

Lidbury Summers & Whiteman

Geotechnical Site Classification Report

RAWSONS Stage 1

Forest Lane, Old Bar

Report No. RGS02061.1-AD

31 May 2023



RGS02061.1-AD

31 May 2023

Lidbury Summers & Whiteman
PO Box 510
FORSTER NSW 2428

Attention: Phillip Lidbury

Dear Phillip

**RE: RAWSONS Stage 1 – Forest Lane, Old Bar
Geotechnical Site Classification Report**

As requested, Regional Geotechnical Solutions Pty Ltd (RGS) has undertaken a site classification in accordance with AS2870-2011 *Residential Slabs and Footings* for the residential lots of Stage 1 of Rawsons subdivision at Forest Lane, Old Bar.

The report provided herein provides surface and subsurface conditions encountered at the site along with comments and recommendations on foundation conditions and site classification in accordance with Australian Standard AS2870-2011.

If you have any questions regarding this project, please contact the undersigned.

For and on behalf of

Regional Geotechnical Solutions Pty Ltd

Prepared by



Champak Nag

Senior Geotechnical Engineer

Reviewed by



Steve Morton

Principal Geotechnical Engineer



Table of Contents

1	INTRODUCTION.....	1
2	METHODOLOGY.....	1
3	LABORATORY TESTING.....	1
4	SITE CONDITIONS.....	2
4.1	Surface Conditions.....	2
4.2	Subsurface Conditions.....	3
5	SITE CLASSIFICATION.....	5
6	CONSTRUCTION AND SITE MAINTENANCE CONSIDERATIONS.....	6
7	LIMITATIONS.....	6

Figures

Figure 1 Investigation Location Plan

Appendices

Appendix A Results of Field Investigations

Appendix B Laboratory Test Result Sheets



1 INTRODUCTION

Regional Geotechnical Solutions Pty Ltd (RGS) has undertaken a site classification in accordance with AS2870-2011 *Residential Slabs and Footings* for the residential lots of Stage 1 of the Rawsons subdivision at Forest Lane, Old Bar.

Lots within Stage 1 have been modified by regrading works comprising up to 1.5m of fill using site won materials. The filling was undertaken under Level 1 inspection and testing as defined in AS3798-2007 (Refer report RGS02061.1-AC dated May 2023). The fill meets the requirements of Controlled Fill as defined in AS2870 -2011.

The purpose of the assessment was to provide comments and recommendations on the following:

- Site classification to AS2870-2011 *Residential Slabs and Footings*; and
- Comments on foundation conditions at the site, founding strata and allowable bearing pressures.

In providing this report and site classification it has been assumed that the performance expectations of AS2870-2011 are acceptable for the proposed structures.

2 METHODOLOGY

Field work for the assessment included:

- Observation of site features and surrounding features relevant to the geotechnical conditions of the site;
- Drilling of sixteen (16) boreholes (BH1 to BH16) within the proposed Stage 1 development; and
- Collection of U50 tube samples from soil horizons considered representative of cohesive soil profiles for shrink-swell testing.

Boreholes were undertaken using a 4WD mounted drill rig and logged and sampled by a Geotechnician from RGS.

Engineering logs of the boreholes are presented in Appendix A. The locations of the boreholes are shown on Figure 1. They were obtained on site by measurement relative to lot boundaries which were pegged at the time of investigation.

3 LABORATORY TESTING

Samples considered representative of foundation soils were submitted to a NATA accredited laboratory for the measurement of soil volume change over an extreme range of moisture content (shrink / swell index). Results are presented in Appendix B and summarised in Table 1.



Table 1: Laboratory Testing Summary

Location	Depth (m)	Lot	Material	Shrinkage (%)	Swell (%)	I _{ss} (%)
BH1	0.5 – 1.0	4	Fill - Clay	2.8	-0.5	1.6
BH3	0.5 – 1.0	18/19	Residual – Clay	7.4	-1.2	4.1
BH8	0.8 – 1.3	32/33/34	Residual – Clay	6.7	-0.5	3.7
BH11	0.6 – 1.0	26/27	Fill - Clay	7.2	-0.4	4.0
BH15	0.5-1.0	9/10	Fill - Clay	6.6	-1.2	3.7

4 SITE CONDITIONS

4.1 Surface Conditions

The Stage 1 development is situated on the southern part of the site and north of Forest Lane, Old Bar. The site comprises gently undulating residual terrain grading down to low lying alluvial deposits towards the south. The site generally slopes at 0 to 2° towards the south.

Stormwater detention ponds were observed on the southern end of the site.

The Stage 1 site was regraded by fill up to a maximum of approximately 1.5m thickness using site won clay which was placed and compacted as Controlled Fill (AS2870-2011) under Level One supervision and testing (AS3798-2007).

The site is well drained by runoff towards the drainage reserves to the south. Drainage of the site will be via a combination of overland flow to the lot and street drainage systems, and minor infiltration into residual clay soils and lot fill.

Typical site conditions for the Stage 1 area are shown in the photographs below.



View south east from Lot 19, showing regraded site following fill placement



View north from Lot 11 showing gentle slopes of 2° towards south.



View north east from Lot 11 showing flat to gentle slopes.



View north east from Lot 8 showing the Stage 1 site following regrade by fill.

4.2 Subsurface Conditions

Reference to the NSW surface geology on Minview website indicates the subject Stage 1 development towards south is underlain by quaternary alluvial / colluvial fan deposits comprising fluvial sand, silt, gravel and clay. The northern side is underlain by Devonian to Carboniferous aged sedimentary rocks which, in the Old Bar area, are typically overlain by variable depths of high plasticity residual clay.

The materials encountered during the investigation are summarised in Table 2 and Table 3. Further details are presented on the attached engineering logs.



Table 2: Summary of Geotechnical Units

Unit	Material	Material Description
UNIT 1A	FILL – CLAY	CLAY, medium to high plasticity, trace sand fine to medium grained at top becoming Clay of high plasticity, firm.
UNIT 1B	FILL – CLAY	CLAY, medium to high plasticity, trace sand fine to medium grained at top with becoming Clay of high plasticity, stiff.
UNIT 2	TOPSOIL	Silty CLAY, low to medium plasticity, trace sand fine to medium grained, trace grass roots
UNIT 3	ALLUVIAL	CLAY, high plasticity, trace to some sand fine to medium grained, stiff, trace gravel fine grained.
UNIT 4	RESIDUAL	CLAY, high plasticity, trace to some sand fine to medium grained, trace to some gravel fine to medium grained, stiff,

Table 3: Summary of Subsurface Materials

BH	Lot(s)	Depth of Material Layer (m)				
		Unit 1A Fill – Clay, firm	Unit 1B Fill – Clay, stiff	Unit 2 Topsoil	Unit 3 Alluvial -Clay	Unit 4 Residual -Clay
BH1	4	--	0.0 -1 .2	--	1.2 – ≥1.8	--
BH2	5/6	--	0.0 -1 .3	--	1.3 – ≥1.5	--
BH3	18/19	--	0.0 – 0.45	--	--	0.45 - ≥1.5
BH4	16/17	0.0 – 0.4	0.4 – 0.9	--	0.9 – ≥1.5	--
BH5	15	--	0.0 – 0.9	--	0.9 – ≥1.5	0.4 - ≥1.5
BH6	22/23	0.0 – 0.4	--	--	--	--
BH7	20/21	--	0.0 – 0.25	--	--	0.25 - ≥1.5
BH8	32/33/34	--	--	0.0 – 0.2	--	0.2 - ≥1.5
BH9	30/31	--	0.0 – 0.3	--	--	0.3 - ≥1.5
BH10	28/29	0.0 – 0.75	--	--	--	0.75 - ≥1.5
BH11	26/27	0.0 – 0.6	0.6 – 1.0	--	--	1.0 - ≥1.5
BH12	24/25	0.0 – 0.6	--	--	--	0.6 - ≥1.5
BH13	13/14	0.0 – 0.35	0.35 – 1.3	--	1.3 - ≥1.5	--
BH14	11/12	0.0 – 0.5	0.5 – 1.2	--	1.2 - ≥1.5	--



BH	Lot(s)	Depth of Material Layer (m)				
		Unit 1A Fill – Clay, firm	Unit 1B Fill – Clay, stiff	Unit 2 Topsoil	Unit 3 Alluvial -Clay	Unit 4 Residual -Clay
BH15	9/10	0.0 – 0.25	0.25 – 1.5	--	1.5 - ≥1.8	--
BH16	7/8	--	0.0 – 1.4	--	1.4 - ≥1.9	--

Note: ≥ Indicates that base of material layer was not encountered
 -- Indicates that the material was not encountered at the test location

Groundwater was not encountered in the boreholes drilled. Groundwater levels fluctuate as a result of seasonal variations, temperature, rainfall and other similar factors, the influence of which may not have been apparent at the time of the assessment.

5 SITE CLASSIFICATION

The site classification presented herein is provided on the basis that the performance expectations of AS2870-2011 are acceptable. In assessing the estimated characteristic surface movement (y_s) values the following has been adopted:

- Suction change at ground surface of pf 1.2;
- Depth of suction change of 1.5m;
- Crack depth multiplication factor of 0.5;
- Characteristic I_{ss} of clay fill, residual and alluvial clay of 3.7

The site classifications and expected shrink-swell related characteristic free surface movements estimated for each lot are summarised in Table 4. The calculated free surface movements include the additional tree-induced movement for those lots close to existing large trees.

Table 4: Estimated Surface Movement Summary

Lots	Site Classification	Estimated Characteristics Surface Movement
20-23, 30-34	H1	50 – 60 mm
4-19, 24-29	H2*	60 – 70 mm

Note : * Based on the existing profiles encountered at the time of the field investigations the lots indicated in the bottom row of Table 4 are classified as **Class P** in accordance with AS2870-2011 due to the presence of Controlled Fill of >0.4m thickness. In accordance with Clause 2.5.3 Section C of AS2870-2011, as the filling comprises Controlled Fill that was placed under Level One supervision as defined by AS3798-2007, the lots are re-classified as outlined in Table 4.



Footings founded within controlled fill or stiff to very stiff alluvial and residual clay can be designed for an allowable bearing pressure of 100 kPa.

If further site regrading works are undertaken at the site, reclassification may be required once final cut and fill depths and fill material types are known.

6 CONSTRUCTION AND SITE MAINTENANCE CONSIDERATIONS

All structural footings should be founded as follows:

- All footings should be founded in controlled fill, or in stiff or very stiff alluvial or residual clay soils below all topsoil and uncontrolled fill materials;
- Footings can be designed on the basis of a maximum allowable base bearing pressure of **100kPa** for footings founded within alluvial and residual soils of at least very stiff strength;
- All footings, edge beams and internal beams should be entirely founded on similar material and outside or below the zones of influence resulting from existing or future service trenches and other subsurface structures;
- Site drainage associated with the proposed development should be designed to avoid concentrated flows in the vicinity of any proposed cuttings and foundations and to discharge water downslope of the development in a controlled manner that limits erosion;
- Any foundations located within areas where tree removals or earthworks have previously been carried out or will occur in the future will need to be taken through the disturbed ground to be founded on the undisturbed natural ground beneath. All organic root material should be removed from within the building footprint;
- Prior to the placement of concrete we recommend that footings be observed and assessed by a suitably experienced geotechnical engineer to assess that the correct founding material has been achieved.

Site maintenance must comply with the recommendations and advice provided in CSIRO Sheet BTF18 "*Foundation Maintenance and Footing Performance: A Homeowners Guide*" a copy of which is available from the CSIRO website <http://www.publish.csiro.au/pid/7076.htm>

Shrink-swell related movements can be affected by alterations to the soil profile by cutting and filling, and by the suction related effects of trees close to the building area. The effects of any such cutting, filling, tree planting, or tree removal should be taken into account when selecting design values for differential movement across the building.

7 LIMITATIONS

This report comprises the results of an investigation carried out for a specific purpose and client as defined in the document. The report should not be used by other parties or for purposes or projects other than those assumed and stated within the report, as it may not contain adequate or appropriate information for applications other than those assumed or advised at the time of its preparation. The contents of the report are for the sole use of the client and no responsibility or liability will be accepted to any third party. The report should not be reproduced either in part or in full, without the express permission of Regional Geotechnical Solutions Pty Ltd.



Geotechnical site investigation is based on data collection, judgment, experience, and opinion. By its nature, it is less exact than other engineering disciplines. The findings presented in this report and used as the basis for the recommendations presented herein were obtained using normal, industry accepted geotechnical design practises and standards. To our knowledge, they represent a reasonable interpretation of the general condition of the site. Under no circumstances, however, can it be considered that these findings represent the actual state of the site at all points.

The recommended depth and properties of any soil, rock, groundwater, or other material referred to in this report is an engineering estimate based on the information available at the time of writing. The estimate is influenced and limited by the fieldwork and testing method carried out in the site investigation, and other relevant information as has been made available. In cases where information has been provided to Regional Geotechnical Solutions for the purposes of preparing this report it has been assumed that the information is accurate and appropriate for such use. No responsibility is accepted by Regional Geotechnical Solutions for inaccuracies within any data supplied by others.

If site conditions encountered during construction vary significantly from those discussed in this report, Regional Geotechnical Solutions Pty Ltd should be contacted for further advice.

This report alone should not be used by contractors as the basis for preparation of tender documents or project estimates. Contractors using this report as a basis for preparation of tender documents should avail themselves of all relevant background information regarding the site before deciding on selection of construction materials and equipment.

If you have any questions regarding this project, or require any additional consultations, please contact the undersigned.

For and on behalf of

Regional Geotechnical Solutions Pty Ltd

Prepared by

Champak Nag

Senior Geotechnical Engineer

Reviewed by

Steve Morton

Principal Geotechnical Engineer



Figures



Appendix A

Results of Field Investigations



ENGINEERING LOG - BOREHOLE

BOREHOLE NO: BH1

CLIENT: Lidbury Summers and Whiteman

PAGE: 1 of 1

PROJECT NAME: Proposed Residential Subdivision

JOB NO: RGS02061.1

SITE LOCATION: Forest Lane, Old Bar

LOGGED BY: RW

TEST LOCATION: Refer to Figure 1

DATE: 4/5/23

DRILL TYPE: RGS Ute Mounted Drill Rig

EASTING: 459844 m

SURFACE RL:

BOREHOLE DIAMETER: 100 mm

INCLINATION: 90°

NORTHING: 6462437 m

DATUM: AHD

Drilling and Sampling				Material description and profile information					Field Test		Structure and additional observations	
METHOD	WATER	SAMPLES	RL (Not measured)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type		Result
AD/T	Not Encountered					CH	FILL: CLAY, medium to high plasticity, dark brown/brown, trace sand and gravel, fine to medium grained, trace organic matter	M > Wp	St	HP	150	FILL
		0.50m		0.2		CH	FILL: CLAY, high plasticity, pale brown/pale orange-brown with red and grey mottling, trace sand, fine to medium grained			HP	110	
				0.4		CH				HP	200	
		U		0.6		CH						
				0.7		CH	FILL: CLAY, high plasticity, brown/grey/pale brown, trace sand, fine to medium grained			HP	130	
		1.00m		0.8		CH						
				1.0		CH						
				1.2		CH	CLAY: High plasticity, pale brown/pale orange-brown with grey and red mottling, sand, fine to medium grained			HP	130	ALLUVIUM
				1.4		CH						
				1.5		CH	CLAY: High plasticity, red and grey mottled, trace sand, fine to medium grained			HP	180	
				1.6		CH						
				1.8			Hole Terminated at 1.80 m					

LEGEND:

Water

- Water Level (Date and time shown)
- Water Inflow
- Water Outflow

Strata Changes

- Gradational or transitional strata
- Definitive or distinct strata change

Notes, Samples and Tests

- U₅₀ 50mm Diameter tube sample
- CBR Bulk sample for CBR testing
- E Environmental sample
- ASS Acid Sulfate Soil Sample
- B Bulk Sample

Field Tests

- PID Photoionisation detector reading (ppm)
- DCP(x-y) Dynamic penetrometer test (test depth interval shown)
- HP Hand Penetrometer test (UCS kPa)

Consistency	UCS (kPa)	Moisture Condition
VS Very Soft	<25	D Dry
S Soft	25 - 50	M Moist
F Firm	50 - 100	W Wet
St Stiff	100 - 200	W _p Plastic Limit
VSt Very Stiff	200 - 400	W _L Liquid Limit
H Hard	>400	
Fb Friable		

Density	UCS (kPa)	Density Index
V Very Loose		Density Index <15%
L Loose		Density Index 15 - 35%
MD Medium Dense		Density Index 35 - 65%
D Dense		Density Index 65 - 85%
VD Very Dense		Density Index 85 - 100%

RGS 2.00.31.LIB.GLB.Log_RG_NON-CORED BOREHOLE - TEST PIT_RGS02061.1_BH LOGS 1-16.GPJ ->DrawingFiles>> 31/05/2023 16:23 10.03.00.09 D:\rg\lib and in situ\Tool - DGD Lib - DGD 2.00.0 2021-06-30



ENGINEERING LOG - BOREHOLE

BOREHOLE NO: **BH2**

CLIENT: Lidbury Summers and Whiteman

PAGE: 1 of 1

PROJECT NAME: Proposed Residential Subdivision

JOB NO: RGS02061.1

SITE LOCATION: Forest Lane, Old Bar

LOGGED BY: RW

TEST LOCATION: Refer to Figure 1

DATE: 4/5/23

DRILL TYPE: RGS Ute Mounted Drill Rig

EASTING: 459801 m

SURFACE RL:

BOREHOLE DIAMETER: 100 mm

INCLINATION: 90°

NORTHING: 6462432 m

DATUM: AHD

Drilling and Sampling				Material description and profile information					Field Test		Structure and additional observations		
METHOD	WATER	SAMPLES	RL (Not measured)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type		Result	
AD/T	Not Encountered			0.2		CH	FILL: CLAY, medium to high plasticity, dark brown/brown, trace sand and gravel, fine to medium grained, trace organic matter	M > Wp	St	HP	110	FILL	
				0.4		CH	FILL: CLAY, high plasticity, pale brown/brown with red and grey mottling, trace sand and gravel, fine to medium grained		VSt	HP	220		
				0.7		CH	FILL: CLAY, high plasticity, brown/grey/pale brown, trace sand, fine to medium grained		St	HP	150		
				1.3		CH	CLAY: High plasticity, pale brown/pale orange-brown with grey and red mottling, sand, fine to medium grained						ALLUVIUM
				1.5			Hole Terminated at 1.50 m			HP	170		

LEGEND:

Water

- Water Level (Date and time shown)
- Water Inflow
- Water Outflow

Strata Changes

- Gradational or transitional strata
- Definitive or distinct strata change

Notes, Samples and Tests

- U₅₀ 50mm Diameter tube sample
- CBR Bulk sample for CBR testing
- E Environmental sample
- ASS Acid Sulfate Soil Sample
- B Bulk Sample

Field Tests

- PID Photoionisation detector reading (ppm)
- DCP(x-y) Dynamic penetrometer test (test depth interval shown)
- HP Hand Penetrometer test (UCS kPa)

Consistency	UCS (kPa)	Moisture Condition
VS Very Soft	<25	D Dry
S Soft	25 - 50	M Moist
F Firm	50 - 100	W Wet
St Stiff	100 - 200	W _p Plastic Limit
VSt Very Stiff	200 - 400	W _L Liquid Limit
H Hard	>400	
Fb Friable		
Density	V Very Loose	Density Index <15%
L Loose	MD Medium Dense	Density Index 15 - 35%
D Dense	D Dense	Density Index 35 - 65%
VD Very Dense		Density Index 65 - 85%
		Density Index 85 - 100%

RGS 2.00.31.LIB.GLB.Log_RG_NON-CORED BOREHOLE - TEST PIT_RGS02061.1_BH LOGS 1-16.GPJ ->DrawingFile>> 31/05/2023 16:23 10.03.00.09 D:\git\Lab and In Situ Tool - DGD Lib - RGS 2.00.3 2022-03-03 Proj_RG 2.00.0 2021-06-30



ENGINEERING LOG - BOREHOLE

BOREHOLE NO: BH3

CLIENT: Lidbury Summers and Whiteman

PAGE: 1 of 1

PROJECT NAME: Proposed Residential Subdivision

JOB NO: RGS02061.1

SITE LOCATION: Forest Lane, Old Bar

LOGGED BY: RW

TEST LOCATION: Refer to Figure 1

DATE: 4/5/23

DRILL TYPE: RGS Ute Mounted Drill Rig

EASTING: 459798 m

SURFACE RL:

BOREHOLE DIAMETER: 100 mm

INCLINATION: 90°

NORTHING: 6462478 m

DATUM: AHD

Drilling and Sampling				Material description and profile information					Field Test		Structure and additional observations		
METHOD	WATER	SAMPLES	RL (Not measured)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type		Result	
AD/T	Not Encountered	U		0.2		CH	FILL: CLAY, medium to high plasticity, dark brown/brown, trace sand and gravel, fine to medium grained, trace organic matter	M > Wp	F - St	HP	90	FILL	
				0.4							80		
				0.6							250		RESIDUAL
				0.8							130		
1.0	150												
				1.2		CH	CLAY: High plasticity, pale brown/pale orange-brown with grey mottling, sand, fine to medium grained		St - VSt	HP	180		
1.4	180												
				1.5		CH	CLAY: High plasticity, grey mottled pale brown, trace of sand and gravel, fine to medium grained		St	HP	180		
				1.6									
				1.8			Hole Terminated at 1.50 m						

LEGEND:

Water

- Water Level (Date and time shown)
- Water Inflow
- Water Outflow

Strata Changes

- Gradational or transitional strata
- Definitive or distinct strata change

Notes, Samples and Tests

- U₅₀ 50mm Diameter tube sample
- CBR Bulk sample for CBR testing
- E Environmental sample
- ASS Acid Sulfate Soil Sample
- B Bulk Sample

Field Tests

- PID Photoionisation detector reading (ppm)
- DCP(x-y) Dynamic penetrometer test (test depth interval shown)
- HP Hand Penetrometer test (UCS kPa)

Consistency	UCS (kPa)	Moisture Condition
VS Very Soft	<25	D Dry
S Soft	25 - 50	M Moist
F Firm	50 - 100	W Wet
St Stiff	100 - 200	W _p Plastic Limit
VSt Very Stiff	200 - 400	W _L Liquid Limit
H Hard	>400	
Fb Friable		
Density	V Very Loose	Density Index <15%
L Loose	MD Medium Dense	Density Index 15 - 35%
D Dense	D Dense	Density Index 35 - 65%
VD Very Dense	D Dense	Density Index 65 - 85%
		Density Index 85 - 100%

RG 2.00.3.LIB.GLB.Log_RG_NON-CORED BOREHOLE - TEST PIT_RGS02061.1_BH LOGS 1-16.GPJ ->DrawingFile>> 31/5/2023 16:23 10.03.00.09 D:\geotech\lab and in situ\tool - DGD Lib - RG 2.00.3.2022-03-03 Proj_RG 2.00.0.2021-06-30



ENGINEERING LOG - BOREHOLE

BOREHOLE NO: BH4

CLIENT: Lidbury Summers and Whiteman

PAGE: 1 of 1

PROJECT NAME: Proposed Residential Subdivision

JOB NO: RGS02061.1

SITE LOCATION: Forest Lane, Old Bar

LOGGED BY: RW

TEST LOCATION: Refer to Figure 1

DATE: 4/5/23

DRILL TYPE: RGS Ute Mounted Drill Rig

EASTING: 459828 m

SURFACE RL:

BOREHOLE DIAMETER: 100 mm

INCLINATION: 90°

NORTHING: 6462468 m

DATUM: AHD

Drilling and Sampling				Material description and profile information					Field Test		Structure and additional observations	
METHOD	WATER	SAMPLES	RL (Not measured)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type		Result
AD/T	Not Encountered					CH	FILL: CLAY, medium to high plasticity, brown/dark brown/pale brown, trace sand and gravel, fine to medium grained, trace organic matter	M > Wp	F	HP	80	FILL
				0.4		CH	FILL: CLAY, high plasticity, brown/dark brown/red/grey, trace of sand and gravel, fine to medium grained		St	HP	120	
				0.8		CH	CLAY: High plasticity, pale brown/pale orange-brown with grey mottling, trace of sand, fine to medium grained			HP	180	
				1.0		CH	CLAY: High plasticity, pale brown/pale orange-brown with grey mottling, trace of sand, fine to medium grained			HP	120	ALLUVIUM
				1.5			Hole Terminated at 1.50 m			HP	110	

LEGEND:

Water

- Water Level (Date and time shown)
- Water Inflow
- Water Outflow

Strata Changes

- Gradational or transitional strata
- Definitive or distinct strata change

Notes, Samples and Tests

- U₅₀ 50mm Diameter tube sample
- CBR Bulk sample for CBR testing
- E Environmental sample
- ASS Acid Sulfate Soil Sample
- B Bulk Sample

Field Tests

- PID Photoionisation detector reading (ppm)
- DCP(x-y) Dynamic penetrometer test (test depth interval shown)
- HP Hand Penetrometer test (UCS kPa)

Consistency		UCS (kPa)	Moisture Condition
VS	Very Soft	<25	D Dry
S	Soft	25 - 50	M Moist
F	Firm	50 - 100	W Wet
St	Stiff	100 - 200	W _p Plastic Limit
VSt	Very Stiff	200 - 400	W _L Liquid Limit
H	Hard	>400	
Fb	Friable		
Density			
V	Very Loose		Density Index <15%
L	Loose		Density Index 15 - 35%
MD	Medium Dense		Density Index 35 - 65%
D	Dense		Density Index 65 - 85%
VD	Very Dense		Density Index 85 - 100%

RGS 2.00.31.LIB.GLB.Log_RG_NON-CORED BOREHOLE - TEST PIT_RGS02061.1.BH.LOGS 1-16.GPJ ->DrawingFiles> 31/5/2023 16:23 10.03.00.09 D:\geol Lab and In Situ Tool ->DGD Lib ->RGS 2.00.3 2022-03-03 Proj_RG 2.00.0 2021-06-30



ENGINEERING LOG - BOREHOLE

BOREHOLE NO: BH5

CLIENT: Lidbury Summers and Whiteman

PAGE: 1 of 1

PROJECT NAME: Proposed Residential Subdivision

JOB NO: RGS02061.1

SITE LOCATION: Forest Lane, Old Bar

LOGGED BY: RW

TEST LOCATION: Refer to Figure 1

DATE: 4/5/23

DRILL TYPE: RGS Ute Mounted Drill Rig

EASTING: 459852 m

SURFACE RL:

BOREHOLE DIAMETER: 100 mm

INCLINATION: 90°

NORTHING: 6462471 m

DATUM: AHD

Drilling and Sampling				Material description and profile information					Field Test		Structure and additional observations	
METHOD	WATER	SAMPLES	RL (Not measured)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type		Result
AD/T	Not Encountered			0.2		CH	FILL: CLAY, medium to high plasticity, dark brown/brown, trace sand and gravel, fine to medium grained, trace organic matter	M > Wp	St	HP	120	FILL
				0.4		CH	FILL: CLAY, high plasticity, red/pale brown/pale grey, trace of sand and gravel, fine to medium grained			HP	170	
				0.8		CH				HP	180	
				1.0		CH	CLAY: High plasticity, pale brown/brown/pale orange-brown with grey mottling, trace of sand and gravel, fine to medium grained			HP	160	ALLUVIUM
				1.2								
				1.3		CH	CLAY: High plasticity, pale brown/grey with red mottling, trace of sand and gravel, fine to medium grained			HP	130	
				1.4								
				1.5			Hole Terminated at 1.50 m					
				1.6								
				1.8								

LEGEND:

Water

- Water Level (Date and time shown)
- Water Inflow
- Water Outflow

Strata Changes

- Gradational or transitional strata
- Definitive or distinct strata change

Notes, Samples and Tests

- U₅₀ 50mm Diameter tube sample
- CBR Bulk sample for CBR testing
- E Environmental sample
- ASS Acid Sulfate Soil Sample
- B Bulk Sample

Field Tests

- PID Photoionisation detector reading (ppm)
- DCP(x-y) Dynamic penetrometer test (test depth interval shown)
- HP Hand Penetrometer test (UCS kPa)

Consistency	UCS (kPa)	Moisture Condition
VS Very Soft	<25	D Dry
S Soft	25 - 50	M Moist
F Firm	50 - 100	W Wet
St Stiff	100 - 200	W _p Plastic Limit
VSt Very Stiff	200 - 400	W _L Liquid Limit
H Hard	>400	
Fb Friable		
Density	V Very Loose	Density Index <15%
L Loose	MD Medium Dense	Density Index 15 - 35%
D Dense	D Dense	Density Index 35 - 65%
VD Very Dense	D Dense	Density Index 65 - 85%
		Density Index 85 - 100%

RGS 2.00.3.LIB.GLB.Log_RG_NON-CORED BOREHOLE - TEST PIT_RGS02061.1.BH LOGS 1-16.GPJ -> DrawingFiles -> 31/5/2023, 16:24, 10.03.00.09 D:\git\Lab and In Situ Tools - DGD Lib - RGS 2.00.3.2022-03-03 Proj_RGS 2.00.0.2021-06-30



ENGINEERING LOG - BOREHOLE

BOREHOLE NO: BH6

CLIENT: Lidbury Summers and Whiteman

PAGE: 1 of 1

PROJECT NAME: Proposed Residential Subdivision

JOB NO: RGS02061.1

SITE LOCATION: Forest Lane, Old Bar

LOGGED BY: RW

TEST LOCATION: Refer to Figure 1

DATE: 4/5/23

DRILL TYPE: RGS Ute Mounted Drill Rig

EASTING: 459842 m

SURFACE RL:

BOREHOLE DIAMETER: 100 mm

INCLINATION: 90°

NORTHING: 6462509 m

DATUM: AHD

Drilling and Sampling				Material description and profile information					Field Test		Structure and additional observations	
METHOD	WATER	SAMPLES	RL (Not measured)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type		Result
AD/T	Not Encountered			0.2		CH	FILL: CLAY, medium to high plasticity, dark brown/brown, trace sand and gravel, fine to medium grained, trace organic matter	M > Wp	F - St			FILL
				0.4		CH	CLAY: High plasticity, pale brown/pale orange-brown with grey mottling, trace of sand and gravel, fine to medium grained		St - VSt	HP	80	
				0.6						HP	110	
				0.8								
				0.90m		CH	CLAY: High plasticity, grey and red mottling, trace of sand and gravel, fine to medium grained		St			RESIDUAL
				1.0						HP	180	
				1.2								
				1.4								
				1.50m						HP	250	
							Hole Terminated at 1.50 m				150	
				1.6								
				1.8								

LEGEND: Water Water Level (Date and time shown) Water Inflow Water Outflow Strata Changes Gradational or transitional strata Definitive or distinct strata change	Notes, Samples and Tests U ₅₀ 50mm Diameter tube sample CBR Bulk sample for CBR testing E Environmental sample ASS Acid Sulfate Soil Sample B Bulk Sample	Consistency VS Very Soft <25 S Soft 25 - 50 F Firm 50 - 100 St Stiff 100 - 200 VSt Very Stiff 200 - 400 H Hard >400 Fb Friable	UCS (kPa) <25 25 - 50 50 - 100 100 - 200 200 - 400 >400	Moisture Condition D Dry M Moist W Wet W _p Plastic Limit W _L Liquid Limit
	Field Tests PID Photoionisation detector reading (ppm) DCP(x-y) Dynamic penetrometer test (test depth interval shown) HP Hand Penetrometer test (UCS kPa)	Density V Very Loose L Loose MD Medium Dense D Dense VD Very Dense	Density Index <15% Density Index 15 - 35% Density Index 35 - 65% Density Index 65 - 85% Density Index 85 - 100%	

RG 2.00.3.LIB.GLB.Log_RG_NON-CORED BOREHOLE - TEST PIT_RGS02061.1_BH LOGS 1-16.GPJ ->DrawingFiles>> 31/5/2023 16:24 10.03.00.09 D:\geot\Lab and In Situ Tool ->DGD Lib ->RG 2.00.3.2022-03-03 Proj_RG 2.00.0.2021-06-30



ENGINEERING LOG - BOREHOLE

BOREHOLE NO: BH7

CLIENT: Lidbury Summers and Whiteman

PAGE: 1 of 1

PROJECT NAME: Proposed Residential Subdivision

JOB NO: RGS02061.1

SITE LOCATION: Forest Lane, Old Bar

LOGGED BY: RW

TEST LOCATION: Refer to Figure 1

DATE: 4/5/23

DRILL TYPE: RGS Ute Mounted Drill Rig

EASTING: 459806 m

SURFACE RL:

BOREHOLE DIAMETER: 100 mm

INCLINATION: 90°

NORTHING: 6462528 m

DATUM: AHD

Drilling and Sampling				Material description and profile information					Field Test		Structure and additional observations	
METHOD	WATER	SAMPLES	RL (Not measured)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type		Result
AD/T	Not Encountered			0.2		CH	FILL: CLAY, medium to high plasticity, dark brown/brown, with some sand and gravel, fine to medium grained, trace organic matter	M > WP	St	HP	150	FILL
				0.25m								
				0.4		CH	CLAY: High plasticity, brown/pale brown/grey, trace of sand and gravel, fine to medium grained	VSt	HP	220	RESIDUAL	
				0.6								
0.70m												
0.8		CH	CLAY: High plasticity, red and grey mottling, trace of sand and gravel, fine to medium grained	St	HP	250						
1.0												
1.2												
1.4												
1.50m							Hole Terminated at 1.50 m			HP	150	
1.6												
1.8												

LEGEND:

Water

- Water Level (Date and time shown)
- Water Inflow
- Water Outflow

Strata Changes

- Gradational or transitional strata
- Definitive or distinct strata change

Notes, Samples and Tests

- U₅₀ 50mm Diameter tube sample
- CBR Bulk sample for CBR testing
- E Environmental sample
- ASS Acid Sulfate Soil Sample
- B Bulk Sample

Field Tests

- PID Photoionisation detector reading (ppm)
- DCP(x-y) Dynamic penetrometer test (test depth interval shown)
- HP Hand Penetrometer test (UCS kPa)

Consistency	UCS (kPa)	Moisture Condition
VS Very Soft	<25	D Dry
S Soft	25 - 50	M Moist
F Firm	50 - 100	W Wet
St Stiff	100 - 200	W _p Plastic Limit
VSt Very Stiff	200 - 400	W _L Liquid Limit
H Hard	>400	
Fb Friable		
Density	V Very Loose	Density Index <15%
L Loose	MD Medium Dense	Density Index 15 - 35%
D Dense	D Dense	Density Index 35 - 65%
VD Very Dense	D Dense	Density Index 65 - 85%
		Density Index 85 - 100%

RG 2.00.3.LIB.GLB.Log_RG_NON-CORED BOREHOLE - TEST PIT_RGS02061.1_BH LOGS 1-16.GPJ ->DrawingFile>> 31/5/2023, 15:24, 10.03.00.09, D:\git\Lab and In Situ\Tool - DGD\Lib - RGS 2.00.3.2022\303.Pjt, RG 2.00.0.2021\06-30



ENGINEERING LOG - BOREHOLE

BOREHOLE NO: BH8

CLIENT: Lidbury Summers and Whiteman

PAGE: 1 of 1

PROJECT NAME: Proposed Residential Subdivision

JOB NO: RGS02061.1

SITE LOCATION: Forest Lane, Old Bar

LOGGED BY: RW

TEST LOCATION: Refer to Figure 1

DATE: 4/5/23

DRILL TYPE: RGS Ute Mounted Drill Rig

EASTING: 459914 m

SURFACE RL:

BOREHOLE DIAMETER: 100 mm

INCLINATION: 90°

NORTHING: 6462544 m

DATUM: AHD

Drilling and Sampling				Material description and profile information					Field Test		Structure and additional observations			
METHOD	WATER	SAMPLES	RL (Not measured)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type		Result		
AD/T	Not Encountered	U		0.2		CI	TOPSOIL: Silty CLAY, medium plasticity, dark brown/dark grey, with some sand, fine to medium grained, trace gravel, fine to medium grained	M > Wp	St	HP	120	TOPSOIL		
				0.20m		CH	CLAY: High plasticity, brown/pale brown/grey, trace of sand and gravel, fine to medium grained				St		RESIDUAL	
				0.4								HP	150	
				0.6								HP	250	
				0.8		CH	CLAY: High plasticity, red with grey mottling, trace of sand and gravel, fine to medium grained			HP	250			
				1.0						HP	250			
				1.2						HP	250			
				1.4						HP	250			
				1.50m			Hole Terminated at 1.50 m							
				1.6										
				1.8										

LEGEND:

Water

- Water Level (Date and time shown)
- Water Inflow
- Water Outflow

Strata Changes

- Gradational or transitional strata
- Definitive or distinct strata change

Notes, Samples and Tests

- U₅₀ 50mm Diameter tube sample
- CBR Bulk sample for CBR testing
- E Environmental sample
- ASS Acid Sulfate Soil Sample
- B Bulk Sample

Field Tests

- PID Photoionisation detector reading (ppm)
- DCP(x-y) Dynamic penetrometer test (test depth interval shown)
- HP Hand Penetrometer test (UCS kPa)

Consistency	UCS (kPa)	Moisture Condition
VS Very Soft	<25	D Dry
S Soft	25 - 50	M Moist
F Firm	50 - 100	W Wet
St Stiff	100 - 200	W _p Plastic Limit
VSt Very Stiff	200 - 400	W _L Liquid Limit
H Hard	>400	
Fb Friable		
Density	V Very Loose	Density Index <15%
L Loose	MD Medium Dense	Density Index 15 - 35%
D Dense	D Dense	Density Index 35 - 65%
VD Very Dense	D Dense	Density Index 65 - 85%
		Density Index 85 - 100%

RG 2.00.31.LIB.GLB.Log_RG_NON-CORED BOREHOLE - TEST PIT_RGS02061.1_BH LOGS 1-16.GPJ -> DrawingFile -> 31/5/2023 16:24 10.03.00.09 D:\git\Lab and In Situ Tool - DGD Lib - RG 2.00.3 2022-03-03 Proj_RG 2.00.0 2021-06-30



ENGINEERING LOG - BOREHOLE

BOREHOLE NO: BH9

CLIENT: Lidbury Summers and Whiteman

PAGE: 1 of 1

PROJECT NAME: Proposed Residential Subdivision

JOB NO: RGS02061.1

SITE LOCATION: Forest Lane, Old Bar

LOGGED BY: RW

TEST LOCATION: Refer to Figure 1

DATE: 4/5/23

DRILL TYPE: RGS Ute Mounted Drill Rig

EASTING: 459941 m

SURFACE RL:

BOREHOLE DIAMETER: 100 mm

INCLINATION: 90°

NORTHING: 6462518 m

DATUM: AHD

Drilling and Sampling				Material description and profile information					Field Test		Structure and additional observations	
METHOD	WATER	SAMPLES	RL (Not measured)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type		Result
AD/T	Not Encountered			0.2		CH	FILL: CLAY, medium to high plasticity, brown/dark brown, with some sand and gravel, fine to medium grained, trace organic matter	M > Wp	St	HP	160	FILL
				0.4		CH	CLAY: High plasticity, pale brown/pale orange-brown with grey mottling, trace of sand and gravel, fine to medium grained			HP	180	RESIDUAL
				0.6						HP	200	
				0.8		CH	CLAY: High plasticity, dark grey/grey, some red and pale brown mottling, trace of sand and gravel, fine to medium grained		VSt	HP	220	
				1.0						HP	250	
				1.2		CH	CLAY: High plasticity, grey and red mottled, trace of sand and gravel, fine to medium grained			HP	250	
				1.4								
				1.50m			Hole Terminated at 1.50 m					
				1.6								
				1.8								

LEGEND:

Water

- Water Level (Date and time shown)
- Water Inflow
- Water Outflow

Strata Changes

- Gradational or transitional strata
- Definitive or distinct strata change

Notes, Samples and Tests

- U₅₀ 50mm Diameter tube sample
- CBR Bulk sample for CBR testing
- E Environmental sample
- ASS Acid Sulfate Soil Sample
- B Bulk Sample

Field Tests

- PID Photoionisation detector reading (ppm)
- DCP(x-y) Dynamic penetrometer test (test depth interval shown)
- HP Hand Penetrometer test (UCS kPa)

Consistency		UCS (kPa)	Moisture Condition
VS	Very Soft	<25	D Dry
S	Soft	25 - 50	M Moist
F	Firm	50 - 100	W Wet
St	Stiff	100 - 200	W _p Plastic Limit
VSt	Very Stiff	200 - 400	W _L Liquid Limit
H	Hard	>400	
Fb	Friable		
Density			
V	Very Loose		Density Index <15%
L	Loose		Density Index 15 - 35%
MD	Medium Dense		Density Index 35 - 65%
D	Dense		Density Index 65 - 85%
VD	Very Dense		Density Index 85 - 100%

RG 2.00.31.LIB.GLB.Log_RG_NON-CORED BOREHOLE - TEST PIT_RGS02061.1_BH LOGS 1-16.GPJ -> DrawingFile -> 31/5/2023 16:24 10.03.00.09 D:\geot\Lab and In Situ Tool -> DGD Lib -> RG 2.00.3 2022-03-03 Proj_RG 2.00.0 2021-06-30



ENGINEERING LOG - BOREHOLE

BOREHOLE NO: **BH10**

CLIENT: Lidbury Summers and Whiteman
 PROJECT NAME: Proposed Residential Subdivision
 SITE LOCATION: Forest Lane, Old Bar
 TEST LOCATION: Refer to Figure 1

PAGE: 1 of 1
 JOB NO: RGS02061.1
 LOGGED BY: RW
 DATE: 4/5/23

DRILL TYPE: RGS Ute Mounted Drill Rig EASTING: 459962 m SURFACE RL:
 BOREHOLE DIAMETER: 100 mm INCLINATION: 90° NORTHING: 6462491 m DATUM: AHD

Drilling and Sampling				Material description and profile information					Field Test		Structure and additional observations	
METHOD	WATER	SAMPLES	RL (Not measured)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type		Result
AD/T	Not Encountered			0.2		CH	FILL: CLAY, medium to high plasticity, dark brown/brown/dark grey, with some sand, fine to medium grained, trace of gravel, fine to medium grained, trace organic matter	M > Wp	F	HP	70	FILL
				0.4						HP	50	
				0.6						HP	80	
				0.75m								
				0.8		CH	CLAY: High plasticity, pale brown/pale orange-brown, trace of sand and gravel, fine to medium grained		St	HP	120	RESIDUAL
				1.0						HP	150	
				1.10m								
				1.2		CH	CLAY: High plasticity, red with grey mottling, trace of sand and gravel, fine to medium grained		VSt	HP	250	
				1.4								
				1.50m								
							Hole Terminated at 1.50 m			HP	300	
				1.6								
				1.8								

LEGEND: Water Water Level (Date and time shown) Water Inflow Water Outflow Strata Changes Gradational or transitional strata Definitive or distinct strata change	Notes, Samples and Tests U ₅₀ 50mm Diameter tube sample CBR Bulk sample for CBR testing E Environmental sample ASS Acid Sulfate Soil Sample B Bulk Sample	Consistency VS Very Soft <25 S Soft 25 - 50 F Firm 50 - 100 St Stiff 100 - 200 VSt Very Stiff 200 - 400 H Hard >400 Fb Friable	UCS (kPa) <25 25 - 50 50 - 100 100 - 200 200 - 400 >400	Moisture Condition D Dry M Moist W Wet W _p Plastic Limit W _L Liquid Limit
	Field Tests PID Photoionisation detector reading (ppm) DCP(x-y) Dynamic penetrometer test (test depth interval shown) HP Hand Penetrometer test (UCS kPa)	Density V Very Loose L Loose MD Medium Dense D Dense VD Very Dense	Density Index <15% Density Index 15 - 35% Density Index 35 - 65% Density Index 65 - 85% Density Index 85 - 100%	

RGS 2.00.31.LIB.GLB.Log_RG.NON-CORED BOREHOLE - TEST PIT_RGS02061.1.BH LOGS 1-16.GPJ -> DrawingFile -> 31/5/2023 16:24 10.03.00.09 D:\git\Lab and In Situ\Tool -> DGD Lib -> DGD Lib -> RGS 2.00.3 2022-03-03 Proj_RGS 2.00.0 2021-06-30



ENGINEERING LOG - BOREHOLE

BOREHOLE NO: BH11

CLIENT: Lidbury Summers and Whiteman

PAGE: 1 of 1

PROJECT NAME: Proposed Residential Subdivision

JOB NO: RGS02061.1

SITE LOCATION: Forest Lane, Old Bar

LOGGED BY: RW

TEST LOCATION: Refer to Figure 1

DATE: 4/5/23

DRILL TYPE: RGS Ute Mounted Drill Rig

EASTING: 459940 m

SURFACE RL:

BOREHOLE DIAMETER: 100 mm

INCLINATION: 90°

NORTHING: 6462479 m

DATUM: AHD

Drilling and Sampling				Material description and profile information					Field Test		Structure and additional observations	
METHOD	WATER	SAMPLES	RL (Not measured)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type		Result
AD/T	Not Encountered					CI	FILL: CLAY, medium plasticity, dark brown/dark grey, trace sand and gravel, fine to medium grained, trace of grass roots	M > WP	F	HP	80	FILL
		0.60m		0.2						HP	50	
		U		0.6		CH	FILL: CLAY high plasticity, pale brown/red/brown/grey, trace of sand and gravel, fine to medium grained		St	HP	150	RESIDUAL
		1.00m		0.8						HP	120	
				1.0		CH	CLAY: High plasticity, pale brown, pale orange-brown with red and grey mottling, trace of sand and gravel, fine to medium grained		St - VSt	HP	180	
				1.2						HP	250	
				1.4								
				1.50m			Hole Terminated at 1.50 m					
				1.6								
				1.8								

LEGEND:

Water

- Water Level (Date and time shown)
- Water Inflow
- Water Outflow

Strata Changes

- Gradational or transitional strata
- Definitive or distinct strata change

Notes, Samples and Tests

- U₅₀ 50mm Diameter tube sample
- CBR Bulk sample for CBR testing
- E Environmental sample
- ASS Acid Sulfate Soil Sample
- B Bulk Sample

Field Tests

- PID Photoionisation detector reading (ppm)
- DCP(x-y) Dynamic penetrometer test (test depth interval shown)
- HP Hand Penetrometer test (UCS kPa)

Consistency	UCS (kPa)	Moisture Condition
VS Very Soft	<25	D Dry
S Soft	25 - 50	M Moist
F Firm	50 - 100	W Wet
St Stiff	100 - 200	W _p Plastic Limit
VSt Very Stiff	200 - 400	W _L Liquid Limit
H Hard	>400	
Fb Friable		
Density		
V Very Loose		Density Index <15%
L Loose		Density Index 15 - 35%
MD Medium Dense		Density Index 35 - 65%
D Dense		Density Index 65 - 85%
VD Very Dense		Density Index 85 - 100%

RG 2.00.3.LIB.GLB.Log_RG_NON-CORED BOREHOLE - TEST PIT_RGS02061.1_BH LOGS 1-16.GPJ -> DrawingFiles -> 31/5/2023 16:24 10.03.00.09 D:\git\Lab and In Situ Tool - DGD Lib - RG 2.00.3 2022\03\03 Proj_RG 2.00.0 2021\06-30



ENGINEERING LOG - BOREHOLE

BOREHOLE NO: BH12

CLIENT: Lidbury Summers and Whiteman

PAGE: 1 of 1

PROJECT NAME: Proposed Residential Subdivision

JOB NO: RGS02061.1

SITE LOCATION: Forest Lane, Old Bar

LOGGED BY: RW

TEST LOCATION: Refer to Figure 1

DATE: 4/5/23

DRILL TYPE: RGS Ute Mounted Drill Rig

EASTING: 459906 m

SURFACE RL:

BOREHOLE DIAMETER: 100 mm

INCLINATION: 90°

NORTHING: 6462479 m

DATUM: AHD

Drilling and Sampling				Material description and profile information					Field Test		Structure and additional observations		
METHOD	WATER	SAMPLES	RL (Not measured)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type		Result	
AD/T	Not Encountered			0.2		CH	FILL: CLAY, medium to high plasticity, dark brown/brown, dark grey, trace sand and gravel, fine to medium grained, trace of organic matter	M > Wp	F			FILL	
				0.4							HP	80	
				0.6		0.60m	CH	CLAY: High plasticity, pale brown/pale orange-brown, trace of sand and gravel, fine to medium grained		St	HP	110	RESIDUAL
				0.8									
				1.0						HP	140		
				1.2									
				1.2	1.20m	CH	CLAY: High plasticity, pale brown/red with grey mottling, trace of sand and gravel, fine to medium grained		VSt	HP	220		
				1.4									
				1.4									
				1.5	1.50m		Hole Terminated at 1.50 m			HP	280		
				1.6									
				1.8									

LEGEND:

Water

- Water Level (Date and time shown)
- Water Inflow
- Water Outflow

Strata Changes

- Gradational or transitional strata
- Definitive or distinct strata change

Notes, Samples and Tests

- U₅₀ 50mm Diameter tube sample
- CBR Bulk sample for CBR testing
- E Environmental sample
- ASS Acid Sulfate Soil Sample
- B Bulk Sample

Field Tests

- PID Photoionisation detector reading (ppm)
- DCP(x-y) Dynamic penetrometer test (test depth interval shown)
- HP Hand Penetrometer test (UCS kPa)

Consistency	UCS (kPa)	Moisture Condition
VS Very Soft	<25	D Dry
S Soft	25 - 50	M Moist
F Firm	50 - 100	W Wet
St Stiff	100 - 200	W _p Plastic Limit
VSt Very Stiff	200 - 400	W _L Liquid Limit
H Hard	>400	
Fb Friable		
Density	V Very Loose	Density Index <15%
L Loose	MD Medium Dense	Density Index 15 - 35%
D Dense		Density Index 35 - 65%
VD Very Dense		Density Index 65 - 85%
		Density Index 85 - 100%

RGS 2.00.31.LIB.GLB.Log_RG.NON-CORED BOREHOLE - TEST PIT_RGS02061.1.BH.LOGS 1-16.GPJ ->DrawingFile>> 31/5/2023 16:24 10.03.00.09 D:\git\Lab and In Situ\Tool ->DGD Lib ->RGS 2.00.3 2022-03-03 Proj_RGS 2.00.0 2021-06-30



ENGINEERING LOG - BOREHOLE

BOREHOLE NO: BH13

CLIENT: Lidbury Summers and Whiteman
PROJECT NAME: Proposed Residential Subdivision
SITE LOCATION: Forest Lane, Old Bar
TEST LOCATION: Refer to Figure 1

PAGE: 1 of 1
JOB NO: RGS02061.1
LOGGED BY: RW
DATE: 4/5/23

DRILL TYPE: RGS Ute Mounted Drill Rig **EASTING:** 459904 m **SURFACE RL:**
BOREHOLE DIAMETER: 100 mm **INCLINATION:** 90° **NORTHING:** 6462450 m **DATUM:** AHD

Drilling and Sampling				Material description and profile information					Field Test		Structure and additional observations	
METHOD	WATER	SAMPLES	RL (Not measured)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type		Result
AD/T	Not Encountered			0.2		CH	FILL: CLAY, medium to high plasticity, dark brown/dark grey/brown, trace sand and gravel, fine to medium grained, trace of organic matter	M > Wp	F	HP	75	FILL
				0.4		CH	FILL: High plasticity, grey and red, pale brown/brown, trace of sand and gravel, fine to medium grained		St	HP	180	
				0.8		CH	FILL: CLAY, high plasticity, red and grey mottled, trace of sand and gravel, fine to medium grained		VSt	HP	180	
				1.0						HP	250	
				1.4		CH	CLAY: High plasticity, pale brown/pale orange-brown/grey mottled, trace of sand and gravel, fine to medium grained		St	HP	180	ALLUVIUM
				1.50m			Hole Terminated at 1.50 m					

LEGEND: Water Water Level (Date and time shown) Water Inflow Water Outflow Strata Changes Gradational or transitional strata Definitive or distinct strata change	Notes, Samples and Tests U ₅₀ 50mm Diameter tube sample CBR Bulk sample for CBR testing E Environmental sample ASS Acid Sulfate Soil Sample B Bulk Sample	Consistency VS Very Soft <25 S Soft 25 - 50 F Firm 50 - 100 St Stiff 100 - 200 VSt Very Stiff 200 - 400 H Hard >400 Fb Friable	UCS (kPa) <25 25 - 50 50 - 100 100 - 200 200 - 400 >400	Moisture Condition D Dry M Moist W Wet W _p Plastic Limit W _L Liquid Limit
	Field Tests PID Photoionisation detector reading (ppm) DCP(x-y) Dynamic penetrometer test (test depth interval shown) HP Hand Penetrometer test (UCS kPa)	Density V Very Loose L Loose MD Medium Dense D Dense VD Very Dense	Density Index <15% Density Index 15 - 35% Density Index 35 - 65% Density Index 65 - 85% Density Index 85 - 100%	

RGS 2.00.31.LIB.GLB.Log_RG_NON-CORED BOREHOLE - TEST PIT_RGS02061.1_BH LOGS 1-16.GPJ -> DrawingFile -> 31/5/2023 16:25 10.03.00.09 D:\git\Lab and In Situ Tool - DGD Lib - RGS 2.00.3 2022-03-03 Proj_RGS 2.00.0 2021-06-30



ENGINEERING LOG - BOREHOLE

BOREHOLE NO: **BH14**

CLIENT: Lidbury Summers and Whiteman
 PROJECT NAME: Proposed Residential Subdivision
 SITE LOCATION: Forest Lane, Old Bar
 TEST LOCATION: Refer to Figure 1

PAGE: 1 of 1
 JOB NO: RGS02061.1
 LOGGED BY: RW
 DATE: 4/5/23

DRILL TYPE: RGS Ute Mounted Drill Rig EASTING: 459936 m SURFACE RL:
 BOREHOLE DIAMETER: 100 mm INCLINATION: 90° NORTHING: 6462449 m DATUM: AHD

Drilling and Sampling				Material description and profile information					Field Test		Structure and additional observations		
METHOD	WATER	SAMPLES	RL (Not measured)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type		Result	
AD/T	Not Encountered			0.2	[Cross-hatched pattern]	CH	FILL: CLAY, medium to high plasticity, dark brown/brown, trace sand and gravel, fine to medium grained, trace of organic matter	M > Wp	F	HP	80	FILL	
				0.4			CH	FILL: High plasticity, pale brown/brown/red/grey, trace of sand and gravel, fine to medium grained		St	HP		130
				0.6			CH	FILL: CLAY, high plasticity, pale grey/grey/red/pale brown mottled, trace of sand and gravel, fine to medium grained			HP		160
				0.8		CH	FILL: CLAY, high plasticity, pale grey/grey/red/pale brown mottled, trace of sand and gravel, fine to medium grained			HP	160	ALLUVIUM	
				1.0		CH	CLAY: High plasticity, pale brown/brown with grey mottling, trace of sand and gravel, fine to medium grained			HP	150		
				1.2		CH	CLAY: High plasticity, pale brown/brown with grey mottling, trace of sand and gravel, fine to medium grained						
				1.4									
				1.6			Hole Terminated at 1.50 m						
				1.8									

LEGEND: Water Water Level (Date and time shown) Water Inflow Water Outflow Strata Changes Gradational or transitional strata Definitive or distinct strata change	Notes, Samples and Tests U ₅₀ 50mm Diameter tube sample CBR Bulk sample for CBR testing E Environmental sample ASS Acid Sulfate Soil Sample B Bulk Sample	Consistency VS Very Soft <25 S Soft 25 - 50 F Firm 50 - 100 St Stiff 100 - 200 VSt Very Stiff 200 - 400 H Hard >400 Fb Friable	UCS (kPa) <25 25 - 50 50 - 100 100 - 200 200 - 400 >400	Moisture Condition D Dry M Moist W Wet W _p Plastic Limit W _L Liquid Limit
	Field Tests PID Photoionisation detector reading (ppm) DCP(x-y) Dynamic penetrometer test (test depth interval shown) HP Hand Penetrometer test (UCS kPa)	Density V Very Loose L Loose MD Medium Dense D Dense VD Very Dense	Density Index <15% Density Index 15 - 35% Density Index 35 - 65% Density Index 65 - 85% Density Index 85 - 100%	

RGS 2.00.31.LIB.GLB.Log_RG.NON-CORED BOREHOLE - TEST PIT_RGS02061.1.BH LOGS 1-16.GPJ -> DrawingFile -> 31/5/2023 16:25:10.03.00.09 D:\git\Lab and In Situ\Tool - DGD\Lib - RGS 2.00.3 2022-03-03 Proj_RG 2.00.0 2021-06-30



ENGINEERING LOG - BOREHOLE

BOREHOLE NO: BH15

CLIENT: Lidbury Summers and Whiteman
PROJECT NAME: Proposed Residential Subdivision
SITE LOCATION: Forest Lane, Old Bar
TEST LOCATION: Refer to Figure 1

PAGE: 1 of 1
JOB NO: RGS02061.1
LOGGED BY: RW
DATE: 4/5/23

DRILL TYPE: RGS Ute Mounted Drill Rig **EASTING:** 459950 m **SURFACE RL:**
BOREHOLE DIAMETER: 100 mm **INCLINATION:** 90° **NORTHING:** 6462431 m **DATUM:** AHD

Drilling and Sampling				Material description and profile information					Field Test		Structure and additional observations		
METHOD	WATER	SAMPLES	RL (Not measured)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type		Result	
AD/T	Not Encountered	U		0.2	[Cross-hatched pattern]	CH	FILL: CLAY, medium to high plasticity, dark brown/brown, trace sand and gravel, fine to medium grained, trace of organic matter	M > WP	F	HP	70	FILL	
				0.4		CH	FILL: CLAY, high plasticity, red/brown/grey/pale brown, trace of sand and gravel, fine to medium grained			St - VSt	HP		110
				0.6					HP	160			
				0.8					HP	190			
				1.0									
				1.2									
				1.4									
				1.6	[Horizontal line pattern]	CH	CLAY: High plasticity, pale brown/pale orange-brown with grey mottling, trace of sand and gravel, fine to medium grained					ALLUVIUM	
				1.8			Hole Terminated at 1.80 m						

LEGEND: Water Water Level (Date and time shown) Water Inflow Water Outflow Strata Changes Gradational or transitional strata Definitive or distinct strata change	Notes, Samples and Tests U ₅₀ 50mm Diameter tube sample CBR Bulk sample for CBR testing E Environmental sample ASS Acid Sulfate Soil Sample B Bulk Sample	Consistency VS Very Soft <25 S Soft 25 - 50 F Firm 50 - 100 St Stiff 100 - 200 VSt Very Stiff 200 - 400 H Hard >400 Fb Friable	UCS (kPa) <25 25 - 50 50 - 100 100 - 200 200 - 400 >400	Moisture Condition D Dry M Moist W Wet W _p Plastic Limit W _L Liquid Limit
	Field Tests PID Photoionisation detector reading (ppm) DCP(x-y) Dynamic penetrometer test (test depth interval shown) HP Hand Penetrometer test (UCS kPa)	Density V Very Loose L Loose MD Medium Dense D Dense VD Very Dense	Density Index <15% Density Index 15 - 35% Density Index 35 - 65% Density Index 65 - 85% Density Index 85 - 100%	

RG 2.00.31.LIB.GLB.Log_RG_NON-CORED BOREHOLE - TEST PIT_RGS02061.1_BH LOGS 1-16.GPJ -> DrawingFile -> 31/5/2023, 16:25, 10.03.00.09, D:\git\Lab and In Situ Tool - DGD\Lib - DGD\RG 2.00.3, 2022-03-03 Proj: RG 2.00.0, 2021-06-30



ENGINEERING LOG - BOREHOLE

BOREHOLE NO: BH16

CLIENT: Lidbury Summers and Whiteman
PROJECT NAME: Proposed Residential Subdivision
SITE LOCATION: Forest Lane, Old Bar
TEST LOCATION: Refer to Figure 1

PAGE: 1 of 1
JOB NO: RGS02061.1
LOGGED BY: RW
DATE: 4/5/23

DRILL TYPE: RGS Ute Mounted Drill Rig **EASTING:** 459931 m **SURFACE RL:**
BOREHOLE DIAMETER: 100 mm **INCLINATION:** 90° **NORTHING:** 6462407 m **DATUM:** AHD

Drilling and Sampling				Material description and profile information					Field Test		Structure and additional observations		
METHOD	WATER	SAMPLES	RL (Not measured)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION: Soil type, plasticity/particle characteristics, colour, minor components	MOISTURE CONDITION	CONSISTENCY DENSITY	Test Type		Result	
AD/T	Not Encountered			0.2	[Cross-hatched pattern]	CH	FILL: CLAY, medium to high plasticity, brown/dark brown, trace sand and gravel, fine to medium grained, trace of organic matter	M > Wp	St	HP	110	FILL	
				0.4		CH	FILL: CLAY, high plasticity, red-brown/pale brown/grey, trace of sand and gravel, fine to medium grained			HP	150		
				0.6	[Cross-hatched pattern]								
				0.8									
				1.0									
				1.2	[Cross-hatched pattern]								
				1.4		CH	CLAY: High plasticity, dark grey/grey with pale brown/red mottling, trace of sand and gravel, fine to medium grained		St - VSt		HP	150	ALLUVIUM
				1.6	[Horizontal line pattern]								
				1.8							HP	220	
				1.90			Hole Terminated at 1.90 m						

LEGEND: Water Water Level (Date and time shown) Water Inflow Water Outflow Strata Changes Gradational or transitional strata Definitive or distinct strata change	Notes, Samples and Tests U ₅₀ 50mm Diameter tube sample CBR Bulk sample for CBR testing E Environmental sample ASS Acid Sulfate Soil Sample B Bulk Sample	Consistency VS Very Soft <25 S Soft 25 - 50 F Firm 50 - 100 St Stiff 100 - 200 VSt Very Stiff 200 - 400 H Hard >400 Fb Friable	UCS (kPa) <25 25 - 50 50 - 100 100 - 200 200 - 400 >400	Moisture Condition D Dry M Moist W Wet W _p Plastic Limit W _L Liquid Limit
	Field Tests PID Photoionisation detector reading (ppm) DCP(x-y) Dynamic penetrometer test (test depth interval shown) HP Hand Penetrometer test (UCS kPa)	Density V Very Loose L Loose MD Medium Dense D Dense VD Very Dense	Density Index <15% Density Index 15 - 35% Density Index 35 - 65% Density Index 65 - 85% Density Index 85 - 100%	

RGS 2.00.3.LIB.GLB.Log_RG_NON-CORED BOREHOLE - TEST PIT_RGS02061.1_BH LOGS 1-16.GPJ -> DrawingFile -> 31/5/2023, 16:25, 10.03.00.09, D:\git\Lab and In Situ Tool - DGD Lib - RGS 2.00.3, 2022-03-03 Proj: RGS 2.00.0, 2021-06-30



Appendix B

Laboratory Test Result Sheets


Report No: SSI:NEW23W-2153-S01

Issue No: 1

Shrink Swell Index Report

Client: Regional Geotechnical Solutions Pty Ltd
 44 Bent Street
 Wingham NSW 2429

Project No.: MNC16P-0001
Project Name: Various Testing
Project Location: Forest Lane, Old Bar, NSW



Accredited for compliance with ISO/IEC 17025-Testing. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.
 Results provided relate only to the items tested or sampled.

B. Cullen
 Approved Signatory: Brent Cullen
 (Engineering Geologist)
 NATA Accredited Laboratory Number: 18686
 Date of Issue: 22/05/2023

Sample Details

Sample ID: NEW23W-2153-S01 **Test Request No.:** RGS02061.1

Sampling Method: The results outlined below apply to the sample as received

Material: Clay **Date Sampled:** 8/05/2023
Source: On Site **Date Submitted:** 9/05/2023

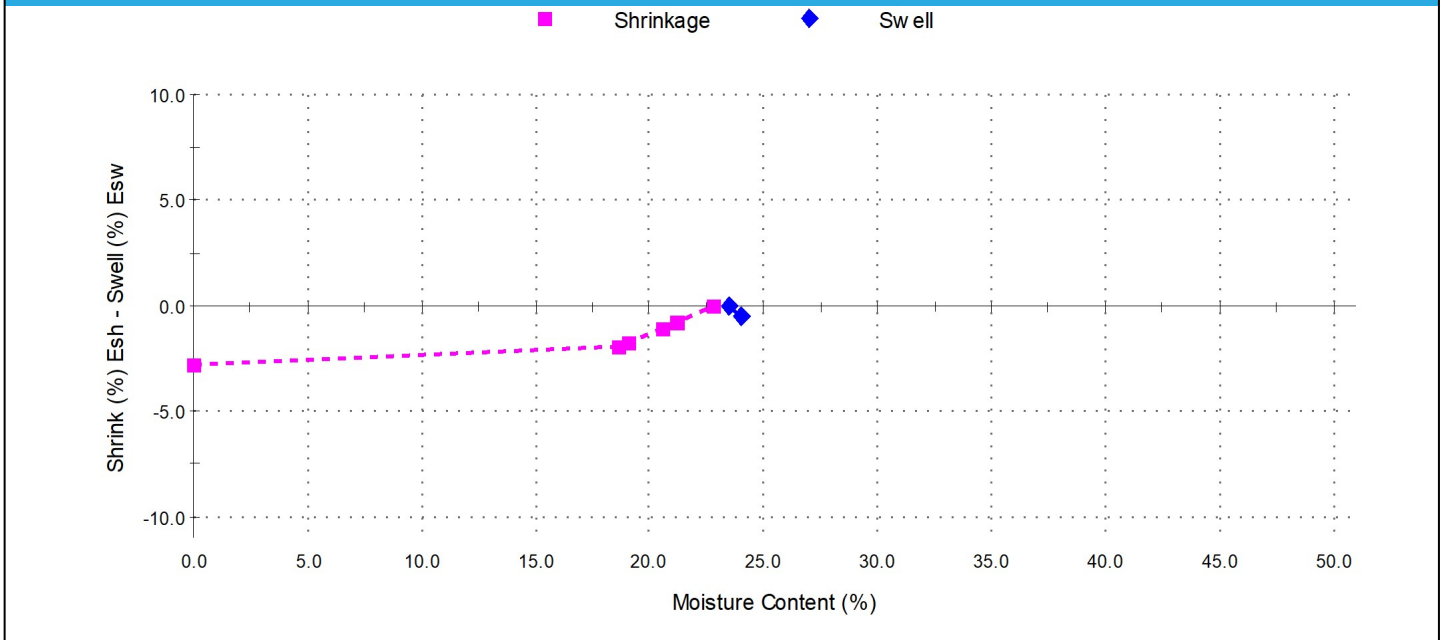
Specification: No Specification

Sample Location: BH1 - (0.5 - 1.0m)

Date Tested: 15/05/2023

Swell Test AS 1289.7.1.1		Shrink Test AS 1289.7.1.1	
Swell on Saturation (%):	-0.5	Shrink on drying (%):	2.8
Moisture Content before (%):	23.5	Shrinkage Moisture Content (%):	22.8
Moisture Content after (%):	24.0	Est. inert material (%):	1%
Est. Unc. Comp. Strength before (kPa):	350	Crumbling during shrinkage:	Nil
Est. Unc. Comp. Strength after (kPa):	440	Cracking during shrinkage:	Major

Shrink Swell



Shrink Swell Index - Iss (%): 1.6

Comments


Report No: SSI:NEW23W-2153-S02

Issue No: 1

Shrink Swell Index Report

Client: Regional Geotechnical Solutions Pty Ltd
 44 Bent Street
 Wingham NSW 2429

Project No.: MNC16P-0001
Project Name: Various Testing
Project Location: Forest Lane, Old Bar, NSW



Accredited for compliance with ISO/IEC 17025-Testing. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.
 Results provided relate only to the items tested or sampled.

B. Cullen
 Approved Signatory: Brent Cullen
 (Engineering Geologist)
 NATA Accredited Laboratory Number: 18686
 Date of Issue: 22/05/2023

Sample Details

Sample ID: NEW23W-2153-S02 **Test Request No.:** RGS02061.1

Sampling Method: The results outlined below apply to the sample as received

Material: Clay **Date Sampled:** 8/05/2023
Source: On Site **Date Submitted:** 9/05/2023

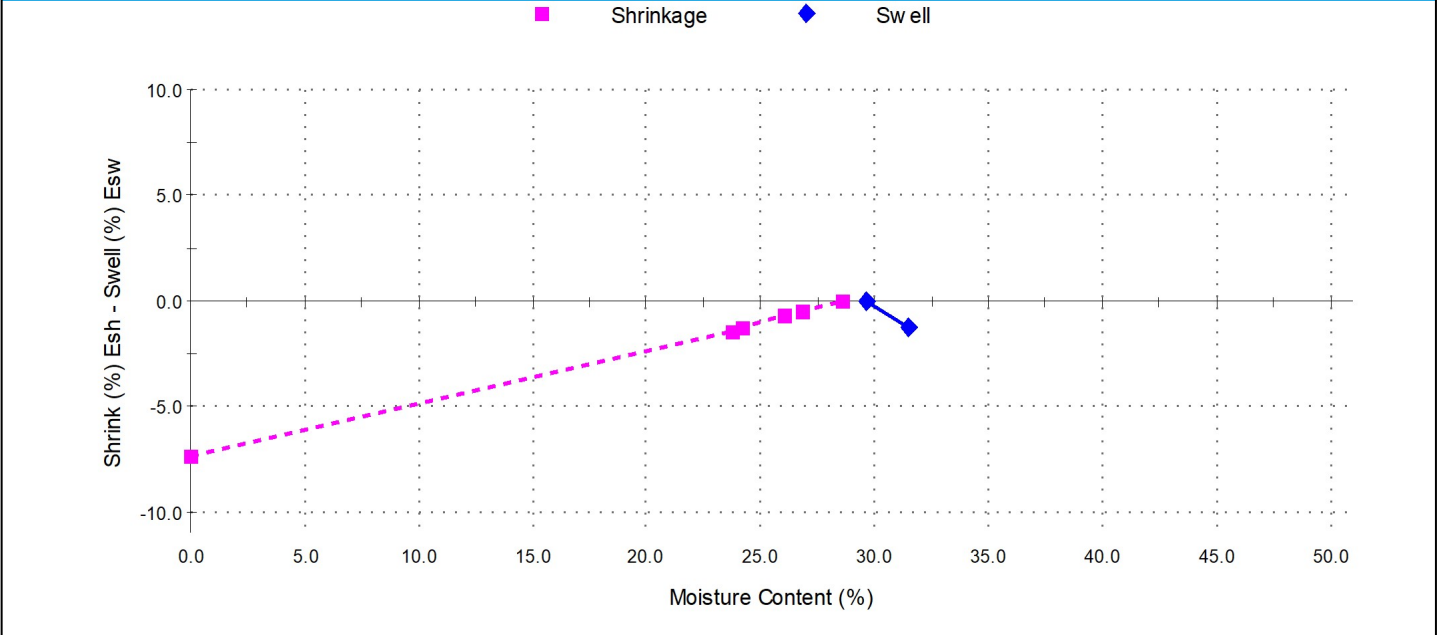
Specification: No Specification

Sample Location: BH3 - (0.5 - 1.0m)

Date Tested: 15/05/2023

Swell Test AS 1289.7.1.1		Shrink Test AS 1289.7.1.1	
Swell on Saturation (%):	-1.2	Shrink on drying (%):	7.4
Moisture Content before (%):	29.7	Shrinkage Moisture Content (%):	28.6
Moisture Content after (%):	31.5	Est. inert material (%):	1%
Est. Unc. Comp. Strength before (kPa):	400	Crumbling during shrinkage:	Nil
Est. Unc. Comp. Strength after (kPa):	400	Cracking during shrinkage:	Nil

Shrink Swell



Shrink Swell Index - Iss (%): 4.1

Comments


Report No: SSI:NEW23W-2153-S03

Issue No: 1

Shrink Swell Index Report

Client: Regional Geotechnical Solutions Pty Ltd
 44 Bent Street
 Wingham NSW 2429

Project No.: MNC16P-0001
Project Name: Various Testing
Project Location: Forest Lane, Old Bar, NSW



Accredited for compliance with ISO/IEC 17025-Testing.
 The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.
 Results provided relate only to the items tested or sampled.

B. Cullen
 Approved Signatory: Brent Cullen
 (Engineering Geologist)
 NATA Accredited Laboratory Number: 18686
 Date of Issue: 22/05/2023

Sample Details

Sample ID: NEW23W-2153-S03 **Test Request No.:** RGS02061.1

Sampling Method: The results outlined below apply to the sample as received

Material: Clay **Date Sampled:** 8/05/2023
Source: On Site **Date Submitted:** 9/05/2023

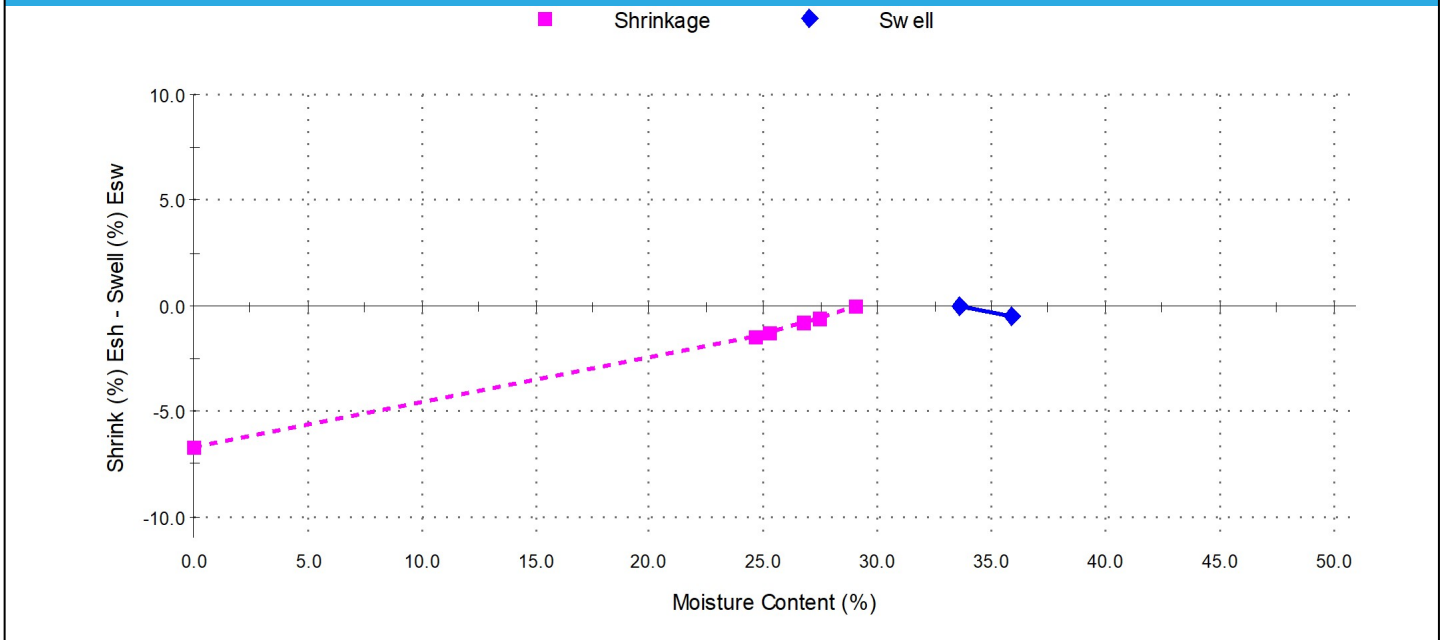
Specification: No Specification

Sample Location: BH8 - (0.8 - 1.3m)

Date Tested: 15/05/2023

Swell Test AS 1289.7.1.1		Shrink Test AS 1289.7.1.1	
Swell on Saturation (%):	-0.5	Shrink on drying (%):	6.7
Moisture Content before (%):	33.6	Shrinkage Moisture Content (%):	29.1
Moisture Content after (%):	35.9	Est. inert material (%):	1%
Est. Unc. Comp. Strength before (kPa):	530	Crumbling during shrinkage:	Nil
Est. Unc. Comp. Strength after (kPa):	550	Cracking during shrinkage:	Nil

Shrink Swell



Shrink Swell Index - Iss (%): 3.7

Comments


Report No: SSI:NEW23W-2153-S04

Issue No: 1

Shrink Swell Index Report

Client: Regional Geotechnical Solutions Pty Ltd
 44 Bent Street
 Wingham NSW 2429

Project No.: MNC16P-0001
Project Name: Various Testing
Project Location: Forest Lane, Old Bar, NSW



Accredited for compliance with ISO/IEC 17025-Testing. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.
 Results provided relate only to the items tested or sampled.

B. Cullen
 Approved Signatory: Brent Cullen
 (Engineering Geologist)
 NATA Accredited Laboratory Number: 18686
 Date of Issue: 22/05/2023

Sample Details

Sample ID: NEW23W-2153-S04 **Test Request No.:** RGS02061.1

Sampling Method: The results outlined below apply to the sample as received

Material: Clay **Date Sampled:** 8/05/2023

Source: On Site **Date Submitted:** 9/05/2023

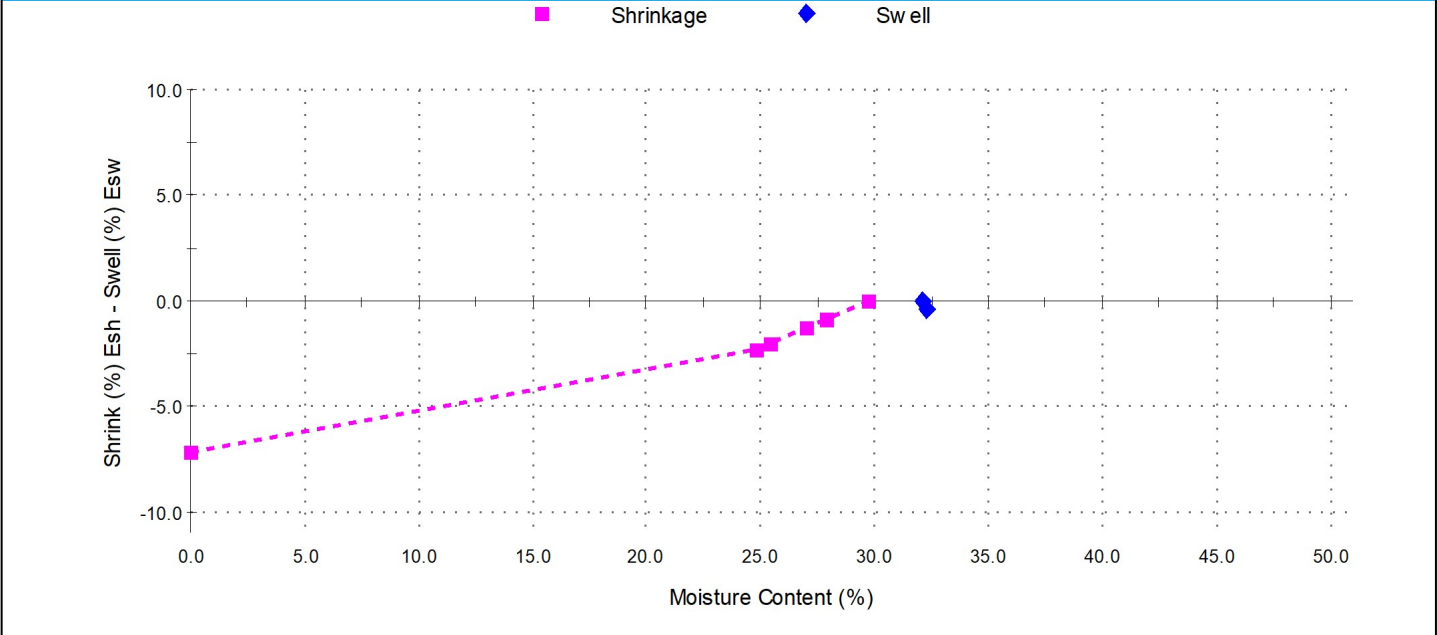
Specification: No Specification

Sample Location: BH11 - (0.6 - 1.0m)

Date Tested: 15/05/2023

Swell Test AS 1289.7.1.1		Shrink Test AS 1289.7.1.1	
Swell on Saturation (%):	-0.4	Shrink on drying (%):	7.2
Moisture Content before (%):	32.1	Shrinkage Moisture Content (%):	29.7
Moisture Content after (%):	32.2	Est. inert material (%):	2%
Est. Unc. Comp. Strength before (kPa):	370	Crumbling during shrinkage:	Nil
Est. Unc. Comp. Strength after (kPa):	450	Cracking during shrinkage:	Nil

Shrink Swell



Shrink Swell Index - Iss (%): 4.0

Comments


Report No: SSI:NEW23W-2153-S05

Issue No: 1

Shrink Swell Index Report

Client: Regional Geotechnical Solutions Pty Ltd
 44 Bent Street
 Wingham NSW 2429

Project No.: MNC16P-0001
Project Name: Various Testing
Project Location: Forest Lane, Old Bar, NSW



Accredited for compliance with ISO/IEC 17025-Testing. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.
 Results provided relate only to the items tested or sampled.

B. Cullen
 Approved Signatory: Brent Cullen
 (Engineering Geologist)
 NATA Accredited Laboratory Number: 18686
 Date of Issue: 22/05/2023

Sample Details

Sample ID: NEW23W-2153-S05 **Test Request No.:** RGS02061.1

Sampling Method: The results outlined below apply to the sample as received

Material: Clay **Date Sampled:** 8/05/2023
Source: On Site **Date Submitted:** 9/05/2023

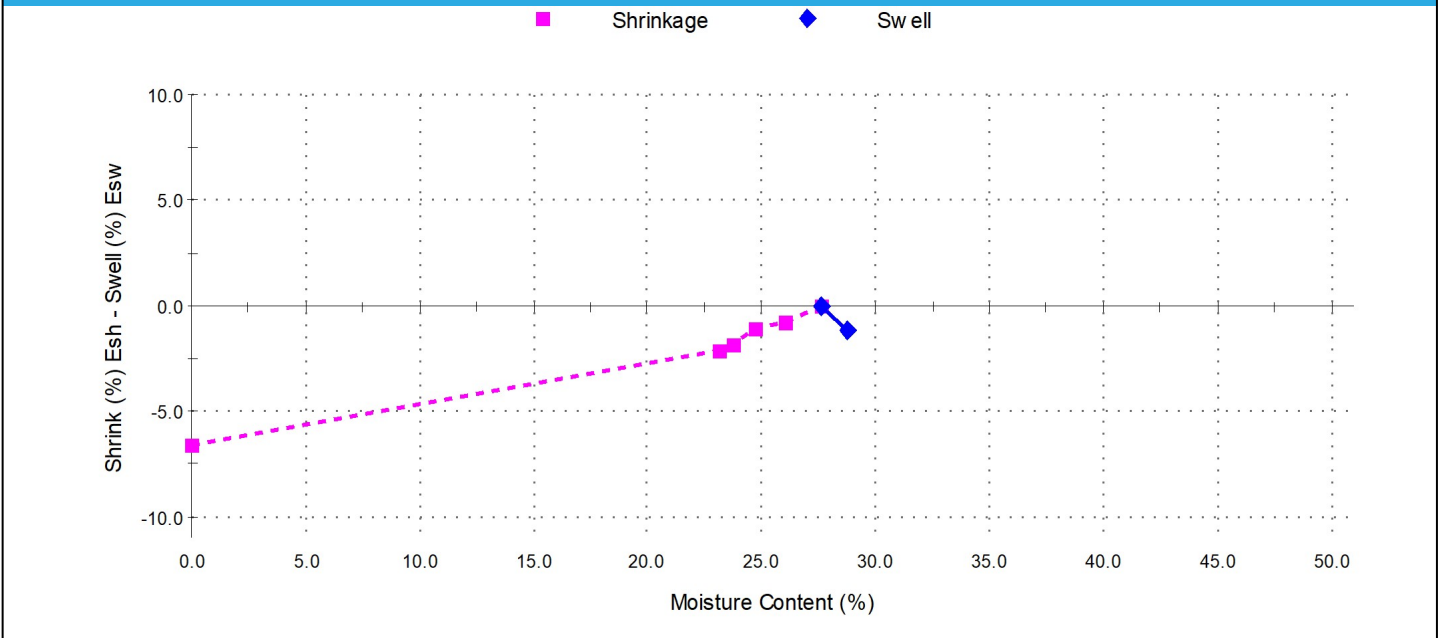
Specification: No Specification

Sample Location: BH15 - (0.5 - 1.0m)

Date Tested: 15/05/2023

Swell Test AS 1289.7.1.1		Shrink Test AS 1289.7.1.1	
Swell on Saturation (%):	-1.2	Shrink on drying (%):	6.6
Moisture Content before (%):	27.6	Shrinkage Moisture Content (%):	27.6
Moisture Content after (%):	28.7	Est. inert material (%):	1%
Est. Unc. Comp. Strength before (kPa):	400	Crumbling during shrinkage:	Nil
Est. Unc. Comp. Strength after (kPa):	390	Cracking during shrinkage:	Minor

Shrink Swell



Shrink Swell Index - Iss (%): 3.7

Comments