GEOTECH TESTING PTY LTD ®
ABN 71 076 676 321

Job No: 8599/149
Our Ref: 8599/149-AA
11 September 2025

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Attention: Mr S Wong

Dear Sir

Re: Proposed Residential Subdivision
Newpark Precinct 7H, Marsden Park NSW
Site Classification Report

Please find herewith our site classification report for the proposed dwellings to be located at the above subdivision.

The following lots are covered in this report:

Lots	Total Lots
8701 to 8950	250

This report contains information on sub-surface conditions encountered at the site, together with site classification of the proposed lots in accordance with Australian Standard AS2870-2011 “Residential slabs & footings”.

If you have any questions, please do not hesitate to contact the undersigned.

Yours faithfully
GEOTECH TESTING PTY LTD

Reviewed By:

KUBER KHADKA
Geotechnical Engineer

EMGED RIZKALLA
Director

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APPENDICES

1.0 INTRODUCTION

This report provides results of a site classification investigation for the proposed dwellings to be located at Newpark Precinct 7H, Marsden Park NSW. A total of 250 lots (Lots 8701 to 8950) are covered in this report.

Site classification in accordance with AS2870-2011 is only applicable for design of footing systems for a single dwelling, house, townhouse, or similar structure that would be detached or separated by a party wall or common wall including buildings classified as Class 1 and Class 10a in the Building Code of Australia (BCA). AS2870 is not suitable for dwellings situated vertically above or below another dwelling. Therefore, a geotechnical investigation would be required for other dwellings to be classified in accordance with the BCA.

It is understood that the proposed dwellings are to be of brick veneer construction and wall loadings are expected to be in the range of 15kN/m to 50kN/m. The maximum working load (safe bearing pressure) would be in the order of 50kPa for ground supported floor slabs and 100kPa for strip and pad footings (AS2870-2011)

2.0 FIELD WORK

Field work for the investigation was carried out under the full time supervision of a Geotechnical Engineer on 14, 28 and 29 August 2025, and consisted of excavation ninety (90) test pits (TP1 to TP90) to depths of the order of 1.5m, using a small 5 tone excavator. The locations of the test pits are shown on the attached Drawing No 8599/149-AA1 in Appendix A. A summary of the field data obtained is presented in Appendix A.

3.0 SITE CONDITIONS

3.1 Surface Conditions

The site is of regular shape and is located at the end of Flametree Drive, Marsden Park, NSW. It is bounded by open grassland with limited vegetation to the north and west, and by bushland to the east, beyond which medium to high density residential areas are situated. The southern boundary adjoins medium to high density residential development. The topography of the site is relatively flat. At the time of the investigation, significant progress had been made in site preparation. Bulk earthworks for the lots and internal roads (excluding AC) had been completed, providing a level and appropriately graded surface for future construction.

3.2 Sub-Surface Conditions

Sub-surface conditions encountered in the test pits are detailed in the attached Table A and summarised below in Table 1.

Table 1: Sub-surface Conditions

Test Pit	Termination Depth (m)	Topsoil (m)	Fill (m)	Natural (m)
TP1	0.0-0.5	NE	0.0-0.3	0.3→0.5
TP2	0.0-1.5	NE	0.0-0.5	0.5→1.5
TP3	0.0-1.2	NE	0.0-0.3	0.0→1.2
TP4	0.0-0.6	NE	0.0-0.3	0.3→0.6

Test Pit	Termination Depth (m)	Topsoil (m)	Fill (m)	Natural (m)
TP5	0.0-1.0	NE	0.0-0.3	0.3→1.0
TP6	0.0-0.6	NE	0.0-0.3	0.3→0.6
TP7	0.0-0.6	NE	0.0-0.2	0.2→0.6
TP8	0.0-0.6	NE	0.0-0.3	0.3→0.6
TP9	0.0-1.2	NE	0.0-0.3	0.3→1.2
TP10	0.0-0.7	NE	0.0-0.3	0.3→0.7
TP11	0.0-0.9	NE	0.0-0.5	0.5→0.9
TP12	0.0-1.2	NE	0.0-0.3	0.3→1.2
TP13	0.0-0.7	NE	0.0-0.3	0.3→0.7
TP14	0.0-0.8	NE	0.0-0.3	0.3→0.8
TP15	0.0-0.6	NE	0.0-0.3	0.3→0.6
TP16	0.0-0.7	NE	0.0-0.3	0.3→0.7
TP17	0.0-0.8	NE	0.0-0.3	0.3→1.0
TP18	0.0-1.5	NE	0.0-0.3	0.3→1.5
TP19	0.0-1.5	NE	0.0-0.3	0.3→1.5
TP20	0.0-1.5	NE	0.0-0.3	0.3→1.5
TP21	0.0-0.6	NE	0.0-0.2	0.2→0.6
TP22	0.0-0.7	NE	0.0-0.2	0.2→0.7
TP23	0.0-0.7	NE	0.0-0.2	0.2→0.7
TP24	0.0-0.7	NE	0.0-0.2	0.2→0.7
TP25	0.0-1.5	NE	0.0-0.5	0.5→1.5
TP26	0.0-1.5	NE	0.0-0.2	0.2→1.5
TP27	0.0-1.5	0.0-0.2	NE	0.2→1.5
TP28	0.0-1.5	0.0-0.2	NE	0.2→1.5
TP29	0.0-1.5	0.0-0.2	NE	0.2→1.5
TP30	0.0-1.5	0.0-0.2	0.2-0.5	0.5→1.5
TP31	0.0-1.5	0.0-0.2	0.2-1.5	NE
TP32	0.0-1.5	0.0-0.2	0.2-0.5	0.5→1.5
TP33	0.0-1.5	0.0-0.2	0.2-0.5	0.5→1.5
TP34	0.0-1.5	0.0-0.2	0.2-1.2	1.2→1.5
TP35	0.0-1.5	0.0-0.2	0.2-0.8	0.8→1.5
TP36	0.0-1.5	0.0-0.2	0.2-0.5	0.5→1.5
TP37	0.0-1.5	0.0-0.2	0.2-0.4	0.4→1.5
TP38	0.0-1.5	0.0-0.2	0.2-0.5	0.5→1.5
TP39	0.0-1.5	0.0-0.3	0.3-0.5	0.5→1.5
TP40	0.0-1.5	0.0-0.3	0.3-0.5	0.5→1.5
TP41	0.0-1.5	0.0-0.3	0.3-0.5	0.5→1.5

Test Pit	Termination Depth (m)	Topsoil (m)	Fill (m)	Natural (m)
TP42	0.0-1.5	0.0-0.2	0.2-0.4	0.4→1.5
TP43	0.0-1.5	0.0-0.2	0.2-0.5	0.5→1.5
TP44	0.0-1.5	0.0-0.2	0.2-0.4	0.4→1.5
TP45	0.0-1.5	0.0-0.2	0.2-0.4	0.4→1.5
TP46	0.0-1.5	0.0-0.2	0.2-0.4	0.4→1.5
TP47	0.0-1.5	0.0-0.2	0.2-0.4	0.4→1.5
TP48	0.0-1.5	0.0-0.3	0.3-0.5	0.5→1.5
TP49	0.0-1.5	0.0-0.2	0.2-0.4	0.4→1.5
TP50	0.0-1.5	0.0-0.2	NE	0.2→1.5
TP51	0.0-1.5	0.0-0.2	NE	0.2→1.5
TP52	0.0-1.5	0.0-0.2	NE	0.2→1.5
TP53	0.0-1.5	0.0-0.2	NE	0.2→1.5
TP54	0.0-1.5	0.0-0.2	NE	0.2→1.5
TP55	0.0-1.5	0.0-0.2	0.2-0.5	0.5→1.5
TP56	0.0-1.5	0.0-0.2	0.2-0.5	0.5→1.5
TP57	0.0-1.5	0.0-0.2	0.2-0.4	0.4→1.5
TP58	0.0-1.5	0.0-0.2	NE	0.2→1.5
TP59	0.0-1.5	0.0-0.2	NE	0.2→1.5
TP60	0.0-1.5	0.0-0.2	0.2-0.5	0.5→1.5
TP61	0.0-1.5	0.0-0.2	NE	0.2→1.5
TP62	0.0-1.5	0.0-0.2	NE	0.2→1.5
TP63	0.0-1.5	0.0-0.2	NE	0.2→1.5
TP64	0.0-1.5	0.0-0.2	NE	0.2→1.5
TP65	0.0-1.5	0.0-0.2	0.2-0.6	0.6→1.5
TP66	0.0-1.5	0.0-0.2	0.2-0.4	0.4→1.5
TP67	0.0-1.5	0.0-0.2	0.2-0.4	0.4→1.5
TP68	0.0-1.5	NE	0.0-0.2	0.2→1.5
TP69	0.0-1.5	NE	0.0-0.2	0.2→1.5
TP70	0.0-1.5	NE	0.0-0.2	0.2→1.5
TP71	0.0-1.5	NE	0.0-0.2	0.2→1.5
TP72	0.0-1.5	NE	0.0-0.6	0.6→1.5
TP73	0.0-1.5	NE	0.0-0.2	0.2→1.5
TP74	0.0-1.5	NE	0.0-0.2	0.2→1.5
TP75	0.0-1.5	NE	0.0-0.2	0.2→1.5
TP76	0.0-1.5	NE	0.0-0.2	0.2→1.5
TP77	0.0-1.5	NE	0.0-0.2	0.2→1.5
TP78	0.0-1.5	0.0-0.2	0.2-0.5	0.5→1.5

Test Pit	Termination Depth (m)	Topsoil (m)	Fill (m)	Natural (m)
TP79	0.0-1.5	0.0-0.2	0.2-0.5	0.5→1.5
TP80	0.0-1.5	NE	0.0-0.5	0.5→1.5
TP81	0.0-1.5	NE	0.0-0.2	0.2→1.5
TP82	0.0-1.5	NE	0.0-0.5	0.5→1.5
TP83	0.0-1.5	NE	0.0-0.5	0.5→1.5
TP84	0.0-1.5	NE	0.0-0.7	0.7→1.5
TP85	0.0-1.5	NE	0.0-0.7	0.7→1.5
TP86	0.0-1.5	NE	0.0-0.7	0.7→1.5
TP87	0.0-1.5	0.0-0.2	0.2-0.5	0.5→1.5
TP88	0.0-1.5	NE	0.0-0.7	0.7→1.5
TP89	0.0-1.5	0.0-0.2	NE	0.2→1.5
TP90	0.0-1.5	0.0-0.5	NE	0.5→1.5

Note: NE: Not encountered to the termination depth

The test pit investigation revealed the following generalised sub-surface profile:

Fill	Silty Clay, low plasticity, dark grey, trace gravel and organic matter
Natural	Silty Clay, low plasticity, dark brown, with fine to coarse subangular gravel, trace sand Silty Clay, low to medium plasticity, brown, with fine to coarse subangular gravel, trace sand Silty Clay, medium to high plasticity, red-brown mottled grey-orange/brown mottled grey-red-orange, with fine to coarse grained sand and gravel Clayey Gravel, fine to coarse grained, brown-grey-red, medium plasticity clay, with sand, dense Clayey Gravel, fine to coarse grained, brown-grey-red, medium plasticity clay, with sand, dense
Bedrock	Silty CLAY, low to medium plasticity, pale grey-orange, with fine to cobble subrounded gravel, trace ironstone pockets, very stiff Silty CLAY, medium to high plasticity, pale grey-orange-red/ brown mottled grey-red, with fine to cobble grained subrounded gravel, trace ironstone pockets, stiff Silty CLAY, high plasticity, red-brown mottled grey-orange, trace gravel and sand, stiff Silty CLAY, medium plasticity, brown mottled grey-red, trace sand and gravel, stiff Sandy CLAY, medium plasticity, grey mottled brown, fine to coarse grained sand with fine to coarse subangular gravel, stiff Gravelly CLAY, medium plasticity/ medium to high plasticity, brown-orange-grey/ brown mottled grey-red-orange, medium grained subrounded cobbles, very stiff Clayey Sandy GRAVEL, fine to cobble grained, brown-grey-red, fine to coarse grained sand, moist, very dense

Groundwater was not observed in the test pits during the short time that they remained open. It must be noted that fluctuations in the level of groundwater might occur due to variations in rainfall, temperature and/or other factors.

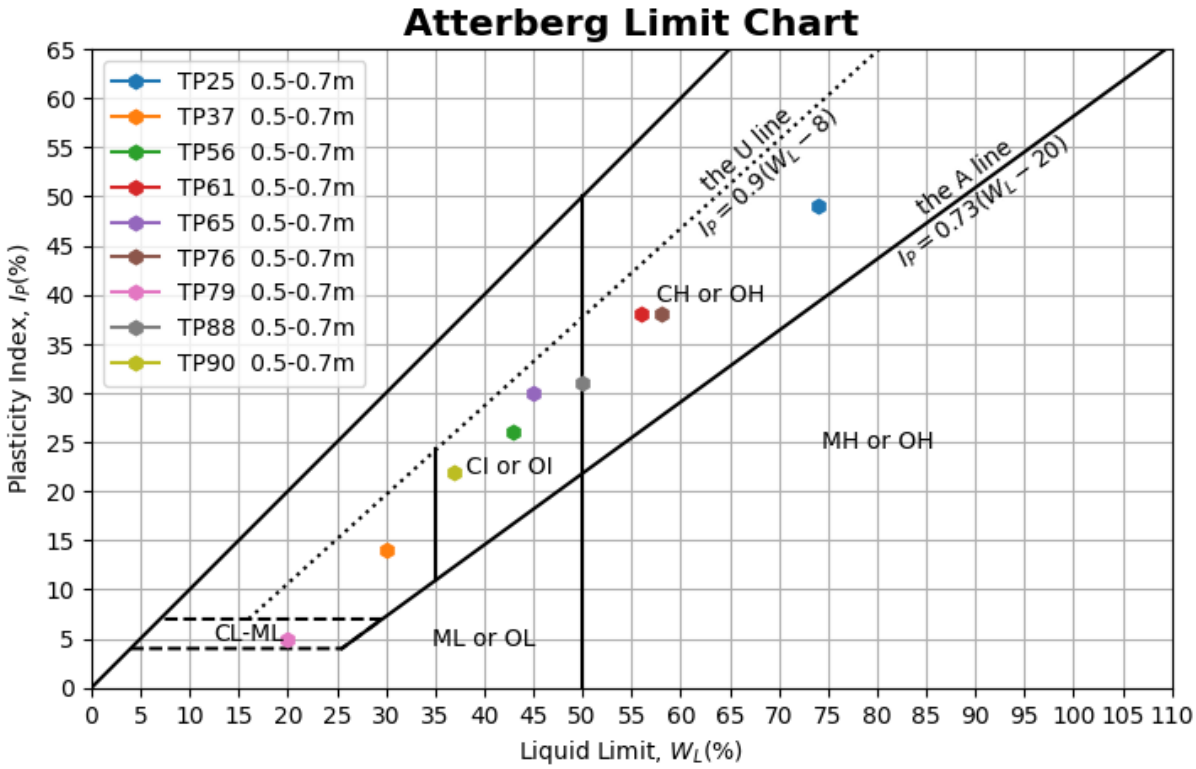
4.0 LABORATORY TESTING

A total of eight (8) undisturbed 50mm diameter hollow tube (U_{50}) samples and nine (9) disturbed samples were recovered from the site. These samples were tested to determine shrink/swell index and Atterberg limit values. The tests were conducted in accordance with relevant Australian Standards and the results are summarised below and detailed in the attached test certificates, in Appendix C.

Table 2: Summary of Test Results

Test Pit	Depth (m)	Material Description	Liquid Limit (%)	Plasticity Index (%)	Linear Shrinkage (%)	Shrink/Swell Index (%/pF)
TP3	0.5-0.7	(GP) Sandy GRAVEL, fine to cobble grained, grey-brown	-	-	-	3.4
TP9	0.5-0.7	(CL-CI) Silty CLAY, low to medium plasticity, pale grey-orange, with fine to cobble subrounded gravel	-	-	-	0.8
TP18	0.5-0.7	(CL-CI) Silty CLAY, low to medium plasticity, pale grey-orange, with fine to cobble subrounded gravel	-	-	-	1.4
TP25	0.5-0.7	(CL-CH) Silty CLAY, medium to high plasticity, brown, orange, with fine to cobble grained subrounded gravel	74.0	49.0	16.5	-
TP29	0.4-0.6	(CH) Silty CLAY, high plasticity, grey mottled brown, trace gravel and sand	-	-	-	2.9
TP37	0.5-0.7	(CI) Sandy CLAY, medium plasticity, grey mottled brown, fine to coarse grained sand, with fine to coarse sub-angular gravel	30.0	14.0	-	-
TP45	0.5-0.7	(CI) Silty CLAY, medium plasticity, brown mottled grey-red, trace sand and gravel	-	-	-	3.1
TP49	0.5-0.7	(CI) Gravelly CLAY, medium plasticity, brown mottled grey-red orange, fine to coarse grained gravel with sand	-	-	-	1.4
TP56	0.5-0.7	(CH) Silty CLAY, high plasticity, red-brown mottled grey-orange, trace gravel and sand	43.0	26.0	13.0	-
TP61	0.5-0.7	(CI) Sandy CLAY, medium plasticity, grey mottled brown, fine to coarse grained sand, with fine to coarse sub-angular gravel	56.0	38.0	15.5	-

Test Pit	Depth (m)	Material Description	Liquid Limit (%)	Plasticity Index (%)	Linear Shrinkage (%)	Shrink/Swell Index (%/pF)
TP65	0.5-0.7	(CI) Sandy CLAY, medium plasticity, grey mottled brown, fine to coarse grained sand, with fine to coarse sub-angular gravel	45.0	30.0	11.5	-
TP71	0.5-0.7	(CI) Silty CLAY, medium plasticity, brown mottled grey-red, trace sand and gravel	-	-	-	0.5
TP76	0.5-0.7	(CH) Silty CLAY, high plasticity, red-brown mottled grey-orange, trace gravel and sand	58.0	38.0	17.5	-
TP79	0.5-0.7	(CI) Sandy CLAY, medium plasticity, pale grey, fine to coarse grained sand, with fine to coarse sub-angular gravel	20.0	5.0	2.0	-
TP81	0.5-0.7	(CI-CH) Silty CLAY, medium to high plasticity, red brown mottled grey, fine to coarse grained sand and gravel	-	-	-	2.7
TP88	0.5-0.7	FILL: Sandy Clay, medium to high plasticity, brown mottled grey-red orange, fine to coarse grained sand, with fine to coarse sub-angular gravel	50.0	31.0	14.5	-
TP90	0.5-0.7	(CI-CH) Silty CLAY, medium to high plasticity, grey mottled yellow brown, with fine to coarse grained sand and gravel	37.0	22.0	7.5	-



Assessment of Laboratory Testing Results

The Atterberg limits (LL and PI) are plotted on the Atterberg limit chart. The results indicate that the tested samples are of low and high clays. Although there are no available correlations between shrink-swell index and Atterberg limits for local soils, the study conducted by Li et al ("Shrink-swell Index Database for Melbourne", Australian Geomechanics, Vol 51, No 3, September 2016) for Melbourne soils indicates the following correlations:

I_{ss} = 0.0667 LL – 0.286 (R^2 = 0.434)
I_{ss} = 0.0793 PI – 0.7954 (R^2 = 0.393)
I_{ss} = 0.3115 LS – 1.4011 (R^2 = 0.5334)

The above and other similar studies generally indicate poor correlations between Atterberg limits and shrink-swell index.

Based on our previous experience and Atterberg limit values, low to high plasticity clayey and sandy/gravelly soils typically exhibit free surface movements between 10 mm and 60 mm. Undisturbed Samples recovered from different locations for shrink/swell index testing indicate potential surface movement of less than 40mm. Considering the shrink/swell index and Atterberg limit results alongside the soil profile, the lots at the site are classified as Class "S', "M" and "H1".

5.0 DISCUSSION & RECOMMENDATIONS

5.1 Assessment of Fill

Fill was placed within the site. It should be noted that several field density tests were conducted by Geotech Testing Pty Ltd during the fill placement, and the results are provided in our summary report (Our Ref: 8599-130-AB; dated 25 August 2025). Based on our inspection of the fill during the investigation and the above field density tests results, it is our assessment that the fill is “Controlled Fill”.

5.2 Site Classification

This report certifies the site classification for the reactivity of the lots in the subdivision after identification of the soil characteristics in accordance with the provisions of AS 2870, “Residential Slabs and Footings.”

Based on the field and laboratory results, the site classification to AS2870-2011 "Residential slabs & footings", for the proposed lots are summarised in Appendix B of this report.

It is recommended that footings for the proposed dwellings are founded on the same stratum, below any topsoil or deleterious material, to minimise the potential for differential movement.

The above recommendations are applicable to the Lots at the date of conducting the investigation, being 14, 28 and 29 August 2025 and are made on the following assumptions:

1. The construction requirements of AS2870-2011 must be followed.
2. The recommendations for site maintenance set out in Appendix B of AS2870 are followed.
3. The performance expectations set out in Appendix C of AS2870 are acceptable.

It is recommended that house owners are made aware of the recommendations given by the CSIRO publication, "Guide to Home Owners on Foundation Maintenance and Footing Performance".

GEOTECH TESTING PTY LTD

APPENDIX A

TABLE A
SUMMARY OF TEST PITS

DRAWING NO 8599/149-AA1
(*Test Pit Location Plan*)

TABLE A

Job No: 8599/149
Our Ref: 8599/149-AA

TEST PIT	DEPTH (m)	SAMPLE DEPTH (m)	MATERIAL DESCRIPTION
TP1	0.0-0.3		FILL: Silty Clay, low to medium plasticity, brown, with fine to coarse subangular gravel, trace sand M<PL, well compacted
	0.3-0.5	(0.4-0.5) DS	(GP) Sandy GRAVEL, fine to cobble grained, grey brown, moist, Very Stiff
			Refusal on gravel
TP2	0.0-0.5	(0.4-0.5) DS	FILL: Silty Clay, low to medium plasticity, brown, with fine to coarse subangular gravel, trace sand M<PL, well compacted
	0.5-1.5	(1.0-1.1) DS	(CL-CI) Silty CLAY, low to medium plasticity, pale grey orange, with fine to cobble subrounded gravel, trace ironstone pockets, M≤PL, very stiff
TP3	0.0-0.3		FILL: Silty Clay, low plasticity, dark brown, with fine to coarse subangular gravel, M≤PL, well compacted
	0.3-1.1	(0.4-0.5) DS	(CL-CH) Silty CLAY, medium to high plasticity, pale grey-orange red, with fine to cobble grained subrounded gravel, trace ironstone pockets, M≤PL, stiff
	1.1-1.2	(0.5-0.7) U50 (1.0-1.1) DS	(GP) Sandy GRAVEL, fine to cobble grained, grey-brown, moist, Very Stiff
			Refusal on gravel
TP4	0.0-0.3		FILL: Silty Clay, low plasticity, dark brown, with fine to coarse subangular gravel, M≤PL, well compacted
	0.3-0.6	(0.4-0.5) DS	(GM) Clayey Sandy GRAVEL, fine to cobble grained, brown-grey-red, fine to coarse grained sand, moist, very dense
			Refusal on gravel
TP5	0.0-0.3		FILL: Silty Clay, low plasticity, dark brown, with fine to coarse subangular gravel, M≤PL, well compacted
	0.2-1.0	(0.4-0.5) DS	(GM) Clayey Sandy GRAVEL, fine to cobble grained, brown-grey-red, fine to coarse grained sand, moist, very dense
			Refusal on gravel

TABLE A

Job No: 8599/149
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TEST PIT	DEPTH (m)	SAMPLE DEPTH (m)	MATERIAL DESCRIPTION
P6	0.0-0.3		FILL: Silty Clay, low plasticity, dark brown, with fine to coarse subangular gravel, M≤PL, well compacted
	0.3-0.6	(0.4-0.5) DS	(GP) Sandy GRAVEL, fine to cobble grained, grey, fine to medium grained sand, moist, very dense
			Refusal on gravel
TP7	0.0-0.2		FILL: Silty Clay, low plasticity, dark brown, with fine to coarse subangular gravel, M≤PL, well compacted
	0.2-0.5	(0.4-0.5) DS	(CL-CH) Gravelly CLAY, medium to high plasticity, brown-orange-grey, medium grained subrounded cobbles, M≤PL, very stiff
	0.5-0.6		(GP) Sandy GRAVEL, fine to cobble grained, grey-brown, moist, Very Stiff
			Refusal on gravel
TP8	0.0-0.3		FILL: Silty Clay, low plasticity, dark brown, with fine to coarse subangular gravel, M≤PL, well compacted
	0.3-0.6	(0.4-0.6) DS	(CL-CH) Gravelly CLAY, medium to high plasticity, brown-orange-grey, medium grained subrounded cobbles, M≤PL, very stiff
			Refusal on gravel
TP9	0.0-0.3		FILL: Silty Clay, low plasticity, dark brown, with fine to coarse subangular gravel, M≤PL, well compacted
	0.3-1.0	(0.4-0.5) DS (0.5-0.7) U50	(CL-CI) Silty CLAY, low to medium plasticity, pale grey-orange, with fine to cobble subrounded gravel, trace ironstone pockets, M≤PL, very stiff
	1.0-1.2	(1.0-1.1) DS	(CL-CH) Gravelly CLAY, medium to high plasticity, brown-orange-grey, medium grained subrounded cobbles, M≤PL, very stiff
			Refusal on gravel
TP10	0.0-0.3		FILL: Silty Clay, low plasticity, dark brown, with fine to coarse subangular gravel, M≤PL, well compacted
	0.3-0.7	(0.4-0.5) DS	(GP) Sandy GRAVEL, fine to cobble grained, pale grey, fine to coarse grained sand, trace ironstone pockets, moist, very dense
			Refusal on gravel

TABLE A

Job No: 8599/149
Our Ref: 8599/149-AA

TEST PIT	DEPTH (m)	SAMPLE DEPTH (m)	MATERIAL DESCRIPTION
TP11	0.0-0.5	(0.4-0.5) DS	FILL: Silty Clay, low plasticity, dark brown, with fine to coarse subangular gravel, M≤PL, well compacted
	0.5-0.9	(0.8-0.9) DS	(CL-CH) Gravelly CLAY, medium to high plasticity, brown-orange-grey, medium grained subrounded cobbles, M≤PL, very stiff
			Refusal on gravel
TP12	0.0-0.3		FILL: Silty Clay, low plasticity, dark brown, with fine to coarse subangular gravel, M≤PL, well compacted
	0.3-1.2	(0.4-0.5) DS (1.0-1.1) DS	(CL-CH) Gravelly CLAY, medium to high plasticity, brown-orange-grey, medium grained subrounded cobbles, M≤PL, very stiff
			Refusal on gravel
TP13	0.0-0.3		FILL: Silty Clay, low plasticity, dark brown, with fine to coarse subangular gravel, M≤PL, well compacted
	0.3-0.7	(0.4-0.5) DS	(CL-CH) Gravelly CLAY, medium to high plasticity, brown-orange-grey, medium grained subrounded cobbles, M≤PL, very stiff
			Refusal on gravel
TP14	0.0-0.3		FILL: Silty Clay, low plasticity, dark brown, with fine to coarse subangular gravel, M≤PL, well compacted
	0.3-0.8	0.4-0.5 DS	(CL-CH) Gravelly CLAY, medium to high plasticity, brown-orange-grey, medium grained subrounded cobbles, M≤PL, very stiff
			Refusal on gravel
TP15	0.0-0.3		FILL: Silty Clay, low plasticity, dark brown, with fine to coarse subangular gravel, M≤PL, well compacted
	0.3-0.6	(0.4-0.5) DS	(CL-CH) Gravelly CLAY, medium to high plasticity, brown-orange-grey, medium grained subrounded cobbles, M≤PL, very stiff
			Refusal on gravel

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TEST PIT	DEPTH (m)	SAMPLE DEPTH (m)	MATERIAL DESCRIPTION
TP16	0.0-0.3		FILL: Silty Clay, low plasticity, dark brown, with fine to coarse subangular gravel, M≤PL, well compacted
	0.3-0.7	(0.4-0.5) DS	(CL-CH) Silty CLAY, medium to high plasticity, pale grey-orange-red, with fine to cobble grained subrounded gravel, trace ironstone pockets, M≤PL, stiff
			Refusal on gravel
TP17	0.0-0.3		FILL: Silty Clay, low plasticity, dark brown, with fine to coarse subangular gravel, M≤PL, well compacted
	0.3-0.8	(0.4-0.5) DS	(CL-CI) Silty CLAY, low to medium plasticity, pale grey-orange, with fine to cobble subrounded gravel, trace ironstone pockets, M≤PL, very stiff
	0.8-1.0	(0.8-0.9) DS	(GM) Clayey Sandy GRAVEL, fine to cobble grained, brown-grey-red, fine to coarse grained sand, moist, very dense
			Refusal on gravel
TP18	0.0-0.3		FILL: Silty Clay, low plasticity, dark brown, with fine to coarse subangular gravel, M≤PL, well compacted
	0.3-1.5	(0.4-0.5) DS (0.5-0.7) U50	(CL-CI) Silty CLAY, low to medium plasticity, pale grey-orange, with fine to cobble subrounded gravel, trace ironstone pockets, M≤PL, very stiff
TP19	0.0-0.3		FILL: Silty Clay, low plasticity, dark brown, with fine to coarse subangular gravel, M≤PL, well compacted
	0.3-1.5	(0.4-0.5) DS	(CL-CI) Silty CLAY, low to medium plasticity, pale grey-orange, with fine to cobble subrounded gravel, trace ironstone pockets, M≤PL, very stiff
TP20	0.0-0.3		FILL: Silty Clay, low plasticity, dark brown, with fine to coarse subangular gravel, M≤PL, well compacted
	0.3-1.5	(0.4-0.5) DS	(CL-CI) Silty CLAY, low to medium plasticity, pale grey-orange, with fine to cobble subrounded gravel, trace ironstone pockets, M≤PL, very stiff
			Refusal on gravel

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TEST PIT	DEPTH (m)	SAMPLE DEPTH (m)	MATERIAL DESCRIPTION
TP21	0.0-0.2		FILL: Silty Clay, low plasticity, dark brown, with fine to coarse subangular gravel, M≤PL, well compacted
	0.2-0.6	(0.4-0.5) DS	(CL-CI) Silty CLAY, low to medium plasticity, pale grey-orange, with fine to cobble subrounded gravel, trace ironstone pockets, M≤PL, very stiff
			Refusal on gravel
TP22	0.0-0.2		FILL: Silty Clay, low plasticity, dark brown, with fine to coarse subangular gravel, M≤PL, well compacted
	0.2-0.4		(CL-CH) Gravelly CLAY, medium to high plasticity, brown-orange-grey, medium grained subrounded cobbles, M≤PL, very stiff
	0.4-0.7	(0.4-0.5) DS	(GP) Sandy GRAVEL, fine to cobble grained, grey-brown, moist, Very Stiff
			Refusal on gravel
TP23	0.0-0.2		FILL: Silty Clay, low plasticity, dark brown, with fine to coarse subangular gravel, M≤PL, well compacted
	0.2-0.5	(0.4-0.5) DS	(CL-CH) Gravelly CLAY, medium to high plasticity, brown-orange-grey, medium grained subrounded cobbles, M≤PL, very stiff
	0.5-0.7		(GP) Sandy GRAVEL, fine to cobble grained, grey-brown, moist, Very Stiff
			Refusal on gravel
TP24	0.0-0.2		FILL: Silty Clay, low plasticity, dark brown, with fine to coarse subangular gravel, M≤PL, well compacted
	0.2-0.5	(0.4-0.5) DS	(CL-CH) Gravelly CLAY, medium to high plasticity, brown-orange-grey, medium grained subrounded cobbles, M≤PL, very stiff
	0.5-0.7	1.0-1.1 DS	(GP) Sandy GRAVEL, fine to cobble grained, grey-brown, moist, Very Stiff
			Refusal on gravel

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TEST PIT	DEPTH (m)	SAMPLE DEPTH (m)	MATERIAL DESCRIPTION
TP25	0.0-0.2		FILL: Silty Clay, low plasticity, dark brown, with fine to coarse subangular gravel, M≤PL, well compacted
	0.2-0.5	(0.4-0.5) DS	FILL: Silty Clay, low plasticity, dark brown, with fine to coarse subangular gravel, M≤PL, well compacted
	0.5-1.0	(0.5-0.7) ATT	(CL-CH) Silty CLAY, medium to high plasticity, brown, orange, with fine to cobble grained subrounded gravel, trace sand, M≤PL, stiff
	1.0-1.5		(CL) Silty CLAY, low to medium plasticity, pale brown, orange, with fine to cobble subrounded gravel, trace sand, M≤PL, stiff
TP26	0.0-0.2		FILL: Silty Clay, low plasticity, dark brown, with fine to coarse subangular gravel, M≤PL, well compacted
	0.2-1.5	(0.4-0.5) DS (1.0-1.1) DS	(CL) Gravelly CLAY, low plasticity brown, fine to cobble grained gravel, trace sand M≤PL, very stiff
TP27	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-0.5	0.4-0.5(DS)	(CI) Silty CLAY, medium plasticity, brown mottled grey-red, trace sand and gravel, M≈PL, stiff
	0.5-1.5		(CI) Sandy CLAY, medium plasticity, grey mottled brown, fine to coarse grained sand, with fine to coarse sub-angular gravel, M<PL, very stiff
TP28	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-0.4		(CI) Silty CLAY, medium plasticity, brown mottled grey-red, trace sand and gravel, M≈PL, stiff
	0.4-1.5	0.4-0.5(DS) 0.5-0.6(DS)	(CI) Gravelly CLAY, medium plasticity, brown mottled grey-red-orange, fine to coarse grained gravel with sand, M≤PL, very stiff
TP29	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-0.4		(CH) Silty CLAY, high plasticity, red-brown mottled grey-orange, trace gravel and sand, M< PL, stiff – very stiff
	0.4-1.5	0.4-0.5(DS) 0.4-0.6(U50)	(CH) Silty CLAY, high plasticity, grey mottled brown, trace gravel and sand, M< PL, stiff – very stiff

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TEST PIT	DEPTH (m)	SAMPLE DEPTH (m)	MATERIAL DESCRIPTION
TP30	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-0.5	0.4-0.5(DS)	FILL: Silty Clay, medium to high plasticity, red-brown mottled grey-orange, with fine to coarse grained sand and gravel, M≤PL, well compacted
	0.5-1.5		(CI) Silty CLAY, medium plasticity, brown mottled grey-red, trace sand and gravel, M≈PL, stiff
TP31	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-1.2	0.4-0.5(DS)	FILL: Silty Clay, medium to high plasticity, red-brown mottled grey-orange, with fine to coarse grained sand and gravel, M<PL, stiff
	1.2-1.5		FILL: Silty Clay, medium to high plasticity, red brown mottled orange, with fine to coarse grained sand and gravel, M<PL, well compacted
TP32	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-0.5	0.4-0.5(DS)	FILL: Clayey Gravel, fine to coarse gravel, brown-grey-red, medium plasticity clay, with sand, dense, M≤PL well compacted
	0.5-1.5		(CH) Silty CLAY, high plasticity, red-brown mottled grey-orange, trace gravel and sand, M≈PL, stiff
TP33	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-0.5	0.4-0.5(DS)	FILL: Silty Clay, medium to high plasticity, dark brown mottled grey, with fine to coarse grained sand and gravel, M<<PL, well compacted
	0.5-0.7		(CI) Sandy CLAY, medium plasticity, grey mottled brown, fine to coarse grained sand, with fine to coarse sub-angular gravel, M<PL, stiff-very stiff
	0.7-1.5		(CH) Silty CLAY, high plasticity, red-brown mottled grey-orange, trace gravel and sand, M≈PL, stiff

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TEST PIT	DEPTH (m)	SAMPLE DEPTH (m)	MATERIAL DESCRIPTION
TP34	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-1.2	0.4-0.5(DS)	FILL: Sandy Clay, medium to high plasticity, brown mottled grey-red orange, fine to coarse grained sand with fine to coarse sub-angular gravel, M≤PL well compacted
	1.2-1.5		(CH) Silty CLAY, high plasticity, red-brown mottled grey-orange, trace gravel and sand, M≈PL, stiff
TP35	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-0.8	0.4-0.5(DS)	FILL: Sandy Clay, medium to high plasticity, brown mottled grey-red-orange, fine to coarse grained sand with fine to coarse sub-angular gravel, M≤PL well compacted
	0.8-1.5		(CH) Silty CLAY, high plasticity, red-brown mottled grey-orange, trace gravel and sand, M≈PL, stiff
TP36	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-0.5	0.4-0.5(DS)	FILL: Silty Clay, medium to high plasticity, red-brown mottled grey-orange, with fine to coarse grained sand and gravel, M≈PL, well compacted
	0.5-1.2	1.0-1.1(DS)	(CI) Sandy CLAY, medium plasticity, grey mottled red-brown, fine to coarse grained sand, with fine to coarse sub-angular gravel, M<PL, stiff
	1.2-1.5		(GC) Clayey GRAVEL, fine to coarse gravel, pale grey mottled brown, medium plasticity with sand, moist, dense
TP37	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-0.4		FILL: Silty Clay, medium to high plasticity, red brown mottled grey-orange, with fine to coarse grained sand and gravel, M<PL, well compacted
	0.4-1.0	0.4-0.5(DS) 0.5-0.7(ATT)	(CI) Sandy CLAY, medium plasticity, grey mottled brown, fine to coarse grained sand, with fine to coarse sub-angular gravel, M<PL, stiff
	1.0-1.5		(CH) Silty CLAY, high plasticity, red-brown mottled grey-orange, trace gravel and sand, M≈PL, stiff - very stiff

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TEST PIT	DEPTH (m)	SAMPLE DEPTH (m)	MATERIAL DESCRIPTION
TP38	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-0.5	0.4-0.5(DS)	FILL: Silty Clay, medium to high plasticity, red brown mottled grey-orange, with fine to coarse grained sand with fine to coarse sub-angular gravel, M≤PL, well compacted
	0.5-1.2		(CI) Silty CLAY, medium plasticity, brown mottled grey-red, trace sand and gravel, M<PL, stiff-very stiff
	1.2-1.5		(CI) Sandy CLAY, medium plasticity, grey mottled brown, fine to coarse grained sand, with fine to coarse sub-angular gravel, M≤PL, stiff
TP39	0.0-0.3		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.3-0.5	0.4-0.5(DS)	FILL: Sandy Clay, medium to high plasticity, brown mottled grey-red orange, fine to coarse grained sand with fine to coarse sub-angular gravel, M≤PL well compacted
	0.5-1.5		(CI) Silty CLAY, medium plasticity, brown mottled grey-red, trace sand and gravel, M≈PL, stiff
TP40	0.0-0.3		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.3-0.5	0.4-0.5(DS)	FILL: Sandy Clay, medium to high plasticity, brown mottled grey-red orange, fine to coarse grained sand, with fine to coarse sub-angular gravel gravel, M≤PL well compacted
	0.5-1.5		(CI) Sandy CLAY, medium plasticity, grey mottled brown, fine to coarse grained sand, with fine to coarse sub-angular gravel, M<PL, stiff
TP41	0.0-0.3		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.3-0.5	0.4-0.5(DS)	FILL: Sandy Clay, medium to high plasticity, brown mottled grey-red orange, fine to coarse grained sand with fine to coarse sub-angular gravel, M≤PL well compacted
	0.5-1.5		(CI) Sandy CLAY, medium plasticity, grey mottled brown, fine to coarse grained sand, with fine to coarse sub-angular gravel, M<PL, stiff

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TEST PIT	DEPTH (m)	SAMPLE DEPTH (m)	MATERIAL DESCRIPTION
TP42	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-0.4		FILL: Silty Clay, medium to high plasticity, red brown mottled grey-orange, with fine to coarse grained sand and gravel, M<<PL, well compacted
	0.4-1.5	0.4-0.5(DS)	(CI) Sandy CLAY, medium plasticity, grey mottled brown, fine to coarse grained sand, with fine to coarse sub-angular gravel, M<PL, stiff
TP43	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-0.5	0.4-0.5(DS)	FILL: Silty Clay, medium to high plasticity, red-brown mottled grey-orange, with fine to coarse grained sand and gravel, M<<PL, well compacted
	0.5-1.5		(CI) Sandy CLAY, medium plasticity, grey mottled brown, fine to coarse grained sand, with fine to coarse sub-angular gravel, M<PL, stiff
TP44	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-0.4	0.4-0.5(DS)	FILL: Silty Clay, medium to high plasticity, red-brown mottled grey-orange, with fine to coarse grained sand and gravel, M<<PL, well compacted
	0.4-1.0		(CH) Silty CLAY, high plasticity, red brown mottled grey-orange, trace gravel and sand, M≈PL, stiff
	1.0-1.5	1.0-1.5(DS)	(CI-CH) Silty CLAY, medium to high plasticity, red-brown mottled grey, with fine to coarse sub-angular gravel, M≈PL, stiff
TP45	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-0.4		FILL: Silty Clay, medium to high plasticity, red brown mottled grey-orange, with fine to coarse grained sand and gravel, M<<PL, well compacted
	0.4-1.0	0.4-0.5(DS) 0.5-0.7(U50)	(CI) Silty CLAY, medium plasticity, brown mottled grey-red, trace sand and gravel, M≈PL, stiff
	1.0-1.5		(CH) Silty CLAY, high plasticity, red-brown mottled grey-orange, trace gravel and sand, M≈PL, stiff

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TEST PIT	DEPTH (m)	SAMPLE DEPTH (m)	MATERIAL DESCRIPTION
TP46	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-0.4	0.4-0.5(DS)	FILL: Silty Clay, medium to high plasticity, red-brown mottled grey-orange, with fine to coarse grained sand and gravel, M<<PL, well compacted
	0.4-1.5		(CI) Sandy CLAY, medium plasticity, grey mottled brown, fine to coarse grained sand, with fine to coarse sub-angular gravel, M<PL, stiff
TP47	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-0.4		FILL: Sandy Clay, medium to high plasticity, brown mottled grey-red orange, fine to coarse grained sand with fine to coarse sub-angular gravel, M≤PL well compacted
	0.5-1.5	0.4-0.5(DS)	(CH) Silty CLAY, high plasticity, red-brown mottled grey-orange, trace gravel and sand, M≈PL, stiff
TP48	0.0-0.3		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.3-0.5	0.4-0.5(DS)	FILL: Sandy Clay, medium to high plasticity, brown mottled grey-red orange, fine to coarse grained sand with fine to coarse sub-angular gravel, M≤PL well compacted
	0.5-1.5		(CH) Silty CLAY, high plasticity, red-brown mottled grey-orange, trace gravel and sand, M≈PL, stiff
TP49	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-0.4		FILL: Silty Clay, medium to high plasticity, red-brown mottled grey-orange, with fine to coarse grained sand and gravel, M<<PL, well compacted
	0.4-1.5	0.4-0.5(DS) 0.5-07(U50)	(CI) Gravelly CLAY, medium plasticity, brown mottled grey-red orange, fine to coarse grained gravel with sand, M≤PL, very stiff
TP50	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-0.4		(CH) Silty CLAY, high plasticity, red brown mottled grey-orange, trace gravel and sand, M≈PL, stiff
	0.4-1.5	0.4-0.5(DS) 1.0-1.1(DS)	(CI) Silty CLAY, medium plasticity, brown mottled grey-red, trace sand and gravel, M≈PL, stiff

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TEST PIT	DEPTH (m)	SAMPLE DEPTH (m)	MATERIAL DESCRIPTION
TP51	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-0.4		(CI) Gravelly CLAY, medium plasticity, brown mottled grey-red-orange, fine to coarse grained gravel with sand, M≤PL, very stiff
	0.4-1.5	0.4-0.5(DS)	(CH) Silty CLAY, high plasticity, red-brown mottled grey-orange, trace gravel and sand, M≈PL, stiff
TP52	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-0.5	0.4-0.5(DS)	(CI) Silty CLAY, medium plasticity, brown mottled grey-red, trace sand and gravel, M≈PL, stiff
	0.5-1.5		(CH) Silty CLAY, high plasticity, red brown mottled grey-orange, trace gravel and sand, M≈PL, stiff
TP53	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-0.8	0.4-0.5(DS)	(CI) Gravelly CLAY, medium plasticity, brown mottled grey-red orange, fine to coarse grained gravel, M≤PL, very stiff
	0.8-1.5		(CI-CH) Silty CLAY, medium to high plasticity, red brown mottled grey, fine to coarse grained gravel, M<PL, very stiff
TP54	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-0.5	0.4-0.5(DS)	(CI) Sandy CLAY, medium plasticity, grey mottled brown, fine to coarse grained sand, with fine to coarse sub-angular gravel, M<PL, stiff
	0.5-1.5		(CH) Silty CLAY, high plasticity, red-brown mottled grey-orange, trace gravel and sand, M≈PL, stiff
TP55	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-0.5	0.4-0.5(DS)	FILL: Sandy Clay, medium to high plasticity, brown mottled grey-red orange, fine to coarse grained sand with fine to coarse sub-angular gravel, M≤PL well compacted
	0.5-1.5		(CH) Silty CLAY, high plasticity, red-brown mottled grey-orange, trace gravel and sand, M≈PL, stiff

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TP56	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-0.5	0.4-0.5(DS)	FILL: Sandy Clay, medium to high plasticity, brown mottled grey-red orange, fine to coarse grained sand with fine to coarse sub-angular gravel, M≤PL well compacted
	0.5-1.5	0.5-0.7(U50)	(CH) Silty CLAY, high plasticity, red-brown mottled grey-orange, trace gravel and sand, M≈PL, stiff
TP57	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-0.4		FILL: Sandy Clay, medium to high plasticity, brown mottled grey-red-orange, fine to coarse grained sand, with fine to coarse sub-angular gravel, M≤PL well compacted
	0.4-1.5	0.4-0.5(DS)	(CH) Silty CLAY, high plasticity, red brown mottled grey-orange, trace gravel and sand, M≈PL, stiff
TP58	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-1.5	0.4-0.5(DS)	(CH) Silty CLAY, high plasticity, red-brown mottled grey-orange, trace gravel and sand, M≈PL, stiff
TP59	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-0.6	0.4-0.5(DS)	(CH) Silty CLAY, high plasticity, red-brown mottled grey-orange, trace gravel and sand, M≈PL, stiff
	0.6-1.5		(CI) Sandy CLAY, medium plasticity, grey mottled brown, fine to coarse grained sand, with fine to coarse sub-angular gravel, M<PL, stiff
TP60	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-0.5	0.4-0.5(DS)	FILL: Sandy Clay, medium to high plasticity, brown mottled grey-red-orange, fine to coarse grained sand with fine to coarse sub-angular gravel, M≤PL well compacted
	0.5-1.5		(CH) Silty CLAY, high plasticity, red-brown mottled grey-orange, trace gravel and sand, M≈PL, stiff

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TEST PIT	DEPTH (m)	SAMPLE DEPTH (m)	MATERIAL DESCRIPTION
TP61	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-0.6	0.4-0.5(DS)	(CH) Silty CLAY, high plasticity, red-brown mottled grey-orange, trace gravel and sand, M≈PL, stiff
	0.6-1.5	0.5-07(ATT)	(CI) Sandy CLAY, medium plasticity, grey mottled brown, fine to coarse grained sand, with fine to coarse sub-angular gravel, M<PL, stiff
TP62	0.0-0.2		FILL: Silty Clay, medium to high plasticity, red-brown mottled grey-orange, with fine to coarse grained sand and gravel, M<<PL, well compacted
	0.2-0.6	0.4-0.5(DS)	(CH) Silty CLAY, high plasticity, grey mottled brown, trace gravel and sand, M≈PL, stiff
	0.6-1.5		(CH) Silty CLAY, high plasticity, red-brown mottled grey-orange, trace gravel and sand, M≈PL, stiff
TP63	0.0-0.2		FILL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-1.5	0.4-0.5(DS)	(CI-CH)Silty CLAY, medium to high plasticity, brown mottled grey-red, fine to coarse grained sand, with fine to coarse sub-angular gravel, M<PL, stiff @0.5m, red-brown mottled grey-orange
TP64	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-0.5	0.4-0.5(DS)	(CI-CH) Silty CLAY, medium to high plasticity, brown mottled grey-red, fine to coarse grained sand with fine to coarse sub-angular gravel, M<PL, stiff
	0.5-1.5		(CH) Silty CLAY, high plasticity, red-brown mottled grey-orange, trace gravel and sand, M≈PL, stiff
TP65	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-0.6	0.4-0.5(DS)	FILL: Clayey Gravel, fine to coarse gravel, brown-grey-red, medium plasticity clay, trace sand, M≤PL well compacted
	0.6-1.5	0.5-0.7(ATT)	(CI) Sandy CLAY, medium plasticity, grey mottled brown, fine to coarse grained sand, with fine to coarse sub-angular gravel, M≈PL, stiff

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TEST PIT	DEPTH (m)	SAMPLE DEPTH (m)	MATERIAL DESCRIPTION
TP66	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-0.4		FILL: Sandy Clay, medium to high plasticity, brown mottled grey-red orange, fine to coarse grained sand with fine to coarse sub-angular gravel
	0.4-1.5	0.4-0.5(DS)	(CH) Silty CLAY, high plasticity, red-brown mottled grey-orange, trace gravel and sand, M≈PL, stiff
TP67	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-0.4		FILL: Sandy Clay, medium to high plasticity, brown mottled grey-red orange, fine to coarse grained sand with fine to coarse sub-angular gravel
	0.4-0.6	0.4-0.5(DS)	(CI) Silty CLAY, medium plasticity, brown mottled grey-red, trace sand and gravel, M≈PL, stiff
	0.6-1.5		(CH) Silty CLAY, medium to high plasticity, red brown mottled grey, fine to coarse grained sand and gravel, M≤ PL, very stiff
TP68	0.0-0.2		FILL: Silty Clay, medium to high plasticity, red-brown mottled grey-orange, with fine to coarse grained sand and gravel, M<<PL, well compacted
	0.2-0.6	0.4-0.5(DS)	(CH) Silty CLAY, high plasticity, grey mottled brown, trace gravel and sand, M≈PL, stiff
	0.6-1.5		(CI-CH)) Silty CLAY, medium to high plasticity, red-brown mottled-grey, fine to coarse grained sand and gravel, M≤PL, very stiff
TP69	0.0-0.2		FILL: Silty Clay, medium to high plasticity, red-brown mottled grey-orange, with fine to coarse grained sand and gravel, M<<PL, well compacted
	0.2-0.6	0.4-0.5(DS)	(CH) Silty CLAY, high plasticity, grey mottled brown, trace gravel and sand, M≈PL, stiff
	0.6-1.5		(CI-CH) Silty CLAY, medium to high plasticity, red brown mottled grey, with fine to coarse grained sand and gravel, M≤ PL, very stiff

TABLE A

Job No: 8599/149
Our Ref: 8599/149-AA

TEST PIT	DEPTH (m)	SAMPLE DEPTH (m)	MATERIAL DESCRIPTION
TP70	0.0-0.2		FILL: Silty Clay, medium to high plasticity, red-brown mottled grey-orange, with fine to coarse grained sand and gravel, M<<PL, well compacted
	0.2-0.5	0.4-0.5(DS)	(CI) Silty CLAY, medium plasticity, brown mottled grey-red, trace sand and gravel, M≈PL, stiff
	0.5-1.5		(CI) Gravelly CLAY, medium plasticity, brown mottled grey-red orange, fine to coarse grained gravel, with sand, M≤PL, very stiff
TP71	0.0-0.2		FILL: Silty Clay, medium to high plasticity, red-brown mottled grey-orange, with fine to coarse grained sand and gravel, M<<PL, well compacted
	0.2-0.7	0.4-0.5(DS) 0.5-0.7 (U50)	(CI) Silty CLAY, medium plasticity, brown mottled grey-red, trace sand and gravel, M≈PL, stiff
	0.7-1.5		(CH) Silty CLAY, high plasticity, red-brown mottled grey-orange, trace gravel and sand, M≈PL, stiff
TP72	0.0-0.6	0.4-0.5(DS)	FILL: Silty Clay, medium to high plasticity, red-brown mottled grey-orange, with fine to coarse grained sand and gravel, M<<PL, well compacted
	0.6-1.5		(CH) Silty CLAY, high plasticity, red-brown mottled grey-orange, trace gravel and sand, M≈PL, stiff
TP73	0.0-0.2		FILL: Silty Clay, medium to high plasticity, red-brown mottled grey-orange, with fine to coarse grained sand and gravel, M<<PL, well compacted
	0.2-0.7	0.4-0.5(DS)	(CI) Sandy CLAY, medium plasticity, grey mottled brown, fine to coarse grained sand, with fine to coarse sub-angular gravel, M<PL, stiff
	0.7-1.5		(CH) Silty CLAY, high plasticity, red-brown mottled grey-orange, trace gravel and sand, M≈PL, stiff
TP74	0.0-0.2		FILL: Silty Clay, medium to high plasticity, red-brown mottled grey-orange, with fine to coarse grained sand and gravel, M<<PL, well compacted
	0.2-1.5	0.4-0.5(DS)	(CI) Gravelly CLAY, medium plasticity, brown mottled grey-red orange, fine to coarse grained gravel with sand, M≤PL, very stiff

TABLE A

Job No: 8599/149
Our Ref: 8599/149-AA

TEST PIT	DEPTH (m)	SAMPLE DEPTH (m)	MATERIAL DESCRIPTION
TP75	0.0-0.2		FILL: Silty Clay, medium to high plasticity, red-brown mottled grey-orange, with fine to coarse grained sand and gravel, M<<PL, well compacted
	0.2-0.7	0.4-0.5(DS)	(CI) Sandy CLAY, medium plasticity, grey mottled brown, fine to coarse grained sand, with fine to coarse sub-angular gravel, M<PL, stiff
	0.7-1.5		(CH) Silty CLAY, high plasticity, red-brown mottled grey-orange, trace gravel and sand, M≈PL, very stiff
TP76	0.0-0.2		FILL: Silty Clay, medium to high plasticity, red-brown mottled grey-orange, with fine to coarse grained sand and gravel, M<<PL, well compacted
	0.2-0.6	0.4-0.5(DS)	(CI) Sandy CLAY, medium plasticity, grey mottled brown, fine to coarse grained sand, with fine to coarse sub-angular gravel, M<PL, stiff
	0.6-1.5	0.5-0.7(ATT)	(CH) Silty CLAY, high plasticity, red-brown mottled grey-orange, trace gravel and sand, M≈PL, very stiff
TP77	0.0-0.2		FILL: Silty Clay, medium to high plasticity, red-brown mottled grey-orange, with fine to coarse grained sand and gravel, M<<PL, well compacted
	0.2-0.8	0.4-0.5(DS)	(CI) Sandy CLAY, medium plasticity, grey mottled brown, fine to coarse grained sand, with fine to coarse sub-angular gravel, M<PL, stiff
	0.8-1.5		(CH) Silty CLAY, high plasticity, red-brown mottled grey-orange, trace gravel and sand, M≈PL, stiff
TP78	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-0.5	0.4-0.5(DS)	FILL: Sandy Clay, medium to high plasticity, brown mottled grey-red orange, fine to coarse grained sand with fine to coarse sub-angular gravel, well compacted
	0.5-1.5		(CI-CH) Silty CLAY, medium to high plasticity, red-brown mottled grey-orange, fine to coarse grained sand and, M<PL, stiff

TABLE A

Job No: 8599/149
Our Ref: 8599/149-AA

TEST PIT	DEPTH (m)	SAMPLE DEPTH (m)	MATERIAL DESCRIPTION
TP79	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-0.5	0.4-0.5(DS)	FILL: Silty Clay, medium to high plasticity, red-brown mottled grey-orange, with fine to coarse grained sand and gravel, M<<PL, well compacted
	0.5-1.5	05-0.7(ATT)	(CI) Sandy CLAY, medium plasticity, pale grey, fine to coarse grained sand, with fine to coarse sub-angular gravel, M<PL, stiff @0.7m, grey mottled brown
TP80	0.0-0.5	0.4-0.5(DS)	FILL: Silty Clay, medium to high plasticity, red-brown mottled grey-orange, with fine to coarse grained sand and gravel, M<<PL, well compacted
	0.5-1.5		(CH) Silty CLAY, high plasticity, red-brown mottled grey-orange, trace gravel and sand, M≈PL, stiff
TP81	0.0-0.2		FILL: Silty Clay, medium to high plasticity, red-brown mottled grey-orange, with fine to coarse grained sand and gravel, M<<PL, well compacted
	0.2-0.5	0.4-0.5(DS)	(CI) Silty CLAY, medium plasticity, brown mottled grey-red, trace sand and gravel, M≈PL, stiff
	0.5-1.5	0.5-0.7(U50)	(CI-CH) Silty CLAY, medium to high plasticity, red brown mottled grey, fine to coarse grained sand and gravel, M≤ PL, very stiff
TP82	0.0-0.5	0.4-0.5(DS)	FILL: Sandy Clay, medium to high plasticity, brown mottled grey-red orange, fine to coarse grained sand with fine to coarse sub-angular gravel well compacted
	0.5-1.5		(CH) Silty CLAY, high plasticity, red-brown mottled grey-orange, trace gravel and sand, M≈PL, stiff
TP83	0.0-0.2		FILL: Silty Clay, medium to high plasticity, red-brown mottled grey-orange, with fine to coarse grained sand and gravel, M<<PL, well compacted
	0.2-0.5	0.4-0.5(DS)	FILL: Silty Clay, high plasticity, grey mottled orange, fine to coarse grained sand and gravel, M<PL, well compacted
	0.5-1.5		(CH) Silty CLAY, high plasticity, red-brown mottled grey-orange, fine to coarse grained sand and gravel M≤PL, very stiff

TABLE A

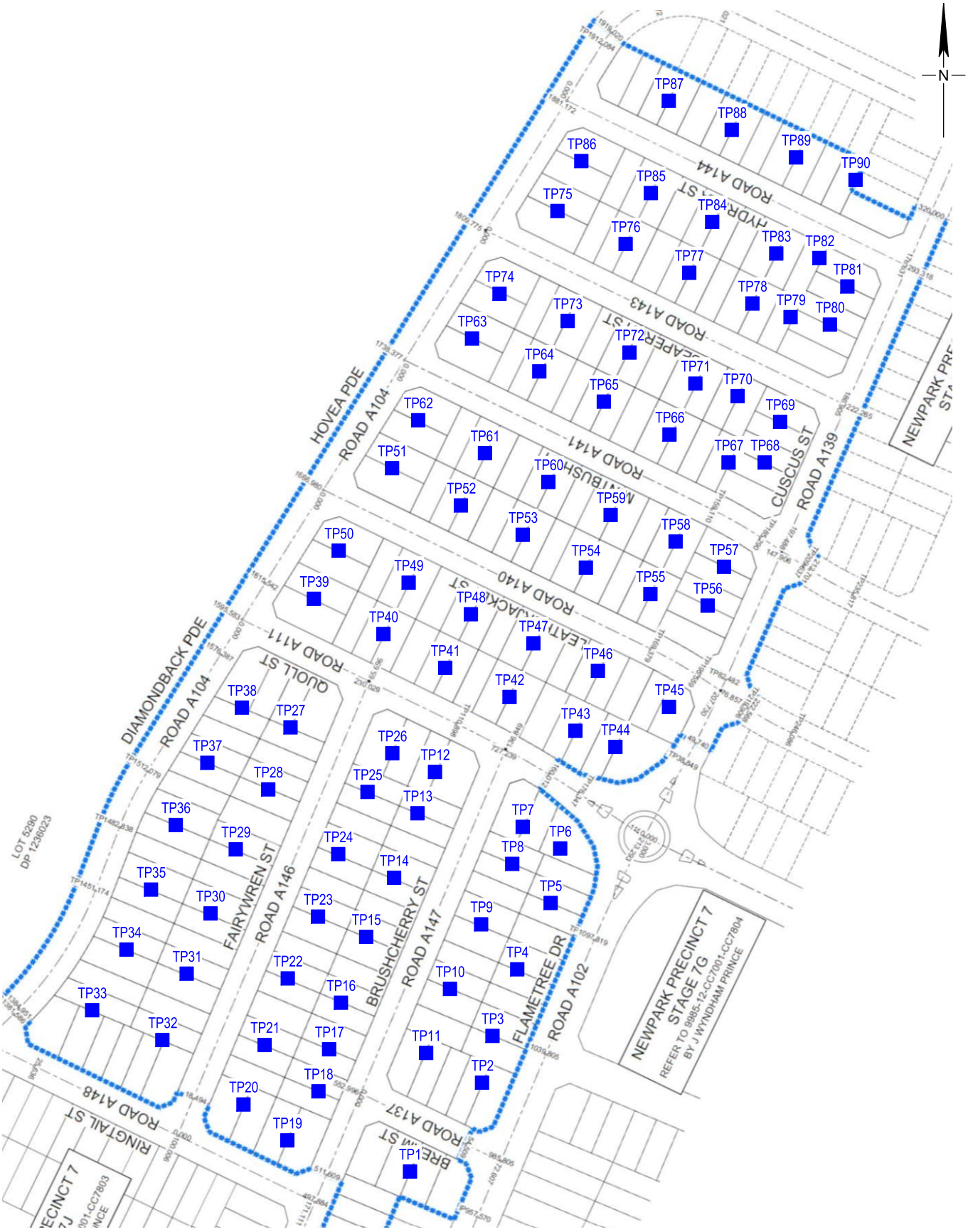
Job No: 8599/149
Our Ref: 8599/149-AA

TEST PIT	DEPTH (m)	SAMPLE DEPTH (m)	MATERIAL DESCRIPTION
TP84	0.0-0.5	0.4-0.5(DS)	FILL: Silty Clay, medium to high plasticity, red-brown mottled grey-orange, with fine to coarse grained sand and gravel, M<<PL, well compacted
	0.5-0.7		FILL: Sandy Clay, medium to high plasticity, brown mottled grey-red orange, fine to coarse grained sand with fine to coarse sub-angular gravel well compacted
	0.7-1.5		(CH) Silty CLAY, high plasticity, red-brown mottled grey-orange fine to coarse grained sand and gravel M≤PL, very stiff
TP85	0.0-0.5	0.4-0.5(DS)	FILL: Silty Clay, high plasticity, red brown mottled grey, fine to coarse grained sand and gravel M≤PL, well compacted
	0.5-0.7		FILL: Sandy Clay, medium to high plasticity, brown mottled grey-red orange, fine to coarse grained sand with fine to coarse sub-angular gravel, well compacted
	0.7-1.5		(CH) Silty CLAY, high plasticity, grey mottled brown, trace gravel and sand, M≈PL, stiff
TP86	0.0-0.5	0.4-0.5(DS)	FILL: Silty Clay, high plasticity, red brown mottled grey, fine to coarse grained sand and gravel M≤PL, well compacted
	0.5-0.7		FILL: Sandy Clay, medium to high plasticity, grey mottled brown, fine to coarse grained sand, with fine to coarse sub-angular gravel, M<PL, well compacted
	0.7-1.5		(CI) Sandy CLAY, medium plasticity, grey mottled brown, fine to coarse grained sand, with fine to coarse sub-angular gravel, M<PL, stiff
TP87	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-0.5	0.4-0.5(DS)	FILL: Sandy Clay, medium to high plasticity, brown mottled grey-red orange, fine to coarse grained sand, with fine to coarse sub-angular gravel well compacted
	0.5-1.5		(CH) Silty CLAY, high plasticity, red-brown mottled grey-orange, trace gravel and sand, M≈PL, stiff

TABLE A

Job No: 8599/149
Our Ref: 8599/149-AA

TEST PIT	DEPTH (m)	SAMPLE DEPTH (m)	MATERIAL DESCRIPTION
TP88	0.0-0.5	0.4-0.5(DS)	FILL: Silty Clay, high plasticity, grey mottled orange, fine to coarse grained sand and gravel, M<PL, well compacted
	0.6-0.7	0.5-0.7(ATT)	FILL: Sandy Clay, medium to high plasticity, brown mottled grey-red orange, fine to coarse grained sand, with fine to coarse sub-angular gravel, well compacted
	0.7-1.5		(CH) Silty CLAY, high plasticity, red-brown mottled grey-orange, trace gravel and sand, M≈PL, stiff
TP89	0.0-0.2		TOPSOIL: Silt Clay, low plasticity, dark grey, trace gravel and organic matter
	0.2-1.5	0.4-0.5(DS)	(CH) Silty CLAY, high plasticity, red-brown mottled grey-orange, trace gravel and sand, M≈PL, stiff @0.6m, grey mottled yellow brown
TP90	0.0-0.5	0.4-0.5(DS)	FILL: Silty Clay, medium to high plasticity, red-brown mottled grey-orange, with fine to coarse grained sand and gravel, M<<PL, well compacted
	0.5-1.5	0.5-0.7(U50)	(CI-CH) Silty CLAY, medium to high plasticity, grey mottled yellow brown, with fine to coarse grained sand and gravel, M≤PL, very stiff



LEGEND

Test Pit

GEOTECH TESTING PTY LTD ®
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Daracon Engineering Pty Limited
Newpark Precinct 7H
Marsden Park

Test Pit Locations

Drawing No: 8599/149-AA1
Job No: 8599/149
Drawn By: MH
Date: 8 September 2025
Checked By: SB/MM/JC

File No: 8599-149
Layers: 0, AA1

APPENDIX B

SUMMARY OF SITE CLASSIFICATIONS

Job No: 8599/149
Our Ref: 8599/149-AA

TABLE B

SUMMARY OF SITE CLASSIFICATIONS

Lot	Site Classification	Lot	Site Classification	Lot	Site Classification
8701	M	8785	M	8869	M
8702	M	8786	S	8870	M
8703	M	8787	S	8871	M
8704	M	8788	S	8872	M
8705	M	8789	S	8873	M
8706	M	8790	S	8874	M
8707	M	8791	S	8875	M
8708	M	8792	S	8876	M
8709	M	8793	M	8877	M
8710	M	8794	M	8878	M
8711	M	8795	M	8879	M
8712	M	8796	M	8880	S
8713	M	8797	M	8881	S
8714	M	8798	M	8882	S
8715	M	8799	M	8883	S
8716	S	8800	M	8884	S
8717	S	8801	M	8885	S
8718	S	8802	M	8886	S
8719	S	8803	M	8887	S
8720	M	8804	M	8888	S
8721	M	8805	M	8889	S
8722	M	8806	M	8890	S
8723	M	8807	M	8891	S
8724	M	8808	M	8892	S
8725	M	8809	M	8893	M
8726	M	8810	M	8894	M
8727	M	8811	M	8895	M
8728	M	8812	M	8896	M
8729	M	8813	M	8897	M
8730	M	8814	M	8898	M
8731	M	8815	M	8899	M
8732	M	8816	M	8900	M
8733	M	8817	M	8901	M

Job No: 8599/149
Our Ref: 8599/149-AA

Lot	Site Classification	Lot	Site Classification	Lot	Site Classification
8734	M	8818	M	8902	M
8735	M	8819	M	8903	M
8736	M	8820	M	8904	M
8737	M	8821	M	8905	M
8738	M	8822	M	8906	M
8739	M	8823	M	8907	M
8740	M	8824	M	8908	M
8741	M	8825	M	8909	M
8742	M	8826	M	8910	M
8743	M	8827	M	8911	M
8744	M	8828	M	8912	M
8745	M	8829	M	8913	M
8746	M	8830	M	8914	M
8747	M	8831	M	8915	M
8748	M	8832	M	8916	M
8749	M	8833	M	8917	M
8750	M	8834	M	8918	M
8751	H1	8835	M	8919	M
8752	H1	8836	M	8920	M
8753	H1	8837	M	8921	M
8754	H1	8838	M	8922	M
8755	M	8839	M	8923	M
8756	M	8840	M	8924	M
8757	M	8841	M	8925	M
8758	M	8842	M	8926	M
8759	M	8843	M	8927	S
8760	M	8844	M	8928	S
8761	M	8845	M	8929	S
8762	M	8846	M	8930	S
8763	M	8847	M	8931	M
8764	M	8848	M	8932	M
8765	M	8849	M	8933	M
8766	M	8850	M	8934	M
8767	M	8851	M	8935	M
8768	M	8852	M	8936	M
8769	M	8853	M	8937	M

Job No: 8599/149
Our Ref: 8599/149-AA

Lot	Site Classification	Lot	Site Classification	Lot	Site Classification
8770	M	8854	M	8938	M
8771	M	8855	M	8939	M
8772	M	8856	M	8940	M
8773	M	8857	M	8941	M
8774	M	8858	M	8942	M
8775	M	8859	M	8943	M
8776	M	8860	M	8944	M
8777	M	8861	M	8945	M
8778	M	8862	M	8946	M
8779	M	8863	M	8947	M
8780	M	8864	M	8948	M
8781	M	8865	M	8949	M
8782	M	8866	M	8950	M
8783	M	8867	M		
8784	M	8868	M		

S: Slightly Reactive, Free Movement: 0-20mm
M: Moderately Reactive, Free Surface Movement: 20-40mm
H1: Highly Reactive, Free Surface Movement: 40-60mm

APPENDIX C

LABORATORY TEST RESULTS

Material Test Report

Report Number: **8599/149-1**
Issue Number: 1
Date Issued: 27/08/2025
Client: DARACON CONTRACTORS PTY LTD
20 KULLARA CLOSE, BERESFIELD NSW 2322
Contact: JON ARMSTRONG
Project Number: 8599/149
Project Name: Newpark Precinct 7H, Marsden Park
Project Location: 68-69 Flametree Drive
Client Reference: 8599/149-AA
Work Request: 1236
Sample Number: S-1236D
Date Sampled: 20/08/2025
Dates Tested: 20/08/2025 - 25/08/2025
Sampling Method: AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location: **TP25, Depth: 0.5 - 0.7**
Material: (CH) Silty CLAY, High Plasticity, brown mottled orange, fine cobble grained, subrounded gravel

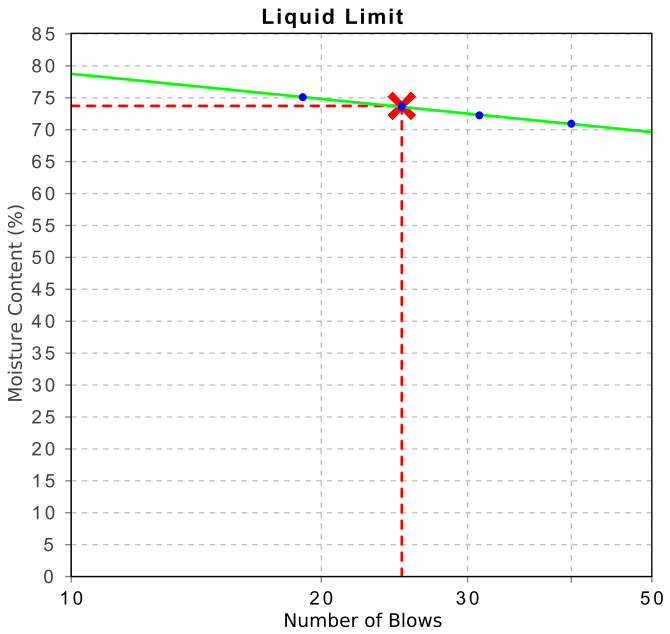
Geotech Testing Pty Ltd
Penrith Laboratory
34 Borec Road Penrith NSW 2750
Phone: (02) 4722 2744
Email: matthew@geotech.com.au

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Mathew Morley
Laboratory Manager
NATA Accredited Laboratory Number: 2734

Atterberg Limit (AS1289 3.1.1 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	74		
Plastic Limit (%)	25		
Plasticity Index (%)	**49**		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.1		
Linear Shrinkage (%)	**16.5**		
Cracking Crumbling Curling	Cracking		



Material Test Report

Report Number: **8599/149-1**
Issue Number: 1
Date Issued: 27/08/2025
Client: DARACON CONTRACTORS PTY LTD
20 KULLARA CLOSE, BERESFIELD NSW 2322
Contact: JON ARMSTRONG
Project Number: 8599/149
Project Name: Newpark Precinct 7H, Marsden Park
Project Location: 68-69 Flametree Drive
Client Reference: 8599/149-AA
Work Request: 1236
Dates Tested: 20/08/2025 - 26/08/2025
Location: 68 - 69 Flametree Drive

GEOTECH TESTING PTY LTD
ABN 71 076 676 321

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NATA WORLD RECOGNISED ACCREDITATION

Approved Signatory: Mathew Morley
Laboratory Manager
NATA Accredited Laboratory Number: 2734

Shrink Swell Index AS 1289 7.1.1 & 2.1.1					
Sample Number	S-1236A	S-1236B	S-1236C		
Date Sampled	20/08/2025	20/08/2025	20/08/2025		
Date Tested	26/08/2025	26/08/2025	26/08/2025		
Material Source	U50	U50	U50		
Sample Location	TP3 (0.5 - 0.7)	TP9 (0.5 - 0.7)	TP18 (0.5 - 0.7)		
Inert Material Estimate (%)	**	**	0.1		
Pocket Penetrometer before (kPa)	34	43	43		
Pocket Penetrometer after (kPa)	13	25	20		
Shrinkage Moisture Content (%)	18.2	13.3	13.7		
Shrinkage (%)	**3.5**	**1.3**	**0.6**		
Swell Moisture Content Before (%)	18.3	14.2	14.6		
Swell Moisture Content After (%)	24.5	17.3	21.1		
Swell (%)	**5.2**	**0.3**	**3.7**		
Shrink Swell Index Iss (%)	**3.4**	**0.8**	**1.4**		
Visual Description	Sandy gravel	Silty Clay	Silty Clay		
Cracking	SC	HC	HC		
Crumbling	**	**	**		
Remarks	**	**	**		

Shrink Swell Index (Iss) reported as the percentage vertical strain per pF change in suction.
Cracking Terminology: UC Uncracked, SC Slightly Cracked, MC Moderately Cracked, HC Highly Cracked, FR Fragmented.
NATA Accreditation does not cover the performance of pocket penetrometer readings.

Material Test Report

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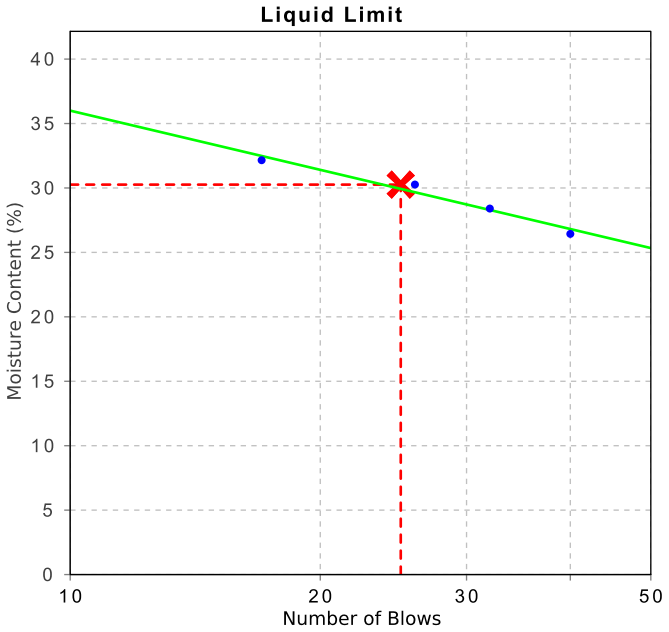
Approved Signatory: Mathew Morley
Laboratory Manager
NATA Accredited Laboratory Number: 2734

Report Number:	**8599/149-2**
Issue Number:	1
Date Issued:	04/09/2025
Client:	DARACON CONTRACTORS PTY LTD 20 KULLARA CLOSE, BERESFIELD NSW 2322
Contact:	JON ARMSTRONG
Project Number:	8599/149
Project Name:	Newpark Precinct 7H, Marsden Park
Project Location:	68-69 Flametree Drive
Client Reference:	8599/149-AA
Work Request:	1258
Sample Number:	S-1258B
Date Sampled:	28/08/2025
Dates Tested:	28/08/2025 - 01/09/2025
Sampling Method:	AS 1141.3.1 8.4.4 - Use of sampling tubes
Preparation Method:	AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location:	**TP 37, Depth: 0.5 - 0.7m**
Material:	(CI) Sandy CLAY, medium plasticity, grey mottled brown, fine to coarse sand

Atterberg Limit (AS1289 3.1.1 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	30		
Plastic Limit (%)	16		
Plasticity Index (%)	**14**		



Material Test Report

Report Number: **8599/149-2**
Issue Number: 1
Date Issued: 04/09/2025
Client: DARACON CONTRACTORS PTY LTD
20 KULLARA CLOSE, BERESFIELD NSW 2322
Contact: JON ARMSTRONG
Project Number: 8599/149
Project Name: Newpark Precinct 7H, Marsden Park
Project Location: 68-69 Flametree Drive
Client Reference: 8599/149-AA
Work Request: 1258
Dates Tested: 28/08/2025 - 02/09/2025
Location: 68 - 69 Flametree Drive, Marsden Park

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Approved Signatory: Mathew Morley
Laboratory Manager
NATA Accredited Laboratory Number: 2734

Shrink Swell Index AS 1289 7.1.1 & 2.1.1					
Sample Number	S-1258A				
Date Sampled	28/08/2025				
Date Tested	02/09/2025				
Material Source	u50				
Sample Location	TP 29 (0.5 - 0.6m)				
Inert Material Estimate (%)	0.1				
Pocket Penetrometer before (kPa)	35				
Pocket Penetrometer after (kPa)	15				
Shrinkage Moisture Content (%)	21.7				
Shrinkage (%)	**5.0**				
Swell Moisture Content Before (%)	14.1				
Swell Moisture Content After (%)	24.0				
Swell (%)	**0.3**				
Shrink Swell Index Iss (%)	**2.9**				
Visual Description	Silty Clay				
Cracking	MC				
Crumbling	No				
Remarks	**				

Shrink Swell Index (Iss) reported as the percentage vertical strain per pF change in suction.
Cracking Terminology: UC Uncracked, SC Slightly Cracked, MC Moderately Cracked, HC Highly Cracked, FR Fragmented.
NATA Accreditation does not cover the performance of pocket penetrometer readings.

Material Test Report

Geotech Testing Pty Ltd
Penrith Laboratory
34 Borec Road Penrith NSW 2750
Phone: (02) 4722 2744
Email: matthew@geotech.com.au

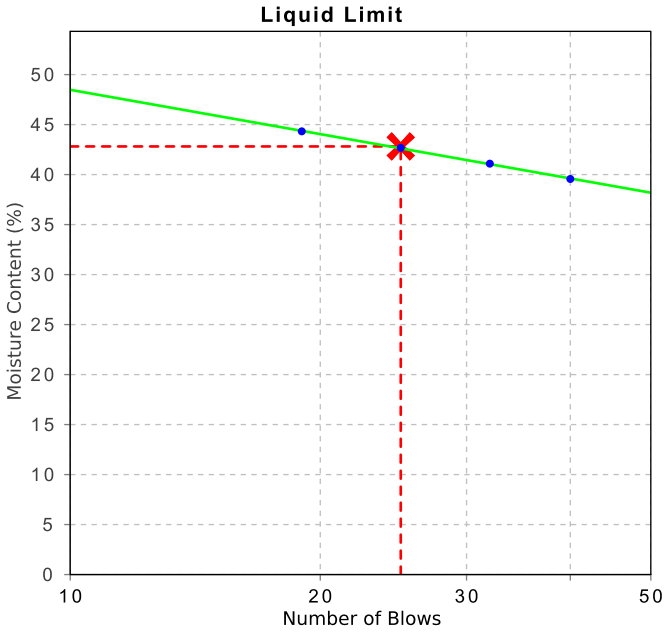
Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Mathew Morley
Laboratory Manager
NATA Accredited Laboratory Number: 2734

Report Number:	**8599/149-3**
Issue Number:	1
Date Issued:	06/09/2025
Client:	DARACON CONTRACTORS PTY LTD 20 KULLARA CLOSE, BERESFIELD NSW 2322
Contact:	JON ARMSTRONG
Project Number:	8599/149
Project Name:	Newpark Precinct 7H, Marsden Park
Project Location:	68-69 Flametree Drive
Client Reference:	8599/149-AA
Work Request:	1267
Sample Number:	S-1267C
Date Sampled:	29/08/2025
Dates Tested:	29/08/2025 - 04/09/2025
Sampling Method:	AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Preparation Method:	AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location:	**TP56, Depth: 0.5-0.7**
Material:	(CH) Silty CLAY, high plasticity, red brown mottled grey, orange, trace gravel and sand

Atterberg Limit (AS1289 3.1.1 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	43		
Plastic Limit (%)	17		
Plasticity Index (%)	**26**		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.1		
Linear Shrinkage (%)	**13.0**		
Cracking Crumbling Curling	None		



Material Test Report

Report Number: **8599/149-3**
Issue Number: 1
Date Issued: 06/09/2025
Client: DARACON CONTRACTORS PTY LTD
20 KULLARA CLOSE, BERESFIELD NSW 2322
Contact: JON ARMSTRONG
Project Number: 8599/149
Project Name: Newpark Precinct 7H, Marsden Park
Project Location: 68-69 Flametree Drive
Client Reference: 8599/149-AA
Work Request: 1267
Sample Number: S-1267D
Date Sampled: 29/08/2025
Dates Tested: 29/08/2025 - 04/09/2025
Sampling Method: AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location: **TP61, Depth: 0.5-0.7**
Material: (CH) Silty CLAY, high plasticity, red brown mottled grey, orange, trace gravel and sand

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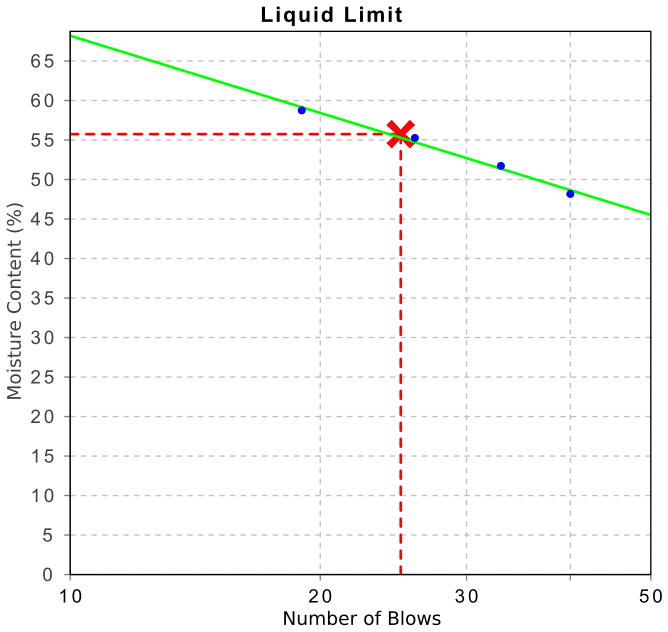
Atterberg Limit (AS1289 3.1.1 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	56		
Plastic Limit (%)	18		
Plasticity Index (%)	**38**		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.1		
Linear Shrinkage (%)	**15.5**		
Cracking Crumbling Curling	None		



Material Test Report

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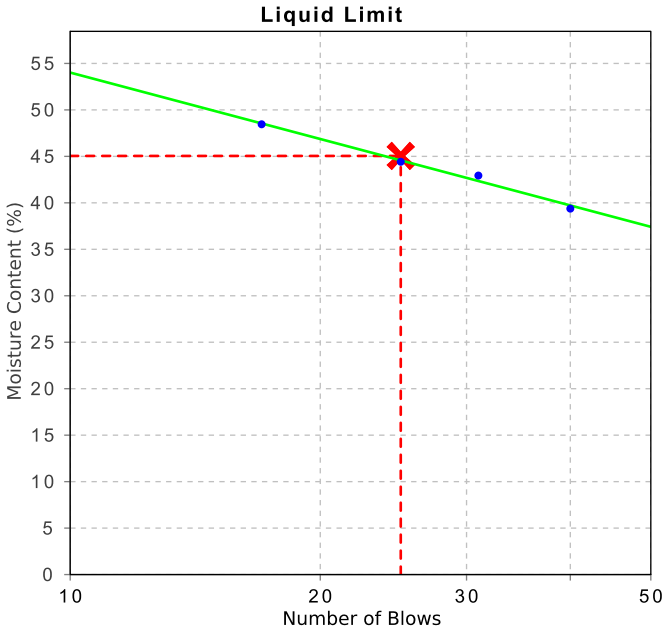
Report Number: **8599/149-3**
Issue Number: 1
Date Issued: 06/09/2025
Client: DARACON CONTRACTORS PTY LTD
20 KULLARA CLOSE, BERESFIELD NSW 2322
Contact: JON ARMSTRONG
Project Number: 8599/149
Project Name: Newpark Precinct 7H, Marsden Park
Project Location: 68-69 Flametree Drive
Client Reference: 8599/149-AA
Work Request: 1267
Sample Number: S-1267E
Date Sampled: 29/08/2025
Dates Tested: 29/08/2025 - 04/09/2025
Sampling Method: AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location: **TP65, Depth: 0.5-0.7**
Material: (CH) Silty CLAY, high plasticity, red brown mottled grey, orange, trace gravel and sand

Atterberg Limit (AS1289 3.1.1 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	45		
Plastic Limit (%)	15		
Plasticity Index (%)	**30**		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.1		
Linear Shrinkage (%)	**11.5**		
Cracking Crumbling Curling	None		



Material Test Report

Report Number: **8599/149-3**
Issue Number: 1
Date Issued: 06/09/2025
Client: DARACON CONTRACTORS PTY LTD
20 KULLARA CLOSE, BERESFIELD NSW 2322
Contact: JON ARMSTRONG
Project Number: 8599/149
Project Name: Newpark Precinct 7H, Marsden Park
Project Location: 68-69 Flametree Drive
Client Reference: 8599/149-AA
Work Request: 1267
Sample Number: S-1267G
Date Sampled: 29/08/2025
Dates Tested: 29/08/2025 - 03/09/2025
Sampling Method: AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location: **TP76, Depth: 0.5-0.7**
Material: (CH) Silty CLAY, high plasticity, red brown mottled grey, orange, trace gravel and sand

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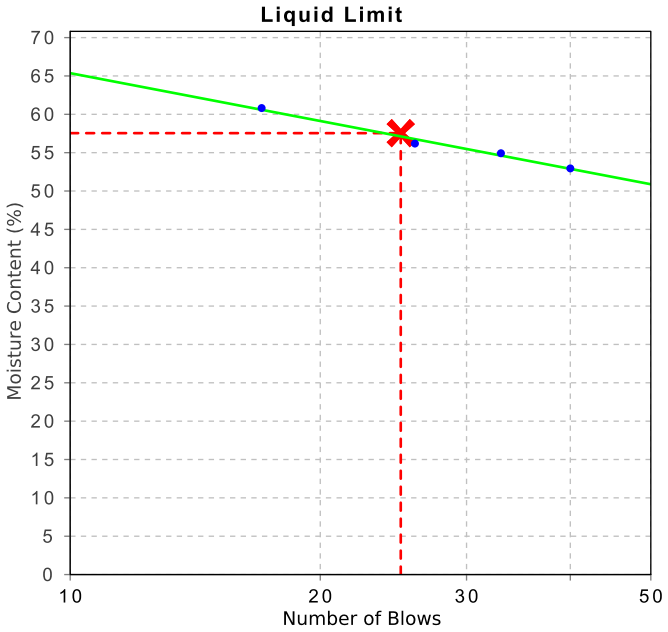
NATA Accredited Laboratory Number: 2734

Atterberg Limit (AS1289 3.1.1 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	58		
Plastic Limit (%)	20		
Plasticity Index (%)	**38**		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.1		
Linear Shrinkage (%)	**17.5**		
Cracking Crumbling Curling	None		



Material Test Report

Report Number: **8599/149-3**
Issue Number: 1
Date Issued: 06/09/2025
Client: DARACON CONTRACTORS PTY LTD
20 KULLARA CLOSE, BERESFIELD NSW 2322
Contact: JON ARMSTRONG
Project Number: 8599/149
Project Name: Newpark Precinct 7H, Marsden Park
Project Location: 68-69 Flametree Drive
Client Reference: 8599/149-AA
Work Request: 1267
Sample Number: S-1267H
Date Sampled: 29/08/2025
Dates Tested: 29/08/2025 - 03/09/2025
Sampling Method: AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location: **TP79, Depth: 0.5-0.7**
Material: (CI) Sandy CLAY, medium plasticity, pale grey, fine to coarse sand, with gravel

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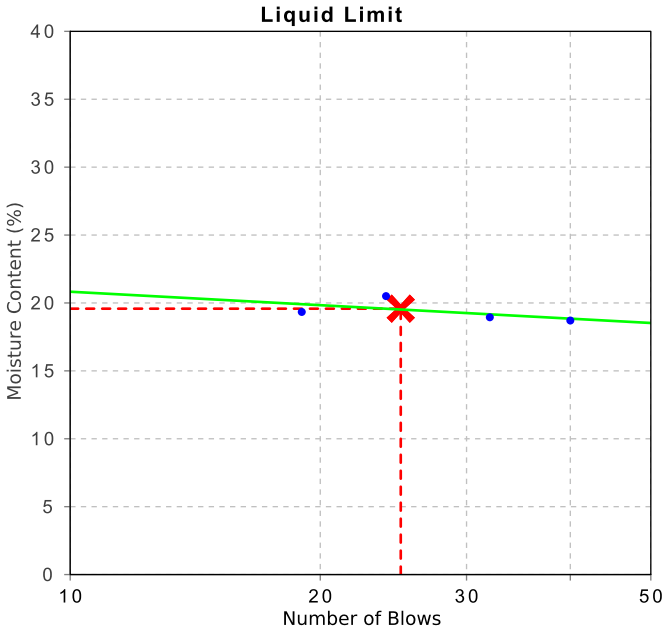
Atterberg Limit (AS1289 3.1.1 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	20		
Plastic Limit (%)	15		
Plasticity Index (%)	**5**		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.1		
Linear Shrinkage (%)	**2.0**		
Cracking Crumbling Curling	None		



Material Test Report

Report Number: **8599/149-3**
Issue Number: 1
Date Issued: 06/09/2025
Client: DARACON CONTRACTORS PTY LTD
20 KULLARA CLOSE, BERESFIELD NSW 2322
Contact: JON ARMSTRONG
Project Number: 8599/149
Project Name: Newpark Precinct 7H, Marsden Park
Project Location: 68-69 Flametree Drive
Client Reference: 8599/149-AA
Work Request: 1267
Sample Number: S-1267J
Date Sampled: 29/08/2025
Dates Tested: 29/08/2025 - 03/09/2025
Sampling Method: AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location: **TP88, Depth: 0.5-0.7**
Material: FILL: Sandy Clay, medium to high plasticity, brown mottled grey, red orange, fine to coarse grained sand with gravel

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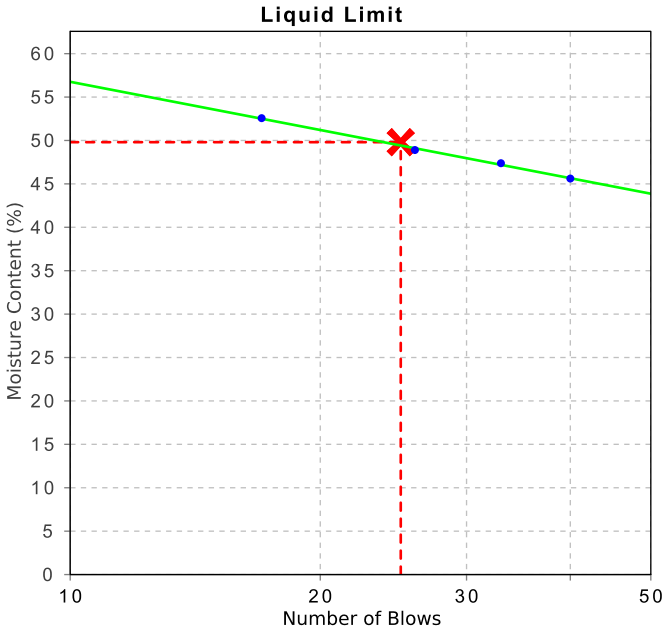
Atterberg Limit (AS1289 3.1.1 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	50		
Plastic Limit (%)	19		
Plasticity Index (%)	**31**		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.1		
Linear Shrinkage (%)	**14.5**		
Cracking Crumbling Curling	None		



Material Test Report

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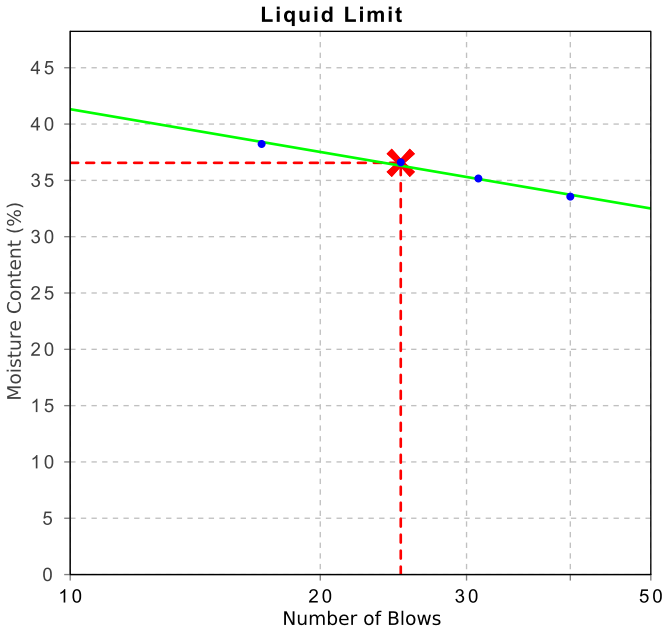
20 KULLARA CLOSE, BERESFIELD NSW 2322
Contact: JON ARMSTRONG
Project Number: 8599/149
Project Name: Newpark Precinct 7H, Marsden Park
Project Location: 68-69 Flametree Drive
Client Reference: 8599/149-AA
Work Request: 1267
Sample Number: S-1267K
Date Sampled: 29/08/2025
Dates Tested: 29/08/2025 - 04/09/2025
Sampling Method: AS 1289.1.2.1 6.5.4 - Machine excavated pit or trench
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location: **TP90, Depth: 0.5-0.7**
Material: (CH) Silty CLAY, medium to high plasticity, grey mottled yellow brown, fine to coarse grained sand and gravel

Atterberg Limit (AS1289 3.1.1 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	37		
Plastic Limit (%)	15		
Plasticity Index (%)	**22**		

Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.1		
Linear Shrinkage (%)	**7.5**		
Cracking Crumbling Curling	Cracking		



Material Test Report

Report Number: **8599/149-3**
Issue Number: 1
Date Issued: 06/09/2025
Client: DARACON CONTRACTORS PTY LTD
20 KULLARA CLOSE, BERESFIELD NSW 2322
Contact: JON ARMSTRONG
Project Number: 8599/149
Project Name: Newpark Precinct 7H, Marsden Park
Project Location: 68-69 Flametree Drive
Client Reference: 8599/149-AA
Work Request: 1267
Dates Tested: 29/08/2025 - 04/09/2025
Location: Newpark Precinct 7H, Marsden Park

GEOTECH TESTING PTY LTD
ABN 71 076 676 321

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NATA WORLD RECOGNISED ACCREDITATION

Approved Signatory: Mathew Morley
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Shrink Swell Index AS 1289 7.1.1 & 2.1.1					
Sample Number	S-1267A	S-1267B	S-1267F	S-1267I	
Date Sampled	29/08/2025	29/08/2025	29/08/2025	29/08/2025	
Date Tested	04/09/2025	04/09/2025	04/09/2025	04/09/2025	
Material Source	U50	U50	U50	U50	
Sample Location	TP45 (0.5-0.7)	TP49 (0.5-0.7)	TP71 (0.5-0.7)	TP81 (0.5-0.7)	
Inert Material Estimate (%)	**	0.1	0.1	**	
Pocket Penetrometer before (kPa)	35	25	54	50	
Pocket Penetrometer after (kPa)	18	12	20	25	
Shrinkage Moisture Content (%)	23.0	19.3	15.3	20.8	
Shrinkage (%)	**5.4**	**2.2**	**0.9**	**3.8**	
Swell Moisture Content Before (%)	19.8	17.3	20.0	21.9	
Swell Moisture Content After (%)	22.8	20.9	26.1	27.2	
Swell (%)	**0.3**	**0.9**	**0.1**	**2.1**	
Shrink Swell Index Iss (%)	**3.1**	**1.4**	**0.5**	**2.7**	
Visual Description	Silty Clay red brown	SILTY CLAY brown mottled grey, orange	Silty Clay red brown mottled grey ,orange	Silty Clay red brown	
Cracking	UC	SC	MC	SC	
Crumbling	**	**	**	**	
Remarks	**	**	**	**	

Shrink Swell Index (Iss) reported as the percentage vertical strain per pF change in suction.
Cracking Terminology: UC Uncracked, SC Slightly Cracked, MC Moderately Cracked, HC Highly Cracked, FR Fragmented.
NATA Accreditation does not cover the performance of pocket penetrometer readings.