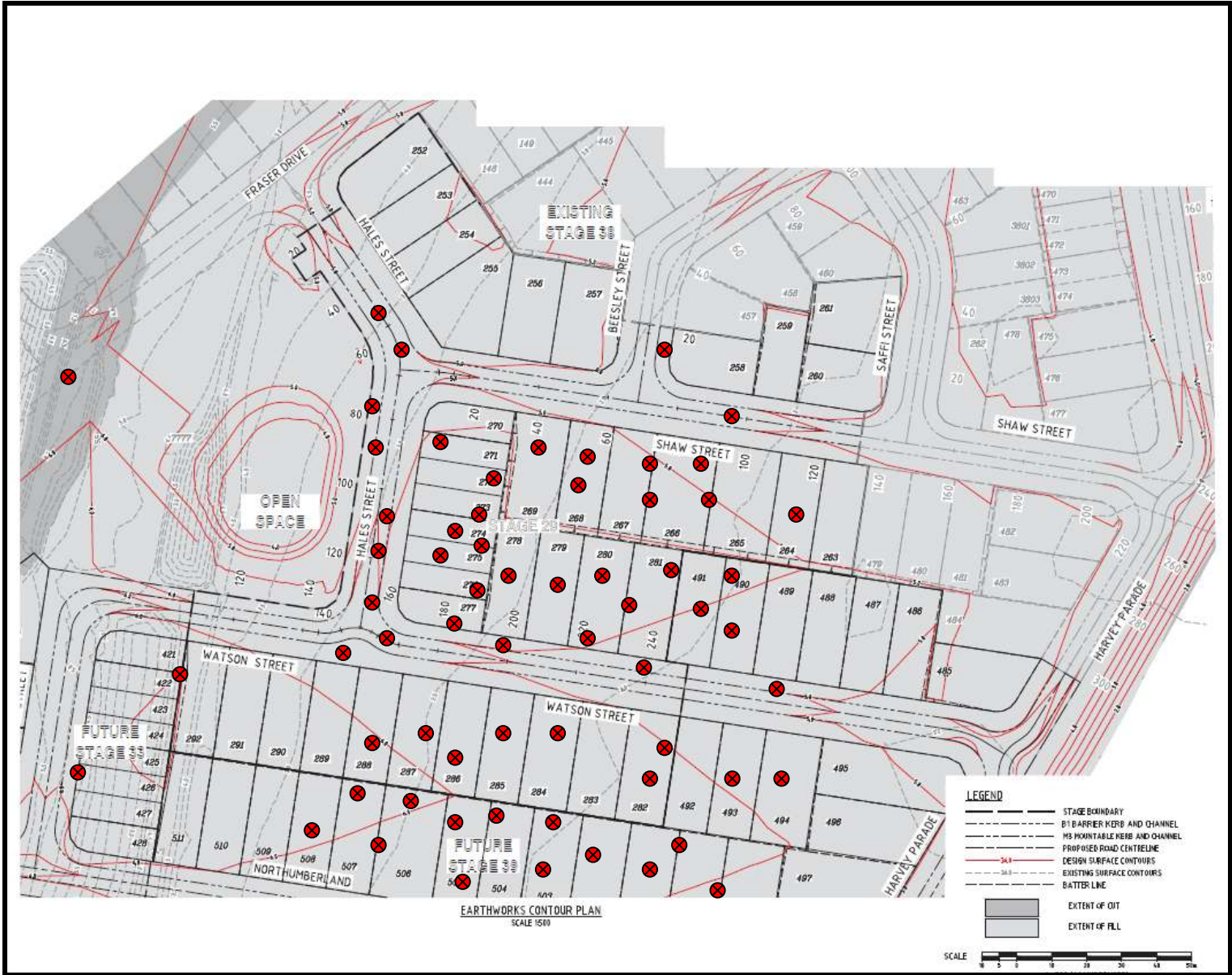


**BENJIMAN BEATTIE**  
For and on behalf of  
**MORRISON GEOTECHNIC PTY LIMITED**


# **APPENDIX A**

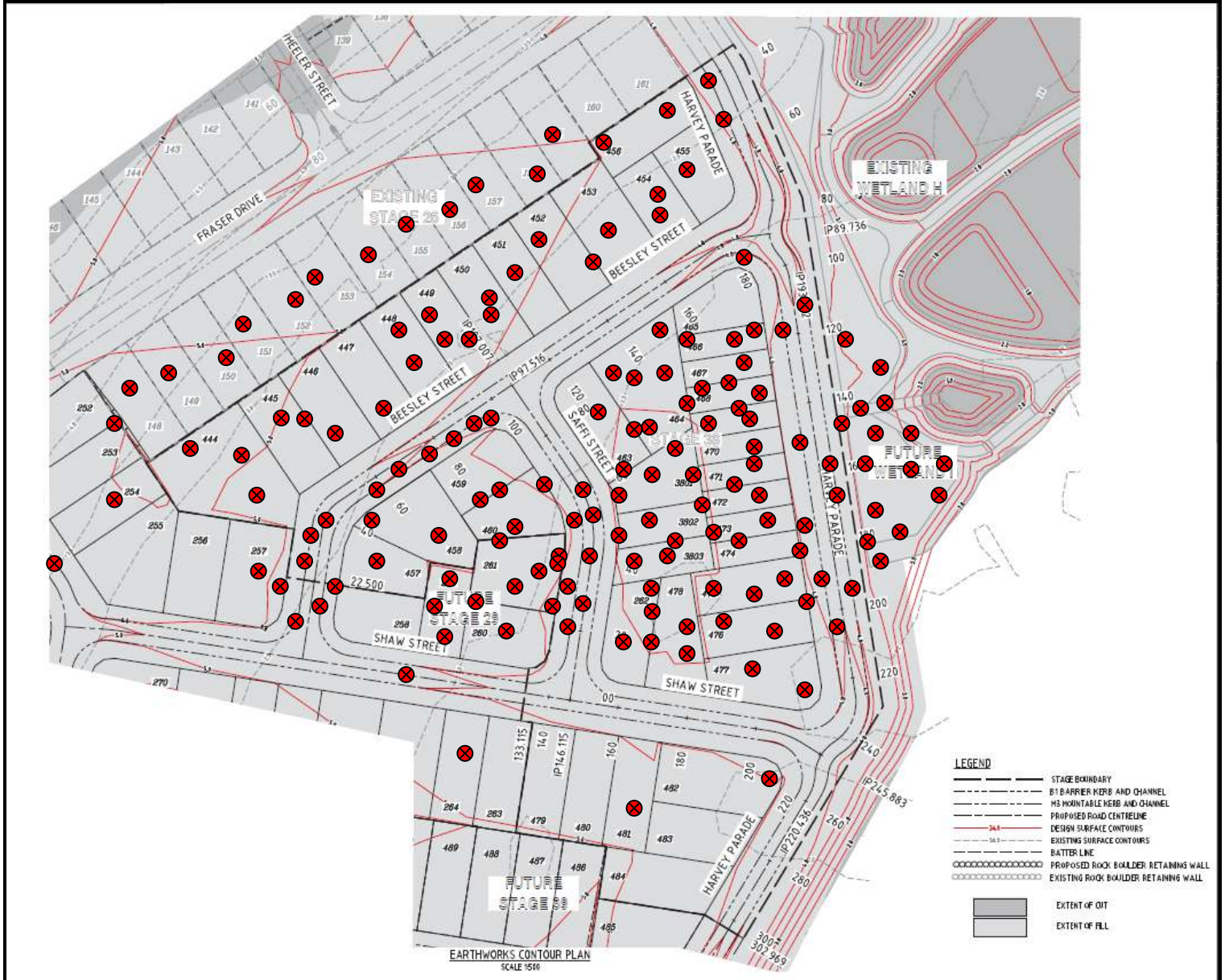
Site Plans Showing Test Locations





**MORRISON GEOTECHNIC PTY LTD**  
 ABN: 51 009 878 899  
 Unit 4/81 Wisers Rd, Maroochydore Qld 4558  
 Mob: 0499 601 506  
 Email: [maroochydoorelab@mgeo.com.au](mailto:maroochydoorelab@mgeo.com.au)

Client :	Hall Contracting Pty Ltd		
Project :	North Harbour Phase 4B (Stages 29, 39) Burpengary		
Job No :	ML20/105	Drawing No:	KN Group Drawing No: 20-170-04, Rev A
Legend	Approx. Bulk Fill Test Location		Date: May 2022
			<b>Drawing Not To Scale</b>




**MORRISON GEOTECHNIC PTY LTD**

ABN: 51 009 878 899

Unit 4/81 Wises Rd, Maroochydore Qld 4558  
Ph: 5443 9522

Email: [maroochydorelab@mgeo.com.au](mailto:maroochydorelab@mgeo.com.au)

Client :	Hall Contracting Pty Ltd		
Project :	North Harbour Phase 4B (Stage 38) Burpengary		
Job No :	ML20/105	Drawing No:	ML20/105 – Bulk Fill (Stage 38)
Legend	Approx. Bulk Fill Test Location		Date: May 2022
			<b>Drawing Not To Scale</b>

# **APPENDIX B**

Laboratory Test Reports



# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

283-307 Buckley Road Burpengary East QLD 4505

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-11  
**Issue Number:** 2 - This version supersedes all previous issues  
**Reissue Reason:** Amended Location  
**Date Issued:** 15/12/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 388  
**Date Sampled:** 04/08/2020 7:00  
**Dates Tested:** 04/08/2020 - 20/08/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Location:** Bulk Fill  
**Material:** Sandy Clay. Reddish brown, Pinkish White  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor

Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-388A	N20-388B	N20-388C	N20-388D	N20-388E	N20-388F
Test Number	106	107	108	109	110	111
Date Tested	04/08/2020	04/08/2020	04/08/2020	04/08/2020	04/08/2020	04/08/2020
Time Tested	07:10	07:16	07:21	07:30	07:35	07:40
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499825	499795	499763	499733	499725	499710
Northing	6999767	6999749	6999725	6999717	6999702	6999699
Layer / Reduced Level	.5m BFL	.3m BFL	.6m BFL	.2m BFL	.2m BFL	.4m BFL
Soil Description	Sandy Clay. Brown Reddish /Pinkish white	Sandy Clay. Brown Reddish /Pinkish white	Sandy Clay. Brown Reddish /Pinkish white	Sandy Clay. Brown Reddish /Pinkish white	Sandy Clay. Brown Reddish /Pinkish white	Sandy Clay. Brown Reddish /Pinkish white
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	**	**	**	**	**	**
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.08	2.08	2.10	2.07	2.08	2.03
Field Moisture Content %	14.7	17.4	16.9	18.2	18.6	18.5
Field Dry Density (FDD) t/m <sup>3</sup>	1.81	1.77	1.80	1.75	1.76	1.71
Peak Converted Wet Density t/m <sup>3</sup>	2.09	2.12	2.11	2.08	2.13	2.10
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	0.0	0.0	0.0	0.0	0.0	0.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>99.0</b>	<b>98.0</b>	<b>99.5</b>	<b>99.0</b>	<b>97.5</b>	<b>96.5</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

**Moisture Variation Note:**

Positive values = test is dry of OMC

Negative values = test is wet of OMC

# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

283-307 Buckley Road Burpengary East QLD 4505

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-11  
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**Reissue Reason:** Amended Location  
**Date Issued:** 15/12/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 388  
**Date Sampled:** 04/08/2020 7:00  
**Dates Tested:** 04/08/2020 - 20/08/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Location:** Bulk Fill  
**Material:** Sandy Clay. Reddish brown, Pinkish White  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor

Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-388G	N20-388H	N20-388I	N20-388J	N20-388K	N20-388L
Test Number	112	113	114	115	116	117
Date Tested	04/08/2020	04/08/2020	04/08/2020	04/08/2020	04/08/2020	04/08/2020
Time Tested	07:44	07:47	07:54	08:00	08:05	08:09
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499694	499675	499651	499634	499643	499669
Northing	6999668	6999672	6999659	6999644	6999623	6999628
Layer / Reduced Level	.4m BFL	.2m BFL	.2m BFL	.5m BFI	.2m BFL	.3m BFL
Soil Description	Sandy Clay. Brown Reddish /Pinkish white	Sandy Clay. Brown Reddish /Pinkish white	Sandy Clay. Brown Reddish /Pinkish white	Sandy Clay. Brown Reddish /Pinkish white	Sandy Clay. Brown Reddish /Pinkish white	Sandy Clay. Brown Reddish /Pinkish white
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	**	**	**	**	**	**
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.04	2.00	2.02	2.03	2.06	2.04
Field Moisture Content %	19.0	18.5	19.0	18.5	18.0	18.2
Field Dry Density (FDD) t/m <sup>3</sup>	1.71	1.69	1.70	1.71	1.74	1.72
Peak Converted Wet Density t/m <sup>3</sup>	2.08	2.08	2.09	2.10	2.05	2.10
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	0.0	0.0	0.0	0.0	0.0	0.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	97.5	96.0	96.5	96.5	100.5	97.0
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard

**Moisture Variation Note:**

Positive values = test is dry of OMC

Negative values = test is wet of OMC

# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

283-307 Buckley Road Burpengary East QLD 4505

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

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 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 388  
**Date Sampled:** 04/08/2020 7:00  
**Dates Tested:** 04/08/2020 - 20/08/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
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**Material Source:** Onsite



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*D. Taylor*

Approved Signatory: David Taylor

Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-388M	N20-388N	N20-388O	N20-388P	N20-388Q	N20-388R
Test Number	118	119	120	121	122	123
Date Tested	04/08/2020	04/08/2020	04/08/2020	04/08/2020	04/08/2020	04/08/2020
Time Tested	08:20	08:24	08:30	08:36	08:40	08:46
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499687	499695	499709	499718	499734	499749
Northing	6999646	6999654	6999665	6999664	6999677	6999692
Layer / Reduced Level	.2m BFL	.4m BFL	.2m BFL	.2m BFL	.4m BFL	.2mBFL
Soil Description	Sandy Clay. Brown Reddish /Pinkish white	Sandy Clay. Brown Reddish /Pinkish white	Sandy Clay. Brown Reddish /Pinkish white	Sandy Clay. Brown Reddish /Pinkish white	Sandy Clay. Brown Reddish /Pinkish white	Sandy Clay. Brown Reddish /Pinkish white
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	**	**	**	**	**	**
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.03	2.05	2.04	2.04	2.05	2.08
Field Moisture Content %	18.2	17.9	18.6	18.7	18.8	18.5
Field Dry Density (FDD) t/m <sup>3</sup>	1.72	1.74	1.72	1.72	1.73	1.75
Peak Converted Wet Density t/m <sup>3</sup>	2.09	2.10	2.06	2.09	2.08	2.09
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	0.0	0.0	0.0	0.0	0.0	0.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>97.0</b>	<b>98.0</b>	<b>99.0</b>	<b>98.0</b>	<b>99.0</b>	<b>99.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

**Moisture Variation Note:**

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# Material Test Report



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Base Facility No:17071

North Harbour Annex Facility No:24234

283-307 Buckley Road Burpengary East QLD 4505

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 PO BOX 519, BUDERIM QLD 4556  
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**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 388  
**Date Sampled:** 04/08/2020 7:00  
**Dates Tested:** 04/08/2020 - 20/08/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Location:** Bulk Fill  
**Material:** Sandy Clay. Reddish brown, Pinkish White  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor

Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-388S	N20-388T	N20-388U	N20-388V	N20-388W	N20-388X
Test Number	124	125	126	127	128	129
Date Tested	04/08/2020	04/08/2020	04/08/2020	04/08/2020	04/08/2020	04/08/2020
Time Tested	08:54	09:00	09:05	09:10	09:14	09:20
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499771	499785	499801	499821	499804	499781
Northing	6999699	6999708	6999713	6999714	6999696	6999692
Layer / Reduced Level	.4m BFL	.5m BFL	.4m BFL	.6m BFL	.3m BFL	.4m BFL
Soil Description	Sandy Clay. Brown Reddish /Pinkish white	Sandy Clay. Brown Reddish /Pinkish white	Sandy Clay. Brown Reddish /Pinkish white	Sandy Clay. Brown Reddish /Pinkish white	Sandy Clay. Brown Reddish /Pinkish white	Sandy Clay. Brown Reddish /Pinkish white
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	**	**	**	**	**	**
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.07	2.06	2.05	2.07	2.05	2.06
Field Moisture Content %	18.2	18.0	18.6	18.0	18.0	17.9
Field Dry Density (FDD) t/m <sup>3</sup>	1.75	1.74	1.73	1.75	1.74	1.75
Peak Converted Wet Density t/m <sup>3</sup>	2.10	2.12	2.09	2.12	2.09	2.08
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	0.0	0.0	0.0	0.0	0.0	0.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>98.5</b>	<b>97.0</b>	<b>98.0</b>	<b>97.5</b>	<b>98.0</b>	<b>99.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

**Moisture Variation Note:**

Positive values = test is dry of OMC

Negative values = test is wet of OMC

# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

283-307 Buckley Road Burpengary East QLD 4505

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-11  
**Issue Number:** 2 - This version supersedes all previous issues  
**Reissue Reason:** Amended Location  
**Date Issued:** 15/12/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 388  
**Date Sampled:** 04/08/2020 7:00  
**Dates Tested:** 04/08/2020 - 20/08/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Location:** Bulk Fill  
**Material:** Sandy Clay. Reddish brown, Pinkish White  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor

Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-388Y	N20-388Z	N20-388AA	N20-388AB	N20-388AC	N20-388AD
Test Number	130	131	132	133	134	135
Date Tested	04/08/2020	04/08/2020	04/08/2020	04/08/2020	04/08/2020	04/08/2020
Time Tested	09:30	09:40	09:45	09:50	10:00	10:05
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499769	499739	499701	499693	499681	499658
Northing	6999675	6999661	6999634	6999613	6999600	6999598
Layer / Reduced Level	.6m BFL	.5m BFL	.4m BFL	.5m BFL	.3m BFL	.2m BFL
Soil Description	Sandy Clay. Brown Reddish /Pinkish white	Sandy Clay. Brown Reddish /Pinkish white	Sandy Clay. Brown Reddish /Pinkish white	Sandy Clay. Brown Reddish /Pinkish white	Sandy Clay. Brown Reddish /Pinkish white	Sandy Clay. Brown Reddish /Pinkish white
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	**	**	**	**	**	**
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.02	2.03	2.04	2.04	2.04	2.04
Field Moisture Content %	18.6	17.5	17.3	18.6	18.3	18.4
Field Dry Density (FDD) t/m <sup>3</sup>	1.70	1.73	1.74	1.72	1.73	1.72
Peak Converted Wet Density t/m <sup>3</sup>	2.11	2.08	2.11	2.08	2.11	2.09
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	0.0	0.0	0.0	0.0	0.0	0.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>95.5</b>	<b>97.5</b>	<b>96.5</b>	<b>98.0</b>	<b>97.0</b>	<b>97.5</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

**Moisture Variation Note:**

Positive values = test is dry of OMC

Negative values = test is wet of OMC



# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

Unit 4 / 81 Wisers Road Maroochydore QLD 4558

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-19  
**Issue Number:** 1  
**Date Issued:** 19/09/2020  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 423  
**Date Sampled:** 04/09/2020 10:00  
**Dates Tested:** 05/09/2020 - 19/09/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite (Marina Borrow Pit)



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor

Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1				
Sample Number	N20-423A	N20-423B	N20-423C	N20-423D
Test Number	285	286	287	288
Date Tested	04/09/2020	04/09/2020	04/09/2020	04/09/2020
Time Tested	10:20	10:25	10:30	10:35
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499821	499814	499807	499796
Northing	6999539	6999530	6999521	6999508
Elevation (m)	-6m	-4m	-.2m	-.2m
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200
Sieve used to determine oversize (mm)	**	**	**	**
Percentage of Wet Oversize (%)	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	1.95	1.95	1.96	1.98
Field Moisture Content %	18.4	18.0	18.9	16.0
Field Dry Density (FDD) t/m <sup>3</sup>	1.65	1.66	1.65	1.71
Peak Converted Wet Density t/m <sup>3</sup>	2.03	2.03	2.04	2.05
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**
Moisture Variation (Wv) %	0.0	0.0	0.0	0.0
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	<b>96.0</b>	<b>96.5</b>	<b>96.0</b>	<b>96.5</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

**Moisture Variation Note:**

Positive values = test is dry of OMC

Negative values = test is wet of OMC

# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

Unit 4 / 81 Wisers Road Maroochydore QLD 4558

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-21  
**Issue Number:** 1  
**Date Issued:** 28/09/2020  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 395  
**Date Sampled:** 15/08/2020 10:00  
**Dates Tested:** 15/08/2020 - 28/09/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Site Selection:** AS 1289.1.4.1  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor

Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-395A	N20-395B	N20-395C	N20-395D	N20-395E	N20-395F
Test Number	185	186	187	188	189	190
Date Tested	15/08/2020	15/08/2020	15/08/2020	15/08/2020	15/08/2020	15/08/2020
Time Tested	07:00	07:05	07:10	07:15	07:20	07:25
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499627	499622	499609	499605	499612	499623
Northing	6999579	6999565	6999563	6999552	6999544	6999555
Elevation (m)	-.2m	-.2m	-.4m	-.4m	-.2m	-.3m
Soil Description	Sandy Clay.	Sandy Clay.	Sandy Clay.	Sandy Clay.	Sandy Clay.	Sandy Clay.
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	**	**	**	**	**	**
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.10	2.10	2.10	2.10	2.09	2.06
Field Moisture Content %	16.0	15.6	16.2	15.0	16.3	16.5
Field Dry Density (FDD) t/m <sup>3</sup>	1.81	1.82	1.81	1.83	1.80	1.77
Peak Converted Wet Density t/m <sup>3</sup>	2.17	2.19	2.15	2.18	2.16	2.15
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	0.0	0.0	0.0	0.0	0.0	0.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	97.0	96.0	98.0	96.5	97.0	95.5
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard

**Moisture Variation Note:**

Positive values = test is dry of OMC

Negative values = test is wet of OMC

# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

Unit 4 / 81 Wisers Road Maroochydore QLD 4558

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-21  
**Issue Number:** 1  
**Date Issued:** 28/09/2020  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 395  
**Date Sampled:** 15/08/2020 10:00  
**Dates Tested:** 15/08/2020 - 28/09/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Site Selection:** AS 1289.1.4.1  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor

Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-395G	N20-395H	N20-395I	N20-395J	N20-395K	N20-395L
Test Number	191	192	193	194	195	196
Date Tested	15/08/2020	15/08/2020	15/08/2020	15/08/2020	15/08/2020	15/08/2020
Time Tested	07:30	07:40	07:45	07:50	08:01	08:10
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499644	499651	499644	499735	499724	499710
Northing	6999569	6999553	6999534	6999555	6999540	6999519
Elevation (m)	-.5m	-.2m	-.2m	-1.0m	-1.0m	-.8m
Soil Description	Sandy Clay.	Sandy Clay.	Sandy Clay.	Sandy Clay.	Sandy Clay.	Sandy Clay.
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	**	**	**	**	**	**
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.11	2.08	2.10	2.10	2.10	2.02
Field Moisture Content %	16.5	17.9	15.2	16.2	14.6	14.7
Field Dry Density (FDD) t/m <sup>3</sup>	1.81	1.76	1.82	1.81	1.83	1.76
Peak Converted Wet Density t/m <sup>3</sup>	2.15	2.13	2.17	2.18	2.15	2.12
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	0.0	0.0	0.0	0.0	0.0	0.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>98.0</b>	<b>97.5</b>	<b>96.5</b>	<b>96.5</b>	<b>97.5</b>	<b>95.5</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

**Moisture Variation Note:**

Positive values = test is dry of OMC

Negative values = test is wet of OMC

# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

Unit 4 / 81 Wisers Road Maroochydore QLD 4558

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-21  
**Issue Number:** 1  
**Date Issued:** 28/09/2020  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 395  
**Date Sampled:** 15/08/2020 10:00  
**Dates Tested:** 15/08/2020 - 28/09/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Site Selection:** AS 1289.1.4.1  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor

Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-395M	N20-395N	N20-395O	N20-395P	N20-395Q	N20-395R
Test Number	197	198	199	200	201	202
Date Tested	15/08/2020	15/08/2020	15/08/2020	15/08/2020	15/08/2020	15/08/2020
Time Tested	08:15	08:20	08:25	08:30	08:38	08:42
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499694	499707	499709	499695	499699	499692
Northing	6999518	6999540	6999557	6999558	6999540	6999525
Elevation (m)	-.6m	-.7m	-1.0m	-1.1m	-.8m	-.9m
Soil Description	Sandy Clay.	Sandy Clay.	Sandy Clay.	Sandy Clay.	Sandy Clay.	Sandy Clay.
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	**	**	**	**	**	**
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.08	2.09	2.08	2.01	2.14	2.15
Field Moisture Content %	14.9	16.4	16.0	17.0	14.6	15.6
Field Dry Density (FDD) t/m <sup>3</sup>	1.81	1.79	1.80	1.72	1.87	1.86
Peak Converted Wet Density t/m <sup>3</sup>	2.15	2.17	2.13	2.09	2.17	2.16
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	0.0	0.0	0.0	0.0	0.0	0.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>96.5</b>	<b>96.0</b>	<b>97.5</b>	<b>96.0</b>	<b>99.0</b>	<b>99.5</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

**Moisture Variation Note:**

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

# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

Unit 4 / 81 Wisers Road Maroochydore QLD 4558

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-21  
**Issue Number:** 1  
**Date Issued:** 28/09/2020  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 395  
**Date Sampled:** 15/08/2020 10:00  
**Dates Tested:** 15/08/2020 - 28/09/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Site Selection:** AS 1289.1.4.1  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor

Senior Technician

NATA Accredited Laboratory Number: 1169

## Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

Sample Number	N20-395S	N20-395T	N20-395U	N20-395V	N20-395W	N20-395X
Test Number	203	204	205	206	207	208
Date Tested	15/08/2020	15/08/2020	15/08/2020	15/08/2020	15/08/2020	15/08/2020
Time Tested	08:50	08:55	09:00	09:10	09:15	09:20
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499692	499691	499687	499680	499678	499674
Northing	6999543	6999557	6999543	6999530	6999546	6999559
Elevation (m)	-.6m	-.5m	-.4m	-.6m	-.4m	-.7m
Soil Description	Sandy Clay.	Sandy Clay.	Sandy Clay.	Sandy Clay.	Sandy Clay.	Sandy Clay.
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	**	**	**	**	**	**
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.11	2.08	2.14	2.12	2.10	2.11
Field Moisture Content %	12.4	14.7	16.2	16.3	15.8	14.7
Field Dry Density (FDD) t/m <sup>3</sup>	1.88	1.81	1.84	1.82	1.82	1.84
Peak Converted Wet Density t/m <sup>3</sup>	2.16	2.15	2.18	2.18	2.15	2.13
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	2.0	0.0	0.0	0.0	0.0	0.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	97.5	96.5	98.0	97.5	98.0	99.0
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard

### Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

Unit 4 / 81 Wises Road Maroochydore QLD 4558

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-21  
**Issue Number:** 1  
**Date Issued:** 28/09/2020  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 395  
**Date Sampled:** 15/08/2020 10:00  
**Dates Tested:** 15/08/2020 - 28/09/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Site Selection:** AS 1289.1.4.1  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor

Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-395Y					
Test Number	209					
Date Tested	15/08/2020					
Time Tested	09:25					
Test Request #/Location	Bulk Fill					
Easting	499666					
Northing	6999536					
Elevation (m)	-4m					
Soil Description	Sandy Clay.					
Test Depth (mm)	200					
Sieve used to determine oversize (mm)	**					
Percentage of Wet Oversize (%)	**					
Field Wet Density (FWD) t/m <sup>3</sup>	2.09					
Field Moisture Content %	15.4					
Field Dry Density (FDD) t/m <sup>3</sup>	1.81					
Peak Converted Wet Density t/m <sup>3</sup>	2.14					
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**					
Moisture Variation (Wv) %	0.0					
Adjusted Moisture Variation %	**					
Hilf Density Ratio (%)	<b>98.0</b>					
Compaction Method	<b>Standard</b>					

**Moisture Variation Note:**

Positive values = test is dry of OMC

Negative values = test is wet of OMC

# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

Unit 4 / 81 Wisers Road Maroochydore QLD 4558

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-28  
**Issue Number:** 1  
**Date Issued:** 20/10/2020  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 452  
**Date Sampled:** 30/09/2020 8:00  
**Dates Tested:** 01/10/2020 - 16/10/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Onsite Marina Borrow )  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor

Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-452A	N20-452B	N20-452C	N20-452D	N20-452E	N20-452F
Test Number	376	377	378	379	380	381
Date Tested	30/09/2020	30/09/2020	30/09/2020	30/09/2020	30/09/2020	30/09/2020
Time Tested	10:02	10:08	10:15	10:20	10:25	10:30
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499616	499637	499661	499679	499705	499728
Northing	6999495	6999490	6999484	6999481	6999472	6999469
Layer / Reduced Level	-2.2	-2.1	-2.0	-2.4	-2.2	-1.9
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200	200
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	**	0.0	0.0
Field Wet Density (FWD) t/m <sup>3</sup>	2.15	2.12	2.08	2.07	2.07	2.10
Field Moisture Content %	6.2	6.1	6.6	5.6	6.1	6.7
Field Dry Density (FDD) t/m <sup>3</sup>	2.02	2.00	1.95	1.96	1.96	1.97
Peak Converted Wet Density t/m <sup>3</sup>	2.12	2.16	2.09	2.11	2.09	2.13
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	4.0	1.5	4.5	4.5	4.5	4.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>101.5</b>	<b>98.5</b>	<b>99.0</b>	<b>98.5</b>	<b>99.0</b>	<b>98.5</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

**Moisture Variation Note:**

Positive values = test is dry of OMC

Negative values = test is wet of OMC



# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

Unit 4 / 81 Wisers Road Maroochydore QLD 4558

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-28  
**Issue Number:** 1  
**Date Issued:** 20/10/2020  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 452  
**Date Sampled:** 30/09/2020 8:00  
**Dates Tested:** 01/10/2020 - 16/10/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Onsite Marina Borrow )  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor

Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-452G	N20-452H	N20-452I	N20-452J	N20-452K	N20-452L
Test Number	382	383	384	385	386	387
Date Tested	30/09/2020	30/09/2020	30/09/2020	30/09/2020	30/09/2020	30/09/2020
Time Tested	10:35	10:40	10:45	10:50	10:55	11:00
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499755	499784	499801	499775	499759	499734
Northing	6999465	6999461	6999442	6999443	6999448	6999457
Layer / Reduced Level	-2.0	-2.0	-1.9	-2.3	-2.1	-1.9
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200	200
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	0.0	0.0	0.0
Field Wet Density (FWD) t/m <sup>3</sup>	2.17	2.14	2.15	2.14	2.11	2.12
Field Moisture Content %	6.3	6.1	5.9	5.9	6.1	5.9
Field Dry Density (FDD) t/m <sup>3</sup>	2.04	2.01	2.03	2.02	1.99	2.00
Peak Converted Wet Density t/m <sup>3</sup>	2.15	2.17	2.12	2.12	2.09	2.10
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	4.0	1.5	4.5	4.5	4.5	4.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	100.5	98.5	101.5	101.0	101.0	101.0
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard

**Moisture Variation Note:**

Positive values = test is dry of OMC

Negative values = test is wet of OMC



# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

Unit 4 / 81 Wisers Road Maroochydore QLD 4558

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-28  
**Issue Number:** 1  
**Date Issued:** 20/10/2020  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 452  
**Date Sampled:** 30/09/2020 8:00  
**Dates Tested:** 01/10/2020 - 16/10/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Onsite Marina Borrow )  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-452M	N20-452N	N20-452O	N20-452P	N20-452Q	N20-452R
Test Number	388	389	390	391	392	393
Date Tested	30/09/2020	30/09/2020	30/09/2020	30/09/2020	30/09/2020	30/09/2020
Time Tested	11:10	11:15	11:20	11:25	11:30	11:35
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499713	499692	499669	499648	499631	499612
Northing	6999453	6999462	6999461	6999462	6999463	6999464
Layer / Reduced Level	-2.0	-2.2	-2.0	-1.9	-2	-2.3
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200	200
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	0.0	0.0	0.0
Field Wet Density (FWD) t/m <sup>3</sup>	2.10	2.09	2.10	2.10	2.11	2.11
Field Moisture Content %	5.9	5.7	5.6	5.7	5.8	5.9
Field Dry Density (FDD) t/m <sup>3</sup>	1.99	1.98	1.98	1.99	1.99	1.99
Peak Converted Wet Density t/m <sup>3</sup>	2.09	2.09	2.10	2.11	2.10	2.10
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	4.5	4.5	4.5	4.5	4.0	4.5
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	101.0	100.0	99.5	99.5	100.5	100.5
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard

**Moisture Variation Note:**

Positive values = test is dry of OMC

Negative values = test is wet of OMC

# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

Unit 4 / 81 Wisers Road Maroochydore QLD 4558

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-28  
**Issue Number:** 1  
**Date Issued:** 20/10/2020  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 452  
**Date Sampled:** 30/09/2020 8:00  
**Dates Tested:** 01/10/2020 - 16/10/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Onsite Marina Borrow )  
**Material Source:** Onsite



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*D. Taylor*

Approved Signatory: David Taylor

Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-452S	N20-452T				
Test Number	394	395				
Date Tested	30/09/2020	30/09/2020				
Time Tested	11:40	11:45				
Test Request #/Location	Bulk Fill	Bulk Fill				
Easting	499608	499638				
Northing	6999449	6999443				
Layer / Reduced Level	-2.2	-1.9				
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown				
Test Depth (mm)	200	200				
Sieve used to determine oversize (mm)	19.0	19.0				
Percentage of Wet Oversize (%)	0.0	0.0				
Field Wet Density (FWD) t/m <sup>3</sup>	2.10	2.09				
Field Moisture Content %	5.6	5.4				
Field Dry Density (FDD) t/m <sup>3</sup>	1.99	1.99				
Peak Converted Wet Density t/m <sup>3</sup>	2.09	2.07				
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**				
Moisture Variation (Wv) %	4.0	4.0				
Adjusted Moisture Variation %	**	**				
Hilf Density Ratio (%)	<b>100.5</b>	<b>101.0</b>				
Compaction Method	<b>Standard</b>	<b>Standard</b>				

**Moisture Variation Note:**

Positive values = test is dry of OMC

Negative values = test is wet of OMC

# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

Unit 4 / 81 Wises Road Maroochydore QLD 4558

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-29  
**Issue Number:** 1  
**Date Issued:** 28/10/2020  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 444  
**Date Sampled:** 18/09/2020 8:30  
**Dates Tested:** 18/09/2020 - 28/10/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite (Marina Borrow Pit)



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*D. Taylor*

Approved Signatory: David Taylor

Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-444A	N20-444B	N20-444C	N20-444D	N20-444E	N20-444F
Test Number	319	320	321	322	323	324
Date Tested	18/09/2020	18/09/2020	18/09/2020	18/09/2020	18/09/2020	18/09/2020
Time Tested	08:50	08:55	09:10	09:15	09:20	09:28
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499594	499619	499652	499685	499717	499743
Northing	6999404	6999403	6999408	6999397	6999386	6999378
Layer / Reduced Level	-2.75m	-2.8	-2.81	-2.7	-2.86	-2.5
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	**	**	**	**	**	**
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	1.94	1.94	1.95	1.93	1.92	1.96
Field Moisture Content %	27.9	27.1	28.2	28.4	28.2	25.8
Field Dry Density (FDD) t/m <sup>3</sup>	1.51	1.53	1.52	1.50	1.49	1.56
Peak Converted Wet Density t/m <sup>3</sup>	2.01	2.01	2.01	2.03	1.95	1.98
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	0.0	0.0	0.0	-2.5	-2.0	0.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>96.5</b>	<b>96.5</b>	<b>97.0</b>	<b>95.0</b>	<b>98.0</b>	<b>99.5</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

**Moisture Variation Note:**

Positive values = test is dry of OMC

Negative values = test is wet of OMC

# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

Unit 4 / 81 Wises Road Maroochydore QLD 4558

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-29  
**Issue Number:** 1  
**Date Issued:** 28/10/2020  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 444  
**Date Sampled:** 18/09/2020 8:30  
**Dates Tested:** 18/09/2020 - 28/10/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite (Marina Borrow Pit)



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor

Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-444G	N20-444H	N20-444I	N20-444J	N20-444K	N20-444L
Test Number	325	326	327	328	329	330
Date Tested	18/09/2020	18/09/2020	18/09/2020	18/09/2020	18/09/2020	18/09/2020
Time Tested	09:35	09:40	09:45	09:50	09:55	10:00
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499749	499703	499679	499649	499624	499607
Northing	6999361	6999350	6999364	6999362	6999375	6999368
Layer / Reduced Level	-2.6	-2.5	-2.4	-2.5	-2.5	-2.3
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	**	**	**	**	**	**
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	1.96	1.95	1.95	1.97	1.91	1.95
Field Moisture Content %	30.7	30.0	24.0	26.7	29.8	25.7
Field Dry Density (FDD) t/m <sup>3</sup>	1.50	1.50	1.57	1.55	1.47	1.55
Peak Converted Wet Density t/m <sup>3</sup>	1.97	1.96	1.95	1.97	1.98	1.97
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	-2.5	-2.0	0.0	0.0	0.0	0.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	99.5	99.5	99.5	100.0	96.5	99.0
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard

**Moisture Variation Note:**

Positive values = test is dry of OMC

Negative values = test is wet of OMC

# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

Unit 4 / 81 Wisers Road Maroochydore QLD 4558

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-29  
**Issue Number:** 1  
**Date Issued:** 28/10/2020  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 444  
**Date Sampled:** 18/09/2020 8:30  
**Dates Tested:** 18/09/2020 - 28/10/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite (Marina Borrow Pit)



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor

Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-444M	N20-444N				
Test Number	331	332				
Date Tested	18/09/2020	18/09/2020				
Time Tested	10:05	10:10				
Test Request #/Location	Bulk Fill	Bulk Fill				
Easting	499600	499622				
Northing	6999380	6999392				
Layer / Reduced Level	-2.2	-2.4				
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown				
Test Depth (mm)	200	200				
Sieve used to determine oversize (mm)	**	**				
Percentage of Wet Oversize (%)	**	**				
Field Wet Density (FWD) t/m <sup>3</sup>	1.96	1.97				
Field Moisture Content %	29.6	23.1				
Field Dry Density (FDD) t/m <sup>3</sup>	1.51	1.60				
Peak Converted Wet Density t/m <sup>3</sup>	2.01	1.98				
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**				
Moisture Variation (Wv) %	-2.0	0.0				
Adjusted Moisture Variation %	**	**				
Hilf Density Ratio (%)	<b>97.5</b>	<b>99.5</b>				
Compaction Method	<b>Standard</b>	<b>Standard</b>				

**Moisture Variation Note:**

Positive values = test is dry of OMC

Negative values = test is wet of OMC

# Material Test Report



**MORRISON  
GEOTECHNIC**

**Report Number:** ML20/105-30  
**Issue Number:** 1  
**Date Issued:** 02/11/2020  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 480  
**Date Sampled:** 15/10/2020 10:00  
**Dates Tested:** 15/10/2020 - 02/11/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite

Morrison Geotechnic Pty Ltd  
 Base Facility No:17071  
 North Harbour Annex Facility No:24234  
 Unit 4 / 81 Wisers Road Maroochydore QLD 4558  
 Phone: (07) 5443 9522  
 Email: dtaylor@mgeo.com.au



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1					
Sample Number	N20-480A	N20-480B	N20-480C	N20-480D	N20-480E
Test Number	416	417	418	419	420
Date Tested	15/10/2020	15/10/2020	15/10/2020	15/10/2020	15/10/2020
Time Tested	10:05	10:10	10:15	10:20	10:25
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499632	499665	499691	499719	499745
Northing	6999459	6999452	6999444	6999433	6999429
Layer / Reduced Level	-1.1	-1.4	-1.2	-1.0	-1.2
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200
Sieve used to determine oversize (mm)	**	**	**	**	**
Percentage of Wet Oversize (%)	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.12	2.06	2.12	2.12	2.11
Field Moisture Content %	13.4	14.5	12.1	13.7	14.3
Field Dry Density (FDD) t/m <sup>3</sup>	1.87	1.80	1.89	1.87	1.85
Peak Converted Wet Density t/m <sup>3</sup>	2.14	2.12	2.14	2.13	2.14
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**
Moisture Variation (Wv) %	0.0	0.0	0.0	0.0	0.0
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	<b>99.5</b>	<b>97.0</b>	<b>99.0</b>	<b>99.5</b>	<b>99.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

**Moisture Variation Note:**

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

# Material Test Report



**MORRISON  
GEOTECHNIC**

**Report Number:** ML20/105-30  
**Issue Number:** 1  
**Date Issued:** 02/11/2020  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 480  
**Date Sampled:** 15/10/2020 10:00  
**Dates Tested:** 15/10/2020 - 02/11/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite

Morrison Geotechnic Pty Ltd  
 Base Facility No:17071  
 North Harbour Annex Facility No:24234  
 Unit 4 / 81 Wisers Road Maroochydore QLD 4558  
 Phone: (07) 5443 9522  
 Email: dtaylor@mgeo.com.au



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1					
Sample Number	N20-480F	N20-480G	N20-480H	N20-480I	N20-480J
Test Number	421	422	423	424	425
Date Tested	15/10/2020	15/10/2020	15/10/2020	15/10/2020	15/10/2020
Time Tested	10:30	10:35	10:40	10:45	10:50
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499748	499715	499689	499653	499622
Northing	6999417	6999415	6999423	6999440	6999436
Layer / Reduced Level	-1.5	-1.6	-1.5	-1.6	-1.4
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200
Sieve used to determine oversize (mm)	**	**	**	**	**
Percentage of Wet Oversize (%)	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.00	2.07	2.03	2.10	2.08
Field Moisture Content %	12.9	13.5	14.6	13.9	13.2
Field Dry Density (FDD) t/m <sup>3</sup>	1.77	1.82	1.77	1.84	1.83
Peak Converted Wet Density t/m <sup>3</sup>	2.07	2.11	2.11	2.12	2.12
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**
Moisture Variation (Wv) %	0.0	0.0	0.0	0.0	0.0
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	<b>97.0</b>	<b>98.0</b>	<b>96.5</b>	<b>99.0</b>	<b>98.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

**Moisture Variation Note:**

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



# Material Test Report



**MORRISON  
GEOTECHNIC**

**Report Number:** ML20/105-31  
**Issue Number:** 1  
**Date Issued:** 09/11/2020  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 428  
**Date Sampled:** 10/09/2020 10:00  
**Dates Tested:** 11/09/2020 - 07/11/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite Marina Borrow pit

Morrison Geotechnic Pty Ltd  
 Base Facility No:17071  
 North Harbour Annex Facility No:24234  
 Unit 4 / 81 Wises Road Maroochydore QLD 4558  
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 Email: dtaylor@mgeo.com.au



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*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-428A	N20-428B	N20-428C	N20-428D	N20-428E	N20-428F
Test Number	289	290	291	292	293	294
Date Tested	10/09/2020	10/09/2020	10/09/2020	10/09/2020	10/09/2020	10/09/2020
Time Tested	10:00	10:05	10:10	10:20	10:25	10:35
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499630	499678	499719	499745	499779	499756
Northing	6999483	6999476	6999468	6999456	6999451	6999424
Layer / Reduced Level	-3.5	-3.3	-3.2	-3.3	-3.2	-3.1
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	**	**	19.0
Percentage of Wet Oversize (%)	0.0	0.0	0.0	**	**	0.0
Field Wet Density (FWD) t/m <sup>3</sup>	1.86	1.85	1.87	2.13	2.15	2.16
Field Moisture Content %	34.0	35.4	35.4	11.0	10.8	10.7
Field Dry Density (FDD) t/m <sup>3</sup>	1.39	1.36	1.38	1.92	1.94	1.96
Peak Converted Wet Density t/m <sup>3</sup>	1.83	1.84	1.85	2.15	2.16	2.16
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	-2.5	-2.5	-2.0	0.0	2.0	-0.5
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>102.0</b>	<b>100.5</b>	<b>101.5</b>	<b>99.5</b>	<b>99.5</b>	<b>100.5</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

**Moisture Variation Note:**

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



# Material Test Report



**MORRISON  
GEOTECHNIC**

**Report Number:** ML20/105-31  
**Issue Number:** 1  
**Date Issued:** 09/11/2020  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 428  
**Date Sampled:** 10/09/2020 10:00  
**Dates Tested:** 11/09/2020 - 07/11/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite Marina Borrow pit

Morrison Geotechnic Pty Ltd  
 Base Facility No:17071  
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 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-428G	N20-428H	N20-428I	N20-428J	N20-428K	N20-428L
Test Number	295	296	297	298	299	300
Date Tested	10/09/2020	10/09/2020	10/09/2020	10/09/2020	10/09/2020	10/09/2020
Time Tested	10:40	10:48	10:55	11:00	11:05	11:15
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499720	499695	499673	499644	499604	499629
Northing	6999433	6999436	6999442	6999446	6999408	6999403
Layer / Reduced Level	-3	-3.2	-3.3	-3.1	-3.0	-2.9
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	**	**	19.0	19.0
Percentage of Wet Oversize (%)	0.0	0.0	**	**	0.0	0.0
Field Wet Density (FWD) t/m <sup>3</sup>	2.14	2.15	2.15	2.15	2.14	2.12
Field Moisture Content %	11.8	11.8	11.1	10.7	12.7	10.7
Field Dry Density (FDD) t/m <sup>3</sup>	1.91	1.93	1.94	1.94	1.90	1.92
Peak Converted Wet Density t/m <sup>3</sup>	2.19	2.19	2.18	2.18	2.17	2.14
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	0.0	0.0	2.0	2.5	0.0	0.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>98.0</b>	<b>98.5</b>	<b>98.5</b>	<b>98.5</b>	<b>99.0</b>	<b>99.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

**Moisture Variation Note:**

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

# Material Test Report



**MORRISON  
GEOTECHNIC**

**Report Number:** ML20/105-31  
**Issue Number:** 1  
**Date Issued:** 09/11/2020  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 428  
**Date Sampled:** 10/09/2020 10:00  
**Dates Tested:** 11/09/2020 - 07/11/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite Marina Borrow pit

Morrison Geotechnic Pty Ltd  
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 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-428M	N20-428N	N20-428O	N20-428P	N20-428Q	N20-428R
Test Number	301	302	303	304	305	306
Date Tested	10/09/2020	10/09/2020	10/09/2020	10/09/2020	10/09/2020	10/09/2020
Time Tested	11:20	11:25	11:30	11:35	11:40	11:45
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499656	499686	499720	499675	499656	499629
Northing	6999395	6999395	6999387	6999374	6999384	6999386
Layer / Reduced Level	-3	-2.8	-3	-2.9	-2.9	-3.1
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	**	**	**	**	**	**
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.15	2.14	2.16	2.16	2.14	2.13
Field Moisture Content %	11.2	10.9	12.0	11.2	12.1	11.5
Field Dry Density (FDD) t/m <sup>3</sup>	1.93	1.93	1.93	1.94	1.91	1.91
Peak Converted Wet Density t/m <sup>3</sup>	2.22	2.13	2.17	2.16	2.20	2.18
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	0.0	2.5	2.5	2.5	0.0	2.5
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>97.0</b>	<b>100.5</b>	<b>99.5</b>	<b>100.0</b>	<b>97.5</b>	<b>98.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

**Moisture Variation Note:**

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

# Material Test Report



**MORRISON  
GEOTECHNIC**

**Report Number:** ML20/105-31  
**Issue Number:** 1  
**Date Issued:** 09/11/2020  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 428  
**Date Sampled:** 10/09/2020 10:00  
**Dates Tested:** 11/09/2020 - 07/11/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite Marina Borrow pit

Morrison Geotechnic Pty Ltd  
 Base Facility No:17071  
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 Email: dtaylor@mgeo.com.au



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*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-428S	N20-428T				
Test Number	307	308				
Date Tested	10/09/2020	10/09/2020				
Time Tested	11:50	12:00				
Test Request #/Location	Bulk Fill	Bulk Fill				
Easting	499611	499608				
Northing	6999395	6999377				
Layer / Reduced Level	-3.1	-3.2				
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown				
Test Depth (mm)	200	200				
Sieve used to determine oversize (mm)	**	**				
Percentage of Wet Oversize (%)	**	**				
Field Wet Density (FWD) t/m <sup>3</sup>	2.14	2.15				
Field Moisture Content %	11.3	12.0				
Field Dry Density (FDD) t/m <sup>3</sup>	1.92	1.92				
Peak Converted Wet Density t/m <sup>3</sup>	2.18	2.17				
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**				
Moisture Variation (Wv) %	2.5	2.5				
Adjusted Moisture Variation %	**	**				
Hilf Density Ratio (%)	98.5	99.0				
Compaction Method	Standard	Standard				

**Moisture Variation Note:**

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

# Material Test Report



**MORRISON  
GEOTECHNIC**

**Report Number:** ML20/105-32  
**Issue Number:** 1  
**Date Issued:** 09/11/2020  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 456  
**Date Sampled:** 02/10/2020 10:00  
**Dates Tested:** 02/10/2020 - 03/11/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite

Morrison Geotechnic Pty Ltd  
 Base Facility No:17071  
 North Harbour Annex Facility No:24234  
 Unit 4 / 81 Wisers Road Maroochydore QLD 4558  
 Phone: (07) 5443 9522  
 Email: dtaylor@mgeo.com.au



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*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-456A	N20-456B	N20-456C	N20-456D	N20-456E	N20-456F
Test Number	356	357	358	359	360	361
Date Tested	02/10/2020	02/10/2020	02/10/2020	02/10/2020	02/10/2020	02/10/2020
Time Tested	10:00	10:05	10:10	10:20	10:26	10:30
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499598	499624	499657	499690	499739	499780
Northing	6999443	6999433	6999428	6999423	6999421	6999413
Layer / Reduced Level	-1.7	-1.7	-1.7	-1.6	-1.7	-1.6
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0.0	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.22	2.19	2.18	2.17	2.18	2.14
Field Moisture Content %	11.3	11.7	11.9	10.8	12.0	11.2
Field Dry Density (FDD) t/m <sup>3</sup>	1.99	1.96	1.94	1.96	1.95	1.93
Peak Converted Wet Density t/m <sup>3</sup>	2.28	2.26	2.28	2.27	2.27	2.22
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	0.0	0.0	-0.5	0.0	-2.5	0.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>97.5</b>	<b>96.5</b>	<b>95.5</b>	<b>95.5</b>	<b>96.0</b>	<b>96.5</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

**Moisture Variation Note:**

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

# Material Test Report



**MORRISON  
GEOTECHNIC**

**Report Number:** ML20/105-32  
**Issue Number:** 1  
**Date Issued:** 09/11/2020  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 456  
**Date Sampled:** 02/10/2020 10:00  
**Dates Tested:** 02/10/2020 - 03/11/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite

Morrison Geotechnic Pty Ltd  
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 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-456G	N20-456H	N20-456I	N20-456J	N20-456K	N20-456L
Test Number	362	363	364	365	366	367
Date Tested	02/10/2020	02/10/2020	02/10/2020	02/10/2020	02/10/2020	02/10/2020
Time Tested	10:45	10:50	10:55	11:00	11:10	11:15
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499785	499742	499706	499681	499661	499635
Northing	6999430	6999434	6999439	6999445	6999454	6999456
Layer / Reduced Level	-1.6	-1.6	1.6	-1.5	-1.5	-1.5
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.15	2.14	2.14	2.16	2.08	2.09
Field Moisture Content %	14.0	9.4	11.6	12.3	13.9	13.0
Field Dry Density (FDD) t/m <sup>3</sup>	1.89	1.96	1.92	1.92	1.83	1.85
Peak Converted Wet Density t/m <sup>3</sup>	2.23	2.25	2.21	2.20	2.17	2.18
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	-2.0	0.0	-2.0	0.0	-2.5	-2.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>96.5</b>	<b>95.0</b>	<b>96.5</b>	<b>98.0</b>	<b>96.0</b>	<b>96.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

**Moisture Variation Note:**

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

# Material Test Report



**MORRISON  
GEOTECHNIC**

**Report Number:** ML20/105-32  
**Issue Number:** 1  
**Date Issued:** 09/11/2020  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 456  
**Date Sampled:** 02/10/2020 10:00  
**Dates Tested:** 02/10/2020 - 03/11/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite

Morrison Geotechnic Pty Ltd  
 Base Facility No:17071  
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 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-456M	N20-456N	N20-456O	N20-456P	N20-456Q	N20-456R
Test Number	368	369	370	371	372	373
Date Tested	02/10/2020	02/10/2020	02/10/2020	02/10/2020	02/10/2020	02/10/2020
Time Tested	11:20	11:25	11:30	11:35	11:40	11:45
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499621	499639	499668	499706	499713	499732
Northing	6999474	6999461	6999466	6999467	6999449	6999464
Layer / Reduced Level	-1.5	-1.4	-1.4	-1.5	-1.4	-1.4
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.07	2.10	2.10	2.19	2.20	2.21
Field Moisture Content %	12.4	11.4	13.6	13.2	11.7	11.9
Field Dry Density (FDD) t/m <sup>3</sup>	1.84	1.88	1.85	1.94	1.97	1.97
Peak Converted Wet Density t/m <sup>3</sup>	2.14	2.15	2.18	2.22	2.21	2.27
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	0.0	0.0	-2.5	0.0	0.0	-2.5
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>96.5</b>	<b>97.5</b>	<b>96.0</b>	<b>99.0</b>	<b>99.5</b>	<b>97.5</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

**Moisture Variation Note:**

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

# Material Test Report



**MORRISON  
GEOTECHNIC**

**Report Number:** ML20/105-32  
**Issue Number:** 1  
**Date Issued:** 09/11/2020  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 456  
**Date Sampled:** 02/10/2020 10:00  
**Dates Tested:** 02/10/2020 - 03/11/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite

Morrison Geotechnic Pty Ltd  
 Base Facility No:17071  
 North Harbour Annex Facility No:24234  
 Unit 4 / 81 Wises Road Maroochydore QLD 4558  
 Phone: (07) 5443 9522  
 Email: dtaylor@mgeo.com.au



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-456S	N20-456T				
Test Number	374	375				
Date Tested	02/10/2020	02/10/2020				
Time Tested	11:50	12:00				
Test Request #/Location	Bulk Fill	Bulk Fill				
Easting	499758	499792				
Northing	6999450	6999448				
Layer / Reduced Level	-1.3	-1.4				
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown				
Test Depth (mm)	200	200				
Sieve used to determine oversize (mm)	19.0	19.0				
Percentage of Wet Oversize (%)	**	**				
Field Wet Density (FWD) t/m <sup>3</sup>	2.19	2.18				
Field Moisture Content %	11.4	12.5				
Field Dry Density (FDD) t/m <sup>3</sup>	1.97	1.94				
Peak Converted Wet Density t/m <sup>3</sup>	2.27	2.21				
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**				
Moisture Variation (Wv) %	-2.5	0.0				
Adjusted Moisture Variation %	**	**				
Hilf Density Ratio (%)	<b>96.5</b>	<b>98.5</b>				
Compaction Method	<b>Standard</b>	<b>Standard</b>				

**Moisture Variation Note:**

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



# Material Test Report



**MORRISON  
GEOTECHNIC**

**Report Number:** ML20/105-35  
**Issue Number:** 1  
**Date Issued:** 21/11/2020  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 434  
**Date Sampled:** 15/09/2020 10:00  
**Dates Tested:** 15/09/2020 - 17/11/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite (Marina Borrow Pit)

Morrison Geotechnic Pty Ltd  
 Base Facility No:17071  
 North Harbour Annex Facility No:24234  
 Unit 4 / 81 Wisers Road Maroochydore QLD 4558  
 Phone: (07) 5443 9522  
 Email: dtaylor@mgeo.com.au



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1					
Sample Number	N20-434A	N20-434B	N20-434C	N20-434D	N20-434E
Test Number	309	310	311	312	313
Date Tested	15/09/2020	15/09/2020	15/09/2020	15/09/2020	15/09/2020
Time Tested	10:00	10:05	10:10	10:15	10:20
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499655	499695	499725	499771	499814
Northing	6999521	6999518	6999515	6999499	6999478
Elevation (m)	-2.7m	-2.6m	-2.7m	-2.5m	-2.4m
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	1.94	1.94	1.94	1.97	1.96
Field Moisture Content %	17.4	20.0	19.7	25.4	17.8
Field Dry Density (FDD) t/m <sup>3</sup>	1.66	1.62	1.62	1.57	1.66
Peak Converted Wet Density t/m <sup>3</sup>	1.92	1.95	1.95	1.98	2.00
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**
Moisture Variation (Wv) %	3.5	2.0	1.5	-2.0	0.5
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	<b>101.0</b>	<b>99.5</b>	<b>99.5</b>	<b>99.5</b>	<b>98.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

**Moisture Variation Note:**

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

# Material Test Report



**MORRISON  
GEOTECHNIC**

**Report Number:** ML20/105-35  
**Issue Number:** 1  
**Date Issued:** 21/11/2020  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 434  
**Date Sampled:** 15/09/2020 10:00  
**Dates Tested:** 15/09/2020 - 17/11/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite (Marina Borrow Pit)

Morrison Geotechnic Pty Ltd  
 Base Facility No:17071  
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*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1					
Sample Number	N20-434F	N20-434G	N20-434H	N20-434I	N20-434J
Test Number	314	315	316	317	318
Date Tested	15/09/2020	15/09/2020	15/09/2020	15/09/2020	15/09/2020
Time Tested	10:25	10:30	10:35	10:40	10:45
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499788	499751	499716	499689	499643
Northing	6999466	6999475	6999481	6999497	6999490
Elevation (m)	-2.3m	-2.3m	-2.5m	-2.4m	-2.4m
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	1.97	2.05	1.97	1.99	2.06
Field Moisture Content %	20.4	20.9	20.5	19.7	21.8
Field Dry Density (FDD) t/m <sup>3</sup>	1.64	1.70	1.64	1.66	1.69
Peak Converted Wet Density t/m <sup>3</sup>	2.02	1.98	1.95	1.99	1.97
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**
Moisture Variation (Wv) %	0.0	0.0	0.5	-0.5	0.0
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	<b>98.0</b>	<b>103.5</b>	<b>101.0</b>	<b>100.0</b>	<b>104.5</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

**Moisture Variation Note:**

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

# Material Test Report



**MORRISON  
GEOTECHNIC**

**Report Number:** ML20/105-36  
**Issue Number:** 1  
**Date Issued:** 26/11/2020  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 459  
**Date Sampled:** 08/10/2020 8:00  
**Dates Tested:** 08/10/2020 - 24/11/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite

Morrison Geotechnic Pty Ltd  
 Base Facility No:17071  
 North Harbour Annex Facility No:24234  
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 Phone: (07) 5443 9522  
 Email: dtaylor@mgeo.com.au



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-459A	N20-459B	N20-459C	N20-459D	N20-459E	N20-459F
Test Number	396	397	398	399	400	401
Date Tested	08/10/2020	08/10/2020	08/10/2020	08/10/2020	08/10/2020	08/10/2020
Time Tested	08:00	08:05	08:10	08:15	08:20	08:25
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499640	499662	499683	499714	499725	499744
Northing	6999493	6999487	6999485	6999483	6999477	6999475
Layer / Reduced Level	F/L	-5m	-1m	F/L	-5m	-1m
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.05	2.04	2.10	2.15	2.04	2.06
Field Moisture Content %	11.6	11.4	12.3	12.8	11.4	12.7
Field Dry Density (FDD) t/m <sup>3</sup>	1.83	1.83	1.87	1.90	1.83	1.83
Peak Converted Wet Density t/m <sup>3</sup>	2.02	2.01	2.01	2.07	1.99	2.00
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	3.5	4.0	2.5	2.0	4.0	1.5
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>101.0</b>	<b>101.5</b>	<b>104.5</b>	<b>104.0</b>	<b>102.5</b>	<b>102.5</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

**Moisture Variation Note:**

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

# Material Test Report



**MORRISON  
GEOTECHNIC**

**Report Number:** ML20/105-36  
**Issue Number:** 1  
**Date Issued:** 26/11/2020  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 459  
**Date Sampled:** 08/10/2020 8:00  
**Dates Tested:** 08/10/2020 - 24/11/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite

Morrison Geotechnic Pty Ltd  
 Base Facility No:17071  
 North Harbour Annex Facility No:24234  
 Unit 4 / 81 Wisers Road Maroochydore QLD 4558  
 Phone: (07) 5443 9522  
 Email: dtaylor@mgeo.com.au



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-459G	N20-459H	N20-459I	N20-459J	N20-459K	N20-459L
Test Number	402	403	404	405	406	407
Date Tested	08/10/2020	08/10/2020	08/10/2020	08/10/2020	08/10/2020	08/10/2020
Time Tested	08:30	08:35	08:40	08:45	08:50	08:55
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499758	499779	499784	499774	499756	499730
Northing	6999474	6999468	69994564	6999450	6999462	6999460
Layer / Reduced Level	F/L	-4m	-5m	-1m	F/L	-1m
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.00	2.00	2.14	2.03	2.11	2.17
Field Moisture Content %	12.0	12.2	13.8	17.7	12.2	11.9
Field Dry Density (FDD) t/m <sup>3</sup>	1.79	1.78	1.88	1.72	1.88	1.94
Peak Converted Wet Density t/m <sup>3</sup>	2.02	2.02	2.06	2.04	2.11	2.11
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	2.0	2.5	1.5	-0.5	1.0	0.5
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>99.5</b>	<b>99.0</b>	<b>104.0</b>	<b>99.5</b>	<b>100.0</b>	<b>103.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

**Moisture Variation Note:**

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

# Material Test Report



**MORRISON  
GEOTECHNIC**

**Report Number:** ML20/105-36  
**Issue Number:** 1  
**Date Issued:** 26/11/2020  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 459  
**Date Sampled:** 08/10/2020 8:00  
**Dates Tested:** 08/10/2020 - 24/11/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite

Morrison Geotechnic Pty Ltd  
 Base Facility No:17071  
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Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-459M	N20-459N	N20-459O	N20-459P	N20-459Q	N20-459R
Test Number	408	409	410	411	412	413
Date Tested	08/10/2020	08/10/2020	08/10/2020	08/10/2020	08/10/2020	08/10/2020
Time Tested	09:00	09:10	09:15	09:20	09:25	09:30
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499718	499702	499689	499678	499663	499649
Northing	6999471	6999477	6999475	6999484	6999480	6999478
Layer / Reduced Level	-.5m	-1m	F/L	-.5m	-1m	F/L
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.17	2.19	2.09	2.03	2.04	2.04
Field Moisture Content %	12.8	12.5	12.5	11.7	16.0	16.4
Field Dry Density (FDD) t/m <sup>3</sup>	1.92	1.95	1.86	1.81	1.76	1.75
Peak Converted Wet Density t/m <sup>3</sup>	2.13	2.16	2.10	2.13	2.08	2.10
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	0.5	0.0	1.5	0.5	0.0	-0.5
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>101.5</b>	<b>101.0</b>	<b>99.5</b>	<b>95.0</b>	<b>98.0</b>	<b>97.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

**Moisture Variation Note:**

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

# Material Test Report



**MORRISON  
GEOTECHNIC**

**Report Number:** ML20/105-36  
**Issue Number:** 1  
**Date Issued:** 26/11/2020  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 459  
**Date Sampled:** 08/10/2020 8:00  
**Dates Tested:** 08/10/2020 - 24/11/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite

Morrison Geotechnic Pty Ltd  
 Base Facility No:17071  
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Approved Signatory: David Taylor  
 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-459S	N20-459T				
Test Number	414	415				
Date Tested	08/10/2020	08/10/2020				
Time Tested	09:35	09:40				
Test Request #/Location	Bulk Fill	Bulk Fill				
Easting	499640	499623				
Northing	6999487	6999487				
Layer / Reduced Level	-.5m	F/L				
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown				
Test Depth (mm)	200	200				
Sieve used to determine oversize (mm)	19.0	19.0				
Percentage of Wet Oversize (%)	**	**				
Field Wet Density (FWD) t/m <sup>3</sup>	2.04	2.04				
Field Moisture Content %	13.5	15.8				
Field Dry Density (FDD) t/m <sup>3</sup>	1.80	1.76				
Peak Converted Wet Density t/m <sup>3</sup>	2.06	2.09				
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**				
Moisture Variation (Wv) %	1.0	0.0				
Adjusted Moisture Variation %	**	**				
Hilf Density Ratio (%)	<b>99.0</b>	<b>97.5</b>				
Compaction Method	<b>Standard</b>	<b>Standard</b>				

**Moisture Variation Note:**

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



# Material Test Report



**MORRISON  
GEOTECHNIC**

**Report Number:** ML20/105-39  
**Issue Number:** 1  
**Date Issued:** 19/12/2020  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 495  
**Date Sampled:** 19/10/2020 12:00  
**Dates Tested:** 20/10/2020 - 18/12/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite (Marina Burrow Pit)

Morrison Geotechnic Pty Ltd  
 Base Facility No:17071  
 North Harbour Annex Facility No:24234  
 Unit 4 / 81 Wisers Road Maroochydore QLD 4558  
 Phone: (07) 5443 9522  
 Email: dtaylor@mgeo.com.au



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-495A	N20-495B	N20-495C	N20-495D	N20-495E	N20-495F
Test Number	427	428	429	430	431	432
Date Tested	19/10/2020	19/10/2020	19/10/2020	19/10/2020	19/10/2020	19/10/2020
Time Tested	12:00	12:05	12:10	12:15	12:20	12:25
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499601	499620	499636	499674	499707	499738
Northing	6999411	6999412	6999406	6999402	6999394	6999384
Layer / Reduced Level	R/L-2.3	R/L-2.7	R/L -3.2	R/L -2.8	R/L -2.4	R/L -3.2
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	**	**	**	**	**	**
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	1.90	1.89	1.88	1.88	1.89	1.90
Field Moisture Content %	17.0	16.7	16.3	17.2	17.4	17.5
Field Dry Density (FDD) t/m <sup>3</sup>	1.62	1.62	1.61	1.61	1.61	1.61
Peak Converted Wet Density t/m <sup>3</sup>	1.96	1.98	1.97	1.96	1.98	1.99
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	0.0	0.0	0.0	0.0	0.0	0.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>97.0</b>	<b>95.5</b>	<b>95.0</b>	<b>96.0</b>	<b>95.5</b>	<b>95.5</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

**Moisture Variation Note:**

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 Negative values = test is wet of OMC

# Material Test Report



**MORRISON  
GEOTECHNIC**

**Report Number:** ML20/105-39  
**Issue Number:** 1  
**Date Issued:** 19/12/2020  
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 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 495  
**Date Sampled:** 19/10/2020 12:00  
**Dates Tested:** 20/10/2020 - 18/12/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite (Marina Burrow Pit)

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 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-495G	N20-495H	N20-495I	N20-495J	N20-495K	N20-495L
Test Number	433	434	435	436	437	438
Date Tested	19/10/2020	19/10/2020	19/10/2020	19/10/2020	19/10/2020	19/10/2020
Time Tested	12:30	12:35	12:40	12:45	12:55	13:00
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499751	499732	499699	499659	499632	499613
Northing	6999378	6999361	6999370	6999367	6999377	6999385
Layer / Reduced Level	R/L -2.8	R/L -2.3	R/L -3.2	R/L -2.9	R/L -2.3	R/L-3.2
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	**	**	**	**	**	**
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	1.92	1.88	1.94	1.92	1.95	1.92
Field Moisture Content %	17.3	16.9	17.2	18.0	17.0	17.2
Field Dry Density (FDD) t/m <sup>3</sup>	1.63	1.61	1.66	1.63	1.67	1.64
Peak Converted Wet Density t/m <sup>3</sup>	2.00	1.93	1.98	1.97	1.99	1.99
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	0.0	0.0	0.0	0.5	0.0	0.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>96.0</b>	<b>97.5</b>	<b>98.0</b>	<b>97.5</b>	<b>98.0</b>	<b>96.5</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

**Moisture Variation Note:**

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# Material Test Report



**MORRISON  
GEOTECHNIC**

**Report Number:** ML20/105-39  
**Issue Number:** 1  
**Date Issued:** 19/12/2020  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 495  
**Date Sampled:** 19/10/2020 12:00  
**Dates Tested:** 20/10/2020 - 18/12/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite (Marina Burrow Pit)

Morrison Geotechnic Pty Ltd  
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 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-495M	N20-495N	N20-495O	N20-495P	N20-495Q	N20-495R
Test Number	439	440	441	442	443	444
Date Tested	19/10/2020	19/10/2020	19/10/2020	19/10/2020	19/10/2020	19/10/2020
Time Tested	13:05	13:10	13:15	13:20	13:25	13:30
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499593	499593	499637	499668	499699	499714
Northing	6999385	6999357	6999346	6999350	6999343	6999330
Layer / Reduced Level	R/L -2.7	R/L -2.3	R/L -3.2	R/L -2.5	R/L -3.2	R/L -2.3
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	**	**	**	**	**	**
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	1.88	1.90	1.90	1.94	1.92	1.93
Field Moisture Content %	18.0	17.2	17.2	17.8	17.6	17.3
Field Dry Density (FDD) t/m <sup>3</sup>	1.59	1.62	1.62	1.65	1.63	1.64
Peak Converted Wet Density t/m <sup>3</sup>	1.98	1.95	1.97	1.99	1.96	1.98
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	0.0	0.0	0.0	0.0	0.0	0.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>95.0</b>	<b>97.5</b>	<b>96.0</b>	<b>97.5</b>	<b>98.0</b>	<b>97.5</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

**Moisture Variation Note:**

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

# Material Test Report



**MORRISON  
GEOTECHNIC**

**Report Number:** ML20/105-39  
**Issue Number:** 1  
**Date Issued:** 19/12/2020  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 495  
**Date Sampled:** 19/10/2020 12:00  
**Dates Tested:** 20/10/2020 - 18/12/2020  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite (Marina Burrow Pit)

Morrison Geotechnic Pty Ltd  
 Base Facility No:17071  
 North Harbour Annex Facility No:24234  
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 Email: dtaylor@mgeo.com.au



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*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-495S	N20-495T				
Test Number	445	446				
Date Tested	19/10/2020	19/10/2020				
Time Tested	13:35	13:40				
Test Request #/Location	Bulk Fill	Bulk Fill				
Easting	499656	499604				
Northing	6999339	6999338				
Layer / Reduced Level	R/L -2.7	R/L -3.2				
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown				
Test Depth (mm)	200	200				
Sieve used to determine oversize (mm)	**	**				
Percentage of Wet Oversize (%)	**	**				
Field Wet Density (FWD) t/m <sup>3</sup>	1.89	1.90				
Field Moisture Content %	17.1	16.9				
Field Dry Density (FDD) t/m <sup>3</sup>	1.61	1.63				
Peak Converted Wet Density t/m <sup>3</sup>	1.97	1.97				
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**				
Moisture Variation (Wv) %	0.0	0.0				
Adjusted Moisture Variation %	**	**				
Hilf Density Ratio (%)	<b>95.5</b>	<b>96.5</b>				
Compaction Method	<b>Standard</b>	<b>Standard</b>				

**Moisture Variation Note:**

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

# Material Test Report



**MORRISON  
GEOTECHNIC**

**Report Number:** ML20/105-40  
**Issue Number:** 1  
**Date Issued:** 11/01/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 520  
**Date Sampled:** 11/11/2020 7:30  
**Dates Tested:** 11/11/2020 - 06/01/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite

Morrison Geotechnic Pty Ltd  
 Base Facility No:17071  
 North Harbour Annex Facility No:24234  
 Unit 4 / 81 Wisers Road Maroochydore QLD 4558  
 Phone: (07) 5443 9522  
 Email: dtaylor@mgeo.com.au



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-520A	N20-520B	N20-520C	N20-520D	N20-520E	N20-520F
Test Number	457	458	459	460	461	462
Date Tested	11/11/2020	11/11/2020	11/11/2020	11/11/2020	11/11/2020	11/11/2020
Time Tested	07:30	07:36	07:42	07:50	07:55	08:00
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499581	499600	499627	499642	499665	499689
Northing	6999408	6999414	6999412	6999401	6999403	6999396
Layer / Reduced Level	-1.3	-1.5	-1.2	-1.0	-1.1	-.9
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200	200
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	0.0	**	0.0
Field Wet Density (FWD) t/m <sup>3</sup>	2.11	2.09	2.13	2.10	2.09	2.09
Field Moisture Content %	8.9	10.8	10.2	7.5	10.4	15.2
Field Dry Density (FDD) t/m <sup>3</sup>	1.94	1.89	1.93	1.95	1.89	1.82
Peak Converted Wet Density t/m <sup>3</sup>	2.08	2.05	2.09	2.10	2.08	2.04
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	3.5	5.5	2.0	3.0	2.0	2.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>101.5</b>	<b>102.0</b>	<b>101.5</b>	<b>100.0</b>	<b>100.5</b>	<b>103.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

**Moisture Variation Note:**

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 Negative values = test is wet of OMC

# Material Test Report



**MORRISON  
GEOTECHNIC**

**Report Number:** ML20/105-40  
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**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 520  
**Date Sampled:** 11/11/2020 7:30  
**Dates Tested:** 11/11/2020 - 06/01/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite

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 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-520G	N20-520H	N20-520I	N20-520J	N20-520K	N20-520L
Test Number	463	464	465	466	467	468
Date Tested	11/11/2020	11/11/2020	11/11/2020	11/11/2020	11/11/2020	11/11/2020
Time Tested	08:05	08:10	08:15	08:20	08:25	08:31
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499705	499710	499708	499693	499675	499622
Northing	6999391	6999378	6999379	6999381	6999390	6999379
Layer / Reduced Level	-1.0	-1.0	-.9	-1.0	-1.0	-1.1
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	**	**	19.0	**	19.0	**
Percentage of Wet Oversize (%)	**	**	0.0	**	0.0	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.10	2.05	2.10	2.07	2.07	2.00
Field Moisture Content %	20.2	15.8	14.7	17.8	16.3	16.2
Field Dry Density (FDD) t/m <sup>3</sup>	1.74	1.77	1.83	1.76	1.78	1.72
Peak Converted Wet Density t/m <sup>3</sup>	2.02	2.01	2.01	1.98	2.01	1.96
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	0.0	0.5	4.0	4.5	3.0	5.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>104.0</b>	<b>102.0</b>	<b>104.5</b>	<b>104.0</b>	<b>102.5</b>	<b>102.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

**Moisture Variation Note:**

Positive values = test is dry of OMC  
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# Material Test Report



**MORRISON  
GEOTECHNIC**

**Report Number:** ML20/105-40  
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**Date Issued:** 11/01/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 520  
**Date Sampled:** 11/11/2020 7:30  
**Dates Tested:** 11/11/2020 - 06/01/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite

Morrison Geotechnic Pty Ltd  
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 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-520M	N20-520N	N20-520O	N20-520P	N20-520Q	N20-520R
Test Number	469	470	471	472	473	474
Date Tested	11/11/2020	11/11/2020	11/11/2020	11/11/2020	11/11/2020	11/11/2020
Time Tested	08:37	08:46	08:50	08:55	09:01	09:10
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499641	499614	499592	499594	499614	499629
Northing	6999382	6999384	6999379	6999364	6999361	6999367
Layer / Reduced Level	-.9	-.9	-.8	-.9	-.7	-.8
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	**	**	19.0	19.0	19.0	**
Percentage of Wet Oversize (%)	**	**	0.0	0.0	0.0	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.00	2.05	2.09	2.03	2.08	2.07
Field Moisture Content %	19.0	12.0	19.9	12.1	17.9	19.1
Field Dry Density (FDD) t/m <sup>3</sup>	1.68	1.83	1.74	1.90	1.76	1.74
Peak Converted Wet Density t/m <sup>3</sup>	1.98	1.98	2.02	2.03	2.03	2.00
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	5.0	3.5	3.5	2.5	4.5	5.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>101.0</b>	<b>103.5</b>	<b>103.5</b>	<b>104.5</b>	<b>102.5</b>	<b>103.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

**Moisture Variation Note:**

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

# Material Test Report



**MORRISON  
GEOTECHNIC**

**Report Number:** ML20/105-40  
**Issue Number:** 1  
**Date Issued:** 11/01/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 520  
**Date Sampled:** 11/11/2020 7:30  
**Dates Tested:** 11/11/2020 - 06/01/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite

Morrison Geotechnic Pty Ltd  
 Base Facility No:17071  
 North Harbour Annex Facility No:24234  
 Unit 4 / 81 Wisers Road Maroochydore QLD 4558  
 Phone: (07) 5443 9522  
 Email: dtaylor@mgeo.com.au



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-520S	N20-520T	N20-520U	N20-520V	N20-520W	N20-520X
Test Number	475	476	477	478	479	480
Date Tested	11/11/2020	11/11/2020	11/11/2020	11/11/2020	11/11/2020	11/11/2020
Time Tested	09:15	09:20	09:30	09:35	09:40	09:45
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499636	499656	499676	499686	499703	499719
Northing	6999358	6999360	6999350	6999355	6999352	6999354
Layer / Reduced Level	-.9	-.9	-.7	-.8	-.9	-.7
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	**	19.0	**	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	0.0	**	0.0	0.0	0.0
Field Wet Density (FWD) t/m <sup>3</sup>	2.08	2.09	2.07	2.08	2.07	2.08
Field Moisture Content %	19.7	8.6	20.7	18.7	17.0	18.1
Field Dry Density (FDD) t/m <sup>3</sup>	1.74	1.92	1.71	1.75	1.77	1.76
Peak Converted Wet Density t/m <sup>3</sup>	2.02	2.02	2.02	2.05	2.05	2.04
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	4.5	5.0	5.0	3.5	4.0	4.5
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>103.0</b>	<b>103.5</b>	<b>102.5</b>	<b>101.5</b>	<b>101.5</b>	<b>102.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

**Moisture Variation Note:**

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

# Material Test Report



**MORRISON  
GEOTECHNIC**

**Report Number:** ML20/105-41  
**Issue Number:** 1  
**Date Issued:** 15/01/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 545  
**Date Sampled:** 27/11/2020 8:00  
**Dates Tested:** 27/11/2020 - 13/01/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite

Morrison Geotechnic Pty Ltd  
 Base Facility No:17071  
 North Harbour Annex Facility No:24234  
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Approved Signatory: David Taylor  
 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-545A	N20-545B	N20-545C	N20-545D	N20-545E	N20-545F
Test Number	507	508	509	510	511	512
Date Tested	27/11/2020	27/11/2020	27/11/2020	27/11/2020	27/11/2020	27/11/2020
Time Tested	10:00	10:05	10:10	10:15	10:20	10:25
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499558	499565	499577	499570	499562	499571
Northing	6999367	6999365	6999366	6999369	6999373	6999375
Layer / Reduced Level	-3.5m	-3.3m	-3.3m	-3.1m	-2.9m	-2.6m
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	150	150	150	150	150	150
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	0.0	0.0	0.0
Field Wet Density (FWD) t/m <sup>3</sup>	2.04	2.03	2.08	2.04	2.04	2.06
Field Moisture Content %	7.8	7.6	9.5	7.3	6.7	7.7
Field Dry Density (FDD) t/m <sup>3</sup>	1.89	1.89	1.90	1.91	1.91	1.91
Peak Converted Wet Density t/m <sup>3</sup>	2.06	2.09	2.09	2.09	2.13	2.09
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	3.0	3.0	2.5	3.0	2.5	3.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>99.0</b>	<b>97.0</b>	<b>99.5</b>	<b>98.0</b>	<b>95.5</b>	<b>98.5</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

**Moisture Variation Note:**

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

# Material Test Report



**MORRISON  
GEOTECHNIC**

**Report Number:** ML20/105-41  
**Issue Number:** 1  
**Date Issued:** 15/01/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 545  
**Date Sampled:** 27/11/2020 8:00  
**Dates Tested:** 27/11/2020 - 13/01/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite

Morrison Geotechnic Pty Ltd  
 Base Facility No:17071  
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 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-545G	N20-545H	N20-545I	N20-545J	N20-545K	N20-545L
Test Number	513	514	515	516	517	518
Date Tested	27/11/2020	27/11/2020	27/11/2020	27/11/2020	27/11/2020	27/11/2020
Time Tested	10:30	10:35	10:40	10:45	10:50	10:55
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499580	499566	499571	499583	499585	499578
Northing	6999375	69993824	6999381	6999383	6999391	6999398
Layer / Reduced Level	-2.2m	-2.5m	-2.5m	2.3m	-2.1m	-1.8m
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	150	150	150	150	150	150
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	0.0	0.0	0.0
Field Wet Density (FWD) t/m <sup>3</sup>	2.07	2.07	2.04	2.04	2.06	2.06
Field Moisture Content %	9.8	8.1	7.8	9.0	8.9	7.4
Field Dry Density (FDD) t/m <sup>3</sup>	1.89	1.91	1.89	1.87	1.89	1.92
Peak Converted Wet Density t/m <sup>3</sup>	2.08	2.11	2.10	2.11	2.15	2.11
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	2.5	2.5	2.5	2.5	2.5	2.5
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	99.5	98.0	97.0	96.5	96.0	97.5
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard

**Moisture Variation Note:**

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

# Material Test Report



**MORRISON  
GEOTECHNIC**

**Report Number:** ML20/105-41  
**Issue Number:** 1  
**Date Issued:** 15/01/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 545  
**Date Sampled:** 27/11/2020 8:00  
**Dates Tested:** 27/11/2020 - 13/01/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite

Morrison Geotechnic Pty Ltd  
 Base Facility No:17071  
 North Harbour Annex Facility No:24234  
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 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-545M	N20-545N	N20-545O	N20-545P	N20-545Q	N20-545R
Test Number	519	520	521	522	523	524
Date Tested	27/11/2020	27/11/2020	27/11/2020	27/11/2020	27/11/2020	27/11/2020
Time Tested	11:00	11:05	11:10	11:15	11:20	11:25
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499589	499583	499581	499589	499582	499589
Northing	6999403	6999408	6999412	6999414	6999420	6999421
Layer / Reduced Level	-1.6m	-1.3m	-1.1m	-1.0m	-.9m	-1.0m
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	150	150	150	150	150	150
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	0.0	0.0	0.0
Field Wet Density (FWD) t/m <sup>3</sup>	2.03	2.06	2.06	2.01	2.07	2.07
Field Moisture Content %	9.0	10.9	12.1	9.8	7.8	9.1
Field Dry Density (FDD) t/m <sup>3</sup>	1.86	1.86	1.84	1.83	1.92	1.90
Peak Converted Wet Density t/m <sup>3</sup>	2.06	2.07	2.07	2.09	2.10	2.11
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	3.0	2.5	2.5	2.5	2.5	2.5
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>98.5</b>	<b>99.0</b>	<b>99.5</b>	<b>96.5</b>	<b>99.0</b>	<b>98.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

**Moisture Variation Note:**

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

# Material Test Report



**MORRISON  
GEOTECHNIC**

**Report Number:** ML20/105-41  
**Issue Number:** 1  
**Date Issued:** 15/01/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 545  
**Date Sampled:** 27/11/2020 8:00  
**Dates Tested:** 27/11/2020 - 13/01/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite

Morrison Geotechnic Pty Ltd  
 Base Facility No:17071  
 North Harbour Annex Facility No:24234  
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 Email: dtaylor@mgeo.com.au



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*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-545S	N20-545T				
Test Number	525	526				
Date Tested	27/11/2020	27/11/2020				
Time Tested	11:30	11:35				
Test Request #/Location	Bulk Fill	Bulk Fill				
Easting	499574	499577				
Northing	6999422	6999429				
Layer / Reduced Level	-1.0m	-1.1m				
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown				
Test Depth (mm)	150	150				
Sieve used to determine oversize (mm)	19.0	19.0				
Percentage of Wet Oversize (%)	0.0	0.0				
Field Wet Density (FWD) t/m <sup>3</sup>	2.03	2.06				
Field Moisture Content %	10.6	8.2				
Field Dry Density (FDD) t/m <sup>3</sup>	1.84	1.90				
Peak Converted Wet Density t/m <sup>3</sup>	2.12	2.09				
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**				
Moisture Variation (Wv) %	3.0	2.5				
Adjusted Moisture Variation %	**	**				
Hilf Density Ratio (%)	<b>95.5</b>	<b>98.5</b>				
Compaction Method	<b>Standard</b>	<b>Standard</b>				

**Moisture Variation Note:**

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



# Material Test Report



**MORRISON  
GEOTECHNIC**

**Report Number:** ML20/105-42  
**Issue Number:** 1  
**Date Issued:** 15/01/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 529  
**Date Sampled:** 13/11/2020 12:00  
**Dates Tested:** 13/11/2020 - 14/01/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite

Morrison Geotechnic Pty Ltd  
 Base Facility No:17071  
 North Harbour Annex Facility No:24234  
 Unit 4 / 81 Wisers Road Maroochydore QLD 4558  
 Phone: (07) 5443 9522  
 Email: dtaylor@mgeo.com.au



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*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-529A	N20-529B	N20-529C	N20-529D	N20-529E	N20-529F
Test Number	385	386	387	388	389	390
Date Tested	13/11/2020	13/11/2020	13/11/2020	13/11/2020	13/11/2020	13/11/2020
Time Tested	12:00	12:05	12:10	12:15	12:20	12:25
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499721	499711	499699	499691	499680	499670
Northing	6999347	6999342	6999356	6999347	6999359	6999349
Layer / Reduced Level	-1.2	-1.3	-1.4	-1.2	-1.3	-1.3
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.11	2.14	2.09	2.11	2.12	2.12
Field Moisture Content %	15.2	15.4	14.2	16.4	15.2	13.5
Field Dry Density (FDD) t/m <sup>3</sup>	1.83	1.85	1.83	1.81	1.84	1.86
Peak Converted Wet Density t/m <sup>3</sup>	2.08	2.10	2.04	2.08	2.09	2.08
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	-0.5	0.0	0.5	-0.5	0.0	2.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>101.5</b>	<b>101.5</b>	<b>102.5</b>	<b>101.5</b>	<b>101.0</b>	<b>102.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

**Moisture Variation Note:**

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

# Material Test Report



**MORRISON  
GEOTECHNIC**

**Report Number:** ML20/105-42  
**Issue Number:** 1  
**Date Issued:** 15/01/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 529  
**Date Sampled:** 13/11/2020 12:00  
**Dates Tested:** 13/11/2020 - 14/01/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite

Morrison Geotechnic Pty Ltd  
 Base Facility No:17071  
 North Harbour Annex Facility No:24234  
 Unit 4 / 81 Wisers Road Maroochydore QLD 4558  
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 Email: dtaylor@mgeo.com.au



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*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-529G	N20-529H	N20-529I	N20-529J	N20-529K	N20-529L
Test Number	391	392	393	394	395	396
Date Tested	13/11/2020	13/11/2020	13/11/2020	13/11/2020	13/11/2020	13/11/2020
Time Tested	12:30	12:35	12:40	12:45	12:50	12:55
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499657	499650	4999637	499632	499628	499617
Northing	6999365	6999355	6999368	6999360	6999365	6999367
Layer / Reduced Level	-1.2	-1.2	-1.5	-1.3	-1.2	-1.2
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200	200
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	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.10	2.10	2.11	2.12	2.10	2.12
Field Moisture Content %	15.7	13.5	13.2	11.9	15.0	13.2
Field Dry Density (FDD) t/m <sup>3</sup>	1.82	1.85	1.86	1.90	1.82	1.87
Peak Converted Wet Density t/m <sup>3</sup>	2.05	2.09	2.08	2.08	2.07	2.07
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	1.5	2.0	2.0	2.5	0.0	1.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>102.5</b>	<b>100.0</b>	<b>101.5</b>	<b>102.5</b>	<b>101.5</b>	<b>102.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

**Moisture Variation Note:**

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

# Material Test Report



**MORRISON  
GEOTECHNIC**

**Report Number:** ML20/105-42  
**Issue Number:** 1  
**Date Issued:** 15/01/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 529  
**Date Sampled:** 13/11/2020 12:00  
**Dates Tested:** 13/11/2020 - 14/01/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite

Morrison Geotechnic Pty Ltd  
 Base Facility No:17071  
 North Harbour Annex Facility No:24234  
 Unit 4 / 81 Wisers Road Maroochydore QLD 4558  
 Phone: (07) 5443 9522  
 Email: dtaylor@mgeo.com.au



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-529M	N20-529N	N20-529O	N20-529P	N20-529Q	N20-529R
Test Number	397	398	399	400	401	402
Date Tested	13/11/2020	13/11/2020	13/11/2020	13/11/2020	13/11/2020	13/11/2020
Time Tested	01:00	01:05	01:10	01:15	01:20	01:25
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499620	499612	499596	499581	499612	499642
Northing	6999358	6999366	6999363	6999375	6999367	6999365
Layer / Reduced Level	-1.1	-1.0	-1.0	-8	-9	-7
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.10	2.09	2.10	2.10	2.10	2.14
Field Moisture Content %	14.8	**	13.1	13.5	10.0	12.9
Field Dry Density (FDD) t/m <sup>3</sup>	1.83	**	1.85	1.86	1.91	1.90
Peak Converted Wet Density t/m <sup>3</sup>	2.09	2.08	2.07	2.07	2.12	2.10
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	0.5	1.5	2.0	1.5	2.5	2.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>101.0</b>	<b>101.0</b>	<b>101.5</b>	<b>101.5</b>	<b>99.0</b>	<b>102.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

**Moisture Variation Note:**

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

# Material Test Report



**MORRISON  
GEOTECHNIC**

**Report Number:** ML20/105-42  
**Issue Number:** 1  
**Date Issued:** 15/01/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 529  
**Date Sampled:** 13/11/2020 12:00  
**Dates Tested:** 13/11/2020 - 14/01/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite

Morrison Geotechnic Pty Ltd  
 Base Facility No:17071  
 North Harbour Annex Facility No:24234  
 Unit 4 / 81 Wises Road Maroochydore QLD 4558  
 Phone: (07) 5443 9522  
 Email: dtaylor@mgeo.com.au



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician  
 NATA Accredited Laboratory Number: 1169

## Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

	N20-529S	N20-529T			
Sample Number					
Test Number	403	404			
Date Tested	13/11/2020	13/11/2020			
Time Tested	01:30	01:35			
Test Request #/Location	Bulk Fill	Bulk Fill			
Easting	499667	499691			
Northing	6999361	6999353			
Layer / Reduced Level	-.8	-.8			
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown			
Test Depth (mm)	200	200			
Sieve used to determine oversize (mm)	19.0	19.0			
Percentage of Wet Oversize (%)	**	**			
Field Wet Density (FWD) t/m <sup>3</sup>	2.11	2.12			
Field Moisture Content %	13.0	15.2			
Field Dry Density (FDD) t/m <sup>3</sup>	1.87	1.84			
Peak Converted Wet Density t/m <sup>3</sup>	2.07	2.09			
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**			
Moisture Variation (Wv) %	2.5	-0.5			
Adjusted Moisture Variation %	**	**			
Hilf Density Ratio (%)	<b>102.0</b>	<b>101.5</b>			
Compaction Method	<b>Standard</b>	<b>Standard</b>			

### Moisture Variation Note:

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

# Material Test Report



**MORRISON  
GEOTECHNIC**

**Report Number:** ML20/105-43  
**Issue Number:** 1  
**Date Issued:** 18/01/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 544  
**Date Sampled:** 25/11/2020 10:00  
**Dates Tested:** 25/11/2020 - 15/01/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite

Morrison Geotechnic Pty Ltd  
 Base Facility No:17071  
 North Harbour Annex Facility No:24234  
 Unit 4 / 81 Wisers Road Maroochydore QLD 4558  
 Phone: (07) 5443 9522  
 Email: dtaylor@mgeo.com.au



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-544A	N20-544B	N20-544C	N20-544D	N20-544E	N20-544F
Test Number	501	502	503	504	505	506
Date Tested	25/11/2020	25/11/2020	25/11/2020	25/11/2020	25/11/2020	25/11/2020
Time Tested	10:00	10:05	10:10	10:15	10:20	10:25
Test Request #/Location	Bulk Fill(Old Dam) Stg 28/30	Bulk Fill(Old Dam) Stg 28/30	Bulk Fill(Old Dam) Stg 28/30	Bulk Fill(Old Dam) Stg 28/30	Bulk Fill(Old Dam) Stg 28/30	Bulk Fill(Old Dam) Stg 28/30
Easting	499557	499558	499554	499552	499550	499547
Northing	6999571	6999565	6999560	6999555	6999550	6999542
Layer / Reduced Level	-2m	-1.5m	-1.0m	-1.0m	-.5m	-.2m
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200	200
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	0.0	0.0	0.0
Field Wet Density (FWD) t/m <sup>3</sup>	2.09	2.10	2.05	2.04	2.03	2.05
Field Moisture Content %	9.0	9.9	14.1	13.2	13.7	13.0
Field Dry Density (FDD) t/m <sup>3</sup>	1.92	1.91	1.79	1.80	1.78	1.82
Peak Converted Wet Density t/m <sup>3</sup>	2.18	2.19	2.14	2.07	2.06	2.08
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	-2.5	-2.5	0.0	-0.5	-0.5	-0.5
Adjusted Moisture Variation %	**	**	**	**	**	**
Hit Density Ratio (%)	<b>96.0</b>	<b>95.5</b>	<b>95.5</b>	<b>98.0</b>	<b>98.5</b>	<b>98.5</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

**Moisture Variation Note:**

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

# Material Test Report



**MORRISON  
GEOTECHNIC**

**Report Number:** ML20/105-44  
**Issue Number:** 1  
**Date Issued:** 19/01/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 539  
**Date Sampled:** 20/11/2020 10:00  
**Dates Tested:** 20/11/2020 - 18/01/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite

Morrison Geotechnic Pty Ltd  
 Base Facility No:17071  
 North Harbour Annex Facility No:24234  
 Unit 4 / 81 Wisers Road Maroochydore QLD 4558  
 Phone: (07) 5443 9522  
 Email: dtaylor@mgeo.com.au



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1					
Sample Number	N20-539A	N20-539B	N20-539C	N20-539D	N20-539E
Test Number	491	492	493	494	495
Date Tested	20/11/2020	20/11/2020	20/11/2020	20/11/2020	20/11/2020
Time Tested	10:00	10:05	10:10	10:15	10:20
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499787	499789	499792	499804	499806
Northing	6999421	6999432	6999441	6999445	6999458
Layer / Reduced Level	F/L	-.3m	F/L	-.3m	F/L
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0.0	0.0	0.0	0.0	0.0
Field Wet Density (FWD) t/m <sup>3</sup>	2.10	2.14	2.13	2.09	2.13
Field Moisture Content %	5.5	6.9	8.5	8.0	6.3
Field Dry Density (FDD) t/m <sup>3</sup>	1.99	2.01	1.97	1.93	2.00
Peak Converted Wet Density t/m <sup>3</sup>	2.13	2.19	2.20	2.16	2.18
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**
Moisture Variation (Wv) %	4.0	4.5	4.5	4.5	4.5
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	<b>99.0</b>	<b>98.0</b>	<b>97.0</b>	<b>96.5</b>	<b>97.5</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

**Moisture Variation Note:**

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



# Material Test Report



**MORRISON  
GEOTECHNIC**

**Report Number:** ML20/105-44  
**Issue Number:** 1  
**Date Issued:** 19/01/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 539  
**Date Sampled:** 20/11/2020 10:00  
**Dates Tested:** 20/11/2020 - 18/01/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite

Morrison Geotechnic Pty Ltd  
 Base Facility No:17071  
 North Harbour Annex Facility No:24234  
 Unit 4 / 81 Wisers Road Maroochydore QLD 4558  
 Phone: (07) 5443 9522  
 Email: dtaylor@mgeo.com.au



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1					
Sample Number	N20-539F	N20-539G	N20-539H	N20-539I	N20-539J
Test Number	496	497	498	499	500
Date Tested	20/11/2020	20/11/2020	20/11/2020	20/11/2020	20/11/2020
Time Tested	10:25	10:30	10:40	10:45	10:50
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499816	499825	499835	499841	499849
Northing	6999464	6999487	6999497	6999507	6999516
Layer / Reduced Level	-5m	F/L	-4m	F/L	-5m
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0.0	0.0	0.0	0.0	0.0
Field Wet Density (FWD) t/m <sup>3</sup>	2.13	2.09	2.13	2.12	2.13
Field Moisture Content %	8.2	8.8	10.6	9.2	9.4
Field Dry Density (FDD) t/m <sup>3</sup>	1.97	1.92	1.92	1.94	1.95
Peak Converted Wet Density t/m <sup>3</sup>	2.20	2.11	2.14	2.13	2.15
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**
Moisture Variation (Wv) %	4.5	4.5	4.5	4.5	4.5
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	<b>97.0</b>	<b>99.0</b>	<b>99.5</b>	<b>99.5</b>	<b>99.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

**Moisture Variation Note:**

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

# Material Test Report



**MORRISON  
GEOTECHNIC**

**Report Number:** ML20/105-45  
**Issue Number:** 1  
**Date Issued:** 20/01/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 550  
**Date Sampled:** 03/12/2020 8:30  
**Dates Tested:** 07/12/2020 - 20/01/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Clayey Sand. Brown  
**Material Source:** Onsite

Morrison Geotechnic Pty Ltd  
 Base Facility No:17071  
 North Harbour Annex Facility No:24234  
 Unit 4 / 81 Wisers Road Maroochydore QLD 4558  
 Phone: (07) 5443 9522  
 Email: dtaylor@mgeo.com.au



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-550A	N20-550B	N20-550C	N20-550D	N20-550E	N20-550F
Test Number	527	528	529	530	531	532
Date Tested	03/12/2020	03/12/2020	03/12/2020	03/12/2020	03/12/2020	03/12/2020
Time Tested	08:30	08:35	08:40	08:45	08:50	08:55
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499593	499615	499637	499673	499703	499725
Northing	6999411	6999406	6999393	6999395	6999393	6999382
Layer / Reduced Level	.2m BFL	.2m BFL	.2m BFL	.2m BFL	.2m BFL	.2m BFL
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.18	2.16	2.20	2.16	2.15	2.18
Field Moisture Content %	8.5	9.0	8.6	9.1	9.1	8.6
Field Dry Density (FDD) t/m <sup>3</sup>	2.01	1.98	2.03	1.98	1.97	2.01
Peak Converted Wet Density t/m <sup>3</sup>	2.19	2.20	2.22	2.22	2.21	2.22
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	2.0	2.0	2.0	2.0	2.0	2.5
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	99.5	98.5	99.0	97.5	97.0	98.5
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



**MORRISON  
GEOTECHNIC**

**Report Number:** ML20/105-45  
**Issue Number:** 1  
**Date Issued:** 20/01/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 550  
**Date Sampled:** 03/12/2020 8:30  
**Dates Tested:** 07/12/2020 - 20/01/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Clayey Sand. Brown  
**Material Source:** Onsite

Morrison Geotechnic Pty Ltd  
 Base Facility No:17071  
 North Harbour Annex Facility No:24234  
 Unit 4 / 81 Wisers Road Maroochydore QLD 4558  
 Phone: (07) 5443 9522  
 Email: dtaylor@mgeo.com.au



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N20-550G	N20-550H	N20-550I	N20-550J	N20-550K	N20-550L
Test Number	533	534	535	536	537	538
Date Tested	03/12/2020	03/12/2020	03/12/2020	03/12/2020	03/12/2020	03/12/2020
Time Tested	09:00	09:05	09:10	09:15	09:20	09:25
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499718	499693	499657	499637	4999619	499598
Northing	6999359	6999369	6999359	6999380	6999373	6999371
Layer / Reduced Level	.2m BFL	.2m BFL	.2m BFL	.2m BFL	.2m BFL	.2m BFL
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.20	2.18	2.18	2.16	2.14	2.16
Field Moisture Content %	9.3	9.0	8.6	9.2	8.9	9.5
Field Dry Density (FDD) t/m <sup>3</sup>	2.01	2.00	2.01	1.97	1.97	1.97
Peak Converted Wet Density t/m <sup>3</sup>	2.23	2.22	2.21	2.20	2.20	2.22
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	2.0	2.0	2.0	2.5	2.5	2.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>99.0</b>	<b>98.0</b>	<b>98.5</b>	<b>98.0</b>	<b>97.5</b>	<b>97.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**	**	**	**

**Moisture Variation Note:**

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

# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

Unit 4 / 81 Wises Road Maroochydore QLD 4558

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-46  
**Issue Number:** 1  
**Date Issued:** 28/01/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 536  
**Date Sampled:** 19/11/2020 7:00  
**Dates Tested:** 19/11/2020 - 25/01/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: David Taylor

Senior Technician

NATA Accredited Laboratory Number: 1169

## Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

Sample Number	N20-536A	N20-536B	N20-536C	N20-536D	N20-536E
Test Number	481	482	483	484	485
Date Tested	19/11/2020	19/11/2020	19/11/2020	19/11/2020	19/11/2020
Time Tested	07:00	07:05	07:10	07:15	07:20
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499609	499648	499672	499706	499722
Northing	6999412	6999407	6999400	6999389	6999382
Layer / Reduced Level	-.4	-.6	-.6	-.4	-.6
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0.0	0.0	0.0	0.0	0.0
Field Wet Density (FWD) t/m <sup>3</sup>	2.07	2.08	2.06	2.08	2.07
Field Moisture Content %	8.1	6.7	6.2	7.0	9.4
Field Dry Density (FDD) t/m <sup>3</sup>	1.92	1.95	1.94	1.94	1.90
Peak Converted Wet Density t/m <sup>3</sup>	2.08	2.11	2.05	2.02	2.04
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**
Moisture Variation (Wv) %	5.0	5.0	5.0	5.0	4.5
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	<b>99.5</b>	<b>98.5</b>	<b>101.0</b>	<b>103.0</b>	<b>101.5</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

### Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

Unit 4 / 81 Wises Road Maroochydore QLD 4558

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-46  
**Issue Number:** 1  
**Date Issued:** 28/01/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 536  
**Date Sampled:** 19/11/2020 7:00  
**Dates Tested:** 19/11/2020 - 25/01/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: David Taylor

Senior Technician

NATA Accredited Laboratory Number: 1169

## Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

Sample Number	N20-536F	N20-536G	N20-536H	N20-536I	N20-536J
Test Number	486	487	488	489	490
Date Tested	19/11/2020	19/11/2020	19/11/2020	19/11/2020	19/11/2020
Time Tested	07:25	07:30	07:35	07:40	07:45
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499712	499680	499662	499633	499605
Northing	6999366	6999365	6999377	6999370	6999382
Layer / Reduced Level	-.4	-.8m	-.6	-.8	-.6
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0.0	0.0	**	0.0	0.0
Field Wet Density (FWD) t/m <sup>3</sup>	2.15	2.12	2.15	2.15	2.12
Field Moisture Content %	11.2	9.8	9.9	8.1	9.6
Field Dry Density (FDD) t/m <sup>3</sup>	1.93	1.93	1.96	1.99	1.94
Peak Converted Wet Density t/m <sup>3</sup>	2.11	2.06	2.08	2.10	2.06
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**
Moisture Variation (Wv) %	2.5	4.0	5.0	5.0	4.0
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	<b>102.0</b>	<b>103.0</b>	<b>103.5</b>	<b>102.5</b>	<b>103.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>

### Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

# Material Test Report



Morrison Geotechnic Pty Ltd  
 Base Facility No:17071  
 North Harbour Annex Facility No:24234  
 Unit 4 / 81 Wisers Road Maroochydore QLD 4558  
 Phone: (07) 5443 9522  
 Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-55  
**Issue Number:** 1  
**Date Issued:** 27/04/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 635  
**Date Sampled:** 13/04/2021 10:00  
**Dates Tested:** 13/04/2021 - 19/04/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Location:** Bulk Fill(Lake in Stg 33)  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	N21-635A	N21-635B	
Test Number	559	560	
Date Tested	13/04/2021	13/04/2021	
Time Tested	10:00	10:10	
Test Request #/Location	Bulk Fill(Lake in Stg 33)	Bulk Fill(Lake in Stg 33)	
Easting	499561	499546	
Northing	6999493	6999441	
Elevation (m)	3.4m BFL	3.2m BFL	
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	
Test Depth (mm)	200	200	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	**	**	
Field Wet Density (FWD) t/m <sup>3</sup>	2.15	2.14	
Field Moisture Content %	14.2	14.6	
Field Dry Density (FDD) t/m <sup>3</sup>	1.88	1.87	
Peak Converted Wet Density t/m <sup>3</sup>	2.23	2.21	
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	
Moisture Variation (Wv) %	-1.0	-1.0	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	<b>96.5</b>	<b>97.0</b>	
Compaction Method	<b>Standard</b>	<b>Standard</b>	
Report Remarks	**	**	

**Moisture Variation Note:**

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



# Material Test Report



Morrison Geotechnic Pty Ltd  
 Base Facility No:17071  
 North Harbour Annex Facility No:24234  
 Unit 4 / 81 Wisers Road Maroochydore QLD 4558  
 Phone: (07) 5443 9522  
 Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-59  
**Issue Number:** 1  
**Date Issued:** 14/05/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 650  
**Date Sampled:** 16/04/2021 7:15  
**Dates Tested:** 16/04/2021 - 13/05/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Location:** Bulk Fill(Lake in Stg 33)  
**Material:** Sandy Gravelly Clay. Brown  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	N21-650A	N21-650B	
Test Number	562	563	
Date Tested	16/04/2021	16/04/2021	
Time Tested	07:15	07:20	
Test Request #/Location	Bulk Fill (lake in Stg 33)	Bulk Fill (lake in Stg 33)	
Easting	499544	499545	
Northing	6999471	6999445	
Layer / Reduced Level	2m BFL	2m BFL	
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	
Test Depth (mm)	200	200	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	**	**	
Field Wet Density (FWD) t/m <sup>3</sup>	2.29	2.28	
Field Moisture Content %	13.5	10.9	
Field Dry Density (FDD) t/m <sup>3</sup>	2.02	2.06	
Peak Converted Wet Density t/m <sup>3</sup>	2.22	2.21	
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	
Moisture Variation (Wv) %	0.0	0.0	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	<b>103.0</b>	<b>103.5</b>	
Compaction Method	<b>Standard</b>	<b>Standard</b>	
Report Remarks	**	**	

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

# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

Unit 4 / 81 Wisers Road Maroochydore QLD 4558

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-64  
**Issue Number:** 1  
**Date Issued:** 30/06/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 737  
**Date Sampled:** 08/06/2021 12:30  
**Dates Tested:** 08/06/2021 - 28/06/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 100% STD  
**Location:** Bulk Fill (old basin)  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor

Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	N21-737A	N21-737B	
Test Number	580	581	
Date Tested	08/06/2021	08/06/2021	
Time Tested	11:40	11:45	
Test Request #/Location	Bulk Fill (old basin )	Bulk Fill (old basin )	
Easting	499501	499492	
Northing	6999507	6999494	
Layer / Reduced Level	**	**	
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	
Test Depth (mm)	200	200	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	**	**	
Field Wet Density (FWD) t/m <sup>3</sup>	2.15	2.12	
Field Moisture Content %	6.7	7.1	
Field Dry Density (FDD) t/m <sup>3</sup>	2.02	1.98	
Peak Converted Wet Density t/m <sup>3</sup>	2.13	2.12	
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	
Moisture Variation (Wv) %	4.5	4.5	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	<b>101.0</b>	<b>100.0</b>	
Compaction Method	<b>Standard</b>	<b>Standard</b>	
Report Remarks	**	**	

**Moisture Variation Note:**

Positive values = test is dry of OMC

Negative values = test is wet of OMC

# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

Unit 4 / 81 Wisers Road Maroochydore QLD 4558

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-65  
**Issue Number:** 1  
**Date Issued:** 30/06/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 730  
**Date Sampled:** 02/06/2021 8:30  
**Dates Tested:** 02/06/2021 - 10/06/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Location:** Bulk Fill  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor

Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	N21-730A	N21-730B	N21-730C
Test Number	577	578	579
Date Tested	02/06/2021	02/06/2021	02/06/2021
Time Tested	08:00	08:10	08:15
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499495	499488	499487
Northing	6999509	6999496	6999488
Layer / Reduced Level	**	**	**
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.16	2.06	2.09
Field Moisture Content %	5.6	11.5	16.3
Field Dry Density (FDD) t/m <sup>3</sup>	2.04	1.85	1.80
Peak Converted Wet Density t/m <sup>3</sup>	2.15	2.17	2.14
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**
Moisture Variation (Wv) %	2.5	0.0	1.5
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	<b>100.5</b>	<b>95.0</b>	<b>97.5</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**

**Moisture Variation Note:**

Positive values = test is dry of OMC

Negative values = test is wet of OMC

# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

283-307 Buckley Road Burpengary East QLD 4505

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-67  
**Issue Number:** 1  
**Date Issued:** 29/09/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 807  
**Date Sampled:** 17/08/2021 9:30  
**Dates Tested:** 17/08/2021 - 28/09/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Location:** Bulk Fill  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1				
Sample Number	N21-807A	N21-807B	N21-807C	N21-807D
Test Number	611	612	613	614
Date Tested	17/08/2021	17/08/2021	17/08/2021	17/08/2021
Time Tested	09:30	09:35	09:40	09:45
Test Request #/Location	Stg 40 (lot 392)	Stg 40 (lot 393)	Stg 32 (lot 553)	Stg 32 (lot 554)
Line / Offset	5m from W Bdy	4m fr W Bdy	6m fr W Bdy	5m fr W Bdy
Offset	10m fr N Bdy	11m fr NBdy	15m fr N Bdy	12m fr N Bdy
Layer / Reduced Level	F/L	F/L	.5m BFL	.4m BFL
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.19	2.19	2.18	2.19
Field Moisture Content %	11.0	10.6	10.6	12.1
Field Dry Density (FDD) t/m <sup>3</sup>	1.97	1.98	1.97	1.95
Peak Converted Wet Density t/m <sup>3</sup>	2.23	2.23	2.23	2.20
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**
Moisture Variation (Wv) %	-0.5	-1.0	-0.5	-1.0
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	<b>98.5</b>	<b>98.5</b>	<b>97.5</b>	<b>99.5</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**	**

**Moisture Variation Note:**

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

# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

283-307 Buckley Road Burpengary East QLD 4505

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-68  
**Issue Number:** 1  
**Date Issued:** 29/09/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 828  
**Date Sampled:** 06/09/2021 10:00  
**Dates Tested:** 06/09/2021 - 28/09/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Location:** Bulk Fill  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1				
Sample Number	N21-828A	N21-828B	N21-828C	N21-828D
Test Number	626	627	628	629
Date Tested	06/09/2021	06/09/2021	06/09/2021	06/09/2021
Time Tested	10:00	10:05	10:10	10:15
Test Request #/Location	**	**	**	**
Chainage (m)	**	**	**	**
Location Offset (m)	**	**	**	**
Elevation (m)	R/L 6.0	R/L 6.57	R/L 6.89	R/L 7.22
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.15	2.10	2.18	2.21
Field Moisture Content %	14.4	14.1	10.4	12.1
Field Dry Density (FDD) t/m <sup>3</sup>	1.88	1.84	1.97	1.97
Peak Converted Wet Density t/m <sup>3</sup>	2.19	2.17	2.24	2.19
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**
Moisture Variation (Wv) %	-0.5	-0.5	0.5	-0.5
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	<b>98.0</b>	<b>96.5</b>	<b>97.0</b>	<b>101.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**	**

**Moisture Variation Note:**

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

# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

283-307 Buckley Road Burpengary East QLD 4505

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-70  
**Issue Number:** 2 - This version supersedes all previous issues  
**Reissue Reason:** Wrong Location  
**Date Issued:** 17/12/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 835  
**Date Sampled:** 09/09/2021 10:00  
**Dates Tested:** 09/09/2021 - 28/09/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Location:** Bulk Fill  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor

Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	N21-835A	N21-835B	
Test Number	634	635	
Date Tested	09/09/2021	09/09/2021	
Time Tested	10:05	10:10	
Test Request #/Location	Bulk Fill(Lot 376)	Bulk Fill(Lot 374)	
Easting	**	**	
Northing	**	**	
Elevation (m)	R/L 9.06	R/L 7.74	
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	
Test Depth (mm)	200	200	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	**	**	
Field Wet Density (FWD) t/m <sup>3</sup>	2.20	2.19	
Field Moisture Content %	12.5	13.8	
Field Dry Density (FDD) t/m <sup>3</sup>	1.95	1.92	
Peak Converted Wet Density t/m <sup>3</sup>	2.15	2.20	
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	
Moisture Variation (Wv) %	0.5	-0.5	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	<b>102.0</b>	<b>99.5</b>	
Compaction Method	<b>Standard</b>	<b>Standard</b>	
Report Remarks	**	**	

**Moisture Variation Note:**

Positive values = test is dry of OMC

Negative values = test is wet of OMC



# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

283-307 Buckley Road Burpengary East QLD 4505

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-71  
**Issue Number:** 1  
**Date Issued:** 05/10/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 825  
**Date Sampled:** 01/09/2021 10:00  
**Dates Tested:** 01/09/2021 - 29/09/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Location:** Bulk Fill  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1				
Sample Number	N21-825A	N21-825B	N21-825C	N21-825D
Test Number	615	616	617	618
Date Tested	01/09/2021	01/09/2021	01/09/2021	01/09/2021
Time Tested	10:00	10:05	10:10	10:15
Test Request #/Location	Lot 375 (Stg 32)	Lot 369 (stg 31)	Lot 369 (Stg 31)	Lot 371 (Stg 31)
Chainage (m)	Refer to Plans	Refer to Plans	Refer to Plans	Refer to Plans
Location Offset (m)	**	**	**	**
Layer / Reduced Level	R/L 4m	R/L 4m	R/L 3.7m	R/L 3.4m
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	silty sand	silty sand
Test Depth (mm)	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.18	2.17	2.23	2.24
Field Moisture Content %	13.1	12.1	8.2	8.3
Field Dry Density (FDD) t/m <sup>3</sup>	1.93	1.93	2.06	2.07
Peak Converted Wet Density t/m <sup>3</sup>	2.25	2.20	2.32	2.34
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**
Moisture Variation (Wv) %	-2.5	-0.5	-2.0	-2.5
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	<b>97.0</b>	<b>98.5</b>	<b>96.0</b>	<b>96.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**	**

**Moisture Variation Note:**

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

# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

283-307 Buckley Road Burpengary East QLD 4505

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-71  
**Issue Number:** 1  
**Date Issued:** 05/10/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 825  
**Date Sampled:** 01/09/2021 10:00  
**Dates Tested:** 01/09/2021 - 29/09/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Location:** Bulk Fill  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	N21-825E	N21-825F	N21-825G
Test Number	619	620	621
Date Tested	01/09/2021	01/09/2021	01/09/2021
Time Tested	10:20	10:25	10:30
Test Request #/Location	Lot 373 (Stg 31)	Frazer Rd	Frazer Rd
Chainage (m)	Refer to Plans	Refer to Plans	Refer to Plans
Location Offset (m)	**	**	**
Layer / Reduced Level	R/L 3.5m	.5m BFL	1m BFL
Soil Description	silty sandn	Sandy Clay. Brown	silty sand
Test Depth (mm)	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.22	2.20	2.22
Field Moisture Content %	8.3	11.1	10.4
Field Dry Density (FDD) t/m <sup>3</sup>	2.05	1.98	2.01
Peak Converted Wet Density t/m <sup>3</sup>	2.34	2.22	2.32
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**
Moisture Variation (Wv) %	-2.5	-0.5	-2.5
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	<b>95.0</b>	<b>99.0</b>	<b>95.5</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**

**Moisture Variation Note:**

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

# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

283-307 Buckley Road Burpengary East QLD 4505

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-72  
**Issue Number:** 1  
**Date Issued:** 05/10/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 827  
**Date Sampled:** 02/09/2021 10:00  
**Dates Tested:** 02/09/2021 - 30/09/2021  
**Specification:** 95% STD  
**Location:** Bulk fill  
**Material:** silty sand  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1				
Sample Number	N21-827A	N21-827B	N21-827C	N21-827D
Test Number	622	623	624	625
Date Tested	02/09/2021	02/09/2021	02/09/2021	02/09/2021
Time Tested	10:05	10:10	10:15	10:20
Test Request #/Location	Lot 374 (Stg 32)	Lot 370 (Stg 32)	Lot 412 (Stg 33)	Lot 372 Stg 32)
Chainage (m)	Refer to plans	Refer to plans	Refer to plans	Refer to plans
Location Offset (m)	**	**	**	**
Elevation (m)	R/L 4.19	R/L 4.67	R/L 5.01	R/L 5.63
Soil Description	silty sand	silty sand	silty sand	silty sand
Test Depth (mm)	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.11	2.13	2.16	2.14
Field Moisture Content %	10.8	8.1	8.0	8.3
Field Dry Density (FDD) t/m <sup>3</sup>	1.91	1.97	2.00	1.98
Peak Converted Wet Density t/m <sup>3</sup>	2.20	2.19	2.28	2.26
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**
Moisture Variation (Wv) %	-0.5	-2.0	-1.5	-1.5
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	<b>96.0</b>	<b>97.0</b>	<b>95.0</b>	<b>95.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**	**

**Moisture Variation Note:**

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

# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

283-307 Buckley Road Burpengary East QLD 4505

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-73  
**Issue Number:** 2 - This version supersedes all previous issues  
**Date Issued:** 05/10/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 841  
**Date Sampled:** 15/09/2021 10:00  
**Dates Tested:** 15/09/2021 - 30/09/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Location:** Bulk fill  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N21-841A	N21-841B	N21-841C	N21-841D	N21-841E	N21-841F
Test Number	636	637	638	639	640	641
Date Tested	15/09/2021	15/09/2021	15/09/2021	15/09/2021	15/09/2021	15/09/2021
Time Tested	10:00	10:05	10:10	10:15	10:20	10:25
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499500	4999503	499520	499522	499497	499488
Northing	6999381	6999361	6999363	6999382	6999406	6999435
Elevation (m)	R/L 2.0	R/L 2.21	R/L 2.51	R/L 2.8	R/L 3.8	R/L 4.1
Soil Description	Sandy Clay. Reddish brown, sandy loam	Sandy Clay. Reddish brown, sandy loam	Sandy Clay. Reddish brown, sandy loam	Sandy Clay. Reddish brown, sandy loam	Sandy Clay. Reddish brown, sandy loam	Sandy Clay. Reddish brown, sandy loam
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.20	2.18	2.14	2.15	2.15	2.16
Field Moisture Content %	11.6	10.4	16.1	13.5	6.3	7.1
Field Dry Density (FDD) t/m <sup>3</sup>	1.97	1.98	1.84	1.89	2.02	2.02
Peak Converted Wet Density t/m <sup>3</sup>	2.31	2.28	2.18	2.24	2.25	2.25
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	-2.5	-2.5	-2.5	-3.5	0.0	0.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>95.5</b>	<b>95.5</b>	<b>98.0</b>	<b>96.0</b>	<b>95.5</b>	<b>96.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**	**	**	**

**Moisture Variation Note:**

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

# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

283-307 Buckley Road Burpengary East QLD 4505

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-74  
**Issue Number:** 1  
**Date Issued:** 06/10/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 842  
**Date Sampled:** 16/09/2021 10:00  
**Dates Tested:** 16/09/2021 - 30/09/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Location:** Bulk Fill  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1					
Sample Number	N21-842A	N21-842B	N21-842C	N21-842D	N21-842E
Test Number	642	643	644	645	646
Date Tested	16/09/2021	16/09/2021	16/09/2021	16/09/2021	16/09/2021
Time Tested	10:00	10:05	10:10	10:15	10:20
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499513	499531	499511	499506	499485
Northing	6999374	6999362	6999364	6999351	6999348
Elevation (m)	R/L 3.16	R/L 3.21	R/L 3.45	R/L 3.59	R/L 3.64
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.22	2.18	2.13	2.14	2.14
Field Moisture Content %	9.7	9.7	13.7	12.7	13.7
Field Dry Density (FDD) t/m <sup>3</sup>	2.02	1.99	1.87	1.90	1.88
Peak Converted Wet Density t/m <sup>3</sup>	2.32	2.29	2.24	2.23	2.25
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**
Moisture Variation (Wv) %	-2.0	-2.5	-3.0	-2.0	-3.0
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	95.5	95.0	95.0	96.0	95.5
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



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

283-307 Buckley Road Burpengary East QLD 4505

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-75  
**Issue Number:** 1  
**Date Issued:** 06/10/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 845  
**Date Sampled:** 20/09/2021 10:00  
**Dates Tested:** 20/09/2021 - 05/10/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Location:** Bulk Fill  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1				
Sample Number	N21-845A	N21-845B	N21-845C	N21-845D
Test Number	647	648	649	650
Date Tested	20/09/2021	20/09/2021	20/09/2021	20/09/2021
Time Tested	10:05	10:10	10:15	10:20
Test Request #/Location	Bulk Fill Stg 33	Bulk Fill Stg 33	Bulk Fill Stg 33	Bulk Fill Stg 33
Easting	499457	499448	499435	499430
Northing	6999372	6999378	6999381	6999390
Elevation (m)	R/L 5.5	R/L 5.95	R/L 6.4	R/L 6.8
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	1.93	1.98	1.99	2.00
Field Moisture Content %	8.9	8.3	8.3	7.3
Field Dry Density (FDD) t/m <sup>3</sup>	1.77	1.83	1.84	1.86
Peak Converted Wet Density t/m <sup>3</sup>	2.02	2.05	2.05	2.05
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**
Moisture Variation (Wv) %	3.0	2.0	2.0	2.0
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	<b>95.5</b>	<b>96.5</b>	<b>97.0</b>	<b>97.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**	**

**Moisture Variation Note:**

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



# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

283-307 Buckley Road Burpengary East QLD 4505

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-77  
**Issue Number:** 1  
**Date Issued:** 22/10/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 854  
**Date Sampled:** 07/10/2021 9:00  
**Dates Tested:** 07/10/2021 - 22/10/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Location:** Bulk Fill  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N21-854A	N21-854B	N21-854C	N21-854D	N21-854E	N21-854F
Test Number	676	677	678	679	680	681
Date Tested	07/10/2021	07/10/2021	07/10/2021	07/10/2021	07/10/2021	07/10/2021
Time Tested	18:00	09:05	09:11	09:17	09:25	09:35
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499295	499316	499328	499311	499318	499335
Northing	6999388	6999384	6999387	6999396	6999411	6999415
Layer / Reduced Level	R/L 9.5	R/L 9.2	R/L 9.0	R/L 8.5	R/L 8.2	R/L 8.5
Soil Description	Sandy Clay. Reddish Brown	Sandy Clay. Reddish Brown	Sandy Clay. Reddish Brown	Sandy Clay. Reddish Brown	Sandy Clay. Reddish Brown	Sandy Clay. Reddish Brown
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.22	2.20	2.24	2.21	2.19	2.17
Field Moisture Content %	13.3	14.1	12.1	13.5	9.1	8.4
Field Dry Density (FDD) t/m <sup>3</sup>	1.96	1.93	1.99	1.95	2.01	2.00
Peak Converted Wet Density t/m <sup>3</sup>	2.23	2.24	2.22	2.26	2.22	2.18
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	0.0	0.0	2.0	0.0	4.5	4.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>99.5</b>	<b>98.5</b>	<b>101.0</b>	<b>98.0</b>	<b>99.0</b>	<b>99.5</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**	**	**	**

**Moisture Variation Note:**

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

# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

283-307 Buckley Road Burpengary East QLD 4505

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-77  
**Issue Number:** 1  
**Date Issued:** 22/10/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 854  
**Date Sampled:** 07/10/2021 9:00  
**Dates Tested:** 07/10/2021 - 22/10/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Location:** Bulk Fill  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N21-854G	N21-854H	N21-854I	N21-854J	N21-854K	N21-854L
Test Number	682	683	684	685	686	687
Date Tested	07/10/2021	07/10/2021	07/10/2021	07/10/2021	07/10/2021	07/10/2021
Time Tested	09:42	09:53	10:00	10:08	10:16	10:25
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499351	499371	499365	499350	499362	499379
Northing	6999369	6999409	6999418	6999432	6999433	6999417
Layer / Reduced Level	R/L 8.8	R/L 9.1	R/L 8.6	R/L 8.4	R/L 8.3	R/L 8.1
Soil Description	Sandy Clay. Reddish Brown	Sandy Clay. Reddish Brown	Sandy Clay. Reddish Brown	Sandy Clay. Reddish Brown	Sandy Clay. Reddish Brown	Sandy Clay. Reddish Brown
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.14	2.22	2.18	2.18	2.21	2.22
Field Moisture Content %	9.4	9.7	10.1	8.1	8.0	9.9
Field Dry Density (FDD) t/m <sup>3</sup>	1.95	2.02	1.98	2.02	2.05	2.02
Peak Converted Wet Density t/m <sup>3</sup>	2.21	2.24	2.21	2.23	2.24	2.22
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	2.0	2.0	2.0	2.0	2.0	2.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	97.0	99.0	98.5	98.0	99.0	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



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

283-307 Buckley Road Burpengary East QLD 4505

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-77  
**Issue Number:** 1  
**Date Issued:** 22/10/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 854  
**Date Sampled:** 07/10/2021 9:00  
**Dates Tested:** 07/10/2021 - 22/10/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Location:** Bulk Fill  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N21-854M	N21-854N	N21-854O	N21-854P	N21-854Q	N21-854R
Test Number	688	689	690	691	692	693
Date Tested	07/10/2021	07/10/2021	07/10/2021	07/10/2021	07/10/2021	07/10/2021
Time Tested	10:34	10:43	10:52	10:59	11:08	11:15
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499329	499340	499352	499356	499377	499391
Northing	6999377	6999378	6999386	6999396	6999389	6999397
Layer / Reduced Level	R/L 7.7	R/L 7.5	R/L 7.4	R/L 7.3	R/L 7.4	R/L 7.3
Soil Description	Sandy Clay. Reddish Brown	Sandy Clay. Reddish Brown	Sandy Clay. Reddish Brown	Sandy Clay. Reddish Brown	Sandy Clay. Reddish Brown	Sandy Clay. Reddish Brown
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.16	2.15	2.15	2.18	2.15	2.18
Field Moisture Content %	14.8	15.1	14.5	12.7	11.3	14.3
Field Dry Density (FDD) t/m <sup>3</sup>	1.88	1.87	1.88	1.94	1.94	1.91
Peak Converted Wet Density t/m <sup>3</sup>	2.27	2.18	2.19	2.17	2.22	2.21
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	-0.5	2.0	0.0	2.0	0.0	0.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	95.0	98.5	98.0	100.5	97.0	98.5
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



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

283-307 Buckley Road Burpengary East QLD 4505

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-77  
**Issue Number:** 1  
**Date Issued:** 22/10/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 854  
**Date Sampled:** 07/10/2021 9:00  
**Dates Tested:** 07/10/2021 - 22/10/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Location:** Bulk Fill  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N21-854S	N21-854T	N21-854U	N21-854V	N21-854W	N21-854X
Test Number	694	695	696	697	698	699
Date Tested	07/10/2021	07/10/2021	07/10/2021	07/10/2021	07/10/2021	07/10/2021
Time Tested	11:26	11:34	11:38	11:43	11:49	12:00
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499408	499419	499420	499446	499428	499440
Northing	6999392	6999391	6999364	6999383	6999424	6999426
Layer / Reduced Level	R/L 7.2	R/L 7.1	R/L 7.13	R/L 7.0	R/L 6.95	R/L 6.93
Soil Description	Sandy Clay. Reddish Brown	Sandy Clay. Reddish Brown	Sandy Clay. Reddish Brown	Sandy Clay. Reddish Brown	Sandy Clay. Reddish Brown	Sandy Clay. Reddish Brown
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.05	2.08	2.06	2.18	2.08	2.07
Field Moisture Content %	15.5	18.8	17.5	12.5	17.1	17.5
Field Dry Density (FDD) t/m <sup>3</sup>	1.77	1.75	1.75	1.94	1.78	1.76
Peak Converted Wet Density t/m <sup>3</sup>	2.15	2.12	2.13	2.16	2.17	2.13
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	0.0	0.0	0.0	2.0	0.0	0.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	95.0	98.0	96.5	101.0	96.0	97.0
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



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

283-307 Buckley Road Burpengary East QLD 4505

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-77  
**Issue Number:** 1  
**Date Issued:** 22/10/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 854  
**Date Sampled:** 07/10/2021 9:00  
**Dates Tested:** 07/10/2021 - 22/10/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Location:** Bulk Fill  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N21-854Y	N21-854Z	N21-854AA	N21-854AB	N21-854AC	N21-854AD
Test Number	700	701	702	703	704	705
Date Tested	07/10/2021	07/10/2021	07/10/2021	07/10/2021	07/10/2021	07/10/2021
Time Tested	12:05	12:10	12:19	12:25	12:30	12:37
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499452	499452	499453	499467	499479	499491
Northing	6999421	6999405	6999381	6999388	6999400	6999407
Layer / Reduced Level	R/L 6.9	R/L 6.87	R/L 6.83	R/L 6.81	R/L 6.80	R/L 6.78
Soil Description	Sandy Clay. Reddish Brown	Sandy Clay. Reddish Brown	Sandy Clay. Reddish Brown	Sandy Clay. Reddish Brown	Sandy Clay. Reddish Brown	Sandy Clay. Reddish Brown
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.19	2.17	2.18	2.08	2.22	2.16
Field Moisture Content %	14.3	18.6	14.9	15.3	15.0	15.4
Field Dry Density (FDD) t/m <sup>3</sup>	1.92	1.83	1.90	1.81	1.94	1.87
Peak Converted Wet Density t/m <sup>3</sup>	2.23	2.18	2.21	2.17	2.27	2.20
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	0.0	0.0	0.0	0.0	0.0	0.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>98.0</b>	<b>99.5</b>	<b>98.5</b>	<b>95.5</b>	<b>98.0</b>	<b>98.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**	**	**	**

**Moisture Variation Note:**

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

# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

283-307 Buckley Road Burpengary East QLD 4505

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-77  
**Issue Number:** 1  
**Date Issued:** 22/10/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 854  
**Date Sampled:** 07/10/2021 9:00  
**Dates Tested:** 07/10/2021 - 22/10/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Location:** Bulk Fill  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N21-854AE	N21-854AF	N21-854AG	N21-854AH	N21-854AI	N21-854AJ
Test Number	706	707	708	709	710	711
Date Tested	07/10/2021	07/10/2021	07/10/2021	07/10/2021	07/10/2021	07/10/2021
Time Tested	12:45	12:56	01:00	01:05	01:11	01:16
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499502	499508	499511	499512	499507	499504
Northing	6999398	6999386	6999375	6999362	6999356	6999341
Layer / Reduced Level	R/L 6.74	R/L 6.70	R/L 6.56	R/L 6.52	R/L 6.41	R/L 6.36
Soil Description	Sandy Clay. Reddish Brown	Sandy Clay. Reddish Brown	Sandy Clay. Reddish Brown	Sandy Clay. Reddish Brown	Sandy Clay. Reddish Brown	Sandy Clay. Reddish Brown
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.12	2.12	2.17	2.11	2.10	2.19
Field Moisture Content %	17.0	14.6	15.7	16.4	14.8	15.1
Field Dry Density (FDD) t/m <sup>3</sup>	1.81	1.85	1.87	1.81	1.83	1.90
Peak Converted Wet Density t/m <sup>3</sup>	2.14	2.15	2.21	2.15	2.15	2.21
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	0.0	2.0	0.0	0.0	-0.5	0.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>99.0</b>	<b>99.0</b>	<b>98.0</b>	<b>98.0</b>	<b>97.5</b>	<b>99.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**	**	**	**

**Moisture Variation Note:**

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



# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

283-307 Buckley Road Burpengary East QLD 4505

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-77  
**Issue Number:** 1  
**Date Issued:** 22/10/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 854  
**Date Sampled:** 07/10/2021 9:00  
**Dates Tested:** 07/10/2021 - 22/10/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Location:** Bulk Fill  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1					
Sample Number	N21-854AK	N21-854AL	N21-854AM	N21-854AN	
Test Number	712	713	714	715	
Date Tested	07/10/2021	07/10/2021	07/10/2021	07/10/2021	
Time Tested	01:20	01:25	01:28	01:35	
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	
Easting	499512	499520	499528	499530	
Northing	6999342	6999339	6999348	6999339	
Layer / Reduced Level	R/L 6.34	R/L 6.21	R/L 6.15	R/L 6.1	
Soil Description	Sandy Clay. Reddish Brown	Sandy Clay. Reddish Brown	Sandy Clay. Reddish Brown	Sandy Clay. Reddish Brown	
Test Depth (mm)	200	200	200	200	
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	
Percentage of Wet Oversize (%)	**	**	**	**	
Field Wet Density (FWD) t/m <sup>3</sup>	2.18	2.21	2.14	2.16	
Field Moisture Content %	14.3	14.9	14.7	14.4	
Field Dry Density (FDD) t/m <sup>3</sup>	1.91	1.92	1.86	1.89	
Peak Converted Wet Density t/m <sup>3</sup>	2.19	2.24	2.16	2.18	
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	
Moisture Variation (Wv) %	0.0	0.0	-0.5	2.0	
Adjusted Moisture Variation %	**	**	**	**	
Hilf Density Ratio (%)	<b>99.5</b>	<b>99.0</b>	<b>99.0</b>	<b>99.0</b>	
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	
Report Remarks	**	**	**	**	

**Moisture Variation Note:**

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

# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

283-307 Buckley Road Burpengary East QLD 4505

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-78  
**Issue Number:** 1  
**Date Issued:** 27/10/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 847  
**Date Sampled:** 23/09/2021 10:00  
**Dates Tested:** 23/09/2021 - 26/10/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Site Selection:** AS 1289.1.4.1  
**Location:** Bulk Fill  
**Material:** Silty Sand  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1					
Sample Number	N21-847A	N21-847B	N21-847C	N21-847D	N21-847E
Test Number	651	652	653	654	655
Date Tested	23/09/2021	23/09/2021	23/09/2021	23/09/2021	23/09/2021
Time Tested	10:00	10:10	10:15	10:20	10:30
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499424	499443	499460	499456	499475
Northing	6999397	6999413	6999408	6999376	6999375
Elevation (m)	R/L 6.02	R/L 5.99	R/L 5.87	R/L 5.45	R/L 5.19
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.05	2.06	2.05	2.03	2.07
Field Moisture Content %	11.6	12.0	9.9	10.0	10.2
Field Dry Density (FDD) t/m <sup>3</sup>	1.84	1.84	1.86	1.85	1.88
Peak Converted Wet Density t/m <sup>3</sup>	2.15	2.14	2.16	2.12	2.14
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**
Moisture Variation (Wv) %	0.0	-0.5	0.5	1.5	1.0
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	95.0	96.5	95.0	95.5	96.5
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



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

283-307 Buckley Road Burpengary East QLD 4505

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-79  
**Issue Number:** 1  
**Date Issued:** 06/11/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 851  
**Date Sampled:** 05/10/2021 10:00  
**Dates Tested:** 05/10/2021 - 06/11/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Location:** Bulk Fill  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N21-851A	N21-851B	N21-851C	N21-851D	N21-851E	N21-851F
Test Number	656	657	658	659	660	661
Date Tested	05/10/2021	05/10/2021	05/10/2021	05/10/2021	05/10/2021	05/10/2021
Time Tested	10:00	10:05	10:10	10:15	10:20	10:25
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499521	499522	499509	499490	499496	499474
Northing	6999384	6999362	6999346	6999359	6999376	6999392
Layer / Reduced Level	R/L 7.03	R/L 7.0	R/L 6.91	R/L 6.86	R/L 6.68	R/L 6.55
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.00	2.06	2.07	2.04	2.04	2.08
Field Moisture Content %	13.5	10.8	11.0	13.1	14.5	14.3
Field Dry Density (FDD) t/m <sup>3</sup>	1.77	1.86	1.87	1.80	1.78	1.82
Peak Converted Wet Density t/m <sup>3</sup>	2.10	2.12	2.12	2.08	2.12	2.15
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	-0.5	2.0	2.0	2.0	0.0	-0.5
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	95.5	97.0	97.5	97.5	96.0	97.0
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



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

283-307 Buckley Road Burpengary East QLD 4505

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-79  
**Issue Number:** 1  
**Date Issued:** 06/11/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 851  
**Date Sampled:** 05/10/2021 10:00  
**Dates Tested:** 05/10/2021 - 06/11/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Location:** Bulk Fill  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N21-851G	N21-851H	N21-851I	N21-851J	N21-851K	N21-851L
Test Number	662	663	664	665	666	667
Date Tested	05/10/2021	05/10/2021	05/10/2021	05/10/2021	05/10/2021	05/10/2021
Time Tested	10:30	10:35	10:40	10:50	10:55	11:00
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499492	499467	499481	499477	499486	499493
Northing	6999404	6999398	6999412	6999424	6999450	6999455
Layer / Reduced Level	R/L 6.49	R/L 6.36	R/L 6.21	R/L 6.10	R/L 6.8	R/L 6.5
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.12	2.13	2.08	2.11	2.09	2.10
Field Moisture Content %	13.7	13.0	13.3	11.0	7.7	8.7
Field Dry Density (FDD) t/m <sup>3</sup>	1.86	1.88	1.83	1.90	1.94	1.93
Peak Converted Wet Density t/m <sup>3</sup>	2.15	2.14	2.18	2.15	2.17	2.17
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	0.0	0.0	-0.5	0.5	2.0	2.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	98.5	99.5	95.5	98.5	96.0	97.0
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



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

283-307 Buckley Road Burpengary East QLD 4505

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-79  
**Issue Number:** 1  
**Date Issued:** 06/11/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 851  
**Date Sampled:** 05/10/2021 10:00  
**Dates Tested:** 05/10/2021 - 06/11/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Location:** Bulk Fill  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite



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*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N21-851M	N21-851N	N21-851O	N21-851P	N21-851Q	N21-851R
Test Number	668	669	670	671	672	673
Date Tested	05/10/2021	05/10/2021	05/10/2021	05/10/2021	05/10/2021	05/10/2021
Time Tested	11:05	11:11	11:17	11:23	11:28	11:33
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499488	499494	499490	499489	499496	499491
Northing	6999461	6999466	6999469	6999474	6999474	6999476
Layer / Reduced Level	R/L 6.2	R/L 6.1	R/L 6.1	R/L 6.0	R/L 5.7	R/L 5.5
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.08	2.11	2.08	2.05	2.11	2.09
Field Moisture Content %	8.0	8.1	7.2	9.6	7.7	7.8
Field Dry Density (FDD) t/m <sup>3</sup>	1.93	1.95	1.94	1.87	1.96	1.94
Peak Converted Wet Density t/m <sup>3</sup>	2.17	2.19	2.17	2.14	2.17	2.17
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	2.0	1.0	2.0	2.0	2.0	2.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>96.0</b>	<b>96.5</b>	<b>95.5</b>	<b>95.5</b>	<b>97.0</b>	<b>96.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**	**	**	**

**Moisture Variation Note:**

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

# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

283-307 Buckley Road Burpengary East QLD 4505

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-79  
**Issue Number:** 1  
**Date Issued:** 06/11/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 851  
**Date Sampled:** 05/10/2021 10:00  
**Dates Tested:** 05/10/2021 - 06/11/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Location:** Bulk Fill  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N21-851S	N21-851T				
Test Number	674	675				
Date Tested	05/10/2021	05/10/2021				
Time Tested	11:36	11:40				
Test Request #/Location	Bulk Fill	Bulk Fill				
Easting	499493	499483				
Northing	6999467	6999455				
Layer / Reduced Level	R/L 5.2	R/L 6.6				
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown				
Test Depth (mm)	200	200				
Sieve used to determine oversize (mm)	19.0	19.0				
Percentage of Wet Oversize (%)	**	**				
Field Wet Density (FWD) t/m <sup>3</sup>	2.10	2.08				
Field Moisture Content %	8.5	9.1				
Field Dry Density (FDD) t/m <sup>3</sup>	1.94	1.90				
Peak Converted Wet Density t/m <sup>3</sup>	2.16	2.17				
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**				
Moisture Variation (Wv) %	2.0	2.0				
Adjusted Moisture Variation %	**	**				
Hilf Density Ratio (%)	<b>97.5</b>	<b>96.0</b>				
Compaction Method	<b>Standard</b>	<b>Standard</b>				
Report Remarks	**	**				

**Moisture Variation Note:**

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



# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

283-307 Buckley Road Burpengary East QLD 4505

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-81  
**Issue Number:** 1  
**Date Issued:** 23/11/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 884  
**Date Sampled:** 19/11/2021 12:00  
**Dates Tested:** 19/11/2021 - 23/11/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Site Selection:** Selected by Local Authority  
**Location:** Bulk Fill  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor

Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	N21-884A	N21-884B	
Test Number	738	739	
Date Tested	19/11/2021	19/11/2021	
Time Tested	12:00	12:10	
Test Request #/Location	Bulk Fill	Bulk Fill	
Easting	499573	499563	
Northing	6999564	6999555	
Elevation (m)	R/L 2.4	R/L 3.4	
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	
Test Depth (mm)	200	200	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	**	**	
Field Wet Density (FWD) t/m <sup>3</sup>	2.00	1.99	
Field Moisture Content %	16.5	15.1	
Field Dry Density (FDD) t/m <sup>3</sup>	1.72	1.73	
Peak Converted Wet Density t/m <sup>3</sup>	2.07	2.08	
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	
Moisture Variation (Wv) %	0.0	0.0	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	<b>96.5</b>	<b>95.5</b>	
Compaction Method	<b>Standard</b>	<b>Standard</b>	
Report Remarks	**	**	

**Moisture Variation Note:**

Positive values = test is dry of OMC

Negative values = test is wet of OMC

# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

283-307 Buckley Road Burpengary East QLD 4505

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-82  
**Issue Number:** 1  
**Date Issued:** 01/12/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 877  
**Dates Tested:** 16/11/2021 - 29/11/2021  
**Location:** Bulk Fill



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	N21-877A	N21-877B	N21-877C
Test Number	716	717	718
Date Tested	16/11/2021	16/11/2021	16/11/2021
Time Tested	10:00	10:05	10:12
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499249	499259	499274
Northing	6999583	6999590	6999600
Layer / Reduced Level	F/L	F/L	F/L
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.10	2.08	2.10
Field Moisture Content %	9.9	9.6	10.8
Field Dry Density (FDD) t/m <sup>3</sup>	1.91	1.90	1.89
Peak Converted Wet Density t/m <sup>3</sup>	2.20	2.18	2.17
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**
Moisture Variation (Wv) %	-0.5	-1.0	-0.5
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	<b>95.5</b>	<b>95.5</b>	<b>96.5</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**

**Moisture Variation Note:**

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

# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

283-307 Buckley Road Burpengary East QLD 4505

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-83  
**Issue Number:** 1  
**Date Issued:** 02/12/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 882  
**Date Sampled:** 18/11/2021 9:00  
**Dates Tested:** 18/11/2021 - 30/11/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Site Selection:** Selected by Local Authority  
**Location:** Bulk Fill  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor

Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N21-882A	N21-882B	N21-882C	N21-882D	N21-882E	N21-882F
Test Number	719	720	721	722	723	724
Date Tested	18/11/2021	18/11/2021	18/11/2021	18/11/2021	18/11/2021	18/11/2021
Time Tested	09:05	09:08	09:13	09:17	09:22	09:28
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499449	499463	499474	499486	499497	499509
Northing	6999356	6999352	6999349	6999346	6999349	6999345
Layer / Reduced Level	F/L	.3m BFL	F/L	.4m BFL	F/L	F/L
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.20	2.20	2.21	2.11	2.18	2.12
Field Moisture Content %	12.5	13.9	13.4	11.5	11.0	11.3
Field Dry Density (FDD) t/m <sup>3</sup>	1.96	1.93	1.95	1.90	1.96	1.91
Peak Converted Wet Density t/m <sup>3</sup>	2.12	2.18	2.15	2.16	2.14	2.15
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	0.0	2.0	2.5	2.5	3.0	2.5
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>104.0</b>	<b>101.0</b>	<b>102.5</b>	<b>98.0</b>	<b>102.0</b>	<b>99.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**	**	**	**

**Moisture Variation Note:**

Positive values = test is dry of OMC

Negative values = test is wet of OMC

# Material Test Report



Morrison Geotechnic Pty Ltd

Base Facility No:17071

North Harbour Annex Facility No:24234

283-307 Buckley Road Burpengary East QLD 4505

Phone: (07) 5443 9522

Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-83  
**Issue Number:** 1  
**Date Issued:** 02/12/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 882  
**Date Sampled:** 18/11/2021 9:00  
**Dates Tested:** 18/11/2021 - 30/11/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Site Selection:** Selected by Local Authority  
**Location:** Bulk Fill  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite



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*D. Taylor*

Approved Signatory: David Taylor

Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N21-882G	N21-882H	N21-882I	N21-882J	N21-882K	N21-882L
Test Number	725	726	727	728	729	730
Date Tested	18/11/2021	18/11/2021	18/11/2021	18/11/2021	18/11/2021	18/11/2021
Time Tested	09:35	09:41	09:47	09:51	09:56	10:02
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499522	499535	499539	499347	499363	499375
Northing	6999341	6999338	6999384	6999379	6999394	6999383
Layer / Reduced Level	.4m BFL	F/L	F/L	1m BFL	F/L	F/L
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.23	2.16	2.18	2.18	2.18	2.13
Field Moisture Content %	10.3	10.6	9.2	14.1	15.2	14.5
Field Dry Density (FDD) t/m <sup>3</sup>	2.02	1.95	2.00	1.91	1.89	1.86
Peak Converted Wet Density t/m <sup>3</sup>	2.18	2.15	2.17	2.17	2.20	2.15
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	2.0	2.5	2.5	2.0	2.0	2.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	102.5	100.0	100.5	100.5	99.0	99.5
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



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Base Facility No:17071

North Harbour Annex Facility No:24234

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Email: dtaylor@mgeo.com.au

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**Date Issued:** 02/12/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 882  
**Date Sampled:** 18/11/2021 9:00  
**Dates Tested:** 18/11/2021 - 30/11/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Site Selection:** Selected by Local Authority  
**Location:** Bulk Fill  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor

Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N21-882M	N21-882N	N21-882O	N21-882P	N21-882Q	N21-882R
Test Number	731	732	733	734	735	736
Date Tested	18/11/2021	18/11/2021	18/11/2021	18/11/2021	18/11/2021	18/11/2021
Time Tested	10:10	10:13	10:18	10:23	10:27	10:32
Test Request #/Location	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill	Bulk Fill
Easting	499382	499390	499397	499369	499380	499311
Northing	6999377	6999372	6999368	6999404	6999418	6999393
Layer / Reduced Level	F/L	F/L	F/L	.4m BFL	F/L	.2m BFL
Soil Description	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown	Sandy Clay. Brown
Test Depth (mm)	200	200	200	200	200	200
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.15	2.18	2.16	2.14	2.18	2.10
Field Moisture Content %	15.0	13.7	14.3	15.1	14.0	12.9
Field Dry Density (FDD) t/m <sup>3</sup>	1.87	1.91	1.89	1.86	1.91	1.86
Peak Converted Wet Density t/m <sup>3</sup>	2.16	2.20	2.19	2.19	2.10	2.14
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	2.0	2.0	2.0	2.0	2.0	2.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	<b>99.5</b>	<b>99.0</b>	<b>99.0</b>	<b>98.0</b>	<b>104.0</b>	<b>98.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**	**	**	**

**Moisture Variation Note:**

Positive values = test is dry of OMC

Negative values = test is wet of OMC

# Material Test Report



Morrison Geotechnic Pty Ltd  
 Base Facility No:17071  
 North Harbour Annex Facility No:24234  
 283-307 Buckley Road Burpengary East QLD 4505  
 Phone: (07) 5443 9522  
 Email: dtaylor@mgeo.com.au

**Report Number:** ML20/105-83  
**Issue Number:** 1  
**Date Issued:** 02/12/2021  
**Client:** HALL CONTRACTING PTY LTD  
 PO BOX 519, BUDERIM QLD 4556  
**Contact:** Greg Busse  
**Project Number:** ML20/105  
**Project Name:** Phase 4B - Level 1 Bulk Earthworks  
**Project Location:** North Harbour, Burpengary  
**Client Reference:** N4B1/F20C  
**Work Request:** 882  
**Date Sampled:** 18/11/2021 9:00  
**Dates Tested:** 18/11/2021 - 30/11/2021  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% STD  
**Site Selection:** Selected by Local Authority  
**Location:** Bulk Fill  
**Material:** Sandy Clay. Brown  
**Material Source:** Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

*D. Taylor*

Approved Signatory: David Taylor  
 Senior Technician  
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	N21-882S					
Test Number	737					
Date Tested	18/11/2021					
Time Tested	10:36					
Test Request #/Location	Bulk Fill					
Easting	499323					
Northing	6999405					
Layer / Reduced Level	F/L					
Soil Description	Sandy Clay. Brown					
Test Depth (mm)	200					
Sieve used to determine oversize (mm)	19.0					
Percentage of Wet Oversize (%)	**					
Field Wet Density (FWD) t/m <sup>3</sup>	2.12					
Field Moisture Content %	12.7					
Field Dry Density (FDD) t/m <sup>3</sup>	1.89					
Peak Converted Wet Density t/m <sup>3</sup>	2.15					
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**					
Moisture Variation (Wv) %	2.0					
Adjusted Moisture Variation %	**					
Hilf Density Ratio (%)	<b>98.5</b>					
Compaction Method	<b>Standard</b>					
Report Remarks	**					

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