

LEVEL ONE

Reference
No.: 1998-160

SURVEILLANCE

AND INSPECTION REPORT

*Carried Out
By*



PREPARED FOR: -

SYMON BROS. CONSTRUCTIONS PTY LTD



Table of Contents

1)	Introduction & Scope.....	2
2)	Site Preparation.....	2
3)	Fill Material.....	2
4)	Fill Construction Procedure.....	3
5)	Compaction Control Testing.....	3
6)	Testing Frequency.....	3
7)	Statement of Compliance.....	4
8)	Limitations of this Report.....	4

Appendices

Appendix A Construction Drawings

Appendix B Daily Field Compaction Summary Results



Client Name: Symon Bros. Constructions Pty Ltd

Project Name: True North Stage 19

Location: Lysterfield Drive Greenvale

Date: 24th of May 2021

Author: Mr. Sam Loza

Reference No.: 1998-160

Revision: 0

Project Manager: Mr. Nick Goutzamanis

1. Introduction & Scope

At the request of Symon Bros. Construction Pty Ltd, Geotechnical Laboratories has carried out inspection and testing of the above-mentioned site from the 15th of July 2020 to the 18th of May 2021 where a residential development is being constructed. Inspection and testing of stripping, material quality and compaction control tests were carried out to comply with the requirements of AS 3798 Appendix B, Level 1.

The following documentation was submitted to Geotechnical Laboratories by Symon Bros. Constructions Pty Ltd and was used to determine compliance of earthworks in conjunction with the requirements of AS 3798 – 2007.

(1). Detail Plan Drawing No. 303049CR201 (Rev 1).

General site works involved the placement of fill, using mainly on-site derived clay, to bring the fill region to the required finished levels as indicated on the detail plan.

2. Site Preparation

Site inspections were undertaken on the 15th of July 2020 confirming that selected areas to be filled were completely stripped of topsoil prior to filling. The brown silty topsoils had been stockpiled around the site for later removal off-site.

Initial proof roll inspections were performed and subsequently throughout the project duration to ensure no significant soft areas were present prior to filling.

3. Fill Material

The fill material used was sourced from on-site excavations. The stockpiled material had been screened to remove any boulders.



The fill material is best described as CLAY, brown, grey-brown, slightly moist to moist, medium to high plasticity with fine to course grained sand and gravels of granite and basalt origin.

The fill material is consistent with the naturally occurring soils for this region.

Source material was deemed a **Suitable Material** in accordance with guidelines set out in AS 3798 - 2007 Section 4.4.

4. Fill Construction Procedure

The following plant (but not always limited to) were engaged in the fill placement process:

- Highway trucks / dump trucks
- A watercart
- A sheepsfoot compactor (825)

The sheepsfoot compactor placed material in horizontal loose layers of approximately 250-300mm. The compactor also performed compaction of the clay fill operating in a criss-cross pattern where possible.

The moisture condition of the fill was closely monitored and moisture conditioning procedures were applied to bring the material closer to its Standard Optimum Moisture Content (AS 1289 5.7.1).

5. Compaction Control Testing

Compaction control testing was performed on-site using a Nuclear Densometer in accordance with AS 1289 5.8.1. Laboratory reference densities were determined from material sampled at each test site location using the Hilf Rapid Compaction Method in accordance with AS 1289 5.7.1.

A total of sixty-two compaction tests were performed on the fill construction. Results are presented in Appendix B of this report.

6. Testing Frequency

Testing frequencies were in accordance with **AS 3798 - 2007 Table 8.1 for Large Scale Operations.**

Acceptance of fill layers for compaction was based on the requirements of **AS 3798 - 2007 Table 5.1 Item 1. Residential.**



As a result, the compliance criteria adopted by Geotechnical Laboratories was a half density ratio not less than 95 percent of the maximum half density value as determined by the Standard Half Rapid Compaction Method in accordance with AS 1289 5.7.1.

All test results indicate that the above-mentioned requirements have been successfully achieved.

No moisture criteria was specified.

7. Statement of Compliance

So far as can be determined, Symon Bros. Constructions Pty Ltd has satisfactorily complied with the compaction and construction processes required for the structural filling of this site. As such, structural filling placed on this site by Symon Bros. Constructions Pty Ltd from the 15th of July 2020 to the 18th of May 2021 can be categorised as CONTROLLED FILL in accordance with AS 2870-2011.

8. Limitations and Liability of this Report

This report has been produced for and remains the property of Symon Bros. Constructions Pty Ltd.

The release of this report to a third party will only occur if Geotechnical Laboratories Pty Ltd has received, in writing, the authority to do so by our client.

Geotechnical Laboratories Pty Ltd will not engage in any third-party communication regarding this report.

Where information has been supplied by the client or third party, the assumption is made that this is correct. Geotechnical Laboratories Pty Ltd will not be held responsible for any inaccuracies supplied.

Test results and controlled fill compliance relates only to fill placed by Symon Bros. Constructions Pty Ltd and for earthworks completed at the time of inspection and testing. Any previous or subsequent earthworks will require a separate evaluation.

For & on behalf of
Geotechnical Laboratories Pty Ltd.

Sam Loza
Laboratory Manager.



LEVEL ONE
SURVEILLANCE
AND INSPECTION REPORT

APPENDIX A



NOTE: PREVIOUSLY CONSTRUCTED HOUSE DRAINS ARE TO BE CHECKED AND REINSTITATED PRIOR TO STATEMENT OF COMPLIANCE IF FOUND MISSING OR DAMAGED



WARNING

BEWARE OF UNDERGROUND/OVERHEAD SERVICES
THE LOCATION OF SERVICES ARE APPROXIMATE ONLY. AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. SPECIAL CONSIDERATION SHOULD BE GIVEN TO CONSTRUCTION PROCEDURES UNDER OVERHEAD ELECTRICITY TRANSMISSION LINES.

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Designed

Authorised



Checked

Date _____

TRUE NORTH
STAGE 19
ROAD AND DRAINAGE
ROAD LAYOUT PLANS - SHEET 1
HUME CITY COUNCIL
SATTERLEY PROPERTY GROUP PTY LTD

PRELIMINARY Dig No **303049CR200**

Rev



LEVEL ONE
SURVEILLANCE
AND INSPECTION REPORT

APPENDIX B



GEOTECHNICAL LABORATORIES

ACN 102 571 077

14 Ravenhall Way, Ravenhall, Vic 3023

Email: info@geolab.com.au PH: (03) 8361-9140

DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1997/434

LOCATION: SYMON BROS - True North Stage 19

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
15/07/20	1	Refer to #1997/435 for approx. test site locations.	1.84	30.5	97.0	1.90	28.0	175	2.5 Wetter	109.5	0	0	400
15/07/20	2		1.85	28.0	97.5	1.90	27.0	175	1.5 Wetter	105.0	0	0	300
15/07/20	3		1.84	28.5	96.0	1.91	25.0	175	3.5 Wetter	113.5	0	0	500
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 12:25pm Finish Time: 12:45pm

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)



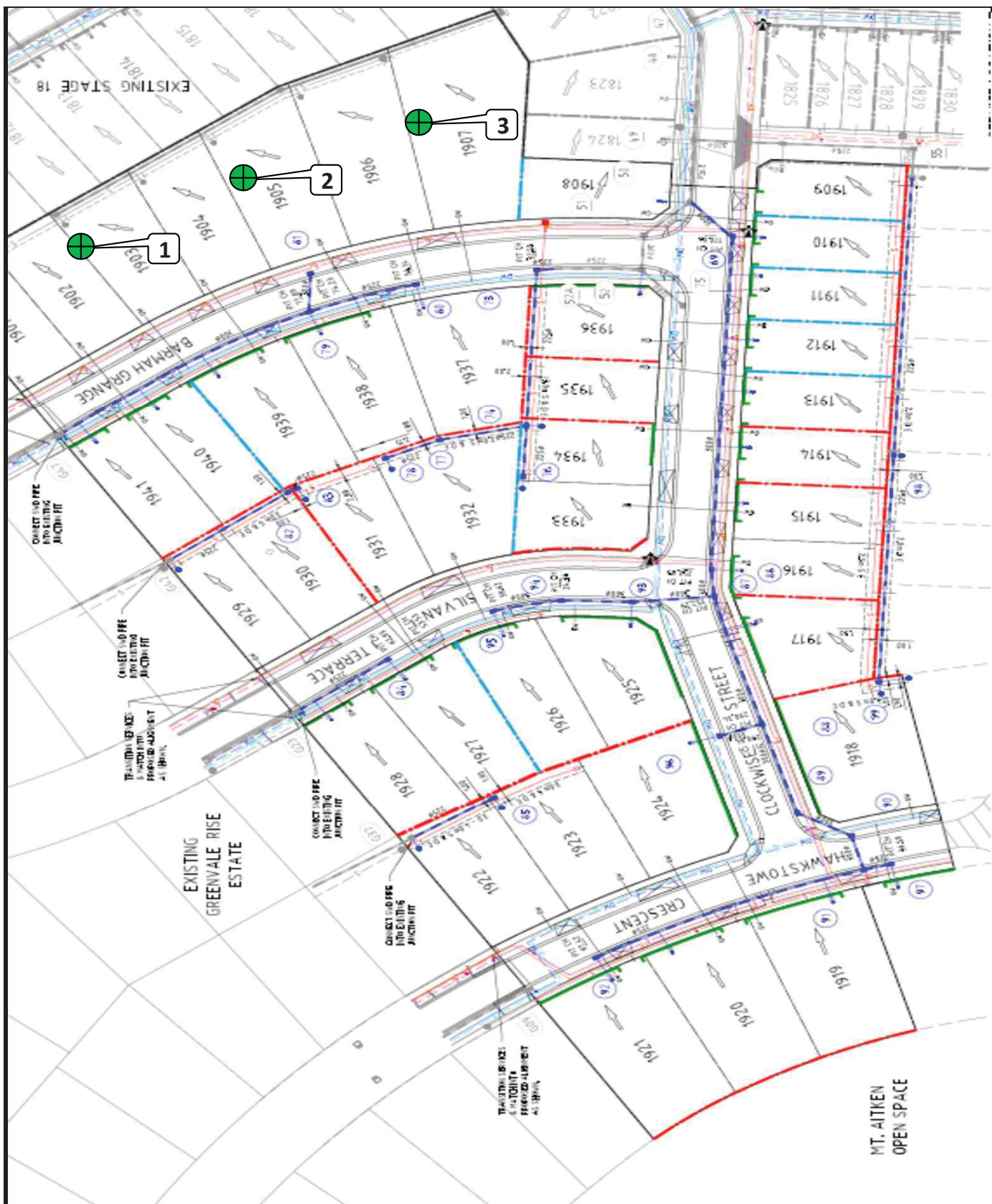
Accredited for compliance with ISO/IEC
17025 - Testing

NATA Accredited Laboratory Number 14561

M. Crowe

MICK CROWE
(Approved Signatory)

Issue Date: 20/7/2020



**GEOTECHNICAL
LABORATORIES**

**GEOTECHNICAL LABORATORIES
ACN 102 571 077**

14 Ravenhall Way, Ravenhall, Vic 3023
Email: info@geolab.com.au PH: (03) 8361-9140

CLIENT: SYMON BROS

LOCATION: True North Stage Stage 19

Sketch indicating approx. compaction test locations

DATE: 15/7/2020

OPERATOR: SA

SCALE: NTS

JOB No.: 1997/435

CHECKED: KK

FIGURE No: -



GEOTECHNICAL LABORATORIES
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DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1997/436
 LOCATION: SYMON BROS - True North Stage 19

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
16/07/20	1	<i>Refer to #1997/437 for approx. test site locations.</i>	1.89	29.5	99.0	1.91	25.5	175	4.0 Wetter	115.0	0	0	200
16/07/20	2		1.92	25.0	100.5	1.92	24.0	175	1.5 Wetter	105.0	0	0	250
16/07/20	3		1.91	24.0	100.0	1.91	24.0	175	0.0 Wetter	101.0	0	0	300
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 2:00pm Finish Time: 2:40pm

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)

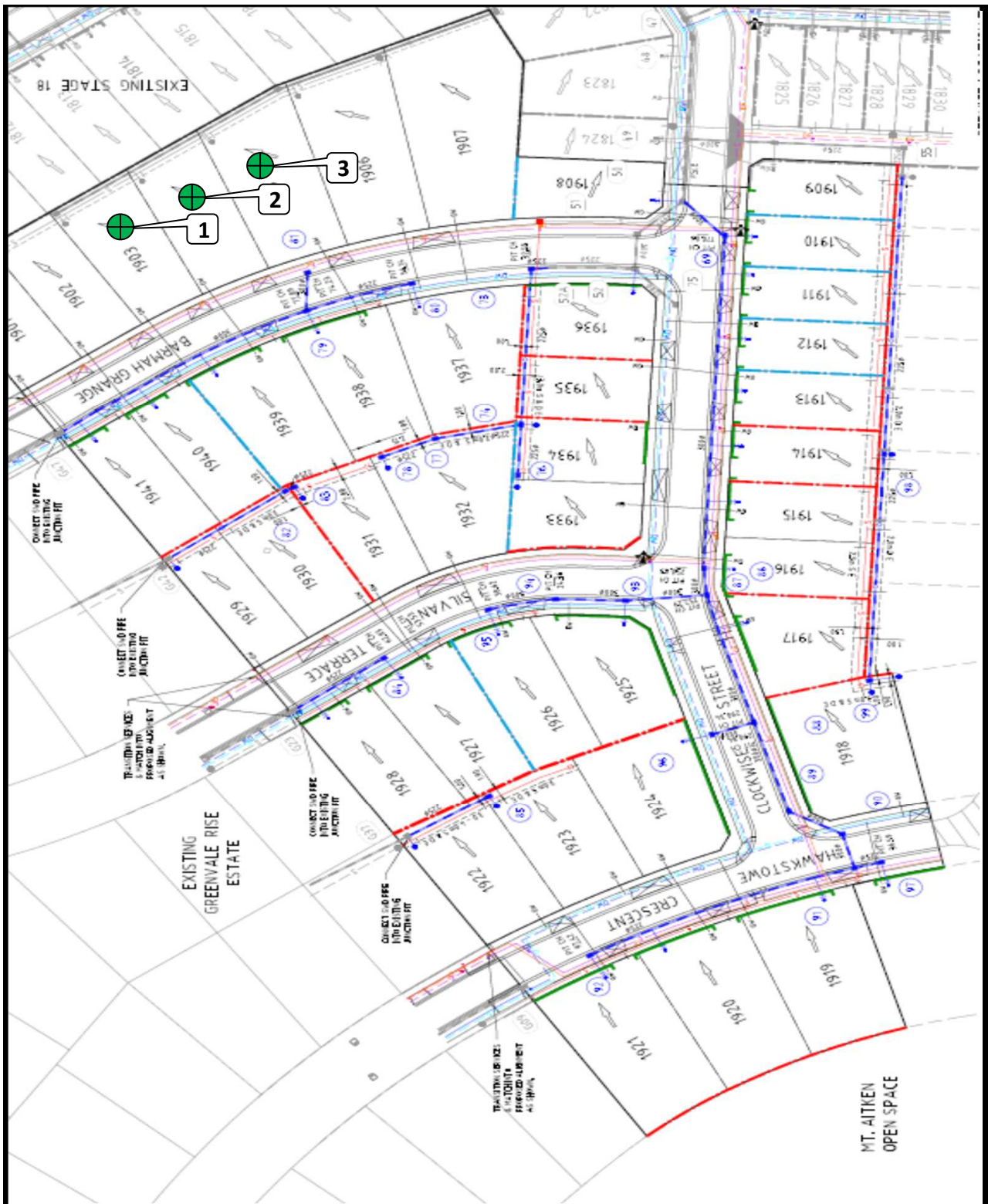


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NATA Accredited Laboratory Number 14561

MICK CROWE
 (Approved Signatory)

Issue Date: 21/7/2020



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CLIENT: SYMON BROS

LOCATION: True North Stage Stage 19

Sketch indicating approx. compaction test locations

DATE: 16/7/2020

OPERATOR: WS

SCALE: NTS

JOB No.: 1997/437

CHECKED: RW

FIGURE No: -



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DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1997/438

LOCATION: SYMON BROS - True North Stage 19

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
17/07/20	1	Refer to #1997/439 for approx. test site locations.	1.88	27.5	95.5	✱ 1.98	25.5	175	2.5 Wetter	109.0	5	0	150
17/07/20	2		2.08	24.0	103.0	✱ 2.02	21.5	175	2.0 Wetter	110.5	6	0	175
17/07/20	3		2.11	25.5	102.0	✱ 2.07	23.5	175	2.0 Wetter	108.5	12	0	250
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 12:40pm Finish Time: 1:25pm

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)

✱ Indicates APCWD



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NATA Accredited Laboratory Number 14561

MICK CROWE
(Approved Signatory)

Issue Date: 23/7/2020



FIGURE No: -



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DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1997/440

LOCATION: SYMON BROS - True North Stage 19

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
20/07/20	1	<i>Refer to #1997/441 for approx. test site locations.</i>	2.01	22.5	100.0	✱ 2.02	21.5	175	1.0 Wetter	104.5	8	0	0
20/07/20	2		1.98	24.5	99.5	✱ 1.99	23.5	175	1.0 Wetter	104.0	7	0	0
20/07/20	3		1.96	27.0	101.0	1.94	24.5	175	2.5 Wetter	110.5	0	0	0
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 1:00pm Finish Time: 1:20pm

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)

✱ Indicates APCWD



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MICK CROWE
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Issue Date: 23/7/2020



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CLIENT: SYMON BROS

LOCATION: True North Stage Stage 19

Sketch indicating approx. compaction test locations

DATE: 20/7/2020

OPERATOR: SA

SCALE: NTS

JOB No.: 1997/441

CHECKED: CL

FIGURE No: -



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DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1997/442
 LOCATION: SYMON BROS - True North Stage 19

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
21/07/20	1	<i>Refer to #1997/443 for approx. test site locations.</i>	2.01	24.5	100.0	2.01	22.0	175	2.0 Wetter	110.0	0	0	500
21/07/20	2		1.82	34.5	97.0	1.87	30.5	175	4.0 Wetter	113.0	0	0	500
21/07/20	3		2.08	21.0	103.0	✱ 2.02	19.5	175	1.5 Wetter	107.5	5	0	500
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 11:55am Finish Time: 12:05pm

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)

✱ Indicates APCWD



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17025 - Testing

NATA Accredited Laboratory Number 14561

MICK CROWE
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Issue Date: 24/7/2020



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Email: info@geolab.com.au PH: (03) 8361-9140

CLIENT: SYMON BROS

LOCATION: True North Stage Stage 19

Sketch indicating approx. compaction test locations

DATE: 21/7/2020

OPERATOR: SA

SCALE: NTS

JOB No.: 1997/443

CHECKED: CL

FIGURE No: -



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DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1997/444
 LOCATION: SYMON BROS - True North Stage 19

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
23/07/20	1	<i>Refer to #1997/445 for approx. test site locations.</i>	1.91	26.0	96.0	✱ 1.99	25.0	175	1.0 Wetter	104.0	12	0	400
23/07/20	2		2.20	17.0	99.0	✱ 2.22	17.0	175	0.0 Drier	100.0	25	16	350
23/07/20	3		2.15	19.0	99.5	✱ 2.16	17.5	175	1.5 Wetter	108.0	13	0	300
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 10:30am Finish Time: 10:40am

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)

✱ Indicates APCWD



Accredited for compliance with ISO/IEC
17025 - Testing

NATA Accredited Laboratory Number 14561

MICK CROWE
 (Approved Signatory)

Issue Date: 28/7/2020



**GEOTECHNICAL
LABORATORIES**

GEOTECHNICAL LABORATORIES

ACN 102 571 077

14 Ravenhall Way, Ravenhall, Vic 3023

Email: info@geolab.com.au PH: (03) 8361-9140

CLIENT: SYMON BROS

LOCATION: True North Stage Stage 19

Sketch indicating approx. compaction test locations

DATE: 23/7/2020

OPERATOR: SA

SCALE: NTS

JOB No.: 1997/445

CHECKED: CL

FIGURE No: -



GEOTECHNICAL LABORATORIES
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DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1997/446
 LOCATION: SYMON BROS - True North Stage 19

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
22/07/20	1	<i>Refer to #1997/447 for approx. test site locations.</i>	2.03	16.5	101.5	1.99	14.0	175	2.5 Wetter	118.5	0	0	400
22/07/20	2		1.95	20.5	96.5	✱ 2.03	18.5	175	2.0 Wetter	110.5	6	0	500
22/07/20	3		1.98	36.5	97.0	✱ 2.04	34.0	175	2.5 Wetter	107.0	6	0	550
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 10:40am Finish Time: 1:55pm

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)

✱ Indicates APCWD



Accredited for compliance with ISO/IEC
17025 - Testing

NATA Accredited Laboratory Number 14561

MICK CROWE
 (Approved Signatory)

Issue Date: 28/7/2020



**GEOTECHNICAL
LABORATORIES**

GEOTECHNICAL LABORATORIES

ACN 102 571 077

14 Ravenhall Way, Ravenhall, Vic 3023

Email: info@geolab.com.au PH: (03) 8361-9140

CLIENT: SYMON BROS

LOCATION: True North Stage 19

Sketch indicating approx. compaction test locations

DATE: 22/7/2020

OPERATOR: SA

SCALE: NTS

JOB No.: 1997/447

CHECKED: KK

FIGURE No: -



GEOTECHNICAL LABORATORIES
ACN 102 571 077
 14 Ravenhall Way, Ravenhall, Vic 3023
 Email: info@geolab.com.au PH: (03) 8361-9140

DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1997/448

LOCATION: SYMON BROS - True North Stage 19

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
24/07/20	1	<i>Refer to #1997/449 for approx. test site locations.</i>	2.05	16.0	96.0	✱ 2.14	15.0	175	1.0 Wetter	107.5	7	0	0
24/07/20	2		2.19	16.0	99.5	✱ 2.20	15.5	175	0.5 Wetter	104.5	11	0	100
24/07/20	3		2.01	20.5	97.0	✱ 2.08	19.0	175	1.5 Wetter	109.0	5	0	200
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex.Oniste

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time:10:35am Finish Time: 10:45am

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)

✱ Indicates APCWD



Accredited for compliance with ISO/IEC
17025 - Testing

NATA Accredited Laboratory Number 14561

MICK CROWE
 (Approved Signatory)

Issue Date: 31/7/2020



**GEOTECHNICAL
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GEOTECHNICAL LABORATORIES

ACN 102 571 077

14 Ravenhall Way, Ravenhall, Vic 3023

Email: info@geolab.com.au PH: (03) 8361-9140

CLIENT: SYMON BROS

LOCATION: True North Stage Stage 19

Sketch indicating approx. compaction test locations

DATE: 24/7/2020

OPERATOR: SA

SCALE: NTS

JOB No.: 1997/449

CHECKED: KK

FIGURE No: -



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DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1997/450
 LOCATION: SYMON BROS - True North Stage 19

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
27/07/20	1	<i>Refer to #1997/451 for approx. test site locations.</i>	2.16	16.5	102.5	2.10	15.5	175	0.5 Wetter	104.5	0	0	0
27/07/20	2		2.16	15.5	100.5	✱ 2.15	15.0	175	0.0 Wetter	101.5	5	0	0
27/07/20	3		2.02	19.5	97.5	✱ 2.08	19.5	175	0.0 Drier	100.0	3	0	0
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 11:05am Finish Time: 11:20am

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)

✱ Indicates APCWD



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17025 - Testing

NATA Accredited Laboratory Number 14561

MICK CROWE
 (Approved Signatory)

Issue Date: 31/7/2020



**GEOTECHNICAL
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GEOTECHNICAL LABORATORIES

ACN 102 571 077

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Email: info@geolab.com.au PH: (03) 8361-9140

CLIENT: SYMON BROS

LOCATION: True North Stage Stage 19

Sketch indicating approx. compaction test locations

DATE: 27/7/2020

OPERATOR: SA

SCALE: NTS

JOB No.: 1997/451

CHECKED: KK

FIGURE No: -



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DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1997/452
 LOCATION: SYMON BROS - True North Stage 19

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
28/07/20	1	<i>Refer to #1997/453 for approx. test site locations.</i>	1.93	20.5	95.0	2.03	19.0	175	1.5 Wetter	107.5	0	0	400
28/07/20	2		2.11	17.5	100.0	2.11	17.0	175	0.5 Wetter	103.0	0	0	400
28/07/20	3		2.09	16.5	97.5	✱ 2.15	16.0	175	0.0 Wetter	101.5	9	0	300
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 9:15am Finish Time: 9:25am

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)

✱ Indicates APCWD



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17025 - Testing

NATA Accredited Laboratory Number 14561

MICK CROWE
 (Approved Signatory)

Issue Date: 31/7/2020



**GEOTECHNICAL
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GEOTECHNICAL LABORATORIES

ACN 102 571 077

14 Ravenhall Way, Ravenhall, Vic 3023

Email: info@geolab.com.au PH: (03) 8361-9140

CLIENT: SYMON BROS

LOCATION: True North Stage 19

Sketch indicating approx. compaction test locations

DATE: 28/7/2020

OPERATOR: SA

SCALE: NTS

JOB No.: 1997/453

CHECKED: KK

FIGURE No: -



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ACN 102 571 077
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 Email: info@geolab.com.au PH: (03) 8361-9140

DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1997/454

LOCATION: SYMON BROS - True North Stage 17

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
25/08/20	1	<i>Refer to #1997/455 for approx. test site locations.</i>	2.37	8.0	103.0	✱ 2.30	10.5	125	2.5 Drier	77.0	10	0	-
25/08/20	2		2.33	8.0	100.5	✱ 2.31	10.5	125	2.0 Drier	79.0	11	0	-
25/08/20	3		2.36	8.5	102.5	✱ 2.30	10.5	125	2.0 Drier	79.5	15	0	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Type A Fill Ex. MVQ Donnybrook

Test sites located - Geolab Procedure 4, Part 4.3.

Compaction specimens sampled after compaction.

Start Time: 8:00am Finish Time: 8:30am

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 150mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)

✱ Indicates APCWD



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MICK CROWE
 (Approved Signatory)

Issue Date: 28/8/2020



14 Ravenhall Way, Ravenhall, Vic 3023
Email: info@geolab.com.au PH: (03) 8361-9140

CLIENT: SYMON BROS

LOCATION: True North Stage Stage 17

Sketch indicating approx. compaction test locations

DATE: 25/8/2020

JOB No.: 1997/455

OPERATOR: TI

CHECKED: KK

SCALE: NTS

FIGURE No: -



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DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1997/456
 LOCATION: SYMON BROS - True North Stage 19

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
28/08/20	1	<i>Refer to #1997/457 for approx. test site locations.</i>	2.10	23.0	100.0	✱ 2.10	19.5	175	3.0 Wetter	116.5	16	0	0
28/08/20	2		2.14	20.0	100.0	✱ 2.14	18.0	175	2.0 Wetter	112.0	25	18	0
28/08/20	3		2.11	20.5	99.0	✱ 2.13	18.5	175	2.0 Wetter	112.0	16	0	0
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 12:00pm Finish Time: 12:40pm

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)

✱ Indicates APCWD



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NATA Accredited Laboratory Number 14561

MICK CROWE
 (Approved Signatory)

Issue Date: 2/9/2020



**GEOTECHNICAL
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GEOTECHNICAL LABORATORIES

ACN 102 571 077

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Email: info@geolab.com.au PH: (03) 8361-9140

CLIENT: SYMON BROS

LOCATION: True North Stage 19

Sketch indicating approx. compaction test locations

DATE: 28/8/2020

OPERATOR: SA

SCALE: NTS

JOB No.: 1997/457

CHECKED: KK

FIGURE No: -



GEOTECHNICAL LABORATORIES
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DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1997/462
 LOCATION: SYMON BROS - True North Stage 19

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
2/09/20	1	<i>Refer to #1997/463 for approx. test site locations.</i>	2.13	22.5	100.5	✱ 2.11	19.5	175	3.0 Wetter	115.0	9	0	0
2/09/20	2		2.05	22.5	97.5	✱ 2.10	20.5	175	1.5 Wetter	108.5	7	0	0
2/09/20	3		1.99	27.5	101.0	1.97	24.0	175	3.5 Wetter	113.5	0	0	0
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 10:10am Finish Time: 10:50am

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)

✱ Indicates APCWD



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NATA Accredited Laboratory Number 14561

MICK CROWE
 (Approved Signatory)

Issue Date: 7/9/2020



**GEOTECHNICAL
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GEOTECHNICAL LABORATORIES

ACN 102 571 077

14 Ravenhall Way, Ravenhall, Vic 3023

Email: info@geolab.com.au PH: (03) 8361-9140

CLIENT: SYMON BROS

LOCATION: True North Stage Stage 19

Sketch indicating approx. compaction test locations

DATE: 2/9/2020

OPERATOR: WS

SCALE: NTS

JOB No.: 1997/463

CHECKED: KK

FIGURE No: -



GEOTECHNICAL LABORATORIES
ACN 102 571 077
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 Email: info@geolab.com.au PH: (03) 8361-9140

DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1997/464
 LOCATION: SYMON BROS - True North Stage 19

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
3/09/20	1	<i>Refer to #1997/465 for approx. test site locations.</i>	2.05	22.5	103.0	1.99	22.5	175	0.0 Wetter	101.0	0	0	200
3/09/20	2		2.06	19.0	102.0	2.01	19.5	175	0.5 Drier	97.5	0	0	0
3/09/20	3		2.00	20.5	96.5	✱ 2.07	19.5	175	0.5 Wetter	103.5	7	0	0
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 8:15am Finish Time: 8:30am

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)

✱ Indicates APCWD



Accredited for compliance with ISO/IEC 17025 - Testing

NATA Accredited Laboratory Number 14561

MICK CROWE
 (Approved Signatory)

Issue Date: 8/9/2020



**GEOTECHNICAL
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GEOTECHNICAL LABORATORIES

ACN 102 571 077

14 Ravenhall Way, Ravenhall, Vic 3023

Email: info@geolab.com.au PH: (03) 8361-9140

CLIENT: SYMON BROS

LOCATION: True North Stage Stage 19

Sketch indicating approx. compaction test locations

DATE: 3/9/2020

OPERATOR: SA

SCALE: NTS

JOB No.: 1997/465

CHECKED: KK

FIGURE No: -



GEOTECHNICAL LABORATORIES
ACN 102 571 077
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DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1997/472
 LOCATION: SYMON BROS - True North Stage 19

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
8/09/20	1	<i>Refer to #1997/473 for approx. test site locations.</i>	1.93	24.0	96.5	1.99	22.5	175	1.5 Wetter	108.0	0	0	1200
8/09/20	2		1.98	24.0	99.0	1.99	22.0	175	1.5 Wetter	108.0	0	0	900
8/09/20	3		1.91	24.5	96.5	1.98	23.0	175	1.5 Wetter	106.5	0	0	600
8/09/20	4		1.94	22.0	97.0	2.00	21.5	175	0.5 Wetter	102.5	0	0	300
8/09/20	5		1.91	27.5	96.5	1.98	23.5	175	4.0 Wetter	116.5	0	0	0
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 8.55am Finish Time: 11.00am

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)



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NATA Accredited Laboratory Number 14561

M. Crowe

MICK CROWE
 (Approved Signatory)

Issue Date: 11/9/2020



14 Ravenhall Way, Ravenhall, Vic 3023
Email: info@geolab.com.au PH: (03) 8361-9140

CLIENT: SYMON BROS

LOCATION: True North Stage Stage 19

Sketch indicating approx. compaction test locations

DATE: 8/9/2020**JOB No.: 1997/473**

OPERATOR: SA

CHECKED: CL

SCALE: NTS

FIGURE No: -



GEOTECHNICAL LABORATORIES
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DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1997/478
 LOCATION: SYMON BROS - True North Stage 19

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
9/09/20	1	<i>Refer to #1997/479 for approx. test site locations.</i>	1.92	23.0	99.0	1.95	23.0	175	0.0 Drier	100.0	0	0	0
9/09/20	2		1.85	24.5	95.5	1.93	24.5	175	0.0 Drier	100.0	0	0	0
9/09/20	3		1.88	23.5	97.5	1.93	24.0	175	0.5 Drier	98.0	0	0	0
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 11:10am Finish Time: 11:40am

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)



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MICK CROWE
 (Approved Signatory)

Issue Date: 11/9/2020



14 Ravenhall Way, Ravenhall, Vic 3023
Email: info@geolab.com.au PH: (03) 8361-9140

CLIENT: SYMON BROS

LOCATION: True North Stage Stage 19

Sketch indicating approx. compaction test locations

DATE: 9/9/2020

JOB No.: 1997/479

OPERATOR: SA

CHECKED: KK

SCALE: NTS

FIGURE No: -



GEOTECHNICAL LABORATORIES
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DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1997/484

LOCATION: SYMON BROS - True North Stage 19

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
10/09/20	1	<i>Refer to #1997/485 for approx. test site locations.</i>	1.90	20.5	96.0	1.98	21.0	175	0.0 Drier	99.0	0	0	1300
10/09/20	2		1.90	22.0	95.5	1.99	21.0	175	0.5 Wetter	103.5	0	0	1000
10/09/20	3		1.89	21.0	95.5	1.98	20.5	175	0.5 Wetter	102.5	0	0	800
10/09/20	4		1.93	21.5	97.5	1.98	20.5	175	1.0 Wetter	104.5	0	0	500
10/09/20	5		1.92	20.5	97.0	1.99	20.0	175	0.0 Wetter	101.0	0	0	200
10/09/20	6		1.87	21.5	98.5	1.90	20.5	175	0.5 Wetter	103.5	0	0	0

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 8:00am Finish Time: 10:30am

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)



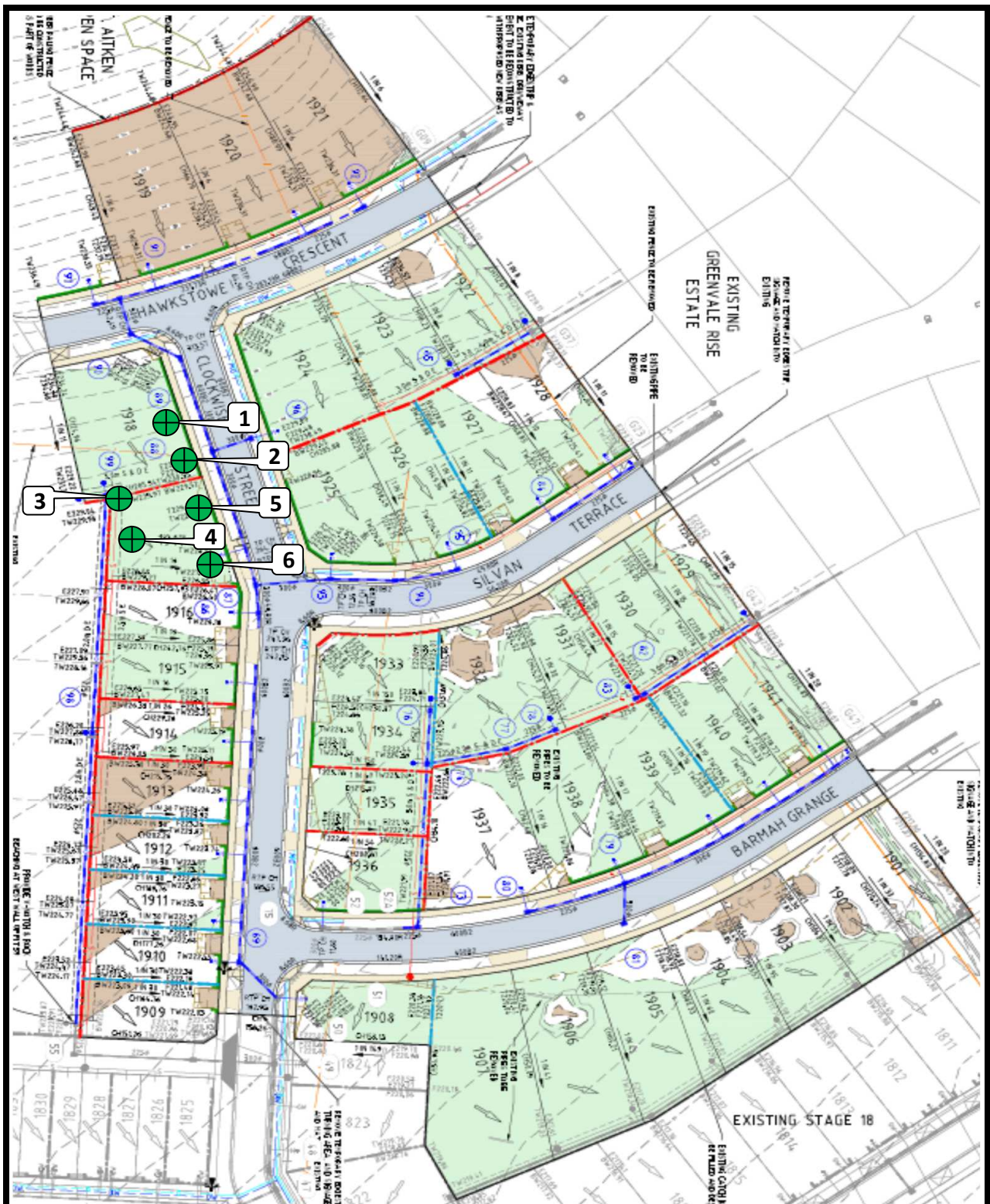
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17025 - Testing

NATA Accredited Laboratory Number 14561

M. Crowe

MICK CROWE
 (Approved Signatory)

Issue Date: 15/9/2020



**GEOTECHNICAL
LABORATORIES**

GEOTECHNICAL LABORATORIES

ACN 102 571 077

14 Ravenhall Way, Ravenhall, Vic 3023

Email: info@geolab.com.au PH: (03) 8361-9140

CLIENT: SYMON BROS

LOCATION: True North Stage Stage 19

Sketch indicating approx. compaction test locations

DATE: 10/9/2020

JOB No.: 1997/485

OPERATOR: SA

CHECKED: KK

SCALE: NTS

FIGURE No: -



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DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1997/494

LOCATION: SYMON BROS - True North Stage 19

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
11/09/20	1	<i>Refer to #1997/495 for approx. test site locations.</i>	1.99	19.5	102.0	1.95	22.0	175	2.5 Drier	88.0	0	0	0
11/09/20	2		1.97	21.0	101.5	1.94	23.5	175	2.5 Drier	89.5	0	0	200
11/09/20	3		2.06	18.0	102.5	✱ 2.01	20.5	175	3.0 Drier	86.5	7	0	400
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 1:40pm Finish Time: 1:55pm

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)

✱ Indicates APCWD

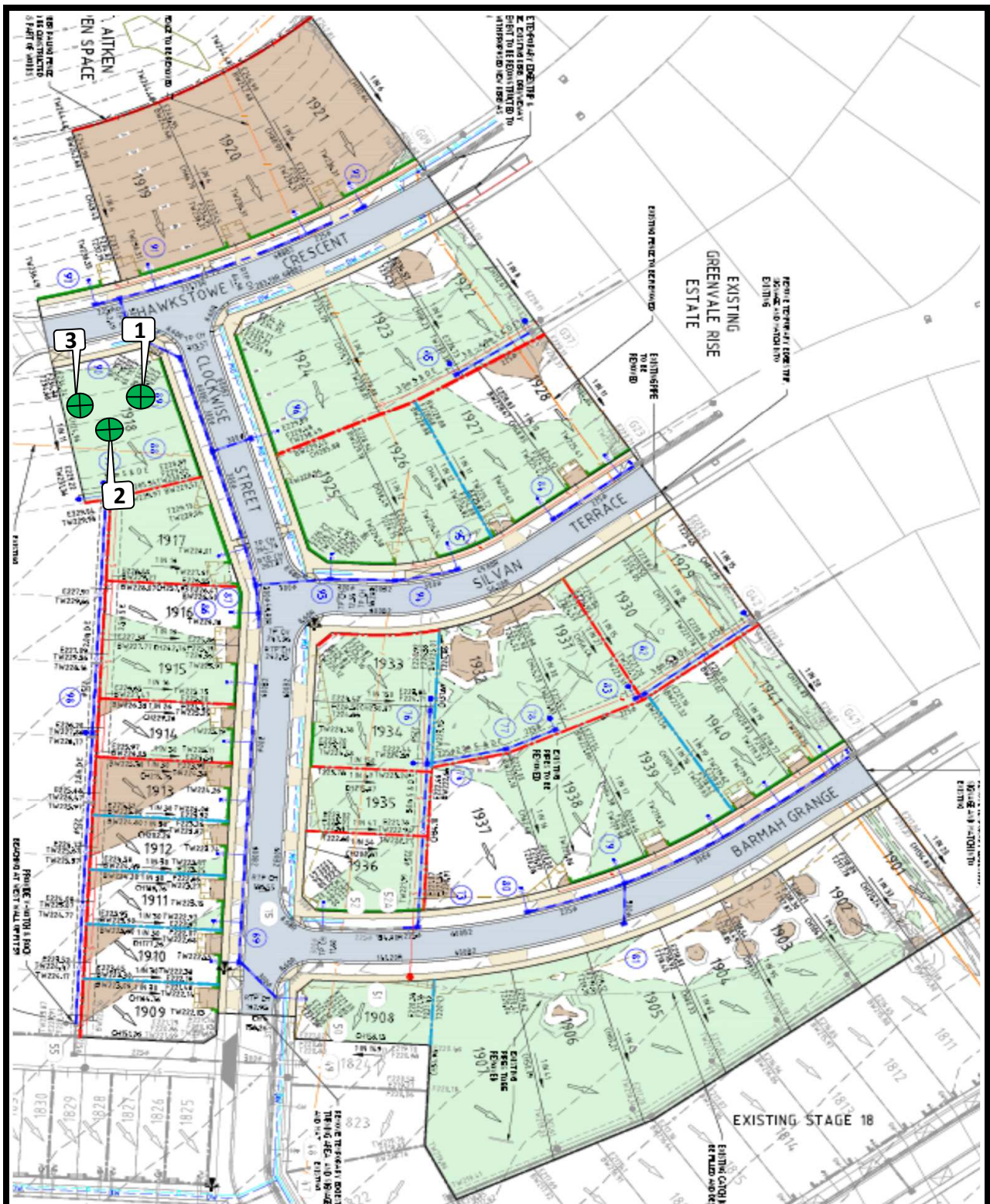


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MICK CROWE
(Approved Signatory)

Issue Date: 16/9/2020



**GEOTECHNICAL
LABORATORIES**

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CLIENT: SYMON BROS

LOCATION: True North Stage Stage 19

Sketch indicating approx. compaction test locations

DATE: 11/9/2020

JOB No.: 1997/495

OPERATOR: SA

CHECKED: KK

SCALE: NTS

FIGURE No: -



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DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1997/621

LOCATION: SYMON BROS - True North Stage 19

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
18/05/21	1	<i>Refer to #1997/622 for approx. test site locations.</i>	1.97	17.5	95.0	2.07	17.5	175	0.0 Wetter	101.5	0	0	0
18/05/21	2		1.98	15.5	97.5	2.03	16.5	175	1.0 Drier	94.5	0	0	0
18/05/21	3		1.87	24.5	105.0	1.78	26.5	175	1.5 Drier	93.5	0	0	0
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 12:10pm Finish Time: 12:30pm

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)



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MICK CROWE
 (Approved Signatory)

Issue Date: 20/5/2021

