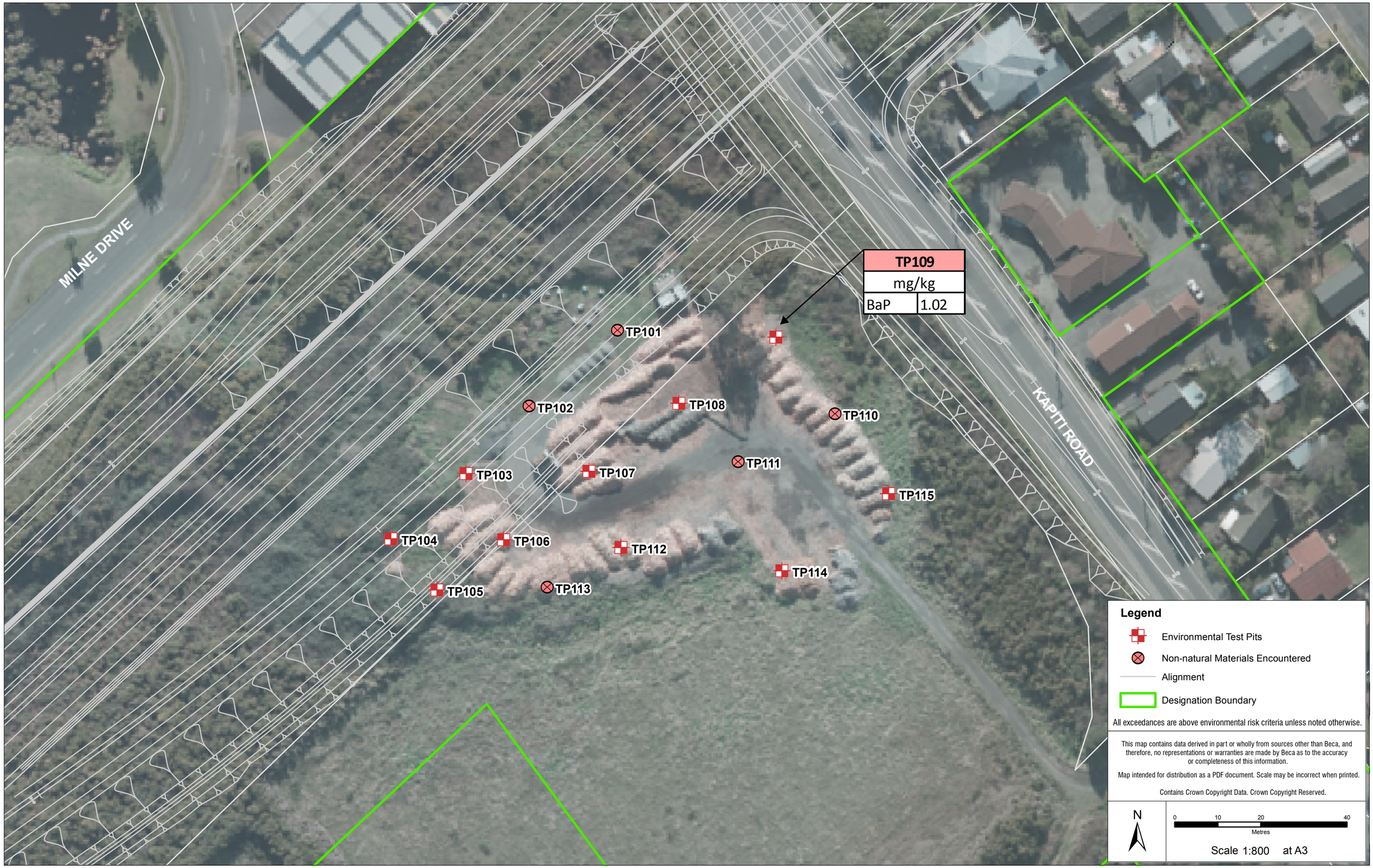
Author: HEC. Drawing Plotted: Friday, 3 May 2013



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Notes:

Revision	Amendment	Approved	Date
A	CONTAMINANTS EXCEEDING GUIDELINES MAPPED	AYF	03/05/13

NZ TRANSPORT AGENCY
WAKA KOTAHI

Project:
MACKAYS TO PEKA PEKA EXPRESSWAY

Title
Contaminants Exceeding Guideline Values
Sector 2: 109 Kāpiti Road

Status:

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A

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APPENDIX C

Sector 1 – Laboratory Testing Summary Sheets, Logs and Investigation Summary

SOIL ANALYSIS RESULTS: 16 LEINSTER AVENUE

Date	15-Mar-13	15-Mar-13	15-Mar-13	15-Mar-13	15-Mar-13	15-Mar-13	15-Mar-13	15-Mar-13	14-Mar-13	**Assessment Criteria**					
Test Pit Number	**TP101LG**	**TP102LG**	**TP103LG**	**TP103LG**	**TP104LG**	**TP105LG**	**TP106LG**	**TP106LG**	**TP107LG**						
Sample Number	S1	S1	S1	S3	S1	S1	S1	S2	S1						
Laboratory Number	1111983.8	1111983.1	1111983.4	1111983.6	1111983.12	1111983.15	1111983.17	1111983.18	1111754.23	**Contaminated Site Assessment**				**NES Human Health Risk**	
Sample Depth (m)	0.1-0.2	0.1-0.2	0-0.1	0.8-0.9	0.1-0.2	0.1-0.2	0.1-0.2	0.6-0.7	0-0.1	**Background Levels [1]**	**Environmental Risk [2]**	**Human Health Risk**			
Soil Type	Sandy Silt	Sandy Gravel	Sandy Gravel	Gravelly Sand	Gravelly Sand	Gravelly Silt	Gravelly Silt	Sandy Gravel	Silty Gravel						
Heavy metals (mg/kg dry weight)															
Arsenic	4	5	5	4	6	8	5	3	11	<2-7	12	500 [3]		70 [5]	
Cadmium	< 0.11	< 0.11	< 0.11	< 0.10	0.34	0.52	< 0.10	< 0.10	0.11	<0.1-0.1	22	100 [3]		1300 [5]	
Chromium	7	8	7	8	13	17	12	12	11	7-12	86	500 [3]		NL [5]	
Copper	8	8	4	9	12	15	13	16	26	4-10	91	5000 [3]		NL [5]	
Lead	12.8	11.4	6.3	17.2	11.3	14.9	20	43	40	4.5-180	260	1500 [3]		3300 [5]	
Nickel	5	6	5	6	7	9	10	8	29	4-9	50	3000 [3]		2000 [6]	
Zinc	47	43	30	46	56	75	64	53	95	28-79	360	35000 [3]		31000 [6]	
Polycyclic Aromatic Hydrocarbons (mg/kg dry weight)												**<1m**	**1m-4m**		
Acenaphthene	< 0.10	< 0.03	< 0.03	< 0.03	< 0.04	< 0.10	< 0.03	< 0.03	< 0.03	-	-	-		-	
Acenaphthylene	< 0.10	< 0.03	< 0.03	< 0.03	< 0.04	< 0.10	< 0.03	< 0.03	< 0.03	-	-	-		-	
Anthracene	< 0.10	< 0.03	< 0.03	< 0.03	< 0.04	< 0.10	< 0.03	< 0.03	< 0.03	0.002-0.005	-	-		-	
Benzo[a]anthracene	< 0.10	< 0.03	< 0.03	0.14	< 0.04	< 0.10	0.03	0.08	< 0.03	-	-	-		-	
Benzo[a]pyrene (BAP)	< 0.12	< 0.03	< 0.03	0.18	< 0.04	< 0.16	0.04	0.17	< 0.03	0.002-0.005	0.7	-		-	
Benzo[b]fluoranthene + Benzo[j]fluoranthene	< 0.12	0.03	< 0.03	0.22	< 0.04	< 0.16	0.05	0.21	< 0.03	-	-	-		-	
Benzo[g,h,i]perylene	< 0.12	0.03	< 0.03	0.11	< 0.04	< 0.16	0.04	0.11	< 0.03	-	-	-		-	
Benzo[k]fluoranthene	< 0.12	< 0.03	< 0.03	0.09	< 0.04	< 0.16	0.03	0.09	< 0.03	-	-	-		-	
2-Chloronaphthalene	< 0.10	-	-		-	< 0.10	-		-	-	-	-		-	
Chrysene	< 0.10	< 0.03	< 0.03	0.15	< 0.04	< 0.10	0.03	0.07	< 0.03	-	-	-		-	
Dibenzo[a,h]anthracene	< 0.12	< 0.03	< 0.03	< 0.03	< 0.04	< 0.16	< 0.03	< 0.03	< 0.03	-	-	-		-	
Fluoranthene	< 0.10	< 0.03	< 0.03	0.22	< 0.04	< 0.10	0.04	0.07	< 0.03	0.002-0.005	-	-		-	
Fluorene	< 0.10	< 0.03	< 0.03	< 0.03	< 0.04	< 0.10	< 0.03	< 0.03	< 0.03	-	-	-		-	
Indeno(1,2,3-c,d)pyrene	< 0.12	< 0.03	< 0.03	0.12	< 0.04	< 0.16	0.03	0.14	< 0.03	-	-	-		-	
2-Methylnaphthalene	< 0.10	-	-	-	-	< 0.10	-	-	-	-	-	-		-	
Naphthalene	< 0.10	< 0.14	< 0.12	< 0.14	< 0.16	< 0.10	< 0.12	< 0.15	< 0.13	0.002-0.005	-	190 (sand) [4] 210 (sandy silt) [4] 8000 (peat) [4]	230 (sand)[4] 270 (sandy silt)[4] 9000 (peat) [4]	-	
Phenanthrene	< 0.10	< 0.03	< 0.03	0.13	< 0.04	< 0.10	< 0.03	< 0.03	< 0.03	0.002-0.005	-	-		-	
Pyrene	< 0.10	< 0.03	< 0.03	0.26	< 0.04	< 0.10	0.04	0.11	< 0.03	0.002-0.005	-	NA (all soil types)[4]	NA (all soil types)[4]	-	
BaP equivalent	<0.29	0.04	<0.07	0.25	<0.1	<0.38	0.07	0.09	<0.07	-	-	11 (all soil types)[4]	25 (all soil types)[4]	-	
BaP equivalent (inc. Fluoranthene)	<0.29	0.04	<0.07	0.26	<0.1	<0.38	0.07	0.09	<0.07	-	-	-		35 [5]	
Semi-Volatile Organic Compounds (mg/kg dry weight)															
Bis(2-ethylhexyl)phthalate	< 0.5	-	-	-	-	< 0.7	-	-	-	-	-	-		-	
All other Compounds	Below detection	-	-	-	-	Below detection	-	-	-	-	-	-		-	
Pesticides (mg/kg dry weight)															
4,4'-DDD	< 0.12	-	-	-	-	< 0.16	-	-	-	-	-	-		-	
4,4'-DDE	< 0.12	-	-	-	-	0.23	-	-	-	-	-	-		-	
4,4'-DDT	< 0.3	-	-	-	-	< 0.4	-	-	-	-	-	-		-	
Total DDT Isomers	<0.54	-	-	-	-	0.68	-	-	-	-	12	1000[3]		-	
Aldrin + Dieldrin	< 0.24	-	-	-	-	< 0.32	-	-	-	-	-	50 [3]		160 [5]	
Heptachlor	< 0.12	-	-	-	-	< 0.16	-	-	-	-	-	50[3]		-	
Total Petroleum Hydrocarbons (mg/kg dry weight)												**<1m**	**1m-4m**	**<1m**	**1m-4m**
C7 - C9	< 8	< 8	< 8	-	< 10	< 10	< 8	-	< 8	-	-	120 (sand)[4] 500 (sandy silt)[4] 6700 (peat)[4]	120 (sand)[4] 500 (sandy silt)[4] 6700 (peat)[4]	120 (sand)[4] 500 (sandy silt)[4] 6700 (peat)[4]	120 (sand)[4] 500 (sandy silt)[4] 6700 (peat)[4]
C10 - C14	< 20	< 20	< 20	-	< 20	< 20	< 20	-	< 20	-	-	1500 (sand)[4] 1700 (sandy silt)[4] NA (peat)[4]	1900 (sand)[4] 2200 (sandy silt)[4] NA (peat)[4]	1500 (sand)[4] 1700 (sandy silt)[4] NA (peat)[4]	1900 (sand)[4] 2200 (sandy silt)[4] NA (peat)[4]
C15 - C36	< 40	< 40	< 40	-	< 40	< 40	< 40	-	< 40	-	-	NA (all soil types)[4]	NA (all soil types)[4]	NA (all soil types)[4]	NA (all soil types)[4]
Total hydrocarbons (C7 - C36)	< 70	< 70	< 70	-	< 70	< 70	< 70	-	< 70	0.002-0.005	-	-	-	-	-

Annotations:
1 Determination of common pollutant background soil concentrations for the Wellington region, GWRC 2003. Values applicable to 'Main Soil Type 1 (Sand)' have been used.
2 Canadian Soil Quality Guidelines, Canadian Council of Ministers of the Environment, 2012. Values applicable to 'commercial' land use have been used.
3 Guideline on the Investigation Levels for Soil and Groundwater, NEPC, 1999. Values applicable to 'Health Investigation Level F - commercial/industrial' have been used.
4 Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand, Ministry for the Environment, 1999. Values for 'commercial/industrial' land use have been used.
5 Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations, 2011. Values applicable to 'commercial/industrial outdoor worker' have been used.
6 USEPA Regional Screening Level Industrial Soil Table, April 2012

Results exceeding background levels are underlined
Results exceeding environmental risk criteria are shaded in grey
Results exceeding human health risk criteria are in **bold**
NL - No Limit. Derived value exceeds 10000 mg/kg.
NA - indicates contaminant not limiting. Greater than 20000 mg/kg for TPH and 10000 mg/kg for other contaminants.

SOIL ANALYSIS RESULTS: 16 LEINSTER AVENUE

Date	14-Mar-13	15-Mar-13	15-Mar-13	15-Mar-13	15-Mar-13	14-Mar-13	14-Mar-13	14-Mar-13	Assessment Criteria				
Test Pit Number	**TP108LG**	**TP109LG**	**TP109LG**	**TP110LG**	**TP110LG**	**TP111LG**	**TP112LG**	**TP112LG**					
Sample Number	S1	S1	S2	S1	S3	S1	S1	S2					
Laboratory Number	1111754.21	1111983.19	1111983.20	1111983.22	1111983.24	1111754.19	1111754.17	1111754.18	**Contaminated Site Assessment**				
Sample Depth (m)	0.1-0.2	0.0-0.1	0.5-0.6	0.0-0.1	1.2-1.3	0.1-0.2	0.1-0.2	1.0-1.1	**Background Levels [1]**	**Environmental Risk [2]**	**Human Health Risk**		**NES Human Health Risk**
Soil Type	Silty Gravel	Silt	Silt	Gravelly Silt	Sand	Silty Gravel	Sandy Gravel	Peat					
Heavy metals (mg/kg dry weight)													
Arsenic	5	3	5	10	6	5	5	<2	<2-7	12	500 [3]		70 [5]
Cadmium	< 0.10	< 0.11	< 0.10	< 0.10	0.12	< 0.10	< 0.10	<0.10	<0.1-0.1	22	100 [3]		1300 [5]
Chromium	10	6	13	13	10	12	10	5	7-12	86	500 [3]		NL [5]
Copper	13	12	19	14	41	16	11	7	4-10	91	5000 [3]		NL [5]
Lead	33	12.8	21	17.2	103	26	17.8	14.1	4.5-180	260	1500 [3]		3300 [5]
Nickel	9	4	13	7	8	12	7	2	4-9	50	3000 [3]		2000 [6]
Zinc	92	75	67	113	67	76	46	7	28-79	360	35000 [3]		31000 [6]
Polycyclic Aromatic Hydrocarbons (mg/kg dry weight)											**<1m**	**1m-4m**	
Acenaphthene	< 0.10	< 0.10	< 0.03	< 0.03	< 0.10	< 0.03	< 0.10	<0.16	-	-	-		-
Acenaphthylene	< 0.10	< 0.10	< 0.03	< 0.03	< 0.10	< 0.03	0.15	<0.16	-	-	-		-
Anthracene	< 0.10	< 0.10	< 0.03	0.05	0.18	< 0.03	0.13	<0.16	0.002-0.005	-	-		-
Benzo[a]anthracene	< 0.10	< 0.10	< 0.03	0.36	1.03	0.07	0.77	<0.16	-	-	-		-
Benzo[a]pyrene (BAP)	< 0.12	< 0.12	< 0.03	0.53	1.1	0.1	0.73	<0.16	0.002-0.005	0.7	-		-
Benzo[b]fluoranthene + Benzo[j]fluoranthene	0.13	< 0.12	< 0.03	0.81	1.35	0.14	0.84	<0.16	-	-	-		-
Benzo[g,h,i]perylene	0.12	< 0.12	< 0.03	0.46	0.87	0.08	0.52	<0.16	-	-	-		-
Benzo[k]fluoranthene	< 0.12	< 0.12	< 0.03	0.32	0.62	0.06	0.41	<0.16	-	-	-		-
2-Chloronaphthalene	< 0.10	< 0.10	-	-	< 0.10	-	< 0.10	-	-	-	-		-
Chrysene	< 0.10	< 0.10	< 0.03	0.35	0.9	0.08	0.65	<0.16	-	-	-		-
Dibenzo[a,h]anthracene	< 0.12	< 0.12	< 0.03	0.16	0.33	< 0.03	0.19	<0.16	-	-	-		-
Fluoranthene	0.13	< 0.10	< 0.03	0.62	1.82	0.13	1.28	<0.16	0.002-0.005	-	-		-
Fluorene	< 0.10	< 0.10	< 0.03	< 0.03	< 0.10	< 0.03	< 0.10	<0.16	-	-	-		-
Indeno(1,2,3-c,d)pyrene	< 0.12	< 0.12	< 0.03	0.44	0.76	0.07	0.4	<0.16	-	-	-		-
2-Methylnaphthalene	< 0.10	< 0.10	-	-	< 0.10	-	< 0.10	-	-	-	-		-
Naphthalene	< 0.10	< 0.10	< 0.14	< 0.13	< 0.10	< 0.13	< 0.10	<0.8	0.002-0.005	-	190 (sand) [4] 210 (sandy silt) [4] 8000 (peat) [4]	230 (sand)[4] 270 (sandy silt)[4] 9000 (peat) [4]	-
Phenanthrene	< 0.10	< 0.10	< 0.03	0.11	0.63	0.04	0.49	<0.16	0.002-0.005	-	-		-
Pyrene	0.14	< 0.10	< 0.03	0.6	1.61	0.13	1.19	<0.16	0.002-0.005	-	NA (all soil types)[4]	NA (all soil types)[4]	-
BaP equivalent	0.15	<0.29	<0.07	0.89	1.82	0.15	1.17	<0.19	-	-	11 (all soil types)[4]	25 (all soil types)[4]	-
BaP equivalent (inc. Fluoranthene)	0.15	<0.29	<0.07	0.89	1.83	0.15	1.18	<0.19	-	-	-		35 [5]
Semi-Volatile Organic Compounds (mg/kg dry weight)													
Bis(2-ethylhexyl)phthalate	< 0.5	0.7	-	-	< 0.7	-	< 0.5	-	-	-	-		-
All other Compounds	Below detection	Below detection	-	Below detection	Below detection	-	Below detection	-	-	-	-		-
Pesticides (mg/kg dry weight)													
4,4'-DDD	< 0.12	< 0.12	-	-	< 0.16	-	< 0.12	-	-	-	-		-
4,4'-DDE	< 0.12	< 0.12	-	-	< 0.16	-	< 0.12	-	-	-	-		-
4,4'-DDT	< 0.3	< 0.3	-	-	< 0.4	-	< 0.3	-	-	-	-		-
Total DDT Isomers	<0.54	<0.54	-	-	<0.72	-	<0.54	-	-	12	1000[3]		-
Aldrin + Dieldrin	< 0.24	< 0.24	-	-	< 0.32	-	< 0.24	-	-	-	50 [3]		160 [5]
Heptachlor	< 0.12	< 0.12	-	-	< 0.16	-	< 0.12	-	-	-	50[3]		-
Total Petroleum Hydrocarbons (mg/kg dry weight)											**<1m**	**1m-4m**	**<1m**	**1m-4m**
C7 - C9	< 8	< 8	-	< 8	< 10	< 8	< 8	-	-	-	120 (sand)[4] 500 (sandy silt)[4] 6700 (peat)[4]	120 (sand)[4] 500 (sandy silt)[4] 6700 (peat)[4]	120 (sand)[4] 500 (sandy silt)[4] 6700 (peat)[4]	120 (sand)[4] 500 (sandy silt)[4] 6700 (peat)[4]
C10 - C14	< 20	< 20	-	< 20	< 20	< 20	< 20	-	-	-	1500 (sand)[4] 1700 (sandy silt)[4] NA (peat)[4]	1900 (sand)[4] 2200 (sandy silt)[4] NA (peat)[4]	1500 (sand)[4] 1700 (sandy silt)[4] NA (peat)[4]	1900 (sand)[4] 2200 (sandy silt)[4] NA (peat)[4]
C15 - C36	< 40	< 40	-	< 40	65	< 40	< 40	-	-	-	NA (all soil types)[4]	NA (all soil types)[4]	NA (all soil types)[4]	NA (all soil types)[4]
Total hydrocarbons (C7 - C36)	< 70	< 70	-	< 70	< 70	< 70	< 70	-	0.002-0.005	-	-	-	-	-

Annotations:
1 Determination of common pollutant background soil concentrations for the Wellington region, GWRC 2003. Values applicable to 'Main Soil Type 1 (Sand)' have been used.
2 Canadian Soil Quality Guidelines, Canadian Council of Ministers of the Environment, 2012. Values applicable to 'commercial' land use have been used.
3 Guideline on the Investigation Levels for Soil and Groundwater, NEPC, 1999. Values applicable to 'Health Investigation Level F - commercial/industrial' have been used.
4 Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand, Ministry for the Environment, 1999. Values for 'commercial/industrial' land use have been used.
5 Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations, 2011. Values applicable to 'commercial/industrial outdoor worker' have been used.
6 USEPA Regional Screening Level Industrial Soil Table, April 2012

Results exceeding background levels are underlined
Results exceeding environmental risk criteria are shaded in grey
Results exceeding human health risk criteria are in **bold**
NL - No Limit. Derived value exceeds 10000 mg/kg.
NA - indicates contaminant not limiting. Greater than 20000 mg/kg for TPH and 10000 mg/kg for other contaminants.

WASTE ACCEPTANCE CRITERIA: 16 LEINSTER AVENUE

Date	15-Mar-13	15-Mar-13	15-Mar-13	15-Mar-13	15-Mar-13	15-Mar-13	15-Mar-13	15-Mar-13	14-Mar-13	**Waste Acceptance Criteria**	
Test Pit Number	**TP101LG**	**TP102LG**	**TP103LG**	**TP103LG**	**TP104LG**	**TP105LG**	**TP106LG**	**TP106LG**	**TP107LG**		
Sample Number	S1	S1	S1	S3	S1	S1	S1	S2	S1		
Laboratory Number	1111983.8	1111983.1	1111983.4	1111983.6	1111983.12	1111983.15	1111983.17	1111983.18	1111754.23	**Porirua City Council**	**Hutt City Council**
Sample Depth (m)	0.1-0.2	0.1-0.2	0-0.1	0.8-0.9	0.1-0.2	0.1-0.2	0.1-0.2	0.6-0.7	0-0.1	**Spicer Landfill (Class B)**	**Silverstream Landfill (Class A)**
Soil Type	Sandy Silt	Sandy Gravel	Sandy Gravel	Gravelly Sand	Gravelly Sand	Gravelly Silt	Gravelly Silt	Sandy Gravel	Silty Gravel	**(mg/kg)**	**(mg/kg)**
Heavy metals (mg/kg dry weight)											
Arsenic	4	5	5	4	6	8	5	3	**11**	10	100
Cadmium	< 0.11	< 0.11	< 0.11	< 0.10	0.34	0.52	< 0.10	< 0.10	0.11	2	20
Chromium	7	8	7	8	**13**	**17**	**12**	**12**	**11**	10	100
Copper	8	8	4	9	**12**	**15**	**13**	**16**	**26**	10	28
Lead	**12.8**	**11.4**	6.3	**17.2**	**11.3**	**14.9**	**20**	**43**	**40**	10	100
Nickel	5	6	5	6	7	9	10	8	**29**	20	40
Zinc	**47**	**43**	**30**	**46**	**56**	**75**	**64**	**53**	**95**	20	160
Polycyclic Aromatic Hydrocarbons (mg/kg dry weight)											
Acenaphthene	< 0.10	< 0.03	< 0.03	< 0.03	< 0.04	< 0.10	< 0.03	< 0.03	< 0.03	-	-
Acenaphthylene	< 0.10	< 0.03	< 0.03	< 0.03	< 0.04	< 0.10	< 0.03	< 0.03	< 0.03	-	-
Anthracene	< 0.10	< 0.03	< 0.03	< 0.03	< 0.04	< 0.10	< 0.03	< 0.03	< 0.03	-	-
Benzo[a]anthracene	< 0.10	< 0.03	< 0.03	0.14	< 0.04	< 0.10	0.03	0.08	< 0.03	-	-
Benzo[a]pyrene (BAP)	< 0.12	< 0.03	< 0.03	0.18	< 0.04	< 0.16	0.04	0.17	< 0.03	30	-
Benzo[b]fluoranthene + Benzo[j]fluoranthene	< 0.12	0.03	< 0.03	0.22	< 0.04	< 0.16	0.05	0.21	< 0.03	-	-
Benzo[g,h,i]perylene	< 0.12	0.03	< 0.03	0.11	< 0.04	< 0.16	0.04	0.11	< 0.03	-	-
Benzo[k]fluoranthene	< 0.12	< 0.03	< 0.03	0.09	< 0.04	< 0.16	0.03	0.09	< 0.03		
2-Chloronaphthalene	< 0.10	-	-		-	< 0.10	-		-	-	-
Chrysene	< 0.10	< 0.03	< 0.03	0.15	< 0.04	< 0.10	0.03	0.07	< 0.03	-	-
Dibenzo[a,h]anthracene	< 0.12	< 0.03	< 0.03	< 0.03	< 0.04	< 0.16	< 0.03	< 0.03	< 0.03	-	-
Fluoranthene	< 0.10	< 0.03	< 0.03	0.22	< 0.04	< 0.10	0.04	0.07	< 0.03	-	-
Fluorene	< 0.10	< 0.03	< 0.03	< 0.03	< 0.04	< 0.10	< 0.03	< 0.03	< 0.03	-	-
Indeno(1,2,3-c,d)pyrene	< 0.12	< 0.03	< 0.03	0.12	< 0.04	< 0.16	0.03	0.14	< 0.03	-	-
2-Methylnaphthalene	< 0.10	-	-	-	-	< 0.10	-	-	-	-	-
Naphthalene	< 0.10	< 0.14	< 0.12	< 0.14	< 0.16	< 0.10	< 0.12	< 0.15	< 0.13	20	1
Phenanthrene	< 0.10	< 0.03	< 0.03	0.13	< 0.04	< 0.10	< 0.03	< 0.03	< 0.03	-	-
Pyrene	< 0.10	< 0.03	< 0.03	0.26	< 0.04	< 0.10	0.04	0.11	< 0.03	-	-
BaP equivalent	<0.29	0.04	<0.07	0.25	<0.1	<0.38	0.07	0.09	<0.07	30	-
BaP equivalent (inc. Fluoranthene)	<0.29	0.04	<0.07	0.26	<0.1	<0.38	0.07	0.09	<0.07	-	-
Semi-Volatile Organic Compounds (mg/kg dry weight)											
Bis(2-ethylhexyl)phthalate	< 0.5	-	-	-	-	< 0.7	-	-	-	-	-
All other Compounds	Below detection	-	-	-	-	Below detection	-	-	-	-	-
Pesticides (mg/kg dry weight)											
4,4'-DDD	< 0.12	-	-	-	-	< 0.16	-	-	-	-	-
4,4'-DDE	< 0.12	-	-	-	-	0.23	-	-	-	-	-
4,4'-DDT	< 0.3	-	-	-	-	< 0.4	-	-	-	-	-
Total DDT Isomers	<0.54	-	-	-	-	0.68	-	-	-	-	-
Aldrin	**<0.12**					**<0.16**				0.000016	0.02
Dieldrin	**<0.12**	-	-	-	-	**<0.16**	-	-	-	0.08	0.08
Total Petroleum Hydrocarbons (mg/kg dry weight)											
C7 - C9	< 8	< 8	< 8	-	< 10	< 10	< 8	-	< 8	-	-
C10 - C14	< 20	< 20	< 20	-	< 20	< 20	< 20	-	< 20	-	-
C15 - C36	< 40	< 40	< 40	-	< 40	< 40	< 40	-	< 40	-	-
Total hydrocarbons (C7 - C36)	< 70	< 70	< 70	-	< 70	< 70	< 70	-	< 70	-	-
Materials in Borehole Log which Preclude Soils as Cleanfill?	No	No	No	No	No	Yes	Yes	No	No		

Annotations:
Results exceeding Spicer Landfill (Class B) waste acceptance criteria are in **bold**
Results exceeding Silverstream Landfill (Class A) waste acceptance criteria are shaded in grey

WASTE ACCEPTANCE CRITERIA: 16 LEINSTER AVENUE

Date	14-Mar-13	15-Mar-13	15-Mar-13	15-Mar-13	15-Mar-13	14-Mar-13	14-Mar-13	14-Mar-13	**Waste Acceptance Criteria**	
Test Pit Number	**TP108LG**	**TP109LG**	**TP109LG**	**TP110LG**	**TP110LG**	**TP111LG**	**TP112LG**	**TP112LG**		
Sample Number	S1	S1	S2	S1	S3	S1	S1	S2		
Laboratory Number	1111754.21	1111983.19	1111983.20	1111983.22	1111983.24	1111754.19	1111754.17	1111754.18	**Porirua City Council**	**Hutt City Council**
Sample Depth (m)	0.1-0.2	0.0-0.1	0.5-0.6	0.0-0.1	1.2-1.3	0.1-0.2	0.1-0.2	1.0-1.1	**Spicer Landfill (Class B)**	**Silverstream Landfill (Class A)**
Soil Type	Silty Gravel	Silt	Silt	Gravelly Silt	Sand	Silty Gravel	Sandy Gravel	Peat	**(mg/kg)**	**(mg/kg)**
Heavy metals (mg/kg dry weight)										
Arsenic	5	3	5	10	6	5	5	<2	10	100
Cadmium	< 0.10	< 0.11	< 0.10	< 0.10	0.12	< 0.10	< 0.10	<0.10	2	20
Chromium	10	6	**13**	**13**	10	**12**	10	5	10	100
Copper	**13**	**12**	**19**	**14**	**41**	**16**	**11**	7	10	28
Lead	**33**	**12.8**	**21**	**17.2**	**103**	**26**	**17.8**	**14.1**	10	100
Nickel	9	4	13	7	8	12	7	2	20	40
Zinc	**92**	**75**	**67**	**113**	**67**	**76**	**46**	7	20	160
Polycyclic Aromatic Hydrocarbons (mg/kg dry weight)										
Acenaphthene	< 0.10	< 0.10	< 0.03	< 0.03	< 0.10	< 0.03	< 0.10	<0.16	-	-
Acenaphthylene	< 0.10	< 0.10	< 0.03	< 0.03	< 0.10	< 0.03	0.15	<0.16	-	-
Anthracene	< 0.10	< 0.10	< 0.03	0.05	0.18	< 0.03	0.13	<0.16	-	-
Benzo[a]anthracene	< 0.10	< 0.10	< 0.03	0.36	1.03	0.07	0.77	<0.16	-	-
Benzo[a]pyrene (BAP)	< 0.12	< 0.12	< 0.03	0.53	1.1	0.1	0.73	<0.16	30	-
Benzo[b]fluoranthene + Benzo[j]fluoranthene	0.13	< 0.12	< 0.03	0.81	1.35	0.14	0.84	<0.16	-	-
Benzo[g,h,i]perylene	0.12	< 0.12	< 0.03	0.46	0.87	0.08	0.52	<0.16	-	-
Benzo[k]fluoranthene	< 0.12	< 0.12	< 0.03	0.32	0.62	0.06	0.41	<0.16		
2-Chloronaphthalene	< 0.10	< 0.10	-	-	< 0.10	-	< 0.10	-	-	-
Chrysene	< 0.10	< 0.10	< 0.03	0.35	0.9	0.08	0.65	<0.16	-	-
Dibenzo[a,h]anthracene	< 0.12	< 0.12	< 0.03	0.16	0.33	< 0.03	0.19	<0.16	-	-
Fluoranthene	0.13	< 0.10	< 0.03	0.62	1.82	0.13	1.28	<0.16	-	-
Fluorene	< 0.10	< 0.10	< 0.03	< 0.03	< 0.10	< 0.03	< 0.10	<0.16	-	-
Indeno(1,2,3-c,d)pyrene	< 0.12	< 0.12	< 0.03	0.44	0.76	0.07	0.4	<0.16	-	-
2-Methylnaphthalene	< 0.10	< 0.10	-	-	< 0.10	-	< 0.10	-	-	-
Naphthalene	< 0.10	< 0.10	< 0.14	< 0.13	< 0.10	< 0.13	< 0.10	<0.8	20	1
Phenanthrene	< 0.10	< 0.10	< 0.03	0.11	0.63	0.04	0.49	<0.16	-	-
Pyrene	0.14	< 0.10	< 0.03	0.6	1.61	0.13	1.19	<0.16	-	-
BaP equivalent	0.15	<0.29	<0.07	0.89	1.82	0.15	1.17	<0.19	30	-
BaP equivalent (inc. Fluoranthene)	0.15	<0.29	<0.07	0.89	1.83	0.15	1.18	<0.19	-	-
Semi-Volatile Organic Compounds (mg/kg dry weight)										
Bis(2-ethylhexyl)phthalate	< 0.5	0.7	-	-	< 0.7	-	< 0.5	-	-	-
All other Compounds	Below detection	Below detection	-	Below detection	Below detection	-	Below detection	-	-	-
Pesticides (mg/kg dry weight)										
4,4'-DDD	< 0.12	< 0.12	-	-	< 0.16	-	< 0.12	-	-	-
4,4'-DDE	< 0.12	< 0.12	-	-	< 0.16	-	< 0.12	-	-	-
4,4'-DDT	< 0.3	< 0.3	-	-	< 0.4	-	< 0.3	-	-	-
Total DDT Isomers	<0.54	<0.54	-	-	<0.72	-	<0.54	-	-	-
Aldrin	**<0.12**	**<0.12**			**<0.16**		**<0.12**		0.000016	0.02
Dieldrin	**<0.12**	**<0.12**	-	-	**<0.16**	-	**<0.12**	-	0.08	0.08
Total Petroleum Hydrocarbons (mg/kg dry weight)										
C7 - C9	< 8	< 8	-	< 8	< 10	< 8	< 8	-	-	-
C10 - C14	< 20	< 20	-	< 20	< 20	< 20	< 20	-	-	-
C15 - C36	< 40	< 40	-	< 40	65	< 40	< 40	-	-	-
Total hydrocarbons (C7 - C36)	< 70	< 70	-	< 70	< 70	< 70	< 70	-	-	-
Materials in Borehole Log which Preclude Soils as Cleanfill?	No	No	No	No	No	Yes	No	No		

Annotations:
Results exceeding Spicer Landfill (Class B) waste acceptance criteria are in **bold**
Results exceeding Silverstream Landfill (Class A) waste acceptance criteria are shaded in grey

SOIL ANALYSIS SUMMARY: 150 RAUMATI ROAD

Date	12/03/2013	12/03/2013	12/03/2013	13/03/2013	13/03/2013	13/03/2013	13/03/2013	13/03/2013	13/03/2013	12/03/2013	12/03/2013	Assessment Criteria				
Test Pit Number	**TP101RB**	**TP102RB**	**TP102RB**	**TP103RB**	**TP103RB**	**TP104RB**	**TP104RB**	**TP105RB**	**TP105RB**	**TP106RB**	**TP106RB**					
Sample Number	S1	S1	S2	S1	S3	S1	S2	S2	S3	S1	S2	**Contaminated Site Assessment**				**NES Human Health Risk**
Laboratory Number	1110964.2	1110964.22	1110964.23	1111765.5	1111765.3	1111765.4	1111765.6	1111765.8	1111765.9	1110964.18	1110964.19	**Background Levels [1]**	**Environmental Risk [2]**	**Human Health Risk**		
Sample Depth (m)	0.2-0.3	0.3-0.4	1.4-1.5	0.2-0.3	2.1-2.2	0.2-0.3	1.4-1.5	0.6-0.7	1.9-2.0	0.3-0.4	0.8-0.9					
Soil Type	Silt	Silt	Silt	Silt	Silty Clay	Silt	Silt	Gravelly Silt	Silt	Silt	Silt					
Heavy Metals (mg/kg dry weight)																
Arsenic	< 2	5	3	6	3	11	8	8	12	5	4	<2-7	12	500 [3]		70 [5]
Cadmium	< 0.10	0.13	0.1	< 0.11	< 0.10	0.2	0.35	< 0.10	7.9	0.32	0.24	<0.1-0.1	22	100 [3]		1300 [5]
Chromium	3	13	9	13	11	19	10	14	41	13	8	7-12	86	500 [3]		NL [5]
Copper	2	29	22	15	10	72	45	25	34	17	33	4-10	91	5000 [3]		NL [5]
Lead	0.7	42	67	28	13.4	29	65	38	960	350	33	4.5-180	260	1500 [3]		3300 [5]
Nickel	< 2	9	6	10	4	6	7	19	20	8	5	4-9	50	3000 [3]		2000 [6]
Zinc	6	93	54	61	37	220	200	93	730	310	240	28-79	360	35000 [3]		31000 [6]
Polycyclic Aromatic Hydrocarbons (mg/kg dry weight)														**<1m**	**1m-4m**	
Acenaphthene	< 0.11	< 0.03	< 0.03	0.04	< 0.03	< 0.03	< 0.03	< 0.03	0.67	< 0.03	< 0.04	-	-	-		-
Acenaphthylene	< 0.11	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	<0.03	< 0.03	< 0.04	-	-	-		-
Anthracene	< 0.11	0.03	< 0.03	0.13	< 0.03	< 0.03	< 0.03	< 0.03	0.09	0.28	< 0.04	0.002-0.005	-	-		-
Benzo[a]anthracene	< 0.11	0.08	0.04	0.34	< 0.03	< 0.03	< 0.03	< 0.03	0.14	0.03	0.09	-	-	-		-
Benzo[a]pyrene (BAP)	< 0.11	0.11	0.06	0.37	< 0.03	< 0.03	< 0.03	< 0.03	0.1	0.04	0.11	0.002-0.005	0.7	-		-
Benzo[b]fluoranthene + Benzo[j]fluoranthene	< 0.11	0.16	0.08	0.55	< 0.03	< 0.03	< 0.03	< 0.03	0.2	0.05	0.12	-	-	-		-
Benzo[g,h,i]perylene	< 0.11	0.1	0.05	0.26	< 0.03	< 0.03	< 0.03	< 0.03	0.11	0.03	0.06	-	-	-		-
Benzo[k]fluoranthene	< 0.11	0.06	0.04	0.24	< 0.03	< 0.03	< 0.03	< 0.03	0.07	< 0.03	0.06	-	-	-		-
Chrysene	< 0.11	0.09	0.05	0.38	< 0.03	< 0.03	< 0.03	< 0.03	0.11	0.04	0.09	-	-	-		-
Dibenzo[a,h]anthracene	< 0.11	0.03	< 0.03	0.09	< 0.03	< 0.03	< 0.03	< 0.03	<0.03	< 0.03	0.04	-	-	-		-
Fluoranthene	< 0.11	0.21	0.07	1.05	0.03	< 0.03	< 0.03	< 0.03	0.47	0.08	0.2	0.002-0.005	-	-		-
Fluorene	< 0.11	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.6	< 0.03	< 0.04	-	-	-		-
Indeno(1,2,3-c,d)pyrene	< 0.11	0.06	0.04	0.24	< 0.03	< 0.03	< 0.03	< 0.03	0.07	< 0.03	0.05	-	-	-		-
Naphthalene	< 0.6	< 0.12	< 0.14	< 0.13	< 0.15	< 0.14	< 0.15	< 0.14	0.52	< 0.14	< 0.18	0.002-0.005	-	190 (sand) [4] 210 (sandy silt) [4]	230 (sand)[4] 270 (sandy silt)[4]	-
Phenanthrene	< 0.11	0.12	< 0.03	0.47	< 0.03	< 0.03	< 0.03	< 0.03	0.88	< 0.03	0.07	0.002-0.005	-	-		-
Pyrene	< 0.11	0.18	0.07	0.78	0.04	< 0.03	< 0.03	< 0.03	0.35	0.07	0.17	0.002-0.005	-	NA (all soils)[4]	NA (all soils)[4]	-
BaP equivalent	<0.27	0.39	0.21	0.09	1.34	<0.04	<0.04	<0.04	0.16	0.15	0.41	-	-	11 (all soils)[4]	25 (all soils)[4]	-
BaP equivalent (inc. Fluoranthene)	<0.27	0.39	0.21	0.09	1.34	<0.04	<0.04	<0.04	0.17	0.15	0.41	-	-	-		35 [5]
Total Petroleum Hydrocarbons (mg/kg dry weight)														**<1m**	**1m-4m**	**<1m** **1m-4m**
C7 - C9	< 40	< 8	< 8	< 8	< 9	< 9	< 9	< 8	<8	< 9	< 11	-	-	120 (sand)[4] 500 (sandy silt)[4]	120 (sand)[4] 500 (sandy silt)[4]	120 (sand)[4] 500 (sandy silt)[4] 120 (sand)[4] 500 (sandy silt)[4]
C10 - C14	< 70	< 20	< 20	< 20	< 20	< 20	< 20	< 20	<20	< 20	< 30	-	-	1500 (sand)[4] 1700 (sandy silt)[4]	1900 (sand)[4] 2200 (sandy silt)[4]	1500 (sand)[4] 1700 (sandy silt)[4] 1900 (sand)[4] 2200 (sandy silt)[4]
C15 - C36	200	270	< 40	< 40	< 40	103	< 40	< 40	820	< 40	< 50	-	-	NA (all soils)[4]	NA (all soils)[4]	NA (all soils)[4] NA (all soils)[4]
Total hydrocarbons (C7 - C36)	300	270	< 70	< 70	< 70	103	< 70	< 70	820	< 70	< 80	0.002-0.005	-	-	-	- -

Annotations:

1 Determination of common pollutant background soil concentrations for the Wellington region, GWRC 2003. Values applicable to 'Main Soil Type 1 (Sand)' have been used.
2 Canadian Soil Quality Guidelines, Canadian Council of Ministers of the Environment, 2012. Values applicable to 'commercial' land use have been used.
3 Guideline on the Investigation Levels for Soil and Groundwater, NEPC, 1999. Values applicable to 'Health Investigation Level F - commercial/industrial' have been used.
4 Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand, Ministry for the Environment, 1999. Values for 'commercial/industrial' land use have been used.
5 Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations, 2011. Values applicable to 'commercial/industrial outdoor worker' have been used.
6 USEPA Regional Screening Level Industrial Soil Table, April 2012

Results exceeding background levels are underlined
Results exceeding environmental risk criteria are shaded in grey
Results exceeding human health risk criteria are in **bold**
NL - No Limit. Derived value exceeds 10000 mg/kg.
NA - indicates contaminant not limiting. Greater than 20000 mg/kg for TPH and 10000 mg/kg for other contaminants.

SOIL ANALYSIS SUMMARY: 150 RAUMATI ROAD

Date	12/03/2013	12/03/2013	12/03/2013	12/03/2013	13/03/2013	13/03/2013	13/03/2013	13/03/2013	13/03/2013	13/03/2013	13/03/2013	Assessment Criteria			
Test Pit Number	**TP107RB**	**TP108RB**	**TP109RB**	**TP109RB**	**TP110RB**	**TP111RB**	**TP112RB**	**TP113RB**	**TP113RB**	**TP114RB**	**TP115RB**				
Sample Number	S1	S1	S1	S3	S2	S1	S1	S1	S3	S1	S1	Contaminated Site Assessment			
Laboratory Number	1110964.16	1110964.14	1110964.11	1110964.13	1111765.11	1111765.13	1111703.1	1111703.7	1111703.9	1111703.4	1111703.13				
Sample Depth (m)	0.3-0.4	0.8-0.9	0.1-0.2	1.6-1.7	1.1-1.2	0.4-0.5	0.2-0.3	0.2-0.3	2.0-2.1	0.1-0.2	0.1-0.2	**Background Levels [1]**	**Environmental Risk [2]**	**Human Health Risk**	**NES Human Health Risk**
Soil Type	Sandy silt	Sandy silt	Sandy silt	Sandy silt	Gravelly Silt	Sand	Silt	Sandy silt	Fill	Silt	Sandy silt				
Heavy metal (mg/kg dry weight)															
Arsenic	7	4	7	4	4	4	4	3	9	3	3	<2-7	12	500 [3]	70 [5]
Cadmium	0.14	0.1	0.15	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.29	0.17	< 0.10	<0.1-0.1	22	100 [3]	1300 [5]
Chromium	10	9	10	11	19	8	9	19	13	17	7	7-12	86	500 [3]	NL [5]
Copper	15	14	26	41	14	7	13	13	30	16	10	4-10	91	5000 [3]	NL [5]
Lead	24	49	47	54	21	17.4	27	19.6	88	141	12.6	4.5-180	260	1500 [3]	3300 [5]
Nickel	6	6	8	7	14	6	7	14	8	10	5	4-9	50	3000 [3]	2000 [6]
Zinc	113	123	110	920	66	37	58	63	590	134	38	28-79	360	35000 [3]	31000 [6]
Polycyclic Aromatic Hydrocarbons (mg/kg dry weight)														**<1m** / **1m-4m**	
Acenaphthene	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	-	-	-	-
Acenaphthylene	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	-	-	-	-
Anthracene	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	0.06	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	0.002-0.005	-	-	-
Benzo[a]anthracene	0.04	0.03	0.03	< 0.04	< 0.03	0.45	0.09	< 0.03	< 0.04	0.07	< 0.03	-	-	-	-
Benzo[a]pyrene (BAP)	0.06	0.04	0.04	< 0.04	< 0.03	0.51	0.12	< 0.03	< 0.04	0.06	< 0.03	0.002-0.005	0.7	-	-
Benzo[b]fluoranthene + Benzo[j]fluoranthene	0.07	0.05	0.06	0.04	< 0.03	0.76	0.16	0.04	< 0.04	0.1	< 0.03	-	-	-	-
Benzo[g,h,i]perylene	0.04	0.03	0.04	< 0.04	< 0.03	0.36	0.12	0.03	< 0.04	0.06	< 0.03	-	-	-	-
Benzo[k]fluoranthene	0.03	0.03	0.03	< 0.04	< 0.03	0.34	0.07	< 0.03	< 0.04	0.04	< 0.03	-	-	-	-
Chrysene	0.05	0.04	0.03	< 0.04	< 0.03	0.52	0.11	< 0.03	< 0.04	0.09	< 0.03	-	-	-	-
Dibenzo[a,h]anthracene	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	0.12	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	-	-	-	-
Fluoranthene	0.06	0.06	0.06	0.04	< 0.03	1.08	0.18	0.03	0.07	0.15	< 0.03	0.002-0.005	-	-	-
Fluorene	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	-	-	-	-
Indeno(1,2,3-c,d)pyrene	0.04	0.03	0.03	< 0.04	< 0.03	0.35	0.15	< 0.03	< 0.04	0.06	< 0.03	-	-	-	-
Naphthalene	< 0.15	< 0.13	< 0.13	< 0.17	< 0.13	< 0.12	< 0.12	< 0.14	< 0.17	< 0.13	< 0.13	0.002-0.005	-	190 (sand) [4] 210 (sandy silt) [4] / 230 (sand)[4] 270 (sandy silt)[4]	-
Phenanthrene	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	0.23	0.06	< 0.03	< 0.04	0.05	< 0.03	0.002-0.005	-	-	-
Pyrene	0.07	0.06	0.06	0.04	< 0.03	0.81	0.19	0.04	0.04	0.14	< 0.03	0.002-0.005	-	NA (all soils)[4] / NA (all soils)[4]	-
BaP equivalent	0.2072	0.158	0.1598	0.1232	<0.04	1.827	0.3998	0.0944	0.1198	0.2298	<0.04	-	-	11 (all soils)[4] / 25 (all soils)[4]	-
BaP equivalent (inc. Fluoranthene)	0.2072	0.158	0.1598	0.1232	<0.04	1.827	0.3998	0.0944	0.1198	0.2298	<0.04	-	-	-	35 [5]
Total Petroleum Hydrocarbons (mg/kg dry weight)														**<1m** / **1m-4m**	**<1m** / **1m-4m**
C7 - C9	< 9	< 8	< 8	< 10	< 8	< 8	< 8	< 8	< 10	< 8	< 8	-	-	120 (sand)[4] 500 (sandy silt)[4] / 120 (sand)[4] 500 (sandy silt)[4]	120 (sand)[4] 500 (sandy silt)[4] / 120 (sand)[4] 500 (sandy silt)[4]
C10 - C14	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-	-	1500 (sand)[4] 1700 (sandy silt)[4] / 1900 (sand)[4] 2200 (sandy silt)[4]	1500 (sand)[4] 1700 (sandy silt)[4] / 1900 (sand)[4] 2200 (sandy silt)[4]
C15 - C36	40	< 40	88	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	-	-	NA (all soils)[4] / NA (all soils)[4]	NA (all soils)[4] / NA (all soils)[4]
Total hydrocarbons (C7 - C36)	< 70	< 70	88	< 70	< 70	< 70	< 70	< 70	< 70	< 70	< 70	0.002-0.005	-	- / -	- / -

Annotations:

1 Determination of common pollutant background soil concentrations for the Wellington region, GWRC 2003. Values applicable to 'Main Soil Type 1 (Sand)' have been used.
2 Canadian Soil Quality Guidelines, Canadian Council of Ministers of the Environment, 2012. Values applicable to 'commercial' land use have been used.
3 Guideline on the Investigation Levels for Soil and Groundwater, NEPC, 1999. Values applicable to 'Health Investigation Level F - commercial/industrial' have been used.
4 Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand, Ministry for the Environment, 1999. Values for 'commercial/industrial' land use have been used.
5 Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations, 2011. Values applicable to 'commercial/industrial outdoor worker' have been used.
6 USEPA Regional Screening Level Industrial Soil Table, April 2012

Results exceeding background levels are underlined
Results exceeding environmental risk criteria are shaded in grey
Results exceeding human health risk criteria are in **bold**
NL - No Limit. Derived value exceeds 10000 mg/kg.
NA - indicates contaminant not limiting. Greater than 20000 mg/kg for TPH and 10000 mg/kg for other contaminants.

SOIL ANALYSIS SUMMARY: 150 RAUMATI ROAD

Date	13/03/2013	13/03/2013	13/03/2013	13/03/2013	13/03/2013	13/03/2013	13/03/2013	13/03/2013	13/03/2013	13/03/2013	**Assessment Criteria**				
Test Pit Number	**TP116RB**	**TP116RB**	**TP117RB**	**TP117RB**	**TP118RB**	**TP118RB**	**TP119RB**	**TP119RB**	**TP120RB**	**TP121RB**					
Sample Number	S1	S2	S1	S2	S1	S2	S1	S2	S1	S1	**Contaminated Site Assessment**				
Laboratory Number	1111703.10	1111703.11	1111703.16	1111703.17	1111703.23	1111703.24	1111703.19	1111703.20	1111703.21	1111703.26	**Background Levels [1]**	**Environmental Risk [2]**	**Human Health Risk**		**NES Human Health Risk**
Sample Depth (m)	0.1-0.2	1.2-1.3	0.2-0.3	1.4-1.5	0.2-0.3	0.6-0.7	0.2-0.3	1.4-1.5	0.3-0.4	0.2-0.3					
Soil Type	Silt	Silt	Sand	Sand	Gravelly silt	Silt	Gravelly silt	Sandy silt	Sand	Sandy silt					
Heavy metal (mg/kg dry weight)															
Arsenic	4	4	4	4	6	7	6	5	4	6	<2-7	12	500 [3]		70 [5]
Cadmium	0.1	< 0.10	< 0.10	0.13	0.2	< 0.10	0.14	< 0.10	0.13	< 0.10	<0.1-0.1	22	100 [3]		1300 [5]
Chromium	10	8	8	9	18	10	16	9	8	12	7-12	86	500 [3]		NL [5]
Copper	12	8	6	11	20	42	15	24	9	13	4-10	91	5000 [3]		NL [5]
Lead	17.9	7.7	5.6	45	27	46	34	62	11	22	4.5-180	260	1500 [3]		3300 [5]
Nickel	7	6	6	6	17	7	9	6	6	10	4-9	50	3000 [3]		2000 [6]
Zinc	45	34	39	105	98	117	88	149	43	55	28-79	360	35000 [3]		31000 [6]
Polycyclic Aromatic Hydrocarbons (mg/kg dry weight)													**<1m**	**1m-4m**	
Acenaphthene	< 0.03	< 0.03	< 0.03	0.08	< 0.03	0.15	< 0.03	< 0.03	< 0.03	< 0.03	-	-	-		-
Acenaphthylene	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	-	-	-		-
Anthracene	< 0.03	< 0.03	< 0.03	0.06	< 0.03	0.23	< 0.03	< 0.03	< 0.03	0.05	0.002-0.005	-	-		-
Benzo[a]anthracene	0.09	0.09	< 0.03	0.29	< 0.03	0.57	0.05	< 0.03	< 0.03	0.44	-	-	-		-
Benzo[a]pyrene (BAP)	0.15	0.15	< 0.03	0.37	< 0.03	0.65	0.07	< 0.03	< 0.03	0.8	0.002-0.005	0.7	-		-
Benzo[b]fluoranthene + Benzo[j]fluoranthene	0.26	0.22	< 0.03	0.57	< 0.03	1	0.12	< 0.03	< 0.03	1.16	-	-	-		-
Benzo[g,h,i]perylene	0.14	0.14	< 0.03	0.27	< 0.03	0.42	0.07	< 0.03	< 0.03	0.61	-	-	-		-
Benzo[k]fluoranthene	0.1	0.1	< 0.03	0.24	< 0.03	0.4	0.06	< 0.03	< 0.03	0.47	-	-	-		-
Chrysene	0.11	0.12	< 0.03	0.34	< 0.03	0.59	0.07	< 0.03	< 0.03	0.47	-	-	-		-
Dibenzo[a,h]anthracene	0.04	0.04	< 0.03	0.08	< 0.03	0.15	< 0.03	< 0.03	< 0.03	0.24	-	-	-		-
Fluoranthene	0.17	0.3	0.03	0.81	< 0.03	1.53	0.12	< 0.03	< 0.03	0.71	0.002-0.005	-	-		-
Fluorene	< 0.03	< 0.03	< 0.03	0.05	< 0.03	0.12	< 0.03	< 0.03	< 0.03	< 0.03	-	-	-		-
Indeno(1,2,3-c,d)pyrene	0.14	0.12	< 0.03	0.26	< 0.03	0.43	0.06	< 0.03	< 0.03	0.59	-	-	-		-
Naphthalene	< 0.14	< 0.13	< 0.13	< 0.13	< 0.12	< 0.14	< 0.12	< 0.14	< 0.13	< 0.13	0.002-0.005	-	190 (sand) [4] 210 (sandy silt) [4]	230 (sand)[4] 270 (sandy silt)[4]	-
Phenanthrene	0.03	0.08	< 0.03	0.3	< 0.03	0.78	0.03	< 0.03	< 0.03	0.07	0.002-0.005	-	-		-
Pyrene	0.17	0.26	0.03	0.62	< 0.03	1.13	0.11	< 0.03	< 0.03	0.7	0.002-0.005	-	NA (all soils)[4]	NA (all soils)[4]	-
BaP equivalent	0.5576	0.5464	0.0894	1.301	<0.04	2.3154	0.2528	<0.04	<0.04	2.9346	-	-	11 (all soils)[4]	25 (all soils)[4]	-
BaP equivalent (inc. Fluoranthene)	0.5576	0.5464	0.0894	1.301	<0.04	2.3154	0.2528	<0.04	<0.04	2.9346	-	-	-		35 [5]
Total Petroleum Hydrocarbons (mg/kg dry weight)													**<1m**	**1m-4m**	**<1m**	**1m-4m**
C7 - C9	< 9	< 8	< 8	< 8	< 8	< 8	< 8	< 9	< 8	< 8	-	-	120 (sand)[4] 500 (sandy silt)[4]	120 (sand)[4] 500 (sandy silt)[4]	120 (sand)[4] 500 (sandy silt)[4]	120 (sand)[4] 500 (sandy silt)[4]
C10 - C14	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-	-	1500 (sand)[4] 1700 (sandy silt)[4]	1900 (sand)[4] 2200 (sandy silt)[4]	1500 (sand)[4] 1700 (sandy silt)[4]	1900 (sand)[4] 2200 (sandy silt)[4]
C15 - C36	107	< 40	< 40	< 40	< 40	83	< 40	< 40	< 40	98	-	-	NA (all soils)[4]	NA (all soils)[4]	NA (all soils)[4]	NA (all soils)[4]
Total hydrocarbons (C7 - C36)	107	< 70	< 70	< 70	< 70	83	< 70	< 70	< 70	98	0.002-0.005	-	-	-	-	-

Annotations:

1 Determination of common pollutant background soil concentrations for the Wellington region, GWRC 2003. Values applicable to 'Main Soil Type 1 (Sand)' have been used.
2 Canadian Soil Quality Guidelines, Canadian Council of Ministers of the Environment, 2012. Values applicable to 'commercial' land use have been used.
3 Guideline on the Investigation Levels for Soil and Groundwater, NEPC, 1999. Values applicable to 'Health Investigation Level F - commercial/industrial' have been used.
4 Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand, Ministry for the Environment, 1999. Values for 'commercial/industrial' land use have been used.
5 Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations, 2011. Values applicable to 'commercial/industrial outdoor worker' have been used.
6 USEPA Regional Screening Level Industrial Soil Table, April 2012

Results exceeding background levels are underlined
Results exceeding environmental risk criteria are shaded in grey
Results exceeding human health risk criteria are in **bold**
NL - No Limit. Derived value exceeds 10000 mg/kg.
NA - indicates contaminant not limiting. Greater than 20000 mg/kg for TPH and 10000 mg/kg for other contaminants.

WASTE ACCEPTANCE CRITERIA: 150 RAUMATI ROAD

Date	12/03/2013	12/03/2013	12/03/2013	13/03/2013	13/03/2013	13/03/2013	13/03/2013	13/03/2013	13/03/2013	12/03/2013	12/03/2013	**Waste Acceptance Criteria**	
Test Pit Number	**TP101RB**	**TP102RB**	**TP102RB**	**TP103RB**	**TP103RB**	**TP104RB**	**TP104RB**	**TP105RB**	**TP105RB**	**TP106RB**	**TP106RB**		
Sample Number	S1	S1	S2	S1	S3	S1	S2	S2	S3	S1	S2		
Laboratory Number	1110964.2	1110964.22	1110964.23	1111765.5	1111765.3	1111765.4	1111765.6	1111765.8	1111765.9	1110964.18	1110964.19	**Porirua City Council**	**Hutt City Council**
Sample Depth (m)	0.2-0.3	0.3-0.4	1.4-1.5	0.2-0.3	2.1-2.2	0.2-0.3	1.4-1.5	0.6-0.7	1.9-2.0	0.3-0.4	0.8-0.9	**Spicer Landfill (Class B)**	**Silverstream Landfill (Class A)**
Soil Type	Silt	Silt	Silt	Silt	Silty Clay	Silt	Silt	Gravelly Silt	Silt	Silt	Silt	**(mg/kg)**	**(mg/kg)**
Heavy Metals (mg/kg dry weight)													
Arsenic	< 2	5	3	6	3	**11**	8	8	**12**	5	4	10	100
Cadmium	< 0.10	0.13	0.1	< 0.11	< 0.10	0.2	0.35	< 0.10	7.9	0.32	0.24	2	20
Chromium	3	**13**	9	**13**	**11**	**19**	10	**14**	**41**	**13**	8	10	100
Copper	2	**29**	**22**	**15**	10	**72**	**45**	**25**	**34**	**17**	**33**	10	28
Lead	0.7	**42**	**67**	**28**	**13.4**	**29**	**65**	**38**	**960**	**350**	**33**	10	100
Nickel	< 2	9	6	10	4	6	7	19	20	8	5	20	40
Zinc	6	**93**	**54**	**61**	**37**	**220**	**200**	**93**	**730**	**310**	**240**	20	160
Polycyclic Aromatic Hydrocarbons (mg/kg dry weight)													
Acenaphthene	< 0.11	< 0.03	< 0.03	0.04	< 0.03	< 0.03	< 0.03	< 0.03	0.67	< 0.03	< 0.04	-	-
Acenaphthylene	< 0.11	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	<0.03	< 0.03	< 0.04	-	-
Anthracene	< 0.11	0.03	< 0.03	0.13	< 0.03	< 0.03	< 0.03	< 0.03	0.09	0.28	< 0.04	-	-
Benzo[a]anthracene	< 0.11	0.08	0.04	0.34	< 0.03	< 0.03	< 0.03	< 0.03	0.14	0.03	0.09	-	-
Benzo[a]pyrene (BAP)	< 0.11	0.11	0.06	0.37	< 0.03	< 0.03	< 0.03	< 0.03	0.1	0.04	0.11	30	-
Benzo[b]fluoranthene + Benzo[j]fluoranthene	< 0.11	0.16	0.08	0.55	< 0.03	< 0.03	< 0.03	< 0.03	0.2	0.05	0.12	-	-
Benzo[g,h,i]perylene	< 0.11	0.1	0.05	0.26	< 0.03	< 0.03	< 0.03	< 0.03	0.11	0.03	0.06	-	-
Benzo[k]fluoranthene	< 0.11	0.06	0.04	0.24	< 0.03	< 0.03	< 0.03	< 0.03	0.07	< 0.03	0.06	-	-
Chrysene	< 0.11	0.09	0.05	0.38	< 0.03	< 0.03	< 0.03	< 0.03	0.11	0.04	0.09	-	-
Dibenzo[a,h]anthracene	< 0.11	0.03	< 0.03	0.09	< 0.03	< 0.03	< 0.03	< 0.03	<0.03	< 0.03	0.04	-	-
Fluoranthene	< 0.11	0.21	0.07	1.05	0.03	< 0.03	< 0.03	< 0.03	0.47	0.08	0.2	-	-
Fluorene	< 0.11	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.6	< 0.03	< 0.04	-	-
Indeno(1,2,3-c,d)pyrene	< 0.11	0.06	0.04	0.24	< 0.03	< 0.03	< 0.03	< 0.03	0.07	< 0.03	0.05	-	-
Naphthalene	< 0.6	< 0.12	< 0.14	< 0.13	< 0.15	< 0.14	< 0.15	< 0.14	0.52	< 0.14	< 0.18	20	1
Phenanthrene	< 0.11	0.12	< 0.03	0.47	< 0.03	< 0.03	< 0.03	< 0.03	0.88	< 0.03	0.07	-	-
Pyrene	< 0.11	0.18	0.07	0.78	0.04	< 0.03	< 0.03	< 0.03	0.35	0.07	0.17	-	-
BaP equivalent	<0.27	0.39	0.21	0.09	1.34	<0.04	<0.04	<0.04	0.16	0.15	0.41	30	-
BaP equivalent (inc. Fluoranthene)	<0.27	0.39	0.21	0.09	1.34	<0.04	<0.04	<0.04	0.17	0.15	0.41	-	-
Total Petroleum Hydrocarbons (mg/kg dry weight)													
C7 - C9	< 40	< 8	< 8	< 8	< 9	< 9	< 9	< 8	<8	< 9	< 11	-	-
C10 - C14	< 70	< 20	< 20	< 20	< 20	< 20	< 20	< 20	<20	< 20	< 30	-	-
C15 - C36	200	270	< 40	< 40	< 40	103	< 40	< 40	820	< 40	< 50	-	-
Total hydrocarbons (C7 - C36)	300	270	< 70	< 70	< 70	103	< 70	< 70	820	< 70	< 80	-	-
Materials in Borehole Log which Preclude Soils as Cleanfill?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		

Annotations:
Results exceeding Spicer Landfill (Class B) waste acceptance criteria are in **bold**
Results exceeding Silverstream Landfill (Class A) waste acceptance criteria are shaded in grey

WASTE ACCEPTANCE CRITERIA: 150 RAUMATI ROAD

Date	12/03/2013	12/03/2013	12/03/2013	12/03/2013	13/03/2013	13/03/2013	13/03/2013	13/03/2013	13/03/2013	13/03/2013	13/03/2013	**Waste Acceptance Criteria**	
Test Pit Number	**TP107RB**	**TP108RB**	**TP109RB**	**TP109RB**	**TP110RB**	**TP111RB**	**TP112RB**	**TP113RB**	**TP113RB**	**TP114RB**	**TP115RB**		
Sample Number	S1	S1	S1	S3	S2	S1	S1	S1	S3	S1	S1		
Laboratory Number	1110964.16	1110964.14	1110964.11	1110964.13	1111765.11	1111765.13	1111703.1	1111703.7	1111703.9	1111703.4	1111703.13	**Porirua City Council**	**Hutt City Council**
Sample Depth (m)	0.3-0.4	0.8-0.9	0.1-0.2	1.6-1.7	1.1-1.2	0.4-0.5	0.2-0.3	0.2-0.3	2.0-2.1	0.1-0.2	0.1-0.2	**Spicer Landfill (Class B)**	**Silverstream Landfill (Class A)**
Soil Type	Sandy silt	Sandy silt	Sandy silt	Sandy silt	Gravelly Silt	Sand	Silt	Sandy silt	Fill	Silt	Sandy silt	**(mg/kg)**	**(mg/kg)**
Heavy metal (mg/kg dry weight)													
Arsenic	7	4	7	4	4	4	4	3	9	3	3	10	100
Cadmium	0.14	0.1	0.15	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.29	0.17	< 0.10	2	20
Chromium	10	9	10	**11**	**19**	8	9	**19**	**13**	**17**	7	10	100
Copper	**15**	**14**	**26**	**41**	**14**	7	**13**	**13**	**30**	**16**	10	10	28
Lead	**24**	**49**	**47**	**54**	**21**	**17.4**	**27**	**19.6**	**88**	**141**	**12.6**	10	100
Nickel	6	6	8	7	14	6	7	14	8	10	5	20	40
Zinc	**113**	**123**	**110**	**920**	**66**	**37**	**58**	**63**	**590**	**134**	**38**	20	160
Polycyclic Aromatic Hydrocarbons (mg/kg dry weight)													
Acenaphthene	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	-	-
Acenaphthylene	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	-	-
Anthracene	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	0.06	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	-	-
Benzo[a]anthracene	0.04	0.03	0.03	< 0.04	< 0.03	0.45	0.09	< 0.03	< 0.04	0.07	< 0.03	-	-
Benzo[a]pyrene (BAP)	0.06	0.04	0.04	< 0.04	< 0.03	0.51	0.12	< 0.03	< 0.04	0.06	< 0.03	30	-
Benzo[b]fluoranthene + Benzo[j]fluoranthene	0.07	0.05	0.06	0.04	< 0.03	0.76	0.16	0.04	< 0.04	0.1	< 0.03	-	-
Benzo[g,h,i]perylene	0.04	0.03	0.04	< 0.04	< 0.03	0.36	0.12	0.03	< 0.04	0.06	< 0.03	-	-
Benzo[k]fluoranthene	0.03	0.03	0.03	< 0.04	< 0.03	0.34	0.07	< 0.03	< 0.04	0.04	< 0.03	-	-
Chrysene	0.05	0.04	0.03	< 0.04	< 0.03	0.52	0.11	< 0.03	< 0.04	0.09	< 0.03	-	-
Dibenzo[a,h]anthracene	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	0.12	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	-	-
Fluoranthene	0.06	0.06	0.06	0.04	< 0.03	1.08	0.18	0.03	0.07	0.15	< 0.03	-	-
Fluorene	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	-	-
Indeno(1,2,3-c,d)pyrene	0.04	0.03	0.03	< 0.04	< 0.03	0.35	0.15	< 0.03	< 0.04	0.06	< 0.03	-	-
Naphthalene	< 0.15	< 0.13	< 0.13	< 0.17	< 0.13	< 0.12	< 0.12	< 0.14	< 0.17	< 0.13	< 0.13	20	1
Phenanthrene	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	0.23	0.06	< 0.03	< 0.04	0.05	< 0.03	-	-
Pyrene	0.07	0.06	0.06	0.04	< 0.03	0.81	0.19	0.04	0.04	0.14	< 0.03	-	-
BaP equivalent	0.2072	0.158	0.1598	0.1232	<0.04	1.827	0.3998	0.0944	0.1198	0.2298	<0.04	30	-
BaP equivalent (inc. Fluoranthene)	0.2072	0.158	0.1598	0.1232	<0.04	1.827	0.3998	0.0944	0.1198	0.2298	<0.04	-	-
Total Petroleum Hydrocarbons (mg/kg dry weight)													
C7 - C9	< 9	< 8	< 8	< 10	< 8	< 8	< 8	< 8	< 10	< 8	< 8	-	-
C10 - C14	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-	-
C15 - C36	40	< 40	88	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	-	-
Total hydrocarbons (C7 - C36)	< 70	< 70	88	< 70	< 70	< 70	< 70	< 70	< 70	< 70	< 70	-	-
Materials in Borehole Log which Preclude Soils as Cleanfill?	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		

Annotations:
Results exceeding Spicer Landfill (Class B) waste acceptance criteria are in **bold**
Results exceeding Silverstream Landfill (Class A) waste acceptance criteria are shaded in grey

WASTE ACCEPTANCE CRITERIA: 150 RAUMATI ROAD

Date	13/03/2013	13/03/2013	13/03/2013	13/03/2013	13/03/2013	13/03/2013	13/03/2013	13/03/2013	13/03/2013	13/03/2013	**Waste Acceptance Criteria**	
Test Pit Number	**TP116RB**	**TP116RB**	**TP117RB**	**TP117RB**	**TP118RB**	**TP118RB**	**TP119RB**	**TP119RB**	**TP120RB**	**TP121RB**		
Sample Number	S1	S2	S1	S2	S1	S2	S1	S2	S1	S1		
Laboratory Number	1111703.10	1111703.11	1111703.16	1111703.17	1111703.23	1111703.24	1111703.19	1111703.20	1111703.21	1111703.26	**Porirua City Council**	**Hutt City Council**
Sample Depth (m)	0.1-0.2	1.2-1.3	0.2-0.3	1.4-1.5	0.2-0.3	0.6-0.7	0.2-0.3	1.4-1.5	0.3-0.4	0.2-0.3	**Spicer Landfill (Class B)**	**Silverstream Landfill (Class A)**
Soil Type	Silt	Silt	Sand	Sand	Gravelly silt	Silt	Gravelly silt	Sandy silt	Sand	Sandy silt	**(mg/kg)**	**(mg/kg)**
Heavy metal (mg/kg dry weight)												
Arsenic	4	4	4	4	6	7	6	5	4	6	10	100
Cadmium	0.1	< 0.10	< 0.10	0.13	0.2	< 0.10	0.14	< 0.10	0.13	< 0.10	2	20
Chromium	10	8	8	9	**18**	10	**16**	9	8	**12**	10	100
Copper	**12**	8	6	**11**	**20**	**42**	**15**	**24**	9	**13**	10	28
Lead	**17.9**	7.7	5.6	**45**	**27**	**46**	**34**	**62**	**11**	**22**	10	100
Nickel	7	6	6	6	17	7	9	6	6	10	20	40
Zinc	**45**	**34**	**39**	**105**	**98**	**117**	**88**	**149**	**43**	**55**	20	160
Polycyclic Aromatic Hydrocarbons (mg/kg dry weight)												
Acenaphthene	< 0.03	< 0.03	< 0.03	0.08	< 0.03	0.15	< 0.03	< 0.03	< 0.03	< 0.03	-	-
Acenaphthylene	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	-	-
Anthracene	< 0.03	< 0.03	< 0.03	0.06	< 0.03	0.23	< 0.03	< 0.03	< 0.03	0.05	-	-
Benzo[a]anthracene	0.09	0.09	< 0.03	0.29	< 0.03	0.57	0.05	< 0.03	< 0.03	0.44	-	-
Benzo[a]pyrene (BAP)	0.15	0.15	< 0.03	0.37	< 0.03	0.65	0.07	< 0.03	< 0.03	0.8	30	-
Benzo[b]fluoranthene + Benzo[j]fluoranthene	0.26	0.22	< 0.03	0.57	< 0.03	1	0.12	< 0.03	< 0.03	1.16	-	-
Benzo[g,h,i]perylene	0.14	0.14	< 0.03	0.27	< 0.03	0.42	0.07	< 0.03	< 0.03	0.61	-	-
Benzo[k]fluoranthene	0.1	0.1	< 0.03	0.24	< 0.03	0.4	0.06	< 0.03	< 0.03	0.47	-	-
Chrysene	0.11	0.12	< 0.03	0.34	< 0.03	0.59	0.07	< 0.03	< 0.03	0.47	-	-
Dibenzo[a,h]anthracene	0.04	0.04	< 0.03	0.08	< 0.03	0.15	< 0.03	< 0.03	< 0.03	0.24	-	-
Fluoranthene	0.17	0.3	0.03	0.81	< 0.03	1.53	0.12	< 0.03	< 0.03	0.71	-	-
Fluorene	< 0.03	< 0.03	< 0.03	0.05	< 0.03	0.12	< 0.03	< 0.03	< 0.03	< 0.03	-	-
Indeno(1,2,3-c,d)pyrene	0.14	0.12	< 0.03	0.26	< 0.03	0.43	0.06	< 0.03	< 0.03	0.59	-	-
Naphthalene	< 0.14	< 0.13	< 0.13	< 0.13	< 0.12	< 0.14	< 0.12	< 0.14	< 0.13	< 0.13	20	1
Phenanthrene	0.03	0.08	< 0.03	0.3	< 0.03	0.78	0.03	< 0.03	< 0.03	0.07	-	-
Pyrene	0.17	0.26	0.03	0.62	< 0.03	1.13	0.11	< 0.03	< 0.03	0.7	-	-
BaP equivalent	0.5576	0.5464	0.0894	1.301	<0.04	2.3154	0.2528	<0.04	<0.04	2.9346	30	-
BaP equivalent (inc. Fluoranthene)	0.5576	0.5464	0.0894	1.301	<0.04	2.3154	0.2528	<0.04	<0.04	2.9346	-	-
Total Petroleum Hydrocarbons (mg/kg dry weight)												
C7 - C9	< 9	< 8	< 8	< 8	< 8	< 8	< 8	< 9	< 8	< 8	-	-
C10 - C14	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	-	-
C15 - C36	107	< 40	< 40	< 40	< 40	83	< 40	< 40	< 40	98	-	-
Total hydrocarbons (C7 - C36)	107	< 70	< 70	< 70	< 70	83	< 70	< 70	< 70	98	-	-
Materials in Borehole Log which Preclude Soils as Cleanfill?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes		

Annotations:
Results exceeding Spicer Landfill (Class B) waste acceptance criteria are in **bold**
Results exceeding Silverstream Landfill (Class A) waste acceptance criteria are shaded in grey

SECTOR 1 – TEST PIT LOGS

Test Pits	Location
TP101LG to TP112LG	16 Leinster Avenue

SECTOR 1 – SUMMARY OF SOIL SAMPLING AND ANALYSIS

Location	Test Pit Depth (m bgl)	Laboratory Number	Sample Depth (m)	Soil Type	Analysis Suite
TP101 LG	2.2	1111983.8	0.1-0.2	Sandy silt	SVOC, HM, TPH
		1111983.10	0.5-0.6	Sand	Hold Cold
		1111983.11	1.0-1.1	Sandy silt	Hold Cold
		1111983.26	1.8-1.9	Sand	Hold Cold
		1111983.27	2.0-2.1	Sand	Hold Cold
TP102 LG	1.6	1111983.1	0.1-0.2	Sandy gravel	TPH, PAH, HM
		1111983.2	0.4-0.5	Sandy gravel	Hold Cold
		1111983.3	1.5-1.6	Peat	Hold Cold
TP103 LG	1.6	1111983.4	0-0.1	Sandy gravel	HM, TPH, PAH
		1111983.5	0.5-0.6	Silt	Hold Cold
		1111983.6	0.8-0.9	Gravelly sand	HM, PAH
		1111983.7	1.5-1.6	Peat	Hold Cold
TP104 LG	1.7	1111983.12	0.1-0.2	Gravelly sand	HM, TPH, PAH
		1111983.13	0.9-1.0	Sand	Hold Cold
TP105 LG	1.5	1111983.15	0.1-0.2	Gravelly silt	TPH, SVOC, HM
		1111983.16	1.1-1.2	Clayey silt	Hold Cold
TP106 LG	0.9	1111983.17	0.1-0.2	Gravelly silt	HM, PAH, TPH
		1111983.18	0.6-0.7	Sandy gravel	PAH, HM
TP107 LG	1.3	1111754.23	0-0.1	Silty gravel	HM, TPH, PAH
		1111754.24	0.4-0.5	Sand	Hold Cold
		1111754.25	1.2-1.3	Sand	Hold Cold

TP108 LG	1.1	1111754.21	0.1-0.2	Silty gravel	SVOC, HM, TPH
		1111754.22	0.7-0.8	Sandy gravel	Hold Cold
TP109 LG	1.2	1111983.19	0-0.1	Silt	HM, TPH, SVOC
		1111983.20	0.5-0.6	Silt	HM, PAH
		1111983.21	1.1-1.2	Peat	Hold Cold
TP110 LG	1.5	1111983.22	0-0.1	Gravelly silt	TPH, HM, PAH
		1111983.23	0.7-0.8	Sand	Hold Cold
		1111983.24	1.2-1.3	Sand	TPH, HM, SVOC
		1111983.25	1.4-1.5	peat	Hold Cold
TP111 LG	0.7	1111754.19	0.1-0.2	Silty sand	HM, TPH, PAH
		1111754.20	0.4-0.5	Silty sand	Hold Cold
TP112 LG	1.1	1111754.17	0.1-0.2	Sandy gravel	SVOC, HM, TPH
		1111754.18	1.0-1.1	Peat	HM, PAH

HM = heavy metals

TPH = total petroleum hydrocarbons

PAH = polycyclic aromatic hydrocarbons

SVOC = semi volatile organic compounds

MacKays to Peka Peka

BOREHOLE No: **TP101LG**

TEST PIT LOG

SHEET 1 of 1

PROJECT:	MacKays to Peka Peka Expressway	JOB NUMBER:	3320901/1000/013
SITE LOCATION:	16 Leinster Avenue, Raumati.	CLIENT:	NZTA
CIRCUIT:		TEST PIT LOCATION:	
COORDINATES:	N 5,466,148.1 m	R L:	
	E 1,767,690.38 m	DATUM:	

DEPTH (m)	WATER LEVEL	GRAPHIC LOG	USCS	MOISTURE	SOIL / ROCK DESCRIPTION	GEOLOGICAL UNIT	Scala	SV	τ (kPa)	SAMPLES	DEPTH (m)
			ML	D	Fine to coarse sandy SILT, trace brick fragments; light brown; dry, non plastic.					DS1	
					Some fine to coarse gravel. Gravel: Angular.						
			GW	M	Fine to coarse sandy fine to coarse GRAVEL; dark grey; moist, non plastic. Gravel: Angular.						
0.5			SW	M	Fine to coarse SAND, some fine to coarse gravel; dark brown; moist, non plastic. Gravel: Angular.					DS2	0.5
			ML	M	Fine to coarse sandy SILT, some fine to coarse gravel, minor clay; dark grey mottled orange; moist, low plasticity. Gravel: Angular.	Fill				DS3	
1.0											1.0
1.5											1.5
			SW	M	Fine to coarse SAND, trace organics; bluish grey; moist, non plastic. Organics: Shells.					DS4	
2.0			PL	M	PEAT; dark brown; moist, non plastic. Organics: Fibrous. Organic odour.	ID				DS5	2.0
					END OF LOG @ 2.2 m						
2.5											2.5

DATE EXCAVATED:	15/3/13	CONTRACTOR:	Goodman Contractors Ltd
LOGGED BY:	KMW	EQUIPMENT:	12 tonne Kobelco
SHEAR VANE No:		METHOD:	Excavation

COMMENTS:
S1 13:024 TP101LG S1 0.1-0.2m
S2 13:024 TP101LG S2 0.5-0.6m
S3 13:024 TP101LG S3 1.0-1.1m
S4 13:024 TP101LG S4 1.8-1.9m
S5 13:024 TP101LG S5 2.0-2.1m

FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS SEE KEY SHEET

ID = Interdune Deposits (Peat)

Revision 1

A4 Scale 1:15

MacKays to Peka Peka

BOREHOLE No: **TP102LG**

TEST PIT LOG

SHEET 1 of 1

PROJECT:	MacKays to Peka Peka Expressway	JOB NUMBER:	3320901/1000/013
SITE LOCATION:	16 Leinster Avenue, Raumati.	CLIENT:	NZTA
CIRCUIT:		TEST PIT LOCATION:	
COORDINATES:	N 5,466,158.18 m	R L:	
	E 1,767,704.37 m	DATUM:	

DEPTH (m)	WATER LEVEL	GRAPHIC LOG	USCS	MOISTURE	SOIL / ROCK DESCRIPTION	GEOLOGICAL UNIT	Scala	SV	τ (kPa)	SAMPLES	DEPTH (m)
			GW	D	Fine to coarse sandy fine to coarse GRAVEL; light brown; dry, non plastic. Gravel: Angular.					DS1	
			ML	M	Fine to coarse sandy SILT, some clay; minor fine to coarse gravel; brown mottled orange and grey; moist, low plasticity,					DS2	
0.5			SW	M	Fine to coarse SAND; trace fine to coarse gravel; bluish grey; moist, non plastic.	Fill					0.5
1.0											1.0
1.5	▽ 14/03/13		PT	S	PEAT; dark brown; wet, non plastic. Organics: Fibrous. Organic odour.	ID				DS3	1.5
					END OF LOG @ 1.6 m						
2.0											2.0
2.5											2.5

DATE EXCAVATED:	14/3/13	CONTRACTOR:	Goodman Contractors Ltd
LOGGED BY:	KMW	EQUIPMENT:	12 tonne Kobelco
SHEAR VANE No:		METHOD:	Excavation

COMMENTS:
S1 13:024 TP102LG S1 0.0.1-0.2m
S2 13:024 TP102LG S2 0.4-0.5m
S3 13:024 TP102LG S3 1.5-1.6m
Groundwater as rapid inflow at 1.6m
ID = Interdune Deposits (Peat)

FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS SEE KEY SHEET

Revision 1

A4 Scale 1:15

TEST_PIT P:\332\3320901\TEN\CON LAND\PHASE 1B GROUND INVESTIGATION_POST-LODGEMENT\GINT LOGS\16 LEINSTER AVE\16 LEINSTER AVE.GPJ BECA.GDT 16/4/13

MacKays to Peka Peka

BOREHOLE No: **TP103LG**

TEST PIT LOG

SHEET 1 of 1

PROJECT:	MacKays to Peka Peka Expressway	JOB NUMBER:	3320901/1000/013
SITE LOCATION:	16 Leinster Avenue, Raumati.	CLIENT:	NZTA
CIRCUIT:		TEST PIT LOCATION:	
COORDINATES:	N 5,466,165.49 m	R L:	
	E 1,767,725.37 m	DATUM:	

DEPTH (m)	WATER LEVEL	GRAPHIC LOG	USCS	MOISTURE	SOIL / ROCK DESCRIPTION	GEOLOGICAL UNIT	Scala	SV	τ (kPa)	SAMPLES	DEPTH (m)
			GW	D	Fine to coarse sandy fine to coarse GRAVEL; light brown; dry, non plastic. Gravel: Angular.	Fill				DS1	
			SW	M	Fine to coarse gravelly SAND; dark grey; moist, non plastic.						
0.5			ML	M	SILT, some clay, some fibrous organics, minor plastic; dark brown; moist, non plastic. Organics: Straw.					DS2	0.5
			SW	M	Fine to coarse gravelly fine to coarse SAND, minor fill (plant labels); dark grey; moist, non plastic.					DS3	
1.0											1.0
1.5			PT	M	PEAT; dark reddish brown; moist, non plastic. Organics: Fibrous. Organic odour.	ID				DS4	1.5
					END OF LOG @ 1.6 m						
2.0											2.0
2.5											2.5

DATE EXCAVATED:	15/3/13	CONTRACTOR:	Goodman Contractors Ltd	COMMENTS:
LOGGED BY:	KMW	EQUIPMENT:	12 tonne Kobelco	S1 13:024 TP103LG S1 0.0-0.1m S2 13:024 TP103LG S2 0.5-0.6m S3 13:024 TP103LG S3 0.8-0.9m S4 13:024 TP103LG S4 1.5-1.6m ID = Interdune Deposits (Peat)
SHEAR VANE No:		METHOD:	Excavation	

FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS SEE KEY SHEET

Revision 1

A4 Scale 1:15

TEST_PIT P:\332\3320901\TEN\CON LAND\PHASE 1B GROUND INVESTIGATION_POST-LODGEMENT\GINT LOGS\16 LEINSTER AVE\16 LEINSTER AVE.GPJ BECA.GDT 16/4/13

MacKays to Peka Peka

BOREHOLE No: **TP104LG**

TEST PIT LOG

SHEET 1 of 1

PROJECT:	MacKays to Peka Peka Expressway	JOB NUMBER:	3320901/1000/013
SITE LOCATION:	16 Leinster Avenue, Raumati.	CLIENT:	NZTA
CIRCUIT:		TEST PIT LOCATION:	
COORDINATES:	N 5,466,173.28 m	R L:	
	E 1,767,738.59 m	DATUM:	

DEPTH (m)	WATER LEVEL	GRAPHIC LOG	USCS	MOISTURE	SOIL / ROCK DESCRIPTION	GEOLOGICAL UNIT	Scala	SV	τ (kPa)	SAMPLES	DEPTH (m)
			SW	D	Fine to coarse gravelly fine to coarse SAND; light brown; dry, non plastic. Gravel: Angular.					DS1	
			SM	M	Silty fine to coarse SAND, minor fine to coarse gravel, trace plastic; dark grey, moist, non plastic.						
0.5											0.5
1.0						Fill				DS2	1.0
1.5											1.5
					END OF LOG @ 1.7 m						
2.0											2.0
2.5											2.5

DATE EXCAVATED:	15/3/13	CONTRACTOR:	Goodman Contractors Ltd
LOGGED BY:	KMW	EQUIPMENT:	12 tonne Kobelco
SHEAR VANE No:		METHOD:	Excavation

COMMENTS:
S1 13:024 TP104LG S1 0.1-0.2m
S2 13:024 TP104LG S2 0.9-1.0m

FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS SEE KEY SHEET

Revision 1

TEST_PIT P:\3321\3320901\TEN\CON LAND\PHASE 1B GROUND INVESTIGATION_POST-LODGEMENT\GINT LOGS\16 LEINSTER AVE\16 LEINSTER AVE.GPJ BECA.GDT 16/4/13

A4 Scale 1:15

MacKays to Peka Peka

BOREHOLE No: **TP105LG**

TEST PIT LOG

SHEET 1 of 1

PROJECT:	MacKays to Peka Peka Expressway	JOB NUMBER:	3320901/1000/013
SITE LOCATION:	16 Leinster Avenue, Raumati.	CLIENT:	NZTA
CIRCUIT:		TEST PIT LOCATION:	
COORDINATES:	N 5,466,167.11 m E 1,767,754.5 m	R L: DATUM:	

DEPTH (m)	WATER LEVEL	GRAPHIC LOG	USCS	MOISTURE	SOIL / ROCK DESCRIPTION	GEOLOGICAL UNIT	Scala	SV	τ (kPa)	SAMPLES	DEPTH (m)
0			ML	D	Fine to coarse gravelly SILT, minor brick fragments and plastic; light brown; dry, non plastic. Gravel: Angular.	Fill				DS1	0
0.5											0.5
1.0			OH	M	Clayey SILT, some fine to coarse gravel; light brown mottled orange and grey; moist, high plasticity.					DS2	1.0
1.5			PT	M	PEAT; dark brown; moist, non plastic. Organics: Fibrous. Organic odour.	ID					1.5
					END OF LOG @ 1.5 m						
2.0											2.0
2.5											2.5

DATE EXCAVATED:	15/3/13	CONTRACTOR:	Goodman Contractors Ltd
LOGGED BY:	KMW	EQUIPMENT:	12 tonne Kobelco
SHEAR VANE No:		METHOD:	Excavation

COMMENTS:
S1 13:024 TP105LG S1 0.1-0.2m
S2 13:024 TP105LG S2 1.1-1.2m
ID = Interdune Deposits (Peat)

FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS SEE KEY SHEET

Revision 1

TEST_PIT P:\332\3320901\TEN\CON LAND\PHASE 1B GROUND INVESTIGATION_POST-LODGEMENT\GINT LOGS\16 LEINSTER AVE\16 LEINSTER AVE.GPJ BECA.GDT 16/4/13

A4 Scale 1:15

MacKays to Peka Peka

BOREHOLE No: **TP106LG**

TEST PIT LOG

SHEET 1 of 1

PROJECT:	MacKays to Peka Peka Expressway	JOB NUMBER:	3320901/1000/013
SITE LOCATION:	16 Leinster Avenue, Raumati.	CLIENT:	NZTA
CIRCUIT:		TEST PIT LOCATION:	
COORDINATES:	N 5,466,159.86 m	R L:	
	E 1,767,741.74 m	DATUM:	

DEPTH (m)	WATER LEVEL	GRAPHIC LOG	USCS	MOISTURE	SOIL / ROCK DESCRIPTION	GEOLOGICAL UNIT	Scala	SV	τ (kPa)	SAMPLES	DEPTH (m)
			ML	D	Fine to coarse gravelly SILT; some concrete and plastic; light brown; dry, non plastic. Gravel: Angular.					DS1	
0.5			GW	M	Fine to coarse sandy fine to coarse GRAVEL, some silt; orange mottled brown and grey; moist, non plastic. Gravel: Angular.	Fill				DS2	0.5
			PT	M	PEAT; dark brown; moist, non plastic. Organics: Fibrous. Organic odour.	ID					
1.0					END OF LOG @ 0.9 m						1.0
1.5											1.5
2.0											2.0
2.5											2.5

DATE EXCAVATED:	15/3/13	CONTRACTOR:	Goodman Contractors Ltd
LOGGED BY:	KMW	EQUIPMENT:	12 tonne Kobelco
SHEAR VANE No:		METHOD:	Excavation

COMMENTS:
S1 13:024 TP106LG S1 0.1-0.2m
S2 13:024 TP106LG S2 0.6-0.7m
ID = Interdune Deposits (Peat)

FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS SEE KEY SHEET

Revision 1

TEST_PIT P:\332\3320901\TEN\CON LAND\PHASE 1B GROUND INVESTIGATION_POST-LODGEMENT\GINT LOGS\16 LEINSTER AVE\16 LEINSTER AVE.GPJ BECA.GDT 16/4/13

A4 Scale 1:15

MacKays to Peka Peka

BOREHOLE No: **TP107LG**

TEST PIT LOG

SHEET 1 of 1

PROJECT:	MacKays to Peka Peka Expressway	JOB NUMBER:	3320901/1000/013
SITE LOCATION:	16 Leinster Avenue, Raumati.	CLIENT:	NZTA
CIRCUIT:		TEST PIT LOCATION:	
COORDINATES:	N 5,466,147.47 m	R L:	
	E 1,767,726.29 m	DATUM:	

DEPTH (m)	WATER LEVEL	GRAPHIC LOG	USCS	MOISTURE	SOIL / ROCK DESCRIPTION	GEOLOGICAL UNIT	Scala	SV	τ (kPa)	SAMPLES	DEPTH (m)
			GM	D	Silty fine to coarse GRAVEL; some fine to coarse sand; light brown; dry, non plastic. Gravel: Angular.					DS1	
			SW	M	Fine to coarse SAND, minor organics; dark brown; moist, non plastic. Organics: rootlets.						
0.5					No organics; bluish grey.	Fill				DS2	0.5
1.0			PT	M	PEAT; dark brown; moist, non plastic. Organics: Fibrous. Organic odour.	ID				DS3	1.0
					END OF LOG @ 1.3 m						
1.5											1.5
2.0											2.0
2.5											2.5

DATE EXCAVATED:	14/3/13	CONTRACTOR:	Goodman Contractors Ltd
LOGGED BY:	KMW	EQUIPMENT:	12 tonne Kobelco
SHEAR VANE No:		METHOD:	Excavation

COMMENTS:
S1 13:024 TP107LG S1 0.0-0.1m
S2 13:024 TP107LG S2 0.4-0.5m
S3 13:024 TP107LG S3 1.2-1.3m
ID = Interdune Deposits (Peat)

FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS SEE KEY SHEET

Revision 1

TEST_PIT P:\332\3320901\TEN\CON LAND\PHASE 1B GROUND INVESTIGATION_POST-LODGEMENT\GINT LOGS\16 LEINSTER AVE\16 LEINSTER AVE.GPJ BECA.GDT 16/4/13

A4 Scale 1:15

MacKays to Peka Peka

BOREHOLE No: **TP108LG**

TEST PIT LOG

SHEET 1 of 1

PROJECT:	MacKays to Peka Peka Expressway	JOB NUMBER:	3320901/1000/013
SITE LOCATION:	16 Leinster Avenue, Raumati.	CLIENT:	NZTA
CIRCUIT:		TEST PIT LOCATION:	
COORDINATES:	N 5,466,150.6 m	R L:	
	E 1,767,756.35 m	DATUM:	

DEPTH (m)	WATER LEVEL	GRAPHIC LOG	USCS	MOISTURE	SOIL / ROCK DESCRIPTION	GEOLOGICAL UNIT	Scala	SV	τ (kPa)	SAMPLES	DEPTH (m)
0			GM	D	Silty fine to coarse GRAVEL; light brown; dry, non plastic. Gravel: Angular.						0
					Becoming fine to coarse sandy GRAVEL; dark bluish grey.					DS1	
0.5						Fill					0.5
										DS2	
1.0			PT	M	PEAT; dark reddish brown; moist, non plastic. Organics: Fibrous. Organic odour.	ID					1.0
					END OF LOG @ 1.1 m						
1.5											1.5
2.0											2.0
2.5											2.5

DATE EXCAVATED:	14/3/13	CONTRACTOR:	Goodman Contractors Ltd
LOGGED BY:	KMW	EQUIPMENT:	12 tonne Kobelco
SHEAR VANE No:		METHOD:	Excavation

COMMENTS:
S1 13:024 TP108LG S1 0.1-0.2m
S2 13:024 TP108LG S2 0.7-0.8m
ID = Interdune Deposits (Peat)

FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS SEE KEY SHEET

Revision 1

TEST_PIT P:\3321\3320901\TEN\CON LAND\PHASE 1B GROUND INVESTIGATION_POST-LODGEMENT\GINT LOGS\16 LEINSTER AVE\16 LEINSTER AVE.GPJ BECA.GDT 16/4/13

A4 Scale 1:15

MacKays to Peka Peka

BOREHOLE No: **TP109LG**

TEST PIT LOG

SHEET 1 of 1

PROJECT:	MacKays to Peka Peka Expressway	JOB NUMBER:	3320901/1000/013
SITE LOCATION:	16 Leinster Avenue, Raumati.	CLIENT:	NZTA
CIRCUIT:		TEST PIT LOCATION:	
COORDINATES:	N 5,466,160.28 m	R L:	
	E 1,767,777.09 m	DATUM:	

DEPTH (m)	WATER LEVEL	GRAPHIC LOG	USCS	MOISTURE	SOIL / ROCK DESCRIPTION	GEOLOGICAL UNIT	Scala	SV	τ (kPa)	SAMPLES	DEPTH (m)
0.0			ML	D	SILT, some geotextile, concrete and asphalt; light brown; dry, non plastic.	Fill				DS1	0.0
0.5			ML	M	SILT, some clay, minor brick fragments and plastic; grey mottled orange; moist, low plasticity.					DS2	0.5
			SW	M	Fine to coarse SAND; dark grey; moist, non plastic.						
1.0			PT	M	PEAT; dark brown; moist, non plastic. Organics: Fibrous. Organic odour.	ID				DS3	1.0
					END OF LOG @ 1.2 m						
1.5											1.5
2.0											2.0
2.5											2.5

DATE EXCAVATED:	15/3/13	CONTRACTOR:	Goodman Contractors Ltd
LOGGED BY:	KMW	EQUIPMENT:	12 tonne Kobelco
SHEAR VANE No:		METHOD:	Excavation

COMMENTS:
S1 13:024 TP109LG S1 0.0-0.1m
S2 13:024 TP109LG S2 0.5-0.6m
S3 13:024 TP109LG S3 1.1-1.2m
ID = Interdune Deposits (Peat)

FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS SEE KEY SHEET

Revision 1

TEST_PIT P:\332\3320901\TEN\CON LAND\PHASE 1B GROUND INVESTIGATION_POST-LODGEMENT\GINT LOGS\16 LEINSTER AVE\16 LEINSTER AVE.GPJ BECA.GDT 16/4/13

A4 Scale 1:15

MacKays to Peka Peka

BOREHOLE No: **TP110LG**

TEST PIT LOG

SHEET 1 of 1

PROJECT:	MacKays to Peka Peka Expressway	JOB NUMBER:	3320901/1000/013
SITE LOCATION:	16 Leinster Avenue, Raumati.	CLIENT:	NZTA
CIRCUIT:		TEST PIT LOCATION:	
COORDINATES:	N 5,466,156.82 m	R L:	
	E 1,767,781.38 m	DATUM:	

DEPTH (m)	WATER LEVEL	GRAPHIC LOG	USCS	MOISTURE	SOIL / ROCK DESCRIPTION	GEOLOGICAL UNIT	Scala	SV	τ (kPa)	SAMPLES	DEPTH (m)
0.0			ML	D	Fine to coarse gravelly SILT, some asphalt, timber and brick fragments; light brown; dry, non plastic. Gravel: Angular.	Fill				DS1	0.0
0.5			SW	M	Fine to coarse SAND, some asphalt, concrete, and plastic; dark grey; moist, non plastic.					DS2	0.5
1.0					Plastic bags.					DS3	1.0
			PT	M	PEAT; dark brown; moist, non plastic. Organics: Fibrous. Organic odour.	ID				DS4	
1.5					END OF LOG @ 1.5 m						1.5
2.0											2.0
2.5											2.5

DATE EXCAVATED:	15/3/13	CONTRACTOR:	Goodman Contractors Ltd
LOGGED BY:	KMW	EQUIPMENT:	12 tonne Kobelco
SHEAR VANE No:		METHOD:	Excavation

COMMENTS:
S1 13:024 TP110LG S1 0.0-0.1m
S2 13:024 TP110LG S2 0.7-0.8m
S3 13:024 TP110LG S3 1.2-1.3m
S4 13:024 TP110LG S4 1.4-1.5m
ID = Interdune Deposits (Peat)

FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS SEE KEY SHEET

Revision 1

A4 Scale 1:15

TEST_PIT P:\332\3320901\TEN\CON LAND\PHASE 1B GROUND INVESTIGATION_POST-LODGEMENT\GINT LOGS\16 LEINSTER AVE\16 LEINSTER AVE.GPJ BECA.GDT 16/4/13

MacKays to Peka Peka

BOREHOLE No: **TP111LG**

TEST PIT LOG

SHEET 1 of 1

PROJECT:	MacKays to Peka Peka Expressway	JOB NUMBER:	3320901/1000/013
SITE LOCATION:	16 Leinster Avenue, Raumati.	CLIENT:	NZTA

CIRCUIT:
TEST PIT LOCATION:
COORDINATES: N 5,466,145.04 m
E 1,767,771.04 m
R L:
DATUM:

DEPTH (m)	WATER LEVEL	GRAPHIC LOG	USCS	MOISTURE	SOIL / ROCK DESCRIPTION	GEOLOGICAL UNIT	Scala	SV	τ (kPa)	SAMPLES	DEPTH (m)
			GM	D	Silty fine to coarse GRAVEL, some cobbles, trace fine sand; light grey; dry, non plastic. Gravel: Angular.						
			SM	D	Silty fine to coarse SAND, some fine to coarse gravel; light grey; dry, non plastic. Gravel: Angular.	Fill				DS1	
0.5										DS2	0.5
			PT	M	PEAT; dark brown; moist, non plastic. Organics: Fibrous. Organic odour.	ID					
					END OF LOG @ 0.7 m						
1.0											1.0
1.5											1.5
2.0											2.0
2.5											2.5

DATE EXCAVATED:	14/3/13	CONTRACTOR:	Goodman Contractors Ltd
LOGGED BY:	KMW	EQUIPMENT:	12 tonne Kobelco
SHEAR VANE No:		METHOD:	Excavation

COMMENTS:
S1 13:024 TP111LG S1 0.1-0.2m
S2 13:024 TP111LG S2 0.4-0.5m
ID = Interdune Deposits (Peat)

FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS SEE KEY SHEET

Revision 1

A4 Scale 1:15

TEST_PIT P:\33213320901\TEN\CON LAND\PHASE 1B GROUND INVESTIGATION_POST-LODGEMENT\GINT LOGS\16 LEINSTER AVE\16 LEINSTER AVE.GPJ BECA.GDT 16/4/13

MacKays to Peka Peka

BOREHOLE No: **TP112LG**

TEST PIT LOG

SHEET 1 of 1

PROJECT:	MacKays to Peka Peka Expressway	JOB NUMBER:	3320901/1000/013
SITE LOCATION:	16 Leinster Avenue, Raumati.	CLIENT:	NZTA
CIRCUIT:		TEST PIT LOCATION:	
COORDINATES:	N 5,466,138.34 m	R L:	
	E 1,767,789.03 m	DATUM:	

DEPTH (m)	WATER LEVEL	GRAPHIC LOG	USCS	MOISTURE	SOIL / ROCK DESCRIPTION	GEOLOGICAL UNIT	Scala	SV	τ (kPa)	SAMPLES	DEPTH (m)
			GM	D	Fine to coarse sandy fine to coarse GRAVEL; light brown; dry, non plastic					DS1	
			SM	M	Silty fine to coarse SAND, some fine to coarse gravel; dark greyish brown; moist, non plastic	Fill					
0.5											0.5
			PT	M	PEAT, minor concrete; dark brown; moist, non plastic. Organics: Fibrous. Organic odour.	ID					
1.0					No concrete					DS2	1.0
					END OF LOG @ 1.1 m						
1.5											1.5
2.0											2.0
2.5											2.5

DATE EXCAVATED:	14/3/13	CONTRACTOR:	Goodman Contractors Ltd
LOGGED BY:	KMW	EQUIPMENT:	12 tonne Kobelco
SHEAR VANE No:		METHOD:	Excavation

COMMENTS:
S1 13:024 TP112LG S1 0.1-0.2m
S2 13:024 TP112LG S2 1.0-1.1m
ID = Interdune Deposits (Peat)

FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS SEE KEY SHEET

Revision 1

TEST_PIT P:\332\3320901\TEN\CON LAND\PHASE 1B GROUND INVESTIGATION_POST-LODGEMENT\GINT LOGS\16 LEINSTER AVE\16 LEINSTER AVE.GPJ BECA.GDT 16/4/13

A4 Scale 1:15