## **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

Checked by:

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1:25 Test Pit Location: Refer to Site Plan Logged by: JH Scale: Sheet 1 of 1 MJC Pit Dimensions: 3.0m by 1.2m Position: 389234.8mE; 830408.5mN Projection: EDENTM2000

Elevation: 26.55m Datum: AUCKHT1946 Survey Source: Hand Held GPS Structure & Other Observations Consistency/ Relative Density Dynamic Cone Penetrometer Samples & Insitu Tests Material Description
Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit)
Rock: Colour; fabric; rock name; additional comments. (origin/geological unit) Groundwate Moisture Condition Ξ (Blows/100mm) Discontinuities: Depth: Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks Depth 귐 Depth Type & Results 10 15 20 26.6 OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets 26.3 ML: SILT with minor clay: Yellowish brown streaked grey. Low plasticity. Moderately sensitive. (Alluvium) Peak = 143kPa Residual = 38kPa 0.5 VSt 25.9 ML: Clayey SILT: Light grey streaked yellowish brown. Low plasticity. Trace limonite staining. Trace decomposing tree roots. Moderately sensitive. (Alluvium) Peak = 67kPa Residual = 32kPa 1.0 Peak = 95kPa Residual = 51kPa 1.5 St 2.0 Peak = 64kPa Residual = 29kPa 2.5 Peak = 115kPa Residual = 48kPa М ... at 2.50m, Becoming very stiff. 3.0 Peak = 111kPa Residual = 45kPa VSt 23.4 ML: SILT: Bluish grey. Low plasticity. Moderately sensitive. Recovered as completely to highly weathered SILTSTONE. (Hukerenui Mudstone) Peak = 143kPa Residual = 38kPa 3.5 ... at 3.50m, Becoming hard. 4.0 Peak = UTP Н Test pit terminated at 5.00 m

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

Remarks: Groundwater not encountered.



# **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 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

Checked by:

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Logged by: JH Scale: 1:25 Sheet 1 of 1 MJC

Position: 389145.0mE; 830299.7mN Projection: EDENTM2000 Pit Dimensions: 3.0m by 1.2m Elevation: 31.30m Datum: AUCKHT1946 Survey Source: Hand Held GPS

	ation. 5	1.30m				Datum: AUCKHT1946	Sur		500	ırce	: г	٦aı	iu i	Held GPS
Dep	samples & In	nsitu Tests	RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/ Relative Density		Dynar Pene (Blows	trom	neter		Structure & Other Observations  Discontinuities: Depth; Defect Number; Defect Type; Dip; Defe
Dep	oth Type	e & Results	교	Dep	Grap	Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	S S	Cons		5 10	] ) 1	5 2	20	Shape; Roughness; Aperture; Inf Seepage; Spacing; Block Size; Block Shape; Remarks
0.9	5 Peak Resid	k = 143kPa fual = 25kPa	31.3	-		OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. (Topsoil)  ML: Clayey SILT: Yellowish brown. Low plasticity. (Alluvium) from 0.30m to 0.50m, Blocky structure at 0.50m, Becoming yellowish brown streaked light grey. Trace limonite staining. Trace rootlets, organic bands.	-							Scott Graph, terraine
1.0	) Peak Resid	k = 150kPa dual = 57kPa		1 -	-^ ^ - X X X - X X X - X X X - X X X - X X X									
1.9	5 Peak Resid	k = 115kPa dual = 51kPa		-	1 × × × × × × × × × × × × × × × × × × ×		М	VSt						
2.0		k = 143kPa dual = 41kPa		2 -										
2.8	5 Peak Resid	k = 150kPa dual = 32kPa		-		at 2.70m, Some limonite staining.								
3.0	) Pea	ak = UTP	28.3	3 -	X X X X X X X X X X X X X X X X X X X	Highly to moderately weathered, bluish grey MUDSTONE: Extremely weak. Recovered as silt clasts, tightly interlocked. (Hukerenui Mudstone)								
3.8	5 Pea	ak = UTP		-										
4.0	) Pea	ak = UTP		4 -			D to M							
				-										
				5 -	$\vdash$		1	1	1	1 1		1	1	1

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

Remarks: Groundwater not encountered.



# **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									



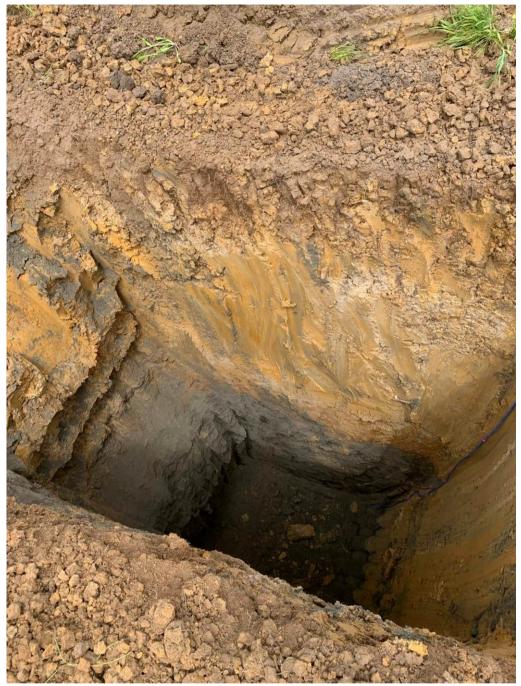
**TP02-24 - TEST PIT EXCAVATION** 





**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

Checked by:

**Great People | Practical Solutions** 

1:25 Test Pit Location: Refer to Site Plan Logged by: JH Scale: Sheet 1 of 1 MJC Pit Dimensions: 3.0m by 1.2m Position: 389046.5mE; 830326.4mN Projection: EDENTM2000

Datum: AUCKHT1946 Elevation: 32.66m Survey Source: Hand Held GPS Structure & Other Observations Consistency/ Relative Density Dynamic Cone Penetrometer Samples & Insitu Tests Material Description
Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit)
Rock: Colour; fabric; rock name; additional comments. (origin/geological unit) Groundwate Moisture Condition  $\widehat{\Xi}$ (Blows/100mm) Discontinuities: Depth: Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks Depth 귐 Depth Type & Results 10 15 20 32.7 OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets 32.4 ML: Clayey SILT: Brown mottled grey. Low plasticity. Trace limonite staining. Moderately sensitive. (Alluvium) Peak = 178kPa Residual = 51kPa 0.5 at 0.60m, Becoming light grey streaked yellowish brown. Trace limonite Peak = 111kPa Residual = 48kPa 1.0 Peak = 143kPa VSt 1.5 Residual = 51kPa Peak = 175kPa 2.0 Residual = 48kPa 2.5 Peak = 146kPa Residual = 45kPa М ... at 2.50m, Becoming orange brown. 30.0 ML: SILT: Dark grey with trace reddish brown. Low plasticity. Some silt clasts. Recovered as completely weathered to highly weathered (Hukerenui Mudstone) 3.0 Peak = UTP Peak = UTP 3.5 Н 4.0 Peak = UTP 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.



# **TEST PIT PHOTOGRAPHS: TP03-24**

Client:	Fulton Hogan Land Development Limited											
Project:	Milldale Fast Track Application	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

Checked by:

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Logged by: JH Scale: 1:25 Sheet 1 of 1 MJC

Position: 388974.7mE; 830265.7mN Projection: EDENTM2000 Pit Dimensions: 3.0m by 1.2m

Eleva	tion: 38.69m	,			Datum: AUCKHT1946							d Held GPS
Sai	mples & Insitu Tests		٦	go	Material Description	n =	cy/ nsity		Dynan Penet	trome	eter	Structure & Other Observation
Sai	Type & Results	RL (m)	Depth (m)	Graphic Log	Soil: Soil symbol; soil type; colour; structure; bedding; plasticity, sensitivity; additional comments. (origin/geological unit)  Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/ Relative Density		(Blows			Discontinuities: Depth; Defect Number; Defect Type; Dip; Defe Shape; Roughness; Aperture; In Seepage; Spacing; Block Size Block Shape; Remarks
0.5	Peak = 143kPa Residual = 22kPa	38.7	-		OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. (Topsoil)  ML: Clayey SILT: Yellowish brown. Low plasticity. (Alluvium) from 0.20m to 0.70m, Blocky Structure.	-						
1.0	Peak = 111kPa Residual = 48kPa		1 -	X		М	VSt					
1.5	Peak = 118kPa Residual = 48kPa		_	X X X X X X X X X X X X X X X X X X X								
2.0	Peak = 181kPa Residual = 45kPa		2 -	X X X X X X X X X X X X X X X X X X X								
2.5	Peak = 175kPa Residual = 48kPa	36.3	-	X X X X X X X X X X X X X X X X X X X	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)			-				
3.0	Peak = UTP		3 -	(								
3.5	Peak = UTP			X X X X X X X X X X X X X X X X X X		D to M	н					
4.0	Peak = UTP			X X X X X X X X X X X X X X X X X X X								
			_	X X X X X X X X X X X X X X X X X X X								
			5 -	XX	Test pit terminated at 5.00 m					1		=

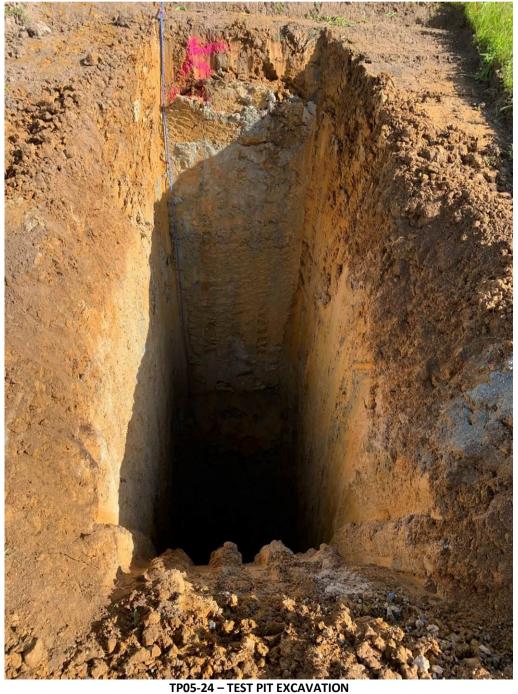
Termination Reason: Target depth reached Shear Vane No: 1620 DCP No:

Remarks: Groundwater not encountered. Facing 318 NW.

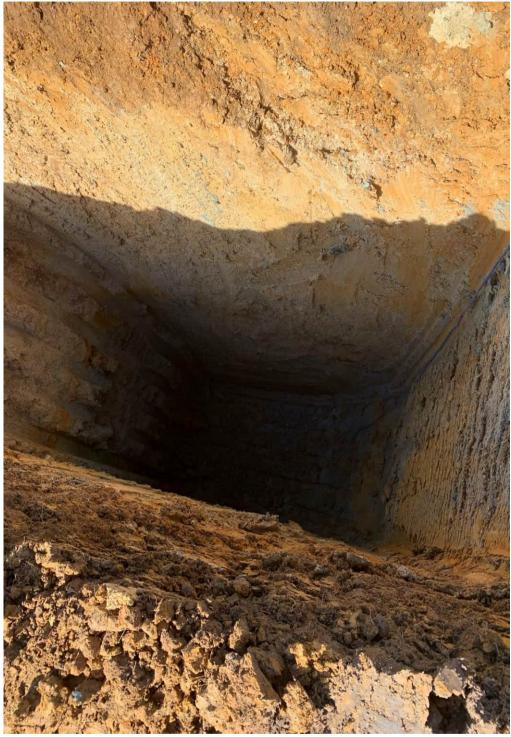


# **TEST PIT PHOTOGRAPHS: TP05-24**

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 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

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Checked by: 1:25 Test Pit Location: Refer to Site Plan Logged by: JH Scale: Sheet 1 of 1 MJC Pit Dimensions: 3.0m by 1.2m Position: 388996.9mE; 830213.0mN Projection: EDENTM2000 Elevation: 30.52m Datum: AUCKHT1946 Survey Source: Hand Held GPS Structure & Other Observations Consistency/ Relative Density Dynamic Cone Penetrometer Samples & Insitu Tests Material Description
Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit)
Rock: Colour; fabric; rock name; additional comments. (origin/geological unit) Groundwate Moisture Condition  $\widehat{\Xi}$ (Blows/100mm) Discontinuities: Depth: Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks Depth 귐 Depth Type & Results 10 15 20 30.5 OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. 30.3 ML: Clayey SILT: Light grey streaked yellowish brown. Low plasticity. Trace limonite staining. Peak = 115kPa Residual = 35kPa 0.5 29.8 CH: Silty CLAY: Light grey streaked yellowish brown. High plasticity. (Alluvium) Peak = 105kPa Residual = 35kPa 1.0 Peak = 130kPa 1.5 Residual = 48kPa Peak = UTP 2.0 ... 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 М

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

Remarks: Groundwater not encountered. Facing 153 SE.

3.0

3.5

4.0

Peak = UTP

Peak = UTP

Peak = UTP

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

Test pit terminated at 5.00 m



# **TEST PIT PHOTOGRAPHS: TP06-24**

Client:	Fulton Hogan Land Development Limited											
Project:	Milldale Fast Track Application	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 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

Checked by:

Great People | Practical Solutions

Test Pit Location: Refer to Site Plan Logged by: JH 1:25 Scale: Sheet 1 of 1 MJC

Pit Dimensions: 3.0m by 1.2m Position: 388702.9mE; 830139.5mN Projection: EDENTM2000 Elevation: 47.10m Datum: AUCKHT1946 Survey Source: Hand Held GPS Structure & Other Observations Consistency/ Relative Density Dynamic Cone Penetrometer Samples & Insitu Tests Material Description
Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit)
Rock: Colour; fabric; rock name; additional comments. (origin/geological unit) Groundwate Moisture Condition  $\widehat{\Xi}$ (Blows/100mm) Discontinuities: Depth: Defect Graphic L Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks Depth 귐 Depth Type & Results 10 15 20 47 1 OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. (Topsoil) 46.9 CH: Silty CLAY: Yellowish brown streaked light grey. High plasticity. (Mangakahia Complex) Peak = 95kPa Residual = 22kPa 0.5 1.0 Peak = 140kPa Residual = 38kPa 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 М 3.0 Peak = UTP Peak = UTP 3.5 Н 4.0 Peak = UTP

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 terminated at 5.00 m



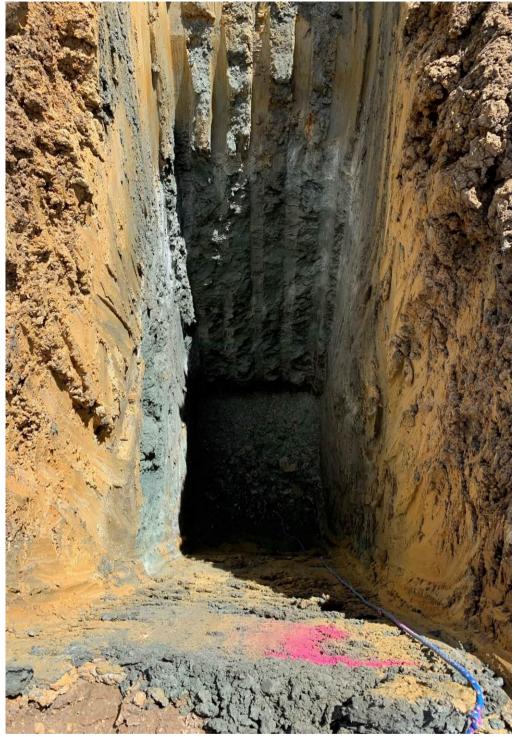
# **TEST PIT PHOTOGRAPHS: TP07-24**

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

Checked by:

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Test Pit Location: Refer to Site Plan Logged by: JH Scale: 1:25 Sheet 1 of 1 MJC

Position: 388611.4mE; 830004.1mN Projection: EDENTM2000 Pit Dimensions: 3.0m by 1.2m

E	Elevati	on: 49.80m	,			Datum: AUCKHT1946							Held GPS
ře	Sami	oles & Insitu Tests		_	bc Bc	Metalial Description		y/ nsity	Dynai Pene	mic (	Cone		Structure & Other Observations
Groundwater			RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour, fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	sistend /e Der	(Blows	s/100	0mm)	١ ١	Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect
Grou	Depth	Type & Results	<u> </u>	De	Grap	Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	≚౭	Consistency/ Relative Density	5 10	0 1	5 2	0	Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks
			49.8			OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets.							-
			49.6			(Topsoil)							]
			40.0		X X	ML: Clayey SILT: Yellowish brown streaked light grey. Low plasticity. (Mangakahia Complex)							-
					X X   X X >								-
	0.5	Peak = 80kPa Residual = 32kPa		-			М						-
								St					1
													]
													-
	1.0	Peak = UTP	48.8	1 -	×××	Moderately weathered, grey, SILTSTONE: Extremely weak.						-	$\exists$
					× × × ;	(Mangakahia Complex) from 1.00m to 2.00m, Friable.							]
					×××;								1
					× × × ×								]
	1.5	Peak = UTP		_	× × × ;								
					× × × ×								1
					× × × ;								1
	2.0	Peak = UTP		2 -	× × × × × × × × × × × × × × × × × × ×								]
				-	- 2 2 2 3								
					\$ \$ \$ \$ \$								3
					X X X X								-
	2.5	Peak = UTP			× × × ×								1
	2.5	Peak = UTP		-	××××								]
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					× × × ;								]
					× × × ; × × × ; × × × ;								-
	3.0	Peak = UTP		3 -	× × × ;		D	Н					3
					X X X X X X X X X X X X X X X X X X X								]
					×××;								1
					× × × × ×								]
	3.5	Peak = UTP		-	X X X X X X X X X X X X X X X X X X X								=
					× × × × × × × × × × × × × × × × × × ×								]
					T X X X X								-
					× × × ;								]
	4.0	Peak = UTP		4 -	- X X X X X X X X X X X X X X X X X X X								=
					×××;								1
					×××;								]
				-	× × × ×								
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					× × × ×								]
				5 -	- X X X X	Test pit terminated at 5.00 m						Н	
<u> </u>	erminat	ion Reason: Tar	net de	enth r	eache	<u>'</u>				-			

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

Remarks: Groundwater not encountered. Facing 215 SW.



# **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 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

Checked by:

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Test Pit Location: Refer to Site Plan Logged by: JH 1:25 Scale: Sheet 1 of 1 MJC Pit Dimensions: 3.0m by 1.2m Position: 388690.5mE; 829971.6mN Projection: EDENTM2000

Elevation: 39.22m Datum: AUCKHT1946 Survey Source: Hand Held GPS Consistency/ Relative Density Structure & Other Observations Dynamic Cone Penetrometer Samples & Insitu Tests Material Description
Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit)
Rock: Colour; fabric; rock name; additional comments. (origin/geological unit) Groundwate Moisture Condition  $\widehat{\Xi}$ (Blows/100mm) Discontinuities: Depth: Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks Depth 귐 Depth Type & Results 10 15 20 39.2 OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. 38.9 ML: Clayey SILT: Light grey streaked trace yellowish brown. Low plasticity. Trace limonite staining. (Mangakahia Complex) Peak = 108kPa Residual = 38kPa 0.5 М Peak = 73kPa Residual = 38kPa 1.0 1.5 Peak = UTP 37.6 Moderately weathered, light grey SILTSTONE: Extremely weak. (Mangakahia Complex) Peak = UTP 2.0 2 ... at 2.10m, Becoming grey. 2.5 Peak = UTP 3.0 Peak = UTP D Peak = UTP 3.5 4.0 Peak = UTP 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.



# **TEST PIT PHOTOGRAPHS: TP09-24**

Client:	Fulton Hogan Land Development Limited											
Project:	Milldale Fast Track Application	lale 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									



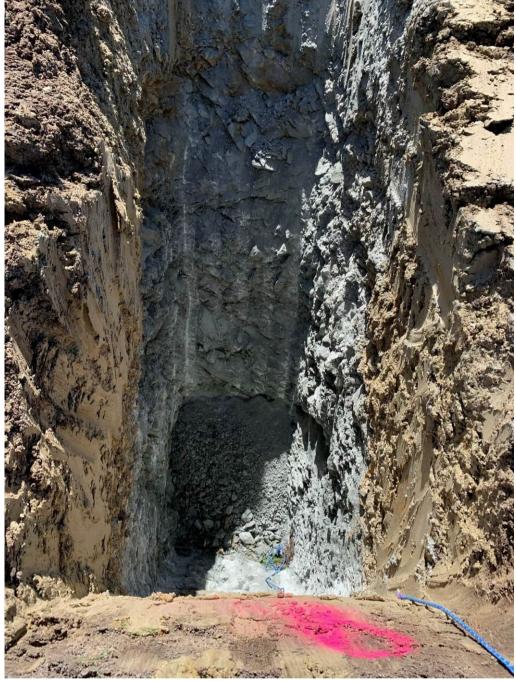
**TP09-24 – TEST PIT EXCAVATION** 





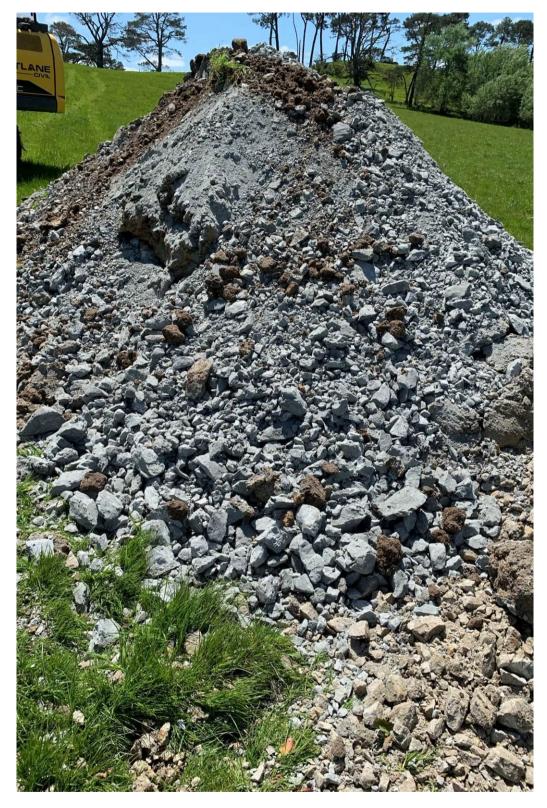
TP09-24 – TEST PIT EXCAVATION





**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

Checked by:

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Scale: 1:25 Sheet 1 of 1 MJC

Logged by: JH Position: 388588.5mE; 829926.1mN Projection: EDENTM2000 Pit Dimensions: 3.0m by 1.2m Elevation: 51.10m Datum: AUCKHT1946 Survey Source: Hand Held GPS

⊨ıevat	ion: 51.10m				Datum: AUCKHT1946	Sur	vey	So	urce	: 1	Hai	nd I	Held GPS
Sam	nples & Insitu Tests	RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture	Consistency/ Relative Density		Dyna Pene (Blow	etron	neter		Structure & Other Observations  Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect
Depth	Type & Results	≅	Dep	Grap	Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	§Ş	Cons		5 1	0 1	5 2	20	Shape; Roughness; Aperture; Infi Seepage; Spacing; Block Size; Block Shape; Remarks
		51.1		- X _ X	OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. (Topsoil)  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 ·	- X X X X X X X X X X X X X X X X X X X	at 1.00m, Becoming light bluish grey.	М							
1.5	Peak = 76kPa Residual = 22kPa			- X - X - X - X - X - X - X - X - X - X			St						
2.0	Peak = UTP	49.0	2	-XX -X X X X X X X X X X X X X X X X X X X	from 2.00m to 2.10m, Minor limonite staining.  Slightly weathered, grey, SILTSTONE: Extremely weak. (Mangakahia Complex)								
2.5	Peak = UTP			-xxxx -xxxx -xxxx -xxxx -xxxx -xxxx -xxxx -xxxx									
3.0	Peak = UTP		3 ·	-xxx; -xxx; -xxx; -xxx; -xxx; -xxx; -xxx;									
3.5	Peak = UTP			-xxxx		D	н						
4.0	Peak = UTP		4										
				× × × × × × × × × × × × × × × × × × ×									
		1	5	XXX	Test pit terminated at 5.00 m			F					

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

Remarks: Groundwater not encountered. Facing 065 NE.



# **TEST PIT PHOTOGRAPHS: TP10-24**

Client:	Fulton Hogan Land Development Limited											
Project:	Milldale Fast Track Application	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** 





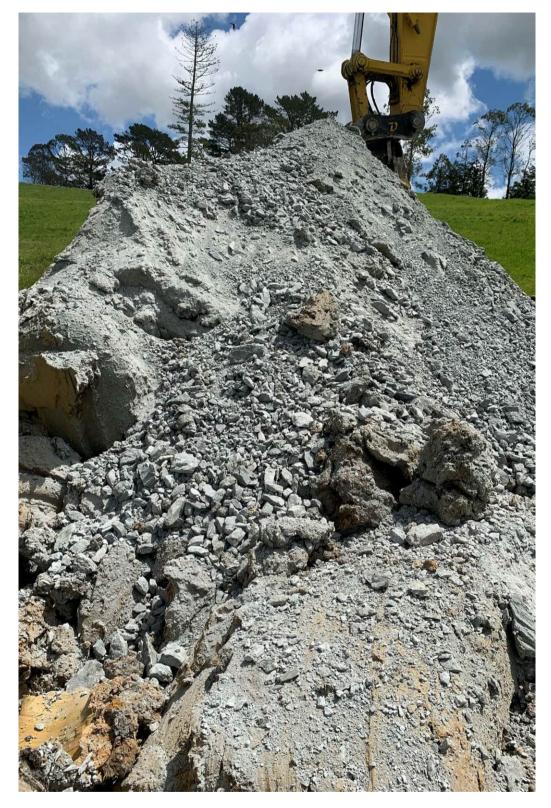
**TP10-24 – TEST PIT EXCAVATION** 





**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

Checked by:

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Test Pit Location: Refer to Site Plan Logged by: JH Checked by: Scale: 1:25 Sheet 1 of 1
Position: 388671.6mE; 829922.5mN Projection: EDENTM2000 Pit Dimensions: 3.0m by 1.2m

Datum: AUCKHT1946 Survey Source: Hand Held GPS Elevation: 40.10m Consistency/ Relative Density Structure & Other Observations Dynamic Cone Penetrometer Samples & Insitu Tests Material Description
Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit)
Rock: Colour; fabric; rock name; additional comments. (origin/geological unit) Groundwate Moisture Condition  $\widehat{\Xi}$ (Blows/100mm) Discontinuities: Depth: Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks Depth 귐 Depth Type & Results 10 15 20 40 1 OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. 39.8 ML: Clayey SILT: Yellowish brown streaked light grey. Low plasticity. (Mangakahia Complex) Peak = 115kPa Residual = 32kPa 0.5 М St to VSt Peak = 76kPa Residual = 35kPa 1.0 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. Peak = UTP 2.0 2 2.5 Peak = UTP 3.0 Peak = UTP D Peak = UTP 3.5 4.0 Peak = UTP Test pit terminated at 5.00 m

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

Remarks: Groundwater not encountered. Facing 147 SE.



# **TEST PIT PHOTOGRAPHS: TP11-24**

Client:	Fulton Hogan Land Development Limited											
Project:	Milldale Fast Track Application	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** 





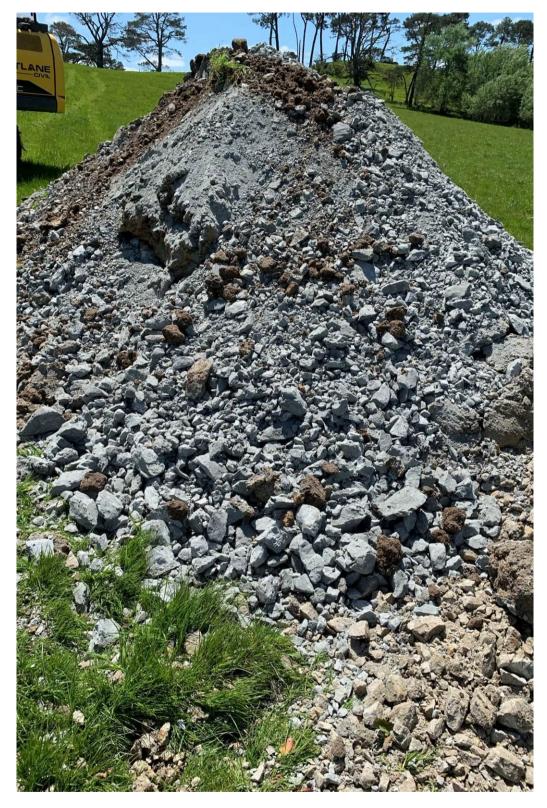
**TP11-24 - TEST PIT EXCAVATION** 





**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

Checked by:

Great People | Practical Solutions

Test Pit Location: Refer to Site Plan Logged by: JH Scale: 1:25 Sheet 1 of 1 MJC Position: 388507.4mE; 829838.7mN Projection: EDENTM2000 Pit Dimensions: 3.0m by 1.2m Flevation: 64 86m Datum: AUCKHT1946 Survey Source: Hand Held GPS

E	Elevation	on: 64.86m				Datum: AUCKHT1946	Sur	vey S	Sour	ce:	Har	nd I	Held GPS
Groundwater	Samp	oles & Insitu Tests	RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit)	Moisture Condition	_ <u>\$</u>		ynamic enetroi lows/1(	Cone		Structure & Other Observations  Discontinuities: Depth; Defect Number: Defect Type: Dip: Defect
Groun	Depth	Type & Results	교	Dep	Grap	Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	S S	Cons	5	10	15 2	20	Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks
			64.9			OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. (Topsoil)  ML: Clayey SILT: Yellowish brown streaked grey. Low plasticity. Blocky structure.							
	0.5	Peak = 143kPa Residual = 32kPa		-	(X X -X X ) -(X X -(X X -(X X -(X X	(Hukerenui Mudstone)  at 0.70m, Becoming light grey streaked orange brown with trace brown.							-
	1.0	Peak = 134kPa Residual = 48kPa		1 -	(X X X X X X X X X X X X X X X X X X X			VSt					- - - - - - - - - - -
	1.5	Peak = 80kPa Residual = 51kPa	63.2	-	(	Completely weathered, bluish grey with brown, MUDSTONE: Extremely	М						- - - - - - - - - - - - - - - - - - -
	2.0	Peak = 83kPa Residual = 48kPa		2 -		weak. Recovered as Clayey SILT. Low plasticity. Minor medium to coarse gravel sized silt clasts. (Hukerenui Mudstone)		St					
	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	н					- - - - - - - -
				_									
				5 -									]
L					1	Test pit terminated at 5.00 m			H		1		-

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

Remarks: Groundwater not encountered. Facing 095 E.



# **TEST PIT PHOTOGRAPHS: TP12-24**

Client:	Fulton Hogan Land Development Limited											
Project:	Milldale Fast Track Application	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									

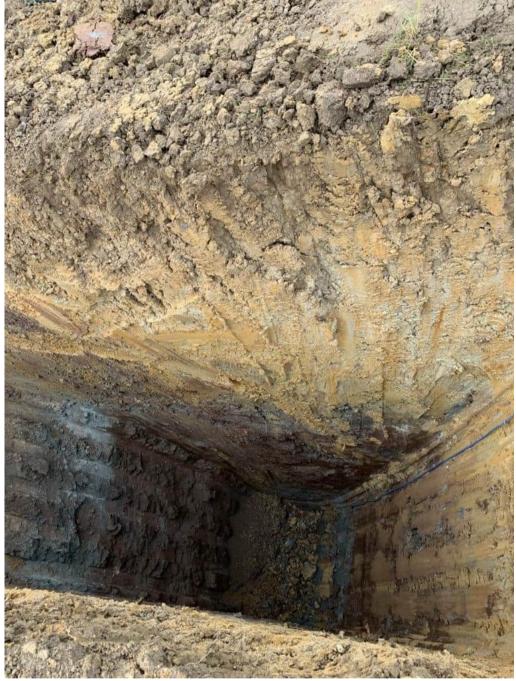






**TP12-24 – TEST PIT EXCAVATION** 





**TP12-24 – TEST PIT EXCAVATION** 





**TP12-24 – TEST PIT 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

Checked by:

Great People | Practical Solutions

Test Pit Location: Refer to Site Plan 1:25 Logged by: JH Scale: Sheet 1 of 1 MJC Pit Dimensions: 3.0m by 1.2m Position: 388619.7mE; 829841.5mN Projection: EDENTM2000

Elevation: 45.96m Datum: AUCKHT1946 Survey Source: Hand Held GPS Structure & Other Observations Consistency/ Relative Density Dynamic Cone Penetrometer Samples & Insitu Tests Material Description
Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit)
Rock: Colour; fabric; rock name; additional comments. (origin/geological unit) Groundwate Moisture Condition  $\widehat{\Xi}$ (Blows/100mm) Discontinuities: Depth: Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks Depth 귐 Depth Type & Results 10 15 20 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) Peak = 89kPa Residual = 32kPa 0.5 Peak = 76kPa Residual = 41kPa 1.0 М St 1.5 Peak = 70kPa Residual = 41kPa 2.0 Peak = 83kPa 2 Residual = 45kPa ... 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. 2.5 Peak = UTP (Mangakahia Complex) 3.0 Peak = UTP Peak = UTP 3.5 D Н 4.0 Peak = UTP

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 terminated at 5.00 m

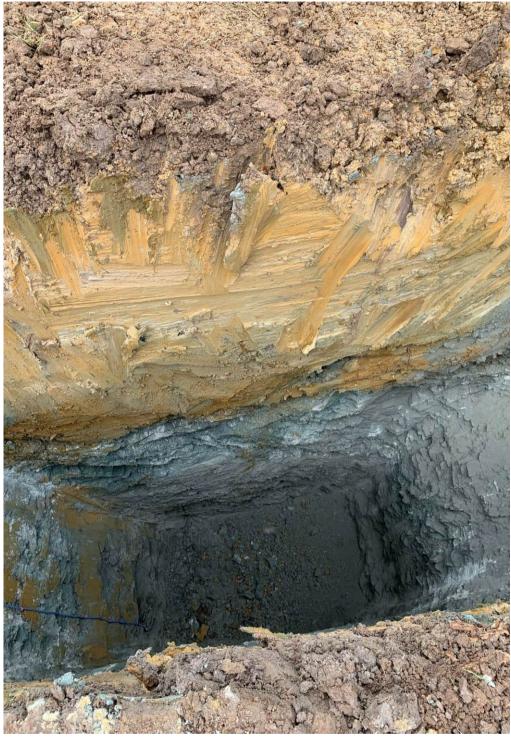


# **TEST PIT PHOTOGRAPHS: TP13-24**

Client:	Fulton Hogan Land Development Limited											
Project:	Milldale Fast Track Application	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 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

Checked by:

Great People | Practical Solutions

1:30 Test Pit Location: Refer to Site Plan Logged by: JH Scale: Sheet 1 of 1 MJC Pit Dimensions: 3.0m by 1.2m Position: 388695.3mE; 829840.5mN Projection: EDENTM2000

Elevation: 38.14m Datum: AUCKHT1946 Survey Source: Hand Held GPS Structure & Other Observations Consistency/ Relative Density Dynamic Cone Penetrometer Samples & Insitu Tests Material Description
Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit)
Rock: Colour; fabric; rock name; additional comments. (origin/geological unit) Groundwate Moisture Condition  $\widehat{\Xi}$ (Blows/100mm) Discontinuities: Depth: Defect Graphic L Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks Depth 귐 Depth Type & Results 10 15 20 38 1 OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. 37.9 ML: Clayey SILT: Yellowish brown streaked light grey. Low plasticity (Mangakahia Complex) Peak = 64kPa 0.5 Residual = 29kPa St ... at 0.60m, Light grey streaked yellowish brown. М Peak = 172kPa 1.0 Residual = 38kPa 36.7 Moderately weathered, grey SILTSTONE: Extremely weak. Recovered as 1.5 Peak = UTP cobbles and boulders, angular to subangular. (Mangakahia Complex) Peak = UTP 2.0 2.5 Peak = UTP 3.0 Peak = UTP D Н Peak = UTP 3.5 Peak = UTP 4.0 Test pit terminated at 5.00 m

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

Remarks: Groundwater not encountered. Facing 040 NE.



# **TEST PIT PHOTOGRAPHS: TP14-24**

Client:	Fulton Hogan Land Development Limited											
Project:	Milldale Fast Track Application	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 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

Checked by:

Great People | Practical Solutions 1:25 Scale:

Sheet 1 of 1

Test Pit Location: Refer to Site Plan Logged by: JH MJC Projection: EDENTM2000 Position: 388555.9mE; 829727.8mN Pit Dimensions: 3.0m by 1.2m

E	Elevati	on: 56.17m				Datum: AUCKHT1946	Sur	vey \$	Sou	ırce	: H	lan	nd F	Held GPS
Groundwater	Samp	oles & Insitu Tests	RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit)	Moisture Condition	Consistency/ Relative Density		Dynar Pene (Blows	trom	eter		Structure & Other Observations  Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect
Grou	Depth	Type & Results	L	Pe	Gra	Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	≗გ	Con		5 10	] ] 1:	5 2	0	Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks
			56.2 56.0		××.	OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. (Topsoil)  ML: Clayey SILT: Grey streaked yellowish brown. Low plasticity. Minor decomposing tree roots. (Mangakahia Complex)								- - - - -
	0.5	Peak = 108kPa Residual = 45kPa				(wangakana oonpick)								- - - - - - - - -
	1.0	Peak = 92kPa Residual = 35kPa		1			М							- - - - - -
	1.5	Peak = 76kPa Residual = 32kPa						St to VSt						- - - - - - - - - - -
	2.0	Peak = 146kPa Residual = 25kPa	54.1	2	X X X X X X X X X X X X X X X X X X X	at 1.80m, Becoming with grey bands.  Completely to highly weathered, grey SILTSTONE: Extremely weak. Friable. Recovered as SILT clasts and gravel, angular. (Mangakahia Complex)								- - - - - - - - -
	2.5	Peak = UTP				(wangakana Complex)			_					- - - - - - - -
	3.0	Peak = UTP	53.4	3		Moderately weathered, grey SILTSTONE: Extremely weak. (Mangakahia Complex)								- - - - - - -
	3.5	Peak = UTP					D	н						- - - - - - - - - - - - - - - - - - -
	4.0	Peak = UTP		4										- - - - - - - - - - - - - - - - - - -
					- × × × - × × × - × × ×									]
				5	×××	Test pit terminated at 5.00 m			E					
, T	orminat	ion Reason: Tar	act D	onth	rooch									

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

Remarks: Groundwater not encountered. Facing 020 N.



# **TEST PIT PHOTOGRAPHS: TP15-24**

Client:	Fulton Hogan Land Development Limited											
Project:	Milldale Fast Track Application	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

Checked by:

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Test Pit Location: Refer to Site Plan Logged by: JH Scale: 1:25 Sheet 1 of 1 MJC

Position: 388756.4mE; 829774.3mN Projection: EDENTM2000 Pit Dimensions: 3.0m by 1.2m Elevation: 33.75m Datum: AUCKHT1946 Survey Source: Hand Held GPS

Lievai	ion: 33.75m				Datum: AUCKHT1946	Sur	vey S	Sοι	ırce	): H	Hai	nd I	Held GPS
	pples & Insitu Tests	RL (m) Depth (m)		Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition				etron	Cone neter	r	Structure & Other Observation  Discontinuities: Depth; Defec Number; Defect Type; Dip; Def Shape; Roughness; Aperture; Ir Seepage; Spacing; Block Size Block Shape; Remarks
Depth	Type & Results			,   e	Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	20	Relai		5 1	0 1	5 2	20	Seepage; Spacing; Block Size
		33.7			OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. (Topsoil)  CH: Silty CLAY: Light grey streaked yellowish brown. High plasticity. Trace decomposing tree roots. (Alluvium)								
0.5	Peak = 156kPa Residual = 32kPa			X			100						
1.0	Peak = 102kPa Residual = 32kPa		1	X		М	VSt						
1.5	Peak = UTP	32.2		X	ML: Clayey SILT: Brown. Low plasticity. (Hukerenui Mudstone)								
2.0	Peak = UTP		2	X X    X X    X X    X X									
2.5	Peak = UTP	31.5			Completely to highly weathered, dark grey MUDSTONE: Extremely weak. Recovered as SILT. (Hukerenui Mudstone) from 2.20m to 3.80m, Friable								
3.0	Peak = UTP		3										
3.5	Peak = UTP					D to M	н						
4.0	Peak = UTP		4										
1			5		Test pit terminated at 5.00 m	1							j

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

Remarks: Groundwater not encountered. Facing 073 E.



# **TEST PIT PHOTOGRAPHS: TP16-24**

Client:	Fulton Hogan Land Development Limited											
Project:	Milldale Fast Track Application	Ildale 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 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

Checked by:

Great People | Practical Solutions

Test Pit Location: Refer to Site Plan Logged by: JH Scale: 1:25 Sheet 1 of 1 MJC

Position: 388722.0mE; 829679.2mN Projection: EDENTM2000 Pit Dimensions: 3.0m by 1.2m

E	Elevation	on: 37.63m	,	0_0	J. O.L	Datum: AUCKHT1946								Held GPS
ter	Samp	oles & Insitu Tests		(1	og	Material Description		cy/ nsity		Dyna Pene	mic	Cone	9	Structure & Other Observations
Groundwater			RL (m)	Depth (m)	Graphic Log	Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit)  Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/ Relative Density		(Blow	rs/10	0mm	1)	Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill;
้	Depth	Type & Results			ō		-0	Reas		5 1	0 1	5 2	20	Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks
			37.6	-		OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. (Topsoil)								-
			37.4	-		ML: Clayey SILT: Yellowish brown. Low plasticity.			-					]
				-		(Alluvium)								-
	0.5	Peak = 124kPa		-	(X X X X X X X X X X X X X X X X X X X	at 0.40m, Becoming light grey streaked orange. Minor limonite staining. Minor medium to coarse gravel sized silt clasts.								]
		Residual = 32kPa		-		Minor medium to coarse gravel sized silt clasts at 0.50m, Becoming Clayey SILT. Yellowish brown.								]
				-	XX									]
				-	X X X									]
	1.0	Peak = 140kPa		1 —	X X X									
		Residual = 70kPa		-	( × × × × >			VSt						]
				-	<u> </u>									-
				-										]
	1.5	Peak = 115kPa		_	XXX									
		Residual = 64kPa		-	X X X									
				-	$\times \times $									]
			35.7	-	X X X	CH: CLAY with minor silt: Light grey streaked orange. High plasticity.								_
	2.0	Peak = 86kPa Residual = 51kPa		2 -	_	(Alluvium)								
		rtoolaaar o na a		-	==									1
														]
				-	=									1
	2.5	Peak = 92kPa Residual = 54kPa		-	<u>-</u> -		М							]
				-	<u> </u>									]
				-	_									-
					<u>-</u>			St						]
	3.0	Peak = 99kPa Residual = 60kPa		3 —										1 - 1
				-										]
				-										]
				-										_
	3.5	Peak = 95kPa Residual = 45kPa		-	<u> </u>									
				-	=									
				-	<u> </u>									]
	4.0	Peak = 92kPa		4 -	<u> </u>									]
	4.0	Residual = 35kPa		-	F_F									_
					E-3									]
				-	<u> </u>									
				-	<u> </u>									]
				-										
														]
				-	<u> </u>									
				5 —	<u> </u>	Test pit terminated at 5.00 m				$\square$				]
<u></u>	[erminat	ion Reason: Tar	aet de	enth re	1 eache	<u>'</u>						•	_	1

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

Remarks: Groundwater not encountered. Facing 048 NE.

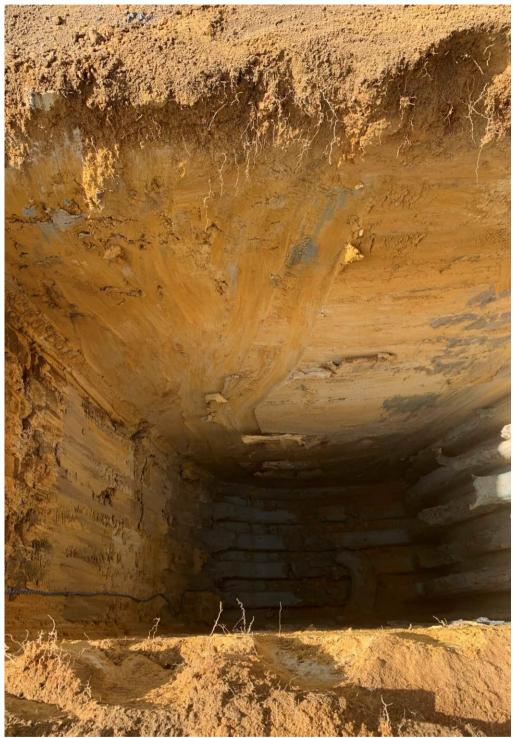


# **TEST PIT PHOTOGRAPHS: TP17-24**

Client:	Fulton Hogan Land Development Limit	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									







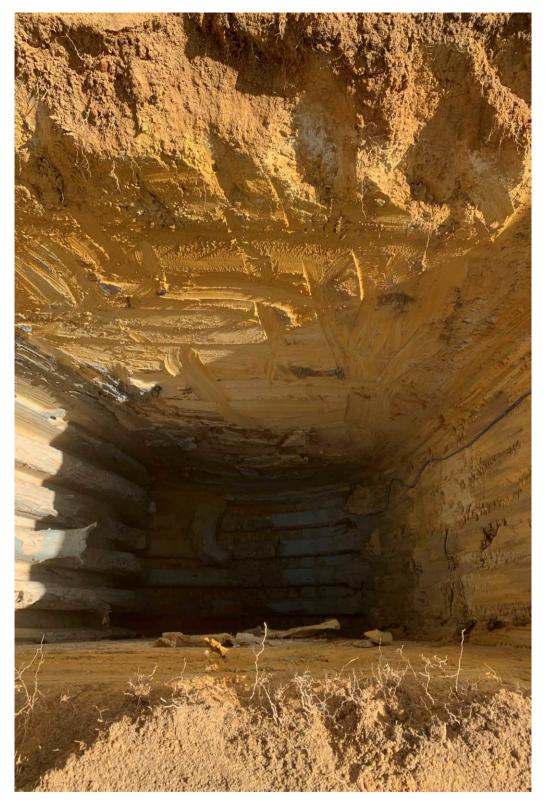
**TP17-24 - TEST PIT EXCAVATION** 





**TP17-24 – TEST PIT EXCAVATION** 





**TP17-24 – TEST PIT EXCAVATION** 

#### **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

Checked by:

Great People | Practical Solutions

Test Pit Location: Refer to Site Plan Logged by: JH Scale: 1:25 Sheet 1 of 1 MJC

Position: 388786.7mE; 829646.2mN Projection: EDENTM2000 Pit Dimensions: 3.0m by 1.2m

		n: 356766.71 on: 35.91m	,	0_0	0.0.2	Datum: AUCKHT1946							Held GPS
		les & Insitu Tests			D					Ovnami	c Con	ne	Structure & Other Observation
	Depth	Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description  Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit)  Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/ Relative Density		Penetro Blows/ 10			Discontinuities: Depth; Defe Number; Defect Type; Dip; De Shape; Roughness; Aperture; Seepage; Spacing; Block Siz Block Shape; Remarks
			35.9		-866	OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets.				+			Block Shape; Remarks
			25.7			(Topsoil)							
			35.7		XX	ML: Clayey SILT: Light grey streaked yellowish brown. Low plasticity. (Alluvium)							
					*××								
	0.5	Peak = 181kPa		-	<u> </u>	at 0.50m, Becoming yellowish brown.							
		Residual = 45kPa			X X	d. c.com, 2000 mig Janoman Alemin							
					*XX								
					X X   X   X   X   X   X   X   X   X								
	1.0	Peak = 124kPa		1 -	1××								
		Residual = 38kPa		·	₹××								
					1 X X								
					₹××								
					*XX								
	1.5	Peak = 118kPa Residual = 57kPa			X X	at 1.50m, Becoming light grey streaked orange brown. Minor limonite staining.							
						cuming.							
	2.0	Peak = 159kPa Residual = 105kPa		2 -									_
					<u> </u>	at 2.10m, Becoming light grey streaked bluish grey with trace light		VSt					
						yellowish brown.	М						
					<u> </u>								
	2.5	Peak = 108kPa	33.4			CH: Silty CLAY: Grey. High plasticity.							
		Residual = 64kPa				(Mangakahia Complex)							
					X								
					+××								
	3.0	Peak = 102kPa		3 -	<u> </u> *×								
		Residual = 51kPa			<u>*</u>								
					<u> </u> ×-×								
					<u>*</u>								
	3.5	Peak = 111kPa Residual = 41kPa			<u> </u>								
					F-×								
					<del>_</del> ×								
	4.0	Peak = 134kPa Residual = 51kPa		4 -	-X-X								_
					<del>-</del>								
					<del> </del> <del> </del> <del> </del>								
					-X-X								
			31.4		-X	Completely to highly weathered, dark grey SILTSTONE: Extremely weak		VSt to H					
						Completely to highly weathered, dark grey SILTSTONE: Extremely weak. Recovered as SILT with minor clay. Some fine to coarse sized silt clasts. (Mangakahia Complex)		"					
						(aganana complex)	D to M						
							IVI						
				5 -					Ш	$\perp$			
$\vdash$			1		- reache	Test pit terminated at 5.00 m						1	1

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

Remarks: Groundwater not encountered. Facing 031 NE.



# **TEST PIT PHOTOGRAPHS: TP18-24**

Client:	Fulton Hogan Land Development Limit	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** 





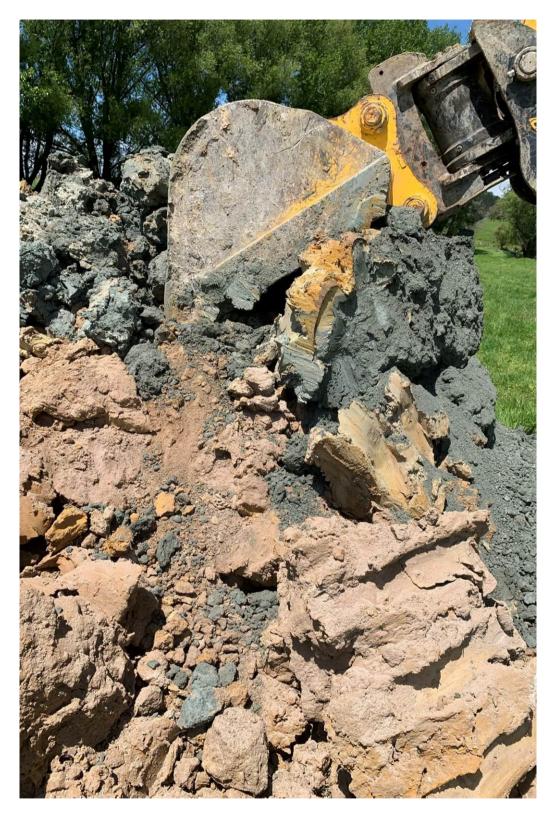
**TP18-24 – TEST PIT EXCAVATION** 





**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

Checked by:

Great People | Practical Solutions

1:25 Test Pit Location: Refer to Site Plan Logged by: JH Scale: Sheet 1 of 1 MJC

Pit Dimensions: 3.0m by 1.2m Position: 388593.0mE; 829675.1mN Projection: EDENTM2000 Elevation: 48.64m Datum: AUCKHT1946 Survey Source: Hand Held GPS Structure & Other Observations Consistency/ Relative Density Dynamic Cone Penetrometer Samples & Insitu Tests Material Description
Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit)
Rock: Colour; fabric; rock name; additional comments. (origin/geological unit) Groundwate Moisture Condition  $\widehat{\Xi}$ (Blows/100mm) Discontinuities: Depth: Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks Depth 귐 Depth Type & Results 10 15 20 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 Peak = 115kPa Residual = 32kPa 0.5 1.0 Peak = 80kPa Residual = 32kPa ... at 1.00m, Becoming light grey streaked yellowish brown. St 1.5 Peak = 140kPa Residual = 38kPa 46.8 Completely to highly weathered, dark grey SILTSTONE: Extremely weak. Friable, highly fractured. VSt (Mangakahia Complex) Peak = UTP 2.0 2 2.5 Peak = UTP 3.0 Peak = UTP Peak = UTP 3.5 4.0 Peak = UTP

Termination Reason: Target depth reached Shear Vane No: 1620

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 terminated at 5.00 m



# **TEST PIT PHOTOGRAPHS: TP19-24**

Client:	Fulton Hogan Land Development Limited										
Project:	Milldale Fast Track Application	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								







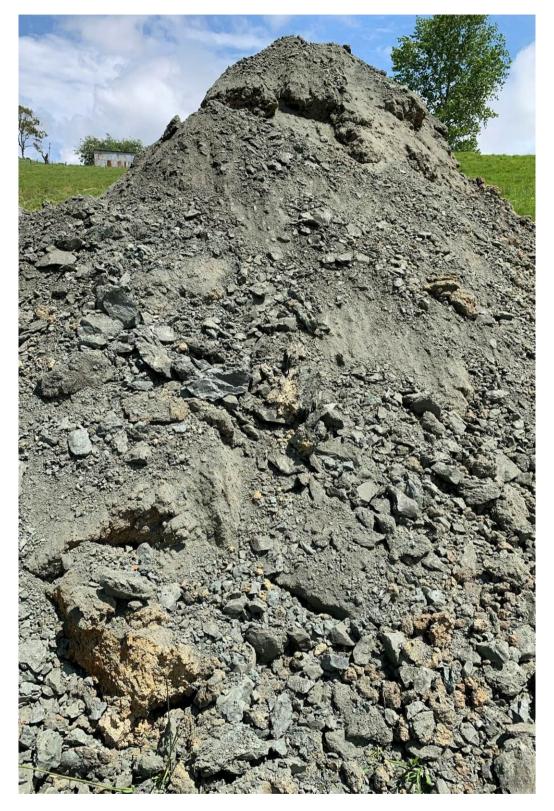
**TP19-24 - TEST PIT EXCAVATION** 





**TP19-24 – TEST PIT EXCAVATION** 





TP19-24 – TEST PIT 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

Checked by:

Great People | Practical Solutions

1:25 Test Pit Location: Refer to Site Plan Logged by: JH Scale: Sheet 1 of 1 MJC Projection: EDENTM2000 Position: 388573.5mE; 829622.9mN Pit Dimensions: 3.0m by 1.2m

E	Elevati	on: 51.24m				Datum: AUCKHT1946	Sur	vey S	Sou	rce:	На	and	Held GPS
Groundwater	Samp	oles & Insitu Tests	RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/qeological unit)	Moisture Condition	Consistency/ Relative Density		Dynami Penetr (Blows/	omete	er	Structure & Other Observations  Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect
Grot	Depth	Type & Results	L L	Ď	Gra	comments. (origin/geological unit)  Rock: Colour, fabric; rock name; additional comments. (origin/geological unit)	žő	Con	5	5 10	15	20	Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks
	0.5	Peak = 150kPa Residual = 35kPa	51.2	-	X	OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets (Topsoil)  ML: Clayey SILT: Yellowish brown streaked light grey. Low plasticity. (Hukerenui Mudstone)		VSt					
	1.0	Peak = 76kPa Residual = 32kPa		1 -	- X X X X X X X X X X X X X X X X X X X	at 1.20m, Becoming light grey streaked yellowish brown.	М	St					- - - - - - - - - - - - - - - - - - -
	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		-				н					
	4.0	Peak = UTP		4 -									
				5 -		Test pit terminated at 5.00 m	1		Н				1 -1
<del>-</del>	orminat	ion Reason: Tar	act de	nth i	rooobo		1	1					1

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

Remarks: Groundwater not encountered. Facing 050 NE.

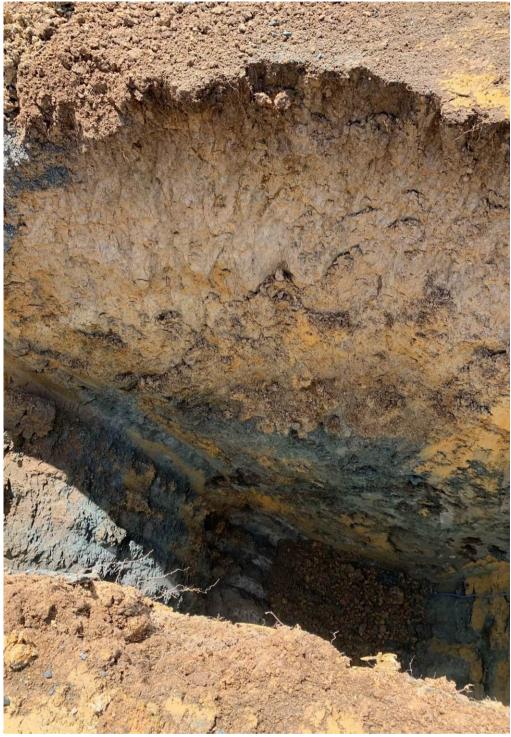


# **TEST PIT PHOTOGRAPHS: TP20-24**

Client:	Fulton Hogan Land Development Limit	Fulton Hogan Land Development Limited										
Project:	Milldale Fast Track Application	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 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

Checked by:

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Test Pit Location: Refer to Site Plan Logged by: JH Scale: 1:25 Sheet 1 of 1 MJC

Position: 388480.3mE; 829591.9mN Projection: EDENTM2000 Pit Dimensions: 3.0m by 1.2m

i	Elevati	on: 65.62m	,			Datum: AUCKHT1946							Held GPS
ter	Samp	ples & Insitu Tests		ē	bo	Material Description	. =	cy/ nsity		Dynan Penet	nic C	one	Structure & Other Observations
Groundwater	Depth	Type & Results	RL (m)	Depth (m)	Graphic Log	Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit)  Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/ Relative Density		(Blows	/100i □	mm)	Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks
			65.6			OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. (Topsoil)							Blook Grape, Normano
			65.4			ML: Clayey SILT: Yellowish brown streaked light grey. Low plasticity.			-				1
					X x 7 (x x x	(Hukerenui Mudstone)							]
	0.5	Peak = 159kPa		-	(X X X								1
		Residual = 64kPa											]
					\ X X \ X X \								1
					$\times$								
	1.0	Peak = 153kPa Residual = 76kPa		1 -									
					(X X X								1
							М						
	1.5	Peak = 143kPa			(XX XXX								
	1.5	Residual = 32kPa			X X   X X >	at 1.50m, Minor limonite staining. Blocky structure. Becoming grey with trace brown.		VSt					
					\								]
					××>								]
	2.0	Peak = 146kPa Residual = 41kPa		2 -	(X X X								
													1
					\ \ \ \ \ \ \ \								1
		5			X X X X X X X X X X X X X X X X X X X								]
	2.5	Peak = 146kPa Residual = 48kPa	63.1			Completely to highly weathered, Bluish grey with reddish brown, tightly interlocked MUDSTONE: Extremely weak.							
						(Hukerenui Mudstone)							]
													]
	3.0	Peak = UTP		3 -									
													1
													1
	0.5	Deale LITE											
	3.5	Peak = UTP		-									
							D to						
							"						1
	4.0	Peak = UTP		4 -				н			$\dashv$	+	
													1
													1
				]									
													]
													1
				5 -		Test pit terminated at 5.00 m							= = =
-	_∟ Terminat	ıion Reason: Tar	net de	enth r	eache	d		1					

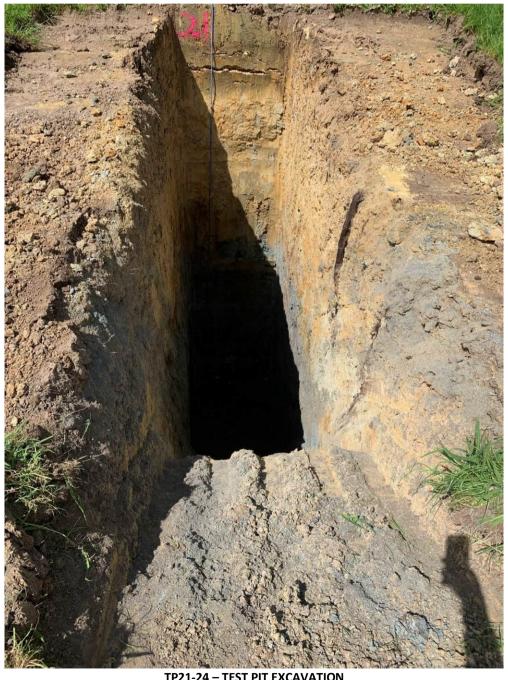
Termination Reason: Target depth reached Shear Vane No: 1620 DCP No:

Remarks: Groundwater not encountered. Facing 035 NE.



# **TEST PIT PHOTOGRAPHS: TP21-24**

Client:	Fulton Hogan Land Development Limit	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** 





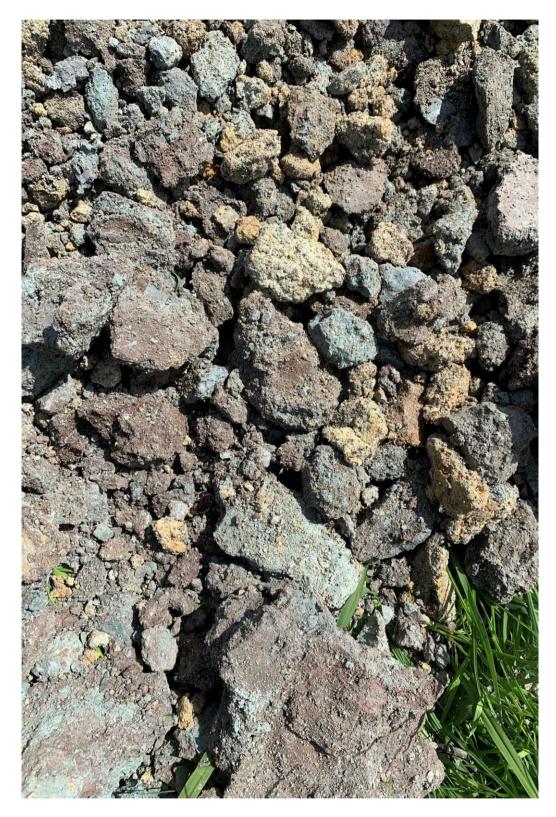
**TP21-24 – TEST PIT EXCAVATION** 





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

Checked by:

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Test Pit Location: Refer to Site Plan Logged by: JH Scale: 1:25 Sheet 1 of 1 MJC

Position: 388682.7mE; 829600.1mN Projection: EDENTM2000 Pit Dimensions: 3.0m by 1.2m Flevation: 42 10m Datum: AUCKHT1946 Survey Source: Hand Held GPS

Summer   Area   Total	Elevation: 42.10m				Datum: AUCKHT1946	Sur	vey S	Sοι	ırce:	Ha	and	Held GPS
421	Samples & Insitu Tests	(E)	th (m)	nic Log	Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional				Dynam	ic Cor	ne er	Structure & Other Observations  Discontinuities: Depth; Defect
All Claypy SILT Visionesh brown streaked light gray. Low pleasionly.	Depth Type & Results	Z	Dep	Grap	comments. (origin/geological unit) Rock: Colour, fabric; rock name; additional comments. (origin/geological unit)	S O	Cons		5 10	15 I	20	Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size;
1.0   Product   1200Ps   120					(Topsoil)  ML: Clayey SILT: Yellowish brown streaked light grey. Low plasticity.							
1.0 Peak - 124Pa Highly to moderately weathered, light grey and grey SILTSTONE Editemely weath Highly fractured.  Otherpations Complex)  - at f. Son. Recenting grey.  2.0 Peak - UTP  2.5 Peak - UTP  3.0 Peak - UTP  3.1 Peak - UTP  4.0 Peak - UTP  4.1 Peak - UTP  4.2 Peak - UTP  4.3 Peak - UTP  4.4 Peak - UTP  4.5 Peak - UTP  4.6 Peak - UTP				-X X X X X X X X X X X X X X X X X X X		М	St					-
### ##################################			1 -	(X X (X X) (X X) (X X) (X X) (X X)								
2.0 Peak = UTP  2.1   2   2   2   2   2   2   2   2   2	1.5 Peak = UTP	40.8		- X X X X X X X X X X X X X X X X X X X	Extremely weak. Highly fractured. (Mangakahia Complex)							-
2.5 Peak = UTP  3.0 Peak = UTP  3.5 Peak = UTP  4.0 Peak = UTP  4	2.0 Peak = UTP		2 -	- x x x : - x x x x								
3.0 Peak = UTP  3.1	2.5 Peak = UTP			- x x x x x x x x x x x x x x x x x x x								-
3.5 Peak = UTP  - * * * * * * * * * * * * * * * * * *	3.0 Peak = UTP		3 -	- X X X X X X X X X X X X X X X X X X X		D	н					
4.0 Peak = UTP  4 -	3.5 Peak = UTP			- X X X X X X X X X X X X X X X X X X X								
	4.0 Peak = UTP		4 -	- X X X X X X X X X X X X X X X X X X X								
				- × × × × × × × × × × × × × × × × × × ×								
		]	5 -	1222	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.



# **TEST PIT PHOTOGRAPHS: TP22-24**

Client:	Fulton Hogan Land Development Limited										
Project:	Milldale Fast Track Application	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** 





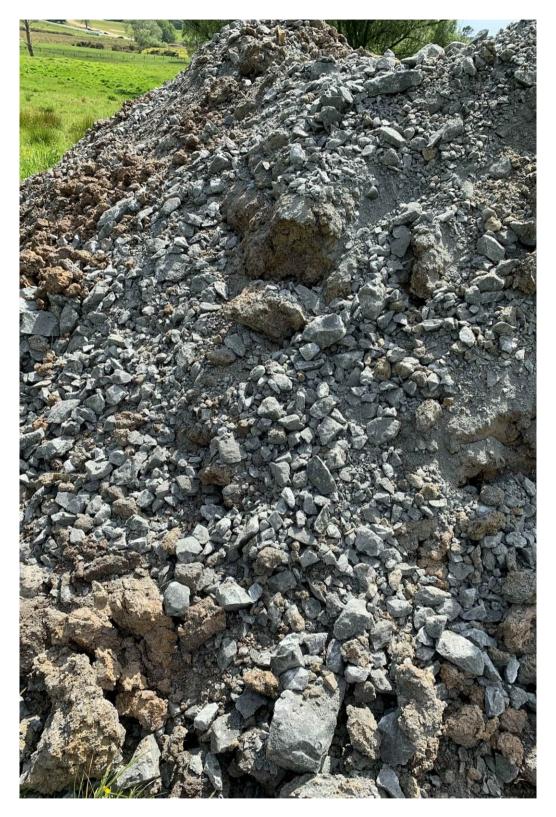
**TP22-24 - TEST PIT EXCAVATION** 





**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

Checked by:

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Test Pit Location: Refer to Site Plan 1:25 Logged by: JH Scale: Sheet 1 of 1 MJC

Position: 388823.1mE; 829536.6mN Projection: EDENTM2000 Pit Dimensions: 3.5m by 2.5m

E	Elevation	on: 38.35m				Datum: AUCKHT1946	Sur	vey S	Soui	rce:	На	nd	Held GPS
Groundwater		oles & Insitu Tests	RL (m)	Depth (m)	Graphic Log	Material Description  Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit)	Moisture Condition	Consistency/ Relative Density		Oynami Penetro Blows/1	omete	r	Structure & Other Observations  Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill;
Gre	Depth	Type & Results			5	Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	20	Rela	5	10	15	20	Seepage; Spacing; Block Size; Block Shape; Remarks
	0.5	Peak = 99kPa Residual = 35kPa	38.4		X	OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. (Topsoil)  ML: Clayey SILT: Yellowish brown streaked light grey. Low plasticity. (Alluvium)	М	St					-
	1.0	Peak = 67kPa Residual = 41kPa	37.3	1		CH: Silty CLAY: Light grey streaked yellowish brown. High plasticity. Minor decomposing tree roots. (Mangakahia Complex)							-
	1.5	Peak = 38kPa Residual = 19kPa											-
	2.0	Peak = 32kPa Residual = 10kPa		2	- X X X X X X X X X X X X X X X X X X X		M to W	F					- - - - - - -
	2.5	Peak = 45kPa Residual = 13kPa	35.8		× × × × × × × × × × × × × × × × × × ×	from 2.40m to 2.60m, Brown  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				н					
		ion Reason: Tar		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.



# **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

Checked by:

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1:25 Test Pit Location: Refer to Site Plan Logged by: JH Scale: Sheet 1 of 1 MJC

Pit Dimensions: 3.5m by 2.0m Position: 388756.5mE; 829483.2mN Projection: EDENTM2000 Elevation: 44.82m Datum: AUCKHT1946 Survey Source: Hand Held GPS Structure & Other Observations Consistency/ Relative Density Dynamic Cone Penetrometer Samples & Insitu Tests Material Description
Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit)
Rock: Colour; fabric; rock name; additional comments. (origin/geological unit) Groundwate Moisture Condition  $\widehat{\Xi}$ (Blows/100mm) Discontinuities: Depth: Defect Graphic L Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks Depth 귐 Depth Type & Results 10 15 20 44 8 OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. 44.6 ML: Clayey SILT: Yellowish brown streaked light grey. Low plasticity. (Mangakahia Complex) Peak = 111kPa Residual = 57kPa 0.5 М Peak = 127kPa Residual = 45kPa 1.0 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) Peak = UTP 2.0 2 2.5 Peak = UTP 3.0 Peak = UTP D Peak = UTP 3.5 4.0 Peak = UTP 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.



# **TEST PIT PHOTOGRAPHS: TP24-24**

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



**TP24-24 – TEST PIT EXCAVATION** 





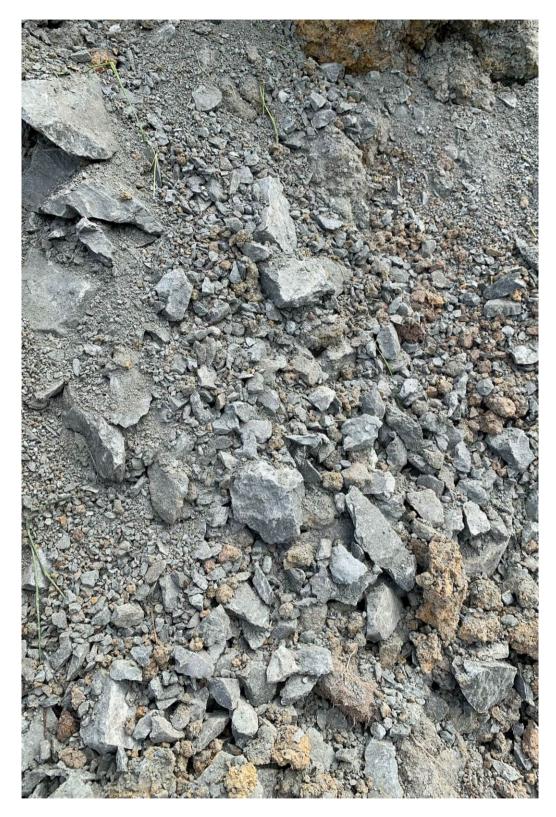
**TP24-24 - TEST PIT EXCAVATION** 





**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

Checked by:

Great People | Practical Solutions

1:25 Test Pit Location: Refer to site plan Logged by: JH Scale: Sheet 1 of 1 MJC

Projection: EDENTM2000 Position: 388740.2mE; 829403.8mN Pit Dimensions: 3.0m by 1.2m

Eleva	tion: 49.10m				Datum: AUCKHT1946	Sur	vey S	Soi	ırce	: F	Har	nd I	Held GPS
Sa Deptr	mples & Insitu Tests	RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit)	Moisture Condition	Consistency/ Relative Density		Dyna Pene (Blow	trom	neter		Structure & Other Observations  Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect
Depth	Type & Results	<u>«</u>	Dep	Grap	Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	ŠŠ	Cons	г	5 10	1	5 2	20	Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks
		49.1		- X X X	OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. (Topsoil)  ML: Clayey SILT: Yellowish brown streaked light grey. Low plasticity. Trace limonite staining. Trace decomposing rootlets. (Hukerenui Mudstone)								Bluck Stiape, Remarks
0.5	Peak = 127kPa Residual = 32kPa				(nukereriui muustone)								-
1.0	Peak = 156kPa Residual = 41kPa		1 -	X X X X X X X X X X X X X X X X X X X	at 1.20m, Becoming light grey streaked trace light yellowish brown.	М	VSt						- - - - - - - - - -
1.5	Peak = 162kPa Residual = 45kPa			-X X X X X X X X X X X X X X X X X X X									-
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	н						-
4.0	Peak = UTP		4 -										
			5 -		Test pit terminated at 5.00 m								-
Termina	 ation Reason: Tar	get de	epth	reache	d	1	1	_					ı

Shear Vane No: 1620 DCP No:

Remarks: Groundwater not encountered. Facing 120 SE.



# **TEST PIT PHOTOGRAPHS: TP25-24**

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







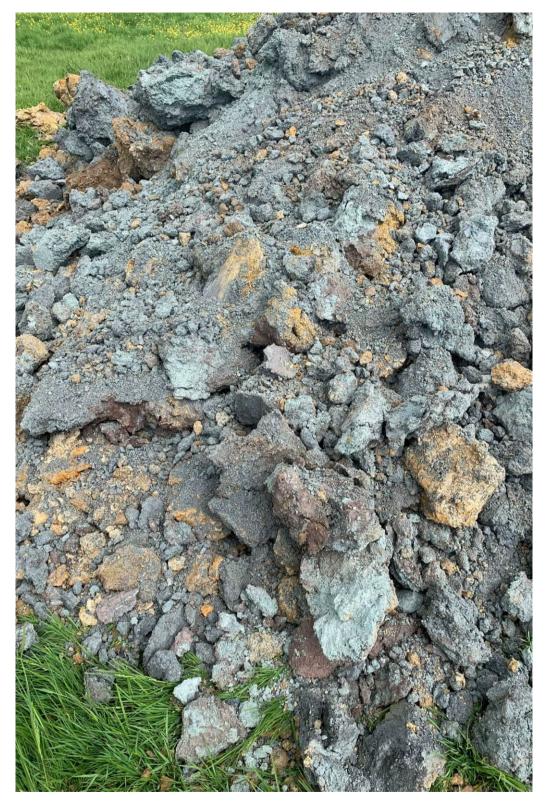
**TP25-24 - TEST PIT EXCAVATION** 





TP25-24 - TEST PIT EXCAVATION





TP25-24 - TEST PIT 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

Checked by:

Great People | Practical Solutions

Test Pit Location: Refer to Site Plan Logged by: JH 1:25 Scale: Sheet 1 of 1 MJC

Pit Dimensions: 3.0m by 1.2m Position: 388731.6mE; 829348.7mN Projection: EDENTM2000 Elevation: 53.26m Datum: AUCKHT1946 Survey Source: Hand Held GPS Structure & Other Observations Consistency/ Relative Density Dynamic Cone Penetrometer Samples & Insitu Tests Material Description
Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit)
Rock: Colour; fabric; rock name; additional comments. (origin/geological unit) Groundwate Moisture Condition  $\widehat{\Xi}$ (Blows/100mm) Discontinuities: Depth: Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks Depth 귐 Depth Type & Results 10 15 20 53.3 OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. 53.1 ML: SILT with trace clay: Yellowish brown streaked light grey. Low plasticity. (Hukerenui Mudstone) Peak = 143kPa Residual = 40kPa 0.5 Peak = 150kPa Residual = 45kPa 1.0 1.5 Peak = 200kPa Residual = 48kPa Peak = UTP 2.0 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 Peak = UTP 3.5 D 4.0 Peak = UTP

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 terminated at 5.00 m



# **TEST PIT PHOTOGRAPHS: TP26-24**

Client:	Fulton Hogan Land Development Limit	ed	
Project:	Milldale Fast Track Application	Location:	Wainui East
Project No:	AKL2024-0257	Date:	08/11/24
Position:	Refer to Site Plan	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 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

Checked by:

Great People | Practical Solutions

Test Pit Location: Refer to Site Plan Logged by: JH 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 Consistency/ Relative Density Structure & Other Observations Dynamic Cone Penetrometer Samples & Insitu Tests Material Description
Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit)
Rock: Colour; fabric; rock name; additional comments. (origin/geological unit) Groundwate Moisture Condition  $\widehat{\Xi}$ (Blows/100mm) Discontinuities: Depth: Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks Depth 귐 Depth Type & Results 10 15 20 60.0 OL: Organic SILT: Dark brown. Low plasticity. Trace rootlets. 59.8 ML: Clayey SILT: Yellowish brown streaked light grey. Low plasticity. (Hukerenui Mudstone) Peak = 172kPa Residual = 45kPa 0.5 Peak = 143kPa Residual = 45kPa 1.0 М Peak = > 227 kPa 1.5 2.0 Peak = 172kPa Residual = 57kPa 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 Peak = UTP 3.5 4.0 Peak = UTP Test pit terminated at 5.00 m

Termination Reason: Target depth reached
Shear Vane No: 1620 DCP No:
Remarks: Groundwater not encountered. Facing 030 NE



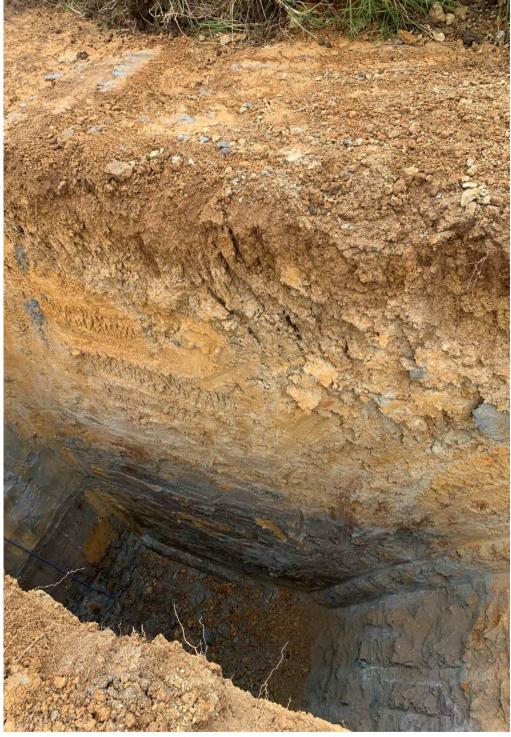
# **TEST PIT PHOTOGRAPHS: TP27-24**

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



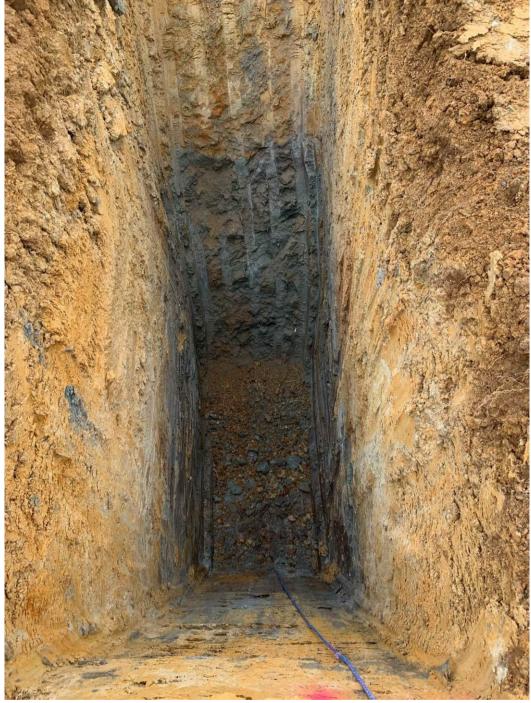
**TP27-24 – TEST PIT EXCAVATION** 





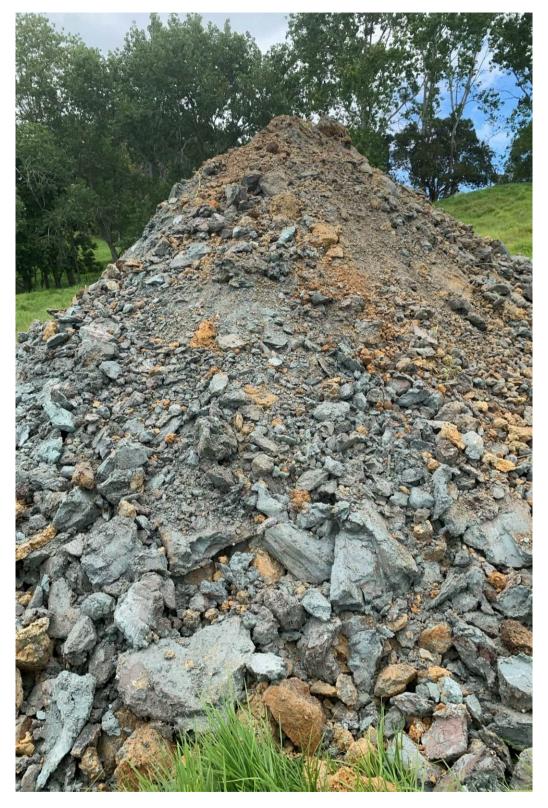
**TP27-24 – TEST PIT EXCAVATION** 





**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

Checked by:

Great People | Practical Solutions Scale: 1:30

Sheet 1 of 1

Logged by: ZW MJC Position: 388581.3mE; 829962.9mN Projection: EDENMT2000 Pit Dimensions: 5.0m by 1.2m Datum: AUCKHT1946 Survey Source: Hand Held GPS Elevation: 53.50m

Compare is herbit tests   The property of th	E	levati	on: 53.50m				Datum: AUCKHT1946	Sur	vey :	Soi	urce	e:	Ha	ınd	Held GPS
S.S. Punk - Siche Ruskal - 21/Punk Dark Indoor notices.  OC. Claysy SLT. Dark Indoor, 100 planticity, Minor incontite (Rogord) The Ruskal - Siche Ruskal - S	₩.	0	-las O las its Tasts						_ <u>₹</u>		Dyn	amic	Con	ne	Structure & Other Observations
S.S. Punk - Siche Ruskal - 21/Punk Dark Indoor notices.  OC. Claysy SLT. Dark Indoor, 100 planticity, Minor incontite (Rogord) The Ruskal - Siche Ruskal - S	wate	Samp	oles & Insitu Tests	Ê	Œ	١٩	Material Description  Soil: Soil symbol: soil type: colour: structure: hedding: plasticity: sensitivity: additional	tion	enc)		(Blov	vs/10	mete D0mr	er m)	Discontinuities: Depth; Defect
S.S. Punk - Siche Ruskal - 21/Punk Dark Indoor notices.  OC. Claysy SLT. Dark Indoor, 100 planticity, Minor incontite (Rogord) The Ruskal - Siche Ruskal - S	pun				th de	aphi,	comments. (origin/geological unit)	loist	ive						Number; Defect Type; Dip; Defect Shape: Roughness: Aperture: Infill:
S.S. Punk - Siche Ruskal - 21/Punk Dark Indoor notices.  OC. Claysy SLT. Dark Indoor, 100 planticity, Minor incontite (Rogord) The Ruskal - Siche Ruskal - S	9	Depth	Type & Results		ă	5	Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	20	Cor		5 1	<u> </u>	15	20	Seepage; Spacing; Block Size;
O.5 Pools - Skilly Readout - 21979  1.0 Pools - Skilly Readout - 21979  1.1 Pools - 10979  1.2 Pools - 10979  1.3 Pools - 10979  2.1 Pools - 10979  2.1 Pools - 10979  2.1 Pools - 10979  3.1 Pools - 10979  3.2 Pools - 10979  3.3 Pools - 10979  3.5 Pools - 10979  3.5 Pools - 10979  3.5 Pools - 10979  3.6 Pools - 10979  3.7 Pools - 10979  3.7 Pools - 10979  3.7 Pools - 10979  4.7 Pools - 10979  5.5 Pools - 10979  5.7 Pools - 10979				53.5		N//X	OL: Clavey SILT: Dark brown, Low plasticity, Minor rootlets		-	F			t		Block Snape; Remarks
St. Silly CLAY. Grey mattest charge, High parallelly. Minor immonite discounting from condets. (Coffeening)  10. Peak = SANP3 (Coffeening)  11. Peak = U119  55.1  15. Peak = U119  55.1  16. Silly CLAY. Grey mattest charge, High parallelly. Minor immonite discounting from condets. (Coffeening)  17. Highly to Medionally seemboard. Light grey. Calcurrous. LIMSSTONE: Very week. Highly sheered with committed calcile inflit along fracture (Mahurang Limestone)  7. Highly to Medionally seemboard. Light grey. Calcurrous. LIMSSTONE: Very week. Highly sheered with committed calcile inflit along fracture (Mahurang Limestone)  7. Highly to Medionally seemboard. Light grey. Calcurrous. LIMSSTONE: Very week. Highly sheered with committed calcile inflit along fracture.  (Mahurang Limestone)  7. Highly to Medionally seemboard. Light grey. Calcurrous. LIMSSTONE: Very week. Highly sheered with committed calcile inflit along fracture.  (Mahurang Limestone)  7. Highly to Medionally seemboard. Light grey. Calcurrous. LIMSSTONE: Very week. Highly sheered with committed calcile inflit along fracture.  (Mahurang Limestone)  7. Highly to Medionally seemboard. Light grey. Calcurrous. LIMSSTONE: Very week. Highly sheered with committed calcile inflit along fracture.  (Mahurang Limestone)  7. Highly to Medionally seemboard. Light grey. Calcurrous. LIMSSTONE: Very week. Highly sheered with committed calcile inflit along fracture.  (Mahurang Limestone)  8. Highly to Medionally seemboard. Light grey. Calcurrous. LIMSSTONE: Very week. Highly sheered with committed calcile inflit along fracture.  9. Highly to Medionally seemboard. Light grey. Calcurrous. LIMSSTONE: Very week. Highly sheered with committed calculations. Light grey. Light g						<b>***</b>		l M							-
10 Peak - SuPs. Supp. (Collusion)  11 Peak - UTP  12 Peak - UTP  13 Peak - UTP  35 1  16 Peak - UTP  37 1  17 1															_
Peak - UTP  1.0 Peak - UTP  1.1 Peak - UTP  2.1   Feet are the place of the place o				53.2		<u> </u>	CH: Silty CLAY: Grey mottled orange. High plasticity. Minor limonite			┨					
Reaction = 2-0.07-2 Nearthon = 104-2 Nea						± >	staining. Minor rootlets.								]
Peace 3 3499 Research 1999 Peace 3 UTP  52 1  15 Peace UTP  57 1  16 Peace UTP  58 2  59 2  16 Peace UTP  59 2  17 Peace UTP  50 2  50 3  60 3		0.5	Peak = 53kPa Residual = 21kPa			<del> </del> ^_,	(Colluvium)								_
1.0 Poax = Satisfy Peax = UTP  1.5 Peax = UTP  1.5 Peax = UTP  1.6 Peax = UTP  3.1 Righly to Moderately weathered. Light grey, Calcareoux. LIMESTONE: Peax = UTP  1.6 Peax = UTP  3.1 Righly to Moderately weathered. Light grey, Calcareoux. LIMESTONE: Peax = UTP  1.7 Righly to Moderately weathered desire intill along findure place. Peace = UTP  1.6 Peax = UTP  3.1 Righly to Moderately weathered. Light grey, Calcareoux. LIMESTONE: Peace = UTP  1.7 Righly to Moderately weathered. Light grey, Calcareoux. LIMESTONE: Peace = UTP  1.6 Peax = UTP  1.7 Righly to Moderately weathered. Light grey, Calcareoux. LIMESTONE: Peace = UTP  1.7 Righly to Moderately weathered. Light grey, Calcareoux. LIMESTONE: Peace = UTP  1.7 Righly to Moderately weathered. Light grey, Calcareoux. LIMESTONE: Peace = UTP  1.7 Righly to Moderately weathered. Light grey, Calcareoux. LIMESTONE: Peace = UTP  1.7 Righly to Moderately weathered. Light grey, Calcareoux. LIMESTONE: Peace = UTP  1.7 Righly to Moderately weathered. Light grey, Calcareoux. LIMESTONE: Peace = UTP  1.7 Righly to Moderately weathered. Light grey, Calcareoux. LIMESTONE: Peace = UTP  1.7 Righly to Moderately weathered. Light grey, Calcareoux. LIMESTONE: Peace = UTP  1.7 Righly to Moderately weathered. Light grey, Calcareoux. LIMESTONE: Peace = UTP  1.7 Righly to Moderately weathered. Light grey, Calcareoux. LIMESTONE: Peace = UTP  1.8 Righly to Moderately weathered. Light grey, Calcareoux. LIMESTONE: Peace = UTP  1.8 Righly to Moderately weathered. Light grey, Calcareoux. LIMESTONE: Peace = UTP  1.8 Righly to Moderately weathered. Light grey, Calcareoux. LIMESTONE: Peace = UTP  1.8 Righly to Moderately weathered. Light grey, Calcareoux. LIMESTONE: Peace = UTP  1.8 Righly to Moderately weathered. Light grey, Calcareoux. LIMESTONE: Peace = UTP  1.8 Righly to Moderately weathered. Light grey weathered. Light gr						<u></u>									
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Revokul + 1967s Peak + UTP  1.5 Peak + UTP  1.		1.0	Book = 24kBo		1	X-									-
Peak = UTP  Very Post Notice and With Commented Calcife Infill along fracture  (Mahurangi Limestone)  Test pit terminated at 1.90 m   Test pit terminated at 1.90 m		1.0			'	]×									]
Peak = UTP  Very Post Notice and With Commented Calcife Infill along fracture  (Mahurangi Limestone)  Test pit terminated at 1.90 m   Test pit terminated at 1.90 m						<u> </u>									-
Peak = UTP  Very Post Notice and With Commented Calcife Infill along fracture  (Mahurangi Limestone)  Test pit terminated at 1.90 m   Test pit terminated at 1.90 m						<del></del>									
Peak = UTP  Very Post Notice and With Commented Calcife Infill along fracture  (Mahurangi Limestone)  Test pit terminated at 1.90 m   Test pit terminated at 1.90 m				52.1		<u>×</u> _									:
alaries (Mahurangi Limestone)  Test pit terminated at 1.90 m  3		1.5	Peak = UTP			#	Highly to Moderately weathered. Light grey. Calcareous. LIMESTONE:  Very weak, Highly sheared with cemented calcite infill along fracture.								
Test pit terminated at 1.90 m			-			#	planes.								:
						二	(Mahurangi Limestone)	D	Н						
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5 -					2 -	-	rest pit terminated at 1.90 M			$\vdash$	+	-	+	+	-
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Termination Reason: Refusal on hard ground				1	6 -	7							t		<u>-</u>
		orminat	ion Reason: Bar	fueel	on h	ard ara	l und		1						1

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

Remarks: Groundwater not encountered.



## **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 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

Checked by:

Scale:

1:30

Great People | Practical Solutions Sheet 1 of 1

Logged by: ZW MJC Position: 388560.7mE; 829994.8mN Projection: EDENMT2000 Pit Dimensions: 5.0m by 1.2m Flevation: 60 10m Datum: AUCKHT1946 Survey Source: Hand Held GPS

E	Elevation	on: 60.10m				Datum: AUCKHT1946	Sur	vey S	Sοι	ırce:	Н	and	Held GPS
Groundwater		oles & Insitu Tests	RL (m)	Depth (m)	Graphic Log	Material Description  Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit)  Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/ Relative Density		Dynan Penet (Blows	rome	ter	Structure & Other Observations  Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infili;
ซ็	Depth	Type & Results			ō	Rock. Colour, labric, rock name, additional comments. (origin/geological unit)	-0	Seg S		5 10	15	20	Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks
			60.1 59.9		×	OL: Clayey SILT: Dark brown. Low plasticity. Minor rootlets. (Topsoil)  CH: Silty CLAY: Orange mottled grey. High plasticity. Minor rootlets. (Colluvium)	D to M						
	0.5	Peak = 88kPa Residual = 18kPa		-	XXXXXXXXXXX								-
	1.0	Peak = 56kPa Residual = 24kPa		1 -	×_×_×_×_×_×_×_×_×_×_×_×_×_×_×_×_×_×_×_	at 1.00m, Becoming light grey	М	St					
	1.5	Peak = 66kPa Residual = 34kPa		-	× × × ×								
	2.0	Peak = 178kPa Residual = 18kPa	58.2	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)		VSt					_
	2.5	Peak = >200kPa Residual = 34kPa		-									
	3.0	Peak = UTP		3 -									
	4.0	Peak = UTP		4-			М	н					
	5.0	Peak = UTP		5 —		Test pit terminated at 5.00 m							
				6 -									
				<u> </u>	1								

Termination Reason: Target depth reached

DCP No: Shear Vane No: 3661

Remarks: Groundwater not encountered.



## **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:	МЛС
Dimensions:	5.0m by 1.2m	Termination Depth:	5.0m



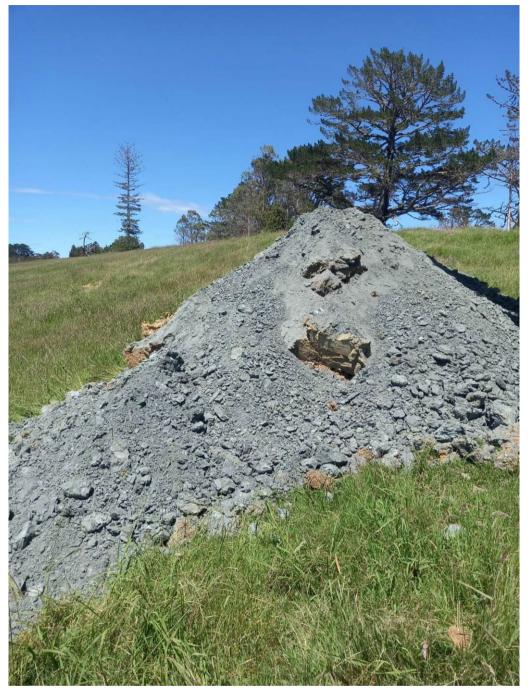
**TP29-24 - TEST PIT EXCAVATION** 





**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

Checked by:

Great People | Practical Solutions Scale:

1:30

Sheet 1 of 1

Logged by: ZW MJC Position: 388558.0mE; 829840.5mN Projection: EDENMT2000 Pit Dimensions: 5.0m by 1.2m Flevation: 54 50m Datum: AUCKHT1946 Survey Source: Hand Held GPS

E	Elevati	on: 54.50m				Datum: AUCKHT1946	Sur	vey 9	So	urce	e: 1	Hai	nd I	Held GPS
Groundwater	Samp	oles & Insitu Tests	RL (m)	Depth (m)	Graphic Log	Material Description  Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit)	Moisture Condition	Consistency/ Relative Density		Dyna Pen (Blow	etron	neter	r	Structure & Other Observations  Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape: Poughpes: Aparture Infili-
GB	Depth	Type & Results	-	۵	Gra	Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	≥0	Cor	Г	5 1	0 1	5 2	20	Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks
			54.5			OL: Clayey SILT: Dark brown. Low plasticity. Minor rootlets. (Topsoil)	D to M							BIOCK Shape, Remarks
	0.5	Peak = 104kPa Residual = 34kPa		-	× × × ×	CH: Silty CLAY: Orange mottled grey. High plasticity. Minor rootlets. (Northland Allochthon)								=
	1.0	Peak = 101kPa Residual = 27kPa		1 -	×_×_		М	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						
	2.5	Peak = UTP	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)  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	н						
	4.0	Peak = UTP												
	4.0	reak = UTI		-		Test pit terminated at 4.00 m								
				-										-
				5 -										
				6 -										_
<u> </u>	<u> </u>		<u> </u>	<u> </u>					_					l .

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

Remarks: Groundwater not encountered.



## **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

Checked by:

Scale:

1:30

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Sheet 1 of 1

Logged by: ZW MJC Position: 388503.2mE; 829716.5mN Projection: EDENMT2000 Pit Dimensions: 5.0m by 1.2m Survey Source: Hand Held GPS Datum: AUCKHT1946 Elevation: 62.80m

E	-levati	on: 62.80m				Datum: AUCKHT1946	Sur	vey	Sou	urce	: 1	на	nd	Held GPS
<u>m</u>	Come	ples & Insitu Tests			Б			Consistency/ Relative Density		Dyna Pene	mic	Con	e	Structure & Other Observations
Groundwater	Samp	pies & msitu rests	Ê	Depth (m)	Graphic Log	Material Description  Soil: Soil symbol: soil type: colour: structure: bedding: plasticity: sensitivity: additional	Moisture Condition	Den		(Blow	s/10	00mn	n)	Discontinuities: Depth; Defect
Dung			RL (m)	epth	aphi	Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit)  Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Aois	nsis						Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill;
้	Depth	Type & Results			Ö	Rock. Colour, labric, rock name, additional comments. (origin/geological unit)	1-0	ပြိမ္ဆို		5 10	0 1	15	20	Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks
			62.8		-1000	OL: Clayey SILT: Dark brown. Low plasticity. Minor rootlets.	D to					Ī		Block Shape, Remarks
			62.6			(Topsoil)	М		4					1
					<del></del>	CH: Silty CLAY: Orange mottled grey. High Plasticity. Minor rootlets. (Northland Allochthon)								=
					**	(Notaliana / alconation)								
	0.5	Deels 444bDe			‡ ×									=
	0.5	Peak = 114kPa Residual = 46kPa			<del>-</del> -×									]
					<u></u>									]
					×_*									-
					$+$ $\times$			VSt						
	1.0	Peak = 120kPa		1 -	×									
		Residual = 43kPa			1×-									=
					<del>_</del>		М							=
					-X									3
					± ×									=
	1.5	Peak = UTP							1					-
					<u>t</u>									=
					<u></u> <u>×</u> <u>×</u>									=
					Ex			н						-
	2.0	Peak = UTP		2	]×				L					]
	2.0	FEAR = UIP		2	<u>*</u>									]
			60.6		×				1					]
			00.0			Highly weathered. Dark red mottled blue. Highly sheared. MUDSTONE:								]
						Extremely weak. Polished surfaces and trace water along fracture planes. Clayey SILT. Low plasticity.								-
	2.5	Peak = UTP			=	(Hukerenui Mudstone)								1 4
					=									1
					$\equiv$									]
														=
														1
	3.0	Peak = UTP		3 -	=		D to							1 -
					=		M	Н						=
					=									-
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					$\equiv$									-
	4.0	Peak = UTP		4	1	Test pit terminated at 4.00 m		-	+				+	-
					1	pr. commisses at 100 III								
					1									]
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			1	0	+				F					┨
Т	erminat	ion Reason: Tar	aet de	epth	reache	d			_					•

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

Remarks: Groundwater not encountered.



## **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

Checked by:

Great People | Practical Solutions Scale: 1:30

Sheet 1 of 1

Logged by: ZW MJC Position: 388557.6mE; 829937.5mN Projection: EDENMT2000 Pit Dimensions: 6.0m by 1.5m Elevation: 56 25m Datum: AUCKHT1946 Survey Source: Hand Held GPS

E	levati	on: 56.25m				Datum: AUCKHT1946	Sur	vey (	Sοι	ırce:	На	nd	Held GPS
Indwater	Samples & Insitu Tests		RL (m) Depth (m)		Graphic Log	Material Description  Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit)	Moisture Condition	_ ≥				er	Structure & Other Observations  Discontinuities: Depth; Defect Number: Defect Type: Dip: Defect
Grou	Depth	Type & Results	<u> </u>	Del	Grap	Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	≚ვ	Cons		5 10	15	20	Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks
			56.2 55.8			OL: Clayey SILT: Dark brown. Low plasticity. Minor rootlets. (Topsoil)  CH: Silty CLAY: Orange mottled grey. High plasticity. Minor rootlets.	М						Diock Shape, Remains
	0.5	Peak = 56kPa Residual = 24kPa		=	XXXXXXXXXXXXX	(Colluvium)  at 0.80m, With minor organic material present as tree roots.							
	1.0	Peak = 88kPa Residual = 34kPa		1 -	× × × × × × × × × × × × × × × × × × ×		W	St					
	1.5	Peak = UTP	54.4	_	XXXXXX	Highly to Moderately weathered. Light grey. Calcareous. LIMESTONE:		н					
	2.0	Peak = UTP		2 -		Very weak. Highly sheared with cemented calcite infill along fracture planes. (Mahurangi Limestone) from 2.00m to 2.50m, With Highly weathered, blue mottled grey, highly sheared, MUDSTONE. Extremely weak, outcropping along the southwestern portion of the pit. Sharp contact.	D to M	н					-
	2.5	Peak = UTP		-		Test pit terminated at 2.50 m							
				3 -									
				-	-								
				4 -									
				5 -									
			-	6 -									-
_													

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

Remarks: Groundwater not encountered.



# **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**