

AS 3798 LEVEL ONE REPORT

PREPARED FOR:

Company Name:

Roberts BROS PTY LTD

Site:

LOT 9 ON RP224705 & LOT 8 ON RP218636 GLASTONBURY ROAD NAHRUNDA, Qld, 4570

Date of report: 7 April 2025

Project No: GSGY-GLN-24-175



7 April 2025

Roberts BROS PTY LTD PO BOX 247 Cooroy, QLD, 4563

Attention: Roberts BROS PTY LTD

RE: GSGY-GLN-24-175 AS 3798 Level 1 Supervision Report

Dear Roberts BROS PTY LTD,

This letter presents a Level 1 Supervision report for testing services undertaken by GSG Laboratories during the placement of fill (earthworks) at Oakridge Estate, Glastonbury Road, Nahrunda, Qld 4570.

The primary objective of level 1 inspection and testing is for GSG Laboratories to express an opinion on the compliance of the work performed during the fill placement of this project.

AS 3798 provides guidance on the specification, execution, and control testing of earthworks and associated site preparation works for commercial and residential developments.

Please do not hesitate to contact the undersigned should there be any queries regarding this report.

For and on behalf of GSG Laboratories.

Jake Davey

Jake Davey – Laboratory Manager

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a. Brisbane, Bundaberg, Gympie, Hervey Bay, Tamworth



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1. Referenced documents

The following document should be read and adhered to in relation to this report:

• Australian Standard AS 3798 - Guidelines on earthworks for commercial and residential developments.

2. Introduction

This report presents the results of field and laboratory activities (testing services) provided by GSG Laboratories during the placement of fill (earthworks) at Oakridge Estate, Glastonbury Road, Nahrunda, Qld 4570.

Roberts BROS PTY LTD requested GSG Laboratories as the geotechnical inspection and testing authority (GITA) to conduct Level 1 Inspection and Testing for the duration of these works in accordance with AS 3798 - Guidelines on earthworks for commercial and residential developments.

Level 1 testing, as defined in AS 3798 - Guidelines on earthworks for commercial and residential development, provides for full-time inspection for the placement of controlled fill and compaction testing in accordance with AS 1289 - Methods of testing soils for engineering purposes.

The Level 1 inspection and testing was performed during the period of 1 May 2024 to 15 January 2025

3. Site description

Level 1 inspection and testing was provided for the fill placed on the house pads only as indicated on the drawing in Appendix A.

Material selection and condition, as well as compaction testing, were conducted during the placement of the fill.

4. Site inspection and preparation

GSG Laboratories were present for the site stripping which included removal of topsoil, vegetation, and any other deleterious materials. After stripping, all areas were proof rolled prior to fill placement. Any area with movement were excavated and re-worked prior to fill being placed.

5. Placement specification

The project specification requires that earthworks comply with the following:

- Fill to be compacted in near horizontal layers not exceeding 300mm loose thickness and compacted to at least 95% of standard compaction.
- Moisture ratio of the fill material to be within 2% of the optimum moisture content (OMC).



6. Construction

The following construction plant was used on this site during the placement of fill (earthworks).

- 2 x Padfoot compactor.
- 3 x Moxy dump truck.
- 3 x Excavators.
- 1 x Grader.
- 1 x Water cart.
- 2 x Bulldozers.
- 1 x Smooth drum roller.

7. Construction materials

The fill material used on this project was sourced from **onsite cuts** and was assessed by GSG Laboratories to be free of debris, vegetative matter, and oversize material. Visual assessments of the material used were considered acceptable for use on this project. The fill product used is best described as varying between a **Silty clay and a clayey gravel**.

Any material that was found to be out of the moisture specification was conditioned using a water cart prior and during placement.

8. Fill placement

During fill placement, the material was placed in approximately 300mm loose layers.

The material was then compacted by means of a Padfoot roller until compaction was achieved.

9. Field and laboratory testing

All nuclear density and compaction control testing was performed in accordance with AS 3798 - Table 5.1 - Minimum relative compaction and AS 3798 - Table 8.1 - Frequency of Field Density Tests.

Based on the layout plans provided by the client, a fill volume of approximately **20,000 m3** with a surface area of approximately **33,000 m2** was used on this project.

In accordance with AS 3798 - Table 8.1, the type of earthworks is Type 1 - Large scale operation, therefore, the frequency of testing was 1 test per 500m3 distributed reasonably evenly throughout full depth and area as per AS 3798 - Table 8.1.

A total of 120 compactions (AS 1289.5.7.1) and 120 density tests (AS 1289.5.8.1) were performed.

A summary of the results and test certificates are included in Appendix B.



10. Conclusion

GSG Laboratories has provided Level 1 inspection and testing services during the placement of fill (earthworks) at Oakridge Estate, Glastonbury Road, Nahrunda, Qld 4570.between 1 May 2024 and 15 January 2025

A technician from GSG Laboratories was on-site full-time during fill placement and observed the construction techniques adopted.

Based on the observations made by GSG Laboratories personnel and the results of field and laboratory tests, GSG Laboratories consider that the fill has been placed in general accordance with the intent of the specification and AS 3798.

Any placement of fill that has occurred during the above periods within the defined areas can be classified as 'Controlled Fill'. Any placement of fill that was placed and compacted outside the above periods of the Level 1 inspection and testing supervision will require a separate evaluation, as this fill may not be suitable nor appropriately compacted.

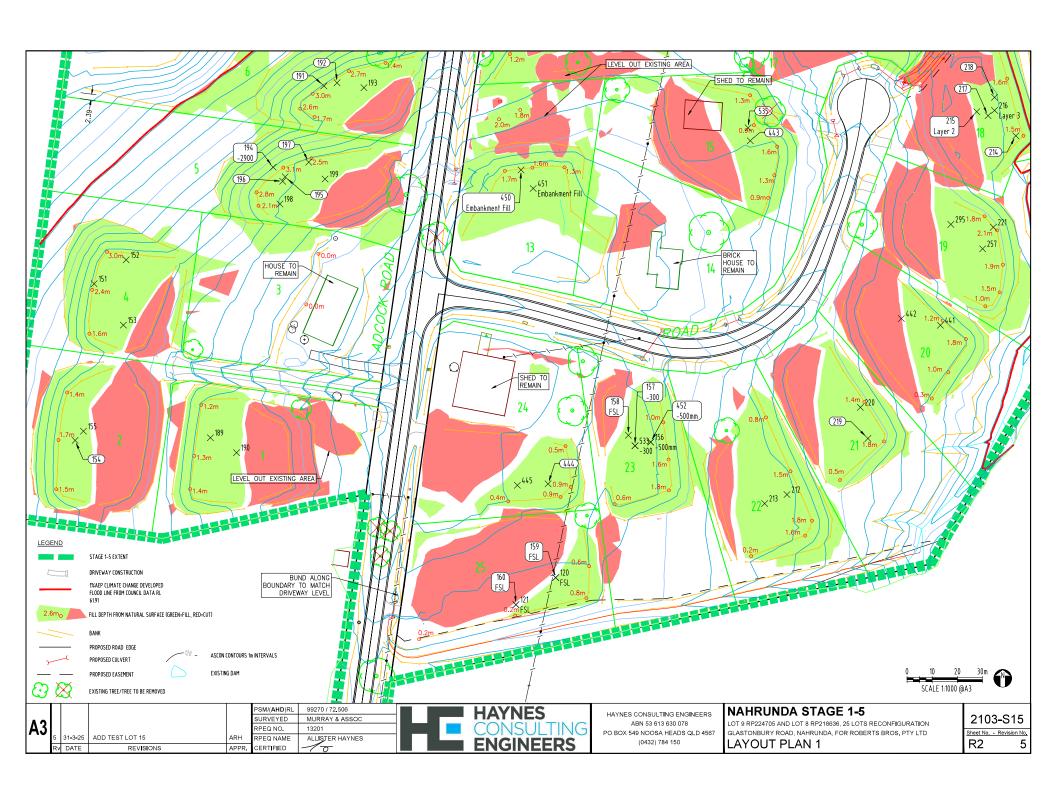
Advice should be sought if uncontrolled fill is encountered.

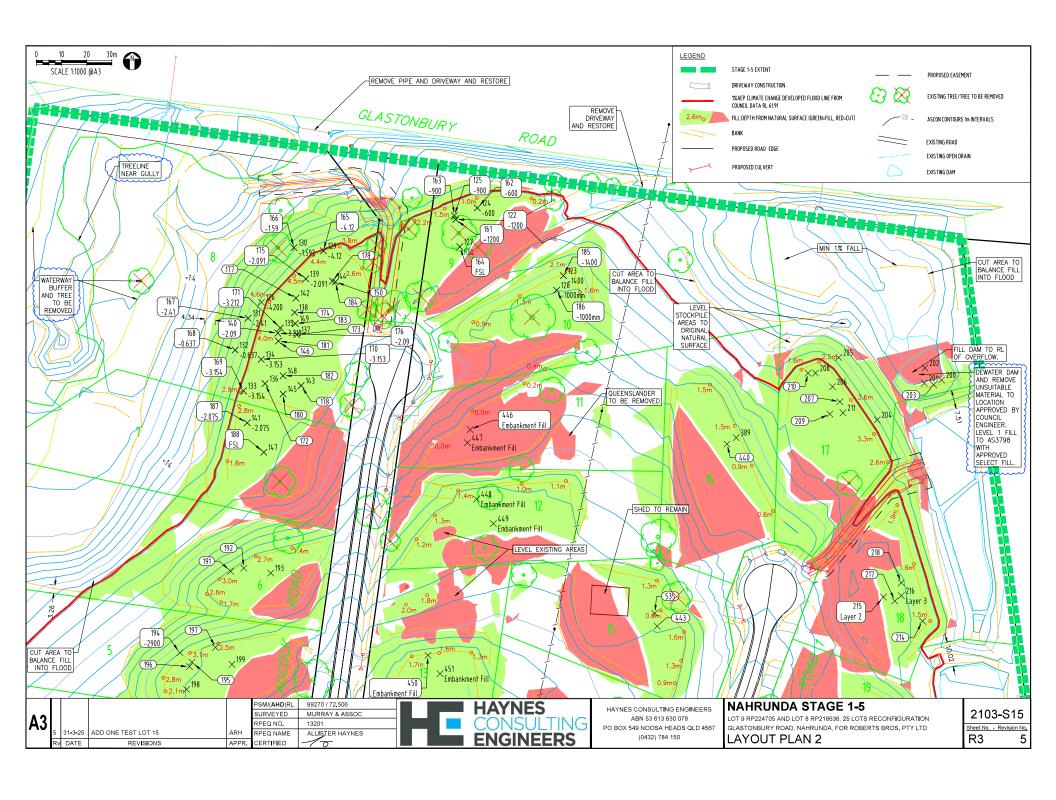
11. Conditions of this report

- a) The extent of testing associated with this assessment is limited to discrete testing locations. It should be noted that subsurface conditions can vary from the testing locations observed during the field work and used as the basis of the recommendations contained in this report. If subsurface conditions encountered differ from those given in this report further advice should be sought immediately.
- b) The conclusion presented in this report are relevant to the conditions of the site and the state of legislation currently enacted as at the date of this report. Findings and conclusions are made assuming that the soil, groundwater, geological and chemical conditions detailed within this report are accurate and remain applicable to the site at the time of writing. No other warranties are made or intended.
- c) Unless otherwise stated, Level 1 certification does not address trench backfill operations, batter slope stability, retaining wall construction, global stability analysis, acid sulphate testing and or management.
- d) The 'supervision' component of this Level 1 report is not NATA accredited.
- e) Geotechnical Services must be contacted if any site levels are modified whatsoever.
- f) It is the client's responsibility to maintain site drainage after the issue of this report.
- g) This report may not be reproduced except in full, and only with the permission of GSG Laboratories. The information shall only be used and is only applicable for this site.



Appendix A - Site plan







Appendix B - Test results

Report Number: GSGY-GLN-24-175-28

Issue Number:

Date Issued: 25/07/2024

Client: ROBERTS BROS PTY LTD

PO BOX 247, COOROY QLD 4563

Contact: DAVID ROBERTS **Project Number:** GSGY-GLN-24-175 **Project Name:** Oakridge Estate

Project Location: LOT 9 ON RP224705 & LOT 8 ON RP218636,

GLASTONBURY ROAD, NAHRUNDA

Client Reference: 10/6/24 Work Request: 3376

Dates Tested: 12/06/2024 - 21/06/2024

AS 1289.1.2.1 $6.4\ (\mbox{b})$ - Sampling from layers in earthworks or pavement - compacted Sampling Method:

Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils Location: Oakridge Estate - Level 1 Supervision - Lot 1

Onsite Fill Material: **Material Source:** Onsite



Geotechnical Services (Gympie) Pty Ltd 1 Dennis Little Drive Glanmire QLD 4570

Phone: (07) 4128 3213

Email: jake.davey@geotechnicalservices.com.au Accredited for compliance with ISO/IEC 17025 - Testing



Approved Signatory: Jake Davey

Laboratory Manager

NATA Accredited Laboratory Number: 21185

Compaction Control AS 1289 5.7.1 & 5.8.1 & Sample Number	G3376A	G3376B	
Date Tested	12/06/2024	14/06/2024	
Time Tested	08:16	08:30	
Test Request #/Location	Lot 1	Lot 1	
Easting	461927.86	461938.281	
Northing	7101500.88	7101494.970	
Elevation (m)	72.48	73.348	
Thickness of Layer (mm)	300	300	
Soil Description	Onsite Fill	Onsite Fill	
Test Depth (mm)	275	300	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	16	15	
Field Wet Density (FWD) t/m ³	2.31	2.26	
Field Moisture Content %	16.1	14.8	
Field Dry Density (FDD) t/m ³	1.99	1.97	
Peak Converted Wet Density t/m ³	**	**	
Adjusted Peak Converted Wet Density t/m ³	2.22	2.30	
Moisture Variation (Wv) %	**	**	
Adjusted Moisture Variation %	1.5	2.0	
Hilf Density Ratio (%)	104.5	98.5	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

This document shall not be reproduced except in full without approval of the laboratory Results relate only to the items tested/sampled.

Moisture Variation Note:

Report Number: GSGY-GLN-24-175-16

Issue Number:

Date Issued: 04/07/2024

Client: ROBERTS BROS PTY LTD

PO BOX 247, COOROY QLD 4563

Contact:DAVID ROBERTSProject Number:GSGY-GLN-24-175Project Name:Oakridge Estate

Project Location: LOT 9 ON RP224705 & LOT 8 ON RP218636,

GLASTONBURY ROAD, NAHRUNDA

Client Reference: 5/6/24 Work Request: 3331

Dates Tested: 06/06/2024 - 17/06/2024

Location: Oakridge Estate - Level 1 Supervision - Lot 2



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Phone: (07) 4128 3213

Email: jake.davey@geotechnicalservices.com.au Accredited for compliance with ISO/IEC 17025 - Testing



Approved Signatory: Jake Davey

Laboratory Manager

NATA Accredited Laboratory Number: 21185

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Compaction Control AS 1289 5.7.1 & 5.8.1 & 3	2.1.1		
Sample Number	G3331A	G3331B	
Date Tested	06/06/2024	10/06/2024	
Time Tested	15:20	09:15	
Test Request #/Location	6/6/24 Lot 2	10/6/24 Lot 2	
Easting	461874.02	461877.39	
Northing	7101499.84	7101503.47	
Elevation (m)	67.94	68.47	
Thickness of Layer (mm)	300	300	
Soil Description	Onsite Fill	Onsite Fill	
Test Depth (mm)	275	275	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	9	17	
Field Wet Density (FWD) t/m ³	2.16	2.21	
Field Moisture Content %	18.2	9.5	
Field Dry Density (FDD) t/m ³	1.82	2.02	
Peak Converted Wet Density t/m ³	**	**	
Adjusted Peak Converted Wet Density t/m ³	2.10	2.25	
Moisture Variation (Wv) %	**	**	
Adjusted Moisture Variation %	0.5	1.5	
Hilf Density Ratio (%)	102.5	98.5	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note:

Report Number: GSGY-GLN-24-175-15

Issue Number:

Date Issued: 04/07/2024

Client: ROBERTS BROS PTY LTD

PO BOX 247, COOROY QLD 4563

Contact: DAVID ROBERTS **Project Number:** GSGY-GLN-24-175 **Project Name:** Oakridge Estate

Project Location: LOT 9 ON RP224705 & LOT 8 ON RP218636,

GLASTONBURY ROAD, NAHRUNDA

Client Reference: 24/5/24 Work Request: 3242

Date Sampled: 24/05/2024 12:50 **Dates Tested:** 27/05/2024 - 06/06/2024

AS 1289.1.2.1 $6.4\ (\mbox{b})$ - Sampling from layers in earthworks or pavement - compacted Sampling Method:

Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils

Minimum 95% Hilf Density Ratio Specification:

Site Selection: Selected by Client

Location: Oakridge Estate - Level 1 Supervision - Lot 4

Lot Number: Lot 4 Material: Onsite Fill **Material Source:** Onsite



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Approved Signatory: Jake Davey

Laboratory Manager NATA Accredited Laboratory Number: 21185

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2	2.1.1		
Sample Number	G3242A	G3242B	G3242C
Date Tested	24/05/2024	29/05/2024	29/05/2024
Time Tested	12:50	14:00	14:05
Test Request #/Location	24/4/24 Lot 4	29/5/24 LOT 4	29/5/24 LOT 4
Easting	461881.65	461894.37	461893.23
Northing	7101562.16	7101571.65	7101545.69
Elevation (m)	65.93	67.53	68.09
Thickness of Layer (mm)	300	300	300
Soil Description	Onsite Fill	Onsite Fill	Onsite Fill
Test Depth (mm)	275	275	275
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	15	8	20
Field Wet Density (FWD) t/m ³	2.24	2.21	2.31
Field Moisture Content %	13.8	14.6	10.5
Field Dry Density (FDD) t/m ³	1.97	1.93	2.09
Peak Converted Wet Density t/m ³	**	**	**
Adjusted Peak Converted Wet Density	2.21	2.10	2.31
Moisture Variation (Wv) %	**	**	**
Adjusted Moisture Variation %	2.0	2.0	2.0
Hilf Density Ratio (%)	101.5	105.5	100.0
Compaction Method	Standard	Standard	Standard
Report Remarks	**	**	**

Moisture Variation Note:

Report Number: GSGY-GLN-24-175-39

Issue Number:

Date Issued: 27/09/2024

Client: ROBERTS BROS PTY LTD

PO BOX 247, COOROY QLD 4563

Contact: DAVID ROBERTS **Project Number:** GSGY-GLN-24-175 **Project Name:** Oakridge Estate

Project Location: LOT 9 ON RP224705 & LOT 8 ON RP218636,

GLASTONBURY ROAD, NAHRUNDA

Work Request: 3532

Dates Tested: 10/07/2024 - 26/09/2024

AS 1289.1.2.1 $6.4\ (\mbox{b})$ - Sampling from layers in earthworks or pavement - compacted Sampling Method:

Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils

Specification: Minimum 95% Hilf Density Ratio

Location: Oakridge Estate - Level 1 Supervision - Lot 5

Material: Onsite Fill **Material Source:** Onsite



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Accredited for compliance with ISO/IEC 17025 - Testing



Approved Signatory: Jake Davey

Laboratory Manager

NATA Accredited Laboratory Number: 21185

Compaction Control AS 1289 5.7.1 & 5.8	3.1 & 2.1.1					
Sample Number	G3532A	G3532B	G3532C	G3532D	G3532E	G3532F
Date Tested	10/07/2024	11/07/2024	16/07/2024	26/08/2024	04/09/2024	24/09/2024
Time Tested	11:28	13:22	10:11	11:10	09:30	11:30
Test Request #/Location	Lot 5	Lot 5	Lot 5	26/08 Lot 5	4/9/24 Lot 5	24/9/24 Lot 5
Easting	461952.840	461957.654	4619565.614	461966.990	461955.510	461973.510
Northing	7101608.530	7101604.665	7101602.916	7101610.530	7101593.870	7101603.800
Elevation (m)	68.926	70.244	70.896	71.170	71.380	71.980
Layer / Reduced Level	-2900	**	**	**	**	**
Thickness of Layer (mm)	300	300	300	300	300	300
Soil Description	Onsite Fill	Onsite Fill	Onsite Fill	Onsite Fill	Onsite Fill	Onsite Fill
Test Depth (mm)	275	275	275	275	275	275
Sieve used to determine oversize (mm)	19.0	19.0	37.5	19.0	19.0	19.0
Percentage of Wet Oversize (%)	16	5	19	6	15	7
Field Wet Density (FWD) t/m ³	2.17	2.10	2.37	2.24	2.20	2.12
Field Moisture Content %	22.2	23.6	12.6	16.4	15.1	18.9
Field Dry Density (FDD) t/m ³	1.77	1.70	2.10	1.92	1.91	1.79
Peak Converted Wet Density t/m ³	**	**	**	**	**	**
Adjusted Peak Converted Wet Density t/m ³	2.16	2.07	2.30	2.18	2.20	2.10
Moisture Variation (Wv) %	**	**	**	**	**	**
Adjusted Moisture Variation %	2.0	-0.5	1.5	0.0	1.5	0.5
Hilf Density Ratio (%)	100.5	101.0	103.0	102.5	100.0	101.0
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**	**	**

Moisture Variation Note:

Report Number: GSGY-GLN-24-175-29

Issue Number:

Date Issued: 25/07/2024

Client: ROBERTS BROS PTY LTD

PO BOX 247, COOROY QLD 4563

Contact: DAVID ROBERTS **Project Number:** GSGY-GLN-24-175 **Project Name:** Oakridge Estate

Project Location: LOT 9 ON RP224705 & LOT 8 ON RP218636,

GLASTONBURY ROAD, NAHRUNDA

Work Request: 3436

Dates Tested: 19/06/2024 - 22/07/2024

AS 1289.1.2.1 $6.4\ (\mbox{b})$ - Sampling from layers in earthworks or pavement - compacted Sampling Method:

Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils Location: Oakridge Estate - Level 1 Supervision - Lot 6

Material: Onsite Fill **Material Source:** Onsite



Geotechnical Services (Gympie) Pty Ltd 1 Dennis Little Drive Glanmire QLD 4570

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Email: jake.davey@geotechnicalservices.com.au Accredited for compliance with ISO/IEC 17025 - Testing



Approved Signatory: Jake Davey

Laboratory Manager

NATA Accredited Laboratory Number: 21185

Compaction Control AS 1289 5.7.1 & 5.8.1 & 5.8.1	2.1.1		
Sample Number	G3436A	G3436B	G3436C
Date Tested	19/06/2024	25/06/2024	01/07/2024
Time Tested	12:55	10:35	10:05
Test Request #/Location	19/6/24 Lot 6	25/6/24 Lot 6	1/7/24 Lot 6
Easting	461973.02	461978.25	461988.96
Northing	7101640.82	7101642.12	7101640.15
Elevation (m)	67.04	68.05	69.18
Thickness of Layer (mm)	300	300	300
Soil Description	Onsite Fill	Onsite Fill	Onsite Fill
Test Depth (mm)	275	275	275
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	12	**	7
Field Wet Density (FWD) t/m ³	2.22	2.06	2.20
Field Moisture Content %	16.7	14.4	18.3
Field Dry Density (FDD) t/m ³	1.90	1.80	1.86
Peak Converted Wet Density t/m ³	**	2.09	**
Adjusted Peak Converted Wet Density t/m ³	2.25	**	2.14
Moisture Variation (Wv) %	**	2.0	**
Adjusted Moisture Variation %	2.0	**	0.5
Hilf Density Ratio (%)	98.5	99.0	102.5
Compaction Method	Standard	Standard	Standard
Report Remarks	**	**	**

Moisture Variation Note:

Report Number: GSGY-GLN-24-175-22

Issue Number:

Date Issued: 04/07/2024

Client: ROBERTS BROS PTY LTD

PO BOX 247, COOROY QLD 4563

Contact: DAVID ROBERTS **Project Number:** GSGY-GLN-24-175 **Project Name:** Oakridge Estate

LOT 9 ON RP224705 & LOT 8 ON RP218636, GLASTONBURY ROAD, NAHRUNDA **Project Location:**

Work Request: 3370

Dates Tested: 16/05/2024 - 27/05/2024

Location: Oakridge Estate - Level 1 Supervision - Lot 7



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Approved Signatory: Jake Davey

Laboratory Manager

NATA Accredited Laboratory Number: 21185

Compaction Control AS 1289 5.7.1 & 5.8.1 & 3	2.1.1		
Sample Number	G3370A	G3370B	
Date Tested	19/06/2024	23/05/2024	
Time Tested	12:53	13:20	
Test Request #/Location	Lot 7	Lot 7	
Easting	461979.61	461986.21	
Northing	7101699.89	7101688.18	
Elevation (m)	60.28	62.33	
Layer / Reduced Level	-2.075	FSL	
Thickness of Layer (mm)	300	300	
Soil Description	Onsite Fill	Onsite Fill	
Test Depth (mm)	275	275	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	11	0	
Field Wet Density (FWD) t/m ³	2.13	2.16	
Field Moisture Content %	16.3	18.7	
Field Dry Density (FDD) t/m ³	1.83	1.82	
Peak Converted Wet Density t/m ³	**	2.14	
Adjusted Peak Converted Wet Density	2.23	**	
Moisture Variation (Wv) %	**	2.0	
Adjusted Moisture Variation %	-1.0	**	
Hilf Density Ratio (%)	95.0	100.5	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note:

Report Number: GSGY-GLN-24-175-20

Issue Number:

Date Issued: 04/07/2024

Client: ROBERTS BROS PTY LTD

PO BOX 247, COOROY QLD 4563

Contact: DAVID ROBERTS **Project Number:** GSGY-GLN-24-175 **Project Name:** Oakridge Estate

LOT 9 ON RP224705 & LOT 8 ON RP218636, GLASTONBURY ROAD, NAHRUNDA **Project Location:**

Work Request: 3368

Dates Tested: 13/05/2024 - 24/06/2024

Location: Oakridge Estate - Level 1 Supervision - Lot 8



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Approved Signatory: Jake Davey

Laboratory Manager

NATA Accredited Laboratory Number: 21185

Sample Number	G3368A	G3368B	G3368C	G3368D	G3368E
Date Tested	07/05/2024	07/05/2024	07/05/2024	07/05/2024	08/05/2024
Time Tested	10:31	10:32	11:09	14:09	11:42
Test Request #/Location	Lot 8				
Easting	462009.92	461998.21	461979.96	461974.78	461978.11
Northing	7101768.33	7101769.62	7101741.53	7101728.87	7101712.64
Elevation (m)	58.2	58.17	57.98	58.29	59.15
_ayer / Reduced Level	-4.12	-1.59	-2.41	-0.637	-3.154
Thickness of Layer (mm)	300	300	300	300	300
Soil Description	Onsite Fill				
Гest Depth (mm)	275	275	275	275	275
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	16	18	17	10	6
Field Wet Density (FWD) t/m ³	2.09	2.23	2.19	2.12	2.15
Field Moisture Content %	21.1	18.1	17.7	17.9	18.6
Field Dry Density (FDD) t/m ³	1.72	1.89	1.86	1.80	1.81
Peak Converted Wet Density t/m ³	**	**	**	**	**
Adjusted Peak Converted Wet Density /m ³	2.10	2.25	2.24	2.21	2.15
Moisture Variation (Wv) %	**	**	**	**	**
Adjusted Moisture Variation %	0.0	0.0	0.0	0.0	0.0
Hilf Density Ratio (%)	99.5	99.0	98.0	96.0	100.0
Compaction Method	Standard	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**	**

Moisture Variation Note:

Report Number: GSGY-GLN-24-175-20

Issue Number:

Date Issued: 04/07/2024

Client: ROBERTS BROS PTY LTD

PO BOX 247, COOROY QLD 4563

Contact: DAVID ROBERTS **Project Number:** GSGY-GLN-24-175 **Project Name:** Oakridge Estate

LOT 9 ON RP224705 & LOT 8 ON RP218636, GLASTONBURY ROAD, NAHRUNDA **Project Location:**

Work Request: 3368

Dates Tested: 13/05/2024 - 24/06/2024

Location: Oakridge Estate - Level 1 Supervision - Lot 8



Geotechnical Services (Gympie) Pty Ltd 1 Dennis Little Drive Glanmire QLD 4570

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Approved Signatory: Jake Davey

Laboratory Manager

NATA Accredited Laboratory Number: 21185

Compaction Control AS 1289 5.7.1 & 5.8.	1 & 2.1.1				
Sample Number	G3368F	G3368G	G3368H	G3368I	G3368J
Date Tested	08/05/2024	08/05/2024	09/05/2024	09/05/2024	10/05/2024
Time Tested	11:43	11:46	11:05	11:15	12:10
Test Request #/Location	Lot 8				
Easting	461985.22	461992.82	461986.72	461999.38	461998.495
Northing	7101725.174	7101737.67	7101715.55	7101734.99	7101743.867
Elevation (m)	59.19	59.17	59.53	59.56	59.967
Layer / Reduced Level	-3.153	-3.212	**	**	**
Thickness of Layer (mm)	300	300	300	300	300
Soil Description	Onsite Fill				
Test Depth (mm)	275	275	275	275	275
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	10	16	6	2	0
Field Wet Density (FWD) t/m ³	2.19	2.11	2.24	2.21	2.07
Field Moisture Content %	21.4	25.3	14.6	24.2	27.7
Field Dry Density (FDD) t/m ³	1.80	1.68	1.96	1.78	1.62
Peak Converted Wet Density t/m ³	**	**	**	**	2.02
Adjusted Peak Converted Wet Density	2.09	2.11	2.25	2.07	**
Moisture Variation (Wv) %	**	**	**	**	0.0
Adjusted Moisture Variation %	0.5	0.0	-0.5	-0.5	**
Hilf Density Ratio (%)	104.5	99.5	99.5	106.5	102.5
Compaction Method	Standard	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**	**

Moisture Variation Note:

Report Number: GSGY-GLN-24-175-20

Issue Number:

Date Issued: 04/07/2024

Client: ROBERTS BROS PTY LTD

PO BOX 247, COOROY QLD 4563

Contact: DAVID ROBERTS **Project Number:** GSGY-GLN-24-175 **Project Name:** Oakridge Estate

LOT 9 ON RP224705 & LOT 8 ON RP218636, GLASTONBURY ROAD, NAHRUNDA **Project Location:**

Work Request: 3368

Dates Tested: 13/05/2024 - 24/06/2024

Location: Oakridge Estate - Level 1 Supervision - Lot 8



Geotechnical Services (Gympie) Pty Ltd 1 Dennis Little Drive Glanmire QLD 4570

Phone: (07) 4128 3213

 ${\it Email: jake.davey@geotechnical services.com.au}$ Accredited for compliance with ISO/IEC 17025 - Testing



Approved Signatory: Jake Davey

Laboratory Manager

NATA Accredited Laboratory Number: 21185

Compaction Control AS 1289 5.7.1 & 5.8.1	& 2.1.1				
Sample Number	G3368K	G3368L	G3368M	G3368N	G3368O
Date Tested	13/05/2024	13/05/2024	14/05/2024	14/05/2024	15/05/2024
Time Tested	12:43	12:47	10:40	10:45	10:35
Test Request #/Location	Lot 8				
Easting	462002.93	461991.80	461999.01	462001	462013.52
Northing	7101757.19	7101735.58	7101749.53	7101714.72	7101756.36
Elevation (m)	60.27	60.28	60.68	61.15	61.14
Layer / Reduced Level	-2.091	-2.090	**	**	**
Thickness of Layer (mm)	300	300	300	300	300
Soil Description	Onsite Fill				
Test Depth (mm)	275	275	275	275	275
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	18	19	17	14	4
Field Wet Density (FWD) t/m ³	2.29	2.28	2.21	2.23	2.11
Field Moisture Content %	16.8	17.9	13.4	10.8	19.3
Field Dry Density (FDD) t/m ³	1.96	1.93	1.95	2.01	1.77
Peak Converted Wet Density t/m ³	**	**	**	**	**
Adjusted Peak Converted Wet Density	2.26	2.23	2.20	2.25	2.15
Moisture Variation (Wv) %	**	**	**	**	**
Adjusted Moisture Variation %	0.0	-0.5	0.5	2.0	0.0
Hilf Density Ratio (%)	101.0	102.5	100.0	99.0	98.0
Compaction Method	Standard	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**	**

Moisture Variation Note:

Report Number: GSGY-GLN-24-175-20

Issue Number:

Date Issued: 04/07/2024

Client: ROBERTS BROS PTY LTD

PO BOX 247, COOROY QLD 4563

Contact: DAVID ROBERTS **Project Number:** GSGY-GLN-24-175 **Project Name:** Oakridge Estate

LOT 9 ON RP224705 & LOT 8 ON RP218636, GLASTONBURY ROAD, NAHRUNDA **Project Location:**

Work Request: 3368

Dates Tested: 13/05/2024 - 24/06/2024

Location: Oakridge Estate - Level 1 Supervision - Lot 8



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Approved Signatory: Jake Davey

Laboratory Manager

NATA Accredited Laboratory Number: 21185

Report Remarks	**	**	**	**	**
Compaction Method	Standard	Standard	Standard	Standard	Standard
lilf Density Ratio (%)	100.0	102.0	106.0	107.5	104.5
Adjusted Moisture Variation %	0.0	0.0	**	**	0.0
Noisture Variation (Wv) %	**	**	0.0	0.0	**
Adjusted Peak Converted Wet Density /m³	2.17	2.03	**	**	1.98
Peak Converted Wet Density t/m ³	**	**	1.95	1.94	**
Field Dry Density (FDD) t/m ³	1.83	1.68	1.66	1.70	1.67
Field Moisture Content %	18.2	23.0	24.5	22.8	24.0
Field Wet Density (FWD) t/m ³	2.17	2.07	2.06	2.09	2.07
Percentage of Wet Oversize (%)	9	4	0	0	2
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0
est Depth (mm)	275	275	275	275	275
oil Description	Onsite Fill				
hickness of Layer (mm)	300	300	300	300	300
Elevation (m)	61.47	61.792	61.93	62.25	62.25
lorthing	7101711.38	7101732.419	7101718.65	7101739.39	7101756.01
asting	461993.90	461992.028	461993.94	461998.72	462014.72
est Request #/Location	Lot 8				
ime Tested	10:40	13:46	13:25	13:30	13:35
ate Tested	15/05/2024	20/05/2024	23/05/2024	23/05/2024	23/05/2024
ample Number	G3368P	G3368Q	G3368R	G3368S	G3368T

Moisture Variation Note:

Report Number: GSGY-GLN-24-175-19

Issue Number:

Date Issued: 04/07/2024

Client: ROBERTS BROS PTY LTD

PO BOX 247, COOROY QLD 4563

Contact: DAVID ROBERTS **Project Number:** GSGY-GLN-24-175 **Project Name:** Oakridge Estate

LOT 9 ON RP224705 & LOT 8 ON RP218636, GLASTONBURY ROAD, NAHRUNDA **Project Location:**

Work Request: 3367

Dates Tested: 02/05/2024 - 09/05/2024

Location: Oakridge Estate - Level 1 Supervision - Lot 9



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Approved Signatory: Jake Davey

Laboratory Manager

NATA Accredited Laboratory Number: 21185

Compaction Control AS 1289 5.7.1 & 5.8.1	& 2.1.1			
Sample Number	G3367A	G3367B	G3367C	G3367D
Date Tested	01/05/2024	02/05/2024	02/05/2024	02/05/2024
Time Tested	13:30	10:10	10:19	15:00
Test Request #/Location	Lot 9	Lot 9	Lot 9	Lot 9
Easting	462062.62	462071.18	462062.03	462064.23
Northing	7101780.80	7101785.41	7101782.32	7101769.96
Elevation (m)	61.33	61.92	61.55	62.669
Layer / Reduced Level	-1200	-600	-900	FSL
Thickness of Layer (mm)	300	300	300	300
Soil Description	Onsite Fill	Onsite Fill	Onsite Fill	Onsite Fill
Test Depth (mm)	275	275	275	275
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	19	12	12	10
Field Wet Density (FWD) t/m ³	2.26	2.15	2.22	2.27
Field Moisture Content %	15.7	19.1	22.0	17.2
Field Dry Density (FDD) t/m ³	1.96	1.80	1.82	1.93
Peak Converted Wet Density t/m ³	**	**	**	**
Adjusted Peak Converted Wet Density	2.21	2.16	2.16	2.14
Moisture Variation (Wv) %	**	**	**	**
Adjusted Moisture Variation %	1.0	-0.5	0.0	-1.0
Hilf Density Ratio (%)	102.5	99.0	102.5	106.0
Compaction Method	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**

Moisture Variation Note:

Report Number: GSGY-GLN-24-175-21

Issue Number:

Date Issued: 04/07/2024

Client: ROBERTS BROS PTY LTD

PO BOX 247, COOROY QLD 4563

Contact: DAVID ROBERTS **Project Number:** GSGY-GLN-24-175 **Project Name:** Oakridge Estate

LOT 9 ON RP224705 & LOT 8 ON RP218636, GLASTONBURY ROAD, NAHRUNDA **Project Location:**

Work Request: 3369

Dates Tested: 07/05/2024 - 09/05/2024

Location: Oakridge Estate - Level 1 Supervision - Lot 10



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Approved Signatory: Jake Davey

Laboratory Manager NATA Accredited Laboratory Number: 21185

Compaction Control AS 1289 5.7.1 & 5.8	.1 & 2.1.1		
Sample Number	G3369A	G3369B	
Date Tested	02/05/2024	02/05/2024	
Time Tested	10:01	15:40	
Test Request #/Location	Lot 10	Lot 10	
Easting	462105.46	462102.76	
Northing	7101758.50	7101752.71	
Elevation (m)	64.40	64.887	
Layer / Reduced Level	-1400	-1000mm	
Thickness of Layer (mm)	300	300	
Soil Description	Onsite Fill	Onsite Fill	
Test Depth (mm)	275	275	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	17	17	
Field Wet Density (FWD) t/m ³	2.12	2.20	
Field Moisture Content %	25.1	21.5	
Field Dry Density (FDD) t/m ³	1.70	1.81	
Peak Converted Wet Density t/m ³	**	**	
Adjusted Peak Converted Wet Density t/m ³	2.05	2.12	
Moisture Variation (Wv) %	**	**	
Adjusted Moisture Variation %	0.5	-1.5	
Hilf Density Ratio (%)	103.5	103.5	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note:

Report Number: GSGY-GLN-24-175-57

Issue Number:

Date Issued: 27/11/2024

Client: ROBERTS BROS PTY LTD

PO BOX 247, COOROY QLD 4563

Contact: DAVID ROBERTS **Project Number:** GSGY-GLN-24-175 **Project Name:** Oakridge Estate

Project Location: LOT 9 ON RP224705 & LOT 8 ON RP218636,

GLASTONBURY ROAD, NAHRUNDA

Work Request: 4301

Date Sampled: 16/10/2024 16:05 **Dates Tested:** 16/10/2024 - 28/10/2024

AS 1289.1.2.1 $6.4\ (b)$ - Sampling from layers in earthworks or pavement - compacted Sampling Method:

Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils

Specification: Minimum 95% Hilf Density Ratio

Location: Oakridge Estate - Level 1 Supervision - LOT 11

Material: **Embankment Fill**

Material Source: Onsite



LABORATORIES

Gympie Laboratory 1 Dennis Little Drive Glanmire QLD 4570

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Accredited for compliance with ISO/IEC 17025 - Testing



Approved Signatory: Jake Davey

Laboratory Manager NATA Accredited Laboratory Number: 20956

Compaction Control AS 1289 5.7.1 & 5.8.1 &	2.1.1		
Sample Number	G4301A	G4301B	
Date Tested	16/10/2024	23/10/2024	
Time Tested	16:05	16:00	
Test Request #/Location	16/10/24 Lot 11	23/10/24 Lot 11	
Easting	462068.33	462067.25	
Northing	7101697.22	7101692.03	
Elevation (m)	67.49	68.39	
Layer / Reduced Level	Embankment Fill	Embankment Fill	
Thickness of Layer (mm)	300	300	
Soil Description	Embankment Fill	Embankment Fill	
Test Depth (mm)	275	275	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	19	17	
Field Wet Density (FWD) t/m ³	2.20	2.23	
Field Moisture Content %	16.0	9.1	
Field Dry Density (FDD) t/m ³	1.90	2.04	
Peak Converted Wet Density t/m ³	**	**	
Adjusted Peak Converted Wet Density t/m ³	2.19	2.25	
Moisture Variation (Wv) %	**	**	
Adjusted Moisture Variation %	2.0	1.5	
Hilf Density Ratio (%)	101.0	99.0	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note:

Report Number: GSGY-GLN-24-175-56

Issue Number:

Date Issued: 27/11/2024

Client: ROBERTS BROS PTY LTD

PO BOX 247, COOROY QLD 4563

Contact: DAVID ROBERTS **Project Number:** GSGY-GLN-24-175 **Project Name:** Oakridge Estate

Project Location: LOT 9 ON RP224705 & LOT 8 ON RP218636,

GLASTONBURY ROAD, NAHRUNDA

Work Request: 4190

Date Sampled: 30/09/2024 1510 **Dates Tested:** 01/10/2024 - 15/10/2024

AS 1289.1.2.1 $6.4\ (\mbox{b})$ - Sampling from layers in earthworks or pavement - compacted Sampling Method:

Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils

Specification: Minimum 95% Hilf Density Ratio

Location: Oakridge Estate - Level 1 Supervision - Lot 15

Material: Onsite Fill **Material Source:** Onsite



LABORATORIES

Gympie Laboratory 1 Dennis Little Drive Glanmire QLD 4570

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Accredited for compliance with ISO/IEC 17025 - Testing



Approved Signatory: Jake Davey

Laboratory Manager NATA Accredited Laboratory Number: 20956

0 " 0 " 1 0 0 1000 5 7 1 0 5 0	40044	
Compaction Control AS 1289 5.7.1 & 5.8		
Sample Number	G4190A	
Date Tested	30/09/2024	
Time Tested	15:10	
Test Request #/Location	30/9/24 Lot 15	
Easting	462142.74	
Northing	7101619.02	
Elevation (m)	72.32	
Thickness of Layer (mm)	300	
Soil Description	Onsite Fill	
Test Depth (mm)	275	
Sieve used to determine oversize (mm)	19.0	
Percentage of Wet Oversize (%)	6	
Field Wet Density (FWD) t/m ³	2.12	
Field Moisture Content %	15.9	
Field Dry Density (FDD) t/m ³	1.83	
Peak Converted Wet Density t/m ³	**	
Adjusted Peak Converted Wet Density t/m ³	2.02	
Moisture Variation (Wv) %	**	
Adjusted Moisture Variation %	-0.5	
Hilf Density Ratio (%)	105.0	
Compaction Method	Standard	
Report Remarks	**	

Moisture Variation Note:

Report Number: GSGY-GLN-24-175-44

Issue Number:

Date Issued: 27/09/2024

Client: ROBERTS BROS PTY LTD

PO BOX 247, COOROY QLD 4563

Contact: DAVID ROBERTS **Project Number:** GSGY-GLN-24-175 **Project Name:** Oakridge Estate

Project Location: LOT 9 ON RP224705 & LOT 8 ON RP218636,

GLASTONBURY ROAD, NAHRUNDA

Work Request: 3727

Dates Tested: 31/07/2024 - 13/08/2024

AS 1289.1.2.1 $6.4\ (\mbox{b})$ - Sampling from layers in earthworks or pavement - compacted Sampling Method:

Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils Location: Oakridge Estate - Level 1 Supervision - Lot 16

Material: Onsite Fill **Material Source:** Onsite



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Accredited for compliance with ISO/IEC 17025 - Testing



Approved Signatory: Jake Davey

Laboratory Manager

NATA Accredited Laboratory Number: 21185

Sample Number	G3727A	G3727B	
Date Tested	31/07/2024	02/08/2024	
Time Tested	11:10	09:00	
Test Request #/Location	31/7/24 Lot 16	2/8 Lot 16	
Easting	462174.210	462170.516	
Northing	7101694.040	7101691.442	
Elevation (m)	65.460	66.533	
Thickness of Layer (mm)	300	300	
Soil Description	Onsite Fill	Onsite Fill	
Test Depth (mm)	275	275	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	9	9	
Field Wet Density (FWD) t/m ³	2.08	2.08	
Field Moisture Content %	17.2	14.7	
Field Dry Density (FDD) t/m ³	1.78	1.81	
Peak Converted Wet Density t/m ³	**	**	
Adjusted Peak Converted Wet Density t/m ³	2.06	2.14	
Moisture Variation (Wv) %	**	**	
Adjusted Moisture Variation %	2.0	1.5	
Hilf Density Ratio (%)	101.5	97.0	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note:

Report Number: GSGY-GLN-24-175-40

Issue Number:

Date Issued: 27/09/2024

Client: ROBERTS BROS PTY LTD

PO BOX 247, COOROY QLD 4563

Contact: DAVID ROBERTS **Project Number:** GSGY-GLN-24-175 **Project Name:** Oakridge Estate

Project Location: LOT 9 ON RP224705 & LOT 8 ON RP218636,

GLASTONBURY ROAD, NAHRUNDA

Work Request: 3580

Dates Tested: 10/07/2024 - 27/09/2024

AS 1289.1.2.1 $6.4\ (\mbox{b})$ - Sampling from layers in earthworks or pavement - compacted Sampling Method:

Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils Location: Oakridge Estate - Level 1 Supervision - Lot 17

Material: Onsite Fill **Material Source:** Onsite



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Approved Signatory: Jake Davey

Laboratory Manager

NATA Accredited Laboratory Number: 21185

Compaction Control AS 1289 5.7.1 & 5.8	3.1 & 2.1.1					
Sample Number	G3580A	G3580B	G3580C	G3580D	G3580E	G3580F
Date Tested	10/07/2024	10/07/2024	10/07/2024	10/07/2024	26/08/2024	03/09/2024
Time Tested	12:00	13:25	14:50	16:20	11:00	10:10
Test Request #/Location	Lot 17 Dam	Lot 17 Dam	Lot 17 Dam	Lot 17 Dam	26/08 Lot 17 House Pad	3/9/24 Lot 17 House Pad
Easting	462255.926	462249.058	462249.286	462252.757	462230.31	462214.980
Northing	7101716.967	7101715.663	7101721.742	7101715.058	7101701.12	7101725.860
Elevation (m)	54.043	54.813	55.351	55.934	58.98	58.690
Thickness of Layer (mm)	300	300	300	300	300	300
Soil Description	Onsite Fill	Onsite Fill				
Test Depth (mm)	275	275	275	275	275	275
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0	1	9	7
Field Wet Density (FWD) t/m ³	1.94	1.93	1.94	1.92	2.16	2.20
Field Moisture Content %	24.9	26.2	24.9	26.6	17.8	15.0
Field Dry Density (FDD) t/m ³	1.55	1.53	1.55	1.52	1.83	1.91
Peak Converted Wet Density t/m ³	1.94	1.96	1.91	**	**	**
Adjusted Peak Converted Wet Density t/m ³	**	**	**	1.92	2.19	2.14
Moisture Variation (Wv) %	0.0	0.0	-0.5	**	**	**
Adjusted Moisture Variation %	**	**	**	0.0	-0.5	2.0
Hilf Density Ratio (%)	100.0	98.5	101.5	100.0	98.5	103.0
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**	**	**

Moisture Variation Note:

Report Number: GSGY-GLN-24-175-40

Issue Number:

Date Issued: 27/09/2024

Client: ROBERTS BROS PTY LTD

PO BOX 247, COOROY QLD 4563

Contact: DAVID ROBERTS **Project Number:** GSGY-GLN-24-175 **Project Name:** Oakridge Estate

Project Location: LOT 9 ON RP224705 & LOT 8 ON RP218636,

GLASTONBURY ROAD, NAHRUNDA

Work Request: 3580

Dates Tested: 10/07/2024 - 27/09/2024

AS 1289.1.2.1 $6.4\ (\mbox{b})$ - Sampling from layers in earthworks or pavement - compacted Sampling Method:

Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils Location: Oakridge Estate - Level 1 Supervision - Lot 17

Material: Onsite Fill **Material Source:** Onsite



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Approved Signatory: Jake Davey

Laboratory Manager NATA Accredited Laboratory Number: 21185

Sample Number	G3580G	G3580H	G3580I	G3580J	G3580K	G3580L
Date Tested	04/09/2024	05/09/2024	09/09/2024	11/09/2024	11/09/2024	16/09/2024
Time Tested	16:40	16:30	07:30	07:30	07:35	08:10
Test Request #/Location	4/9/24 Lot 17 House Pad	5/9/24 Lot 17 House Pad	9/9/24 Lot 17 House Pad	11/9/24 Lot 17 House Pad	11/9/24 Lot 17 House Pad	16/9/24 Lot 17 House Pad
Easting	462212.53	462215.43	462205.710	462211.400	462202.790	462216.660
Northing	7101714.24	7101708.30	7101719.710	7101703.430	7101719.680	7101703.880
Elevation (m)	59.33	59.80	60.120	60.800	61.300	62.000
Thickness of Layer (mm)	300	300	300	300	300	300
Soil Description	Onsite Fill	Onsite Fill	Onsite Fill	Onsite Fill	Onsite Fill	Onsite Fill
Test Depth (mm)	275	275	275	275	275	275
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	12	16	11	5	3	0
Field Wet Density (FWD) t/m ³	2.21	2.18	2.16	2.20	2.16	2.01
Field Moisture Content %	12.0	14.0	10.0	13.9	14.2	24.6
Field Dry Density (FDD) t/m ³	1.97	1.91	1.96	1.93	1.89	1.62
Peak Converted Wet Density t/m ³	**	**	**	**	**	2.02
Adjusted Peak Converted Wet Density t/m ³	2.21	2.20	2.24	2.27	2.23	**
Moisture Variation (Wv) %	**	**	**	**	**	0.5
Adjusted Moisture Variation %	1.5	1.5	1.5	-1.0	-0.5	**
Hilf Density Ratio (%)	100.0	99.0	96.0	97.0	97.0	100.0
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**	**	**

Moisture Variation Note:

Report Number: GSGY-GLN-24-175-43

Issue Number:

Date Issued: 27/09/2024

Client: ROBERTS BROS PTY LTD

PO BOX 247, COOROY QLD 4563

Contact: DAVID ROBERTS **Project Number:** GSGY-GLN-24-175 **Project Name:** Oakridge Estate

Project Location: LOT 9 ON RP224705 & LOT 8 ON RP218636,

GLASTONBURY ROAD, NAHRUNDA

Work Request: 3608

Dates Tested: 16/07/2024 - 26/07/2024

AS 1289.1.2.1 $6.4\ (\mbox{b})$ - Sampling from layers in earthworks or pavement - compacted Sampling Method:

Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils Location: Oakridge Estate - Level 1 Supervision - Lot 18

Material: Onsite Fill **Material Source:** Onsite



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Approved Signatory: Jake Davey

Laboratory Manager

NATA Accredited Laboratory Number: 21185

Compaction Control AS 1289 5.7.1 & 5.8.	1 & 2.1.1				
Sample Number	G3608A	G3608B	G3608C	G3608D	G3608E
Date Tested	16/07/2024	17/07/2024	17/07/2024	18/07/2024	23/07/2024
Time Tested	10:40	08:25	08:29	10:05	11:00
Test Request #/Location	Lot 18				
Easting	462248.359	462232.780	462239.899	462237.331	462239.89
Northing	7101621.000	7101630.632	7101631.140	7101629.039	7101636.30
Elevation (m)	61.783	62.316	61.922	62.564	62.80
Layer / Reduced Level	**	Layer 2	Layer 3	**	**
Thickness of Layer (mm)	300	300	300	300	300
Soil Description	Onsite Fill				
Test Depth (mm)	275	275	275	275	275
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	3	2	9	4
Field Wet Density (FWD) t/m ³	2.08	2.16	2.03	2.28	2.21
Field Moisture Content %	19.5	19.7	20.2	19.2	15.6
Field Dry Density (FDD) t/m ³	1.74	1.81	1.69	1.92	1.91
Peak Converted Wet Density t/m ³	2.05	**	**	**	**
Adjusted Peak Converted Wet Density t/m ³	**	2.03	2.01	2.20	2.17
Moisture Variation (Wv) %	0.0	**	**	**	**
Adjusted Moisture Variation %	**	1.5	2.0	0.0	2.0
Hilf Density Ratio (%)	101.5	106.5	101.0	103.5	102.0
Compaction Method	Standard	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**	**

Moisture Variation Note:

Report Number: GSGY-GLN-24-175-42

Issue Number:

Date Issued: 27/09/2024

Client: ROBERTS BROS PTY LTD

PO BOX 247, COOROY QLD 4563

Contact: DAVID ROBERTS **Project Number:** GSGY-GLN-24-175 **Project Name:** Oakridge Estate

Project Location: LOT 9 ON RP224705 & LOT 8 ON RP218636,

GLASTONBURY ROAD, NAHRUNDA

Work Request: 3651

Dates Tested: 23/07/2024 - 19/09/2024

AS 1289.1.2.1 $6.4\ (\mbox{b})$ - Sampling from layers in earthworks or pavement - compacted Sampling Method:

Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils Location: Oakridge Estate - Level 1 Supervision - Lot 19

Material: Onsite Fill **Material Source:** Onsite



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Accredited for compliance with ISO/IEC 17025 - Testing



Approved Signatory: Jake Davey

Laboratory Manager

NATA Accredited Laboratory Number: 21185

Sample Number	G3651A	G3651B	G3651C
Date Tested	23/07/2024	25/07/2024	26/08/2024
Time Tested	11:10	10:16	10:50
Test Request #/Location	23/7/24 Lot 19	24/07/2024 Lot 19	26/08 Lot 19
Easting	462239.420	462235.147	462222.53
Northing	7101584.630	7101576.054	7101585.77
Elevation (m)	64.040	64.690	65.6
Thickness of Layer (mm)	300	300	300
Soil Description	Onsite Fill	Onsite Fill	Onsite Fill
Test Depth (mm)	275	275	275
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	6	11	0
Field Wet Density (FWD) t/m ³	2.16	2.13	2.03
Field Moisture Content %	12.8	21.6	15.0
Field Dry Density (FDD) t/m ³	1.92	1.75	1.76
Peak Converted Wet Density t/m ³	**	**	2.08
Adjusted Peak Converted Wet Density t/m ³	2.12	2.09	**
Moisture Variation (Wv) %	**	**	2.0
Adjusted Moisture Variation %	1.5	1.5	**
Hilf Density Ratio (%)	102.0	102.0	97.5
Compaction Method	Standard	Standard	Standard
Report Remarks	**	**	**

Moisture Variation Note:

Report Number: GSGY-GLN-24-175-45

Issue Number:

Date Issued: 27/09/2024

Client: ROBERTS BROS PTY LTD

PO BOX 247, COOROY QLD 4563

Contact: DAVID ROBERTS **Project Number:** GSGY-GLN-24-175 **Project Name:** Oakridge Estate

Project Location: LOT 9 ON RP224705 & LOT 8 ON RP218636,

GLASTONBURY ROAD, NAHRUNDA

Work Request: 3755

Dates Tested: 16/09/2024 - 27/09/2024

AS 1289.1.2.1 $6.4\ (\mbox{b})$ - Sampling from layers in earthworks or pavement - compacted Sampling Method:

Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils Location: Oakridge Estate - Level 1 Supervision - Lot 20

Material: Onsite Fill **Material Source:** Onsite



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Approved Signatory: Jake Davey

Laboratory Manager

NATA Accredited Laboratory Number: 21185

Compaction Control AS 1289 5.7.1 & 5.8.1 &	2.1.1		
Sample Number	G3755A	G3755B	
Date Tested	16/09/2024	19/09/2024	
Time Tested	08:15	08:00	
Test Request #/Location	16/9/24 Lot 20	19/9/24 Lot 20	
Easting	462218.360	462202.820	
Northing	7101545.620	7101548.290	
Elevation (m)	66.200	67.210	
Thickness of Layer (mm)	300	300	
Soil Description	Onsite Fill	Onsite Fill	
Test Depth (mm)	275	275	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0	0	
Field Wet Density (FWD) t/m ³	2.03	2.02	
Field Moisture Content %	19.3	20.6	
Field Dry Density (FDD) t/m ³	1.70	1.68	
Peak Converted Wet Density t/m ³	2.01	2.03	
Adjusted Peak Converted Wet Density t/m ³	**	**	
Moisture Variation (Wv) %	-2.0	0.5	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	101.5	99.5	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note:

Report Number: GSGY-GLN-24-175-41

Issue Number:

Date Issued: 27/09/2024

Client: ROBERTS BROS PTY LTD

PO BOX 247, COOROY QLD 4563

Contact: DAVID ROBERTS **Project Number:** GSGY-GLN-24-175 **Project Name:** Oakridge Estate

Project Location: LOT 9 ON RP224705 & LOT 8 ON RP218636,

GLASTONBURY ROAD, NAHRUNDA

Work Request: 3650

Dates Tested: 23/07/2024 - 26/07/2024

AS 1289.1.2.1 $6.4\ (\mbox{b})$ - Sampling from layers in earthworks or pavement - compacted Sampling Method:

Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils Location: Oakridge Estate - Level 1 Supervision - Lot 21

Material: Onsite Fill Material Source: Onsite



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Approved Signatory: Jake Davey

Laboratory Manager

NATA Accredited Laboratory Number: 21185

Compaction Control AS 1289 5.7.1 & 5.8.	1 & 2.1.1		
Sample Number	G3650A	G3650B	
Date Tested	23/07/2024	24/07/2024	
Time Tested	11:20	10:32	
Test Request #/Location	23/7/24 Lot 21	24/07/2024 Lot 21	
Easting	462189.540	462186.534	
Northing	7101500.600	7101512.937	
Elevation (m)	69.290	69.638	
Thickness of Layer (mm)	300	300	
Soil Description	Onsite Fill	Onsite Fill	
Test Depth (mm)	275	275	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	3	9	
Field Wet Density (FWD) t/m ³	2.17	2.23	
Field Moisture Content %	16.3	16.0	
Field Dry Density (FDD) t/m ³	1.87	1.92	
Peak Converted Wet Density t/m ³	**	**	
Adjusted Peak Converted Wet Density t/m ³	2.13	2.16	
Moisture Variation (Wv) %	**	**	
Adjusted Moisture Variation %	2.0	1.5	
Hilf Density Ratio (%)	102.0	103.5	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note:

Report Number: GSGY-GLN-24-175-26

Issue Number:

Date Issued: 25/07/2024

Client: ROBERTS BROS PTY LTD

PO BOX 247, COOROY QLD 4563

Contact: DAVID ROBERTS **Project Number:** GSGY-GLN-24-175 **Project Name:** Oakridge Estate

Project Location: LOT 9 ON RP224705 & LOT 8 ON RP218636,

GLASTONBURY ROAD, NAHRUNDA

Work Request: 3601

Dates Tested: 15/07/2024 - 24/07/2024

AS 1289.1.2.1 $6.4\ (\mbox{b})$ - Sampling from layers in earthworks or pavement - compacted Sampling Method:

Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils Location: Oakridge Estate - Level 1 Supervision - Lot 22

Material: Onsite Fill Onsite **Material Source:**



Geotechnical Services (Gympie) Pty Ltd 1 Dennis Little Drive Glanmire QLD 4570

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NATA WORLD RECOGNISED
ACCREDITATION

Approved Signatory: Jake Davey

Laboratory Manager

NATA Accredited Laboratory Number: 21185

Compaction Control AS 1289 5.7.1 & 5.8.1	& 2.1.1		
Sample Number	G3601A	G3601B	
Date Tested	11/07/2024	25/07/2024	
Time Tested	13:30	09:54	
Test Request #/Location	Lot 22	Lot 22	
Easting	462157.293	462148.396	
Northing	7101478.278	7101474.739	
Elevation (m)	72.188	73.013	
Thickness of Layer (mm)	300	300	
Soil Description	Onsite Fill	Onsite Fill	
Test Depth (mm)	275	275	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0	5	
Field Wet Density (FWD) t/m ³	2.10	2.15	
Field Moisture Content %	22.6	17.4	
Field Dry Density (FDD) t/m ³	1.71	1.83	
Peak Converted Wet Density t/m ³	1.99	**	
Adjusted Peak Converted Wet Density t/m ³	**	2.07	
Moisture Variation (Wv) %	-0.5	**	
Adjusted Moisture Variation %	**	0.0	
Hilf Density Ratio (%)	105.5	104.0	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note:

Report Number: GSGY-GLN-24-175-17

Issue Number: 2 - This version supersedes all previous issues

Reissue Reason: Extra test added Date Issued: 25/07/2024

Client: ROBERTS BROS PTY LTD

PO BOX 247, COOROY QLD 4563

Contact: **DAVID ROBERTS Project Number:** GSGY-GLN-24-175 **Project Name:** Oakridge Estate

LOT 9 ON RP224705 & LOT 8 ON RP218636, GLASTONBURY ROAD, NAHRUNDA **Project Location:**

3365 Work Request:

Dates Tested: 02/05/2024 - 22/07/2024

AS 1289.1.2.1 $6.4\ (b)$ - Sampling from layers in earthworks or pavement - compacted Sampling Method:

Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils Location: Oakridge Estate - Level 1 Supervision - Lot 23

Onsite Fill Material: **Material Source:** Onsite



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Approved Signatory: Jake Davey

Laboratory Manager NATA Accredited Laboratory Number: 21185

Compaction Control AS 1289 5.7.1 & 5.8.1 & :	2 1 1		
Sample Number	G3365A	G3365B	G3365C
Date Tested	30/04/2024	01/05/2024	16/07/2024
Time Tested	11:10	09:10	10:32
Test Request #/Location	Lot 23	Lot 23	Lot 23
Easting	462103.08	462096.83	462094.23
Northing	7101499.16	7101497.66	7101501.86
Elevation (m)	76.413	76.686	77.000
Layer / Reduced Level	-500mm	-300	FSL
Thickness of Layer (mm)	300	300	300
Soil Description	Onsite Fill	Onsite Fill	Onsite Fill
Test Depth (mm)	275	275	275
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	20	**
Field Wet Density (FWD) t/m ³	2.09	2.28	2.06
Field Moisture Content %	27.2	14.1	22.0
Field Dry Density (FDD) t/m ³	1.64	2.00	1.69
Peak Converted Wet Density t/m ³	1.98	**	2.03
Adjusted Peak Converted Wet Density t/m ³	**	2.27	**
Moisture Variation (Wv) %	0.0	**	-1.0
Adjusted Moisture Variation %	**	1.0	**
Hilf Density Ratio (%)	105.5	100.5	101.5
Compaction Method	Standard	Standard	Standard
Report Remarks	**	**	**

Moisture Variation Note:

Report Number: GSGY-GLN-24-175-48

Issue Number:

Date Issued: 24/10/2024

Client: ROBERTS BROS PTY LTD

PO BOX 247, COOROY QLD 4563

Contact: DAVID ROBERTS **Project Number:** GSGY-GLN-24-175 **Project Name:** Oakridge Estate

Project Location: LOT 9 ON RP224705 & LOT 8 ON RP218636,

GLASTONBURY ROAD, NAHRUNDA

Client Reference: 1/10/24 Work Request: 4198 **Date Sampled:** 08/10/2024

Dates Tested: 08/10/2024 - 17/10/2024

AS 1289.1.2.1 $6.4\ (\mbox{b})$ - Sampling from layers in earthworks or pavement - compacted Sampling Method:

Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils

Specification: Minimum 95% Hilf Density Ratio

Location: Oakridge Estate - Level 1 Supervision - LOT 24

Material: Onsite Fill **Material Source:** Onsite



LABORATORIES

Gympie Laboratory 1 Dennis Little Drive Glanmire QLD 4570

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Accredited for compliance with ISO/IEC 17025 - Testing



Approved Signatory: Benjamin Caulley

BCauller

Senior Technician

NATA Accredited Laboratory Number: 20956

Compaction Control AS 1289 5.7.1 & 5.8.1	& 2.1.1		
Sample Number	G4198A	G4198B	
Date Tested	01/10/2024	08/10/2024	
Time Tested	14:55	15:50	
Test Request #/Location	1/10/24 Lot 24	8/10/24 Lot 24	
Easting	462062.27	462050.01	
Northing	7101482.57	7101481.96	
Elevation (m)	78.36	78.90	
Thickness of Layer (mm)	300	300	
Soil Description	Onsite Fill	Onsite Fill	
Test Depth (mm)	275	275	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	**	14	
Field Wet Density (FWD) t/m ³	2.00	2.21	
Field Moisture Content %	16.4	14.0	
Field Dry Density (FDD) t/m ³	1.72	1.94	
Peak Converted Wet Density t/m ³	1.94	**	
Adjusted Peak Converted Wet Density t/m ³	**	2.10	
Moisture Variation (Wv) %	0.5	**	
Adjusted Moisture Variation %	**	4.0	
Hilf Density Ratio (%)	103.0	105.0	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note:

Report Number: GSGY-GLN-24-175-18

Issue Number:

Date Issued: 04/07/2024

Client: ROBERTS BROS PTY LTD

PO BOX 247, COOROY QLD 4563

Contact: DAVID ROBERTS **Project Number:** GSGY-GLN-24-175 **Project Name:** Oakridge Estate

LOT 9 ON RP224705 & LOT 8 ON RP218636, GLASTONBURY ROAD, NAHRUNDA **Project Location:**

Work Request: 3366

Dates Tested: 02/05/2024 - 02/05/2024

Location: Oakridge Estate - Level 1 Supervision - Lot 25



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Approved Signatory: Jake Davey

Laboratory Manager NATA Accredited Laboratory Number: 21185

Compaction Control AS 1289 5.7.1 & 5.8.1	1 & 2.1.1		
Sample Number	G3366A	G3366B	
Date Tested	01/05/2024	01/05/2024	
Time Tested	09:26	09:37	
Test Request #/Location	Lot 25	Lot 25	
Easting	462065.28	462049.48	
Northing	7101445.23	7101434.48	
Elevation (m)	77.092	76.989	
Layer / Reduced Level	FSL	FSL	
Thickness of Layer (mm)	300	300	
Soil Description	Onsite Fill	Onsite Fill	
Test Depth (mm)	275	275	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	19	19	
Field Wet Density (FWD) t/m ³	2.22	2.26	
Field Moisture Content %	14.3	20.2	
Field Dry Density (FDD) t/m ³	1.94	1.88	
Peak Converted Wet Density t/m ³	**	**	
Adjusted Peak Converted Wet Density t/m ³	2.16	2.12	
Moisture Variation (Wv) %	**	**	
Adjusted Moisture Variation %	1.5	2.0	
Hilf Density Ratio (%)	103.0	106.0	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note: