TEST PIT LOG - TP01-24

Client: Fulton Hogan Land Development Limited
Project: Milldale Fast Track Application
Site Location: Wainui East
Project No.: AKL2024-0257
Date: 04/11/2024
Test Pit Location: Refer to Site Plan | Logged by: JH | Checked by: MJC | Scale: 1:25 | Sheet 1 of 1
Position: 389234.8mE; 830408.5mN | Projection: EDENTM2000 | Pit Dimensions: 3.0m by 1.2m
Elevation: 26.55m | Datum: AUCKHT1946 | Survey Source: Hand Held GPS

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Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)	Structure & Other Observations
			26.6			OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. (Topsoil)				
			26.3			ML: SILT with minor clay: Yellowish brown streaked grey. Low plasticity. Moderately sensitive. (Alluvium)				
	0.5	Peak = 143kPa Residual = 38kPa						VSt		
			25.9			ML: Clayey SILT: Light grey streaked yellowish brown. Low plasticity. Trace limonite staining. Trace decomposing tree roots. Moderately sensitive. (Alluvium)				
	1.0	Peak = 67kPa Residual = 32kPa		1						
	1.5	Peak = 95kPa Residual = 51kPa						St		
	2.0	Peak = 64kPa Residual = 29kPa		2						
	2.5	Peak = 115kPa Residual = 48kPa				... at 2.50m, Becoming very stiff.	M			
	3.0	Peak = 111kPa Residual = 45kPa		3				VSt		
			23.4			ML: SILT: Bluish grey. Low plasticity. Moderately sensitive. Recovered as completely to highly weathered SILTSTONE. (Hukerenui Mudstone)				
	3.5	Peak = 143kPa Residual = 38kPa				... at 3.50m, Becoming hard.				
	4.0	Peak = UTP		4				H		
				5		Test pit terminated at 5.00 m				

Termination Reason: Target depth reached
Shear Vane No: 1620 DCP No:

Remarks: Groundwater not encountered.

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 3 - April 2018.

TEST PIT PHOTOGRAPHS: TP01-24

Client:	Fulton Hogan Land Development Limited		
Project:	Milldale Fast Track Application	**Location:**	Wainui East
Project No:	AKL2024-0257	**Date:**	04/11/24
Position:	Refer to Site Plan	**Contractor:**	KDL
Logged by:	JH	**Checked by:**	MJC
Dimensions:	3.0m by 1.2m	**Termination Depth:**	5m

TP01-24 – TEST PIT EXCAVATION

TP01-24 – TEST PIT EXCAVATION

TP01-24 – TEST PIT EXCAVATION

TP01-24 – TEST PIT SPOIL

TEST PIT LOG - TP02-24

Client: Fulton Hogan Land Development Limited
Project: Milldale Fast Track Application
Site Location: Wainui East
Project No.: AKL2024-0257
Date: 04/11/2024
Test Pit Location: Refer to Site Plan | Logged by: JH | Checked by: MJC | Scale: 1:25 | Sheet 1 of 1
Position: 389145.0mE; 830299.7mN | Projection: EDENTM2000 | Pit Dimensions: 3.0m by 1.2m
Elevation: 31.30m | Datum: AUCKHT1946 | Survey Source: Hand Held GPS

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Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)	Structure & Other Observations
			31.3			OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. (Topsoil)				
			31.0			ML: Clayey SILT: Yellowish brown. Low plasticity. (Alluvium)				
	0.5	Peak = 143kPa Residual = 25kPa				*... from 0.30m to 0.50m, Blocky structure.*				
						... at 0.50m, Becoming yellowish brown streaked light grey. Trace limonite staining. Trace rootlets, organic bands.				
	1.0	Peak = 150kPa Residual = 57kPa		1						
	1.5	Peak = 115kPa Residual = 51kPa					M	VSt		
	2.0	Peak = 143kPa Residual = 41kPa		2						
	2.5	Peak = 150kPa Residual = 32kPa								
						... at 2.70m, Some limonite staining.				
	3.0	Peak = UTP	28.3	3		Highly to moderately weathered, bluish grey MUDSTONE: Extremely weak. Recovered as silt clasts, tightly interlocked. (Hukerenui Mudstone)				
	3.5	Peak = UTP								
	4.0	Peak = UTP		4			D to M	H		
				5		Test pit terminated at 5.00 m				

Termination Reason: Target depth reached
Shear Vane No: 1620 DCP No:

Remarks: Groundwater not encountered.

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 3 - April 2018.

TEST PIT PHOTOGRAPHS: TP02-24

Client:	Fulton Hogan Land Development Limited		
Project:	Milldale Fast Track Application	**Location:**	Wainui East
Project No:	AKL2024-0257	**Date:**	04/11/24
Position:	Refer to Site Plan	**Contractor:**	KDL
Logged by:	JH	**Checked by:**	MJC
Dimensions:	3.0m by 1.2m	**Termination Depth:**	5m

TP02-24 – TEST PIT EXCAVATION

TP02-24 – TEST PIT EXCAVATION

TP02-24 – TEST PIT EXCAVATION

TP02-24 – TEST PIT SPOIL

TEST PIT LOG - TP03-24

Client: Fulton Hogan Land Development Limited
Project: Milldale Fast Track Application
Site Location: Wainui East
Project No.: AKL2024-0257
Date: 04/11/2024
Test Pit Location: Refer to Site Plan | Logged by: JH | Checked by: MJC | Scale: 1:25 | Sheet 1 of 1
Position: 389046.5mE; 830326.4mN | Projection: EDENTM2000 | Pit Dimensions: 3.0m by 1.2m
Elevation: 32.66m | Datum: AUCKHT1946 | Survey Source: Hand Held GPS

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Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)	Structure & Other Observations
			32.7			OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. (Topsoil)				
			32.4			ML: Clayey SILT: Brown mottled grey. Low plasticity. Trace limonite staining. Moderately sensitive. (Alluvium)				
	0.5	Peak = 178kPa Residual = 51kPa								
						... at 0.60m, Becoming light grey streaked yellowish brown. Trace limonite staining.				
	1.0	Peak = 111kPa Residual = 48kPa		1						
	1.5	Peak = 143kPa Residual = 51kPa						VSt		
	2.0	Peak = 175kPa Residual = 48kPa		2						
	2.5	Peak = 146kPa Residual = 45kPa				*... at 2.50m, Becoming orange brown.*	M			
			30.0			ML: SILT: Dark grey with trace reddish brown. Low plasticity. Some silt clasts. Recovered as completely weathered to highly weathered SILTSTONE. (Hukerenui Mudstone)				
	3.0	Peak = UTP		3						
	3.5	Peak = UTP						H		
	4.0	Peak = UTP		4						
				5		Test pit terminated at 5.00 m				

Termination Reason: Target depth reached
Shear Vane No: 1620 DCP No:

Remarks: Groundwater not encountered. Side wall collapsed from the surface. Facing 145 SE.

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 3 - April 2018.

TEST PIT PHOTOGRAPHS: TP03-24

Client:	Fulton Hogan Land Development Limited		
Project:	Milldale Fast Track Application	**Location:**	Wainui East
Project No:	AKL2024-0257	**Date:**	04/11/24
Position:	Refer to Site Plan	**Contractor:**	KDL
Logged by:	JH	**Checked by:**	MJC
Dimensions:	3.0m by 1.2m	**Termination Depth:**	5m

TP03-24 – TEST PIT EXCAVATION

TP03-24 – TEST PIT EXCAVATION

TP03-24 – TEST PIT EXCAVATION

TP03-24 – TEST PIT SPOIL

TEST PIT LOG - TP05-24

Client: Fulton Hogan Land Development Limited
Project: Milldale Fast Track Application
Site Location: Wainui East
Project No.: AKL2024-0257
Date: 05/11/2024
Test Pit Location: Refer to Site Plan | Logged by: JH | Checked by: MJC | Scale: 1:25 | Sheet 1 of 1
Position: 388974.7mE; 830265.7mN | Projection: EDENTM2000 | Pit Dimensions: 3.0m by 1.2m
Elevation: 38.69m | Datum: AUCKHT1946 | Survey Source: Hand Held GPS

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Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)	Structure & Other Observations
			38.7			OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. (Topsoil)				
			38.5			ML: Clayey SILT: Yellowish brown. Low plasticity. (Alluvium)				
						... from 0.20m to 0.70m, Blocky Structure.				
	0.5	Peak = 143kPa Residual = 22kPa								
	1.0	Peak = 111kPa Residual = 48kPa		1			M	VSt		
	1.5	Peak = 118kPa Residual = 48kPa								
	2.0	Peak = 181kPa Residual = 45kPa		2						
			36.3			ML: Completely to highly weathered, bluish grey with trace brown MUDSTONE: Bluish grey with trace brown. Minor silt clasts, medium to coarse gravel sized. (Hukerenui Mudstone)				
	2.5	Peak = 175kPa Residual = 48kPa								
	3.0	Peak = UTP		3						
	3.5	Peak = UTP					D to M	H		
	4.0	Peak = UTP		4						
				5		Test pit terminated at 5.00 m				

Termination Reason: Target depth reached
Shear Vane No: 1620 DCP No:

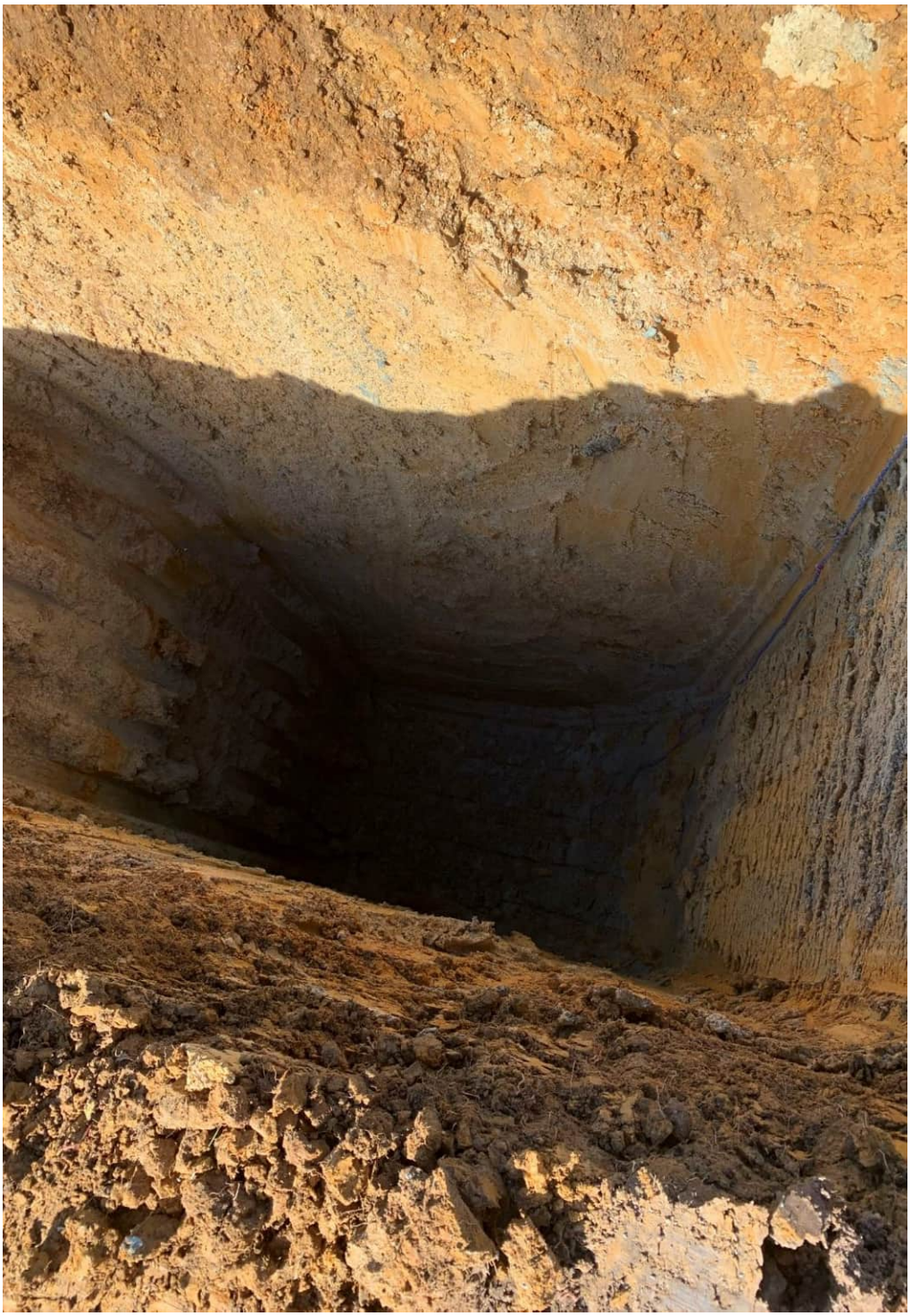
Remarks: Groundwater not encountered. Facing 318 NW.

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 3 - April 2018.

TEST PIT PHOTOGRAPHS: TP05-24

Client:	Fulton Hogan Land Development Limited		
Project:	Milldale Fast Track Application	**Location:**	Wainui East
Project No:	AKL2024-0257	**Date:**	05/11/24
Position:	Refer to Site Plan	**Contractor:**	KDL
Logged by:	JH	**Checked by:**	MJC
Dimensions:	3.0m by 1.2m	**Termination Depth:**	5m

TP05-24 – TEST PIT EXCAVATION



TP05-24 – TEST PIT EXCAVATION

TP05-24 – TEST PIT EXCAVATION

TP05-24 – TEST PIT SPOIL

TEST PIT LOG - TP06-24

Client: Fulton Hogan Land Development Limited
Project: Milldale Fast Track Application
Site Location: Wainui East
Project No.: AKL2024-0257
Date: 05/11/2024
Test Pit Location: Refer to Site Plan | Logged by: JH | Checked by: MJC | Scale: 1:25 | Sheet 1 of 1
Position: 388996.9mE; 830213.0mN | Projection: EDENTM2000 | Pit Dimensions: 3.0m by 1.2m
Elevation: 30.52m | Datum: AUCKHT1946 | Survey Source: Hand Held GPS

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Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm) 5 10 15 20	Structure & Other Observations
			30.5			OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. (Topsoil)				
			30.3			ML: Clayey SILT: Light grey streaked yellowish brown. Low plasticity. Trace limonite staining. (Alluvium)				
	0.5	Peak = 115kPa Residual = 35kPa								
			29.8			CH: Silty CLAY: Light grey streaked yellowish brown. High plasticity. (Alluvium)				
	1.0	Peak = 105kPa Residual = 35kPa		1				VSt to H		
	1.5	Peak = 130kPa Residual = 48kPa								
	2.0	Peak = UTP		2		*... from 2.00m to 2.20m, Minor limonite staining.*				
			28.3			Completely to highly weathered, bluish grey tightly interlocked MUDSTONE: Extremely weak. (Hukerenui Mudstone)				
	2.5	Peak = UTP					M			
	3.0	Peak = UTP		3						
	3.5	Peak = UTP						H		
	4.0	Peak = UTP		4						
				5		Test pit terminated at 5.00 m				

Termination Reason: Target depth reached
Shear Vane No: 1620 DCP No:

Remarks: Groundwater not encountered. Facing 153 SE.

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 3 - April 2018.

TEST PIT PHOTOGRAPHS: TP06-24

Client:	Fulton Hogan Land Development Limited		
Project:	Milldale Fast Track Application	**Location:**	Wainui East
Project No:	AKL2024-0257	**Date:**	05/11/24
Position:	Refer to Site Plan	**Contractor:**	KDL
Logged by:	JH	**Checked by:**	MJC
Dimensions:	3.0m by 1.2m	**Termination Depth:**	5m

TP06-24 – TEST PIT EXCAVATION

TP06-24 – TEST PIT EXCAVATION

TP06-24 – TEST PIT EXCAVATION

TP06-24 – TEST PIT SPOIL

TEST PIT LOG - TP07-24

Client: Fulton Hogan Land Development Limited
Project: Milldale Fast Track Application
Site Location: Wainui East
Project No.: AKL2024-0257
Date: 05/11/2024
Test Pit Location: Refer to Site Plan | Logged by: JH | Checked by: MJC | Scale: 1:25 | Sheet 1 of 1
Position: 388702.9mE; 830139.5mN | Projection: EDENTM2000 | Pit Dimensions: 3.0m by 1.2m
Elevation: 47.10m | Datum: AUCKHT1946 | Survey Source: Hand Held GPS

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Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)	Structure & Other Observations
			47.1			OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. (Topsoil)			5 10 15 20	Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks
			46.9			CH: Silty CLAY: Yellowish brown streaked light grey. High plasticity. (Mangakahia Complex)				
	0.5	Peak = 95kPa Residual = 22kPa								
	1.0	Peak = 140kPa Residual = 38kPa		1				St to VSt		
	1.5	Peak = 95kPa Residual = 29kPa								
	2.0	Peak = 156kPa Residual = 25kPa	45.1	2		Completely to highly weathered, bluish grey SILTSTONE: Extremely weak. Recovered as gravels and boulders covered with silt, angular to rounded. (Mangakahia Complex)		VSt		
	2.5	Peak = UTP					M			
	3.0	Peak = UTP		3						
	3.5	Peak = UTP						H		
	4.0	Peak = UTP		4						
				5		Test pit terminated at 5.00 m				

Termination Reason: Target depth reached
Shear Vane No: 1620 DCP No:

Remarks: Groundwater not encountered.

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 3 - April 2018.

TEST PIT PHOTOGRAPHS: TP07-24

Client:	Fulton Hogan Land Development Limited		
Project:	Milldale Fast Track Application	**Location:**	Wainui East
Project No:	AKL2024-0257	**Date:**	05/11/24
Position:	Refer to Site Plan	**Contractor:**	KDL
Logged by:	JH	**Checked by:**	MJC
Dimensions:	3.0m by 1.2m	**Termination Depth:**	5m

TP07-24 – TEST PIT EXCAVATION

TP07-24 – TEST PIT EXCAVATION

TP07-24 – TEST PIT EXCAVATION

TP07-24 – TEST PIT SPOIL

TEST PIT LOG - TP08-24

Client: Fulton Hogan Land Development Limited
Project: Milldale Fast Track Application
Site Location: Wainui East
Project No.: AKL2024-0257
Date: 05/11/2024
Test Pit Location: Refer to Site Plan | Logged by: JH | Checked by: MJC | Scale: 1:25 | Sheet 1 of 1
Position: 388611.4mE; 830004.1mN | Projection: EDENTM2000 | Pit Dimensions: 3.0m by 1.2m
Elevation: 49.80m | Datum: AUCKHT1946 | Survey Source: Hand Held GPS

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Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)	Structure & Other Observations
			49.8			OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. (Topsoil)			5 10 15 20	Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks
			49.6			ML: Clayey SILT: Yellowish brown streaked light grey. Low plasticity. (Mangakahia Complex)				
	0.5	Peak = 80kPa Residual = 32kPa					M	St		
	1.0	Peak = UTP	48.8	1		Moderately weathered, grey, SILTSTONE: Extremely weak. (Mangakahia Complex) *... from 1.00m to 2.00m, Friable.*				
	1.5	Peak = UTP								
	2.0	Peak = UTP		2						
	2.5	Peak = UTP								
	3.0	Peak = UTP		3			D	H		
	3.5	Peak = UTP								
	4.0	Peak = UTP		4						
				5		Test pit terminated at 5.00 m				

Termination Reason: Target depth reached
Shear Vane No: 1620 DCP No:

Remarks: Groundwater not encountered. Facing 215 SW.

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 3 - April 2018.

TEST PIT PHOTOGRAPHS: TP08-24

Client:	Fulton Hogan Land Development Limited		
Project:	Milldale Fast Track Application	**Location:**	Wainui East
Project No:	AKL2024-0257	**Date:**	05/11/24
Position:	Refer to Site Plan	**Contractor:**	KDL
Logged by:	JH	**Checked by:**	MJC
Dimensions:	3.0m by 1.2m	**Termination Depth:**	5m

TP08-24 – TEST PIT EXCAVATION

TP08-24 – TEST PIT EXCAVATION

TP08-24 – TEST PIT EXCAVATION

TP08-24 – TEST PIT SPOIL

TEST PIT LOG - TP09-24

Client: Fulton Hogan Land Development Limited
Project: Milldale Fast Track Application
Site Location: Wainui East
Project No.: AKL2024-0257
Date: 05/11/2024
Test Pit Location: Refer to Site Plan | Logged by: JH | Checked by: MJC | Scale: 1:25 | Sheet 1 of 1
Position: 388690.5mE; 829971.6mN | Projection: EDENTM2000 | Pit Dimensions: 3.0m by 1.2m
Elevation: 39.22m | Datum: AUCKHT1946 | Survey Source: Hand Held GPS

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Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)	Structure & Other Observations
			39.2			OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. (Topsoil)			5 10 15 20	Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks
			38.9			ML: Clayey SILT: Light grey streaked trace yellowish brown. Low plasticity. Trace limonite staining. (Mangakahia Complex)				
	0.5	Peak = 108kPa Residual = 38kPa					M			
	1.0	Peak = 73kPa Residual = 38kPa		1				St to VSt		
	1.5	Peak = UTP								
			37.6			Moderately weathered, light grey SILTSTONE: Extremely weak. (Mangakahia Complex)				
	2.0	Peak = UTP		2						
						... at 2.10m, Becoming grey.				
	2.5	Peak = UTP								
	3.0	Peak = UTP		3			D	H		
	3.5	Peak = UTP								
	4.0	Peak = UTP		4						
				5		Test pit terminated at 5.00 m				

Termination Reason: Target depth reached
Shear Vane No: 1620 DCP No:

Remarks: Groundwater not encountered. Facing 145 SE.

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 3 - April 2018.

TEST PIT PHOTOGRAPHS: TP09-24

Client:	Fulton Hogan Land Development Limited		
Project:	Milldale Fast Track Application	**Location:**	Wainui East
Project No:	AKL2024-0257	**Date:**	05/11/24
Position:	Refer to Site Plan	**Contractor:**	KDL
Logged by:	JH	**Checked by:**	MJC
Dimensions:	3.0m by 1.2m	**Termination Depth:**	5m

TP09-24 – TEST PIT EXCAVATION

TP09-24 – TEST PIT EXCAVATION

TP09-24 – TEST PIT EXCAVATION

TP09-24 – TEST PIT SPOIL

TEST PIT LOG - TP10-24

Client: Fulton Hogan Land Development Limited
Project: Milldale Fast Track Application
Site Location: Wainui East
Project No.: AKL2024-0257
Date: 06/11/2024
Test Pit Location: Refer to Site Plan | Logged by: JH | Checked by: MJC | Scale: 1:25 | Sheet 1 of 1
Position: 388588.5mE; 829926.1mN | Projection: EDENTM2000 | Pit Dimensions: 3.0m by 1.2m
Elevation: 51.10m | Datum: AUCKHT1946 | Survey Source: Hand Held GPS

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Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)	Structure & Other Observations
			51.1			OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. (Topsoil)				
			50.9			CH: Silty CLAY: Light grey streaked light yellowish brown. High plasticity. Minor decomposing tree roots. (Mangakahia Complex)				
	0.5	Peak = 143kPa Residual = 40kPa						VSt		
	1.0	Peak = 57kPa Residual = 19kPa		1		*... at 1.00m, Becoming light bluish grey.*	M			
	1.5	Peak = 76kPa Residual = 22kPa						St		
	2.0	Peak = UTP		2		*... from 2.00m to 2.10m, Minor limonite staining.*				
			49.0			Slightly weathered, grey, SILTSTONE: Extremely weak. (Mangakahia Complex)				
	2.5	Peak = UTP								
	3.0	Peak = UTP		3						
	3.5	Peak = UTP					D	H		
	4.0	Peak = UTP		4						
				5		Test pit terminated at 5.00 m				

Dynamic Cone Penetrometer (Blows/100mm): 5 10 15 20

Structure & Other Observations: Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks

Termination Reason: Target depth reached
Shear Vane No: 1620 DCP No:

Remarks: Groundwater not encountered. Facing 065 NE.

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 3 - April 2018.

TEST PIT PHOTOGRAPHS: TP10-24

Client:	Fulton Hogan Land Development Limited		
Project:	Milldale Fast Track Application	**Location:**	Wainui East
Project No:	AKL2024-0257	**Date:**	06/11/24
Position:	Refer to Site Plan	**Contractor:**	KDL
Logged by:	JH	**Checked by:**	MJC
Dimensions:	3.0m by 1.2m	**Termination Depth:**	5m

TP10-24 – TEST PIT EXCAVATION

TP10-24 – TEST PIT EXCAVATION

TP10-24 – TEST PIT EXCAVATION

TP10-24 – TEST PIT SPOIL

TEST PIT LOG - TP11-24

Client: Fulton Hogan Land Development Limited
Project: Milldale Fast Track Application
Site Location: Wainui East
Project No.: AKL2024-0257
Date: 06/11/2024
Test Pit Location: Refer to Site Plan | Logged by: JH | Checked by: MJC | Scale: 1:25 | Sheet 1 of 1
Position: 388671.6mE; 829922.5mN | Projection: EDENTM2000 | Pit Dimensions: 3.0m by 1.2m
Elevation: 40.10m | Datum: AUCKHT1946 | Survey Source: Hand Held GPS

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Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)	Structure & Other Observations
			40.1			OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. (Topsoil)				
			39.8			ML: Clayey SILT: Yellowish brown streaked light grey. Low plasticity. (Mangakahia Complex)				
	0.5	Peak = 115kPa Residual = 32kPa					M	St to VSt		
	1.0	Peak = 76kPa Residual = 35kPa		1						
			38.8			Moderately to slightly weathered, grey SILTSTONE: Extremely weak. Recovered as cobbles and boulders, angular to subangular. (Mangakahia Complex)				
	1.5	Peak = UTP				*... at 1.60m, Becoming light bluish grey.*				
	2.0	Peak = UTP		2						
	2.5	Peak = UTP								
	3.0	Peak = UTP		3			D	H		
	3.5	Peak = UTP								
	4.0	Peak = UTP		4						
				5		Test pit terminated at 5.00 m				

Dynamic Cone Penetrometer (Blows/100mm): 5 10 15 20

Structure & Other Observations: Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks

Termination Reason: Target depth reached
Shear Vane No: 1620 DCP No:

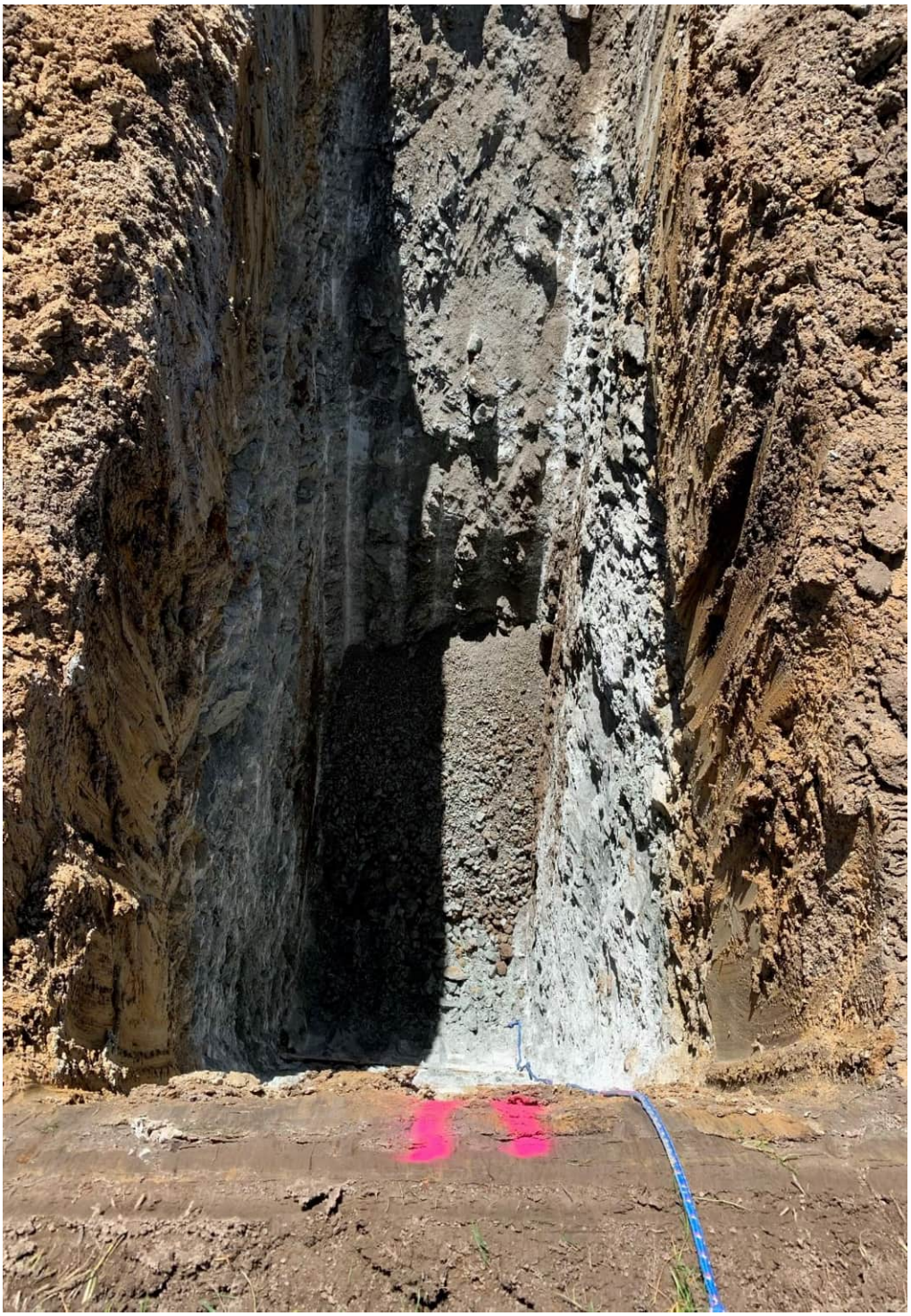
Remarks: Groundwater not encountered. Facing 147 SE.

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 3 - April 2018.

TEST PIT PHOTOGRAPHS: TP11-24

Client:	Fulton Hogan Land Development Limited		
Project:	Milldale Fast Track Application	**Location:**	Wainui East
Project No:	AKL2024-0257	**Date:**	06/11/24
Position:	Refer to Site Plan	**Contractor:**	KDL
Logged by:	JH	**Checked by:**	MJC
Dimensions:	3.0m by 1.2m	**Termination Depth:**	5m

TP11-24 – TEST PIT EXCAVATION



TP11-24 – TEST PIT EXCAVATION

TP11-24 – TEST PIT EXCAVATION

TP11-24 – TEST PIT SPOIL

TEST PIT LOG - TP12-24

Client: Fulton Hogan Land Development Limited
Project: Milldale Fast Track Application
Site Location: Wainui East
Project No.: AKL2024-0257
Date: 06/11/2024
Test Pit Location: Refer to Site Plan | Logged by: JH | Checked by: MJC | Scale: 1:25 | Sheet 1 of 1
Position: 388507.4mE; 829838.7mN | Projection: EDENTM2000 | Pit Dimensions: 3.0m by 1.2m
Elevation: 64.86m | Datum: AUCKHT1946 | Survey Source: Hand Held GPS

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Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm) 5 10 15 20	Structure & Other Observations
			64.9			OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. (Topsoil)				
			64.7			ML: Clayey SILT: Yellowish brown streaked grey. Low plasticity. Blocky structure. (Hukerenui Mudstone)				
	0.5	Peak = 143kPa Residual = 32kPa								
						... at 0.70m, Becoming light grey streaked orange brown with trace brown.		VSt		
	1.0	Peak = 134kPa Residual = 48kPa		1						
	1.5	Peak = 80kPa Residual = 51kPa					M			
			63.2			Completely weathered, bluish grey with brown, MUDSTONE: Extremely weak. Recovered as Clayey SILT. Low plasticity. Minor medium to coarse gravel sized silt clasts. (Hukerenui Mudstone)		St		
	2.0	Peak = 83kPa Residual = 48kPa		2						
	2.5	Peak = 165kPa Residual = 51kPa						VSt		
	3.0	Peak = UTP	61.9	3		Moderately weathered, bluish grey with brown MUDSTONE: Extremely weak. (Hukerenui Mudstone)				
	3.5	Peak = UTP								
	4.0	Peak = UTP		4			D to M	H		
				5		Test pit terminated at 5.00 m				

Termination Reason: Target depth reached
Shear Vane No: 1620 DCP No:

Remarks: Groundwater not encountered. Facing 095 E.

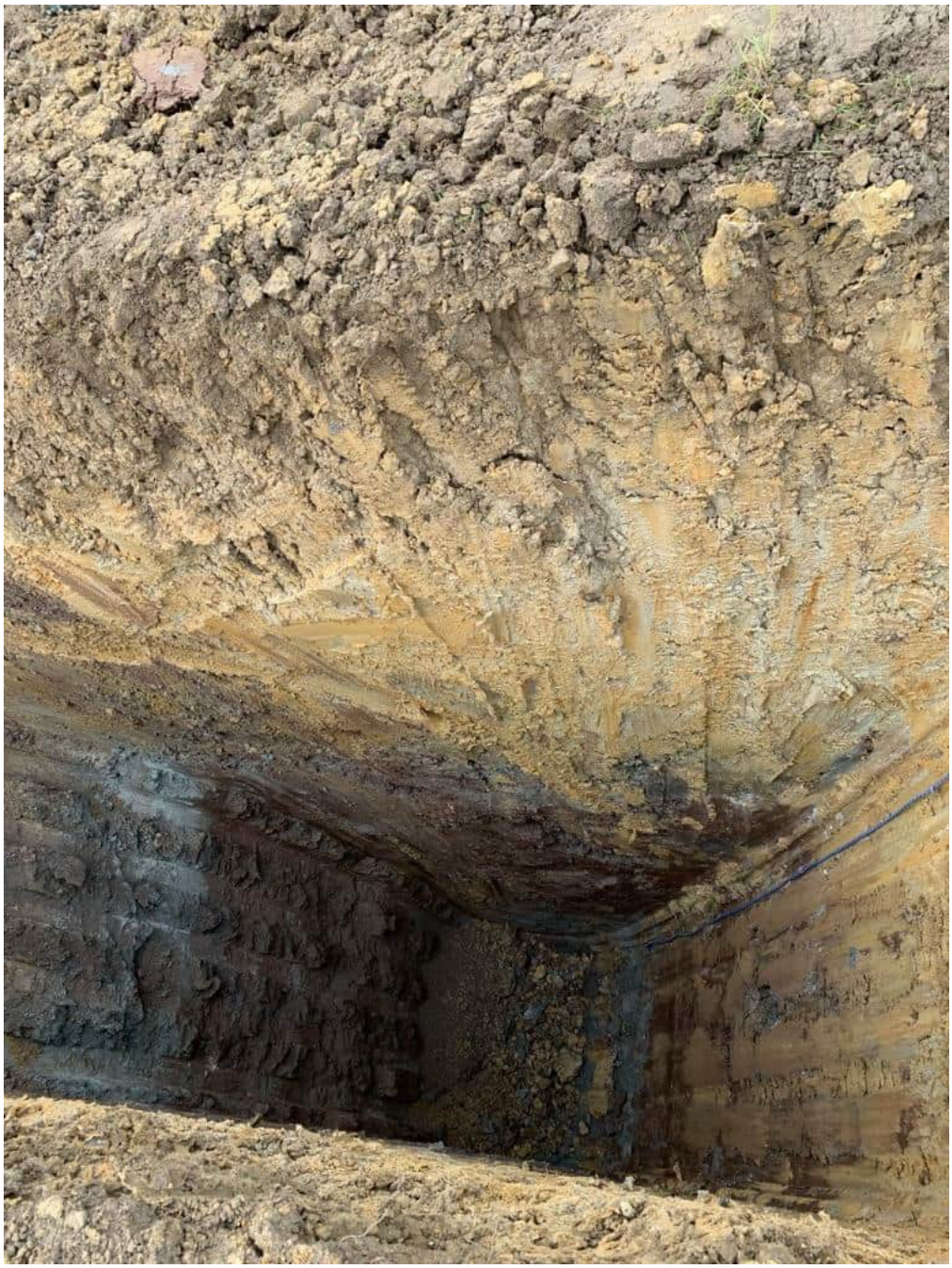
This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 3 - April 2018.

TEST PIT PHOTOGRAPHS: TP12-24

Client:	Fulton Hogan Land Development Limited		
Project:	Milldale Fast Track Application	**Location:**	Wainui East
Project No:	AKL2024-0257	**Date:**	06/11/24
Position:	Refer to Site Plan	**Contractor:**	KDL
Logged by:	JH	**Checked by:**	MJC
Dimensions:	3.0m by 1.2m	**Termination Depth:**	5m

TP12-24 – TEST PIT EXCAVATION

TP12-24 – TEST PIT EXCAVATION



TP12-24 – TEST PIT EXCAVATION

TP12-24 – TEST PIT SPOIL

TEST PIT LOG - TP13-24

Client: Fulton Hogan Land Development Limited
Project: Milldale Fast Track Application
Site Location: Wainui East
Project No.: AKL2024-0257
Date: 06/11/2024
Test Pit Location: Refer to Site Plan | Logged by: JH | Checked by: MJC | Scale: 1:25 | Sheet 1 of 1
Position: 388619.7mE; 829841.5mN | Projection: EDENTM2000 | Pit Dimensions: 3.0m by 1.2m
Elevation: 45.96m | Datum: AUCKHT1946 | Survey Source: Hand Held GPS

CMW Geosciences
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Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)	Structure & Other Observations
			46.0			ML: Organic SILT: Dark brown. Low plasticity. Trace rootlets. (Topsoil)				
			45.8			ML: Clayey SILT: Yellowish brown streaked light grey. Low plasticity. Minor decomposing tree roots. (Mangakahia Complex)				
	0.5	Peak = 89kPa Residual = 32kPa								
	1.0	Peak = 76kPa Residual = 41kPa		1			M	St		
	1.5	Peak = 70kPa Residual = 41kPa								
	2.0	Peak = 83kPa Residual = 45kPa		2		... from 2.20m to 2.40m, Minor limonite staining.				
			43.6			Moderately weathered, grey SILTSTONE: Extremely weak. Recovered as cobbles and boulders, angular to subangular. (Mangakahia Complex)				
	2.5	Peak = UTP								
	3.0	Peak = UTP		3						
	3.5	Peak = UTP					D	H		
	4.0	Peak = UTP		4						
				5		Test pit terminated at 5.00 m				

Termination Reason: Target depth reached
Shear Vane No: 1620 DCP No:

Remarks: Groundwater not encountered. Facing North.

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 3 - April 2018.

TEST PIT PHOTOGRAPHS: TP13-24

Client:	Fulton Hogan Land Development Limited		
Project:	Milldale Fast Track Application	**Location:**	Wainui East
Project No:	AKL2024-0257	**Date:**	06/11/24
Position:	Refer to Site Plan	**Contractor:**	KDL
Logged by:	JH	**Checked by:**	MJC
Dimensions:	3.0m by 1.2m	**Termination Depth:**	5

TP13-24 – TEST PIT EXCAVATION

TP13-24 – TEST PIT EXCAVATION

TP13-24 – TEST PIT EXCAVATION

TP13-24 – TEST PIT SPOIL

TEST PIT LOG - TP14-24

Client: Fulton Hogan Land Development Limited
Project: Milldale Fast Track Application
Site Location: Wainui East
Project No.: AKL2024-0257
Date: 06/11/2024
Test Pit Location: Refer to Site Plan | Logged by: JH | Checked by: MJC | Scale: 1:30 | Sheet 1 of 1
Position: 388695.3mE; 829840.5mN | Projection: EDENTM2000 | Pit Dimensions: 3.0m by 1.2m
Elevation: 38.14m | Datum: AUCKHT1946 | Survey Source: Hand Held GPS

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Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)	Structure & Other Observations
			38.1			OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. (Topsoil)				
			37.9			ML: Clayey SILT: Yellowish brown streaked light grey. Low plasticity. (Mangakahia Complex)				
	0.5	Peak = 64kPa Residual = 29kPa						St		
						... at 0.60m, Light grey streaked yellowish brown.	M			
	1.0	Peak = 172kPa Residual = 38kPa		1				VSt		
			36.7			Moderately weathered, grey SILTSTONE: Extremely weak. Recovered as cobbles and boulders, angular to subangular. (Mangakahia Complex)				
	1.5	Peak = UTP								
	2.0	Peak = UTP		2						
	2.5	Peak = UTP								
	3.0	Peak = UTP		3			D	H		
	3.5	Peak = UTP								
	4.0	Peak = UTP		4						
				5		Test pit terminated at 5.00 m				
				6						

Termination Reason: Target depth reached
Shear Vane No: 1620 DCP No:

Remarks: Groundwater not encountered. Facing 040 NE.

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 3 - April 2018.

TEST PIT PHOTOGRAPHS: TP14-24

Client:	Fulton Hogan Land Development Limited		
Project:	Milldale Fast Track Application	**Location:**	Wainui East
Project No:	AKL2024-0257	**Date:**	06/11/24
Position:	Refer to Site Plan	**Contractor:**	KDL
Logged by:	JH	**Checked by:**	MJC
Dimensions:	3.0m by 1.2m	**Termination Depth:**	5m

TP14-24 – TEST PIT EXCAVATION

TP14-24 – TEST PIT EXCAVATION

TP14-24 – TEST PIT EXCAVATION

TP14-24 – TEST PIT SPOIL

TEST PIT LOG - TP15-24

Client: Fulton Hogan Land Development Limited
Project: Milldale Fast Track Application
Site Location: Wainui East
Project No.: AKL2024-0257
Date: 06/11/2024
Test Pit Location: Refer to Site Plan | Logged by: JH | Checked by: MJC | Scale: 1:25 | Sheet 1 of 1
Position: 388555.9mE; 829727.8mN | Projection: EDENTM2000 | Pit Dimensions: 3.0m by 1.2m
Elevation: 56.17m | Datum: AUCKHT1946 | Survey Source: Hand Held GPS

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Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)	Structure & Other Observations
			56.2			OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. (Topsoil)				
			56.0			ML: Clayey SILT: Grey streaked yellowish brown. Low plasticity. Minor decomposing tree roots. (Mangakahia Complex)				
	0.5	Peak = 108kPa Residual = 45kPa								
	1.0	Peak = 92kPa Residual = 35kPa		1			M	St to VSt		
	1.5	Peak = 76kPa Residual = 32kPa								
						... at 1.80m, Becoming with grey bands.				
	2.0	Peak = 146kPa Residual = 25kPa		2						
			54.1			Completely to highly weathered, grey SILTSTONE: Extremely weak. Friable. Recovered as SILT clasts and gravel, angular. (Mangakahia Complex)				
	2.5	Peak = UTP								
			53.4			Moderately weathered, grey SILTSTONE: Extremely weak. (Mangakahia Complex)				
	3.0	Peak = UTP		3						
	3.5	Peak = UTP					D	H		
	4.0	Peak = UTP		4						
				5		Test pit terminated at 5.00 m				

Dynamic Cone Penetrometer (Blows/100mm): 5 10 15 20

Termination Reason: Target Depth reached
Shear Vane No: 1620 DCP No:

Remarks: Groundwater not encountered. Facing 020 N.

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 3 - April 2018.

TEST PIT PHOTOGRAPHS: TP15-24

Client:	Fulton Hogan Land Development Limited		
Project:	Milldale Fast Track Application	**Location:**	Wainui East
Project No:	AKL2024-0257	**Date:**	06/11/24
Position:	Refer to Site Plan	**Contractor:**	KDL
Logged by:	JH	**Checked by:**	MJC
Dimensions:	3.0m by 1.2m	**Termination Depth:**	5m

TP15-24 – TEST PIT EXCAVATION

TP15-24 – TEST PIT EXCAVATION

TP15-24 – TEST PIT EXCAVATION

TP15-24 – TEST PIT SPOIL

TEST PIT LOG - TP16-24

Client: Fulton Hogan Land Development Limited
Project: Milldale Fast Track Application
Site Location: Wainui East
Project No.: AKL2024-0257
Date: 07/11/2024
Test Pit Location: Refer to Site Plan Logged by: JH Checked by: MJC Scale: 1:25 Sheet 1 of 1
Position: 388756.4mE; 829774.3mN Projection: EDENTM2000 Pit Dimensions: 3.0m by 1.2m
Elevation: 33.75m Datum: AUCKHT1946 Survey Source: Hand Held GPS

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Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)	Structure & Other Observations
			33.7			OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. (Topsoil)				
			33.5			CH: Silty CLAY: Light grey streaked yellowish brown. High plasticity. Trace decomposing tree roots. (Alluvium)				
	0.5	Peak = 156kPa Residual = 32kPa						VSt		
	1.0	Peak = 102kPa Residual = 32kPa		1			M			
	1.5	Peak = UTP	32.2			ML: Clayey SILT: Brown. Low plasticity. (Hukerenui Mudstone)				
	2.0	Peak = UTP		2						
			31.5			Completely to highly weathered, dark grey MUDSTONE: Extremely weak. Recovered as SILT. (Hukerenui Mudstone) *... from 2.20m to 3.80m, Friable*				
	2.5	Peak = UTP								
	3.0	Peak = UTP		3				H		
	3.5	Peak = UTP					D to M			
	4.0	Peak = UTP		4						
				5		Test pit terminated at 5.00 m				

Termination Reason: Target depth reached
Shear Vane No: 1620 DCP No:

Remarks: Groundwater not encountered. Facing 073 E.

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 3 - April 2018.

TEST PIT PHOTOGRAPHS: TP16-24

Client:	Fulton Hogan Land Development Limited		
Project:	Milldale Fast Track Application	**Location:**	Wainui East
Project No:	AKL2024-0257	**Date:**	07/11/24
Position:	Refer to Site Plan	**Contractor:**	KDL
Logged by:	JH	**Checked by:**	MJC
Dimensions:	3.0m by 1.2m	**Termination Depth:**	5m

TP16-24 – TEST PIT EXCAVATION

TP16-24 – TEST PIT EXCAVATION

TP16-24 – TEST PIT EXCAVATION

TP16-24 – TEST PIT SPOIL

TEST PIT LOG - TP17-24

Client: Fulton Hogan Land Development Limited
Project: Milldale Fast Track Application
Site Location: Wainui East
Project No.: AKL2024-0257
Date: 07/11/2024
Test Pit Location: Refer to Site Plan | Logged by: JH | Checked by: MJC | Scale: 1:25 | Sheet 1 of 1
Position: 388722.0mE; 829679.2mN | Projection: EDENTM2000 | Pit Dimensions: 3.0m by 1.2m
Elevation: 37.63m | Datum: AUCKHT1946 | Survey Source: Hand Held GPS

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Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)	Structure & Other Observations
			37.6			OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. (Topsoil)			5 10 15 20	Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks
			37.4			ML: Clayey SILT: Yellowish brown. Low plasticity. (Alluvium)				
	0.5	Peak = 124kPa Residual = 32kPa				*... at 0.40m, Becoming light grey streaked orange. Minor limonite staining. Minor medium to coarse gravel sized silt clasts.*				
						... at 0.50m, Becoming Clayey SILT. Yellowish brown.				
	1.0	Peak = 140kPa Residual = 70kPa		1				VSt		
	1.5	Peak = 115kPa Residual = 64kPa								
			35.7			CH: CLAY with minor silt: Light grey streaked orange. High plasticity. (Alluvium)				
	2.0	Peak = 86kPa Residual = 51kPa		2						
	2.5	Peak = 92kPa Residual = 54kPa					M			
	3.0	Peak = 99kPa Residual = 60kPa		3				St		
	3.5	Peak = 95kPa Residual = 45kPa								
	4.0	Peak = 92kPa Residual = 35kPa		4						
				5		Test pit terminated at 5.00 m				

Termination Reason: Target depth reached
Shear Vane No: 1620 DCP No:

Remarks: Groundwater not encountered. Facing 048 NE.

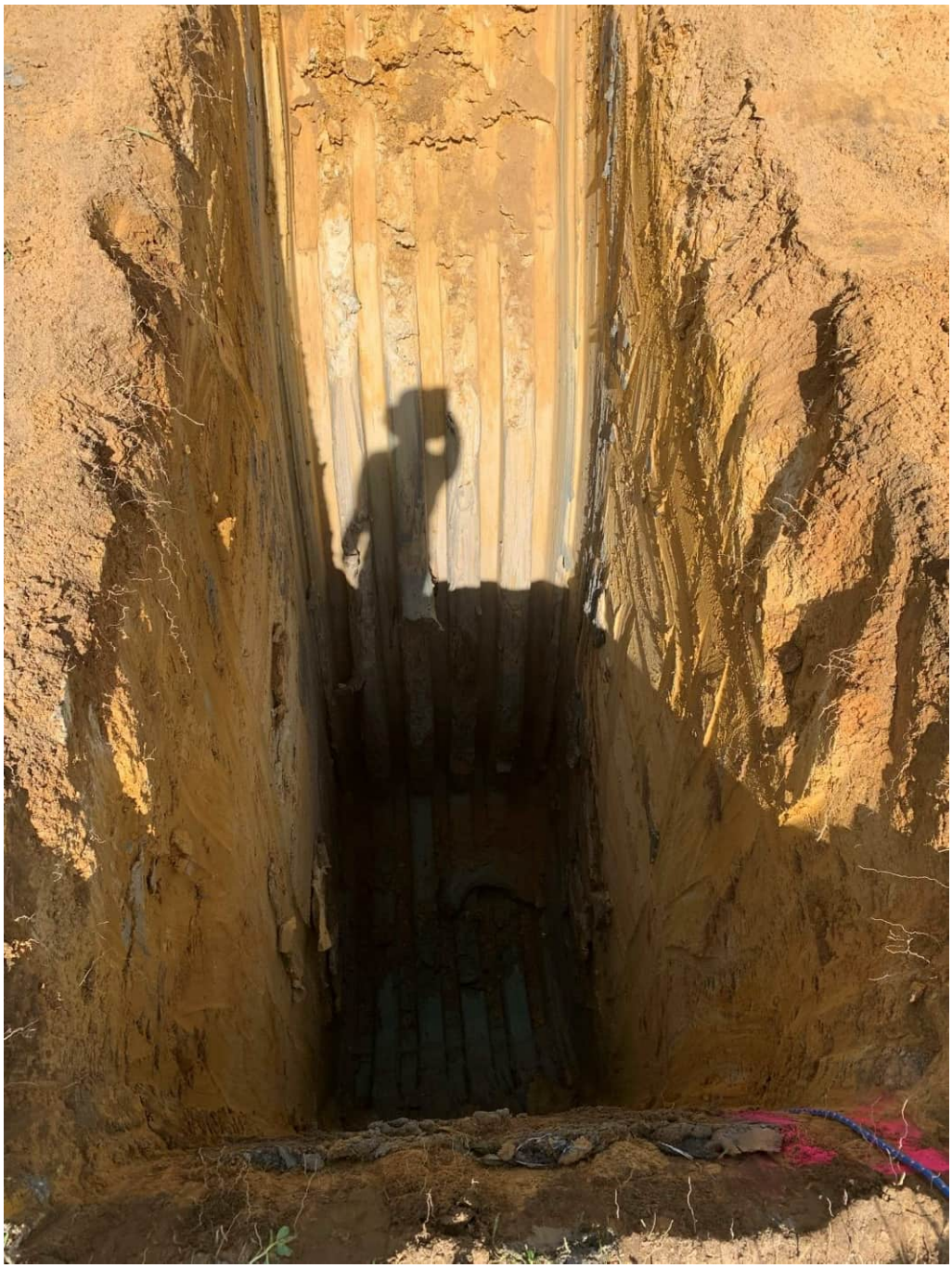
This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 3 - April 2018.

TEST PIT PHOTOGRAPHS: TP17-24

Client:	Fulton Hogan Land Development Limited		
Project:	Milldale Fast Track Application	**Location:**	Wainui East
Project No:	AKL2024-0257	**Date:**	07/11/24
Position:	Refer to Site Plan	**Contractor:**	KDL
Logged by:	JH	**Checked by:**	MJC
Dimensions:	3.0m by 1.2m	**Termination Depth:**	5m

TP17-24 – TEST PIT EXCAVATION

TP17-24 – TEST PIT EXCAVATION



TP17-24 – TEST PIT EXCAVATION

TP17-24 – TEST PIT EXCAVATION

TEST PIT LOG - TP18-24

Client: Fulton Hogan Land Development Limited
Project: Milldale Fast Track Application
Site Location: Wainui East
Project No.: AKL2024-0257
Date: 07/11/2024
Test Pit Location: Refer to Site Plan | Logged by: JH | Checked by: MJC | Scale: 1:25 | Sheet 1 of 1
Position: 388786.7mE; 829646.2mN | Projection: EDENTM2000 | Pit Dimensions: 3.0m by 1.2m
Elevation: 35.91m | Datum: AUCKHT1946 | Survey Source: Hand Held GPS

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Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)	Structure & Other Observations
			35.9			OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. (Topsoil)				
			35.7			ML: Clayey SILT: Light grey streaked yellowish brown. Low plasticity. (Alluvium)				
	0.5	Peak = 181kPa Residual = 45kPa				... at 0.50m, Becoming yellowish brown.				
	1.0	Peak = 124kPa Residual = 38kPa		1						
	1.5	Peak = 118kPa Residual = 57kPa				... at 1.50m, Becoming light grey streaked orange brown. Minor limonite staining.				
	2.0	Peak = 159kPa Residual = 105kPa		2		... at 2.10m, Becoming light grey streaked bluish grey with trace light yellowish brown.	M	VSt		
	2.5	Peak = 108kPa Residual = 64kPa	33.4			CH: Silty CLAY: Grey. High plasticity. (Mangakahia Complex)				
	3.0	Peak = 102kPa Residual = 51kPa		3						
	3.5	Peak = 111kPa Residual = 41kPa								
	4.0	Peak = 134kPa Residual = 51kPa		4						
			31.4			Completely to highly weathered, dark grey SILTSTONE: Extremely weak. Recovered as SILT with minor clay. Some fine to coarse sized silt clasts. (Mangakahia Complex)	D to M	VSt to H		
				5		Test pit terminated at 5.00 m				

Termination Reason: Target depth reached
Shear Vane No: 1620 DCP No:

Remarks: Groundwater not encountered. Facing 031 NE.

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 3 - April 2018.

TEST PIT PHOTOGRAPHS: TP18-24

Client:	Fulton Hogan Land Development Limited		
Project:	Milldale Fast Track Application	**Location:**	Wainui East
Project No:	AKL2024-0257	**Date:**	07/11/24
Position:	Refer to Site Plan	**Contractor:**	KDL
Logged by:	JH	**Checked by:**	MJC
Dimensions:	3.0m by 1.2m	**Termination Depth:**	5m

TP18-24 – TEST PIT EXCAVATION

TP18-24 – TEST PIT EXCAVATION

TP18-24 – TEST PIT EXCAVATION

TP18-24 – TEST PIT SPOIL

TEST PIT LOG - TP19-24

Client: Fulton Hogan Land Development Limited
Project: Milldale Fast Track Application
Site Location: Wainui East
Project No.: AKL2024-0257
Date: 07/11/2024
Test Pit Location: Refer to Site Plan | Logged by: JH | Checked by: MJC | Scale: 1:25 | Sheet 1 of 1
Position: 388593.0mE; 829675.1mN | Projection: EDENTM2000 | Pit Dimensions: 3.0m by 1.2m
Elevation: 48.64m | Datum: AUCKHT1946 | Survey Source: Hand Held GPS

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Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)	Structure & Other Observations
			48.6			OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. (Topsoil)				
			48.4			ML: Clayey SILT: Yellowish brown streaked light grey. Low plasticity. (Mangakahia Complex)		VSt		
	0.5	Peak = 115kPa Residual = 32kPa								
	1.0	Peak = 80kPa Residual = 32kPa		1		... at 1.00m, Becoming light grey streaked yellowish brown.	M	St		
	1.5	Peak = 140kPa Residual = 38kPa								
			46.8			Completely to highly weathered, dark grey SILTSTONE: Extremely weak. Friable, highly fractured. (Mangakahia Complex)		VSt		
	2.0	Peak = UTP		2						
	2.5	Peak = UTP								
	3.0	Peak = UTP		3			D to M	H		
	3.5	Peak = UTP								
	4.0	Peak = UTP		4						
				5		Test pit terminated at 5.00 m				

Termination Reason: Target depth reached
Shear Vane No: 1620 DCP No:

Remarks: Groundwater not encountered. Facing 085 E.

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 3 - April 2018.

TEST PIT PHOTOGRAPHS: TP19-24

Client:	Fulton Hogan Land Development Limited		
Project:	Milldale Fast Track Application	**Location:**	Wainui East
Project No:	AKL2024-0257	**Date:**	07/11/24
Position:	Refer to Site Plan	**Contractor:**	KDL
Logged by:	JH	**Checked by:**	MJC
Dimensions:	3.0m by 1.2m	**Termination Depth:**	5m

TP19-24 – TEST PIT EXCAVATION

TP19-24 – TEST PIT EXCAVATION

TP19-24 – TEST PIT EXCAVATION

TP19-24 – TEST PIT SPOIL

TEST PIT LOG - TP20-24

Client: Fulton Hogan Land Development Limited
Project: Milldale Fast Track Application
Site Location: Wainui East
Project No.: AKL2024-0257
Date: 07/11/2024
Test Pit Location: Refer to Site Plan | Logged by: JH | Checked by: MJC | Scale: 1:25 | Sheet 1 of 1
Position: 388573.5mE; 829622.9mN | Projection: EDENTM2000 | Pit Dimensions: 3.0m by 1.2m
Elevation: 51.24m | Datum: AUCKHT1946 | Survey Source: Hand Held GPS

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Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)	Structure & Other Observations
			51.2			OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets (Topsoil)				
			51.0			ML: Clayey SILT: Yellowish brown streaked light grey. Low plasticity. (Hukerenui Mudstone)		VSt		
	0.5	Peak = 150kPa Residual = 35kPa					M			
	1.0	Peak = 76kPa Residual = 32kPa		1				St		
						... at 1.20m, Becoming light grey streaked yellowish brown.				
	1.5	Peak = 111kPa Residual = 32kPa	49.7			Completely to highly weathered, grey, tightly interlocked MUDSTONE: Extremely weak. (Hukerenui Mudstone)		VSt		
	2.0	Peak = UTP		2						
	2.5	Peak = UTP								
						... at 2.70m, Becoming bluish grey with grey streaks.	D to M			
	3.0	Peak = U		3						
	3.5	Peak = UTP						H		
	4.0	Peak = UTP		4						
				5		Test pit terminated at 5.00 m				

Dynamic Cone Penetrometer (Blows/100mm): 5 10 15 20

Structure & Other Observations: Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks

Termination Reason: Target depth reached
Shear Vane No: 1620 DCP No:

Remarks: Groundwater not encountered. Facing 050 NE.

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 3 - April 2018.

TEST PIT PHOTOGRAPHS: TP20-24

Client:	Fulton Hogan Land Development Limited		
Project:	Milldale Fast Track Application	**Location:**	Wainui East
Project No:	AKL2024-0257	**Date:**	07/11/24
Position:	Refer to Site Plan	**Contractor:**	KDL
Logged by:	JH	**Checked by:**	MJC
Dimensions:	3.0m by 1.2m	**Termination Depth:**	5m

TP20-24 – TEST PIT EXCAVATION

TP20-24 – TEST PIT EXCAVATION

TP20-24 – TEST PIT EXCAVATION

TP20-24 – TEST PIT SPOIL

TEST PIT LOG - TP21-24

Client: Fulton Hogan Land Development Limited
Project: Milldale Fast Track Application
Site Location: Wainui East
Project No.: AKL2024-0257
Date: 07/11/2024
Test Pit Location: Refer to Site Plan | Logged by: JH | Checked by: MJC | Scale: 1:25 | Sheet 1 of 1
Position: 388480.3mE; 829591.9mN | Projection: EDENTM2000 | Pit Dimensions: 3.0m by 1.2m
Elevation: 65.62m | Datum: AUCKHT1946 | Survey Source: Hand Held GPS

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Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)	Structure & Other Observations
			65.6			OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. (Topsoil)				
			65.4			ML: Clayey SILT: Yellowish brown streaked light grey. Low plasticity. (Hukerenui Mudstone)				
	0.5	Peak = 159kPa Residual = 64kPa								
	1.0	Peak = 153kPa Residual = 76kPa		1			M			
	1.5	Peak = 143kPa Residual = 32kPa				*... at 1.50m, Minor limonite staining. Blocky structure. Becoming grey with trace brown.*		VSt		
	2.0	Peak = 146kPa Residual = 41kPa		2						
	2.5	Peak = 146kPa Residual = 48kPa	63.1			Completely to highly weathered, Bluish grey with reddish brown, tightly interlocked MUDSTONE: Extremely weak. (Hukerenui Mudstone)	D to M			
	3.0	Peak = UTP		3						
	3.5	Peak = UTP								
	4.0	Peak = UTP		4				H		
				5		Test pit terminated at 5.00 m				

Dynamic Cone Penetrometer (Blows/100mm): 5 10 15 20

Structure & Other Observations: Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks

Termination Reason: Target depth reached
Shear Vane No: 1620 DCP No:

Remarks: Groundwater not encountered. Facing 035 NE.

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 3 - April 2018.

TEST PIT PHOTOGRAPHS: TP21-24

Client:	Fulton Hogan Land Development Limited		
Project:	Milldale Fast Track Application	**Location:**	Wainui East
Project No:	AKL2024-0257	**Date:**	07/11/24
Position:	Refer to Site Plan	**Contractor:**	KDL
Logged by:	JH	**Checked by:**	MJC
Dimensions:	3.0m by 1.2m	**Termination Depth:**	5m

TP21-24 – TEST PIT EXCAVATION

TP21-24 – TEST PIT EXCAVATION

TP21-24 – TEST PIT EXCAVATION

TP21-24 – TEST PIT SPOIL

TEST PIT LOG - TP22-24

Client: Fulton Hogan Land Development Limited
Project: Milldale Fast Track Application
Site Location: Wainui East
Project No.: AKL2024-0257
Date: 07/11/2024
Test Pit Location: Refer to Site Plan Logged by: JH Checked by: MJC Scale: 1:25 Sheet 1 of 1
Position: 388682.7mE; 829600.1mN Projection: EDENTM2000 Pit Dimensions: 3.0m by 1.2m
Elevation: 42.10m Datum: AUCKHT1946 Survey Source: Hand Held GPS

Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)	Structure & Other Observations
			42.1			OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. (Topsoil)				
			41.9			ML: Clayey SILT: Yellowish brown streaked light grey. Low plasticity. (Mangakahia Complex)				
	0.5	Peak = 102kPa Residual = 48kPa					M	St		
						... at 0.70m, Becoming light grey.				
	1.0	Peak = 124kPa Residual = 45kPa		1						
			40.8			Highly to moderately weathered, light grey and grey SILTSTONE: Extremely weak. Highly fractured. (Mangakahia Complex)				
	1.5	Peak = UTP				... at 1.50m, Becoming grey.				
	2.0	Peak = UTP		2						
	2.5	Peak = UTP								
	3.0	Peak = UTP		3			D	H		
	3.5	Peak = UTP								
	4.0	Peak = UTP		4						
				5		Test pit terminated at 5.00 m				

Termination Reason: Target depth reached
Shear Vane No: 1620 DCP No:

Remarks: Groundwater not encountered. Facing 170 S.

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 3 - April 2018.

TEST PIT PHOTOGRAPHS: TP22-24

Client:	Fulton Hogan Land Development Limited		
Project:	Milldale Fast Track Application	**Location:**	Wainui East
Project No:	AKL2024-0257	**Date:**	07/11/24
Position:	Refer to Site Plan	**Contractor:**	KDL
Logged by:	JH	**Checked by:**	MJC
Dimensions:	3.0m by 1.2m	**Termination Depth:**	5m

TP22-24 – TEST PIT EXCAVATION

TP22-24 – TEST PIT EXCAVATION

TP22-24 – TEST PIT EXCAVATION

TP22-24 – TEST PIT SPOIL

TEST PIT LOG - TP23-24

Client: Fulton Hogan Land Development Limited
Project: Milldale Fast Track Application
Site Location: Wainui East
Project No.: AKL2024-0257
Date: 07/11/2024
Test Pit Location: Refer to Site Plan | Logged by: JH | Checked by: MJC | Scale: 1:25 | Sheet 1 of 1
Position: 388823.1mE; 829536.6mN | Projection: EDENTM2000 | Pit Dimensions: 3.5m by 2.5m
Elevation: 38.35m | Datum: AUCKHT1946 | Survey Source: Hand Held GPS

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Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)	Structure & Other Observations
			38.4			OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. (Topsoil)				
			38.2			ML: Clayey SILT: Yellowish brown streaked light grey. Low plasticity. (Alluvium)				
	0.5	Peak = 99kPa Residual = 35kPa					M	St		
	1.0	Peak = 67kPa Residual = 41kPa		1						
			37.3			CH: Silty CLAY: Light grey streaked yellowish brown. High plasticity. Minor decomposing tree roots. (Mangakahia Complex)				
	1.5	Peak = 38kPa Residual = 19kPa					M to W			
	2.0	Peak = 32kPa Residual = 10kPa		2				F		
						... from 2.40m to 2.60m, Brown				
	2.5	Peak = 45kPa Residual = 13kPa								
			35.8			Completely to highly weathered, bluish grey SILTSTONE: Extremely weak. Highly fractured. Minor fine to coarse gravel sized silt clasts. (Mangakahia Complex)				
	3.0	Peak = UTP		3						
	3.5	Peak = UTP					D to M			
	4.0	Peak = UTP		4				H		
				5		Test pit terminated at 5.00 m				

Termination Reason: Target depth reached
Shear Vane No: 1620 DCP No:

Remarks: Groundwater not encountered. Side wall collapsed from the surface. Facing 300 NW.

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 3 - April 2018.

TEST PIT PHOTOGRAPHS: TP23-24

Client:	Fulton Hogan Land Development Limited		
Project:	Milldale Fast Track Application	**Location:**	Wainui East
Project No:	AKL2024-0257	**Date:**	07/11/24
Position:	Refer to Site Plan	**Contractor:**	KDL
Logged by:	JH	**Checked by:**	MJC
Dimensions:	3.5m by 2.5m	**Termination Depth:**	5m

TP23-24 – TEST PIT EXCAVATION

TP23-24 – TEST PIT EXCAVATION

TP23-24 – TEST PIT EXCAVATION

TP23-24 – TEST PIT SPOIL

TEST PIT LOG - TP24-24

Client: Fulton Hogan Land Development Limited
Project: Milldale Fast Track Application
Site Location: Wainui East
Project No.: AKL2024-0257
Date: 08/11/2024
Test Pit Location: Refer to Site Plan | Logged by: JH | Checked by: MJC | Scale: 1:25 | Sheet 1 of 1
Position: 388756.5mE; 829483.2mN | Projection: EDENTM2000 | Pit Dimensions: 3.5m by 2.0m
Elevation: 44.82m | Datum: AUCKHT1946 | Survey Source: Hand Held GPS

Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)	Structure & Other Observations
			44.8			OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. (Topsoil)				
			44.6			ML: Clayey SILT: Yellowish brown streaked light grey. Low plasticity. (Mangakahia Complex)				
	0.5	Peak = 111kPa Residual = 57kPa					M			
	1.0	Peak = 127kPa Residual = 45kPa		1				VSt		
	1.5	Peak = 102kPa Residual = 38kPa				... at 1.50m, Side wall collapsed.				
			43.0			Highly to moderately weathered, grey SILTSTONE: Extremely weak, highly fractured, friable. (Mangakahia Complex)				
	2.0	Peak = UTP		2						
	2.5	Peak = UTP								
	3.0	Peak = UTP		3			D			
	3.5	Peak = UTP						H		
	4.0	Peak = UTP		4						
				5		Test pit terminated at 5.00 m				

Termination Reason: Target depth reached
Shear Vane No: 1620 DCP No:

Remarks: Groundwater not encountered. Facing 015 N. Side wall collapsed from 1.5m.

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 3 - April 2018.

TEST PIT PHOTOGRAPHS: TP24-24

Client:	Fulton Hogan Land Development Limited		
Project:	Milldale Fast Track Application	**Location:**	Wainui East
Project No:	AKL2024-0257	**Date:**	08/11/24
Position:	Refer to Site Plan	**Contractor:**	KDL
Logged by:	JH	**Checked by:**	MJC
Dimensions:	3.0m by 2.0m	**Termination Depth:**	5m

TP24-24 – TEST PIT EXCAVATION

TP24-24 – TEST PIT EXCAVATION

TP24-24 – TEST PIT EXCAVATION

TP24-24 – TEST PIT SPOIL

TEST PIT LOG - TP25-24

Client: Fulton Hogan Land Development Limited
Project: Milldale Fast Track Application
Site Location: Wainui East
Project No.: AKL2024-0257
Date: 08/11/2024
Test Pit Location: Refer to site plan | Logged by: JH | Checked by: MJC | Scale: 1:25 | Sheet 1 of 1
Position: 388740.2mE; 829403.8mN | Projection: EDENTM2000 | Pit Dimensions: 3.0m by 1.2m
Elevation: 49.10m | Datum: AUCKHT1946 | Survey Source: Hand Held GPS

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Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)	Structure & Other Observations
			49.1			OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. (Topsoil)				
			48.9			ML: Clayey SILT: Yellowish brown streaked light grey. Low plasticity. Trace limonite staining. Trace decomposing rootlets. (Hukerenui Mudstone)				
	0.5	Peak = 127kPa Residual = 32kPa								
	1.0	Peak = 156kPa Residual = 41kPa		1			M	VSt		
						... at 1.20m, Becoming light grey streaked trace light yellowish brown.				
	1.5	Peak = 162kPa Residual = 45kPa								
	2.0	Peak = UTP	47.1	2		Completely to highly weathered, bluish grey MUDSTONE: Extremely weak. Trace reddish brown. (Hukerenui Mudstone)				
	2.5	Peak = UTP								
	3.0	Peak = UTP		3						
	3.5	Peak = UTP					D to M	H		
	4.0	Peak = UTP		4						
				5		Test pit terminated at 5.00 m				

Termination Reason: Target depth reached
Shear Vane No: 1620 DCP No:

Remarks: Groundwater not encountered. Facing 120 SE.

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 3 - April 2018.

TEST PIT PHOTOGRAPHS: TP25-24

Client:	Fulton Hogan Land Development Limited		
Project:	Milldale Fast Track Application	**Location:**	Wainui East
Project No:	AKL2024-0257	**Date:**	08/11/24
Position:	Refer to Site Plan	**Contractor:**	KDL
Logged by:	JH	**Checked by:**	MJC
Dimensions:	3.0m by 1.2m	**Termination Depth:**	5

TP25-24 – TEST PIT EXCAVATION

TP25-24 – TEST PIT EXCAVATION

TP25-24 – TEST PIT EXCAVATION

TP25-24 – TEST PIT SPOIL

TEST PIT LOG - TP26-24

Client: Fulton Hogan Land Development Limited
Project: Milldale Fast Track Application
Site Location: Wainui East
Project No.: AKL2024-0257
Date: 08/11/2024
Test Pit Location: Refer to Site Plan | Logged by: JH | Checked by: MJC | Scale: 1:25 | Sheet 1 of 1
Position: 388731.6mE; 829348.7mN | Projection: EDENTM2000 | Pit Dimensions: 3.0m by 1.2m
Elevation: 53.26m | Datum: AUCKHT1946 | Survey Source: Hand Held GPS

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Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)	Structure & Other Observations
			53.3			OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. (Topsoil)				
			53.1			ML: SILT with trace clay: Yellowish brown streaked light grey. Low plasticity. (Hukerenui Mudstone)				
	0.5	Peak = 143kPa Residual = 40kPa								
	1.0	Peak = 150kPa Residual = 45kPa		1			M	VSt		
	1.5	Peak = 200kPa Residual = 48kPa								
	2.0	Peak = UTP		2						
			51.2			Completely to highly weathered, dark grey, tightly interlocked MUDSTONE: Extremely weak, highly fractured. (Hukerenui Mudstone)				
	2.5	Peak = UTP								
	3.0	Peak = UTP		3						
	3.5	Peak = UTP					D	H		
	4.0	Peak = UTP		4						
				5		Test pit terminated at 5.00 m				

Termination Reason: Target depth reached
Shear Vane No: 1620 DCP No:

Remarks: Groundwater not encountered. Facing 100 E.

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 3 - April 2018.

TEST PIT PHOTOGRAPHS: TP26-24

Client:	Fulton Hogan Land Development Limited		
Project:	Milldale Fast Track Application	**Location:**	Wainui East
Project No:	AKL2024-0257	**Date:**	08/11/24
Position:	Refer to Site Plan	**Contractor:**	KDL
Logged by:	JH	**Checked by:**	MJC
Dimensions:	3.0m by 1.2m	**Termination Depth:**	5m

TP26-24 – TEST PIT EXCAVATION

TP26-24 – TEST PIT EXCAVATION

TP26-24 – TEST PIT EXCAVATION

TP26-24 – TEST PIT SPOIL

TEST PIT LOG - TP27-24

Client: Fulton Hogan Land Development Limited
Project: Milldale Fast Track Application
Site Location: Wainui East
Project No.: AKL2024-0257
Date: 08/11/2024
Test Pit Location: Refer to Site Plan | Logged by: JH | Checked by: MJC | Scale: 1:25 | Sheet 1 of 1
Position: 388668.5mE; 829302.9mN | Projection: EDENTM2000 | Pit Dimensions: 3.0m by 1.2m
Elevation: 60.03m | Datum: AUCKHT1946 | Survey Source: Hand Held GPS

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Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)	Structure & Other Observations
			60.0			OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. (Topsoil)				
			59.8			ML: Clayey SILT: Yellowish brown streaked light grey. Low plasticity. (Hukerenui Mudstone)				
	0.5	Peak = 172kPa Residual = 45kPa								
	1.0	Peak = 143kPa Residual = 45kPa		1			M	VSt to H		
	1.5	Peak = > 227 kPa								
	2.0	Peak = 172kPa Residual = 57kPa		2						
			57.7			Completely to highly weathered, bluish grey with reddish brown, tightly interlocked MUDSTONE: Extremely weak. (Hukerenui Mudstone)				
	2.5	Peak = UTP								
	3.0	Peak = UTP		3						
	3.5	Peak = UTP					D to M	H		
	4.0	Peak = UTP		4						
				5		Test pit terminated at 5.00 m				

Dynamic Cone Penetrometer (Blows/100mm): 5 10 15 20

Structure & Other Observations: Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks

Termination Reason: Target depth reached
Shear Vane No: 1620 DCP No:

Remarks: Groundwater not encountered. Facing 030 NE

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 3 - April 2018.

TEST PIT PHOTOGRAPHS: TP27-24

Client:	Fulton Hogan Land Development Limited		
Project:	Milldale Fast Track Application	**Location:**	Wainui East
Project No:	AKL2024-0257	**Date:**	08/11/24
Position:	Refer to Site Plan	**Contractor:**	KDL
Logged by:	JH	**Checked by:**	MJC
Dimensions:	3.0m by 1.2m	**Termination Depth:**	5m

TP27-24 – TEST PIT EXCAVATION

TP27-24 – TEST PIT EXCAVATION

TP27-24 – TEST PIT EXCAVATION

TP27-24 – TEST PIT SPOIL

TEST PIT LOG - TP28-24

Client: Fulton Hogan Land Development Limited
Project: Milldale Fast Track Application
Site Location: Wainui East
Project No.: AKL2024-0257
Date: 18/12/2024
Test Pit Location: Refer to Site Plan | Logged by: ZW | Checked by: MJC | Scale: 1:30 | Sheet 1 of 1
Position: 388581.3mE; 829962.9mN | Projection: EDENMT2000 | Pit Dimensions: 5.0m by 1.2m
Elevation: 53.50m | Datum: AUCKHT1946 | Survey Source: Hand Held GPS

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Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)	Structure & Other Observations
			53.5			OL: Clayey SILT: Dark brown. Low plasticity. Minor rootlets. (Topsoil)	M			
			53.2			CH: Silty CLAY: Grey mottled orange. High plasticity. Minor limonite staining. Minor rootlets. (Colluvium)				
	0.5	Peak = 53kPa Residual = 21kPa					W	F		
	1.0	Peak = 34kPa Residual = 18kPa		1						
			52.1			Highly to Moderately weathered. Light grey. Calcareous. LIMESTONE: Very weak. Highly sheared with cemented calcite infill along fracture planes. (Mahurangi Limestone)	D	H		
	1.5	Peak = UTP				Test pit terminated at 1.90 m				
				2						
				3						
				4						
				5						
				6						

Dynamic Cone Penetrometer (Blows/100mm): 5 10 15 20

Structure & Other Observations: Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks

Termination Reason: Refusal on hard ground.
Shear Vane No: 3661 DCP No:
Remarks: Groundwater not encountered.

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 3 - April 2018.

TEST PIT PHOTOGRAPHS: TP28-24

Client:	Fulton Hogan Land Development Ltd		
Project:	Milldale Fast Track Application	**Location:**	Wainui East
Project No:	AKL2024-0257	**Date:**	18/12/2024
Position:	388557.6mE; 829937.5mN	**Contractor:**	
Logged by:	ZW	**Checked by:**	MJC
Dimensions:	6.0m by 1.5m	**Termination Depth:**	2.5m

TP28-24 – TEST PIT EXCAVATION

TP28-24 – TEST PIT EXCAVATION

TP28-24 – TEST PIT SPOIL

TP28-24 – TEST PIT EXCAVATION

TEST PIT LOG - TP29-24

Client: Fulton Hogan Land Development Limited
Project: Milldale Fast Track Application
Site Location: Wainui East
Project No.: AKL2024-0257
Date: 18/12/2024
Test Pit Location: Refer to Site Plan | Logged by: ZW | Checked by: MJC | Scale: 1:30 | Sheet 1 of 1
Position: 388560.7mE; 829994.8mN | Projection: EDENMT2000 | Pit Dimensions: 5.0m by 1.2m
Elevation: 60.10m | Datum: AUCKHT1946 | Survey Source: Hand Held GPS

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Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)	Structure & Other Observations
			60.1			OL: Clayey SILT: Dark brown. Low plasticity. Minor rootlets. (Topsoil)	D to M			
			59.9			CH: Silty CLAY: Orange mottled grey. High plasticity. Minor rootlets. (Colluvium)				
	0.5	Peak = 88kPa Residual = 18kPa								
	1.0	Peak = 56kPa Residual = 24kPa		1		*... at 1.00m, Becoming light grey*	M	St		
	1.5	Peak = 66kPa Residual = 34kPa								
			58.2			Highly weathered. Blue mottled grey. Highly sheared. MUDTSONE: Extremely weak. Polished surfaces and trace groundwater along fracture planes. Clayey SILT. Low plasticity. (Hukerenui Mudstone)				
	2.0	Peak = 178kPa Residual = 18kPa		2				VSt		
	2.5	Peak = >200kPa Residual = 34kPa								
	3.0	Peak = UTP		3			M			
	4.0	Peak = UTP		4				H		
	5.0	Peak = UTP		5		Test pit terminated at 5.00 m				
				6						

Termination Reason: Target depth reached
Shear Vane No: 3661 DCP No:

Remarks: Groundwater not encountered.

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 3 - April 2018.

TEST PIT PHOTOGRAPHS: TP29-24

Client:	Fulton Hogan Land Development Ltd		
Project:	Milldale Fast Track Application	**Location:**	Wainui East
Project No:	AKL2024-0257	**Date:**	18/12/2024
Position:	388560.7mE; 829994.8mN	**Contractor:**	
Logged by:	ZW	**Checked by:**	MJC
Dimensions:	5.0m by 1.2m	**Termination Depth:**	5.0m

TP29-24 – TEST PIT EXCAVATION

TP29-24 – TEST PIT EXCAVATION

TP29-24 – TEST PIT SPOIL

TP29-24 – TEST PIT EXCAVATION

TEST PIT LOG - TP30-24

Client: Fulton Hogan Land Development Limited
Project: Milldale Fast Track Application
Site Location: Wainui East
Project No.: AKL2024-0257
Date: 18/12/2024
Test Pit Location: Refer to Site Plan | Logged by: ZW | Checked by: MJC | Scale: 1:30 | Sheet 1 of 1
Position: 388558.0mE; 829840.5mN | Projection: EDENMT2000 | Pit Dimensions: 5.0m by 1.2m
Elevation: 54.50m | Datum: AUCKHT1946 | Survey Source: Hand Held GPS

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Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)	Structure & Other Observations
			54.5			OL: Clayey SILT: Dark brown. Low plasticity. Minor rootlets. (Topsoil)	D to M			
			54.2			CH: Silty CLAY: Orange mottled grey. High plasticity. Minor rootlets. (Northland Allochthon)				
	0.5	Peak = 104kPa Residual = 34kPa								
	1.0	Peak = 101kPa Residual = 27kPa		1			M	VSt		
	1.5	Peak = 72kPa Residual = 24kPa				... at 1.50m, Becoming light grey with minor limonite staining		St		
	2.0	Peak = 107kPa Residual = 40kPa		2				VSt		
			52.3			Highly weathered. Blue mottled grey. Highly sheared. MUDSTONE: Extremely weak. Polished surfaces and trace groundwater along fracture planes. Clayey SILT. Low plasticity. (Hukerenui Mudstone)				
	2.5	Peak = UTP				... at 2.60m, With trace fine to coarse gravel sized inclusions. Material is Highly weathered, light grey, highly fractured, SILTSTONE, Extremely weak.				
	3.0	Peak = UTP		3			D to M	H		
	4.0	Peak = UTP		4		Test pit terminated at 4.00 m				
				5						
				6						

Termination Reason: Target depth reached
Shear Vane No: 3661 DCP No:

Remarks: Groundwater not encountered.

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 3 - April 2018.

TEST PIT PHOTOGRAPHS: TP30-24

Client:	Fulton Hogan Land Development Ltd		
Project:	Milldale Fast Track Application	**Location:**	Wainui East
Project No:	AKL2024-0257	**Date:**	18/12/2024
Position:	388558.0mE; 829840.5mN	**Contractor:**	
Logged by:	ZW	**Checked by:**	MJC
Dimensions:	5.0m by 1.2m	**Termination Depth:**	4.0m

TP30-24 – TEST PIT EXCAVATION

TP30-24 – TEST PIT EXCAVATION

TP30-24 – TEST PIT EXCAVATION

TP30-24 – TEST PIT EXCAVATION

TEST PIT LOG - TP31-24

Client: Fulton Hogan Land Development Limited
Project: Milldale Fast Track Application
Site Location: Wainui East
Project No.: AKL2024-0257
Date: 18/12/2024
Test Pit Location: Refer to Site Plan | Logged by: ZW | Checked by: MJC | Scale: 1:30 | Sheet 1 of 1
Position: 388503.2mE; 829716.5mN | Projection: EDENMT2000 | Pit Dimensions: 5.0m by 1.2m
Elevation: 62.80m | Datum: AUCKHT1946 | Survey Source: Hand Held GPS

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Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)	Structure & Other Observations
			62.8			OL: Clayey SILT: Dark brown. Low plasticity. Minor rootlets. (Topsoil)	D to M			
			62.6			CH: Silty CLAY: Orange mottled grey. High Plasticity. Minor rootlets. (Northland Allochthon)				
	0.5	Peak = 114kPa Residual = 46kPa						VSt		
	1.0	Peak = 120kPa Residual = 43kPa		1			M			
	1.5	Peak = UTP						H		
	2.0	Peak = UTP		2						
			60.6			Highly weathered. Dark red mottled blue. Highly sheared. MUDSTONE: Extremely weak. Polished surfaces and trace water along fracture planes. Clayey SILT. Low plasticity. (Hukerenui Mudstone)				
	2.5	Peak = UTP								
	3.0	Peak = UTP		3			D to M	H		
	4.0	Peak = UTP		4		Test pit terminated at 4.00 m				
				5						
				6						

Dynamic Cone Penetrometer (Blows/100mm): 5 10 15 20

Structure & Other Observations: Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks

Termination Reason: Target depth reached
Shear Vane No: 3661 DCP No:

Remarks: Groundwater not encountered.

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 3 - April 2018.

TEST PIT PHOTOGRAPHS: TP31-24

Client:	Fulton Hogan Land Development Ltd		
Project:	Milldale Fast Track Application	**Location:**	Wainui East
Project No:	AKL2024-0257	**Date:**	18/12/2024
Position:	388503.2mE; 829716.5mN	**Contractor:**	
Logged by:	ZW	**Checked by:**	MJC
Dimensions:	5.0m by 1.2m	**Termination Depth:**	4.0m

TP31-24 – TEST PIT EXCAVATION

TP31-24 – TEST PIT EXCAVATION

TP31-24 – TEST PIT EXCAVATION

TEST PIT LOG - TP32-24

Client: Fulton Hogan Land Development Limited
Project: Milldale Fast Track Application
Site Location: Wainui East
Project No.: AKL2024-0257
Date: 18/12/2024
Test Pit Location: Refer to Site Plan | Logged by: ZW | Checked by: MJC | Scale: 1:30 | Sheet 1 of 1
Position: 388557.6mE; 829937.5mN | Projection: EDENMT2000 | Pit Dimensions: 6.0m by 1.5m
Elevation: 56.25m | Datum: AUCKHT1946 | Survey Source: Hand Held GPS

CMW Geosciences
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Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm) 5 10 15 20	Structure & Other Observations
			56.2			OL: Clayey SILT: Dark brown. Low plasticity. Minor rootlets. (Topsoil)	M			
	0.5	Peak = 56kPa Residual = 24kPa	55.8			CH: Silty CLAY: Orange mottled grey. High plasticity. Minor rootlets. (Colluvium)	W	St		
						... at 0.80m, With minor organic material present as tree roots.				
	1.0	Peak = 88kPa Residual = 34kPa		1						
	1.5	Peak = UTP						H		
			54.4			Highly to Moderately weathered. Light grey. Calcareous. LIMESTONE: Very weak. Highly sheared with cemented calcite infill along fracture planes. (Mahurangi Limestone)	D to M	H		
	2.0	Peak = UTP		2		*... from 2.00m to 2.50m, With Highly weathered, blue mottled grey, highly sheared, MUDSTONE. Extremely weak, outcropping along the south-western portion of the pit. Sharp contact.*				
	2.5	Peak = UTP				Test pit terminated at 2.50 m				
				3						
				4						
				5						
				6						

Termination Reason: Refusal on hard ground.
Shear Vane No: 3661 DCP No:

Remarks: Groundwater not encountered.

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 3 - April 2018.

TEST PIT PHOTOGRAPHS: TP32-24

Client:	Fulton Hogan Land Development Ltd		
Project:	Milldale Fast Track Application	**Location:**	Wainui East
Project No:	AKL2024-0257	**Date:**	18/12/2024
Position:	388557.6mE; 829937.5mN	**Contractor:**	
Logged by:	ZW	**Checked by:**	MJC
Dimensions:	6.0m by 1.5m	**Termination Depth:**	2.5m

TP32-24 – TEST PIT EXCAVATION

TP32-24 – TEST PIT EXCAVATION

TP32-24 – TEST PIT SPOIL

TP32-24 – TEST PIT EXCAVATION