

# Appendix C

## Data Searches

14 June 2021

**Aecom NZ Limited**

OI Box 4241

**AUCKLAND 1140**

**Attention: Kerryn Mclellan**

Dear Kerryn

**Site Contamination Enquiry – Ti Rakau Drive**

This letter is in response to your enquiry requesting available site contamination information within Auckland Council records for the above site. Please note this report does not constitute a site investigation report; such reports are required to be prepared by a (third-party) Suitably Qualified and Experienced Practitioner.

The following details are based on information available to the Contamination, Air & Noise Team in the Resource Consent Department. The details provided may be from former regional council information, as well as property information held by the former district/city councils. For completeness the relevant property file should also be requested to obtain all historical records and reports via 09 3010101 or online at:

<https://www.aucklandcouncil.govt.nz/buying-property/order-property-report/Pages/order-property-file.aspx>.

**1. Hazardous Activities and Industries List (HAIL) Information**

This list published by the Ministry for the Environment (MfE) comprises activities and industries that are considered likely to cause land contamination as a result of hazardous substance use, storage, and/or disposal.

Council's records indicate the following sites have possibly been subject to activities that fall within the HAIL:

- 168R Gossamer Drive, Pakuranga Heights
- 33R Edgewater Drive, Pakuranga
- 27R William Roberts Road, Pakuranga

Please see the tab 'Property Notes From SAP' within Attachment A for more information.

Please note:

- *If you are demolishing any building that may have asbestos containing materials (ACM) in it, you have obligations under the Health and Safety at Work (Asbestos) Regulations 2016 for the management and removal of asbestos, including the need to engage a Competent Asbestos Surveyor to confirm the presence or absence of any ACM.*
- *Paints used on external parts of properties up until the mid-1970's routinely contained lead, a poison and a persistent environmental pollutant. You are advised to ensure that soils affected by old, peeling or flaking paint are assessed in relation to the proposed use of the property, including high risk use by young children.*

## **2. Consents and Incidents Information (200m radius of the selected site)**

The Council database was searched for records of the following activities within approximately 200 metres of the site:

- Pollution Incidents (including air discharges, oil or diesel spills)
- Bores
- Contaminated site and air discharges, and industrial trade process consents
- Closed Landfills
- Air quality permitted activities

A map of relevant records can be found appended to this letter (Attachment B).

Relevant details of any pollution incidents and consents are appended to this letter (Attachment A). Please refer to the column titled 'Property Address' on the spreadsheet to aid in identifying corresponding data on the map.

While the Auckland Council has carried out the above search using its best practical endeavours, it does not warrant its completeness or accuracy and disclaims any responsibility or liability in respect of the information. If you or any other person wishes to act or to rely on this information, or make any financial commitment based upon it, it is recommended that you seek appropriate technical and/or professional advice.

If you wish to clarify anything in this letter that relates to this site, please contact [contaminatedsites@aucklandcouncil.govt.nz](mailto:contaminatedsites@aucklandcouncil.govt.nz). Any follow up requests for information on other sites must go through the online order process.

Should you wish to request any of the files referenced above and/or listed in the attached spreadsheet for viewing, please contact the Auckland Council Call Centre on 301 0101 and note you are requesting former Auckland Regional Council records (the records department requires three working days' notice to ensure the files will be available).

Please note Auckland Council cost recovers officer's time for all site enquiries. As such an invoice for \$128 for the time involved in this enquiry will follow shortly.

Yours Sincerely,

**Contamination, Air and Noise Team  
Specialist Unit | Resource Consents  
Auckland Council**





18 May 2021

**AECOM**  
PO Box 434  
**HAMILTON 3240**  
**Attention: Kerry Mclellan**

Dear Kerry

### **Site Contamination Enquiry – Ameti Eastern Busway Route**

This letter is in response to your enquiry requesting available site contamination information within Auckland Council records for the above site. Please note this report does not constitute a site investigation report; such reports are required to be prepared by a (third-party) Suitably Qualified and Experienced Practitioner.

The following details are based on information available to the Contamination, Air & Noise Team in the Resource Consent Department. The details provided may be from former regional council information, as well as property information held by the former district/city councils. For completeness the relevant property file should also be requested to obtain all historical records and reports via 09 3010101 or online at:

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#### **1. Hazardous Activities and Industries List (HAIL) Information**

This list published by the Ministry for the Environment (MfE) comprises activities and industries that are considered likely to cause land contamination as a result of hazardous substance use, storage, and/or disposal.

Council's records indicate the following sites have possibly been subject to activities that fall within the HAIL:

- 27R William Roberts Road, Pakuranga

For more information on these sites, please the tab 'Property Notes From SAP' within Attachment A.

Please note:

- *If you are demolishing any building that may have asbestos containing materials (ACM) in it, you have obligations under the Health and Safety at Work (Asbestos) Regulations 2016 for the management and removal of asbestos, including the need to engage a Competent Asbestos Surveyor to confirm the presence or absence of any ACM.*
- *Paints used on external parts of properties up until the mid-1970's routinely contained lead, a poison and a persistent environmental pollutant. You are advised to ensure that soils affected by old, peeling or flaking paint are assessed in relation to the proposed use of the property, including high risk use by young children.*

## **2. Consents and Incidents Information (200m radius of the selected site)**

The Council database was searched for records of the following activities within approximately 200 metres of the site:

- Pollution Incidents (including air discharges, oil or diesel spills)
- Bores
- Contaminated site and air discharges, and industrial trade process consents
- Closed Landfills
- Air quality permitted activities

A map of the search area is included within Attachment B.

Relevant details of any pollution incidents and consents are appended to this letter (Attachment A). Please refer to the column titled 'Property Address' on the spreadsheet to aid in identifying corresponding data on the map.

While the Auckland Council has carried out the above search using its best practical endeavours, it does not warrant its completeness or accuracy and disclaims any responsibility or liability in respect of the information. If you or any other person wishes to act or to rely on this information, or make any financial commitment based upon it, it is recommended that you seek appropriate technical and/or professional advice.

If you wish to clarify anything in this letter that relates to this site, please contact [contaminatedsites@aucklandcouncil.govt.nz](mailto:contaminatedsites@aucklandcouncil.govt.nz). Any follow up requests for information on other sites must go through the online order process.

Should you wish to request any of the files referenced above and/or listed in the attached spreadsheet for viewing, please contact the Auckland Council Call Centre on 301 0101 and note you are requesting former Auckland Regional Council records (the records department requires three working days' notice to ensure the files will be available).

Please note Auckland Council cost recovers officer's time for all site enquiries. As such an invoice for \$128 for the time involved in this enquiry will follow shortly.

Yours Sincerely,

**Contamination, Air and Noise Team  
Specialist Unit | Resource Consents  
Auckland Council**





**Legend**

- Buffered
- Closed Landfill
- Contaminated Sub Types
- Possible Contam Records
- Property Notes From SAP
- Legacy Applications All
- Legacy Bores
- Legacy Consents All
- Legacy Permitted Activities
- OAS\_CONS\_D\_CONTAMINATED\_SITE
- Land Outside
- Sea Outside
- Water
- Sea Outside


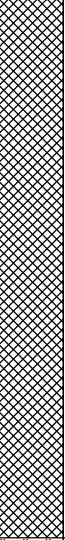

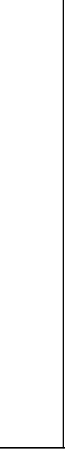


# Appendix D

## Borehole Logs

Client Auckland Transport  
 Project AMET1 Eastern Busway 2 and 3  
 Project number 60563280

Co-ordinates  
 Orientation -90° Elevation  
 Location Pakuranga and Botany, Auckland

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction
Sample ID	Analysis	PID (ppm)							
SAH035-0.2	ACM Metals				Sandy SILT with organics; brown.	TOPSOIL			
SAH035-0.5	None				Silty CLAY; dark brown with orange mottling.  Some gravels present at 1.4mbgl	FILL			
SAH035-1.4	None		1		SILT, with clay; grey/brown; wet	SILT	wet at 2.2 mbgl		
SAH035-2.2	None		2						
			3						
<b>GROUNDWATER OBSERVATIONS</b> Depth <u>  </u> Reading <u>  </u> Date <u>  </u> 2.2m <u>  </u> 29/05/2018					Date logged 29/05/2018 Logged MN Checked SN2	Remarks No visual or olfactory evidence of impact observed.	Driller McMillan Method Hydrovac / HandAuger Started 29/05/2018 Finished 29/05/2018	Page 1 of 1	

AUGERHOLE LOG ENVIRONMENTAL\_BH\_LOG.GPJ\_TEST\_ENVIRODRILLHOLE.GDT 09/04/19



Client Auckland Transport  
 Project AMET1 Eastern Busway 2 and 3  
 Project number 60563280

Co-ordinates  
 Orientation -90° Elevation  
 Location Pakuranga and Botany, Auckland

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction
Sample ID	Analysis	PID (ppm)							
SAH011_0.2	None				SILT, with organics; brown.	TOPSOIL			
SAH011_0.5	Metals PAH SVOC				SILT, with sands and gravels; light brown. some evidence of reworking.	FILL			
SAH011_1.0	Metals		1		Clayey SILT; brown	CLAYey SILT			
					sand lenses; moderate grey, grades to light brown				
SAH011_2.0	None		2						

AUGERHOLE LOG ENVIRONMENTAL\_BH\_LOG.GPJ TEST\_ENVIRODRILLHOLE.GDT 09/04/19

GROUNDWATER OBSERVATIONS		Date logged	Remarks	Driller	McMillan
Depth	Reading Date	09/05/2018	No visual or olfactory evidence of impact observed.	Method	Hydrovac / HandAuger
		Logged	No ground water encountered	Started	9/05/2018
		MN		Finished	9/05/2018
		Checked		Page 1 of 1	
		SN2			

Client Auckland Transport  
 Project AMET1 Eastern Busway 2 and 3  
 Project number 60563280

Co-ordinates  
 Orientation -90° Elevation  
 Location Pakuranga and Botany, Auckland

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction
Sample ID	Analysis	PID (ppm)							
SAH010_0.2	Metals				Sandy clayey SILT, with organics; brown.	TOPSOIL			
SAH010_0.5	None				SILT, with gravel and scoria; brown/grey.	FILL			
SAH010_1.0	None		1		Silty CLAY; grey with orange mottling.	Silty CLAY			
SAH010_1.6	Metals				Sandy SILT, with gravels; very moist/wet.	Sandy SILT			
			2						

GROUNDWATER OBSERVATIONS		
Depth	Reading	Date
1.6m		9/05/2018

Date logged 09/05/2018  
 Logged MN  
 Checked SN2


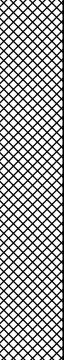
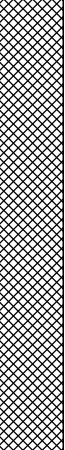

Remarks  
 No visual or olfactory evidence of impact observed.  
 SAH010\_0.2: Pesticide analysis

Driller McMillan  
 Method Hydrovac / HandAuger  
 Started 9/05/2018  
 Finished 9/05/2018  
 Page 1 of 1

AUGERHOLE LOG ENVIRONMENTAL\_BH\_LOG.GPJ\_TEST\_ENVIRODRILLHOLE.GDT 09/04/19

Client Auckland Transport  
 Project AMETI Eastern Busway 2 and 3  
 Project number 60563280

Co-ordinates  
 Orientation -90° Elevation  
 Location Pakuranga and Botany, Auckland

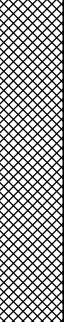

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction
Sample ID	Analysis	PID (ppm)							
SAH012_0.2	None				Sandy SILT, with organics and rootlets; dark brown.	TOPSOIL			
SAH012_0.5	Metals Asb				Sandy SILT, with gravels; dark brown.	FILL			
SAH012_1.0	Metals		1		Silty CLAY, some sand and black organics; light brown and grey.				
SAH012_2.0	None		2		Silty CLAY; grey/orange	S.C.			

AUGERHOLE LOG ENVIRONMENTAL\_BH\_LOG.GPJ TEST\_ENVIRODRILLHOLE.GDT 09/04/19

GROUNDWATER OBSERVATIONS Depth _ Reading Date	Date logged 09/05/2018	Remarks S.C.=Silty CLAY; no visual or olfactory evidence of impact.  No ground water encountered	Driller McMillan
	Logged MN		Method Hydrovac / HandAuger Started 9/05/2018 Finished 9/05/2018
			Page 1 of 1

Client Auckland Transport  
 Project AMET1 Eastern Busway 2 and 3  
 Project number 60563280


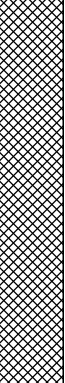
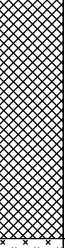

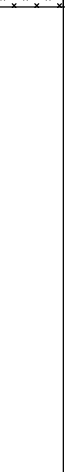
Co-ordinates  
 Orientation -90° Elevation  
 Location Pakuranga and Botany, Auckland

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction
Sample ID	Analysis	PID (ppm)							
SAH017_0.2	Metals		1		Sandy SILT, some fill material; brown.	FILL			
SAH017_0.6	None				SILT, light brown with grey and orange mottling.				
SAH017_1.1	None				some gravel				
SAH017_3.0-3.2	None		3		SILT, minor clay; light grey; moist	SILT			
GROUNDWATER OBSERVATIONS					Date logged	Remarks		Driller	McMillan
Depth _ Reading Date					14/05/2018	No visual or olfactory evidence of impact observed.		Method	Hydrovac / HandAuger
					Logged	No ground water encountered		Started	14/05/2018
					MN			Finished	14/05/2018
					Checked			Page 1 of 1	
					SN2				

AUGERHOLE LOG ENVIRONMENTAL\_BH\_LOG.GPJ TEST\_ENVIRODRILLHOLE.GDT 09/04/19

Client Auckland Transport  
 Project AMET1 Eastern Busway 2 and 3  
 Project number 60563280

Co-ordinates  
 Orientation -90° Elevation  
 Location Pakuranga and Botany, Auckland

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction
Sample ID	Analysis	PID (ppm)							
SAH030_0.2	None				Sandy SILT with rootlets; brown.	TOPSOIL			
SAH030_0.5	Metals TPH BTEX				Silty SAND; gravels; light brown.	FILL			
SAH030_1.0	None		1		SILT, minor clay and organics; grey with brown and orange mottling.				
SAH030_1.5	None				Clayey SILT, organics; dark grey with mottled brown.	SILT			
SAH030_2.0	TPH BTEX		2		SILT, minor clay; light grey.				

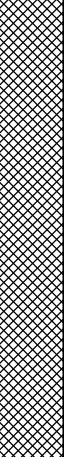
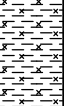


AUGERHOLE LOG ENVIRONMENTAL\_BH\_LOG.GPJ\_TEST\_ENVIRODRILLHOLE.GDT\_09/04/19

<b>GROUNDWATER OBSERVATIONS</b> Depth _ Reading Date		Date logged 18/05/2018 Logged MN Checked SN2	Remarks No visual or olfactory evidence of impact observed.  No ground water encountered	Driller McMillan Method Hydrovac / HandAuger Started 18/05/2018 Finished 18/05/2018
Page 1 of 1				



Client Auckland Transport  
 Project AMET1 Eastern Busway 2 and 3  
 Project number 60563280

Co-ordinates  
 Orientation -90° Elevation  
 Location Pakuranga and Botany, Auckland

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction	
Sample ID	Analysis	PID (ppm)								
HA101_0.1-0.2	Metals				Silty CLAY, some fine gravel, trace fine sand; orange; stiff; moist; high plasticity.	FILL				
HA101_0.8-0.9	TPH BTEX		1		Silty CLAY, trace fine sand; grey; stiff; moist; high plasticity.	Silty CLAY	Sulphur like odour at 0.8-1.0 mbgl			
					Silty fine SAND; light grey; loose; saturated, non plastic.  poor recovery from 1.1-1.5 mbgl	Silty SAND				
GROUNDWATER OBSERVATIONS			Date logged		Remarks		Driller AECOM			
Depth 0.7m Reading Date 20/08/2018			20/08/2018				Method Hand Auger			
			Logged SN		Started 20/08/2018			Finished 20/08/2018		
			Checked NM		Page 1 of 1					

AUGERHOLE LOG ENVIRONMENTAL\_BH\_LOG.GPJ TEST\_ENVIRODRILLHOLE.GDT 09/04/19

Client Auckland Transport  
 Project AMET1 Eastern Busway 2 and 3  
 Project number 60563280

Co-ordinates  
 Orientation -90° Elevation  
 Location Pakuranga and Botany, Auckland

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction
Sample ID	Analysis	PID (ppm)							
SAH013_0.3					Sandy SILT, with rootlets; dark brown.	TOPSOIL			
SAH013_0.9			1		Clayey SILT; light brown with orange mottling. grey sand lenses throughout; evidence of reworking.  Grades to grey/white sands.	FILL			
SAH013_1.3-1.5					Grades to dark brown with light brown mottling.  Gravels present (not collected by hand auger).				
SAH013_1.8-2.0			2		Fine to medium GRAVEL; dark brown; very moist  Clayey GRAVEL; dark brown; wet  grey sands evident	C.G.			



<b>GROUNDWATER OBSERVATIONS</b> Depth <u>    </u> Reading <u>    </u> Date <u>    </u> 1.7m                      -		Date logged 14/05/2018  Logged MN  Checked SN2	Remarks C.G. = Clayey GRAVEL; No visual or olfactory evidence of impact.	Driller AECOM  Method Hand Auger  Started 14/05/2018  Finished 14/05/2018
Page 1 of 1				

AUGERHOLE LOG ENVIRONMENTAL\_BH\_LOG.GPJ TEST\_ENVIRODRILLHOLE.GDT 09/04/19

Client Auckland Transport  
 Project AMET1 Eastern Busway 2 and 3  
 Project number 60563280



Co-ordinates  
 Orientation -90° Elevation  
 Location Pakuranga and Botany, Auckland

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction	
Sample ID	Analysis	PID (ppm)								
HA103_0.1-0.2	Metals ACM		0		SILT, rootlets; dark brown; moist.	TOPSOIL				
					Clayey SILT; grey/orange; firm; moist, low plasticity.	FILL				
					SILT, some clay; dark grey/brown; soft; moist; non plastic.					
					Clayey SILT; grey with orange staining; stiff; moist; low plasticity.					
HA103_0.9-1.0	Metals PAH		1		Grades to orange mottles. Silty CLAY, white with orange staining; stiff; moist; low plasticity.	Silty CLAY				
					Grades to soft.					
HA103_1.7-1.8	None		2		Grades to wet.					
<b>GROUNDWATER OBSERVATIONS</b> Depth <u>        </u> Reading <u>        </u> Date <u>        </u> 1.8m <u>        </u> 20/08/2018					Date logged 20/08/2018 Logged CS Checked SN2	Remarks C.S. = Clayey SILT; No visual or olfactory evidence of impact.	Driller AECOM Method Hand Auger Started 20/08/2018 Finished 20/08/2018	Page 1 of 1		

AUGERHOLE LOG ENVIRONMENTAL\_BH\_LOG.GPJ TEST\_ENVIRODRILLHOLE.GDT 09/04/19

Client Auckland Transport  
 Project AMETI Eastern Busway 2 and 3  
 Project number 60563280

Co-ordinates  
 Orientation -90° Elevation  
 Location Pakuranga and Botany, Auckland

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction
Sample ID	Analysis	PID (ppm)							
HA104_0.1-0.2	Metals				SILT, rootlets; dark brown; moist.	T.S.	Sulphur like odour at 0.8-1.0m.		
HA104_0.4-0.6	None		Clayey SILT; light grey/orange; firm; moist; high plasticity.		Grades to lighter grey.	Clayey SILT			
HA104_0.8-0.9	TPH BTEX		Silty fine SAND; white/light grey; loose; moist; non plastic.		Grades to wet. Poor recovery.	Silty SAND			
HA104_1.8-2.0	None				Grades to light grey.				

<b>GROUNDWATER OBSERVATIONS</b> Depth <u>  </u> Reading <u>  </u> Date <u>  </u> 1m <u>  </u> 20/08/2018		Date logged 20/08/2018 Logged CS Checked SN2	Remarks T.S. = TOPSOIL	Driller AECOM Method Hand Auger Started 20/08/2018 Finished 20/08/2018
Page 1 of 1				

AUGERHOLE LOG ENVIRONMENTAL\_BH\_LOG.GPJ TEST\_ENVIRODRILLHOLE.GDT 09/04/19

Client Auckland Transport  
 Project AMET1 Eastern Busway 2 and 3  
 Project number 60563280

Co-ordinates  
 Orientation -90° Elevation  
 Location Pakuranga and Botany, Auckland

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction
Sample ID	Analysis	PID (ppm)							
HA105_0.2-0.3	Metals			[Pattern]	Fine sandy SILT, minor clay, trace rootlets; brown; soft; moist; low plasticity. Glass fragments were noticed in the core.  SILT, some fine sand, minor clay, trace rootlets; grey/brown with orange mottles; stiff; moist, high plasticity.  Grades to brown.  Grades to grey/brown with orange mottles.	T.S.			
HA105_0.8-0.9	Metals PAH		1	[Pattern]	Clayey SILT, trace fine sand, trace rootlets; grey with orange mottling; stiff; moist, high plasticity.	FILL			
HA105_1.3-1.4	None			[Pattern]	Fine to medium sandy SILT, trace clay; light grey; soft; wet, low plasticity.	S.S.			
			2	[Pattern]	Silty fine SAND, trace clay; light grey; saturated; very loose, non plastic.	Silty SAND			



GROUNDWATER OBSERVATIONS  
 Depth 1.3m Reading Date 21/08/2018

Date logged 21/08/2018  
 Logged SN  
 Checked NM

Remarks  
 T.S. = TOPSOIL and S.S. = Sandy SILT;  
 No visual or olfactory evidence of impact observed.  
 Poor recovery between 1.5-2.0 mbgl.

Driller AECOM  
 Method Hand Auger  
 Started 21/08/2018  
 Finished 21/08/2018



Client Auckland Transport  
 Project AMET1 Eastern Busway 2 and 3  
 Project number 60563280

Co-ordinates  
 Orientation -90° Elevation  
 Location Pakuranga and Botany, Auckland

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction
Sample ID	Analysis	PID (ppm)							
SAH014_0.1	None				Sandy SILT, with organics (rootlets); dark brown.	T.S.			
SAH014_0.5	Metals PAH				Sandy SILT, with fine gravels and sand; dark brown.  Clayey SILT, with cobbles (>10mm); brown with orange mottling.  Increasing gravels.	FILL			
SAH014_1.5	None		1		Silty CLAY, with gravels (>10mm); light brown with white and orange mottling; low plasticity.  some gravels; grades to grey/brown; moist; moderate to low plasticity.  Grades to orange mottling.				
SAH014_2.6	None		2		Grades to orange with grey.				
					Silty CLAY, some sand; grey; moist; moderate plasticity.	S.C.			
			3						

AUGERHOLE LOG ENVIRONMENTAL\_BH\_LOG.GPJ\_TEST\_ENVIRODRILLHOLE.GDT 09/04/19

GROUNDWATER OBSERVATIONS Depth _ Reading Date	Date logged 14/05/2018 Logged MN Checked SN2	Remarks T.S. = TOPSOIL, S.S = Sandy SILT, S.C. = Silty CLAY; No visual or olfactory evidence of impact observed.  No ground water encountered	Driller AECOM Method Hand Auger Started 14/05/2018 Finished 14/05/2018
	Page 1 of 1		

Client Auckland Transport  
 Project AMET1 Eastern Busway 2 and 3  
 Project number 60563280

Co-ordinates  
 Orientation -90° Elevation  
 Location Pakuranga and Botany, Auckland

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction
Sample ID	Analysis	PID (ppm)							
SAH015_0.1	Metals				Silty SAND, with organics and rootlets; brown.	TS			
SAH015_0.5	Metals				Silty CLAY; light brown with orange mottling.  Grades to grey; low to moderate plasticity.	FILL			
SAH015_0.9	None		1						
SAH015_1.8	None		2		Clayey SILT; light grey; moist.  Becomes wet. Poor recovery with hand auger due to increased water content.	Clayey SILT			
<b>GROUNDWATER OBSERVATIONS</b> Depth <u>        </u> Reading <u>        </u> Date <u>        </u> 1.6m <u>        </u> 14/05/2018					Date logged 14/05/2018  Logged MN  Checked SN2	Remarks No visual or olfactory evidence of impact observed.	Driller AECOM  Method Hand Auger  Started 14/05/2018  Finished 14/05/2018	Page 1 of 1	

AUGERHOLE LOG ENVIRONMENTAL\_BH\_LOG.GPJ\_TEST\_ENVIRODRILLHOLE.GDT 09/04/19

Client Auckland Transport  
 Project AMET1 Eastern Busway 2 and 3  
 Project number 60563280

Co-ordinates  
 Orientation -90° Elevation  
 Location Pakuranga and Botany, Auckland

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction
Sample ID	Analysis	PID (ppm)							
SAH016_0.1	None				Sandy SILT; organics; brown.	T.S.			
SAH016_0.5	Metals				SILT, with clays and sand; brown, orange staining	FILL			
SAH016_1.1	Metals		1		Silty CLAY; orange. Calvey SILT; grey, orange staining.				
SAH016_2.3	None		2		Silty CLAY; grey; moist. Increasing moisture content.	Silty CLAY			
SAH016_3.0	None		3		Sandy SILT; grey with minor orange mottling; moist.	Sandy SILT			
					Saturated				
			4						
<b>GROUNDWATER OBSERVATIONS</b> Depth 3.3m      Reading -      Date -					Date logged 14/05/2018 Logged MN Checked SN2	Remarks T.S. = TOPSOIL and S.C. = Silty CLAY; No visual or olfactory evidence of impact observed.		Driller AECOM Method Hand Auger Started 14/05/2018 Finished 14/05/2018 Page 1 of 1	

AUGERHOLE LOG ENVIRONMENTAL\_BH\_LOG.GPJ TEST\_ENVIRODRILLHOLE.GDT 09/04/19

Client Auckland Transport  
 Project AMET1 Eastern Busway 2 and 3  
 Project number 60563280

Co-ordinates  
 Orientation -90° Elevation  
 Location Pakuranga and Botany, Auckland

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction	
Sample ID	Analysis	PID (ppm)								
HA110_0.2-0.3	None		1		SILT, rootlets; dark brown; moist. Woodchips were observed in the core.	TOPSOIL	No odours observed.			
HA110_0.5-0.8	None				Trace coarse gravels.	Silty CLAY; light grey with yellow/orange mottles; firm; moist, high plasticity.	FILL	Fragments of plastic refuse observed at 1.0mbgl.		
HA110_1.3-1.4	None				Clayey SILT; light grey; stiff; moist, high plasticity.	Grades to white/grey with black streaks.	Clayey SILT			
HA110_1.7-1.8	None									
HA110_1.9-2.0	None				Wet.					
GROUNDWATER OBSERVATIONS					Date logged	Remarks		Driller		
Depth 1.85m					20/08/2018	No visual or olfactory evidence of impact observed.		AECOM		
					Logged			Method		
					CS			Hand Auger		
					Checked			Started		
					SN2			20/08/2018		
								Finished		
								20/08/2018		
								Page 1 of 1		

AUGERHOLE LOG ENVIRONMENTAL\_BH\_LOG.GPJ TEST\_ENVIRODRILLHOLE.GDT 09/04/19

Client Auckland Transport  
 Project AMET1 Eastern Busway 2 and 3  
 Project number 60563280

Co-ordinates  
 Orientation -90° Elevation  
 Location Pakuranga and Botany, Auckland

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction
Sample ID	Analysis	PID (ppm)							
HA111_0.2-0.3	Metals				SILT, rootlets; dark brown; moist.	T.S.			
					Clayey SILT; dark grey with white/orange mottling; soft; moist; low plasticity.	C.S.			
HA111_0.5-0.8	Metals				Silty CLAY; grey; stiff; moist, low plasticity.	Silty CLAY			
					Silty SAND; light greyish orange; loose; moist, non plastic.	Silty SAND			
HA111_0.9-1.0	Metals		1		Silty CLAY; grey/orange; stiff; moist, low plasticity.	Silty CLAY			
					Silty SAND, trace clay; white; loose; moist, non plastic.	Silty SAND			
HA111_1.75-1.8	None		2		Clayey SILT, trace fine sand; white; firm; moist, low plastic.	Clayey SILT			
GROUNDWATER OBSERVATIONS					Date logged	Remarks		Driller AECOM	
Depth _ Reading Date					20/08/2018	T.S. = TOPSOIL and C.S. = Clayey SILT; No visual or olfactory evidence of impact observed.		Method Hand Auger	
					Logged CS	No ground water encountered		Started 20/08/2018	
					Checked SN2			Finished 20/08/2018	
								Page 1 of 1	

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Client Auckland Transport  
 Project AMET1 Eastern Busway 2 and 3  
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Co-ordinates  
 Orientation -90° Elevation  
 Location Pakuranga and Botany, Auckland

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction
Sample ID	Analysis	PID (ppm)							
HA112_0.15	Metals				Fine sandy SILT, minor clay, trace rootlets; brown; soft; moist, low plasticity.	T.S.			
					Clayey SILT, some fine sand, trace rootlets; orange with mottled grey; stiff; moist, high plasticity.	Clayey SILT			
HA112_0.9	Metals PAH		1		Grades to grey with mottled orange.	Sandy SILT			
					Sandy SILT, minor clay, fine to medium sand; grey; soft; moist, low plasticity.	Sandy SILT			
HA112_1.9	None		2		Silty SAND, medium sand; loose; orange; moist, non plastic. Friable.	S.S.			
					Silty CLAY, some fine sand; greyish brown; stiff; moist, high plasticity.	Silty CLAY			
HA112_2.9	None		3		Grades to bluish grey.				


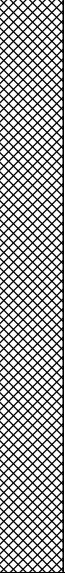
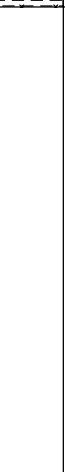
  

<b>GROUNDWATER OBSERVATIONS</b> Depth <u>    </u> Reading Date <u>    </u> 1.2m                      21/08/2018		Date logged 21/08/2018  Logged MB  Checked SN2	Remarks T.S. = TOPSOIL and S.S = Silty SAND; No visual or olfactory evidence of impact observed.	Driller AECOM  Method Hand Auger  Started 21/08/2018  Finished 21/08/2018
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Client Auckland Transport  
 Project AMET1 Eastern Busway 2 and 3  
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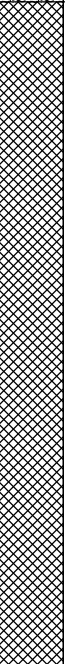
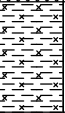
Co-ordinates  
 Orientation -90° Elevation  
 Location Pakuranga and Botany, Auckland

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction
Sample ID	Analysis	PID (ppm)							
HA113_0.1	Metals				SILT, trace clay, trace rootlets; dark brown; moist.	TOPSOIL			
HA113_0.9	TPH BTEX		1		Coarse GRAVEL, trace silt. Gravels are 5cm diameter.	FILL			
HA113_1.4	None				Silty CLAY; grey with orange mottles; stiff; wet, low plasticity.				
HA113_1.9	None		2		Silty CLAY, trace fine sand; bluish grey; stiff; moist, highplasticity.	Silty CLAY			
GROUNDWATER OBSERVATIONS					Date logged	Remarks		Driller AECOM	
Depth _ Reading Date					21/08/2018	No visual or olfactory evidence of impact observed.		Method Hand Auger	
					Logged CS	No ground water encountered		Started 21/08/2018	
					Checked SN2			Finished 21/08/2018	
								Page 1 of 1	

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Client Auckland Transport  
 Project AMET1 Eastern Busway 2 and 3  
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Co-ordinates  
 Orientation -90° Elevation  
 Location Pakuranga and Botany, Auckland



SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction
Sample ID	Analysis	PID (ppm)							
HA114_0.1	Metals				SILT, trace clay, trace rootlets; brown; moist.	TOPSOIL			
HA114_0.7	TPH BTEX				Coarse GRAVEL (4-5cm diameter), trace silt, trace sand.  Fine to medium gravelly fine to coarse sandy SILT; dark grey; firm; moist, low plasticity.  Silty CLAY, trace rootlets; grey with orange mottling; firm; moist, high plasticity.	FILL			
HA114_1.4	TPH BTEX		1		Silty CLAY; light grey; firm; moist, high plasticity.	Silty CLAY			
			2						

AUGERHOLE LOG ENVIRONMENTAL\_BH\_LOG.GPJ\_TEST\_ENVIRODRILLHOLE.GDT\_09/04/19

GROUNDWATER OBSERVATIONS Depth _ Reading Date	Date logged 21/08/2018 Logged CS Checked SN2	Remarks No visual or olfactory evidence of impact observed.  No ground water encountered	Driller AECOM Method Hand Auger Started 21/08/2018 Finished 21/08/2018
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Client Auckland Transport  
 Project AMET1 Eastern Busway 2 and 3  
 Project number 60563280

Co-ordinates  
 Orientation -90° Elevation  
 Location Pakuranga and Botany, Auckland

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction
Sample ID	Analysis	PID (ppm)							
HA115_0.1	Metals Asb				SILT, some clay, rootlets; dark brown; moist, low plasticity.	TOPSOIL			
HA115_0.6	TPH BTEX				Clayey SILT, some fine to medium gravels, trace brick fragments; brown/orange; soft; moist, low plasticity.	FILL			
GROUNDWATER OBSERVATIONS									
Depth	Reading	Date	Date logged	Remarks			Driller	AECOM	
			22/08/2018	No visual or olfactory evidence of impact observed.			Method	Hand Auger	
			Logged	No ground water encountered			Started	22/08/2018	
			MB				Finished	22/08/2018	
			Checked				Page 1 of 1		
			SN2						

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Client Auckland Transport  
 Project AMET1 Eastern Busway 2 and 3  
 Project number 60563280

Co-ordinates  
 Orientation -90° Elevation  
 Location Pakuranga and Botany, Auckland

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction
Sample ID	Analysis	PID (ppm)							
HA116_0.25	Metals				Clayey SILT, trace sand, trace rootlets; brown; soft; moist, high plasticity.	TOPSOIL			
HA116_0.8	Metals TPH PAH				Silty CLAY, fine sand; greyish brown; soft; moist, high plasticity.  light grey; stiff; moist.	FILL			
HA116_1.6	None		1		grades to wet at 1.0 mbgl. Silty CLAY, minor sand; grey; friable; non plastic.	Silty CLAY			
HA116_1.9	None		2		trace organics (amorphous); dark brown; firm, high plasticity.  Grades to greyish blue.				
<b>GROUNDWATER OBSERVATIONS</b> Depth <u>  </u> Reading <u>  </u> Date <u>  </u> 1m <u>  </u> <u>  </u>					Date logged 22/08/2018 Logged MB Checked SN2	Remarks No visual or olfactory evidence of impact observed.	Driller AECOM Method Hand Auger Started 22/08/2018 Finished 22/08/2018	Page 1 of 1	

AUGERHOLE LOG ENVIRONMENTAL\_BH\_LOG.GPJ TEST\_ENVIRODRILLHOLE.GDT 09/04/19



Client Auckland Transport  
 Project AMETI Eastern Busway 2 and 3  
 Project number 60563280

Co-ordinates  
 Orientation -90° Elevation  
 Location Pakuranga and Botany, Auckland

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction
Sample ID	Analysis	PID (ppm)							
HA117_0.3	Metals		0.0 - 1.0		Clayey sandy SILT, trace rootlets; brown; friable, non plastic.	TOPSOIL			
					Silty CLAY, trace rootlets; orange with grey mottling; firm; moist, low plasticity.	FILL			
HA117_1.7	Metals PAH		1.0 - 2.0		Clayey SILT, some medium sand, some gravel, trace brick fragments, trace organics; dark grey; friable; moist, non plastic.				
					Silty CLAY, trace organics and rootlets; grey with brown/orange mottling; stiff; moist, low plasticity.				
HA117_2.5	None		2.0 - 3.0		Grades to brown.				
					Silty CLAY, trace fine sand; light grey, mottled orange; stiff; moist, high plasticity.				
			3.0 - 3.5						

GROUNDWATER OBSERVATIONS Depth _ Reading Date	Date logged 22/08/2018	Remarks No visual or olfactory evidence of impact observed.  No ground water encountered	Driller AECOM
	Logged MB		Method Hand Auger
	Checked SN2		Started 22/08/2018
			Finished 22/08/2018
			Page 1 of 1

AUGERHOLE LOG ENVIRONMENTAL\_BH\_LOG.GPJ\_TEST\_ENVIRODRILLHOLE.GDT 09/04/19

Client Auckland Transport  
 Project AMET1 Eastern Busway 2 and 3  
 Project number 60563280

Co-ordinates  
 Orientation -90° Elevation  
 Location Pakuranga and Botany, Auckland

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction
Sample ID	Analysis	PID (ppm)							
SAH031_0.2	None				SILT, with organics; brown.	TOPSOIL			
SAH031_0.5	Metals				SILT, some clay; light brown with orange mottling.  Grades to brown/orange with sand.	FILL			
SAH031_0.9	None		1		white/grey sands				
SAH031_1.3	BTEX				Silty SAND; white/grey.	Silty SAND			
SAH031_2.5	None		2						
			3						
GROUNDWATER OBSERVATIONS					Date logged	Remarks		Driller AECOM	
Depth _ Reading Date					18/05/2018	No visual or olfactory evidence of impact observed.		Method Hand Auger	
					Logged MN	No ground water encountered		Started 18/05/2018	
					Checked SN2			Finished 18/05/2018	
								Page 1 of 1	

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Client Auckland Transport  
 Project AMET1 Eastern Busway 2 and 3  
 Project number 60563280

Co-ordinates  
 Orientation -90° Elevation  
 Location Pakuranga and Botany, Auckland

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction
Sample ID	Analysis	PID (ppm)							
HA119_0.15	Metals Asb				Clayey SILT, trace bark and rootlets; dark brown; soft, moist.	T.S.			
					Clayey SILT, minor sand, trace rootlets, brown; friable; moist, low plasticity.				
					Silty CLAY, trace organics (amorphous); dark brown with mottled orange; firm; moist, high plasticity.				
			1		grey; soft; moist to wet, high plasticity.				
HA119_1.2	Metals				Grades to dark grey.	FILL			
			2						
					Grades to mottled blue.				
HA119_2.5	None				Clayey SILT, trace fine sand; bluish grey; firm; wet, high plasticity.	Clayey SILT			
			3						

GROUNDWATER OBSERVATIONS  
 Depth 1.1m Reading - Date -


Date logged 22/08/2018  
 Logged MB  
 Checked SN2

Remarks  
 T.S. = TOPSOIL;  
 No visual or olfactory evidence of impact observed.

Driller AECOM  
 Method Hand Auger  
 Started 22/08/2018  
 Finished 22/08/2018

Client Auckland Transport  
 Project AMET1 Eastern Busway 2 and 3  
 Project number 60563280

Co-ordinates  
 Orientation -90° Elevation  
 Location Pakuranga and Botany, Auckland

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction
Sample ID	Analysis	PID (ppm)							
HA120_0.4	Metals PCB		1		SILT with clay, trace rootlets; dark brown; moist, low plasticity.	TOPSOIL			
					Silty CLAY; light grey with orange mottles; firm; moist.	Silty CLAY			
HA120_1.1	None				Clayey SILT; light grey with orange; soft; moist.	Clayey SILT			
					Silty CLAY; light grey; stiff; moist.	Silty CLAY			
HA120_1.9	None		2		End of hole.				
GROUNDWATER OBSERVATIONS					Date logged	Remarks		Driller	
Depth _ Reading Date					22/08/2018	No visual or olfactory evidence of impact observed.		AECOM	
					Logged	No ground water encountered		Method Hand Auger	
					CS			Started 22/08/2018	
					Checked			Finished 22/08/2018	
					SN2			Page 1 of 1	

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Client Auckland Transport  
 Project AMET1 Eastern Busway 2 and 3  
 Project number 60563280

Co-ordinates  
 Orientation -90° Elevation  
 Location Pakuranga and Botany, Auckland

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction
Sample ID	Analysis	PID (ppm)							
HA121_0.2	Metals ACM				SILT, rootlets; dark brown; moist.	TOPSOIL			
					SILT, some fine gravels, trace clay, trace shell fragments; dark brown; moist.	FILL			
HA121_0.8	TPH				Clayey SILT; grey/brown with orange mottles; firm; moist, low plasticity.	Clayey SILT			
			1		Clayey SILT, trace sand; dark brown; mottled orange; soft; moist.				
HA121_1.4	None				Silty CLAY; orange/grey; stiff; moist; low plasticity.	Silty CLAY			
					Grades to grey.				
HA121_1.9	None								
			2						
GROUNDWATER OBSERVATIONS					Date logged	Remarks		Driller AECOM	
Depth _ Reading Date					20/08/2018	No visual or olfactory evidence of impact observed.		Method Hand Auger	
					Logged CS	No ground water encountered		Started 20/08/2018	
					Checked SN2			Finished 20/08/2018	
								Page 1 of 1	

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Client Auckland Transport  
 Project AMET1 Eastern Busway 2 and 3  
 Project number 60563280

Co-ordinates  
 Orientation -90° Elevation  
 Location Pakuranga and Botany, Auckland

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction
Sample ID	Analysis	PID (ppm)							
HA122_0.15	Metals				SILT; rootlets; dark brown; moist.	T.S.			
					Clayey SILT with sand; grey/brown with orange mottling; stiff; moist, low plasticity.	Clayey SILT			
HA122_0.8	None		1		Silty fine SAND; white/grey; moist; very loose, non plastic.				
					Poor recovery, medium sand.	Silty SAND			
HA122_1.4	None				Wet.				
GROUNDWATER OBSERVATIONS									
Depth	Reading	Date	Date logged	Remarks			Driller	AECOM	
1.5m	-	-	21/08/2018	T.S. = TOPSOIL; No visual or olfactory evidence of impact observed.			Method	Hand Auger	
			Logged				Started	21/08/2018	
			CS				Finished	21/08/2018	
			Checked				Page 1 of 1		
			SN2						

AUGERHOLE LOG ENVIRONMENTAL\_BH\_LOG.GPJ TEST\_ENVIRODRILLHOLE.GDT 09/04/19



Client Auckland Transport  
 Project AMET1 Eastern Busway 2 and 3  
 Project number 60563280

Co-ordinates  
 Orientation -90° Elevation  
 Location Pakuranga and Botany, Auckland

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction
Sample ID	Analysis	PID (ppm)							
HA123_0.2	Metals				SILT with clay; dark brown; moist, low plasticity.	TOPSOIL			
					SILT with clay; grey/dark brown with orange mottling; moist, low plasticity.	FILL			
					Silty CLAY, minor fine sand; grey/brown; soft, high plasticity.				
HA123_0.85	Metals PAH		1		Fine to medium sandy CLAY; light brown/grey; moist, high plasticity.	Sandy CLAY			
HA123_1.2	Metals PAH				Grades to wet.				
HA123_1.5	None				Grades to saturated.				
			2						



GROUNDWATER OBSERVATIONS  
 Depth 1.3m Reading - Date -

Date logged 22/08/2018  
 Logged CS  
 Checked SN2

Remarks  
 No visual or olfactory evidence of impact observed.

Driller AECOM  
 Method Hand Auger  
 Started 22/08/2018  
 Finished 22/08/2018

Client Auckland Transport  
 Project AMET1 Eastern Busway 2 and 3  
 Project number 60563280

Co-ordinates 2678501.1mE 6473730.5mN  
 Orientation -90° Elevation 11m (Approx)  
 Location 168 Gossamer Dr

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction
Sample ID	Analysis	PID (ppm)							
RH_HA1_0.2-0.3	Metals TPH VOC Asbestos	0.9			Silty SAND with organics; light brown. Dry.				
					Silty CLAY; grey/brown. Dry, low plasticity.				
					Sandy SILT with minor clays; light grey. Mottled orange. Sands decreasing.				
RH_HA1_0.9-1.1		0.8	1		Silty CLAY; grey. Firm, low plasticity, mottled orange.				
					Silty CLAY; light brown. Moderate plasticity, moist, mottled orange.				
			2						
					Clayey SILT with minor sands; light grey. High plasticity, soft, moist, dark orange mottling.				
RH_HA1_2.8-3.0		0.8	3						
			4						
			5						
GROUNDWATER OBSERVATIONS					Date logged	Remarks		Driller	
Depth _					19/02/2019				
Reading					Logged				
Date					MN				
					Checked				
					MH	Started 19/02/2019		Finished 19/02/2019	
						Page 1 of 1			

AUGERHOLE LOG ENVIRONMENTAL RIVERHILLS ENVIRO LOGS.GPJ TEST\_ENVIRODRILLHOLE.GDT 09/04/19

Client Auckland Transport  
 Project AMETI Eastern Busway 2 and 3  
 Project number 60563280

Co-ordinates 2678566.1mE 6473715.4mN  
 Orientation -90° Elevation 10m (Approx)  
 Location 168 Gossamer Dr

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction
Sample ID	Analysis	PID (ppm)							
RH_HA2_0.2-0.4		0.0		Sandy SILT with organics; dark brown. Dry.					
				Clayey SILT; brownish grey. Dry, stiff, no plasticity, mottled orange.					
RH_HA2_0.7-0.9		0.1		Silty CLAY; light grey. Dry, firm, low plasticity, mottled orange.					
				Lense of sandy SILT.					
RH_HA2_2.7-2.9		0.0		Clayey SILT; grey. Moist, high plasticity. Moisture increasing to saturated.					
				Trace of black organics.					
			5						



AUGERHOLE LOG ENVIRONMENTAL RIVERHILLS ENVIRO LOGS.GPJ TEST\_ENVIRODRILLHOLE.GDT 09/04/19

<b>GROUNDWATER OBSERVATIONS</b> Depth <u>        </u> Reading <u>        </u> Date <u>        </u> 2.6m <u>        </u> <u>        </u>		Date logged 19/02/2019  Logged MN  Checked MH	Remarks	Driller  Method  Started 19/02/2019  Finished 19/02/2019
Page 1 of 1				

Client Auckland Transport  
 Project AMET1 Eastern Busway 2 and 3  
 Project number 60563280

Co-ordinates 2678585mE 6473690.3mN  
 Orientation -90° Elevation 9m (Approx)  
 Location 168 Gossamer Dr

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction
Sample ID	Analysis	PID (ppm)							
RH_HA3_0.3-0.5		1.0			SILT with organics; dark brown. Dry.		Evidence of reworking.		
			1		Clayey SILT with minor sands; brownish grey. Non plastic, brittle, mottled orange.				
RH_HA3_1.4-1.6		1.9			Grades to low plasticity. Gravels and organics.				
					Clayey SILT with minor sands and gravels (pebbles and scoria); dark brown.				
RH_HA3_2.0-2.2		2.4			Silty CLAY with gravels; dark grey. Slightly moist, low plasticity.				
					Silty CLAY with fine sand; grey/blue. Moderate plasticity, moist.				
					Lense of gravels.				
			3						
			4						
			5						

GROUNDWATER OBSERVATIONS Depth _ Reading Date	Date logged 20/02/2019	Remarks	Driller
	Logged MN		Method
	Checked MH		Started 20/02/2019
			Finished 20/02/2019
			Page 1 of 1

AUGERHOLE LOG ENVIRONMENTAL RIVERHILLS ENVIRO LOGS.GPJ TEST\_ENVIRODRILLHOLE.GDT 09/04/19

Client Auckland Transport  
 Project AMET1 Eastern Busway 2 and 3  
 Project number 60563280

Co-ordinates 2678639.9mE 6473661.2mN  
 Orientation -90° Elevation 8m (Approx)  
 Location 168 Gossamer Dr

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction
Sample ID	Analysis	PID (ppm)							
RH_HA4_0.1	Metals TPH VOC Asbestos	0.0	0.0	[Graphic Log: Sandy silt with organics and rootlets]	Sandy SILT with organics and rootlets; brown. Dry.				
					Clayey SILT; light grey. Dry, no plasticity, brittle, mottled orange.				
RH_HA4_1.8	Metals TPH VOC Asbestos	0.0	0.0	[Graphic Log: Silty clay with organics]	Silty CLAY; light grey. Dry, low pasticity, black organics, mottled orange.				
					Silty CLAY; grey/blue. Moist, moderate plasticity.				
					Silty CLAY with gravels; dark grey. High plasticity, moist.				
				[Graphic Log: Orange mottling]	Orange mottling.				

GROUNDWATER OBSERVATIONS Depth _ Reading Date	Date logged 20/02/2019	Remarks	Driller
	Logged MN		Method
	Checked MH		Started 20/02/2019
			Finished 20/02/2019
			Page 1 of 1

AUGERHOLE LOG ENVIRONMENTAL RIVERHILLS ENVIRO LOGS.GPJ TEST\_ENVIRODRILLHOLE.GDT 09/04/19

Client Auckland Transport  
 Project AMETI Eastern Busway 2 and 3  
 Project number 60563280

Co-ordinates 2678493mE 6473706.5mN  
 Orientation -90° Elevation 11m (Approx)  
 Location 168 Gossamer Dr

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction
Sample ID	Analysis	PID (ppm)							
RH_HA5_0.3-0.5		0.0	0.0		SILT with minor sand, organics and rootlets; light brown. Dry.				
RH_HA5_0.5-0.7		0.1	0.1		Silty CLAY; light grey. Dry, stiff, low plasticity.				
			1		Sandy SILT; light grey. Low plasticity, moist, mottled orange.				
					Grades to dark grey. Moisture increasing.				
RH_HA5_1.5-1.7		0.0	2		Silty CLAY with minor sands; grey. Moist, moderate plasticity.				
					Sands increasing. Moisture increasing.				
			3		Clayey SILT with minor sands and black organics; grey with green staining.				
			4						
			5						
GROUNDWATER OBSERVATIONS					Date logged	Remarks		Driller	
Depth 2.1m					19/02/2019				
Reading -					Logged			Method	
					MN			Started 19/02/2019	
					Checked			Finished 19/02/2019	
					MH			Page 1 of 1	

AUGERHOLE LOG ENVIRONMENTAL RIVERHILLS ENVIRO LOGS.GPJ TEST\_ENVIRODRILLHOLE.GDT 09/04/19



Client Auckland Transport  
 Project AMET1 Eastern Busway 2 and 3  
 Project number 60563280

Co-ordinates 2678523mE 6473679.5mN  
 Orientation -90° Elevation 10m (Approx)  
 Location 168 Gossamer Dr

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction
Sample ID	Analysis	PID (ppm)							
RH_HA6_0.2-0.4		0.0	0.0		Sandy SILT with organics and rootlets; dark brown.				
			0.2		Clayey SILT; grey. Dry, mottled orange.				
RH_HA6_1.4-1.6		0.0	0.4		Silty CLAY; orange/brown. Dry, low plasticity.				
			0.6		Silty CLAY; grey. Soft, wet, high plasticity, mottled orange.				
			1.0		SILT; grey/brown. Wet, soft, high plasticity.				
			1.4		Silty CLAY; grey/blue. Firm, moist, low plasticity.				
GROUNDWATER OBSERVATIONS			Date logged		Remarks		Driller		
Depth	Reading	Date	19/02/2019	Method					
1.4m	-	-	Logged	MN	Started	19/02/2019	Finished 19/02/2019		
			Checked	MH	Page 1 of 1				

AUGERHOLE LOG ENVIRONMENTAL RIVERHILLS ENVIRO LOGS.GPJ TEST\_ENVIRODRILLHOLE.GDT 09/04/19

Client Auckland Transport  
 Project AMETI Eastern Busway 2 and 3  
 Project number 60563280

Co-ordinates 2678522.9mE 6473670mN  
 Orientation -90° Elevation 9m (Approx)  
 Location 168 Gossamer Dr

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction
Sample ID	Analysis	PID (ppm)							
RH_HA7_0.2	Metals TPH VOC Asbestos	0.1			SILT; with organics and rootlets; dark brown.				
					Clayey SILT with sand; brownish-grey. Brittle, dry.				
			1		Silty CLAY; light grey with orange mottling. Firm, low plasticity, dry.				
					Grades to moist, moderate plasticity.				
RH_HA7_1.8-2.0		0.0	2		Clayey SILT; grey/pale green. Dry.				
					Clayey SILT with fine sands; pale blue. Moist, moderate plasticity.				
			3						
			4						
			5						
GROUNDWATER OBSERVATIONS					Date logged	Remarks		Driller	
Depth _ Reading Date					21/02/2019			Method	
					Logged			Started 21/02/2019	
					MN			Finished 21/02/2019	
					Checked				
					MH			Page 1 of 1	

AUGERHOLE LOG ENVIRONMENTAL RIVERHILLS ENVIRO LOGS.GPJ TEST\_ENVIRODRILLHOLE.GDT 09/04/19

Client Auckland Transport  
 Project AMET1 Eastern Busway 2 and 3  
 Project number 60563280


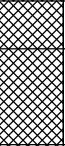
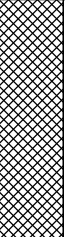
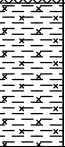

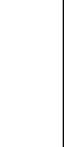
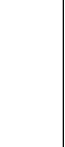
Co-ordinates 2678616.8mE 6473607.3mN  
 Orientation -90° Elevation 8m (Approx)  
 Location 168 Gossamer Dr

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction
Sample ID	Analysis	PID (ppm)							
RH_HA8_0.1-0.3		1.1			SILT with some sands, rootlets and organics; dark brown.				
					SILT with some clays; dark brown. Dry, no plasticity.				
RH_HA8_0.9-1.1		1.1	1		Clayey SILT; brownish-grey with orange mottling. No plasticity, dry, brittle.				
					Clayey SILT with gravels; brown, mottled orange.				
					Silty CLAY; light brown with orange mottling.				
					Silty SAND; light grey.				
RH_HA8_1.8-2.0		1.8	2		Silty CLAY; grey with slight green colouration. Low to medium plasticity, moist.				
					Grades to saturated.				
			3						
			4						
			5						
GROUNDWATER OBSERVATIONS					Date logged	Remarks		Driller	
Depth 2.5m					20/02/2019			Method	
Reading -					Logged	Started 20/02/2019		Finished 20/02/2019	
					Checked	Page 1 of 1			
					MH				

AUGERHOLE LOG ENVIRONMENTAL RIVERHILLS ENVIRO LOGS.GPJ TEST\_ENVIRODRILLHOLE.GDT 09/04/19

Client Auckland Transport  
 Project AMET1 Eastern Busway 2 and 3  
 Project number 60563280

Co-ordinates 2678535.2mE 6473600.1mN  
 Orientation -90° Elevation 9m (Approx)  
 Location 168 Gossamer Dr

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction
Sample ID	Analysis	PID (ppm)							
RH_HA9_0.2	Metals TPH VOC Asbestos	0.0	0.0		SILT with some sands, rootlets and organics; dark brown. Dry.				
					Clayey SILT with some sand; brown. Dry, no plasticity.				
RH_HA9_0.6	Metals TPH VOC Asbestos	0.1	0.1		Silty CLAY; brownish-grey with orange mottling. Dry, firm, no plasticity.				
					Silty SAND with some gravels; brown. Dry, weak.				
			1		Clayey SILT; brown. Slightly moist.				
			2		Moisture increasing.				
			3		Silty CLAY; pale green. Moist, low to moderate plasticity.				
			4		Clayey SILT; blue. Moist, high plasticity, soft.				
			5						
GROUNDWATER OBSERVATIONS					Date logged	Remarks		Driller	
Depth _ Reading Date					21/02/2019				
					Logged			Method	
					MN			Started 21/02/2019	
					Checked			Finished 21/02/2019	
					MH			Page 1 of 1	

AUGERHOLE LOG ENVIRONMENTAL RIVERHILLS ENVIRO LOGS.GPJ TEST\_ENVIRODRILLHOLE.GDT 09/04/19

Client Auckland Transport  
 Project AMET1 Eastern Busway 2 and 3  
 Project number 60563280

Co-ordinates 2678595.8mE 6473573.3mN  
 Orientation -90° Elevation 8m (Approx)  
 Location 168 Gossamer Dr

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction
Sample ID	Analysis	PID (ppm)							
RH_HA10_0.3	Metals TPH VOC Asbestos	0.1	0.0 - 0.1	[Symbol]	SILT with sands, organics and rootlets; dark brown. Dry.				
			0.1 - 0.2	[Symbol]	SILT with some clay; dark brown. Dry, no plasticity.				
RH_HA10_2.1-2.3		0.0	0.2 - 0.3	[Symbol]	Clayey SILT; brownish-grey. Moist, low plasticity.				
			0.3 - 0.4	[Symbol]	Silty CLAY; grey. Moist, low plasticity.				
RH_HA10_2.6-2.8		0.1	0.4 - 0.5	[Symbol]	Clayey SILT with minor sands and gravels; grey, mottled orange. Slightly moist.				
			0.5 - 0.6	[Symbol]	CLAY with minor silts and organics; dark Grey. Moist, low to moderate plasticity. Grading to stiff.				
			0.6 - 0.7	[Symbol]	Silty CLAY; blue-grey. Stiff, low plasticity, moist.				
			0.7 - 0.8	[Symbol]	Clayey SAND; blue-grey. Wet.				













<b>GROUNDWATER OBSERVATIONS</b> Depth <u>        </u> Reading <u>        </u> Date <u>        </u> 2.6m <u>        </u> <u>        </u>		Date logged 20/02/2019  Logged MN  Checked MH	Remarks	Driller  Method  Started 20/02/2019  Finished 20/02/2019
Page 1 of 1				

AUGERHOLE LOG ENVIRONMENTAL RIVERHILLS ENVIRO LOGS.GPJ TEST\_ENVIRODRILLHOLE.GDT 09/04/19

Client Auckland Transport  
 Project AMET1 Eastern Busway 2 and 3  
 Project number 60563280

Co-ordinates 2678496.9mE 6473532.5mN  
 Orientation -90° Elevation 10m (Approx)  
 Location 168 Gossamer Dr

SAMPLING & TESTING			Depth	Graphic Log	MATERIAL DESCRIPTION <small>(consistency, relative density, water content, plasticity, grading, etc)</small>	GEOLOGICAL DESCRIPTION	STAINING/ ODOURS AND COMMENTS	Groundwater	Well Construction
Sample ID	Analysis	PID (ppm)							
RH_HA11_0.2	Metals TPH VOC Asbestos	0.0			SILT with some sands, organics and rootlets; dark brown.				
					Silty SAND; light brown/grey. Dry, sands are fine.				
					Silty SAND with trace clays and gravels; brown. Soft, moist, no plasticity.				
RH_HA11_1.1-1.3		0.1	1		Clays increasing.				
					Clayey SAND with black organics; grey with orange/dark red mottling. Low to medium plasticity, soft, moist, slight sulfuric odour.				
RH_HA11_1.6-1.8		0.1	2		Silty CLAY; light grey with orange mottling. Firm, no plasticity, dry.				
					Silty CLAY with some sands; orange/grey. Low plasticity, slightly moist, stiff.				
					Sands increasing. Moisture increasing.				
			3						
			4		Clayey SAND; grey/brown. Saturated.				
			5						
GROUNDWATER OBSERVATIONS					Date logged	Remarks		Driller	
Depth 2.5m					21/02/2019			Method	
Reading -					Logged	Started 21/02/2019		Finished 21/02/2019	
					MN	Page 1 of 1			
					Checked				
					MH				

AUGERHOLE LOG ENVIRONMENTAL RIVERHILLS ENVIRO LOGS.GPJ TEST\_ENVIRODRILLHOLE.GDT 09/04/19



Client Auckland Transport
Project AMET1 Eastern Busway 2 and 3
Project number 60563280

Co-ordinates 2678547.3mE 6473505.2mN
Orientation -90° Elevation 8m (Approx)
Location 168 Gossamer Dr

Table with columns: SAMPLING & TESTING (Sample ID, Analysis, PID), Depth, Graphic Log, MATERIAL DESCRIPTION, GEOLOGICAL DESCRIPTION, STAINING/ODOURS AND COMMENTS, Groundwater, Well Construction. Includes groundwater observations at the bottom.

AUGERHOLE LOG ENVIRONMENTAL RIVERHILLS ENVIRO LOGS.GPJ TEST\_ENVIRODRILLHOLE.GDT 09/04/19

# Appendix E

## Data Assurance

**DRAFT****Appendix E Data Assurance Results**

The data validation procedure employed in the assessment of the field and laboratory Quality Assurance and Quality Control (QA/QC) has indicated that the reported analytical results are representative of conditions at the sample locations and that the overall quality of the analytical data produced is acceptably reliable for the purpose of this investigation.

**Field Quality Control**

Field QA/QC requirements for the project are summarised in the table below.

Field Control Requirements	Summary of Works Completed
Use of standard procedures for sampling.	AECOM standard procedures for soil sampling were applied. A three stage decontamination procedure of equipment was used between the collection of each sample.
Use new pair of disposable nitrile gloves for each soil sample collected.	A new pair of disposable nitrile gloves was used for each soil sample collected.
Use of laboratory prepared and supplied sampling containers appropriate for each contaminant investigated.	Laboratory prepared sampling containers, supplied by Hills Laboratories Limited (Hills) or Analytica Laboratories Limited (Analytica), were used for sample collection.
Use of appropriate sample Chain of Custody (CoC) documentation.	AECOM CoC procedures were followed and have been supplied as part of this reporting. Copies of the CoCs are included in the laboratory reports ( <b>Appendix H</b> ).

**Data Quality Objective**

Data Quality Objectives for the project are summarised in the table below.

Data Quality Objective	Summary of Works Completed
Samples to be submitted for metal / organic analysis to be received at the laboratory at a temperature below 15 °C.	The temperature of the samples upon receipt at the laboratory was not recorded, however samples were stored on ice in chilled containers while completing field works and during transit.
Soil and groundwater samples to be extracted and analysed within acceptable holding times for the contaminant of potential concern. The maximum acceptable sample holding times for organic analyses are 14 days, and 30 days for inorganic analysis.	The samples were received by the laboratories within two days after collection in the field and were then stored in a laboratory controlled environment.
Samples to be appropriately preserved and handled by the laboratory.	Samples were appropriately preserved and handled by the laboratories. A laboratory transcript from Hills noted that replicate analyses performed on two samples as part of the laboratory quality assurance procedures showed greater variation than would normally be expected and the average results of the replicate analyses were reported. This variation is likely to reflect the heterogeneity of the sample which comprised fill materials, and is not considered to compromise the results of the DSI.
Laboratory limits of reporting are to be less than the adopted acceptance criteria for the project.	The laboratory limits of reporting for contaminants of concern for the project are less than the acceptance criteria.

# Appendix F

## Photographs


PHOTOGRAPHIC LOG			
Client Name: Auckland Transport		Site Location:	Project No. 60563280
Photo No. 1	Date: 10 May 2018		
Direction: South			
Description: View of location of DH104			
Photo No. 2	Date: 16 Aug 2018		
Direction: South East			
Description: View of location of DH108			



PHOTOGRAPHIC LOG			
Client Name: Auckland Transport		Site Location:	Project No. 60563280
Photo No. 3	Date: 27 Aug 2018		
Direction: South East			
Description: View of location of DH109			
Photo No. 4	Date: 15 Aug 2018		
Direction: North			
Description: View of location of EHA101			

PHOTOGRAPHIC LOG			
Client Name: Auckland Transport		Site Location:	Project No. 60563280
Photo No. 5	Date: 10 May 2018		
Direction: South West			
Description: View of location of EHA102			
Photo No. 6	Date: 8 Aug 2018		
Direction: South West			
Description: View of location of EHA103			



PHOTOGRAPHIC LOG			
Client Name: Auckland Transport		Site Location:	Project No. 60563280
Photo No. 7	Date: 8 Aug 2018		
Direction: North West			
Description: View of location EHA104			
Photo No. 8	Date: 8 Aug 2018		
Direction: South East			
Description: View of location of EHA105			

PHOTOGRAPHIC LOG			
Client Name: Auckland Transport		Site Location:	Project No. 60563280
Photo No. 9	Date: 10 May 2018		
Direction: South West			
Description: View of location of EHA106			
Photo No. 10	Date: 10 May 2018		
Direction: South East			
Description: View of location of EHA107			



# DRAFT

PHOTOGRAPHIC LOG			
Client Name: Auckland Transport		Site Location:	Project No. 60563280
Photo No. 11	Date: 10 May 2018		
Direction: South East			
Description: View of location of EHA108			
Photo No. 12	Date: 8 Aug 2018		
Direction: West			
Description: View of location of EHA111			

**PHOTOGRAPHIC LOG**

**Client Name: Auckland Transport**      **Site Location:**      **Project No. 60563280**

Photo No.  
13      Date:  
15 Aug 2018

Direction:  
South East

Description:  
View of location of EHA112



Photo No.  
14      Date:  
8 Aug 2018

Direction:  
East

Description:  
View of location of EHA113





**PHOTOGRAPHIC LOG**

Client Name: Auckland Transport      Site Location:      Project No. 60563280

Photo No. 15      Date: 15 Aug 2018

Direction: South

Description: View of location of EHA114



Photo No. 16      Date: 8 Aug 2018

Direction: West

Description: View of location of EHA115



**PHOTOGRAPHIC LOG**

Client Name: Auckland Transport      Site Location:      Project No. 60563280

Photo No. 17      Date: 8 Aug 2018

Direction: West

Description: View of location of EHA116



Photo No. 18      Date: 8 Aug 2018

Direction: North West

Description: View of location of EHA117





**PHOTOGRAPHIC LOG**

Client Name: Auckland Transport      Site Location:      Project No. 60563280

Photo No. 19      Date: 10 May 2018

Direction: East

Description: View of location of EHA118



Photo No. 20      Date: 8 Aug 2018

Direction: East

Description: View of location of EHA120



**PHOTOGRAPHIC LOG**

**Client Name: Auckland Transport**      **Site Location:**      **Project No. 60563280**

Photo No.  
21      Date:  
8 Aug 2018

Direction:  
West

Description:  
View of location of EHA121



Photo No.  
22      Date:  
15 Aug 2018

Direction:  
East

Description:  
View of location of EHA122





# DRAFT

PHOTOGRAPHIC LOG			
Client Name: Auckland Transport		Site Location:	Project No. 60563280
Photo No. 23	Date: 8 Aug 2018		
Direction: North West			
Description: View of location of EHA123			
Photo No. 24	Date: 18 Feb 2019		
Direction: North West			
Description: View from HA4 facing Ti Rakau Drive and Tamaki River.			

AECOM

**DRAFT**