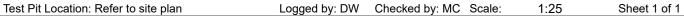
### **TEST PIT LOG - TP01-22**

Client: Fulton Hogan Land Development Ltd

Project: Precinct 3, Argent Lane

Site Location: Milldale Project No.: AKL2022-0138

Date: 24/08/2022



Position: 389192.3mE; 829421.9mN Projection: EDENTM2000 Pit Dimensions: 3.5m by 1.5m Elevation: 57.06m Datum: AUCKHT1946 Survey Source: Hicks Survey

E	Elevation	on: 57.06m				Datum: AUCKHT1946	Sur	vey S	Sοι	ırce	:	lick	s S	Survey
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 Shape: Roughpess: Aperture: Infili-
g.	Depth	Type & Results	-	ă	ğ	Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	20	Cor		5 10	15	5 20	0	Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks
	0.5	Peak = 66kPa Residual = 30kPa	57.1	-	X X X X X X X X X X X X X X X X X X X	OL: TOPSOIL: Dark brown. Low plasticity. Minor rootlets.  MH: Clayey SILT: Light brownish orange streaked grey. High plasticity. Minor limonite straining. (RS Northland Allochthon)		St						
	1.0	Peak = 40kPa Residual = 13kPa		1 -			M to W	F						
	1.5	Peak = UTP		=				н						
			55.1	2 -		Highly weathered blocky LIMESTONE. Limonite staining. Calcareous. Light grey mottled ashy white. Sheared structure. Strong. Some moisture on surfaces.:	М							-
					⊭	at 2.20m, Less oxidisation  Test pit terminated at 2.30 m	D		-					=
				3 -										
		on Resson: Ref		5 -										-

Termination Reason: Refusal on hard ground.

Shear Vane No: 1702 DCP No:

Remarks: No groundwater encountered. Orientation 189 degrees south.



# **PHOTOGRAPH SHEET - TP01-22**

Client: Fulton Hogan Land Development Ltd

Project: Precinct 3, Argent Lane

Location: Milldale

Project ID: AKL2022-0138

Date: 24/08/2022

Investigation Location: Refer to site plan







Test pit

### **TEST PIT LOG - TP02-22**

Client: Fulton Hogan Land Development Ltd

Project: Precinct 3, Argent Lane

Site Location: Milldale Project No.: AKL2022-0138

Date: 24/08/2022



Position: 389123.9mE; 829403.3mN Projection: EDENTM2000 Pit Dimensions: 4.0m by 1.5m Elevation: 55.25m Datum: AUCKHT1946 Survey Source: Hicks Survey

Elevation: 55.25r	1				Datum: AUCKHT1946	Sur	vey S	Sοι	ırce	:: H	Hic	ks :	Survey
Samples & Insitu Tes	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	_ ≱		Dyna Pene (Blow	mic (	Cone	9	Structure & Other Observations  Discontinuities: Depth; Defect Number: Defect Type: Dip: Defect
Depth Type & Resu	s C		Dei	Grap	Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	ૅિક	Cons		5 1	0 1	5 2	20	Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks
0.5 Peak = 66kf Residual = 43	55 55 54	0	-		OL: TOPSOIL: Brown. Low plasticity.  MH: Clayey SILT: Light orange brown streaked grey. High plasticity. Blocky structure. Large gravel sized, very weak silt clasts. Minor limestone clasts inclusions. (RS Northland Allochthon)  Highly weathered dark grey MUDSTONE. Weak. Sheared structure. Clay on sheared surfaces. Some ashy white moderately strong limestone	М	St						
1.0 Peak = UT			2 —		on sheared surfaces. Some ashy white moderately strong limestone inclusions.: (Mangakahia Complex)	D to							
			-										- -
			3 —		Test pit terminated at 2.50 m								- - - - - - - - - -
			-										-
			4										

Termination Reason: Refusal on hard ground.

Shear Vane No: 1702 DCP No:

Remarks: No groundwater encountered. Orientation 241 degrees south-west.

# **PHOTOGRAPH SHEET - TP02-22**

Client: Fulton Hogan Land Development Ltd

Project: Precinct 3, Argent Lane

Location: Milldale

Project ID: AKL2022-0138

Date: 24/08/2022

Investigation Location: Refer to site plan









Test pit

#### TEST PIT LOG - TP03-22

Client: Fulton Hogan Land Development Ltd

Project: Precinct 3, Argent Lane

Site Location: Milldale Project No.: AKL2022-0138

Date: 24/08/2022



Pit Dimensions: 3.0m by 1.5m Position: 389255.4mE; 829440.3mN Projection: EDENTM2000 Survey Source: Hicks Survey Elevation: 59.49m Datum: AUCKHT1946 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) Moisture Condition Ξ (Blows/100mm) Graphic L Depth 귐 Depth Type & Results

Structure & Other Observations Consistency/ Relative Density Groundwate Discontinuities: Depth: Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks 10 15 20 59.5 OL: TOPSOIL: Brown. Low plasticity. 59.4 ML: Clayey SILT: Light orange brown streaked light grey. Low plasticity. Blocky structure. Some large gravel to 30cm silt clasts/ blocks. Silt blocks are extremely weak. Limonite staining on surfaces. (RS Northland Allochthon) Peak = 112kPa Residual = 30kPa 0.5 Peak = 182kPa Residual = 63kPa 1.0 1.5 Peak = UTP М 57.7 Completely weathered dark grey MUDSTONE. Extremely weak. Recovered as silty clay with some mudstone blocks. Sheared structure. Glossy surfaces on fracture faces with minor limonite staining. : (Mangakahia Complex) 2 at 2.20m, Becoming with some minor light bluish grey mudstone clasts at 3.50m, Becoming with some highly weathered to moderately weathered 20-40cm mudstone blocks. Very weak. Test pit terminated at 4.10 m

Termination Reason: Refusal on hard ground. Shear Vane No: 1702

Remarks: Water seepage encountered at 1.0m. Orientation 107 degrees east.

# **PHOTOGRAPH SHEET - TP03-22**

Client: Fulton Hogan Land Development Ltd

Project: Precinct 3, Argent Lane

Location: Milldale

Project ID: AKL2022-0138

Date: 24/08/2022

Investigation Location: Refer to site plan







Test pit

#### **TEST PIT LOG - TP04-22**

Client: Fulton Hogan Land Development Ltd

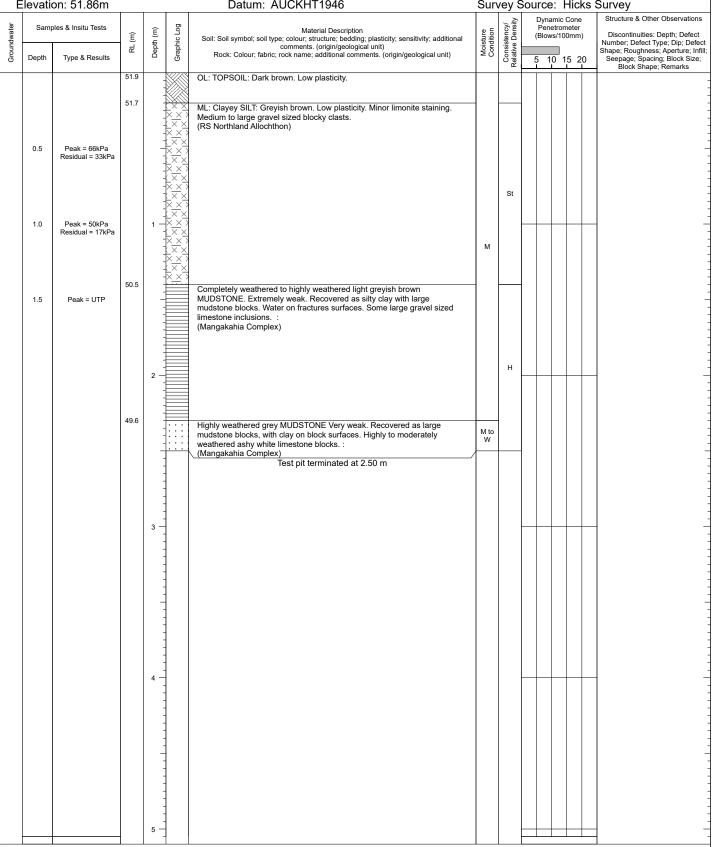
Project: Precinct 3, Argent Lane

Site Location: Milldale Project No.: AKL2022-0138

Date: 24/08/2022



Position: 389146.8mE; 829479.2mN Projection: EDENTM2000 Pit Dimensions: 4.0m by 1.5m Elevation: 51.86m Datum: AUCKHT1946 Survey Source: Hicks Survey



Termination Reason: Refusal on hard ground.

Shear Vane No: 1702 DCP No

Remarks: Water seepage at 1.5m. Orientation 124 degrees south.



# **PHOTOGRAPH SHEET - TP04-22**

Client: Fulton Hogan Land Development Ltd

Project: Precinct 3, Argent Lane

Location: Milldale

Project ID: AKL2022-0138

Date: 24/08/2022

Investigation Location: Refer to site plan





Spoil



Test pit

### **TEST PIT LOG - TP05-22**

Client: Fulton Hogan Land Development Ltd

Project: Precinct 3, Argent Lane

Site Location: Milldale Project No.: AKL2022-0138

Date: 14/08/2022



Position: 389067.0mE; 829504.0mN Projection: EDENTM2000 Pit Dimensions: 4.0m by 1.5m Elevation: 52.53m Datum: AUCKHT1946 Survey Source: Hicks Survey

Samples & Insitu Tests  Depth Type & Results  OL: TOPSOIL: Brown. Low plasticity. Minor rootlets.  CH: Silty CLAY: Light greyish brown mottled light orange brown and orange. High plasticity. Blocky structure. Minor rootlets.  (RS Northland Allochthon)  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)  Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)  Sepages again; Block Shape; Remarks  OL: TOPSOIL: Brown. Low plasticity. Minor rootlets.  (RS Northland Allochthon)  W
52.5 52.4  OL: TOPSOIL: Brown. Low plasticity. Minor rootlets.  CH: Silty CLAY: Light greyish brown mottled light orange brown and orange. High plasticity. Blocky structure. Minor rootlets.  (RS Northland Allochthon)
52.5 52.4  OL: TOPSOIL: Brown. Low plasticity. Minor rootlets.  CH: Silty CLAY: Light greyish brown mottled light orange brown and orange. High plasticity. Blocky structure. Minor rootlets.  (RS Northland Allochthon)
52.5 52.4  OL: TOPSOIL: Brown. Low plasticity. Minor rootlets.  CH: Silty CLAY: Light greyish brown mottled light orange brown and orange. High plasticity. Blocky structure. Minor rootlets.  (RS Northland Allochthon)
Cr. Sity CLAY: Light greyish blown include light orange Brown and orange. High plasticity. Blocky structure. Minor rootlets.  (RS Northland Allochthon)  W  0.5 Peak = 99kPa
(RS Northland Allochthon)  O.5 Peak = 99kPa
0.5   Peak = 99kPa
Residual = 40kPa
Completely weathered to highly weathered light greyish brown MUDSTONE. Extremely weak. Recovered as silty clay with large gravel
sized to 40cm mudstone blocks. Limonite staining on block surfaces. :  1.0 Peak = UTP 1
51.3 Highly weathered dark grey MUDSTONE. Extremely weak. Sheared
structure. Recovered as mudstone blocks with randomly orientated clay seams. Limonite staining on fractured surfaces. Moderately weathered
ashy white limestone inclusions. Weak. : (Mangakahia Complex)
M M
Tests if to revise to de 12 00 m
Test pit terminated at 3.00 m
Termination Reason: Refusal on hard ground.

Termination Reason: Refusal on hard ground.

Shear Vane No: 1702 DCP No:

Remarks: Groundwater not encountered. Orientation 318 degrees north west.

# **PHOTOGRAPH SHEET - TP05-22**

Client: Fulton Hogan Land Development Ltd

Project: Precinct 3, Argent Lane

Location: Milldale

Project ID: AKL2022-0138

Date: 14/08/2022

Investigation Location: Refer to Site Plan







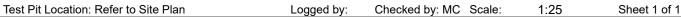
### **TEST PIT LOG - TP06-22**

Client: Fulton Hogan Land Development Ltd

Project: Precinct 3, Argent Lane

Site Location: Milldale Project No.: AKL2022-0138

Date: 24/08/2022



Position: 389133.0mE; 829524.1mN Projection: EDENTM2000 Pit Dimensions: 4.0m by 1.5m Elevation: 44.98m Datum: AUCKHT1946 Survey Source: Hicks Survey

E		n: 44.98m	,			Datum: AUCKHT1946						Survey
iter	Samp	les & Insitu Tests		(-	6o	Material Description			Dynam Penetr	ic Co	ne	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/	1		Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks
	0.5	Peak = UTP	45.0	1 —		Highly weathered light grey to white LIMESTONE. Weak. Recovered as large gravel to cobble sized limestone blocks with some clay. Clay is grey, low plasticity.: (Northland Allochthon)  Highly to moderately weathered grey mottled white LIMESTONE. Blocky	D to M	н				ыоск Snape; кетагкs
				-		structure. Weak. : (Northland Allochthon)						]
				-			_					
				-		Test pit terminated at 1.30 m						-
				2								
				-								
				- - - - - - - -								-
				3 -								
				-	-							-
				4 —								
				-								
				5 —								
	erminati	on Reason: Re	] fusal d	on ha	] rd aro	und				-	•	

Termination Reason: Refusal on hard ground.

Shear Vane No: 1702 DCP No:

Remarks: Groundwater not encountered. Orientation 184 degrees south.



# **PHOTOGRAPH SHEET - TP06-22**

Client: Fulton Hogan Land Development Ltd

Project: Precinct 3, Argent Lane

Location: Milldale

Project ID: AKL2022-0138

Date: 24/08/2022

Investigation Location: Refer to Site Plan







Test pit

#### **TEST PIT LOG - TP07-22**

Client: Fulton Hogan Land Development Ltd

Project: Precinct 3, Argent Lane

Site Location: Milldale Project No.: AKL2022-0138

Date: 25/08/2022



Pit Dimensions: 4.0m by 1.5m Position: 389172.3mE; 829612.6mN Projection: EDENTM2000 Datum: AUCKHT1946 Elevation: 48.56m Survey Source: Hicks Survey 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 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 48.6 Topsoil: Dark brown. Silty. Low plasticity. 48.4 MH: Fill: Dark brown mottled light brown streaked blue. Low plasticity. Large gravel sized hardfill inclusions. Minor rootlets Peak = 47kPa Residual = 15kPa 0.5 W Peak = 44kPa Residual = 12kPa 1.0 Peak = 115kPa 1.5 47.1 MH: Clayey SILT: Light brown mottled orange. Low plasticity. Blocky structure. Limonite staining. Large gravel sized siltstone clasts. Highly Residual = 56kPa weathered .. at 1.50m, Becoming with large grass rootlets from buried topsoil horizon 2.0 Peak = 106kPa 2 Residual = 41kPa VSt M to W 2.5 Peak = 100kPa Residual = 29kPa 3.0 Peak = 71kPa Residual = 29kPa 45.3 MH: Clayey SILT: Light bluish grey with brown interbeds. Low plasticity. Blocky structure. Limonite staining. Rock description as follows.
Completely weathered MUDSTONE Extremely weak. Easily shattered. (Mangakahia Complex) М Test pit terminated at 4.30 m

Termination Reason: Target depth reached
Shear Vane No: 1702 DCP No:

Remarks: Water seepage at 1.2m. Orientation 138 degrees. EOTP collapse.

# **PHOTOGRAPH SHEET - TP07-22**

Client: Fulton Hogan Land Development Ltd

Project: Precinct 3, Argent Lane

Location: Milldale

Project ID: AKL2022-0138

Date: 25/08/2022

Investigation Location: Refer to site plan





Test Pit

### **TEST PIT LOG - TP08-22**

Client: Fulton Hogan Land Development Ltd

Project: Precinct 3, Argent Lane

Site Location: Milldale Project No.: AKL2022-0138

Date: 24/08/2022



	Elevati	on: 51.98m				Datum: AUCKHT1946	Sur	vey S	Sou	rce:	Hi	cks	Survey
Groundwater	Samı	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		Dynam Penetr (Blows/	omete	er	Structure & Other Observations  Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill;
g G	Depth	Type & Results	-	ă	Ga	Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	≥õ	Cor	5	5 10	15	20	Seepage; Spacing; Block Size; Block Shape; Remarks
	0.5	Peak = 73kPa Residual = 33kPa	52.0	-		OL: TOPSOIL: Brown. Low plasticity. Minor rootlets.  ML: Clayey SILT: Light brown streaked grey. Low plasticity. Blocky structure. Some limonite staining. (RS Northland Allochthon)	_						-
	1.0	Peak = 66kPa Residual = 20kPa	51.0	1 -		Completely to highly weathered mudstone. Extremely weak. Sheared structure. Easily shattered. Glossy fractured edges. Recovered as dark brown and grey large gravel to 20-30cm mudstone blocks. (Mangakahia Complex) from 1.00m to 1.50m, Small white dots evident on block surface and throughout. Can be easily scraped off.	м	St					
	2.0	Peak = 106kPa Residual = 30kPa	50.0	2 -		Highly weathered dark brown grey MUDSTONE. Extremely weak. Sheared structure. Easily shattered with glossy faces. (Mangakahia Complex)		VSt					
	2.5	Peak = UTP		3 -				Н					
				-	-	Test pit terminated at 3.20 m							-
				-	- - - - - - - - - - - - - - - - - - -								
		ion Reason: Pet		5 -	1								

Termination Reason: Refusal on hard ground.

Shear Vane No: 1702 DCP No:

Remarks: Groundwater not encountered. Orientation 108 degrees east.



# **PHOTOGRAPH SHEET - TP08-22**

Client: Fulton Hogan Land Development Ltd

Project: Precinct 3, Argent Lane

Location: Milldale

Project ID: AKL2022-0138

Date: 24/08/2022

Investigation Location: Refer to Site Plan





Test Pit

### **TEST PIT LOG - TP09-22**

Client: Fulton Hogan Land Development Ltd

Project: Precinct 3, Argent Lane

Site Location: Milldale Project No.: AKL2022-0138

Date: 25/08/2022



Position: 389066.6mE; 829573.7mN Projection: EDENTM2000 Pit Dimensions: 4.0m by 1.5m Elevation: 56.41m Datum: AUCKHT1946 Survey Source: Hicks Survey

l	Elevati	on: 56.41m	,			Datum: AUCKHT1946								Survey
Ē	Sami	oles & Insitu Tests		_	)g	Metarial Description	٠, ۲	y/ sity		Dyna 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	Moisture Condition	sistend re Der		(Blow	rs/100	0mm	)	Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect
Grou	Depth	Type & Results	<u> </u>	De	Grap	comments. (origin/geological unit) Rock: Colour, fabric; rock name; additional comments. (origin/geological unit)	≱ვ	Consistency/ Relative Density		5 10	0 1	5 2	0	Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks
			56.4			Topsoil: Dark brown. Silty. Low plasticity.								- Block Griape, Remarks
			56.2											]
			00.2		××;	MH: Clayey SILT: Light brown mottled orange. Low plasticity. Blocky structure. Limonite staining.		VSt						-
						(Mangakahia Complex)								]
	0.5	Peak = 112kPa Residual = 23kPa		-					1					-
														]
					XXX		М							-
					×××									]
	1.0	Peak = 96kPa Residual = 23kPa		1 -	(×××			St						-
					$\times \times \times$									]
					$\times \times \times$	at 1.20m, Becoming with Large gravel to cobble sized siltstone clasts. Highly weathered.								-
					(×××									]
	1.5	Peak = >200kPa		-										-
														]
							M to W	VSt						
					XX									]
			54.4	2 -	×××	MH: Clayey SILT: Light bluish grey with randomly orientated brown interbeds. Low plasticity. Moist. Rock description as follows. Completely								-
					X X X	weathered MUDSTONE. Extremely weak. Blocky structure. Limonite staining. Glossy surface on fractured edges.								]
					( X X X X >	(Mangakahia Complex)								
			54.0		( X X X X >	MH: Clayey SILT: Dark brownish grey. Low plasticity. Rock description as								]
				-		follows. Completely to highly weathered mudstone. Extremely weathered. Sheared structure. Easily shattered. Glossy fractured edges.								_
						(Mangakahia Complex)								]
														-
														]
				3 -	XXX									-
					X X X		М							]
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					(× × ×									]
				-	(X X X									-
					X X X									]
														1
														]
				4 -										=
														]
					XX	Test pit terminated at 4.30 m		-						
						•								]
				-										
														]
														]
				5 -										-
1 -	Terminat	ion Reason: Tar	aet de	enth r	eache	d								

Termination Reason: Target depth reached
Shear Vane No: 1702 DCP No:

Remarks: water seepage at 1.9m Orientation 320 degrees north west.

# **PHOTOGRAPH SHEET - TP09-22**

Client: Fulton Hogan Land Development Ltd

Project: Precinct 3, Argent Lane

Location: Milldale

Project ID: AKL2022-0138

Date: 25/08/2022

Investigation Location: Refer to site plan





Spoil



Test Pit

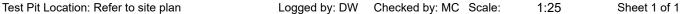
#### **TEST PIT LOG - TP10-22**

Client: Fulton Hogan Land Development Ltd

Project: Precinct 3, Argent Lane

Site Location: Milldale Project No.: AKL2022-0138

Date: 25/08/2022



Position: 389160.8mE; 829655.4mN Projection: EDENTM2000 Pit Dimensions: 4.0m by 1.5m Elevation: 47.82m Survey Source: Hicks Survey Datum: 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 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 47.8 Topsoil: Dark brown. Silty. Low plasticity. 47.6 MH: Clayey SILT: Light brown mottled orange. Low plasticity. Blocky structure. Limonite staining. With trace rootlets. (Mangakahia Complex) Peak = 71kPa Residual = 29kPa 0.5 St Peak = 71kPa Residual = 29kPa 1.0 Peak = 112kPa Residual = 27kPa 1.5 M VSt 2.0 Peak = 118kPa 45.5 MH: Clayey SILT: Light bluish grey. Low plasticity. Blocky structure. Rock description as follows. Highly weathered. SILTSTONE. Extremely weak. slickensided smooth on fractured surfaces. Clayey. Easily sheared. (Mangakahia Complex) н Test pit terminated at 3.50 m

Termination Reason: Target depth reached Shear Vane No: 2992 DCP No:

Remarks: Water seepage at 2.2m. Orientation 004 degrees north.

# **PHOTOGRAPH SHEET - TP10-22**

Client: Fulton Hogan Land Development Ltd

Project: Precinct 3, Argent Lane

Location: Milldale

Project ID: AKL2022-0138

Date: 25/08/2022

Investigation Location: Refer to site plan





Test Pit

#### **TEST PIT LOG - TP14-22**

Client: Fulton Hogan Land Development Ltd

Project: Precinct 3, Argent Lane

Site Location: Milldale Project No.: AKL2022-0138

Date: 25/08/2022



Position: 389098.2mE; 829693.1mN Projection: EDENTM2000 Pit Dimensions: 4.0m by 1.5m Survey Source: Hicks Survey Elevation: 42.02m Datum: AUCKHT1946 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 Type & Results Depth 10 15 20 42 0 OL: TOPSOIL: Brown. Low plasticity. 41.8 CL: Silty CLAY: Light grey mottled orange. Low plasticity. Blocky structure. Limonite staining. (Mangakahia Complex) Peak = 59kPa Residual = 18kPa 0.5 Peak = 99kPa Residual = 46kPa 1.0 1.5 Peak = 52kPa Residual = 15kPa Peak = UTP 2.0 40.0 2 Highly weathered ashy grey LIMESTONE. Very weak. Randomly orientated mudstone seams throughout. Breaking into jagged cobble sized clasts. (Northland Allochthon) Test pit terminated at 2.20 m

Termination Reason: Refusal on hard ground. Shear Vane No: 2992 DCP No:

Remarks: Groundwater not encountered.

# **PHOTOGRAPH SHEET - TP14-22**

Client: Fulton Hogan Land Development Ltd

Project: Precinct 3, Argent Lane

Location: Milldale

Project ID: AKL2022-0138

Date: 25/08/2022

Investigation Location: Refer to Site Plan



Sheet 1 of 1



Test Pit

### **TEST PIT LOG - TP15-22**

Client: Fulton Hogan Land Development Ltd

Project: Precinct 3, Argent Lane

Site Location: Milldale Project No.: AKL2022-0138

Date: 25/08/2022



Position: 389139.0mE; 829699.1mN Projection: EDENTM2000 Pit Dimensions: 4.0m by 1.5m Elevation: 40.96m Datum: Survey Source: Hicks Survey

E		on: 40.96m	,			Datum:								Survey
ē	Samr	oles & Insitu Tests			g			sy/ isity		Dynar Pene	mic (	Cone	,	Structure & Other Observations
Groundwater	Ourin	nes a mona rests	RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/gelogical unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/ Relative Density		(Blows	s/100	0mm)	١ ١	Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect
Grour	Depth	Type & Results	집	Dep	Grap	comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Con	Consi		5 10	1: 1:	5 2	0	Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks
			41.0		X//X	Topsoil: Dark brown. Silty. Low plasticity.		ď	H		_		Ě	Block Shape; Remarks
						Topoon. Dank Brown. Only. Low plasticity.								]
			40.8			CL: Silty CLAY: Light grey mottled orange. Low plasticity. Limonite staining.	1							]
					×-×	Blocky structure. Small gravel sized manganese inclusions (Mangakahia Complex)								-
	0.5	Deeds 50kDe			$\times$									1
	0.5	Peak = 56kPa Residual = 15kPa			×									]
					×									
					×									
					×									]
	1.0	Peak = 53kPa Residual = 15kPa		1 -	<u> </u>		М	F						
					<b> </b>									
					<u> </u>									]
					<u>×_</u>									]
	1.5	Peak = 48kPa		_	××									
		Residual = 13kPa			<u>×_</u>									-
					<u>×_</u> ×									]
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			39.0	2 -	<u>×_</u>									-
			39.0	2 -		Limestone: Highly weathered ashy grey LIMESTONE. Very weak. Randomly orientated mudstone seams throughout. Breaking into jagged								]
						cobble sized clasts. (Northland Allochthon)								-
						(								]
					Ш									]
				-		Test pit terminated at 2.50 m	1							-
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т	erminati	ion Reason: Tar	net da	onth r	aacha	4					'			1

Termination Reason: Target depth reached

Shear Vane No: 2992 DCP No:

Remarks: No groundwater encountered. Orientation 198 degrees south.



# **PHOTOGRAPH SHEET - TP15-22**

Client: Fulton Hogan Land Development Ltd

Project: Precinct 3, Argent Lane

Location: Milldale

Project ID: AKL2022-0138

Date: 25/08/2022

Investigation Location: Refer to site plan





Test Pit

### **TEST PIT LOG - TP01-23**

Client: Fulton Hogan Land Development Ltd

Project: Milldale - Stage 7

Site Location: Argent Lane, Wainui

Project No.: AKL2022-0138

Date: 03/04/2023

Test Pit Location: Refer to Site Plan Logged by: ZW/SS Checked by:MJC Scale: 1:30 Sheet 1 of 1

Position: 389032.2mE; 829352.6mN Projection: EDENTM2000 Pit Dimensions: 6.0m by 1.0m Elevation: 54.20m Datum: AUCKHT1946 Survey Source: Dines Survey

Samples & Insitu Tests    E   E   Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional   Soil: Soil: Soil: Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional   Soil: So	evation: 54.	4.20m				Datum: AUCKHT1946	Sui	vey:	Sοι	urce	: [	Din	es	Survey
54.2   S.3.9   O.I. TOR SOIL: Dark brown. Low plasticity. Minor rootlets. (Topsell)   N.   C.H. Sity CLAY: Brownish grey, High plasticity. Blocky structure. (RS Northland Allochthon)   Nodertacky weathered light grey. LIMESTONE: Very weak. Blocky structure. Minor intentions starting, Recovered as GRAVEL with trace clay, grey, medium to coarse angular clasts. (Northland Allochthon)   Northland Allochthon   Northland Allochthon)   Northland Allochthon)   Northland Allochthon   Northland Allochth	Samples & Insite	situ Tests	(m)	h (m)	lic Log	Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional				Dyna Pene	mic	Cone	e r	Structure & Other Observations  Discontinuities: Depth; Defect
Ch: Sity CLAY: Brownish grey. High plasticity. Blocky structure.  (RS Northland Allochthon)  53.7  Residual = 288Pa  53.7  Slightly weathered grey LIMESTONE: Very weak. Sheared structure.  (Northland Allochthon)  Fig. 1  Slightly weathered grey LIMESTONE: Very weak. Sheared structure.  Recovered as GRAVEL with trace clay, grey. medium to coarse anyular clasts.  (Northland Allochthon)  Test pit terminated at 2.60 m	Depth Type &	& Results	RL	Dept	Graph	comments. (origin/geological unit) Rock: Colour, fabric; rock name; additional comments. (origin/geological unit)	Mois	Consis		5 1	0 1	15 2	20	Shape; Roughness; Aperture; Infill Seepage; Spacing; Block Size; Block Shape; Remarks
S3.9  The Sily CLAY: Brownish grey. High plasticity. Blocky structure.  (RS Northland Allochthon)  S3.7  Resodual = 268-Pa  S3.7  Silghity weathered grey LIMESTONE: Very weak. Blocky grey. medium to coarse angular clasts.  (Northland Allochthon)  S2.4  Silghity weathered grey LIMESTONE: Very weak. Sheared structure.  Recovered as GRAVEL with trace clay. grey. medium to coarse angular clasts.  (Northland Allochthon)  Test pit terminated at 2.60 m  Test pit terminated at 2.60 m			54.2											
S.9  Peak = 80kPa Residual = 26kPa  S.7  Peak = 80kPa Residual = 26kPa  S.7  S.7  CH: Silty CLAY: Brownish grey, High plasticity, Blocky structure.  R. Skorthland Allochthon)  Moderately weathered light grey LIMESTONE: Very weak. Sheared structure.  Recovered as GRAVEL with trace clay, grey light from the statisting recovered as GRAVEL with trace clay, grey light from the statisting recovered as GRAVEL with trace clay, grey light from the statisting recovered as GRAVEL with trace clay.  Northland Allochthon)  Test pit terminated at 2.80 m  Test pit terminated at 2.80 m						(Topson)	١.,	0,						
Peak = 80kPa Residual = 26kPa  3.3.7  Moderately weathered light grey LIMESTONE: Very weak. Blocky structure. Minor imonite staining. Recovered as GRAVEL with trace clay, grey, medium to coarse angular dasts.  Slightly weathered grey LIMESTONE: Very weak. Sheared structure. Recovered as GRAVEL with trace sit. Calcareous. Grey mottled white. Medium to coarse with minor cobbles, angular dasts.  Northland Allochthon)  Test pit terminated at 2.60 m			53.9		×	CH: Silty CLAY: Brownish grey. High plasticity. Blocky structure.	IVI	St						
Residual = 26kPa    Moderately weathered light grey LiMESTONE: Very weak. Sheared structure. Recovered as GRAVEL with trace clay, grey, medium to coarse arigular clasts.   Northland Allochthon	0.6 Book -	k = 90kBa	E2 7		<u> </u>									
grey, medium to coarse angular clasts. (Northland Allochthon)  Slightly weathered grey LIMESTONE: Very weak. Sheared structure. Recovered as GRAVEL with trace slit. Calcareous Grey mottled white. Medium to coarse with minor cobbles, angular clasts. (Northland Allochthon)  Test pit terminated at 2.60 m	Residua	ual = 26kPa	33.7		-	Moderately weathered light grey LIMESTONE: Very weak. Blocky structure. Minor limonite staining. Recovered as GRAVEL with trace clay,								
Slightly weathered grey LIMESTONE: Very weak. Sheared structure. Recovered as GRAVEL with trace silt. Calcareous. Grey mottled white. Medium to coarse with minor cobbles, angular clasts. (Northland Allochthon)  Test pit terminated at 2.60 m					=	grey, medium to coarse angular clasts.								
Slightly weathered grey LIMESTONE: Very weak. Sheared structure. Recovered as GRAVEL with trace silt. Calcareous. Grey motified white. Medium to coarse with minor cobbles, angular clasts. (Northland Allochthon)  Test pit terminated at 2.60 m					二	(Notthand Allochtron)								
Slightly weathered grey LIMESTONE: Very weak. Sheared structure. Recovered as GRAVEL with trace silt. Calcareous. Grey motiled white. Medium to coarse with minor cobbles, angular clasts. (Northland Allochthon)  Test pit terminated at 2.60 m				1 -										-
Slightly weathered grey LIMESTONE: Very weak. Sheared structure. Recovered as GRAVEL with trace silt. Calcareous. Grey mottled white. Medium to coarse with minor cobbles, angular clasts. (Northland Allochthon)  Test pit terminated at 2.60 m								П						
Slightly weathered grey LIMESTONE: Very weak. Sheared structure. Recovered as GRAVEL with trace silt. Calcareous. Grey mottled white. Medium to coarse with minor cobbles, angular clasts. (Northland Allochthon)  Test pit terminated at 2.60 m					╁			''						
Slightly weathered grey LIMESTONE: Very weak. Sheared structure. Recovered as GRAVEL with trace silt. Calcareous. Grey mottled white. Medium to coarse with minor cobbles, angular clasts. (Northland Allochthon)  Test pit terminated at 2.60 m														
Slightly weathered grey LIMESTONE: Very weak. Sheared structure. Recovered as GRAVEL with trace silt. Calcareous. Grey mottled white. Medium to coarse with minor cobbles, angular clasts. (Northland Allochthon)  Test pit terminated at 2.60 m				-										
Sign weathered gry Linkes Johnson Strate of Students and State Communities.  Recovered as GRAVEL with trace sit. Calcareous. Grey mottled white.  Medium to coarse with minor cobbles, angular clasts.  (Northland Allochthon)  Test pit terminated at 2.60 m							"							
Sign weathered gry Linkes Johnson Strate of Students and State Communities.  Recovered as GRAVEL with trace sit. Calcareous. Grey mottled white.  Medium to coarse with minor cobbles, angular clasts.  (Northland Allochthon)  Test pit terminated at 2.60 m			52.4											
Medium to coarse with minor cobbles, angular clasts. (Northland Allochthon)  Test pit terminated at 2.60 m			32.4			Slightly weathered grey LIMESTONE: Very weak. Sheared structure.  Recovered as GRAVEL with trace silt. Calcareous. Grey mottled white.								
Test pit terminated at 2.60 m				2 -		Medium to coarse with minor cobbles, angular clasts.								-
					$\Box$	(Notulate Allocation)								
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						Test pit terminated at 2.60 m								
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Termination Reason: Refusal on hard ground.

Shear Vane No: 3661 DCP No:

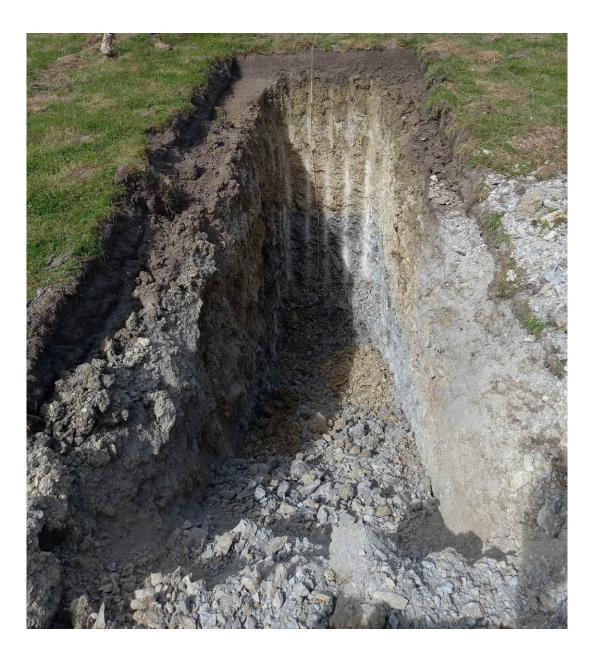
Remarks: Groundwater not encountered. Orientation: NW/SE. Excavator used: 26Tonne.





# **TEST PIT PHOTOGRAPHS: TP01-23**

Client:	Fulton Hogan Land Development Ltd		
Project:	Milldale – Stage 7	Location:	Milldale
Project No:	AKL2022-0138	Date:	04/04/2023
Position:	E: 389032.2 / N: 829352.6	Contractor:	Kerry Dines Limited
Logged by:	ZW	Checked by:	MJC
Dimensions:	1.0m by 5.0m	Termination Depth:	2.6m



TP01-23 – TEST PIT EXCAVATION





TP01-23 - Spoil

### **TEST PIT LOG - TP02-23**

Client: Fulton Hogan Land Development Ltd

Project: Milldale - Stage 7

Site Location: Argent Lane, Wainui

Project No.: AKL2022-0138

Date: 03/04/2023

Test Pit Location: Refer to Site Plan

Logged by: ZW/SS

Checked by:
MJC

Scale: 1:30

Sheet 1 of 1

Position: 388977.8mE; 829317.0mN Projection: EDENTM2000 Pit Dimensions: 6.0m by 1.0m Elevation: 52.15m Datum: AUCKHT1946 Survey Source: Dines Survey

		on: 52.15m	,	020		Datum: AUCKHT1946								Survey
ter	Sam	ples & Insitu Tests		(c	og	Material Description		cy/ nsity		Dyna Pen	amic netror	Cone	9	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		(Blov	ws/10	00mm	1)	Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks
			52.2			OL: TOPSOIL: Dark brown. Low plasticity. With minor rootlets. (Topsoil)								- Block Shape, Itemates
						(-1-1-1)	М							]
			51.8		×	CH: Silty CLAY: Greyish brown mottled grey. High plasticity.		F						
	0.5	Peak = 48kPa Residual = 16kPa		-	X—   X	(RS Northland Allochthon)								= = = = = = = = = = = = = = = = = = = =
					×_×									]
			51.2			Moderately weathered light brownish grey LIMESTONE: Very weak. Blocky	s							
				1 -	H	structure. Minor limonite staining. Recovered as GRAVEL with trace clay, grey, medium to coarse angular clasts. (Northland Allochthon)		н						]
					$\vdash$	(Notulalid Allocation)								
•	-		50.8		Ħ	Slightly weathered dark grey LIMESTONE: Very weak. Sheared structure.								
						Recovered as GRAVEL with trace silt. Calcareous. Grey mottled white. Medium to coarse with minor cobbles, angular clasts. (Northland Allochthon)								
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	Terminat	ion Reason: Ref	fusal d	on ha	rd aro	und								

Termination Reason: Refusal on hard ground.

Shear Vane No: 3661 DCP No:

Remarks: Groundwater encountered at 1.4m. Groundwater ingress flowing into pit. Orientation NE/SW. Excavator used: 26Tonne.





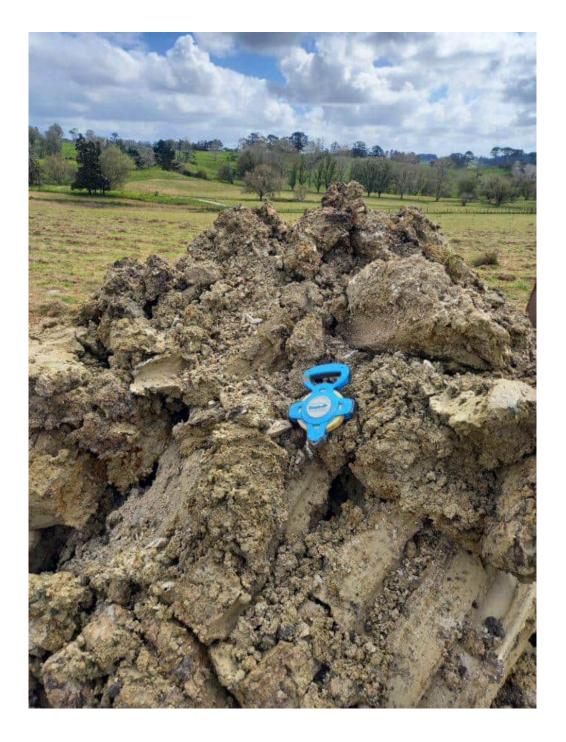
# **TEST PIT PHOTOGRAPHS: TP02-23**

Client:	Fulton Hogan Land Development Ltd		
Project:	Milldale – Stage 7	Location:	Milldale
Project No:	AKL2022-0138	Date:	04/04/2023
Position:	E: 388977.803 / N: 829317.014	Contractor:	Kerry Dines Limited
Logged by:	SS/ZW	Checked by:	MJC
Dimensions:	1.0m by 5.0m	Termination Depth:	3.3m



TP02-23 – TEST PIT EXCAVATION





TP02-23 - Spoil

### **TEST PIT LOG - TP03-23**

Client: Fulton Hogan Land Development Ltd

Project: Milldale - Stage 7

Site Location: Argent Lane Wainui

Project No.: AKL2022-0138

Date: 03/04/2023

Checked by: Test Pit Location: Refer to Site Plan Logged by: ZW/SS Sheet 1 of 1 Scale:

MJC Position: 388862.7mE; 829302.7mN Projection: EDENTM2000 Pit Dimensions: 6.0m by 1.0m Flevation: 54 22m Datum: AUCKHT1946

Ele	evatio	n: 54.22m				Datum: AUCKHT1946	Sur	vey S	Sοι	ırce:	Di	nes	Survey
Groundwater	Samp	les & Insitu Tests	RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional	Moisture Condition	_ ≥		Dynami Penetro (Blows/1	c Co	ne er	Structure & Other Observations  Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect
Groun	Depth	Type & Results		Dept	Graph	comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Mois	Consis Relative		5 10 I I	15 I	20	Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks
			54.2			OL: TOPSOIL: Dark brown. Low plasticity. With minor rootlets. (Topsoil)							
	0.5	Peak = 97kPa	53.9		X	CH: Silty CLAY with trace rootlets: Brownish grey mottled orange brown. High plasticity.							
	0.0	Residual = 45kPa			XX	(RS Northland Allochthon)							
	1.0	Peak = 64kPa		1 -	×_×								_
		Residual = 32kPa			×								
				_	×_×		М						_
					× ×			St					
				2 -	×_×								
			52.0		]×  ×	ML: Clayey SILT : Greyish brown with minor orange mottles. Low plasticity.							
				-	X X    X  X  X  X  X  X  X  X  X  X  X	(RS Northland Allochthon)							-
	2.8	Peak = 103kPa			X X X X X X								
		Residual = 16kPa	51.3	3 -	X X X X X X X X X X X X X X X X X X X	Completely weathered dark grey SILTSTONE: Extremely weak, Blocky structure. Recovered as Sandy SILT with minor coarse to medium gravel.						+	-
					X X X X X	Gravel is angular. (Transitional Northland Allochthon)							
				-	(X X X X X X X X X X X X X X X X X X X			VSt					
					× × > × × >								
				4 -	(							+	-
			50.0			Highly weathered dark grey MUDSTONE: Extremely weak. Sheared and tightly interlocked structure. Recovered as GRAVEL with minor SILT, medium to coarse, angular. Smooth polished clast surfaces.							
				-		(Northland Allochthon)							-
							D						
				5 -									-
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				7 -		Total Manager 1 1 7 7 2 2							
		on Reason: Tar	1		1	Test pit terminated at 7.00 m							1

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

Remarks: Groundwater not encountered. Orientation 110°(true). Excavator used: 26Tonne.



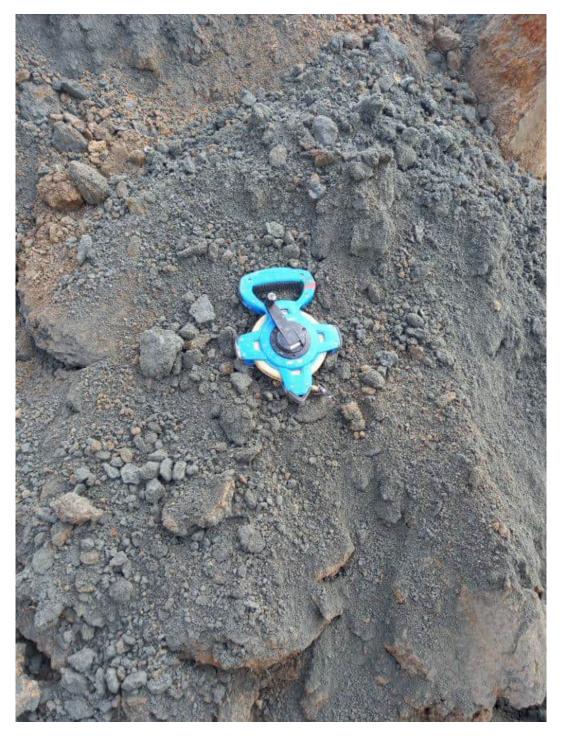
# **TEST PIT PHOTOGRAPHS: TP03-23**

Client:	Fulton Hogan Land Development Ltd								
Project:	Milldale – Stage 7	Location:	Milldale						
Project No:	AKL2022-0138	Date:	04/04/2023						
Position:	E: 388862.739 / N: 829302.666	Contractor:	Kerry Dines Limited						
Logged by:	ZW/SS	Checked by:	MJC						
Dimensions:	1.0m by 5.0m	Termination Depth:	7.0m						



TP03-23 – TEST PIT EXCAVATION





TP03-23 - Spoil

### **TEST PIT LOG - TP04-23**

Client: Fulton Hogan Land Development Ltd

Project: Milldale - Stage 7

Site Location: Argent Lane, Wainui

Project No.: AKL2022-0138

Date: 03/04/2023

Test Pit Location: Refer to Site Plan

Logged by: SS

Checked by:
MJC

Scale: 1:30

Sheet 1 of 1

Position: 388848.0mE; 829341.2mN Projection: EDENTM2000 Pit Dimensions: 6.0m by 1.0m Elevation: 48.61m Datum: AUCKHT1946 Survey Source: Dines Survey

	n: 388848.Ur	n⊏, •	029	J <del>4</del> 1.2	•							1 by 1.0m
Elevali	on: 48.61m				Datum: AUCKHT1946	Sur		SOL				es Survey Structure & Other Observation
Samples & Insitu Tests  Depth Type & Results		_	Ē	Log	Material Description	9 5	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)				
lindw.		RL (m)	Depth (m)	Graphic Log	Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit)	Moisture Condition	sister ve De					Number; Defect Type; Dip; De
Depth	Type & Results	α.	De	Grap	Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Sol Sol			5 10	 ) 1:	5 20	Shape; Roughness; Aperture; Seepage; Spacing; Block Siz
		48.6		V//X\	OL: TOPSOIL: Dark brown. Low plasticity. With minor rootlets.		<u>«</u>		$\vdash$	_	$\vdash$	Block Shape; Remarks
		40.0			(Topsoil)							
		48.3		×	CH: Silty CLAY: Brownish grey mottled orange brown. High plasticity.							
0.5					(RS Northland Allochthon)							
0.5	Peak = 64kPa Residual = 29kPa		-	×								
				<u>r</u>								
				<u> </u>			F					
				<u></u> ×								
1.0	Peak = 84kPa		1 -									
	Residual = 16kPa			<u> </u> ~								
		47.4			ML: Clayey SILT: Brownish grey mottled brown. Low plasticity.	-						
				<u> </u>	(RS Northland Allochthon)							
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		45.8		$\times \times \rangle$								
				× × × × × × × × × × × × × × × × × × ×	Completely weathered to highly weathered dark grey SILTSTONE: Extremely weak. Tightly interlocking structure. Recovered as Sandy SILT							
			3 -	\(\hat{x}	with minor medium to coarse angular gravel clasts. Highly polished clasts.						$\dashv$	
				x x x x	(Transitional Northland Allochthon)							
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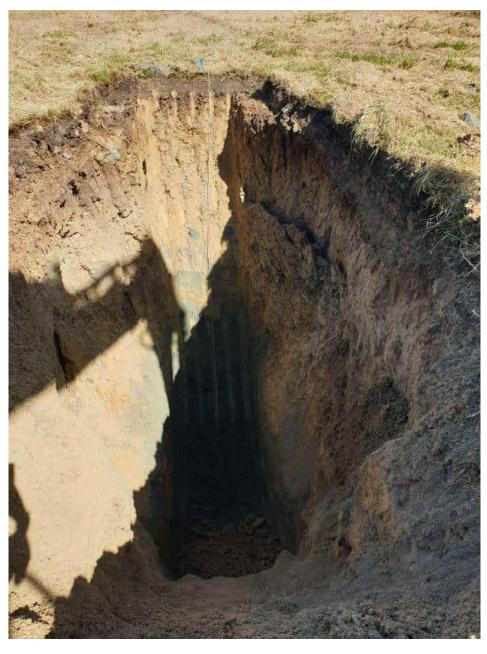
Shear Vane No: 3661 DCP No:

Remarks: Groundwater not encountered. Orientation 316°(true). Excavator used: 26Tonne.



# **TEST PIT PHOTOGRAPHS: TP04-23**

Client:	Fulton Hogan Land Development Ltd								
Project:	Milldale – Stage 7	Location:	Milldale						
Project No:	AKL2022-0138	Date:	04/04/2023						
Position:	E: 388848.019 / N: 829341.23	Contractor:	Kerry Dines Limited						
Logged by:	SS	Checked by:	MJC						
Dimensions:	1.0m by 5.0m	Termination Depth:	5.5m						



TP04-23 – TEST PIT EXCAVATION





TP04-23 - Spoil

#### **TEST PIT LOG - TP05-23**

Client: Fulton Hogan Land Development Ltd

Project: Milldale - Stage 7

Site Location: Argent Lane, Wainui

Project No.: AKL2022-0138

Date: 03/04/2023

Test Pit Location: Refer to Site Plan Logged by: ZW/SS Checked by:

No. Ch

MJC Pit Dimensions: 6.0m by 1.0m Position: 388898.5mE; 829272.1mN Projection: EDENTM2000 Elevation: 60.51m Datum: AUCKHT1946 Survey Source: Dines Survey 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 60.5 OL: TOPSOIL: Dark brown. Low plasticity. (Topsoil) 60.1 ML: Clayey SILT: Brown with minor dark brown mottles. Low plasticity. 0.5 Peak = 80kPa (RS Northland Allochthon) Residual = 32kPa Peak = 177kPa 1.0 ... at 1.00m, becoming orange brown with minor grey mottles. Residual = 40kPa VSt Peak = 138kPa Residual = 19kPa 1.9 ... at 2.50m, water ingress. Completely weathered dark grey SILTSTONE: Extremely weak. Tightly interlocking structure. Recovered as SILT with minor medium to coarse gravel. Angular, polished clasts. (Transitional Northland Allochthon) 57.7 ... at 3.60m, becoming highly to moderately weathered SILTSTONE. D Test pit terminated at 5.30 m

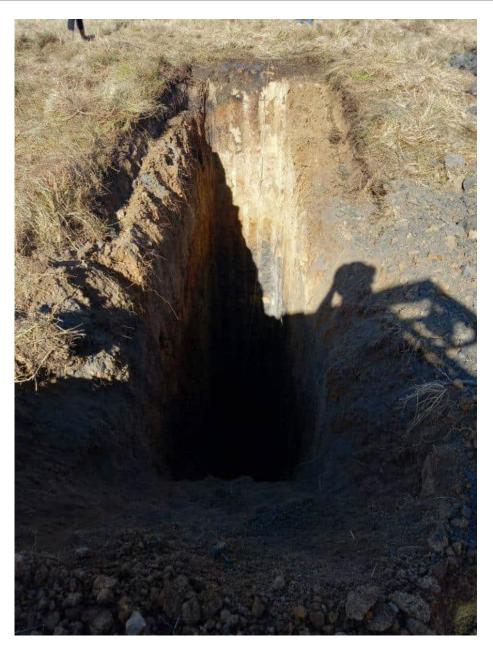
Termination Reason: Target depth reached
Shear Vane No: 3661 DCP No:

Remarks: Groundwater encountered at 2.5m. Orientation 270°(true). Excavator used: 26Tonne.



# **TEST PIT PHOTOGRAPHS: TP05-23**

Client:	Fulton Hogan Land Development Ltd		
Project:	Milldale – Stage 7	Location:	Milldale
Project No:	AKL2022-0138	Date:	04/04/2023
Position:	E: 388898.494 / N: 829272.072	Kerry Dines Limited	
Logged by:	ZW/SS	Checked by:	MJC
Dimensions:	1.0m by 5.0m	Termination Depth:	5.3m



TP05-23 – TEST PIT EXCAVATION





TP05-23 - Spoil

#### **TEST PIT LOG - TP06-23**

Client: Fulton Hogan Land Development Ltd

Project: Milldale - Stage 7

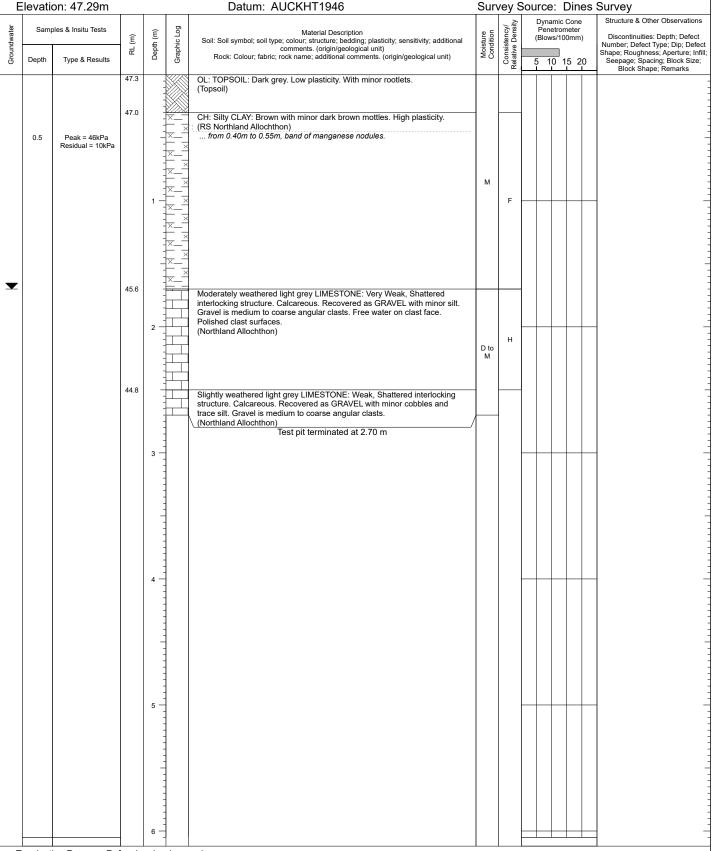
Site Location: Argent Lane, Wainui

Project No.: AKL2022-0138

Date: 03/04/2023

Checked by: Test Pit Location: Refer to Site Plan Logged by: ZW/SS Scale: Sheet 1 of 1 MJC

Pit Dimensions: 6.0m by 1.0m Position: 388938.0mE; 829377.2mN Projection: EDENTM2000 Datum: AUCKHT1946 Survey Source: Dines Survey



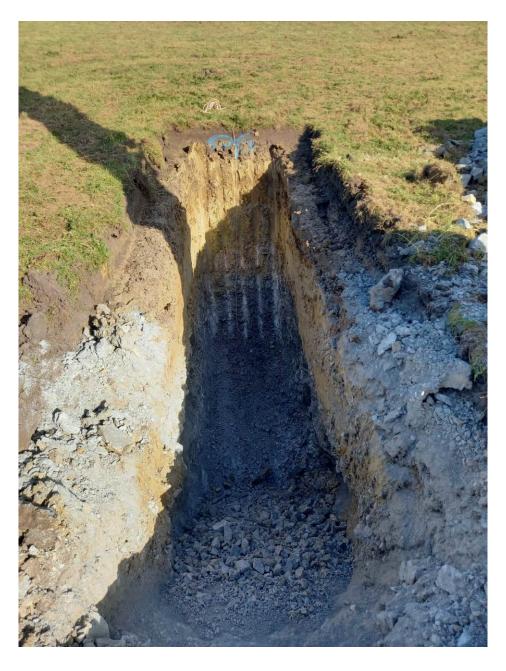
Termination Reason: Refusal on hard ground. Shear Vane No: 3661

Remarks: Groundwater encountered at 1.7m. Orientation 300°(true). Excavator used: 26Tonne.



# **TEST PIT PHOTOGRAPHS: TP06-23**

Client:	Fulton Hogan Land Development Ltd		
Project:	Milldale – Stage 7	Location:	Milldale
Project No:	AKL2022-0138	Date:	04/04/2023
Position:	E: 388938.05 / N:829377.24	Contractor:	Kerry Dines Limited
Logged by:	ZW	Checked by:	MJC
Dimensions:	1.0m by 5.0m	Termination Depth:	2.7m



TP06-23 – TEST PIT EXCAVATION





TP06-23 - Spoil

### **TEST PIT LOG - TP07-23**

Client: Fulton Hogan Land Development Ltd

Project: Milldale - Stage 7

Site Location: Argent Lane, Wainui

Project No.: AKL2022-0138

Date: 04/04/2023

Test Pit Location: Refer to site plan

Logged by: ZW

Checked by:
MJC

Scale: 1:30

Sheet 1 of 1

Position: 388808.2mE; 829242.0mN Projection: EDENMT2000 Pit Dimensions: 5.0m by 1.0m Elevation: 60.45m Datum: AUCKHT1946 Survey Source: Dines Survey

		n: 60.45m	,			Datum: AUCKHT1946							Survey
	Samp	les & Insitu Tests		(iii	Log	Material Description	on on	ncy/ ensity	,	Dynamic Penetro Blows/1	Con	e r	Structure & Other Observation  Discontinuities: Depth; Defect
	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		5 10			Number; Defect Type; Dip; Defe Shape; Roughness; Aperture; In Seepage; Spacing; Block Size Block Shape; Remarks
			60.4	:		OL: Clayey SILT: Dark brown. High plasticity. (Topsoil)							23333304
			60.2		XX	CH: Silty CLAY: Grey mottled orange. High plasticity. (RS Northland Allochthon)							
	0.5	Peak = 48kPa Residual = 26kPa		-	×_×	from 0.25m to 1.50m, Limonite staining							
					×								
	1.0	Peak = 80kPa		1 -	×								
	1.0	Residual = 26kPa		'	X_^		M to	St					
					×		l vv						
				-	×_×	at 1.50m, Becoming grey							
				-	×								
				2 -	×_×								
			58.4		×_	Highly weathered chaotic greenish grey mottled brown. MUDSTONE. Extremely weak. Recovered as fine to coarse gravel with some silt. Sub							
						angular blocks with polished slicksided surfaces. Tightly packed. (Hukerenui Mudstone)							
				-									
				3 -									
				-			D to	н					
				-			M						
				-									
				4 -									
				-		Test pit terminated at 4.80 m							
				5 -									
				-									
				-									
L			-	6 -					H		$\pm$		=

Termination Reason: Target depth reached

Shear Vane No: 3661 DCP No:

Remarks: Groundwater not encountered. Orientation 350°(true). Excavator used: 26Tonne.



## **TEST PIT PHOTOGRAPHS: TP07-23**

Client:	Fulton Hogan Land Development Ltd		
Project:	Milldale – Stage 7	Location:	Milldale
Project No:	AKL2022-0138	Date:	05/04/2023
Position:	E: 388808.2 / N: 829242	Contractor:	Kerry Dines Limited
Logged by:	ZW	Checked by:	MJC
Dimensions:	1.0m by 5.0m	Termination Depth:	4.8m



TP07-23 – TEST PIT EXCAVATION





TP07-23 - Spoil

### **TEST PIT LOG - TP08-23**

Client: Fulton Hogan Land Development Ltd

Project: Milldale - Stage 7

Site Location: Argent Lane, Wainui

Project No.: AKL2022-0138

Date: 04/04/2023

Test Pit Location: Refer to site plan

Logged by: ZW

Checked by:
MJC

Scale: 1:30

Sheet 1 of 1

Position: 388755.5mE; 829262.5mN Projection: EDENMT2000 Pit Dimensions: 5.0m by 1.0m Elevation: 56.93m Datum: AUCKHT1946 Survey Source: Dines Survey

Elevati	ion: 56.93m				Datum: AUCKHT1946	Sur	vey S	Βοι	ırce:	Di	nes	Survey
Sam	ples & Insitu Tests		(H	-og	Material Description	e L	ncy/ ensity		Dynam	romete	er	Structure & Other Observation
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	1		Discontinuities: Depth; Defe Number; Defect Type; Dip; De Shape; Roughness; Aperture; I Seepage; Spacing; Block Siz Block Shape; Remarks
+ -		56.9		-1000	OL: Clayey SILT: Dark brown. high plasticity.		2 %		<u> </u>	10	<u></u>	Block Shape; Remarks
					(Topsoil)							
		56.6		X—	CH: Silty CLAY: Grey mottled orange and brown. High plasticity.							
0.5	Peak = 129kPa Residual = 48kPa		-	<u> </u>	(RS Northland Allochthon) from 0.30m to 2.60m, Trace rootlets							
	residual – 40ki u			<del> </del> <del> </del> <del> </del>								
				<u> </u>								
1.0	Peak = 90kPa Residual = 32kPa		1 -	- <u>X</u> _X								_
	residual – SZKI u			×								
				<u> </u>								
			-	<u> </u> ×		W	VSt					
				<del>*-</del>	at 1.60m, Becoming grey							
				<u> </u>								
			2 -	- <u>X</u> _X							+	_
				×								
				<u>×</u> _×								
			-	<u></u>	from 2.50m to 2.60m, Limonite nodules/staining							
		54.3			MH: Clayey SILT: Grey mottled brown. High plasticity. Completely weathered grey mottled brown MUDSTONE. Extremely weak.							
				$\models$	(Hukerenui Mudstone)							
			3 -									_
						М	Н					
			-									
				$\equiv$								
				量								
		52.9	4 -		Highly weathered chaotic greenish grey mottled brown MUDSTONE. Very				$\vdash$		+	_
					weak. Recovered as fine to coarse gravel with minor silt. Sub angular blocks with polished slickensided surfaces. Tightly packed.							
					(Hukerenui Mudstone)							
			-									
				$\equiv$								
				늘								
			5 -			М	н				+	_
			-		from 5.50m to 6.00m, Blocks recovered as moderately weathered							
1			6 -		Test pit terminated at 6.00 m							

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

 $Remarks: \ Groundwater \ not \ encountered. \qquad Orientation \ 336° (true). \qquad Excavator \ used: \ 26Tonne.$ 





## **TEST PIT PHOTOGRAPHS: TP08-23**

Client:	Fulton Hogan Land development Ltd		
Project:	Milldale – Stage 7	Location:	Milldale
Project No:	AKL2022-0138	Date:	05/04/2023
Position:	E: 388755.5 / N: 829262.5	Kerry Dines Limited	
Logged by:	ZW	Checked by:	MJC
Dimensions:	1.0m by 6.0m	Termination Depth:	6.0m



TP08-23 – TEST PIT EXCAVATION





TP08-23 - Spoil

### **TEST PIT LOG - TP09-23**

Client: Fulton Hogan Land Development Ltd

Project: Milldale - Stage 7

Site Location: Argent Lane, Wainui

Project No.: AKL2022-0138

Date: 04/04/2023

Test Pit Location: Refer to site plan

Logged by: ZW

Checked by:
MJC

Scale: 1:30

Sheet 1 of 1

Position: 388874.9mE; 829436.7mN Projection: EDENMT2000 Pit Dimensions: 5.0m by 1.0m Elevation: 41.40m Datum: AUCKHT1946 Survey Source: Dines Survey

E	Elevation	on: 41.40m	,			Datum: AUCKHT1946								Survey
ter	Samp	oles & Insitu Tests		٦	go	Material Description	n =	cy/ nsity		Dyn: Pen	amic netror	Cone	e r	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		(Blov	ws/10	00mm	1)	Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks
			41.4			OL: Clayey SILT: Dark brown. Low plasticity. (Topsoil)								Block Shape, Remarks
						(TOPSOII)								
			41.1		Ħ	CH: CLAY: Grey mottled brown. High plasticity. (RS Northland Allochthon)								0.3-2.2m: Minor organic - material present as tree roots
				-		, ,								up to 200mm
					==									
					1									1
	1.0	Peak = 39kPa Residual = 16kPa		1 -	<u> </u>									-
					==		s	F						=
														]
				-										
					<u> </u>									]
					<u>-</u>									]
				2 -										
			39.2			Highly weathered light brownish grey. Sheared structure. LIMESTONE. Calcareous. Very weak. Recovered as fine gravel to large cobble sized								]
					訲	angular blocks. Water on fractured surfaces. (Northland Allochthon)	D	н						1
				-		,								]
			38.7		井	Slightly weathered light bluish grey. Sheared structure. LIMESTONE Calcareous. Weak. Recovered as medium gravel to large cobble sized								
					Ħ	angular blocks. (Northland Allochthon)								1
				3 -			D							
					Ħ									1
				_										<u></u>
						Test pit terminated at 3.50 m								
														]
				4 -										]
														1
														]
				-										= = = = = = = = = = = = = = = = = = = =
					]									]
														=
				5 -						_	_			
					-									]
				-										]
					-									
					-									]
				6 -	-				L					] -
Т	erminat	ion Reason: Ref	l fusal d	on ha	rd aro	l und	1							1

Termination Reason: Refusal on hard ground.

Shear Vane No: 3661 DCP No:

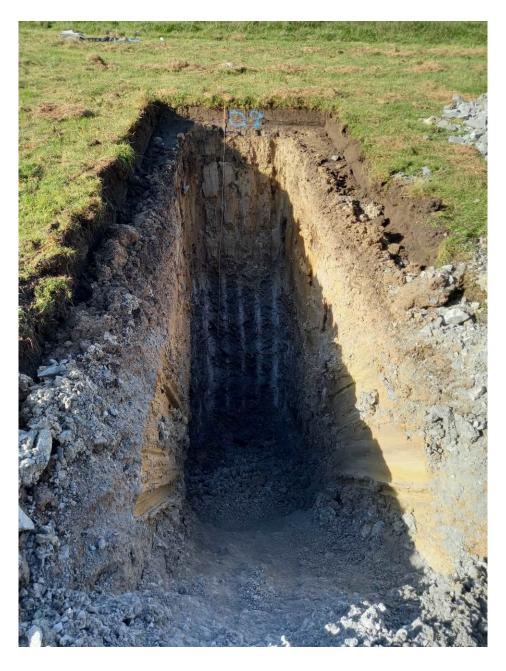
Remarks: Groundwater not encountered. Orientation 357°(true). Excavator used: 26Tonne.





# **TEST PIT PHOTOGRAPHS: TP09-23**

Client:	Fulton Hogan land Development Ltd		
Project:	Milldale – Stage 7	Location:	Milldale
Project No:	AKL2022-0138	Date:	05/04/2023
Position:	E: 388874.86 / N: 829436.68	Contractor:	Kerry Dines Limited
Logged by:	ZW	Checked by:	MJC
Dimensions:	1.0m by 5.0m	Termination Depth:	3.5m



TP09-23 – TEST PIT EXCAVATION





TP09-23 - Spoil

### **TEST PIT LOG - TP10-23**

Client: Fulton Hogan Land Development Ltd

Project: Milldale - Stage 7

Site Location: Argent Lane, Wainui

Project No.: AKL2022-0138

Date: 04/04/2023

Test Pit Location: Refer to site plan

Logged by: ZW

Checked by:
MJC

Scale: 1:30

Sheet 1 of 1

Position: 388948.0mE; 829459.9mN Projection: EDENMT2000 Pit Dimensions: 5.0m by 1.0m Elevation: 44.40m Datum: AUCKHT1946 Survey Source: Dines Survey

_iovati	on: 44.40m				Datum: AUCKHT1946	Sur	vey S	Sou	rce:	Di	nes	Survey
	ples & Insitu Tests			9					Dynam Peneti Blows/			Structure & Other Observation
Janis	pies & ilisita rests	RL (m)	Depth (m)	nic Lo	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional	Moisture Condition	stenc Den	(	Blows/	100m	nm)	Discontinuities: Depth; Defe Number: Defect Type: Dip: De
Depth	Type & Results	교	Dep	Graphic Log	comments. (origin/geological unit) Rock: Colour, fabric; rock name; additional comments. (origin/geological unit)	Son Moi	Consistency/ Relative Density	F	10	] 15	20	Number; Defect Type; Dip; De Shape; Roughness; Aperture; Seepage; Spacing; Block Siz Block Shape; Remarks
		44.4		\//X\	OL: Clayey SILT: Dark brown. High plasticity.		ď	H	Ť	ĭ	Ť	Block Shape; Remarks
					(Topsoil)							
		44.1										
		144.1		[-]	CH: CLAY with minor silt : Brownish grey. High plasticity. (RS Northland Allochthon)							
			-	1-1								
				<u>†</u> 1								
				<u> </u>								
				1		s	St					
1.0	Peak = 61kPa Residual = 26kPa		1 -	┾								
				₹.∃								
				==								
		42.0		‡ ‡								
		42.9	_	开	Highly weathered light brownish grey. Sheared structure. LIMESTONE. Very weak. Recovered as fine gravel to large cobble sized angular blocks.							
				幵	Water on fractured surfaces. (Northland Allochthon)							
				坩	(Notthland Allocathon)	D	н					
			2 -						_		$\perp$	
		42.3	_	+	Slightly weathered light grey. Sheared structure. LIMESTONE. Calcareous.		_					
				+	Weak. Recovered as medium gravel to large cobble sized angular blocks. (Northland Allochthon)							
				$\vdash$	(Nottilalid Allocition)							
			-									
				$\Box$		D						
				1								
				###								
			3 -									
					Test pit terminated at 3.10 m		1					
				1								
				1								
				-								
				1								
				1								
			4 -	]								
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				-								
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				1								
			5 -	1				П		T		1
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				]								
			_	1								
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				]								
	1	1		1 I		1	1					1
				]								

Termination Reason: Refusal on hard ground.

Shear Vane No: 3661 DCP No:

Remarks: Groundwater not encountered. Orientation 343°(true). Excavator used: 26Tonne.



# **TEST PIT PHOTOGRAPHS: TP10-23**

Client:	Fulton Hogan Land Development Ltd		
Project:	Milldale – Stage 7	Milldale	
Project No:	AKL2022-0138	Date:	05/04/2023
Position:	E: 388947.96 / N: 829459.88	Kerry Dines Limited	
Logged by:	ZW	Checked by:	MJC
Dimensions:	1.0m by 5.0m	Termination Depth:	3.1m



TP10-23 – TEST PIT EXCAVATION





TP10-23 - Spoil

### **TEST PIT LOG - TP11-23**

Client: Fulton Hogan Land Development Ltd

Project: Milldale - Stage 7

Site Location: Argent Lane, Wainui

Project No.: AKL2022-0138

Date: 04/04/2023

Test Pit Location: Refer to site plan

Logged by: ZW

Checked by:
MJC

Scale: 1:30

Sheet 1 of 1

Position: 388980.0mE; 859565.9mN Projection: EDENMT2000 Pit Dimensions: 5.0m by 1.0m Elevation: 44.23m Datum: AUCKHT1946 Survey Source: Dines Survey

E	Elevati	on: 44.23m	,			Datum: AUCKHT1946								Survey
ře	Sami	oles & Insitu Tests		_	bo	Metalial Description		y/ sity		Dyn Per	amic netror	Cone	9	Structure & Other Observations
Groundwater	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		(Blo	ws/10	00mm	1)	Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks
			44.2			OL: Clayey SILT: Dark brown. High plasticity		_	Ī					Block Snape; Remarks
						(Topsoil)								]
			43.9		X///XX X—	CH: Silty CLAY: Grey streaked orange/blue. High plasticity. (RS Northland Allochthon)								
				-	×	(NO NORMANIA ANOCHMON)								
					<u> </u>		W to	St						1
					×		5							1
	1.0	Peak = 55kPa		1 -						-				
		Residual = 16kPa	43.1			Highly to moderately weathered light brownish grey. Sheared structure. LIMESTONE. Very weak. Calcareous. Recovered as fine gravel to medium								1
						cobble sized angular blocks. Water on fractured surfaces. (Northland Allochthon)								1
				-	H	from 1.10m to 2.00m, Limonite staining	D	н						]
					开			"						]
					oxdot									1
			42.2	2 -	$\Box$	Slightly weathered light greyish white. Sheared structure. LIMESTONE.								
						Weak. Calcareous. Recovered as medium gravel to large cobble sized angular blocks.								]
						(Northland Allochthon)								
				-			D							1
					〓									1
					H									]
				3 -		Test pit terminated at 2.90 m								
														-
														1
				-										]
														1
														1
														]
				4 -										
														1
														]
														1
														1
				5 -										]
														]
				-										
														]
														]
				6 -										-
1 T	erminat	ion Reason: Ref	fusal d	n ha	rd aro	und								

Termination Reason: Refusal on hard ground.

Shear Vane No: 3661 DCP No:

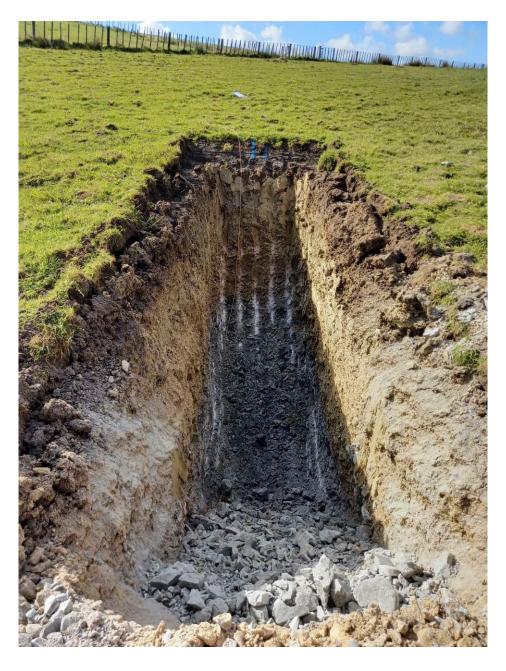
Remarks: Groundwater not encountered. Orientation 271°(true). Excavator used: 26Tonne.





### **TEST PIT PHOTOGRAPHS: TP11-23**

Client:	Fulton Hogan Land Development Ltd		
Project:	Milldale – Stage 7	Location:	Milldale
Project No:	AKL2022-0138	Date:	05/04/2023
Position:	E: 388979.96 / N: 829565.91	Contractor:	Kerry Dines Limited
Logged by:	ZW	Checked by:	MJC
Dimensions:	1.0m by 5.0m	Termination Depth:	2.9m



TP11-23 – TEST PIT EXCAVATION





TP11-23 - Spoil

### **TEST PIT LOG - TP12-23**

Client: Fulton Hogan Land Development Ltd

Project: Milldale - Stage 7

Site Location: Argent Lane, Wainui

Project No.: AKL2022-0138

Date: 04/04/2023

Test Pit Location: Refer to site plan

Logged by: ZW

Checked by:
MJC

Scale: 1:30

Sheet 1 of 1

Position: 388908.6mE; 829625.1mN Projection: EDENMT2000 Pit Dimensions: 5.0m by 1.0m Elevation: 36.70m Datum: AUCKHT1946 Survey Source: Dines Survey

	ion: 36.70m				Datum: AUCKHT1946		/ey S					Survey
	nples & Insitu Tests			D D								Structure & Other Observation
Samples & Insitu Tests  Depth Type & Results		RL (m)	Depth (m)	Graphic Log	Material Description  Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)			)	Discontinuities: Depth; Defect
Depth	Type & Results	교	Dep	Grapt	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)	S Mo	Consi	5 10 15 20			0	Number; Defect Type; Dip; Def Shape; Roughness; Aperture; Ir Seepage; Spacing; Block Size Block Shape; Remarks
·	ļ	36.7		V////	Ol y Clayery Cll T. Dayl, hygryn Lligh placticity		~ ~	Ť	10	10 2	Ľ	Block Shape; Remarks
		30.7			OL: Clayey SILT: Dark brown. High plasticity. (Topsoil)							
		36.4		Ē-	CH: CLAY with minor silt: Grey mottled orange. High plasticity.							
			-		(RS Northland Allochthon)							
				<del>-</del> -	at 0.50m, Minor manganese nodules							
				‡=								
				<u>-</u> -								
1.0	Peak = 68kPa		1 -	<del> </del>								
	Residual = 32kPa			<u></u> -								
				<u>=-</u>								
						S	St					
			-	<del> </del>								
				<u></u> -								
				‡=								
				<u>-</u> -								
			2 -	<del> </del>				_				
				<u> </u>								
				<u> </u>								
		34.4		开	Slightly weathered light greyish blue. Sheared structure. LIMESTONE.							
			_		Weak. Recovered as medium gravel to large cobble sized angular blocks. (Northland Allochthon)							
						D						
					Test pit terminated at 2.80 m							
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	i .		6 -			1		- 1	- 1	1	1	1

Termination Reason: Refusal on hard ground.

Shear Vane No: 3661 DCP No:

Remarks: Groundwater not encountered. Orientation 297°(true). Excavator used: 26Tonne.



## **TEST PIT PHOTOGRAPHS: TP12-23**

Client:	Fulton Hogan Land Development Ltd										
Project:	Milldale – Stage 7	Location:	Milldale								
Project No:	AKL2022-0138	Date:	05/04/2023								
Position:	E: 388908.64 / N: 829625.14	Contractor:	Kerry Dines Limited								
Logged by:	ZW	Checked by:	MJC								
Dimensions:	1.0m by 5.0m	Termination Depth:	2.8m								



TP12-23 – TEST PIT EXCAVATION





TP12-23 - Spoil

### **TEST PIT LOG - TP13-23**

Client: Fulton Hogan Land Development Ltd

Project: Milldale - Stage 7

Site Location: Argent Lane, Wainui

Project No.: AKL2022-0138

Date: 04/04/2023

Test Pit Location: Refer to site plan

Logged by: ZW

Checked by:
MJC

Scale: 1:30

Sheet 1 of 1

Position: 388896.5mE; 829563.9mN Projection: EDENTM2000 Pit Dimensions: 5.0m by 1.0m Elevation: 38.21m Datum: AUCKHT1946 Survey Source: Dines Survey

	ion: 38.21m				Datum: AUCKHT1946							Survey
	nples & Insitu Tests			D D								Structure & Other Observation
Samples & Insitu Tests  Depth Type & Results		RL (m)	Depth (m)	Graphic Log	Material Description  Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional	Moisture Condition	istenc e Den	(	Dynamic Con Penetromete (Blows/100mr		m)	Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infili; Seepage; Spacing; Block Size; Block Shape; Remarks
Depth	Type & Results	집	Dep	Grap	comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	S &	Consistency/ Relative Density	5 10 15 20		20		
		38.2		-800	OL: Clayey SILT: Dark brown. High plasticity	+	LE.	H	$\pm$	+	+	Block Shape; Remarks
					(Topsoil)							
		37.9			CH: CLAY with minor silt: Light grey streaked orange. High plasticity.			.				
				<del>_</del>	(RS Northland Allochthon)							
			-	<u> </u>								
				<u>-</u> -								
				<del>_</del> _								
1.0	Peak = 68kPa		1 -	<del>_</del> _								-
	Residual = 32kPa			<u></u> -								
				<u></u> -		s	St					
				<del>[-</del> -								
			-	<del>[-</del> -								
				<u> </u>								
				<u></u> ==								
				<u>t-</u> :								
			2 -	1								
		36.0		1	Highly weathered light brownish grey. Sheared structure. LIMESTONE.							
				扞	Calcareous. Extremely weak. Recovered as fine gravel to large cobble sized angular blocks. Water on fractured surfaces.	D	н					
		35.7	-		(Northland Allochthon)			.				
				茳	Slightly weathered light greyish white. Sheared structure. LIMESTONE. Calcareous. Weak. Recovered as medium gravel to large cobble sized							
				壯	angular blocks. (Northland Allochthon)	D						
				ፗ								
			3 -	+ -	Test pit terminated at 3.00 m		1					1
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Termination Reason: Refusal on hard ground.

Shear Vane No: 3661 DCP No:

Remarks: Groundwater not encountered. Orientation 326°(true). Excavator used: 26Tonne.





## **TEST PIT PHOTOGRAPHS: TP13-23**

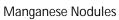
Client:	Fulton Hogan Land Development Ltd										
Project:	Milldale – Stage 7	Location:	Milldale								
Project No:	AKL2022-0138	Date:	04/04/2023								
Position:	E: 388896.50 / N: 829563.87	Contractor:	Kerry Dines Limited								
Logged by:	ZW	Checked by:	MJC								
Dimensions:	1.0m by 5.0m	Termination Depth:	3.0m								



TP13-23 – TEST PIT EXCAVATION









Manganese Band



TP13-23 - Spoil