Summary of Chemical Analysis
Soil Samples

Our Ref: 12-71357-2
Client Ref:
Contract Title: Herbert Road

			Lab No.	460759	460760	460761
			Sample ID	TP8	TP9	TP10
			Depth	0.50	1.00	0.80
			Sample Ref			
			Sample Type			
			Sampling Date	06/11/2012	06/11/2012	06/11/2012
			Sampling Time			
Test	**Units**	**DETSxx**	**LOD**			
Arsenic	mg/kg	DETS 042#	0.2	14	19	15
Cadmium	mg/kg	DETS 042#	0.1	6.2	1.2	0.9
Chromium III	mg/kg	DETS 042*	0.15	16	51	30
Chromium	mg/kg	DETS 042#	0.15	16	51	30
Hexavalent Chromium	mg/kg	DETSC 2204*	1	< 1.0	< 1.0	< 1.0
Copper	mg/kg	DETS 042#	0.2	48	170	95
Lead	mg/kg	DETS 042#	0.3	190	130	100
Mercury	mg/kg	DETSC 2325	0.05	0.51	1.1	0.58
Nickel	mg/kg	DETS 042#	1	16	49	36
Selenium	mg/kg	DETS 042#	0.5	< 0.5	< 0.5	< 0.5
Zinc	mg/kg	DETS 042#	1	440	280	220
Cyanide total	mg/kg	DETSC 2130#	0.1	0.5	0.8	0.4
Organic matter	%	DETSC 2002#	0.1	5.8	6.9	6.7
Total Sulphate as SO4	%	DETSC 2321#	0.01	0.15	0.08	0.10
Sulphate Aqueous Extract as SO4	mg/l	DETSC 2076#	10			
pH		DETSC 2008#		9.0	8.9	8.9
Aliphatic C5-C6	mg/kg	DETSC 3321*	0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	mg/kg	DETSC 3321*	0.01	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	mg/kg	DETSC 3321*	0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	mg/kg	DETSC 3072#	1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	mg/kg	DETSC 3072#	1.2	1.5	< 1.2	1.8
Aliphatic C16-C21	mg/kg	DETSC 3072#	1.5	4.1	2.8	4.3
Aliphatic C21-C35	mg/kg	DETSC 3072#	3.4	29	12	24
Aromatic C5-C7	mg/kg	DETSC 3321*	0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	mg/kg	DETSC 3321*	0.01	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	mg/kg	DETSC 3321*	0.01	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	mg/kg	DETSC 3072#	0.9	0.9	< 0.9	< 0.9
Aromatic C12-C16	mg/kg	DETSC 3072#	0.5	4.3	0.9	< 0.5
Aromatic C16-C21	mg/kg	DETSC 3072#	0.6	50	12	5.0
Aromatic C21-C35	mg/kg	DETSC 3072#	1.4	210	33	27
Aliphatic C5-C35	mg/kg	DETSC 3072*	10	34	14	30
Aromatic C5-C35	mg/kg	DETSC 3072*	10	260	46	32
TPH Ali/Aro	mg/kg	DETSC 3072*	10	300	60	62

Summary of Chemical Analysis
Soil Samples

Our Ref: 12-71357-2
Client Ref:
Contract Title: Herbert Road

			Lab No.	460759	460760	460761
			Sample ID	TP8	TP9	TP10
			Depth	0.50	1.00	0.80
			Sample Ref			
			Sample Type			
			Sampling Date	06/11/2012	06/11/2012	06/11/2012
			Sampling Time			
Test	**Units**	**DETSxx**	**LOD**			
Acenaphthene	mg/kg	DETSC 3301	0.1	0.3	< 0.1	< 0.1
Acenaphthylene	mg/kg	DETSC 3301	0.1	1.1	0.3	< 0.1
Anthracene	mg/kg	DETSC 3301	0.1	5.6	< 0.1	0.3
Benzo(a)anthracene	mg/kg	DETSC 3301	0.1	13	1.1	1.2
Benzo(a)pyrene	mg/kg	DETSC 3301	0.1	11	1.3	1.5
Benzo(b)fluoranthene	mg/kg	DETSC 3301	0.1	9.0	1.0	1.4
Benzo(k)fluoranthene	mg/kg	DETSC 3301	0.1	4.5	0.5	0.6
Benzo(g,h,i)perylene	mg/kg	DETSC 3301	0.1	8.7	0.8	0.6
Chrysene	mg/kg	DETSC 3301	0.1	13	1.5	1.5
Dibenzo(a,h)anthracene	mg/kg	DESTC 3301	0.1	1.6	0.3	0.3
Fluoranthene	mg/kg	DETSC 3301	0.1	22	1.1	2.2
Fluorene	mg/kg	DETSC 3301	0.1	2.0	< 0.1	0.1
Indeno(1,2,3-c,d)pyrene	mg/kg	DETSC 3301	0.1	7.5	1.1	1.3
Naphthalene	mg/kg	DETSC 3301	0.1	0.5	0.1	0.1
Phenanthrene	mg/kg	DETSC 3301	0.1	16	0.4	1.3
Pyrene	mg/kg	DETSC 3301	0.1	17	1.4	2.0
PAH	mg/kg	DETSC 3301	1.6	130	11	14
Phenol - Monohydric	mg/kg	DETSC 2130#	0.3	< 0.3	< 0.3	< 0.3
PCB	mg/kg	DETSC 3401#	0.01			< 0.01
2,4,4'-Trichlorobiphenyl PCB 28	mg/kg	DETSC 3401#	0.01			< 0.01
2,2',5,5'-Tetrachlorobiphenyl PCB 52	mg/kg	DETSC 3401#	0.01			< 0.01
2,2',4,5,5'-Pentachlorobiphenyl PCB 101	mg/kg	DETSC 3401#	0.01			< 0.01
2,3',4,4',5-Pentachlorobiphenyl PCB 118	mg/kg	DETSC 3401#	0.01			< 0.01
2,2',4,4',5,5'-Hexachlorobiphenyl PCB 153	mg/kg	DETSC 3401#	0.01			< 0.01
2,2',3,4,4',5'-Hexachlorobiphenyl PCB 138	mg/kg	DETSC 3401#	0.01			< 0.01
2,2',3,4,4',5,5'-Heptachlorobiphenyl PCB 180	mg/kg	DETSC 3401#	0.01			< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref: 12-71357-2
Client Ref:
Contract Title: Herbert Road

			Lab No.	460762	460763	460764	460765
			Sample ID	TP12	TP13	TP14	TP15
			Depth	0.40	0.60	0.40	0.40
			Sample Ref				
			Sample Type				
			Sampling Date	06/11/2012	07/11/2012	07/11/2012	07/11/2012
			Sampling Time				
Test	**Units**	**DETSxx**	**LOD**				
Arsenic	mg/kg	DETS 042#	0.2	6.0	8.6	5.7	10
Cadmium	mg/kg	DETS 042#	0.1	0.9	0.4	0.8	0.5
Chromium III	mg/kg	DETS 042*	0.15	7.9	23	100	40
Chromium	mg/kg	DETS 042#	0.15	7.9	23	100	40
Hexavalent Chromium	mg/kg	DETSC 2204*	1	< 1.0	< 1.0	< 1.0	< 1.0
Copper	mg/kg	DETS 042#	0.2	8.8	15	22	13
Lead	mg/kg	DETS 042#	0.3	51	34	64	20
Mercury	mg/kg	DETSC 2325	0.05	< 0.05	0.09	0.06	< 0.05
Nickel	mg/kg	DETS 042#	1	7.7	16	12	36
Selenium	mg/kg	DETS 042#	0.5	< 0.5	< 0.5	1.4	< 0.5
Zinc	mg/kg	DETS 042#	1	45	96	96	87
Cyanide total	mg/kg	DETSC 2130#	0.1	< 0.1	< 0.1	0.2	< 0.1
Organic matter	%	DETSC 2002#	0.1	1.2	1.5	2.3	0.8
Total Sulphate as SO4	%	DETSC 2321#	0.01	0.25	0.12	0.14	0.03
Sulphate Aqueous Extract as SO4	mg/l	DETSC 2076#	10	160			
pH		DETSC 2008#		11.8	10.9	11.6	9.3
Aliphatic C5-C6	mg/kg	DETSC 3321*	0.01	< 0.01	< 0.01	< 0.01	
Aliphatic C6-C8	mg/kg	DETSC 3321*	0.01	< 0.01	< 0.01	< 0.01	
Aliphatic C8-C10	mg/kg	DETSC 3321*	0.01	< 0.01	< 0.01	< 0.01	
Aliphatic C10-C12	mg/kg	DETSC 3072#	1.5	< 1.5	< 1.5	< 1.5	
Aliphatic C12-C16	mg/kg	DETSC 3072#	1.2	1.9	< 1.2	< 1.2	
Aliphatic C16-C21	mg/kg	DETSC 3072#	1.5	4.1	2.1	< 1.5	
Aliphatic C21-C35	mg/kg	DETSC 3072#	3.4	11	11	18	
Aromatic C5-C7	mg/kg	DETSC 3321*	0.01	< 0.01	< 0.01	< 0.01	
Aromatic C7-C8	mg/kg	DETSC 3321*	0.01	< 0.01	< 0.01	< 0.01	
Aromatic C8-C10	mg/kg	DETSC 3321*	0.01	< 0.01	< 0.01	< 0.01	
Aromatic C10-C12	mg/kg	DETSC 3072#	0.9	< 0.9	< 0.9	< 0.9	
Aromatic C12-C16	mg/kg	DETSC 3072#	0.5	< 0.5	< 0.5	< 0.5	
Aromatic C16-C21	mg/kg	DETSC 3072#	0.6	6.1	1.7	1.1	
Aromatic C21-C35	mg/kg	DETSC 3072#	1.4	31	17	31	
Aliphatic C5-C35	mg/kg	DETSC 3072*	10	17	13	19	
Aromatic C5-C35	mg/kg	DETSC 3072*	10	37	19	32	
TPH Ali/Aro	mg/kg	DETSC 3072*	10	54	32	50	

Summary of Chemical Analysis
Soil Samples

Our Ref: 12-71357-2
Client Ref:
Contract Title: Herbert Road

			Lab No.	460762	460763	460764	460765
			Sample ID	TP12	TP13	TP14	TP15
			Depth	0.40	0.60	0.40	0.40
			Sample Ref				
			Sample Type				
			Sampling Date	06/11/2012	07/11/2012	07/11/2012	07/11/2012
			Sampling Time				
Test	**Units**	**DETSxx**	**LOD**				
Acenaphthene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	mg/kg	DETSC 3301	0.1	0.5	0.3	0.2	< 0.1
Benzo(a)pyrene	mg/kg	DETSC 3301	0.1	0.3	0.2	0.3	< 0.1
Benzo(b)fluoranthene	mg/kg	DETSC 3301	0.1	0.3	0.2	0.3	< 0.1
Benzo(k)fluoranthene	mg/kg	DETSC 3301	0.1	< 0.1	0.1	0.1	< 0.1
Benzo(g,h,i)perylene	mg/kg	DETSC 3301	0.1	0.2	0.2	0.2	< 0.1
Chrysene	mg/kg	DETSC 3301	0.1	0.4	0.2	0.3	< 0.1
Dibenzo(a,h)anthracene	mg/kg	DESTC 3301	0.1	< 0.1	< 0.1	0.1	< 0.1
Fluoranthene	mg/kg	DETSC 3301	0.1	0.3	0.2	0.5	< 0.1
Fluorene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-c,d)pyrene	mg/kg	DETSC 3301	0.1	0.2	0.2	0.2	< 0.1
Naphthalene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	mg/kg	DETSC 3301	0.1	0.2	0.2	0.5	< 0.1
PAH	mg/kg	DETSC 3301	1.6	2.6	2.0	2.8	< 1.6
Phenol - Monohydric	mg/kg	DETSC 2130#	0.3	< 0.3	< 0.3	< 0.3	< 0.3
PCB	mg/kg	DETSC 3401#	0.01	< 0.01	0.16	< 0.01	< 0.01
2,4,4'-Trichlorobiphenyl PCB 28	mg/kg	DETSC 3401#	0.01	< 0.01	0.12	< 0.01	< 0.01
2,2',5,5'-Tetrachlorobiphenyl PCB 52	mg/kg	DETSC 3401#	0.01	< 0.01	0.05	< 0.01	< 0.01
2,2',4,5,5'-Pentachlorobiphenyl PCB 101	mg/kg	DETSC 3401#	0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,3',4,4',5-Pentachlorobiphenyl PCB 118	mg/kg	DETSC 3401#	0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,2',4,4',5,5'-Hexachlorobiphenyl PCB 153	mg/kg	DETSC 3401#	0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,2',3,4,4',5'-Hexachlorobiphenyl PCB 138	mg/kg	DETSC 3401#	0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,2',3,4,4',5,5'-Heptachlorobiphenyl PCB 180	mg/kg	DETSC 3401#	0.01	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref: 12-71357-2
Client Ref:
Contract Title: Herbert Road

			Lab No.	460766	460767
			Sample ID	TP17	TP18
			Depth	0.15	0.50
			Sample Ref		
			Sample Type		
			Sampling Date	07/11/2012	07/11/2012
			Sampling Time		
Test	**Units**	**DETSxx**	**LOD**		
Arsenic	mg/kg	DETS 042#	0.2	14	10
Cadmium	mg/kg	DETS 042#	0.1	0.6	0.4
Chromium III	mg/kg	DETS 042*	0.15	48	25
Chromium	mg/kg	DETS 042#	0.15	48	25
Hexavalent Chromium	mg/kg	DETSC 2204*	1	< 1.0	< 1.0
Copper	mg/kg	DETS 042#	0.2	23	40
Lead	mg/kg	DETS 042#	0.3	44	41
Mercury	mg/kg	DETSC 2325	0.05	0.15	0.20
Nickel	mg/kg	DETS 042#	1	31	20
Selenium	mg/kg	DETS 042#	0.5	< 0.5	< 0.5
Zinc	mg/kg	DETS 042#	1	130	92
Cyanide total	mg/kg	DETSC 2130#	0.1	0.2	0.2
Organic matter	%	DETSC 2002#	0.1	9.6	6.4
Total Sulphate as SO4	%	DETSC 2321#	0.01	0.08	0.10
Sulphate Aqueous Extract as SO4	mg/l	DETSC 2076#	10		
pH		DETSC 2008#		8.7	9.0
Aliphatic C5-C6	mg/kg	DETSC 3321*	0.01		
Aliphatic C6-C8	mg/kg	DETSC 3321*	0.01		
Aliphatic C8-C10	mg/kg	DETSC 3321*	0.01		
Aliphatic C10-C12	mg/kg	DETSC 3072#	1.5		
Aliphatic C12-C16	mg/kg	DETSC 3072#	1.2		
Aliphatic C16-C21	mg/kg	DETSC 3072#	1.5		
Aliphatic C21-C35	mg/kg	DETSC 3072#	3.4		
Aromatic C5-C7	mg/kg	DETSC 3321*	0.01		
Aromatic C7-C8	mg/kg	DETSC 3321*	0.01		
Aromatic C8-C10	mg/kg	DETSC 3321*	0.01		
Aromatic C10-C12	mg/kg	DETSC 3072#	0.9		
Aromatic C12-C16	mg/kg	DETSC 3072#	0.5		
Aromatic C16-C21	mg/kg	DETSC 3072#	0.6		
Aromatic C21-C35	mg/kg	DETSC 3072#	1.4		
Aliphatic C5-C35	mg/kg	DETSC 3072*	10		
Aromatic C5-C35	mg/kg	DETSC 3072*	10		
TPH Ali/Aro	mg/kg	DETSC 3072*	10		

Summary of Chemical Analysis
Soil Samples

Our Ref: 12-71357-2
Client Ref:
Contract Title: Herbert Road

			Lab No.	460766	460767
			Sample ID	TP17	TP18
			Depth	0.15	0.50
			Sample Ref		
			Sample Type		
			Sampling Date	07/11/2012	07/11/2012
			Sampling Time		
Test	**Units**	**DETSxx**	**LOD**		
Acenaphthene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1
Anthracene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1
Benzo(a)anthracene	mg/kg	DETSC 3301	0.1	0.3	0.1
Benzo(a)pyrene	mg/kg	DETSC 3301	0.1	0.4	0.2
Benzo(b)fluoranthene	mg/kg	DETSC 3301	0.1	0.4	0.2
Benzo(k)fluoranthene	mg/kg	DETSC 3301	0.1	0.2	< 0.1
Benzo(g,h,i)perylene	mg/kg	DETSC 3301	0.1	0.3	0.2
Chrysene	mg/kg	DETSC 3301	0.1	0.4	0.2
Dibenzo(a,h)anthracene	mg/kg	DESTC 3301	0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	DETSC 3301	0.1	1.0	0.3
Fluorene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1
Indeno(1,2,3-c,d)pyrene	mg/kg	DETSC 3301	0.1	0.3	0.2
Naphthalene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	DETSC 3301	0.1	< 0.1	< 0.1
Pyrene	mg/kg	DETSC 3301	0.1	0.8	0.4
PAH	mg/kg	DETSC 3301	1.6	4.2	2.0
Phenol - Monohydric	mg/kg	DETSC 2130#	0.3	< 0.3	0.4
PCB	mg/kg	DETSC 3401#	0.01	< 0.01	< 0.01
2,4,4'-Trichlorobiphenyl PCB 28	mg/kg	DETSC 3401#	0.01	< 0.01	< 0.01
2,2',5,5'-Tetrachlorobiphenyl PCB 52	mg/kg	DETSC 3401#	0.01	< 0.01	< 0.01
2,2',4,5,5'-Pentachlorobiphenyl PCB 101	mg/kg	DETSC 3401#	0.01	< 0.01	< 0.01
2,3',4,4',5-Pentachlorobiphenyl PCB 118	mg/kg	DETSC 3401#	0.01	< 0.01	< 0.01
2,2',4,4',5,5'-Hexachlorobiphenyl PCB 153	mg/kg	DETSC 3401#	0.01	< 0.01	< 0.01
2,2',3,4,4',5'-Hexachlorobiphenyl PCB 138	mg/kg	DETSC 3401#	0.01	< 0.01	< 0.01
2,2',3,4,4',5,5'-Heptachlorobiphenyl PCB 180	mg/kg	DETSC 3401#	0.01	< 0.01	< 0.01

Summary of Asbestos Analysis
Soil Samples

Our Ref: 12-71357-2
Client Ref:
Contract Title: Herbert Road

Lab No	Sample Ref	Material Type*	Result	Comment	Analyst
460753	TP2 0.90	Soil	NAD	na	Emrhys Sheldon
460754	TP4 0.70	Soil	NAD	na	Emrhys Sheldon
460755	TP5 1.30	Soil	NAD	na	Emrhys Sheldon
460756	TP6 0.60	Soil	NAD	na	Emrhys Sheldon
460757	TP6 1.80	Soil	Chrysotile	Loose Bundles	Emrhys Sheldon
460758	TP7 0.20	Soil	Chrysotile	Loose Bundles	Emrhys Sheldon
460759	TP8 0.50	Soil	NAD	na	Emrhys Sheldon
460760	TP9 1.00	Soil	NAD	na	Emrhys Sheldon
460761	TP10 0.80	Soil	NAD	na	Emrhys Sheldon
460762	TP12 0.40	Soil	NAD	na	Emrhys Sheldon
460763	TP13 0.60	Soil	NAD	na	Emrhys Sheldon
460764	TP14 0.40	Soil	NAD	na	Emrhys Sheldon
460765	TP15 0.40	Soil	NAD	na	Emrhys Sheldon
460766	TP17 0.15	Soil	NAD	na	Emrhys Sheldon
460767	TP18 0.50	Soil	NAD	na	Emrhys Sheldon

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. NAD = No Asbestos Detected. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETS 082 using polarised light microscopy in accordance with HSG248 and documented in-house methods. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'.

Sample Comments

DETS cannot be held responsible for the integrity of sample(s) received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating.

Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note "Guidance on Deviating Samples".

All samples received are listed below. However, those samples that have additional comments in relation to hold time and/or inappropriate containers are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations.

If no sampled date (soils) or date/time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters), this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Lab No.	Sample ID	Date Sampled	Containers Received	Deviating due to holding time being exceeded for test	Deviating due to inappropriate container for test
460753	TP2 0.90 SOIL	06/11/2012	Glass Jar 250ml or less (250ml) x2, Plastic Tub 1 litre (1kg)		
460754	TP4 0.70 SOIL	06/11/2012	Glass Jar 250ml or less (250ml) x2, Plastic Tub 1 litre (1kg)		
460755	TP5 1.30 SOIL	06/11/2012	Glass Jar 250ml or less (250ml) x2, Plastic Tub 1 litre (1kg)		
460756	TP6 0.60 SOIL	06/11/2012	Glass Jar 250ml or less (250ml) x2, Plastic Tub 1 litre (1kg)		
460757	TP6 1.80 SOIL	06/11/2012	Glass Jar 250ml or less (250ml) x2, Plastic Tub 1 litre (1kg)		
460758	TP7 0.20 SOIL	06/11/2012	Glass Jar 250ml or less (250ml) x2, Plastic Tub 1 litre (1kg)		
460759	TP8 0.50 SOIL	06/11/2012	Glass Jar 250ml or less (250ml) x2, Plastic Tub 1 litre (1kg)		
460760	TP9 1.00 SOIL	06/11/2012	Glass Jar 250ml or less (250ml) x2, Plastic Tub 1 litre (1kg)		

460761	TP10 0.80 SOIL	06/11/2012	Glass Jar 250ml or less (250ml) x2, Plastic Tub 1 litre (1kg)
460762	TP12 0.40 SOIL	06/11/2012	Glass Jar 250ml or less (250ml) x2, Plastic Tub 1 litre (1kg)
460763	TP13 0.60 SOIL	07/11/2012	Glass Jar 250ml or less (250ml) x2, Plastic Tub 1 litre (1kg)
460764	TP14 0.40 SOIL	07/11/2012	Glass Jar 250ml or less (250ml) x2, Plastic Tub 1 litre (1kg)
460765	TP15 0.40 SOIL	07/11/2012	Glass Jar 250ml or less (250ml) x2, Plastic Tub 1 litre (1kg)
460766	TP17 0.15 SOIL	07/11/2012	Glass Jar 250ml or less (250ml) x2, Plastic Tub 1 litre (1kg)
460767	TP18 0.50 SOIL	07/11/2012	Glass Jar 250ml or less (250ml) x2, Plastic Tub 1 litre (1kg)

Appendix A - Details of Analysis

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS.
No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

Method	Name of Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic Matter	%	0.01	Air Dried	No	Yes	Yes
DETSC 2003	Loss on Ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2004	Total Sulphate	%	0.01	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate	%	0.01	Air Dried	No	Yes	Yes
DETSC 2004	Water Soluble Sulphate	mg/l	10.00	Air Dried	No	Yes	Yes
DETSC 2076	Water Soluble Sulphate	mg/l	10.00	Air Dried	No	Yes	Yes
DETSC 2006	Chloride	mg/kg	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	0.10	Air Dried	No	Yes	Yes
DETS 042	Selenium	mg/kg	0.50	Air Dried	No	Yes	Yes
DETSC 2119	Ammonia	mg/kg	0.02	Air Dried	No	Yes	Yes
DETS 020	Boron (Water Soluble)	mg/kg	0.20	Air Dried	No	Yes	Yes
DETSC 2024	Sulphide	mg/kg	10.00	Air Dried	No	Yes	Yes
DETS 042	Antimony	mg/kg	1.00	Air Dried	No	No	No
DETS 042	Arsenic	mg/kg	0.20	Air Dried	No	Yes	Yes
DETS 042	Barium	mg/kg	1.50	Air Dried	No	Yes	Yes
DETS 042	Beryllium	mg/kg	0.20	Air Dried	No	Yes	Yes
DETS 042	Cadmium	mg/kg	0.10	Air Dried	No	Yes	Yes
DETS 042	Cobalt	mg/kg	0.70	Air Dried	No	Yes	Yes
DETS 042	Copper	mg/kg	0.20	Air Dried	No	Yes	Yes
DETS 042	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETS 042	Iron	mg/kg	1.00	Air Dried	No	Yes	No

Appendix A - Details of Analysis

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS.
No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

Method	Name of Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETS 042	Lead	mg/kg	0.30	Air Dried	No	Yes	Yes
DETS 042	Manganese	mg/kg	20.00	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETS 042	Molybdenum	mg/kg	0.40	Air Dried	No	Yes	Yes
DETS 042	Nickel	mg/kg	0.20	Air Dried	No	Yes	Yes
DETS 042	Thallium	mg/kg	1.00	Air Dried	No	No	No
DETS 042	Vanadium	mg/kg	0.80	Air Dried	No	Yes	Yes
DETS 042	Zinc	mg/kg	1.00	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (Free)	mg/kg	0.50	As Received	No	Yes	Yes
DETSC 3301	PAH by GC-FID	mg/kg	0.10	As Received	No	Yes	No
DETSC 3311	TPH (C10 - C40)	mg/kg	20.00	As Received	No	Yes	Yes
DETSC 3401	PCB	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Ethylbenzne	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Easily Liberatable Cyanide	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Complex Cyanide	mg/kg	0.30	Air Dried	No	Yes	No
DETSC 2130	Total Cyanide	mg/kg	0.40	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes

Appendix A - Details of Analysis

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS.
No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

Method	Name of Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3431	VOC	mg/kg	0.01	As Received	No	No	No
DETSC 3303	PAH by GCMS (see list below)						
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Anthracene	mg/kg	0.03	As Received	No	Yes	No
DETSC 3303	Chrysene	mg/kg	0.03	As Received	No	Yes	No
DETSC 3303	Fluorene	mg/kg	0.03	As Received	No	Yes	No

Certificate of Analysis

2139

Date: 17/01/2013

Certificate Number: 13-73902

Client:	Terra Firma (Wales) Ltd 5 Deryn Court Wharfdale Road Pentwyn Cardiff CF23 7HB
Our Reference:	13-73902
Client Reference:	12032
Contract Title:	Herbert Road
Description:	6 water samples
Date Received:	09 January 2013
Date Started:	09 January 2013
Date Completed:	17 January 2013
Test Procedures:	Identified by prefix DETSn, details available upon request.
Notes:	Observations and interpretations are outside the scope of UKAS accreditation
Approved By:	Rob Brown, Business Manager

Information in Support of the Analytical Results

Analysis

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425um sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample.

Key

*	Denotes test not included in laboratory scope of accreditation
#	Denotes test that holds MCERTS accreditation, however, MCERTS accreditation is only implied if the report carries the MCERTS logo
$	Denotes tests completed by an approved subcontractor
I/S	Denotes insufficient sample to carry out test
U/S	Denotes that the sample is not suitable for testing

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month
Liquids - 2 weeks
Asbestos (test portion) - 6 months

Summary of Chemical Analysis
Water Samples

Our Ref: 13-73902
Client Ref: 12032
Contract Title: Herbert Road

			Lab No.	474935	474936	474937	474938	474939
			Sample ID	BH1	BH2	BH3	BH4	BH5
			Depth					
			Sample Ref					
			Sample Type					
			Sampling Date	08/01/2013	08/01/2013	08/01/2013	08/01/2013	08/01/2013
			Sampling Time					
Test	**Units**	**DETSxx**	**LOD**					
Arsenic, Dissolved	ug/l	DETSC 2306	0.16	2.2	4.0	0.74	5.4	1.7
Cadmium, Dissolved	ug/l	DETSC 2306	0.03	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030
Chromium, Dissolved	ug/l	DETSC 2306	0.25	1.0	0.93	0.57	0.41	0.49
Copper, Dissolved	ug/l	DETSC 2306	0.4	< 0.40	< 0.40	< 0.40	< 0.40	1.8
Lead, Dissolved	ug/l	DETSC 2306	0.09	< 0.090	< 0.090	< 0.090	< 0.090	0.34
Mercury, Dissolved	ug/l	DETSC 2306	0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Nickel, Dissolved	ug/l	DETSC 2306	0.5	2.0	2.4	1.0	0.98	4.9
Selenium, Dissolved	ug/l	DETSC 2306	0.25	3.1	0.66	< 0.25	< 0.25	0.29
Zinc, Dissolved	ug/l	DETSC 2306	1.25	1.6	< 1.3	< 1.3	< 1.3	8.5
Sulphate as SO4	mg/l	DETSC 2055	0.1	31	4.4	8.0	86	120
Total Biochemical Oxygen Demand	mg/l	DETSC 2031	1	5.6	8.2	22	7.2	4.9
Total Chemical Oxygen Demand	mg/l	DETSC 2032	10	15	120	160	150	11
Cyanide total	ug/l	DETSC 2130	40	< 40.0	< 40.0	< 40.0	< 40.0	< 40.0
Conductivity	uS/cm	DETSC 2009	1	1340	4190	2400	1770	940
Hardness	mg/l	DETSC 2303*	0.1	315	468	453	541	555
Sulphide	ug/l	DETSC 2208	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
pH		DETSC 2008		7.1	6.9	7.1	7.0	7.2
Aliphatic C5-C6	ug/l	DETSC 3322	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C6-C8	ug/l	DETSC 3322	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C8-C10	ug/l	DETSC 3322	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C10-C12	ug/l	DETSC 3072*	1	< 1.0	< 1.0	3.5	< 1.0	< 1.0
Aliphatic C12-C16	ug/l	DETSC 3072*	1	< 1.0	7.9	17	< 1.0	< 1.0
Aliphatic C16-C21	ug/l	DETSC 3072*	1	11	37	31	< 1.0	< 1.0
Aliphatic C21-C35	ug/l	DETSC 3072*	1	140	190	420	< 1.0	2.2
Aromatic C5-C7	ug/l	DETSC 3322	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C7-C8	ug/l	DETSC 3322	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C8-C10	ug/l	DETSC 3322	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C10-C12	ug/l	DETSC 3072*	1	< 1.0	< 1.0	1.5	< 1.0	< 1.0
Aromatic C12-C16	ug/l	DETSC 3072*	1	< 1.0	< 1.0	14	< 1.0	< 1.0
Aromatic C16-C21	ug/l	DETSC 3072*	1	< 1.0	< 1.0	2.4	< 1.0	< 1.0
Aromatic C21-C35	ug/l	DETSC 3072*	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C5-C35	ug/l	DETSC 3072*	10	150	240	470	< 10	< 10
Aromatic C5-C35	ug/l	DETSC 3072*	10	< 10	< 10	18	< 10	< 10
TPH Ali/Aro	ug/l	DETSC 3072*	10	150	240	490	< 10	< 10
Acenaphthene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	0.07	< 0.01	< 0.01
Benzo(a)pyrene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	ug/l	DETS 074*	0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	0.02	< 0.01	< 0.01

Summary of Chemical Analysis
Water Samples

Our Ref: 13-73902
Client Ref: 12032
Contract Title: Herbert Road

			Lab No.	474935	474936	474937	474938	474939
			Sample ID	BH1	BH2	BH3	BH4	BH5
			Depth					
			Sample Ref					
			Sample Type					
			Sampling Date	08/01/2013	08/01/2013	08/01/2013	08/01/2013	08/01/2013
			Sampling Time					
Test	**Units**	**DETSxx**	**LOD**					
Dibenzo(a,h)anthracene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/l	DETS 074*	0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Naphthalene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	ug/l	DETS 074*	0.01	0.01	< 0.01	0.02	< 0.01	< 0.01
Pyrene	ug/l	DETS 074*	0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01
PAH	ug/l	DETS 074*	0.2	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
EPH (C10-C40)	ug/l	DETSC 3311	10	100	60	250	150	110
PCB	ug/l	DETSC 3402	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
PCB 101	ug/l	DETSC 3402	0.3	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30
PCB 138	ug/l	DETSC 3402	0.2	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
PCB 153	ug/l	DETSC 3402	0.2	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
PCB 180	ug/l	DETSC 3402	0.2	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
PCB 28	ug/l	DETSC 3402	0.3	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30
PCB 52	ug/l	DETSC 3402	0.2	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
PCB 118 + PCB 123	ug/l	DETSC 3402	0.6	< 0.60	< 0.60	< 0.60	< 0.60	< 0.60
Phenol	ug/l	DETS 054*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
4-Chloro-3-methylphenol	ug/l	DETS 054*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
2,4-Dichlorophenol	ug/l	DETS 054*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
2,4-Dimethylphenol	ug/l	DETS 054*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
p-cresol	ug/l	DETS 054*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
2,6-Dimethylphenol	ug/l	DETS 054*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
2,6-Dichlorophenol	ug/l	DETS 054*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
2,4,6-Trichlorophenol	ug/l	DETS 054*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Summary of Chemical Analysis
Water Samples

Our Ref: 13-73902
Client Ref: 12032
Contract Title: Herbert Road

			Lab No.	474940
			Sample ID	BH6
			Depth	
			Sample Ref	
			Sample Type	
			Sampling Date	08/01/2013
			Sampling Time	
Test	**Units**	**DETSxx**	**LOD**	
Arsenic, Dissolved	ug/l	DETSC 2306	0.16	0.58
Cadmium, Dissolved	ug/l	DETSC 2306	0.03	< 0.030
Chromium, Dissolved	ug/l	DETSC 2306	0.25	0.39
Copper, Dissolved	ug/l	DETSC 2306	0.4	0.64
Lead, Dissolved	ug/l	DETSC 2306	0.09	0.40
Mercury, Dissolved	ug/l	DETSC 2306	0.01	< 0.010
Nickel, Dissolved	ug/l	DETSC 2306	0.5	< 0.50
Selenium, Dissolved	ug/l	DETSC 2306	0.25	0.87
Zinc, Dissolved	ug/l	DETSC 2306	1.25	< 1.3
Sulphate as SO4	mg/l	DETSC 2055	0.1	36
Total Biochemical Oxygen Demand	mg/l	DETSC 2031	1	7.1
Total Chemical Oxygen Demand	mg/l	DETSC 2032	10	< 10
Cyanide total	ug/l	DETSC 2130	40	< 40.0
Conductivity	uS/cm	DETSC 2009	1	700
Hardness	mg/l	DETSC 2303*	0.1	317
Sulphide	ug/l	DETSC 2208	10	< 10.0
pH		DETSC 2008		7.4
Aliphatic C5-C6	ug/l	DETSC 3322	0.1	< 0.1
Aliphatic C6-C8	ug/l	DETSC 3322	0.1	< 0.1
Aliphatic C8-C10	ug/l	DETSC 3322	0.1	< 0.1
Aliphatic C10-C12	ug/l	DETSC 3072*	1	< 1.0
Aliphatic C12-C16	ug/l	DETSC 3072*	1	9.3
Aliphatic C16-C21	ug/l	DETSC 3072*	1	30
Aliphatic C21-C35	ug/l	DETSC 3072*	1	11
Aromatic C5-C7	ug/l	DETSC 3322	0.1	< 0.1
Aromatic C7-C8	ug/l	DETSC 3322	0.1	< 0.1
Aromatic C8-C10	ug/l	DETSC 3322	0.1	< 0.1
Aromatic C10-C12	ug/l	DETSC 3072*	1	< 1.0
Aromatic C12-C16	ug/l	DETSC 3072*	1	< 1.0
Aromatic C16-C21	ug/l	DETSC 3072*	1	< 1.0
Aromatic C21-C35	ug/l	DETSC 3072*	1	< 1.0
Aliphatic C5-C35	ug/l	DETSC 3072*	10	50
Aromatic C5-C35	ug/l	DETSC 3072*	10	< 10
TPH Ali/Aro	ug/l	DETSC 3072*	10	50
Acenaphthene	ug/l	DETS 074*	0.01	< 0.01
Acenaphthylene	ug/l	DETS 074*	0.01	< 0.01
Anthracene	ug/l	DETS 074*	0.01	< 0.01
Benzo(a)anthracene	ug/l	DETS 074*	0.01	< 0.01
Benzo(a)pyrene	ug/l	DETS 074*	0.01	< 0.01
Benzo(b)fluoranthene	ug/l	DETS 074*	0.01	< 0.01
Benzo(k)fluoranthene	ug/l	DETS 074*	0.01	< 0.01
Benzo(g,h,i)perylene	ug/l	DETS 074*	0.01	< 0.01
Chrysene	ug/l	DETS 074*	0.01	< 0.01

Summary of Chemical Analysis
Water Samples

Our Ref: 13-73902
Client Ref: 12032
Contract Title: Herbert Road

			Lab No.	474940
			Sample ID	BH6
			Depth	
			Sample Ref	
			Sample Type	
			Sampling Date	08/01/2013
			Sampling Time	
Test	**Units**	**DETSxx**	**LOD**	
Dibenzo(a,h)anthracene	ug/l	DETS 074*	0.01	< 0.01
Fluoranthene	ug/l	DETS 074*	0.01	< 0.01
Fluorene	ug/l	DETS 074*	0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/l	DETS 074*	0.01	< 0.01
Naphthalene	ug/l	DETS 074*	0.01	< 0.01
Phenanthrene	ug/l	DETS 074*	0.01	< 0.01
Pyrene	ug/l	DETS 074*	0.01	< 0.01
PAH	ug/l	DETS 074*	0.2	< 0.20
EPH (C10-C40)	ug/l	DETSC 3311	10	11
PCB	ug/l	DETSC 3402	1	< 1.0
PCB 101	ug/l	DETSC 3402	0.3	< 0.30
PCB 138	ug/l	DETSC 3402	0.2	< 0.20
PCB 153	ug/l	DETSC 3402	0.2	< 0.20
PCB 180	ug/l	DETSC 3402	0.2	< 0.20
PCB 28	ug/l	DETSC 3402	0.3	< 0.30
PCB 52	ug/l	DETSC 3402	0.2	< 0.20
PCB 118 + PCB 123	ug/l	DETSC 3402	0.6	< 0.60
Phenol	ug/l	DETS 054*	0.1	< 0.10
4-Chloro-3-methylphenol	ug/l	DETS 054*	0.1	< 0.10
2,4-Dichlorophenol	ug/l	DETS 054*	0.1	< 0.10
2,4-Dimethylphenol	ug/l	DETS 054*	0.1	< 0.10
p-cresol	ug/l	DETS 054*	0.1	< 0.10
2,6-Dimethylphenol	ug/l	DETS 054*	0.1	< 0.10
2,6-Dichlorophenol	ug/l	DETS 054*	0.1	< 0.10
2,4,6-Trichlorophenol	ug/l	DETS 054*	0.1	< 0.10

Sample Comments

DETS cannot be held responsible for the integrity of sample(s) received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating.

Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note "Guidance on Deviating Samples".

All samples received are listed below. However, those samples that have additional comments in relation to hold time and/or inappropriate containers are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations.

If no sampled date (soils) or date/time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters), this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Lab No.	Sample ID	Date Sampled	Containers Received	Deviating due to holding time being exceeded for test	Deviating due to inappropriate container for test
474935	BH1 WATER	08/01/2013	Glass Jar 1 litre (1 litre) x2, Plastic Bottle 1 litre (1 litre)		
474936	BH2 WATER	08/01/2013	Glass Jar 1 litre (1 litre) x2, Plastic Bottle 1 litre (1 litre)		
474937	BH3 WATER	08/01/2013	Glass Jar 1 litre (1 litre) x2, Plastic Bottle 1 litre (1 litre)		
474938	BH4 WATER	08/01/2013	Glass Jar 1 litre (1 litre) x2, Plastic Bottle 1 litre (1 litre)		
474939	BH5 WATER	08/01/2013	Glass Jar 1 litre (1 litre) x2, Plastic Bottle 1 litre (1 litre)		
474940	BH6 WATER	08/01/2013	Glass Jar 1 litre (1 litre) x2, Plastic Bottle 1 litre (1 litre)		

Derwentside Environmental Testing Services

2139

Certificate of Analysis

Date: 07/02/2013

Certificate Number: 13-75083

Client:	Terra Firma (Wales) Ltd 5 Deryn Court Wharfdale Road Pentwyn Cardiff CF23 7HB
Our Reference:	13-75083
Client Reference:	12032
Contract Title:	Herbert Road
Description:	6 water samples
Date Received:	01 February 2013
Date Started:	01 February 2013
Date Completed:	07 February 2013
Test Procedures:	Identified by prefix DETSn, details available upon request.
Notes:	Observations and interpretations are outside the scope of UKAS accreditation
Approved By:	 Rob Brown, Business Manager

Derwentside Environmental Testing Services Limited
Unit 2, Park Road Industrial Estate South, Consett, Co Durham, DH8 5PY
Tel: 01207 582333 • Fax 01207 582444 • email: info@dets.co.uk • www.dets.co.uk

Information in Support of the Analytical Results

Analysis

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425um sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample.

Key

*	Denotes test not included in laboratory scope of accreditation
#	Denotes test that holds MCERTS accreditation, however, MCERTS accreditation is only implied if the report carries the MCERTS logo
$	Denotes tests completed by an approved subcontractor
I/S	Denotes insufficient sample to carry out test
U/S	Denotes that the sample is not suitable for testing

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month
Liquids - 2 weeks
Asbestos (test portion) - 6 months

Summary of Chemical Analysis
Water Samples

Our Ref: 13-75083
Client Ref: 12032
Contract Title: Herbert Road

			Lab No.	480761	480762	480763	480764	480765
			Sample ID	BH1	BH2	BH3	BH4	BH5
			Depth					
			Sample Ref					
			Sample Type					
			Sampling Date	/ /	/ /	/ /	/ /	/ /
			Sampling Time					
Test	**Units**	**DETSxx**	**LOD**					
Arsenic, Dissolved	ug/l	DETSC 2306	0.16	9.2	4.1	1.8	1.4	8.0
Cadmium, Dissolved	ug/l	DETSC 2306	0.03	0.038	0.044	< 0.030	0.21	0.15
Chromium, Dissolved	ug/l	DETSC 2306	0.25	< 0.25	0.54	0.77	< 0.25	< 0.25
Copper, Dissolved	ug/l	DETSC 2306	0.4	0.91	< 0.40	0.41	3.0	< 0.40
Lead, Dissolved	ug/l	DETSC 2306	0.09	< 0.090	< 0.090	< 0.090	< 0.090	1.7
Mercury, Dissolved	ug/l	DETSC 2306	0.01	0.012	< 0.010	< 0.010	0.025	< 0.010
Nickel, Dissolved	ug/l	DETSC 2306	0.5	1.3	3.0	0.67	4.6	1.1
Selenium, Dissolved	ug/l	DETSC 2306	0.25	0.66	0.60	< 0.25	0.77	0.57
Zinc, Dissolved	ug/l	DETSC 2306	1.25	3.7	4.0	2.4	18	< 1.3
Sulphate as SO4	mg/l	DETSC 2055	0.1	14	5.5	100	120	77
Total Biochemical Oxygen Demand	mg/l	DETSC 2031	1	3.2	4.1	5.8	6.6	2.8
Total Chemical Oxygen Demand	mg/l	DETSC 2032	10	20	110	37	30	110
Cyanide total	ug/l	DETSC 2130	40	< 40.0	< 40.0	< 40.0	< 40.0	< 40.0
Conductivity	uS/cm	DETSC 2009	1	1540	4070	2160	955	1750
Hardness	mg/l	DETSC 2303*	0.1	327	194	256	492	494
Sulphide	ug/l	DETSC 2208	10	< 10	< 10	< 10	< 10	< 10
pH		DETSC 2008		7.2	7.0	7.1	7.3	7.1
Aliphatic C5-C6	ug/l	DETSC 3322	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C6-C8	ug/l	DETSC 3322	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C8-C10	ug/l	DETSC 3322	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C10-C12	ug/l	DETSC 3072*	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C12-C16	ug/l	DETSC 3072*	1	< 1.0	3.2	3.4	5.7	3.9
Aliphatic C16-C21	ug/l	DETSC 3072*	1	< 1.0	3.4	2.7	6.4	6.6
Aliphatic C21-C35	ug/l	DETSC 3072*	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C5-C7	ug/l	DETSC 3322	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C7-C8	ug/l	DETSC 3322	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C8-C10	ug/l	DETSC 3322	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C10-C12	ug/l	DETSC 3072*	1	< 1.0	< 1.0	1.1	< 1.0	< 1.0
Aromatic C12-C16	ug/l	DETSC 3072*	1	< 1.0	< 1.0	6.2	< 1.0	< 1.0
Aromatic C16-C21	ug/l	DETSC 3072*	1	< 1.0	< 1.0	2.0	< 1.0	< 1.0
Aromatic C21-C35	ug/l	DETSC 3072*	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C5-C35	ug/l	DETSC 3072*	10	< 10	< 10	< 10	12	11
Aromatic C5-C35	ug/l	DETSC 3072*	10	< 10	< 10	< 10	< 10	< 10
TPH Ali/Aro	ug/l	DETSC 3072*	10	< 10	< 10	15	12	11

Summary of Chemical Analysis
Water Samples

Our Ref: 13-75083
Client Ref: 12032
Contract Title: Herbert Road

			Lab No.	480761	480762	480763	480764	480765
			Sample ID	BH1	BH2	BH3	BH4	BH5
			Depth					
			Sample Ref					
			Sample Type					
			Sampling Date	/ /	/ /	/ /	/ /	/ /
			Sampling Time					
Test	**Units**	**DETSxx**	**LOD**					
Acenaphthene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenzo(a,h)anthracene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Naphthalene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	ug/l	DETS 074*	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PAH	ug/l	DETS 074*	0.2	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
EPH (C10-C40)	ug/l	DETSC 3311	10	< 10	< 10	< 10	380	50
PCB	ug/l	DETSC 3402	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
PCB 101	ug/l	DETSC 3402	0.3	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30
PCB 138	ug/l	DETSC 3402	0.2	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
PCB 153	ug/l	DETSC 3402	0.2	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
PCB 180	ug/l	DETSC 3402	0.2	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
PCB 28	ug/l	DETSC 3402	0.3	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30
PCB 52	ug/l	DETSC 3402	0.2	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
PCB 118 + PCB 123	ug/l	DETSC 3402	0.6	< 0.60	< 0.60	< 0.60	< 0.60	< 0.60
Phenol	ug/l	DETS 054*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.25
4-Chloro-3-methylphenol	ug/l	DETS 054*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.25
2,4-Dichlorophenol	ug/l	DETS 054*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.25
2,4-Dimethylphenol	ug/l	DETS 054*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.25
p-cresol	ug/l	DETS 054*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.25
2,6-Dimethylphenol	ug/l	DETS 054*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.25
2,6-Dichlorophenol	ug/l	DETS 054*	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.25
2,4,6-Trichlorophenol	ug/l	DETS 054*	0.1	< 0.10	< 0.10	< 0.10	0.11	< 0.25

Summary of Chemical Analysis
Water Samples

Our Ref: 13-75083
Client Ref: 12032
Contract Title: Herbert Road

			Lab No.	480766
			Sample ID	BH6
			Depth	
			Sample Ref	
			Sample Type	
			Sampling Date	/ /
			Sampling Time	
Test	**Units**	**DETSxx**	**LOD**	
Arsenic, Dissolved	ug/l	DETSC 2306	0.16	1.1
Cadmium, Dissolved	ug/l	DETSC 2306	0.03	0.14
Chromium, Dissolved	ug/l	DETSC 2306	0.25	< 0.25
Copper, Dissolved	ug/l	DETSC 2306	0.4	1.9
Lead, Dissolved	ug/l	DETSC 2306	0.09	< 0.090
Mercury, Dissolved	ug/l	DETSC 2306	0.01	0.023
Nickel, Dissolved	ug/l	DETSC 2306	0.5	2.3
Selenium, Dissolved	ug/l	DETSC 2306	0.25	1.5
Zinc, Dissolved	ug/l	DETSC 2306	1.25	7.1
Sulphate as SO4	mg/l	DETSC 2055	0.1	31
Total Biochemical Oxygen Demand	mg/l	DETSC 2031	1	2.9
Total Chemical Oxygen Demand	mg/l	DETSC 2032	10	19
Cyanide total	ug/l	DETSC 2130	40	< 40.0
Conductivity	uS/cm	DETSC 2009	1	1030
Hardness	mg/l	DETSC 2303*	0.1	350
Sulphide	ug/l	DETSC 2208	10	< 10
pH		DETSC 2008		7.3
Aliphatic C5-C6	ug/l	DETSC 3322	0.1	< 0.1
Aliphatic C6-C8	ug/l	DETSC 3322	0.1	< 0.1
Aliphatic C8-C10	ug/l	DETSC 3322	0.1	< 0.1
Aliphatic C10-C12	ug/l	DETSC 3072*	1	< 1.0
Aliphatic C12-C16	ug/l	DETSC 3072*	1	1.7
Aliphatic C16-C21	ug/l	DETSC 3072*	1	10
Aliphatic C21-C35	ug/l	DETSC 3072*	1	< 1.0
Aromatic C5-C7	ug/l	DETSC 3322	0.1	< 0.1
Aromatic C7-C8	ug/l	DETSC 3322	0.1	< 0.1
Aromatic C8-C10	ug/l	DETSC 3322	0.1	< 0.1
Aromatic C10-C12	ug/l	DETSC 3072*	1	< 1.0
Aromatic C12-C16	ug/l	DETSC 3072*	1	< 1.0
Aromatic C16-C21	ug/l	DETSC 3072*	1	< 1.0
Aromatic C21-C35	ug/l	DETSC 3072*	1	< 1.0
Aliphatic C5-C35	ug/l	DETSC 3072*	10	12
Aromatic C5-C35	ug/l	DETSC 3072*	10	< 10
TPH Ali/Aro	ug/l	DETSC 3072*	10	12

Summary of Chemical Analysis
Water Samples

Our Ref: 13-75083
Client Ref: 12032
Contract Title: Herbert Road

			Lab No.	480766
			Sample ID	BH6
			Depth	
			Sample Ref	
			Sample Type	
			Sampling Date	/ /
			Sampling Time	
Test	**Units**	**DETSxx**	**LOD**	
Acenaphthene	ug/l	DETS 074*	0.01	< 0.01
Acenaphthylene	ug/l	DETS 074*	0.01	< 0.01
Anthracene	ug/l	DETS 074*	0.01	< 0.01
Benzo(a)anthracene	ug/l	DETS 074*	0.01	< 0.01
Benzo(a)pyrene	ug/l	DETS 074*	0.01	< 0.01
Benzo(b)fluoranthene	ug/l	DETS 074*	0.01	< 0.01
Benzo(k)fluoranthene	ug/l	DETS 074*	0.01	< 0.01
Benzo(g,h,i)perylene	ug/l	DETS 074*	0.01	< 0.01
Chrysene	ug/l	DETS 074*	0.01	< 0.01
Dibenzo(a,h)anthracene	ug/l	DETS 074*	0.01	< 0.01
Fluoranthene	ug/l	DETS 074*	0.01	< 0.01
Fluorene	ug/l	DETS 074*	0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	ug/l	DETS 074*	0.01	< 0.01
Naphthalene	ug/l	DETS 074*	0.01	< 0.01
Phenanthrene	ug/l	DETS 074*	0.01	< 0.01
Pyrene	ug/l	DETS 074*	0.01	< 0.01
PAH	ug/l	DETS 074*	0.2	< 0.20
EPH (C10-C40)	ug/l	DETSC 3311	10	130
PCB	ug/l	DETSC 3402	1	< 1.0
PCB 101	ug/l	DETSC 3402	0.3	< 0.30
PCB 138	ug/l	DETSC 3402	0.2	< 0.20
PCB 153	ug/l	DETSC 3402	0.2	< 0.20
PCB 180	ug/l	DETSC 3402	0.2	< 0.20
PCB 28	ug/l	DETSC 3402	0.3	< 0.30
PCB 52	ug/l	DETSC 3402	0.2	< 0.20
PCB 118 + PCB 123	ug/l	DETSC 3402	0.6	< 0.60
Phenol	ug/l	DETS 054*	0.1	< 0.10
4-Chloro-3-methylphenol	ug/l	DETS 054*	0.1	< 0.10
2,4-Dichlorophenol	ug/l	DETS 054*	0.1	< 0.10
2,4-Dimethylphenol	ug/l	DETS 054*	0.1	< 0.10
p-cresol	ug/l	DETS 054*	0.1	< 0.10
2,6-Dimethylphenol	ug/l	DETS 054*	0.1	< 0.10
2,6-Dichlorophenol	ug/l	DETS 054*	0.1	< 0.10
2,4,6-Trichlorophenol	ug/l	DETS 054*	0.1	< 0.10

Sample Comments

DETS cannot be held responsible for the integrity of sample(s) received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating.

Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note "Guidance on Deviating Samples".

All samples received are listed below. However, those samples that have additional comments in relation to hold time and/or inappropriate containers are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations.

If no sampled date (soils) or date/time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters), this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Lab No.	Sample ID	Date Sampled	Containers Received	Deviating due to holding time being exceeded for test	Deviating due to inappropriate container for test
480761	BH1 WATER		Glass Jar 1 litre (1 litre) x2, Plastic Bottle 1 litre (1 litre)	Sample is deviating (no sampled date/time supplied)	
480762	BH2 WATER		Glass Jar 1 litre (1 litre) x2, Plastic Bottle 1 litre (1 litre)	Sample is deviating (no sampled date/time supplied)	
480763	BH3 WATER		Glass Jar 1 litre (1 litre) x2, Plastic Bottle 1 litre (1 litre)	Sample is deviating (no sampled date/time supplied)	
480764	BH4 WATER		Glass Jar 1 litre (1 litre) x2, Plastic Bottle 1 litre (1 litre)	Sample is deviating (no sampled date/time supplied)	
480765	BH5 WATER		Glass Jar 1 litre (1 litre) x2, Plastic Bottle 1 litre (1 litre)	Sample is deviating (no sampled date/time supplied)	
480766	BH6 WATER		Glass Jar 1 litre (1 litre) x2, Plastic Bottle 1 litre (1 litre)	Sample is deviating (no sampled date/time supplied)	

ANNEX H
In-Situ Soakaway Test Results

terrafirma

Terra Firma (Wales) Limited
Wharfedale Road, Pentwyn
Cardiff
CF23 7HB

Tel: 029 20 375 354
Fax: 029 20 735 433
Email: info@terrafirmawales.co.uk

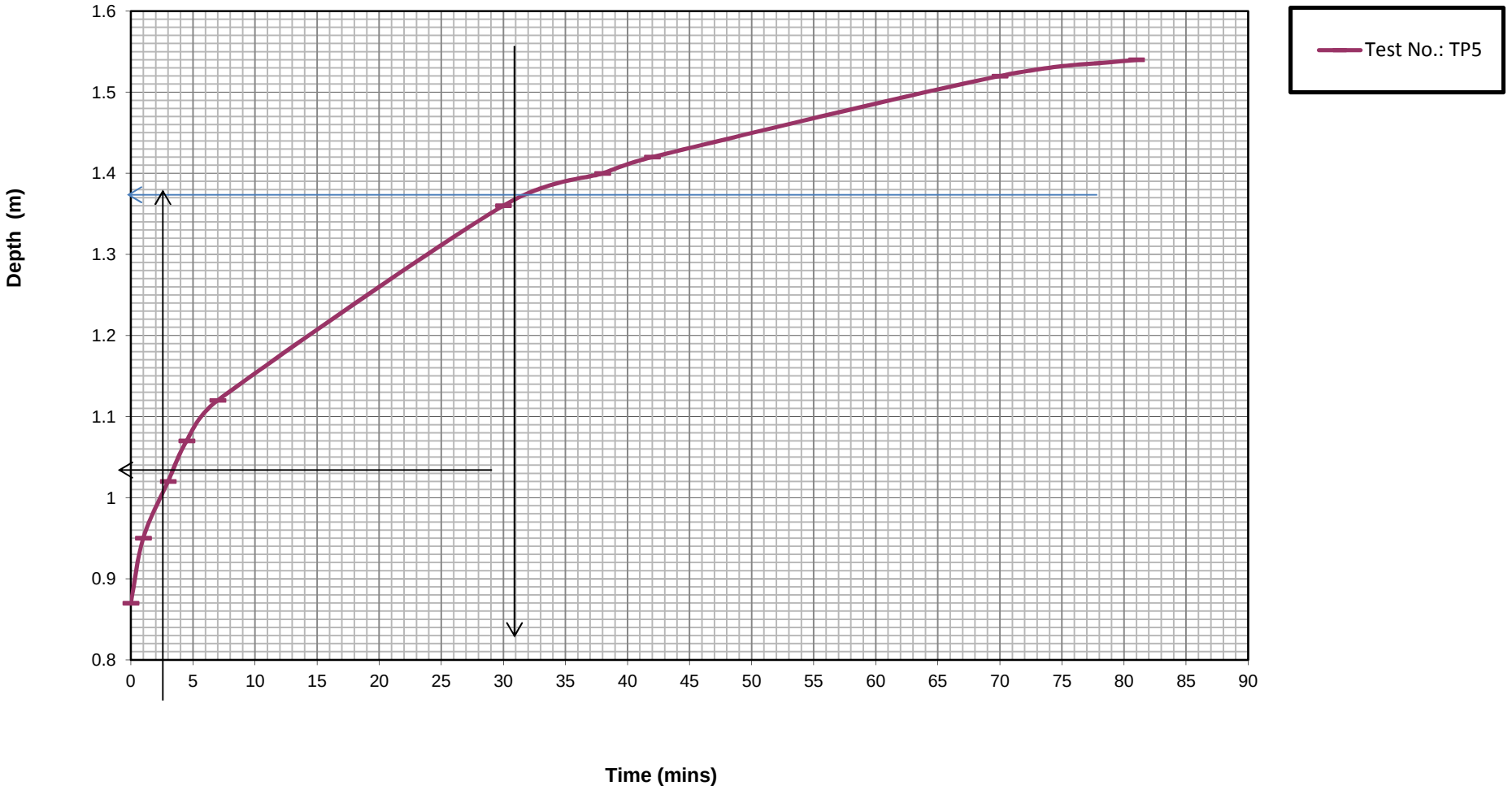
Site Name: Herbert Road
Number: 12032
Date Undertaken: 6.11.2012
Test No.: TP5

	Depth to Water (m)	Time (Mins)
(effective depth - 100%)	0.87	0
	0.95	1
	1.02	3
	1.07	4.5
	1.12	7
	1.36	30
	1.4	38
	1.42	42
	1.52	70
(effective depth - 0%)	1.540	81

Length of Trial Pit (m)	2.30	
Width of Trial Pit (m)	0.70	
Depth of Trial Pit (m)	1.70	
Effective Storage Depth (m)	0.670	
Vp25	1.0375	
Vp75	1.3725	
Vp75-25	0.539	
50% effective depth (m)	0.335	
Mean Surface area ap50 (m2)	3.620	
Time for 25% **Outflow** (t_{p25})	3.25	**From Graph**
Time for 75% **Outflow** (t_{p75})	31.25	**From Graph**
tp75 - 25	28	
Soil Infiltration Rate (m/s)	**8.86855E-05**	

Soil Infiltration Worksheet: This worksheet has been produced in combination with the document 'BRE Digest 365- September 1991'
This worksheet can be used to determine soil infiltration rates from trial pit field measurements
Worksheet options are identified by a green background

Soil Infiltration Measurements- TP5



ANNEX I
In-Situ Gas Monitoring Results

TERRA FIRMA (WALES) LIMITED

In-situ Gas Monitoring Results

Site: Herbert Road, Newport
Date Monitored: 16/01/2012
Barometric Pressure: 1014
Weather: Overcast, dry and very cold
Job No: **12032**

Gas Monitoring Well Number	Methane (CH_4) LEL(%)	Gas(%)	O_2 (%)	CO_2 (%)	Flow (litres/ hour)	CO	H_2S
BH1	0	0.0	19.8	0.3	0.0	0	0
BH2	0	0.0	19.8	0.4	0.0	0	0
BH3	>LEL	61.6	5.0	6.8	0.0	0	10
BH4	0	0.1	19.1	0.6	0.0	0	0
BH5	0	0.0	19.0	0.1	0.0	0	0
BH6	0	0.0	19.0	0.4	0.0	0	0

Notes:

1 Gas Measuring Instrument: Gas Measurement Instrument (GMI) Landsurveyor 2
2 LEL = Lower Explosive Limit
3 O_2 = Oxygen
4 CO_2 = Carbon Dioxide
5 CO = Carbon Monoxide
6 H_2S = Hydrogen Sulphide

TERRA FIRMA (WALES) LIMITED

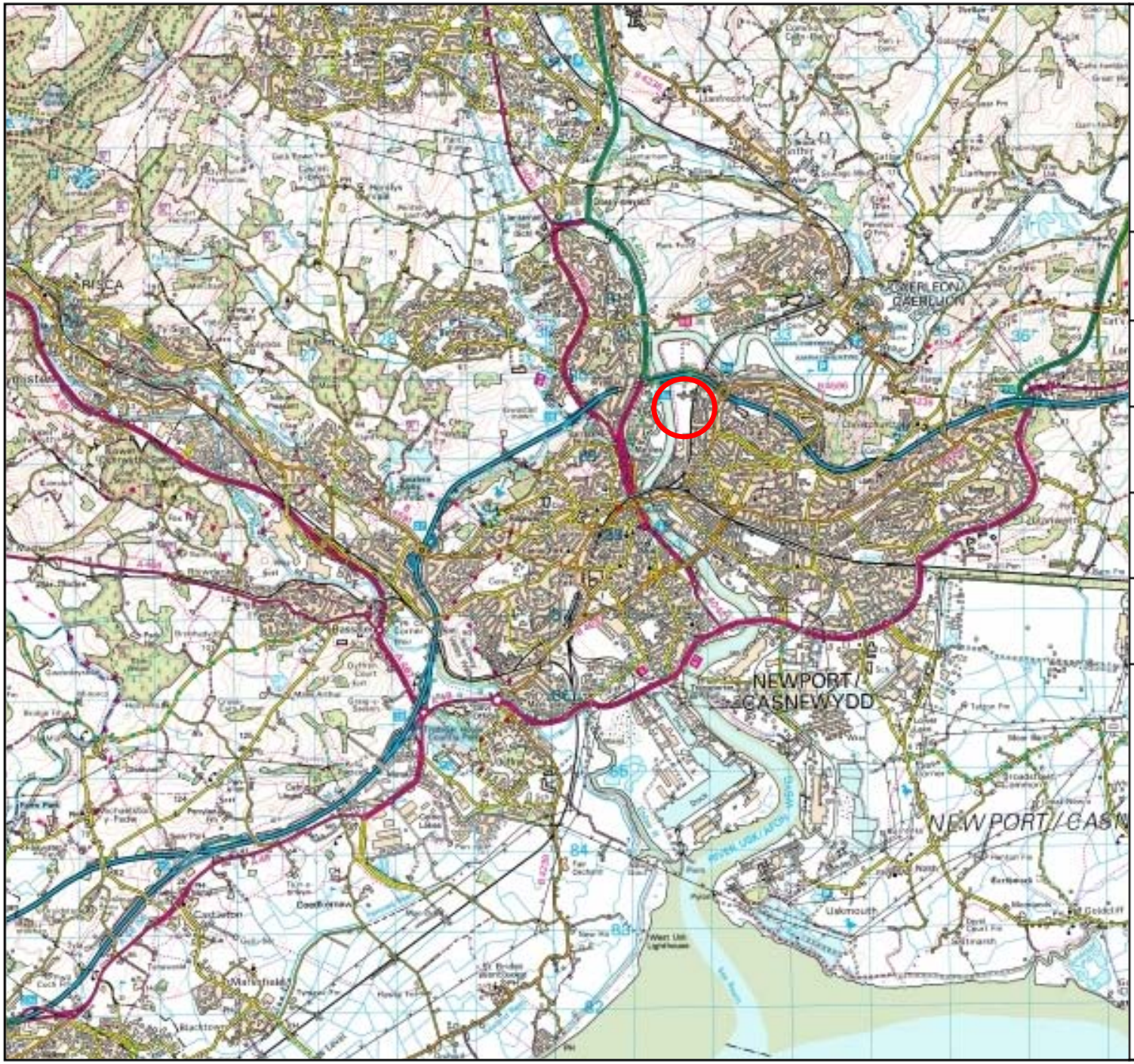
In-situ Gas Monitoring Results

Site: Herbert Road, Newport
Date Monitored: 07/02/2012
Barometric Pressure: 1020-1021
Weather: Overcast, dry and cold
Job No: **12032**

Gas Monitoring Well Number	Methane (CH_4) LEL(%)	Gas(%)	O_2 (%)	CO_2 (%)	Flow (litres/ hour)	CO	H_2S
BH1	1	13.9	21.5	0.1	0.0	0	0
BH2	5	16.2	21.2	1.6	-0.1	0	0
BH3	>LEL	67.4	2.4	6.6	0.0	0	28
BH4	0	0.0	21.4	0.1	0.0	0	0
BH5	1	0.1	21.5	0.3	0.0	0	0
BH6	0	0.0	21.4	0.3	0.0	0	0
WS1	3	4.0	2.5	11.2	0.0	0	0
WS2	29	1.5	1.2	8.3	0.0	2	0
WS3	0	0.0	10.9	3.8	0.0	0	0

Notes:

1 Gas Measuring Instrument: Gas Measurement Instrument (GMI) Landsurveyor 2
2 LEL = Lower Explosive Limit
3 O_2 = Oxygen
4 CO_2 = Carbon Dioxide
5 CO = Carbon Monoxide
6 H_2S = Hydrogen Sulphide



terrafirma

Job Number:

12032

Job Title:

Land off Herbert Road, Newport

Drawing Title:

Site Location

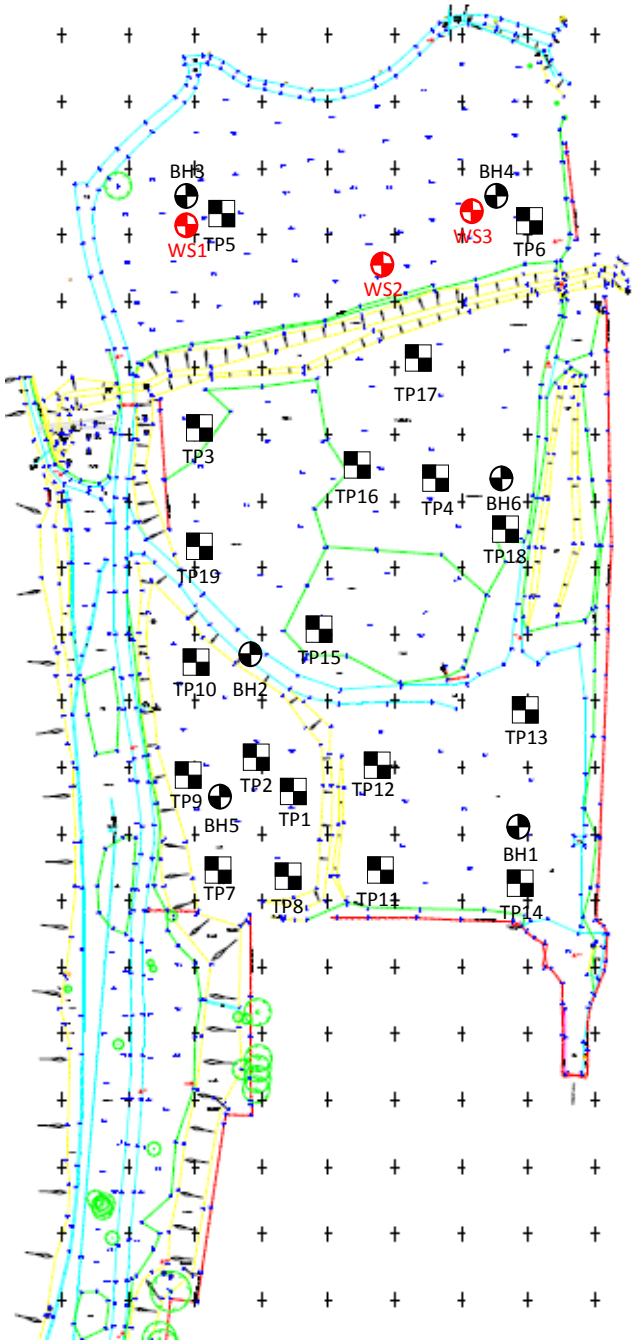
Drawing Number:

01

Scale:

Not to Scale

North



terrafirma

Job Number:

12032

Job Title:

Land off Herbert Road, Newport

Drawing Title:

Current Site Layout

Drawing Number:

02

Scale:

Not To Scale

Legend:

Trial Pit Location

Cable Percussive Borehole

Windowless Sample Borehole

ANNEX B
Terra Firma (Wales) Limited
Remediation Strategy Report

REMEDIATION STRATEGY

PROPOSED RESIDENTIAL DEVELOPMENT
HERBERT ROAD
NEWPORT

Prepared for:
Riversee Limited

June 2015

Job No: 12032/RS

REPORT TITLE	**:**	**Remediation Strategy : Proposed Residential Development, Herbert Road, Newport**
REPORT STATUS	**:**	**Final**
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Executive Summary

An area of land off Herbert Road, Newport, is to be residentially developed.

In order to comply with current Government directives and the FCA approved by NRW a large section of the development site needs to be raised to a finished floor slab level of 9.95m AOD, which is between 2.5-2.75m above existing levels. This operation will be undertaken in two stages, firstly filling the site to 8.80m AOD utilising material stored upon an adjacent site and then filling the site to 9.95m FFL during the main residential development works.

Riversee Limited is proposing to raise the site to 8.8m AOD before passing on the site to the developer, who will then raise the site further to a finished level of 9.95m AOD.

Investigation of the site was undertaken by Terra Firma (Wales) Limited. The details of the investigation were reported in March 2013 (Geo-environmental and Geo-technical Report No. 12032). In March 2014 additional testing of groundwater was performed.

Terra Firma (Wales) Limited has subsequently been commissioned to prepare a Remediation Strategy for the site. The proposed remediation measures for the site are:

1. ***Cover of site with between up to 2.75m of imported fill (intended to raise site above flood plain).***

2. ***Cover is to include subsoil and topsoil material in garden and landscaped areas. A minimum of 600mm of clean imported fill (topsoil/subsoil) is required in garden and landscaped areas.***

3. ***Monitoring and management of any soils if disturbed and excavated at the location of TP7 to protect against asbestos fibres.***

4. ***Current minimum requirements is the installation of a 2000 gauge membrane suitable for protection against ground gas, radon gas and PCB vapours in all new buildings. Passive under-floor venting and taping and sealing of all joints will also be required. Dependant on further on-site flux box gas monitoring more robust gas protection measures may be required.***

5. ***New water supply pipes to be chosen in accordance with UKWIR Report Ref No 10/WM/03/21 'Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites'.***

6. ***Additional assessment of groundwater quality during and immediately following placement of fill by Riversee Limited***

All works carried out on site should be documented and recorded, and reported to Newport City Council Environmental Protection and National Resources Wales in the form of a Validation Report.

Any unexpected ground conditions or contamination identified during site development should be inspected and appropriately investigated by a geo-environmental engineer. This may include suspension of site works until the details and severity of any contamination has been established and the potential risks to human health assessed.

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An area of land off Herbert Road, Newport is to be residentially developed.

In order to comply with current Government directives and the FCA approved by NRW a large section of the development site needs to be raised to a finished floor slab level of 9.95m AOD, which is between 2.5-2.75m above existing levels. This operation will be undertaken in two stages, firstly filling the site to 8.80m AOD utilising material stored upon an adjacent site and then filling the site to 9.95m FFL during the main residential development works.

Riversee Limited is proposing to raise the site to 8.80m AOD before passing on the site to the developer. This area of fill is detailed in the drawing provided in **Annex A**.

In order to raise levels materials are to be imported and placed as engineered fill.

Terra Firma (Wales) Limited has been commissioned to prepare a Remediation Strategy for the site.

The objective of the Remediation Strategy is to address any human health risks and any risks to the aquatic environment previously identified on site, and to set out measures required to ensure that the planned earthworks and import of soils does not create a risk to human health or impact upon the surrounding environment.

1.1 Limitations and Exceptions

Riversee Limited has requested that a Remediation Strategy be prepared.

This report has been prepared for the sole internal reliance of Riversee Limited. This report shall not be relied upon or transferred to any other parties without the express written authorisation of Terra Firma (Wales) Limited. If an unauthorised third party comes into possession of this report they rely on it at their peril and the authors owe them no duty of care and skill.

The report represents the findings and opinions of experienced geo-environmental and geo-technical consultants. Terra Firma (Wales) Limited does not provide legal advice and the advice of lawyers may also be required.

It is not within the scope of Terra Firma (Wales) Limited to:

- Provide Method Statements and Risk Assessments for site preparation and handling and control of soils containing asbestos.
- Design, install and validate the pipes for potable water supply beneath the site.

SECTION 2 Summary of Terra Firma (Wales) Limited Geotechnical and Geo-environmental Report

2.1 Site Works

Investigation of the site was previously undertaken by Terra Firma (Wales) Limited. This included the proposed development area to which this Remediation Strategy refers (south of the drainage reen), and the area north of the drainage reen.

The details of the investigation were reported on in March 2013 (Geo-environmental and Geo-technical Report No. 12032).

The site investigation was carried out between the 31st of October and the 8th of November 2012 comprising 19 trial pits and six cable percussive boreholes and three mini percussive boreholes.

In March 2014 additional testing of groundwater was performed.

2.2 Ground Conditions

The ground conditions encountered beneath the site can in general be summarised as shown in **Table 2.1.**

Table 2.1 Summary of Ground Conditions

Depth (m)			Thickness (m)	Stratum
GL	-	0.20/3.30	0.20/3.30	**MADE GROUND**
0.30	-	3.90/10.30	2.20/8.40	Soft grey and brown mottled **CLAY**
3.90/7.1	-	4.10/8.60	0.60/2.30	**PEAT**
4.10/8.60	-	5.90/9.70	0.00/1.80	**SAND & GRAVEL (intermittent)**
5.90/10.30 10.00/12.70		-	0.50/4.10	Firm becoming very stiff red brown gravelly **CLAY**
10.00/12.70	-	>12.90	-	**MUDSTONE**

The basal Sand & Gravel layer was not encountered in BH1, BH2, BH4 and BH5.

Very loose red brown silty SAND and very soft red sandy SILT was encountered between 6.20m and 7.00m and 7.00m and 8.80m respectively.

Soft grey sandy SILT was encountered between 6.20m and 9.10m.

2.3 Foundation Solution

Construction of shallow traditional foundations upon soft clay bands beneath the site would lead to high total and differential settlements.

Precast concrete driven piles founded within the underlying very weak red brown and grey mudstone with a suspended floor slab were therefore recommended.

2.4 Contamination Screening

During the intrusive investigation, small disturbed soil samples were collected for contamination screening. Groundwater wells were installed and groundwater samples were also retrieved for testing. Samples from the drainage reen were taken and analysed in June 2013.

Testing of soil and water samples for a standard suite of metals, inorganics and organics was undertaken as well as for asbestos, polycyclic aromatic hydrocarbons (PAH), petroleum hydrocarbons and polychlorinated biphenyls (PCBs)

A number of substances tested for were found to be above their respective threshold levels in soil on the proposed development site. These exceedences are summarised in **Table 2.2** below.

Table 2.2 Summary of Contaminants of Concern in Soil

Hole and depth (m bgl)	Chemical	Guideline (mg/kg)	Exceedance (mg/kg)
TP2 0.90m	Cyanide	8	10
TP8 0.50m	Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Chrysene Dibenzo(a,h)anthracene Indeno(1,2,3-c,d)pyrene	3.1 0.83 5.6 6 0.76 3.2	13 11 9 13 1.6 7.5
TP4 0.70m	Benzo(a)pyrene	0.83	0.90
TP7 0.20m	Benzo(a)pyrene Chrysotile – Loose Bundles	0.83 -	1.90 -
TP9 1.00m	Benzo(a)pyrene	0.83	1.30
TP10 0.80m	Benzo(a)pyrene	0.83	1.50
TP13 0.60m	PCB 2,4,4'-Trichlorobiphenyl 2,2',5,5'-Tetrachlorobiphenyl	0.01 0.01 0.01	0.16 0.12 0.05

As seen in **Table 2.2** above, the occurrence of asbestos identified by Terra Firma was limited to one location, TP7, where chrysotile bundles at 0.2m depth were noted.

2.4 Contamination Screening (Continued)

Substances found to be elevated in groundwater and reen water are summarised in **Table 2.3** below.

Table 2.3 Summary of Contaminants of Concern in Groundwater

Borehole	Chemical	Threshold (mg/l)	Exceedance (mg/l)
BH1 (08.01.2013)	Aliphatic C16-C21 Aliphatic C21-C35	0.01 0.01	0.11 0.14
BH2 (08.01.2013)	Aliphatic C16-C21 Aliphatic C21-C35	0.01 0.01	0.037 0.19
BH6 (08.01.2013)	Aliphatic C16-C21 Aliphatic C21-C35	0.001 0.001	0.03 0.011
Reen (Upstream)	Aliphatic C16 - C21 Aliphatic C21 - C35 Aromatic C10 - C12 Aromatic C21 - C35 Fluoranthene	0.01 0.0001	0.021 0.17 0.018 0.062 0.00013
BH5 (06.03.2014)	Zinc	0.125	0.16

2.5 Gas Monitoring

The site is underlain by made ground of up to 3.3m thickness and the area north of the development site (north of the drainage reen) was previously used as a landfill. Peat deposits are present within the underlying alluvium. Nine gas monitoring wells were installed and a programme of gas monitoring for the presence of methane, carbon dioxide and oxygen was completed

In-situ gas monitoring results were also obtained from a previous investigation completed by White Young Green (WYG). The Terra Firma and WYG results for the site are summarised in **Table 2.4** below.

Table 2.4 In-situ Gas Monitoring Results

Monitoring Point	Max CH4 (%)	Max CO2 (%)	Max Flow Rate
White Young Green			
BH409	0.0	1.9	0.3
BH507	12.8	2.3	2.6
BH508	80.6	20.5	3.8
BH516	0.0	0.5	0.5
BH519	43.8	7.6	0.3
BH529	0.0	3.1	0.0
BH530	0.1	5.8	0.2
Terra Firma			
BH1	0.3	12.9	0.0
BH2	6.0	22.0	0.1
BH3	57.9	6.4	0.0
BH4	0.3	0.2	0.1
BH5	0.3	3.7	0.1
BH6	0.3	7.1	0.0
WS1	0.4	12.6	0.4
WS2	1.1	8.9	0.0
WS3	0.5	5.0	0.0

It is also noted that WYG recorded a maximum flow rate of 7.4l/hour on land immediately north of the site.

The in-situ gas monitoring has proven that methane and carbon dioxide gas are being released from the peat beneath the site. There is a risk of these gases entering and accumulating in all new buildings constructed on site.

CIRIA Report C665 can be used to assess the results.

Using the maximum recorded methane concentration of 80.6% and the maximum recorded flow rate of 7.4/hr, a gas screening value (GSV) of 5.96/hr is calculated, as follows:

(80.6/100) x 7.4 = 5.96/hr

When this result is compared with Table 8.5 of CIRIA report C665, the site is classified as ‘gas characteristic situation 3-4’.

2.6 Human Health and Environmental Risk Assessment

2.6.1 Human Health

It was concluded that future site users are potentially at risk from contamination in site soils through the following pathways:

- *Dermal contact with soil and soil dust*
- *Ingestion of soil and soil dust*
- *Inhalation of soil dust*
- *Consumption of site grown vegetables/fruit*
- *Ingestion of groundwater*
- *Inhalation of asbestos fibres*

The site is currently deemed to be at risk from flooding from the adjacent River Usk. As part of a flood prevention scheme the site is to be prior to development. This will be achieved by the importation of suitable fill materials.

The fill layer will effectively form a barrier between the made ground on site and site end users, acting to sever the contamination to receptor pathway. The engineered fill is discussed in **Section 3.2.**

No existing soils on site are intended to be disturbed. If any such excavations are to be undertaken at the location of TP7 then appropriate measures should be made for monitoring for airborne asbestos fibres and management of any materials to be removed from site. This is to ensure no adverse human health risks are created.

All garden and landscaped areas will be finished with clean imported subsoil and subsoil. This stage of the development will be fulfilled by the developer. Please refer to **Section 3.3**.

- *Inhalation of radon gas*
- *Inhalation of ground gas/landfill gas*
- *Inhalation of vapours*

Basic radon protection measures should be incorporated into all new buildings on site.

The radon/gas barrier should also be effective as a barrier to PCB vapours.

Gas protection measures are to be installed in the new development. As a minimum the following protection measures will be implemented:

- A 2000 gauge DPM/reinforced gas membrane
- Passive under-floor venting
- All joints taped and sealed

This stage of the development will be fulfilled by the developer

Gas protection measures are discussed in greater detail in **Section 3.4**.

2.6.1 Human Health (Continued)

- *Permeation of drinking water pipes*

Prior to the placement of water supply pipes an assessment should be made, by the water provider, of soil along the route of the pipe with reference made to the material selection criteria quoted in UKWIR Report Ref No 10/WM/03/21 'Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites'.

This stage of the development will be fulfilled by the developer.

2.6.2 Aquatic Environment

The River Usk flows along the western edge of the site and is considered as the most vulnerable environmental receptor.

The petroleum hydrocarbons identified during the first groundwater monitoring round were attributed to contamination that occurred from the drilling process. Following purging of the boreholes on the second round of water sampling all hydrocarbons were below guideline values.

The hydrocarbons noted at the reen were identified up-stream but not down-stream and it was concluded that all of the determinants exiting the site and entering the River Usk from the reen were below threshold values.

Two rounds of groundwater testing in March 2014 identified only a single exceedence of zinc, in one location.

Monitoring of groundwater level in boreholes in January 2014 confirmed that there was no tidal influence on groundwater in underlying gravel and no hydraulic continuity between groundwater and the River Usk.

The River Usk and hydrological environment are not therefore considered to be at risk.

Please refer to **Section 3.7**.

SECTION 3 Proposed Site Remediation

3.1 Remediation Summary

Based on the site investigative works the following is proposed to protect construction workers and future site end users:

1. Cover of site with up to 2.75m of imported fill (intended to raise site above flood plain).

   Riversee Limited is to raise the site to a level of 8.8m AOD before passing the site on to the developer. This will be an increase in level by up to 1.6m.

   The developer will further raise the site to a level of 9.95m AOD.

2. Capping with 600mm of clean soil (subsoil and topsoil) in garden and landscaped areas.

3. Current minimum requirements is the installation of a 2000 gauge membrane suitable for protection against ground gas, radon gas and PCB vapours in all new buildings. Passive under-floor venting and taping and sealing of all joints will also be required. Dependant on further on-site flux box gas monitoring (see Section 3.4) more robust gas protection measures may be required.

4. Sampling and analysis of groundwater prior to and following initial fill works.

5. New water supply pipes to be chosen in accordance with UKWIR Report Ref No 10/WM/03/21 ‘Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites’.

Any unexpected ground conditions or contamination identified during site development should be inspected and appropriately investigated by a geo-environmental engineer. This may include suspension of site works until the details and severity of any contamination has been established and the potential risks to human health assessed.

3.2 Importation of Fill for Engineering Purposes

Fill importation will need to take into account the location of the site adjacent to the River Usk and within a SSSI. It is essential that any material brought on to site will not have an impact on the underlying ground and the river, and that it will not present an unacceptable risk to the human health of future site end users.

Appropriate permits will therefore need to be in place.

In order to assess the suitability of intended fill soils they will need to undergo appropriate screening, prior to being brought on to site.

Testing needs to be carried out in accordance with ‘Requirements for the Chemical Testing of Imported Materials for Various End Uses and Validation of Cover Systems’.

All fill should as a minimum be screened for the substances listed in **Table 3.1** on the following page.

3.2 Importation of Fill for Engineering Purposes (Continued)

The Human Health Guidelines are based on CLEA Guidelines published by the Environment Agency, or in their absence Generic Assessment Criteria (GAC) for a residential setting, published by the Chartered Institute of Environmental Health (CIEH), or in the case of lead, the Category 4 Screening Level (C4SL).

Fill material will be capped with approximately 1.15m of further fill by the developer. Therefore residential guidelines, not taking into account plant uptake, have been used.

Table 3.1
Soil Determinants and Guideline Values
Imported Engineered Fill Material

Determinant	Comparable Guideline Value (mg/kg)			Source
Arsenic	32			CLEA
Beryllium	1.7			CIEH
Boron	11000			CIEH
Cadmium	10			CLEA
Chromium III	910			CIEH
Chromium VI	6.0			CIEH
Copper	7100			CIEH
Lead	310			C4SL
Mercury	170			CLEA
Manganese	-			-
Molybdenum	-			-
Nickel	130			CLEA
Selenium	350			CLEA
Zinc	40000			CIEH
Cyanide	8			CLEA
Antimony	-			-
Phenol	420			CLEA
pH (acidity)	-			-
Asbestos	-			-
	≤ 1% SOM	**≤ 2.5% SOM**	**≤ 6% SOM**	
Naphthalene	2.3	5.6	13	CIEH
Acenaphthylene	2900	4600	6000	CIEH
Acenaphthene	3000	4700	6000	CIEH
Fluorene	2800	3800	4500	CIEH
Phenanthrene	1300	1500	1500	CIEH
Anthracene	31000	35000	37000	CIEH
Fluoranthene	1500	1600	1600	CIEH
Pyrene	3700	3800	3800	CIEH
Benzo(a)anthracene	11	14	15	CIEH
Chrysene	30	31	32	CIEH
Benzo(b)fluoranthene	3.9	4.0	4.0	CIEH
Benzo(k)fluoranthene	110	110	110	CIEH
Benzo(a)pyrene	3.2	3.2	3.2	CIEH
Dibenzo(ah)anthracene	46	45	46	CIEH
Benzo(ghi)perylene	0.31	0.32	0.32	CIEH
Indeno(123cd)pyrene	360	360	360	CIEH

3.2 Importation of Fill for Engineering Purposes (Continued)

Table 3.1 (Continued)
Soil Determinants and Guideline Values
Imported Engineered Fill Material

Determinant	Comparable Guideline Value (mg/kg)			Source
Petroleum Hydrocarbons				
	≤ 1% SOM	**≤ 2.5% SOM**	**≤ 6% SOM**	
Aliphatic EC >5-6	42	78	160	CIEH
Aliphatic EC >6-8	100	230	530	CIEH
Aliphatic EC >8-10	27	65	150	CIEH
Aliphatic EC >10-12	130	330	760	CIEH
Aliphatic EC >12-16	1100	2400	4400	CIEH
Aliphatic EC >16-35	65000	92000	110000	CIEH
Aliphatic EC >35-44	65000	92000	110000	CIEH
Aromatic EC >5-7 (benzene)	- 370	- 690	0.33 1400	CLEA CIEH
Aromatic EC >7-8 (toluene)	- 860	- 1800	610 3900	CLEA CIEH
Aromatic EC >8-10	47	110	270	CIEH
Aromatic EC >10-12	250	590	1200	CIEH
Aromatic EC >12-16	1800	2300	2500	CIEH
Aromatic EC >16-21	1900	1900	1900	CIEH
Aromatic EC >21-35	1900	1900	1900	CIEH
Aromatic EC >35-44	1900	1900	1900	CIEH

Table Notes

- CLEA - Soil Guideline Values for residential development
- CIEH - Generic Assessment Criteria for a residential setting
- ATRISK – Generic assessment criteria (without plant uptake) developed by Atkins
- SOM - Soil Organic Matter

The tables list a general test suite of general determinants for soils although additional determinants may be recommended for situations where the donor site(s) is known to have a former industrial land use.

3.2 Importation of Fill for Engineering Purposes (Continued)

In respect to groundwater risk it is proposed that all materials will undergo 2:1 soil leachate analysis **in accordance with BS:EN:12457** for the substances listed in **Table 3.2**. Results should be compared to the Environment Agency Guidelines.

Table 3.2
Leachate Assessment Criteria

Determinant	Comparable Threshold (mg/l)	Source
Arsenic	0.025	WFD
Cadmium	0.0002	WFD
Chromium *	0.0006	WFD
Copper	0.005	WFD
Lead	0.0072	WFD
Mercury	0.0005	WFD
Nickel	0.02	WFD
Selenium	0.01	WHO
Zinc	0.04	WFD
Cyanide	0.001	WFD
Phenol	0.0077	WFD
Chloride	N/A	-
Fluoride	0.5	DSD
Speciated PAH		
Napthalene	0.0012	WFD
Acenaphthylene	-	-
Acenaphthene	-	-
Fluorene	-	-
Phenanthrene	-	-
Anthracene	0.0001	WFD
Fluoranthene	0.0001	WFD
Pyrene	-	-
Benzo(a)anthracene	-	-
Chrysene	-	-
Benzo(b)fluoranthene	0.00003	WFD
Benzo(k)fluoranthene	0.00003	WFD
Benzo(a)pyrene	0.00005	WFD
Dibenzo(ah)anthracene	-	-
Benzo(ghi)perylene	0.000002	WFD
Indeno(123cd)pyrene	0.00002	WFD

3.2 Importation of Fill for Engineering Purposes (Continued)

Table 3.2 (Continued)
Leachate Assessment Criteria

Determinant	Comparable Threshold (mg/l)	Source
Petroleum Hydrocarbons		
Aliphatic EC >5-6	-	-
Aliphatic EC >6-8	-	-
Aliphatic EC >8-10	-	-
Aliphatic EC >10-12	-	-
Aliphatic EC >12-16	-	-
Aliphatic EC >16-35	-	-
Aliphatic EC >35-44	-	-
Aromatic EC >5-7 (benzene)	0.008	WFD
Aromatic EC >7-8 (toluene)	0.04	WFD
Aromatic EC >8-10 (xylene)	0.03	WFD
Aromatic EC >10-12	-	-
Aromatic EC >12-16	-	-
Aromatic EC >16-21	-	-
Aromatic EC >21-35	-	-
Aromatic EC >35-44	-	-

Table Notes

- WFD – Water Framework Directive threshold for coastal and transitional waters/other waters (annual average)
- World Health Organisation threshold for drinking water (in absence of WFD threshold)
- DSD – Dangerous Substances Directive saltwater annual average (in absence of WFD threshold)
- *Threshold for Chromium VI
- - No guideline available

The number of representative samples of the fill that will require analysis will depend on the volume of soil and number of soil sources.

A significant volume of soil will be required to attain the desired levels.

It is proposed that for each 250m^3 (or part of) that 1 representative sample be taken for screening, per source. This has been agreed with Newport City Council.

As suggested by Newport City Council Environmental Protection, the sampling frequency may be reduced if fill is sourced from a quarry or quarried supply if accompanied with recent and representative analysis which includes heavy metals.

3.2.1 Fill Materials - Riversee Limited

Riversee Limited will be increasing the level of the site to 8.8m AOD before passing the site on to the developer. This will be an increase in level by up to 1.6m.

Riversee Limited currently retain a stockpile of soil on land adjacent to the site, which measures 22,000m^3 in volume. This stockpile is intended for use, in conjunction with imported quarry stone. The stockpile is derived from a number of indistinguishable sources, comprising 'recovered' soils from previous construction sites in the local area. It has therefore been treated as a singular source.

The stockpile has been partially sampled and tested.

All substances (as per **Table 3.1**) were confirmed to be present at levels below their respective threshold levels.

However, asbestos was identified in a 17 of the 36 samples. With the exception of one sample, the fibre content of all samples was found to be below the laboratory detection limit of 0.001%. This would classify the soils as non-hazardous waste with respect to asbestos.

One occurrence of asbestos containing cement was recorded.

Riversee Limited is currently in in discussion with the NRW with the aim of obtaining a bespoke permit allowing the re-use of this material provided adequate control and protection is in place to prevent any impact by asbestos on the surrounding environment, and to ensure that there will be no risk to the human health of site workers and neighbouring site users.

It is anticipated that the permit will outline how the asbestos containing soils will be managed by a combination of appropriate health and safety measures and by the placement of an overlying 300mm clean capping layer above the stockpile sourced fill (from 8.5m – 8.8m AOD), including on all embankments.

Due to the presence of asbestos a geotextile membrane should be placed between the stockpiled materials and the 300mm clean fill. This will act to ensure adequate protection of future site users (developer site construction workers who are to raise the level of fill from 8.80m AOD to 9.95m AOD) and neighbouring site users from any fugitive asbestos fibres.

Reinforced earth embankments will be utilised to retain the filling works, along with the existing flood defence embankment along the front of the site. Please refer to the attached fill works drawing in **Annex A**.

The site will be further filled with an additional layer of approximately 1m during the residential development operation.

The 300mm capping layer should chemically strictly adhere to **Table 3.1.**

Leachate analysis upon the stockpile soils will be performed in the next two weeks and the results circulated as an update to the report.

Similarly, the results of all tests will be made available for review and approval by Newport City Council and the NRW prior to importation, in line with Condition 20 of the Planning Application.

3.3 Importation of Soils for Gardens and Landscaped Areas

Following construction of the houses on site, the developer will complete all garden and landscaped areas with both imported subsoil and topsoil, attaining a total minimum thickness of 600mm.

For all imported soils appropriate certification should be provided by the supplier as well as details of the soil source.

All imported material should be chemically screened to ensure its suitability for use in accordance with the Welsh Land Contamination Working Group 'Requirements for the Chemical Testing of Imported Materials for Various End Uses and Validation of Cover Systems'.

Ideally imported soils should be stockpiled upon site for sampling. Any stockpiled soils should not be dispersed on site until test results have been received and soil suitability confirmed.

Typically, per source, 4 representative samples should be screened for a volume between $20m^3$ and $250m^3$. For volumes exceeding $250m^3$, 4 samples per $250m^3$ should be analysed.

Should the imported soils already have been put down in garden and soft landscaped areas before sampling the number of samples required should be calculated according to the volume imported.

Once in place validation of the 600mm thickness will be required. This should comprise the hand excavation of a trial hole in 1 in 3 gardens and photographic evidence documenting measurement to the full depth.

Test results should be compared with residential Soil Guideline Values (SGVs) sourced from The Environment Agency Contaminated Land Exposure Assessment (CLEA). Where SGV values are not available reference should be made to Generic Assessment Criteria (GAC) for a residential setting provided by Land Quality Management Limited and the Chartered Institute of Environmental Health (CIEH), or in the case of lead, the ATRISK guideline provided by Atkins.

3.3 Importation of Soils for Gardens and Landscaped Areas (Continued)

The required testing is detailed in **Table 3.3** below.

Table 3.3
Soil Determinants and Guideline Values
Imported Soils

Determinant	Comparable Guideline Value (mg/kg)			Source
Arsenic	32			CLEA
Boron	290			CIEH
Cadmium	10			CLEA
Chromium III	910			CIEH
Chromium VI	6.0			CIEH
Copper	2400			CIEH
Lead	200			C4SL
Mercury	170			CLEA
Nickel	130			CLEA
Selenium	350			CLEA
Zinc	3700			CIEH
Cyanide	8			CLEA
Phenol	420			CLEA
pH (acidity)	-			-
Asbestos	Non detectable			-
Speciated PAH				
	≤ 1% SOM	**≤ 2.5% SOM**	**≤ 6% SOM**	
Naphthalene	2.3	5.6	13	CIEH
Acenaphthylene	170	420	920	CIEH
Acenaphthene	210	510	1100	CIEH
Fluorene	170	400	860	CIEH
Phenanthrene	95	220	440	CIEH
Anthracene	2400	5400	11000	CIEH
Fluoranthene	280	560	890	CIEH
Pyrene	620	1200	2000	CIEH
Benzo(a)anthracene	7.2	11	13	CIEH
Chrysene	15	22	27	CIEH
Benzo(b)fluoranthene	2.6	3.3	3.7	CIEH
Benzo(k)fluoranthene	77	93	100	CIEH
Benzo(a)pyrene	2.2	2.7	3.0	CIEH
Dibenzo(ah)anthracene	27	36	41	CIEH
Benzo(ghi)perylene	0.24	0.28	0.3	CIEH
Indeno(123cd)pyrene	320	340	350	CIEH

Table Notes

- CLEA - Soil Guideline Values for a residential development
- CIEH - Generic Assessment Criteria for a residential setting, developed as Land Quality Management by the Chartered Institute of Environmental Health
- ATRISK – Generic assessment criteria (with plant uptake) developed by Atkins
- SOM – Soil Organic Matter

3.4 Gas and Vapour Protection

The site has been classified as 'gas characteristic situation 3-4' in accordance with Table 8.5 of CIRIA Report C665.

The action of piling through underlying peat deposits will potentially open up preferential gas pathways, but the alluvial deposits between the peat and made ground can be expected to settle and seal around the piles and drains considerably minimising this risk.

Taking the above into consideration, gas protection measures in line with 'gas characteristic 2' may prove adequate to prevent the risk from ground gas to future site residents.

Table 8.6 of the CIRIA report confirms that for gas characteristic 2 sites, the following precautions are required:

- A 2000 gauge DPM/reinforced gas membrane
- Passive under-floor venting
- All joints taped and sealed

As a minimum these protection measures will be implemented. However, further on-site gas monitoring from already installed wells and from flux boxes is to be undertaken during development to confirm that this level of protection will be suitable.

It is proposed that following placement of the fill, flux boxes will be placed across the site and monitored on a weekly basis for a period of 3 months.

Further flux box testing should be carried out once piling has commenced. The frequency and sampling locations will be considered once the piling schedule has been determined.

Should further monitoring identify concentrations of methane and/or carbon dioxide and flow rates beyond 'gas characteristic 2' criteria then more robust protection measures will be necessary.

In accordance with Table 8.6 of the CIRIA report, potential further protection measures could include:

- Proprietary gas resistant membrane
- Positively pressurised underfloor sub-space
- In-ground venting and venting wells

The results of all additional monitoring and consequent gas protection recommendations will be presented to Newport City Council for review.

The developer will also provide details on proposed validation testing of the gas mitigation measures.

All test certification will be issued to Newport City Council prior to occupancy.

The radon/gas barrier should also be effective as a barrier to PCB vapours.

3.5 Asbestos Management and Monitoring – In-situ Soils

If excavations are to be undertaken at the location of TP7 prior to site fill works then appropriate measures should be made to ensure there are no risks to construction workers and neighbouring site occupants/users.

Monitoring for airborne asbestos fibres would be required, including along the boundary of the site. A strategy should also be put in place to deal with any fibres, should they be detected.

Any materials to be removed from site should be appropriately managed to mitigate all potential risks.

If required, a strategy for monitoring asbestos and removing materials should be drawn up and approved by Newport City Council Environmental Protection prior to site works.

The details and data from any monitoring etc should be compiled and reported to Newport City Council Environmental Protection.

3.6 Potable Water Supply

Details of the proposed drinking water supply pipes should be supplied by the developer to Newport City Council for approval prior to development.

The UKWIR Report Ref No 10/WM/03/21 ‘Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites’ should be consulted.

3.7 River Usk and Groundwater

Groundwater and reen water testing to date has not identified a risk to the River Usk. No hydraulic continuity between the river and groundwater has been identified.

In order to increase confidence that no risks are presented the aquatic environment further assessment is proposed.

Prior to fill of the site by Riversee Limited six new water monitoring wells will be installed across the development site. The response zone of these wells will be the deep groundwater. The proposed location of these wells is indicated in **Figure 3.1** on the following page.

Six wells have been specified as it is assumed that previous wells may have been damaged or become inaccessible due to clearance of site vegetation and are no longer useable.

3.7 River Usk and Groundwater (Continued)

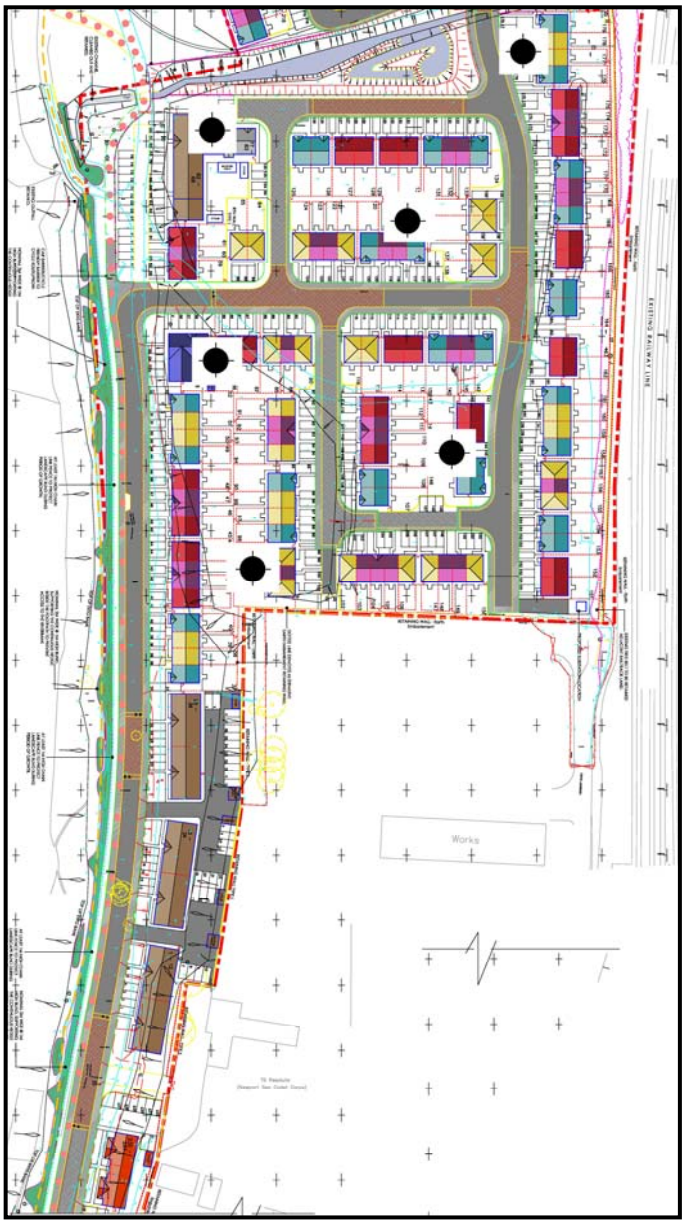

Figure 3.1: Proposed Water Monitoring Well Locations

The wells will be sampled on three occasions. Once prior to Riversee Limited fill works, and twice on completion of these earthworks. The second round will be carried out immediately after filling and the third one month later.

Should the Riversee Limited earthworks be subject to any unexpected delay beyond a five month period, the second water monitoring round should be scheduled for no later than five months following commencement of the earthworks, and the third round should follow at no later than 6 months following earthworks commencement.

Water samples will be analysed for a standard suite of metals and inorganics, PCBs, speciated PAH and petroleum hydrocarbons.

3.7 River Usk and Groundwater (Continued)

The results from this monitoring will be assessed and reported to both Newport City Council and National Resources Wales in due course.

Should the results highlight a concern with regard to a change in groundwater quality further sampling or remedial measures will be agreed with Newport City Council and National Resources Wales as appropriate.

SECTION 4 Validation Report

All remedial works should be documented and details compiled in the form of a Validation Report.

The validation will be reported in two stages.

A Validation Report will be compiled for Riversee Limited following completion of the initial fill of the site once all associated monitoring has concluded.

The Validation Report should include, but not limited to, the following:

1. Details of source of imported material including imported stone/aggregate
2. A record of the number of soil sources, their origin, and their respective volumes
3. Chemical certificates for fill imported for engineering purposes
4. Data from any asbestos monitoring carried out
5. Results from groundwater monitoring carried out during and immediately following the earthworks.
6. Records of any materials removed from site
7. Records of the flux box testing

The Developer will be responsible for commissioning a second Validation Report once the development has been completed.

The Validation Reports should include, but not limited to, the following:

1. Details of source of imported material including imported stone/aggregate
2. A record of the number of soil sources, their origin, and their respective volumes
3. Chemical certificates for fill imported for engineering purposes
4. Chemical certificate for imported garden soils where available from the provider
5. Chemical tests results for garden and landscaped soils once tested on site
6. Validation of the 600mm capping thickness in garden and landscaped areas including photographs
7. Details of the gas protection measures employed, including photos, test results and certificates.
8. Records of any materials removed from site

Validation reports should be submitted to Newport City Council and National Resources Wales for review.

Annex A
Drawing Detailing Area to be Filled to 8.8m AOD by Riversee Limited

ANNEX C
Imported Soil Chemical Test Certificates

terrafirma

Our Ref: RL/12032

Your Ref:

Contact: Ruth Howells

Terra Firma (Wales) Ltd.
Consulting Geotechnical & Geo-Environmental Engineers
Site Investigation Contractors

5 Deryn Court, Wharfedale Road,
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Tel: 029 2073 5354 Fax: 029 2073 5433
Email: info@terrafirmawales.co.uk
www.terrafirmawales.co.uk

22nd June 2015

Riversee Limited
Orchard House
21 Castle Rise
Llanvaches
Newport
NP26 3BS

For the attention of Mr Darran Watts

Dear Darran

CHEMICAL TESTING: STOCKPILED MATERIAL INTENDED AS ENGINEERED FILL

1.0 Introduction

Riversee Limited is proposing to undertake earthworks on a proposed development site off Herbert Road, Newport, where the site is to be raised by up to 1.6m, taking it to a level of 8.8m AOD.

Riversee Limited currently has a large stockpile and adjacent smaller stockpile of material intended for use as engineered fill. The stockpiles are understood to total 22,000m^3 in volume.

Terra Firma (Wales) Limited was commissioned by Riversee Limited to undertake sampling and chemical testing of this material to assess its suitability for use.

This has been carried out in accordance with Terra Firma (Wales) Limited's Remediation Strategy prepared for the site, which specifies that for each 250m^3 (per source) that 1 representative sample be taken for screening. This strategy was agreed with Newport City Council. The stockpile is made up of several indistinguishable sources, and has therefore been treated as a singular source.

A series of 13 trial holes were excavated into the top of the main stockpile to a depth of 3m. Samples were taken at varying depths. The remainder (bottom) of the main stockpile, and the smaller stockpile, will be sampled and tested in due course, once the 3m cover has been removed.

The trial pits/soils were logged and a total of 36 samples were taken (equating to an estimated 9000m^3 of soil).

2.0 Soil Test Results

The soils were submitted to the laboratories of Derwentside Environmental Testing Services for testing. All results are summarised in the following tables, and have been compared to regulatory residential soil guidelines (without plant uptake).

Chemical test certificates can are enclosed.

Table 2.1 Summary of Soil Chemical Test Results Standard Suite

Substance	Threshold (mg/kg)	Source	Measured Concentrations of Tested Substances (mg/kg)		Number of Exceedences
			Minimum	Maximum	
Arsenic	32	CLEA SGV	<0.2	19	0
Cadmium	10	CLEA SGV	<0.1	2.1	0
Chromium III	910	CIEH C4UL	<0.15	53	0
Chromium VI	6.0	CIEH C4UL	<1.0	<1.0	0
Copper	2400	CIEH C4UL	<0.2	140	0
Lead	200	C4SL	<0.3	130	0
Mercury	170	CLEA SGV	<0.05	0.27	0
Nickel	130	CLEA SGV	<1.0	53	0
Selenium	350	CLEA SGV	<0.5	43	0
Zinc	3700	CIEH C4UL	<1.0	1200	0
Cyanide	8.0	CLEA SGV	<0.1	0.2	0
Organic matter	-	-	0.7	9.7	-
Sulphate	2400	BRE	600	2700	-
pH	-	-	8.0	11.5	-
Phenol	420	CLEA SGV	<0.3	2.2	0
Total PAH	-	CLEA SGV	<0.1	4.3	*

Notes:

- * See speciated PAH results (see Table 2.2)

2.0 Soil Test Results (Continued)

Table 2.2 Summary of Soil Test Results Speciated PAH

Substance	Threshold (mg/kg)	Source	Measured Concentrations of Tested Substances (mg/kg)		Number of Exceedences
			Minimum	Maximum	
Naphthalene	2.3	CIEH C4UL	<0.03	<0.03	0
Acenaphthylene	2900	CIEH C4UL	<0.03	<0.03	0
Acenapthene	3000	CIEH C4UL	<0.03	<0.03	0
Fluorene	2800	CIEH C4UL	<0.03	0.04	0
Phenanthrene	1300	CIEH C4UL	<0.03	0.5	0
Anthracene	31000	CIEH C4UL	<0.03	0.1	0
Fluoranthene	1500	CIEH C4UL	<0.03	1.2	0
Pyrene	3700	CIEH C4UL	<0.03	0.86	0
Benzo(a)anthracene	11	CIEH C4UL	<0.03	0.38	0
Chrysene	30	CIEH C4UL	<0.03	0.41	0
Benzo(b)fluoranthene	3.9	CIEH C4UL	<0.03	0.31	0
Benzo(k)fluoranthene	110	CIEH C4UL	<0.03	0.13	0
Benzo(a)pyrene	3.2	CIEH C4UL	<0.03	0.22	0
Benzo(ghi)perylene	45	CIEH C4UL	<0.03	0.11	0
Dibenzo(ah)anthracene	0.31	CIEH C4UL	<0.03	<0.03	0
Indeno(123cd)pyrene	360	CIEH C4UL	<0.03	0.1	0

Notes:

- GAC based on 1% soil organic matter content (SOM)

2.0 Soil Test Results (Continued)

Table 2.3 Summary of Soil Chemical Test Results Petroleum Hydrocarbons

Substance	Threshold (mg/kg)	Source	Measured Concentrations of Tested Substances (mg/kg)		Number of exceedences
			Minimum	Maximum	
PH- Aliphatic					
>C5-C6	42	CIEH C4UL	<0.01	<0.01	0
>C6-C8	100	CIEH C4UL	<0.01	<0.01	0
>C8-C10	27	CIEH C4UL	<0.01	<0.01	0
>C10-C12	130	CIEH C4UL	<1.5	<1.5	0
>C12-C16	1100	CIEH C4UL	<1.2	7.1	0
>C16-C21^	65000	CIEH C4UL	<1.5	15	0
>C21-C35^	65000	CIEH C4UL	<3.4	150	0
PH- Aromatic					
>C5-C7	370	CIEH C4UL	<0.01	<0.01	0
>C7-C8	860	CIEH C4UL	<0.01	0.01	0
>C8-C10	47	CIEH C4UL	<0.01	0.12	0
>C10-C12	250	CIEH C4UL	<0.9	<0.9	0
>C12-C16	1800	CIEH C4UL	<0.5	<0.5	0
>C16-C21	1900	CIEH C4UL	<0.6	14	0
>C21-C35	1900	CIEH C4UL	<1.4	260	0

Notes:

- GAC based on 1% soil organic matter content (SOM)

2.0 Soil Test Results (Continued)

All samples were screened for asbestos. The results are as follows:

Table 2.4 Summary of Soil Chemical Test Results Asbestos

Sample Location	Asbestos Type	Form	Total Mass in Soil (%)
S1	NAD	-	-
S2	NAD	-	-
S3	NAD	-	-
S4	NAD	-	-
S5	NAD	-	-
S6	Chrysotile	Clumps of fibres	0.001
S7	Chrysotile	Bundle of fibres	<0.001
S8	NAD	-	-
S9	NAD	-	-
S10	NAD	-	-
S11	Chrysotile	Bundles of fibres	<0.001
S12	Amosite	Free fibres	<0.001
S13	Amosite Chrysotile	Clumps of fibres	0.024
S14	Chrysotile	Clumps of fibres	<0.001
S15	Chrysotile	Clumps of fibres	<0.001
S16	Chrysotile	Bundles of fibres	<0.001
S16	Chrysotile	Cement fragment	<0.001
S17	Chrysotile	Clumps of fibres	<0.001
S18	Chrysotile	Clumps of fibres	<0.001
S19	Chrysotile	Free fibres	<0.001
S20	Chrysotile	Bundles of fibres	<0.001
S21	Chrysotile	Bundles of fibres	<0.001
S22	Chrysotile	Bundles of fibres	<0.001
S23	Chrysotile	Free fibres	<0.001
S24	NAD	-	-
S25	Chrysotile	Bundles of fibres	<0.001
S26	NAD	-	-
S27	NAD	-	-
S28	NAD	-	-
S29	NAD	-	-
S30	NAD	-	-
S31	NAD	-	-
S32	Chrysotile	Bundles of fibres	<0.001
S33	NAD	-	-
S34	NAD	-	-
S35	NAD	-	-
S36	NAD	-	-

Notes:

- NAD – No Asbestos Detected

3.0 Soil Leachate Results

All 36 samples were subject to leachate analysis in accordance with BS:EN:12457 for a standard suite, speciated PAH and petroleum hydrocarbons to ensure that the soils do not present a risk to groundwater or the River Usk.

Table 2.5
Summary of Leachate Chemical Test Results
Standard Suite

Substance	Threshold (mg/l)	Source	Measured Concentrations of Tested Substances (mg/l)		Number of Exceedences
			Minimum	Maximum	
Arsenic	0.05	WFD	0.0003	0.0065	0
Cadmium*	0.00008 – 0.00025	WFD	<0.00003	<0.00003	BLDL
Chromium III	0.0047	WFD	<0.001	0.0031	0
Chromium VI	0.0034	WFD	<0.003	<0.01	BLDL
Copper*	0.001 – 0.028	WFD	0.0008	0.011	++
Lead	0.0072	WFD	<0.0009	0.001	0
Mercury	0.0005	WFD	<0.00001	<0.00001	0
Nickel	0.02	WFD	<0.0005	0.0025	0
Selenium	0.01	DWD	<0.00025	0.0018	0
Zinc*	0.008 – 0.125	WFD	<0.00125	0.00389	0
Cyanide	0.001	WFD	<0.04	<0.04	0
Sulphate	250	DWD	4.4	15	0
Total Phenol	0.0077	WFD	<0.0005	<0.0005	0
pH	-	-	6.5	10.1	-
Total PAH	-	-	<0.0002	0.0019	-
Chloride	250	DWD	0.69	3.9	0

Notes:

- *Threshold dependant on hardness
- BLDL - Below Laboratory Detection Limit
- ++ 29 samples above lower threshold. Zero samples above upper threshold.

Table 2.6
Summary of Leachate Chemical Test Results
Speciated PAH and Petroleum Hydrocarbons

Substance	Threshold (mg/l)	Source	Measured Concentrations of Tested Substances (mg/l)		Number of Exceedences
			Minimum	Maximum	
PAH					
Naphthalene	0.0024	WFD	<0.00001	0.00002	0
Acenaphthylene	-	-	<0.00001	<0.00001	BLDL
Acenapthene	-	-	<0.00001	<0.00001	BLDL
Fluorene	-	-	<0.00001	<0.00001	BLDL
Phenanthrene	-	-	<0.00001	<0.00001	-
Anthracene	0.0001	WFD	<0.00001	<0.00001	0
Fluoranthene	0.0001	WFD	<0.00001	<0.00001	0
Pyrene	-	-	<0.00001	<0.00001	BLDL
Benzo(a)anthracene	-	-	<0.00001	<0.00001	BLDL
Chrysene	-	-	<0.00001	<0.00001	BLDL
Benzo(b)fluoranthene	0.00003	WFD	<0.00001	<0.00001	0
Benzo(k)fluoranthene	0.00003	WFD	<0.00001	<0.00001	0
Benzo(a)pyrene	0.00005	WFD	<0.00001	<0.00001	0
Dibenzo(ah)anthracene	-	-	<0.00001	<0.00001	BLDL
Benzo(ghi)perylene	0.000002	WFD	<0.00001	<0.00001	0
Indeno(123cd)pyrene	0.00002	WFD	<0.00001	<0.00001	0
Petroleum Hydrocarbons					
PH- Aliphatic					
>C5-C6	-	-	<0.0001	<0.0001	BLDL
>C6-C8	-	-	<0.0001	<0.0001	BLDL
>C8-C10	-	-	<0.0001	<0.0001	BLDL
>C10-C12	-	-	<0.001	<0.001	BLDL
>C12-C16	-	-	<0.001	<0.001	BLDL
>C16-C21	-	-	<0.001	<0.001	BLDL
>C21-C35	-	-	<0.001	<0.001	BLDL
PH- Aromatic					
>C5-C7	0.01*	WFD	<0.0001	<0.0001	0
>C7-C8	0.05**	WFD	<0.0001	<0.0001	0
>C8-C10	0.03***	WFD	<0.0001	<0.0001	0
>C10-C12	-	-	<0.001	<0.001	BLDL
>C12-C16	-	-	<0.001	<0.001	BLDL
>C16-C21	-	-	<0.001	<0.001	BLDL
>C21-C35	-	-	<0.001	<0.001	BLDL

Notes:

- BLDL - Below Laboratory Detection Limit
- * Threshold for benzene
- ** Threshold for toluene
- ***Threshold for Xylene
- BLDL - Below Laboratory Detection Limit

4.0 Conclusions

All substances tested for in soil were found to be below their respective regulatory guidelines.

Asbestos was identified in numerous soil samples.

All substances were found to be non-leachable (below the limits of laboratory detection) or leachable to acceptable levels.

The soils are considered to be suitable for use as engineered fill provided the appropriate bespoke permit is granted from the NRW with regards to asbestos and capping of the fill with a geotextile membrane and 300mm clean cover is implemented as specified in the Remediation Strategy for the site.

We trust that the above is to your satisfaction, however, if you have any queries or require any further information please do not hesitate to contact us.

Yours sincerely
for: Terra Firma (Wales) Ltd

R. Howells

Mrs Ruth Howells

Derwentside Environmental Testing Services

Certificate of Analysis

Certificate Number 15-27313-2

01-Apr-15

Client Terra Firma (Wales) Ltd
5 Deryn Court
Wharfdale Road
Pentwyn
Cardiff
CF23 7HB

Our Reference 15-27313-2

Client Reference 12032-SP1

Contract Title Herbet Road Stockpile - Round 1

Description 25 Soil samples, 25 Leachate samples, 1 Misc sample.

Date Received 16-Feb-15

Date Started 16-Feb-15

Date Completed 01-Apr-15

Test Procedures Identified by prefix DETSn (details on request), Asbestos Analysis DETSC 1101.

Notes **This report supersedes 15-27313-1, Extra Testing**

Opinions and interpretations are outside the scope of UKAS accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. Observations and interpretations are outside the scope of ISO 17025. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Rob Brown
Business Manager

mCERTS
THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

UKAS TESTING
2139

Summary of Chemical Analysis
Matrix Descriptions

Our Ref 15-27313-2
Client Ref 12032-SP1
Contract Title Herbet Road Stockpile - Round 1

Sample ID	Depth	Lab No	Completed	Matrix Description
S1	0.5	768693	26/02/2015	Dark brown gravelly sandy CLAY
S2	1.7	768694	26/02/2015	Dark brown gravelly sandy CLAY (Made Ground includes brick)
S3	3	768695	26/02/2015	Dark brown gravelly sandy CLAY
S4	2	768696	26/02/2015	Dark brown gravelly sandy CLAY
S5	3	768697	26/02/2015	Dark brown gravelly sandy CLAY
S6	0.5	768698	26/02/2015	Dark brown gravelly sandy CLAY
S7	3	768699	26/02/2015	Dark brown gravelly sandy CLAY
S8	0.8	768700	26/02/2015	Dark brown gravelly sandy CLAY
S9	0.5	768701	26/02/2015	Dark brown gravelly sandy CLAY
S10	2	768702	26/02/2015	Dark brown gravelly sandy CLAY with odd rootlets
S11	3	768703	26/02/2015	Dark brown gravelly sandy CLAY (Made Ground includes brick)
S12	0.5	768704	26/02/2015	Dark brown gravelly sandy CLAY (Made Ground includes brick)
S13	2.3	768705	26/02/2015	Dark brown gravelly sandy CLAY
S14	3	768706	26/02/2015	Dark brown gravelly sandy CLAY with odd rootlets
S15	2	768707	26/02/2015	Dark brown gravelly sandy CLAY
S16	3	768708	26/02/2015	Dark brown gravelly sandy CLAY (Made Ground includes brick)
S17	0.3	768709	26/02/2015	Dark brown gravelly sandy CLAY
S18	1.3	768710	26/02/2015	Dark brown gravelly sandy CLAY with odd rootlets (Made Ground includes brick)
S19	2.8	768711	26/02/2015	Dark brown gravelly sandy CLAY (Made Ground includes brick)
S20	0.5	768712	26/02/2015	Dark brown gravelly sandy CLAY
S21	1.3	768713	26/02/2015	Dark brown gravelly sandy CLAY (Made Ground includes brick)
S22	2.5	768714	26/02/2015	Dark brown gravelly sandy CLAY (Made Ground includes brick)
S23	0.5	768715	26/02/2015	Dark brown gravelly sandy CLAY
S24	1.4	768716	26/02/2015	Dark brown gravelly sandy CLAY
S25	2.5	768717	26/02/2015	Dark brown gravelly sandy CLAY

Summary of Chemical Analysis
Soil/Misc Samples

Our Ref 15-27313-2
Client Ref 12032-SP1
Contract Title Herbet Road Stockpile - Round 1

			Lab No	768693	768694	768695	768696	768697	768698
			Sample ID	S1	S2	S3	S4	S5	S6
			Depth	0.50	1.70	3.00	2.00	3.00	0.50
			Other ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg	5.8	13	12	< 0.2	12	10
Antimony	DETSC 2301*	1	mg/kg	2.3	1.3	1.6	2.2	2.0	1.8
Beryllium	DETSC 2301#	0.2	mg/kg	0.6	0.6	0.7	0.7	0.7	0.6
Boron (water soluble)	DETSC 2123#	0.2	mg/kg	1.1	1.1	1.2	1.2	1.3	1.0
Cadmium	DETSC 2301#	0.1	mg/kg	1.1	0.7	0.7	< 0.1	0.7	0.6
Chromium	DETSC 2301#	0.15	mg/kg	53	25	20	< 0.15	18	18
Chromium III	DETSC 2301*	0.15	mg/kg	53	25	20	< 0.15	18	18
Hexavalent Chromium	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	39	31	25	< 0.2	26	53
Lead	DETSC 2301#	0.3	mg/kg	51	47	43	< 0.3	43	93
Manganese	DETSC 2301#	20	mg/kg	730	540	650	840	740	670
Mercury	DETSC 2325#	0.05	mg/kg	0.09	0.09	< 0.05	0.05	0.06	< 0.05
Molybdenum	DETSC 2301#	0.4	mg/kg	0.8	0.5	0.8	0.8	0.8	0.6
Nickel	DETSC 2301#	1	mg/kg	53	21	22	< 1.0	20	16
Selenium	DETSC 2301#	0.5	mg/kg	0.7	< 0.5	1.2	< 0.5	0.9	1.1
Zinc	DETSC 2301#	1	mg/kg	140	89	80	< 1.0	85	110
Inorganics									
pH	DETSC 2008#			10.0	9.1	8.7	9.6	8.5	8.4
Cyanide total	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2
Organic matter	DETSC 2002#	0.1	%	3.0	2.4	2.0	2.7	2.6	2.5
Total Sulphate as SO4	DETSC 2321#	0.01	%	0.11	0.16	0.13	0.10	0.06	0.06
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10
TPH Ali/Aro	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10

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Summary of Chemical Analysis
Soil/Misc Samples

Our Ref 15-27313-2
Client Ref 12032-SP1
Contract Title Herbet Road Stockpile - Round 1

			Lab No	768693	768694	768695	768696	768697	768698
			Sample ID	S1	S2	S3	S4	S5	S6
			Depth	0.50	1.70	3.00	2.00	3.00	0.50
			Other ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.04	< 0.03	0.06	< 0.03	0.05
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	0.08	0.07	0.10	0.04	0.07
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.07	0.05	0.08	0.04	0.06
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	0.04	< 0.03	0.04	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	0.06	0.04	0.04	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	0.05	< 0.03	0.04	< 0.03	0.04
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Total PAH - USEPA 16	DETSC 3303	0.1	mg/kg	< 0.10	0.33	0.16	0.36	< 0.10	0.22
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	0.4

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Summary of Chemical Analysis
Soil/Misc Samples

Our Ref 15-27313-2
Client Ref 12032-SP1
Contract Title Herbet Road Stockpile - Round 1

			Lab No	768699	768700	768701	768702	768703	768704
			Sample ID	S7	S8	S9	S10	S11	S12
			Depth	3.00	0.80	0.50	2.00	3.00	0.50
			Other ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg	9.8	14	< 0.2	17	9.0	9.2
Antimony	DETSC 2301*	1	mg/kg	1.5	2.3	2.4	2.0	1.9	< 1.0
Beryllium	DETSC 2301#	0.2	mg/kg	0.6	0.7	0.7	0.7	1.1	0.3
Boron (water soluble)	DETSC 2123#	0.2	mg/kg	0.9	0.8	0.9	0.9	1.1	1.4
Cadmium	DETSC 2301#	0.1	mg/kg	0.6	2.1	< 0.1	1.0	0.6	0.5
Chromium	DETSC 2301#	0.15	mg/kg	20	48	< 0.15	22	19	18
Chromium III	DETSC 2301*	0.15	mg/kg	20	48	< 0.15	22	19	18
Hexavalent Chromium	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	25	140	< 0.2	48	20	29
Lead	DETSC 2301#	0.3	mg/kg	37	110	< 0.3	74	36	45
Manganese	DETSC 2301#	20	mg/kg	520	670	890	640	720	640
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05	0.16	0.10	0.13	< 0.05
Molybdenum	DETSC 2301#	0.4	mg/kg	0.6	0.6	1.3	0.6	1.2	< 0.4
Nickel	DETSC 2301#	1	mg/kg	27	41	< 1.0	23	20	22
Selenium	DETSC 2301#	0.5	mg/kg	1.2	43	< 0.5	1.4	0.7	1.4
Zinc	DETSC 2301#	1	mg/kg	93	200	< 1.0	160	130	82
Inorganics									
pH	DETSC 2008#			8.6	8.1	8.2	11.0	9.0	8.6
Cyanide total	DETSC 2130#	0.1	mg/kg	0.1	< 0.1	0.1	< 0.1	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	2.2	2.2	3.5	2.2	9.7	2.5
Total Sulphate as SO4	DETSC 2321#	0.01	%	0.07	0.06	0.06	0.17	0.10	0.07
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10
TPH Ali/Aro	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10

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Summary of Chemical Analysis
Soil/Misc Samples

Our Ref 15-27313-2
Client Ref 12032-SP1
Contract Title Herbet Road Stockpile - Round 1

			Lab No	768699	768700	768701	768702	768703	768704
			Sample ID	S7	S8	S9	S10	S11	S12
			Depth	3.00	0.80	0.50	2.00	3.00	0.50
			Other ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	0.09	0.04	0.06	0.11	0.06	0.09
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.11	0.05	0.10	0.18	0.07	0.14
Pyrene	DETSC 3303#	0.03	mg/kg	0.09	0.04	0.09	0.15	0.06	0.11
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	0.05	< 0.03	0.04	0.07	< 0.03	0.06
Chrysene	DETSC 3303	0.03	mg/kg	0.05	< 0.03	0.06	0.09	< 0.03	0.07
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.04	< 0.03	0.07	0.10	< 0.03	0.08
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.04	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	0.05	0.06	< 0.03	0.05
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.04	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.04	< 0.03	< 0.03
Total PAH - USEPA 16	DETSC 3303	0.1	mg/kg	0.43	0.14	0.47	0.85	0.19	0.60
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.4	0.3	< 0.3	< 0.3	2.2	< 0.3

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Summary of Chemical Analysis
Soil/Misc Samples

Our Ref 15-27313-2
Client Ref 12032-SP1
Contract Title Herbet Road Stockpile - Round 1

				Lab No	768705	768706	768707	768708	768709	768710
				Sample ID	S13	S14	S15	S16	S17	S18
				Depth	2.30	3.00	2.00	3.00	0.30	1.30
				Other ID						
				Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Sampling Date	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15
				Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
Metals										
Arsenic	DETSC 2301#	0.2	mg/kg	10	3.9	4.4	3.9	4.9	19
Antimony	DETSC 2301*	1	mg/kg	1.7	6.3	2.3	2.0	2.7	1.7
Beryllium	DETSC 2301#	0.2	mg/kg	0.7	0.8	0.8	0.8	0.9	0.6
Boron (water soluble)	DETSC 2123#	0.2	mg/kg	1.3	1.1	1.6	1.4	1.2	1.4
Cadmium	DETSC 2301#	0.1	mg/kg	0.7	0.5	0.4	0.5	0.5	1.2
Chromium	DETSC 2301#	0.15	mg/kg	24	17	24	20	29	25
Chromium III	DETSC 2301*	0.15	mg/kg	24	17	24	20	29	25
Hexavalent Chromium	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	17	15	19	16	16	47
Lead	DETSC 2301#	0.3	mg/kg	26	11	8.4	27	25	130
Manganese	DETSC 2301#	20	mg/kg	700	940	810	760	770	820
Mercury	DETSC 2325#	0.05	mg/kg	0.05	< 0.05	0.13	0.27	0.08	0.13
Molybdenum	DETSC 2301#	0.4	mg/kg	0.8	0.9	0.9	0.7	0.9	0.9
Nickel	DETSC 2301#	1	mg/kg	20	23	27	19	25	26
Selenium	DETSC 2301#	0.5	mg/kg	1.0	1.0	0.6	0.7	0.6	2.8
Zinc	DETSC 2301#	1	mg/kg	77	72	51	56	64	1200
Inorganics										
pH	DETSC 2008#			8.6	8.5	10.3	10.5	8.8	8.0
Cyanide total	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.1
Organic matter	DETSC 2002#	0.1	%	2.4	2.7	2.0	4.5	2.0	4.9
Total Sulphate as SO4	DETSC 2321#	0.01	%	0.07	0.08	0.16	0.27	0.07	0.07
Petroleum Hydrocarbons										
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	0.06	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	0.01	0.14	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	0.12	0.01	0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	0.01	0.01	< 0.01	0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	0.07	0.01	0.12	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10
TPH Ali/Aro	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10

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Summary of Chemical Analysis
Soil/Misc Samples

Our Ref 15-27313-2
Client Ref 12032-SP1
Contract Title Herbet Road Stockpile - Round 1

			Lab No	768705	768706	768707	768708	768709	768710
			Sample ID	S13	S14	S15	S16	S17	S18
			Depth	2.30	3.00	2.00	3.00	0.30	1.30
			Other ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	0.04	0.13	0.04	0.31	0.09	0.06
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.07	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.07	0.20	0.05	0.43	0.11	0.12
Pyrene	DETSC 3303#	0.03	mg/kg	0.06	0.16	0.04	0.36	0.09	0.09
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	0.08	< 0.03	0.16	0.04	0.06
Chrysene	DETSC 3303	0.03	mg/kg	0.04	0.08	< 0.03	0.19	0.05	0.08
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.04	0.08	< 0.03	0.19	0.05	0.08
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.08	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.05	< 0.03	0.13	< 0.03	0.04
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.09	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.08	< 0.03	< 0.03
Total PAH - USEPA 16	DETSC 3303	0.1	mg/kg	0.24	0.77	0.14	2.1	0.42	0.54
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.3	0.5	0.6	0.7	0.6	0.6

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Summary of Chemical Analysis
Soil/Misc Samples

Our Ref 15-27313-2
Client Ref 12032-SP1
Contract Title Herbet Road Stockpile - Round 1

			Lab No	768711	768712	768713	768714	768715	768716
			Sample ID	S19	S20	S21	S22	S23	S24
			Depth	2.80	0.50	1.30	2.50	0.50	1.40
			Other ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg	< 0.2	9.1	11	9.8	15	7.0
Antimony	DETSC 2301*	1	mg/kg	2.3	2.0	2.2	2.0	2.1	1.3
Beryllium	DETSC 2301#	0.2	mg/kg	0.9	0.8	0.9	0.9	0.8	0.6
Boron (water soluble)	DETSC 2123#	0.2	mg/kg	1.2	1.4	1.6	1.4	1.5	1.3
Cadmium	DETSC 2301#	0.1	mg/kg	< 0.1	1.0	0.8	1.0	0.8	1.1
Chromium	DETSC 2301#	0.15	mg/kg	< 0.15	21	25	36	17	22
Chromium III	DETSC 2301*	0.15	mg/kg	< 0.15	21	25	36	17	22
Hexavalent Chromium	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	< 0.2	25	25	40	40	19
Lead	DETSC 2301#	0.3	mg/kg	< 0.3	51	35	52	34	48
Manganese	DETSC 2301#	20	mg/kg	760	1100	780	1300	1100	1000
Mercury	DETSC 2325#	0.05	mg/kg	0.17	0.05	0.08	< 0.05	0.07	0.06
Molybdenum	DETSC 2301#	0.4	mg/kg	0.9	0.9	1.4	1.2	0.8	0.8
Nickel	DETSC 2301#	1	mg/kg	< 1.0	21	24	28	22	18
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	0.7	< 0.5	< 0.5	0.8
Zinc	DETSC 2301#	1	mg/kg	< 1.0	100	91	180	110	110
Inorganics									
pH	DETSC 2008#			10.2	8.4	9.8	9.7	8.5	10.6
Cyanide total	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	2.2	2.7	3.5	2.6	2.3	2.2
Total Sulphate as SO4	DETSC 2321#	0.01	%	0.15	0.06	0.12	0.11	0.05	0.17
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	0.02	< 0.01	0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	0.04	< 0.01	0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10
TPH Ali/Aro	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10

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Summary of Chemical Analysis
Soil/Misc Samples

Our Ref 15-27313-2
Client Ref 12032-SP1
Contract Title Herbet Road Stockpile - Round 1

			Lab No	768711	768712	768713	768714	768715	768716
			Sample ID	S19	S20	S21	S22	S23	S24
			Depth	2.80	0.50	1.30	2.50	0.50	1.40
			Other ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	0.50	0.05	0.09	0.06	0.04	0.16
Anthracene	DETSC 3303	0.03	mg/kg	0.10	< 0.03	< 0.03	< 0.03	< 0.03	0.04
Fluoranthene	DETSC 3303#	0.03	mg/kg	1.2	0.10	0.11	0.07	0.09	0.21
Pyrene	DETSC 3303#	0.03	mg/kg	0.86	0.08	0.09	0.06	0.08	0.19
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	0.38	0.04	0.05	< 0.03	0.05	0.08
Chrysene	DETSC 3303	0.03	mg/kg	0.41	0.06	0.04	0.04	0.07	0.09
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.31	0.06	0.05	0.04	0.07	0.10
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	0.13	< 0.03	< 0.03	< 0.03	< 0.03	0.04
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	0.22	< 0.03	0.04	< 0.03	0.04	0.07
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	0.10	< 0.03	< 0.03	< 0.03	0.04	0.04
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	0.10	< 0.03	< 0.03	< 0.03	< 0.03	0.04
Total PAH - USEPA 16	DETSC 3303	0.1	mg/kg	4.3	0.38	0.47	0.27	0.48	1.1
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.4	0.5	0.5	0.4	0.6	0.6

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Summary of Chemical Analysis
Soil/Misc Samples

Our Ref 15-27313-2
Client Ref 12032-SP1
Contract Title Herbet Road Stockpile - Round 1

Lab No	768717
Sample ID	S25
Depth	2.50
Other ID	
Sample Type	SOIL
Sampling Date	12/02/15
Sampling Time	n/s

Test	Method	LOD	Units	
Metals				
Arsenic	DETSC 2301#	0.2	mg/kg	7.5
Antimony	DETSC 2301*	1	mg/kg	2.1
Beryllium	DETSC 2301#	0.2	mg/kg	0.5
Boron (water soluble)	DETSC 2123#	0.2	mg/kg	1.6
Cadmium	DETSC 2301#	0.1	mg/kg	1.0
Chromium	DETSC 2301#	0.15	mg/kg	24
Chromium III	DETSC 2301*	0.15	mg/kg	24
Hexavalent Chromium	DETSC 2204*	1	mg/kg	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	27
Lead	DETSC 2301#	0.3	mg/kg	63
Manganese	DETSC 2301#	20	mg/kg	720
Mercury	DETSC 2325#	0.05	mg/kg	0.05
Molybdenum	DETSC 2301#	0.4	mg/kg	1.1
Nickel	DETSC 2301#	1	mg/kg	21
Selenium	DETSC 2301#	0.5	mg/kg	0.6
Zinc	DETSC 2301#	1	mg/kg	95
Inorganics				
pH	DETSC 2008#			10.7
Cyanide total	DETSC 2130#	0.1	mg/kg	< 0.1
Organic matter	DETSC 2002#	0.1	%	2.2
Total Sulphate as SO4	DETSC 2321#	0.01	%	0.18
Petroleum Hydrocarbons				
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	30
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	30
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	53
Aromatic C5-C35	DETSC 3072*	10	mg/kg	53
TPH Ali/Aro	DETSC 3072*	10	mg/kg	83

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Summary of Chemical Analysis
Soil/Misc Samples

Our Ref 15-27313-2
Client Ref 12032-SP1
Contract Title Herbet Road Stockpile - Round 1

Lab No	768717
Sample ID	S25
Depth	2.50
Other ID	
Sample Type	SOIL
Sampling Date	12/02/15
Sampling Time	n/s

Test	Method	LOD	Units	
PAHs				
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	0.08
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.13
Pyrene	DETSC 3303#	0.03	mg/kg	0.12
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	0.05
Chrysene	DETSC 3303	0.03	mg/kg	0.05
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.08
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	0.05
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	0.05
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	0.04
Total PAH - USEPA 16	DETSC 3303	0.1	mg/kg	0.65
Phenols				
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.5

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Summary of Chemical Analysis
Leachate Samples

Our Ref 15-27313-2
Client Ref 12032-SP1
Contract Title Herbet Road Stockpile - Round 1

			Lab No	785692	785693	785694	785695	785696	785697
			Sample ID	S1	S2	S3	S4	S5	S6
			Depth	0.50	1.70	3.00	2.00	3.00	0.50
			Other ID						
			Sample Type	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE
			Sampling Date	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Preparation									
NRA Leachate Preparation	DETS 036*			Y	Y	Y	Y	Y	Y
Metals									
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.51	0.50	0.38	0.42	0.65	0.30
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Chromium, Dissolved	DETSC 2306	0.25	ug/l	0.32	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Chromium III Dissolved	DETSC 2302*	5	ug/l	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexavalent Chromium	DETSC 2203	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10
Copper, Dissolved	DETSC 2306	0.4	ug/l	1.3	1.3	1.6	1.2	1.2	0.9
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.28	0.33	0.17	0.26	0.16	0.12
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	1.0	0.81	0.53	0.46	0.64	0.36
Zinc, Dissolved	DETSC 2306	1.25	ug/l	2.14	1.44	1.30	1.89	1.29	1.47
Inorganics									
pH	DETSC 2008			8.2	7.9	7.8	7.8	7.7	7.6
Cyanide total	DETSC 2130	40	ug/l	< 40	< 40	< 40	< 40	< 40	< 40
Chloride	DETSC 2055	0.1	mg/l	0.73	0.79	1.3	1.3	1.3	0.79
Fluoride	DETSC 2055	0.1	mg/l	0.22	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	4.7	6.2	13	9.0	11	4.4
Total Organic Carbon	DETSC 2085	1	mg/l	1.7	1.5	2.2	1.8	2.3	2.3
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10
TPH Ali/Aro	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 15-27313-2
Client Ref 12032-SP1
Contract Title Herbet Road Stockpile - Round 1

			Lab No	785692	785693	785694	785695	785696	785697
			Sample ID	S1	S2	S3	S4	S5	S6
			Depth	0.50	1.70	3.00	2.00	3.00	0.50
			Other ID						
			Sample Type	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE
			Sampling Date	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
PAHs									
Naphthalene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PAH	DETS 074*	0.2	ug/l	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Phenols									
Phenol	*	0.5	ug/l	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 15-27313-2
Client Ref 12032-SP1
Contract Title Herbet Road Stockpile - Round 1

			Lab No	785698	785699	785700	785701	785702	785703
			Sample ID	S7	S8	S9	S10	S11	S12
			Depth	3.00	0.80	0.50	2.00	3.00	0.50
			Other ID						
			Sample Type	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE
			Sampling Date	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Preparation									
NRA Leachate Preparation	DETS 036*			Y	Y	Y	Y	Y	Y
Metals									
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.43	0.51	0.85	0.52	1.3	0.44
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Chromium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	< 0.25	0.36	0.38	< 0.25	< 0.25
Chromium III Dissolved	DETSC 2302*	5	ug/l	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexavalent Chromium	DETSC 2203	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10
Copper, Dissolved	DETSC 2306	0.4	ug/l	1.0	0.8	1.5	1.3	1.4	1.0
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.22	0.23	1.0	0.33	0.29	0.24
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	0.36	0.31	0.32	0.41	0.47	< 0.25
Zinc, Dissolved	DETSC 2306	1.25	ug/l	1.59	1.43	2.12	2.26	< 1.25	1.53
Inorganics									
pH	DETSC 2008			7.7	7.6	7.6	7.6	7.5	7.5
Cyanide total	DETSC 2130	40	ug/l	< 40	< 40	< 40	< 40	< 40	< 40
Chloride	DETSC 2055	0.1	mg/l	1.2	1.3	1.0	1.4	1.2	0.79
Fluoride	DETSC 2055	0.1	mg/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	13	12	6.1	9.2	11	3.9
Total Organic Carbon	DETSC 2085	1	mg/l	2.5	3.8	3.2	3.9	3.2	2.5
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10
TPH Ali/Aro	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 15-27313-2
Client Ref 12032-SP1
Contract Title Herbet Road Stockpile - Round 1

			Lab No	785698	785699	785700	785701	785702	785703
			Sample ID	S7	S8	S9	S10	S11	S12
			Depth	3.00	0.80	0.50	2.00	3.00	0.50
			Other ID						
			Sample Type	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE
			Sampling Date	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
PAHs									
Naphthalene	DETS 074*	0.01	ug/l	< 0.01	0.02	< 0.01	< 0.01	< 0.01	0.01
Acenaphthylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PAH	DETS 074*	0.2	ug/l	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Phenols									
Phenol	*	0.5	ug/l	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 15-27313-2
Client Ref 12032-SP1
Contract Title Herbet Road Stockpile - Round 1

			Lab No	785704	785705	785706	785707	785708	785709
			Sample ID	S13	S14	S15	S16	S17	S18
			Depth	2.30	3.00	2.00	3.00	0.30	1.30
			Other ID						
			Sample Type	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE
			Sampling Date	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Preparation									
NRA Leachate Preparation	DETS 036*			Y	Y	Y	Y	Y	Y
Metals									
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.45	0.55	0.53	0.43	0.34	1.0
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.04
Chromium, Dissolved	DETSC 2306	0.25	ug/l	0.53	< 0.25	< 0.25	< 0.25	0.46	0.66
Chromium III Dissolved	DETSC 2302*	5	ug/l	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexavalent Chromium	DETSC 2203	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10
Copper, Dissolved	DETSC 2306	0.4	ug/l	1.0	1.3	1.6	1.2	0.9	2.3
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.32	0.45	0.34	0.24	0.29	0.51
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01	0.03	< 0.01	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	0.8	< 0.5	< 0.5	< 0.5	< 0.5	0.8
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	2.5
Zinc, Dissolved	DETSC 2306	1.25	ug/l	1.41	1.50	2.05	1.52	3.89	2.67
Inorganics									
pH	DETSC 2008			7.5	7.5	7.4	7.4	7.4	7.4
Cyanide total	DETSC 2130	40	ug/l	< 40	< 40	< 40	< 40	< 40	< 40
Chloride	DETSC 2055	0.1	mg/l	1.4	0.95	1.1	1.4	0.69	1.6
Fluoride	DETSC 2055	0.1	mg/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	12	4.9	9.1	13	8.0	10
Total Organic Carbon	DETSC 2085	1	mg/l	2.4	1.9	2.7	3.1	1.6	5.4
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10
TPH Ali/Aro	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 15-27313-2
Client Ref 12032-SP1
Contract Title Herbet Road Stockpile - Round 1

			Lab No	785704	785705	785706	785707	785708	785709
			Sample ID	S13	S14	S15	S16	S17	S18
			Depth	2.30	3.00	2.00	3.00	0.30	1.30
			Other ID						
			Sample Type	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE
			Sampling Date	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
PAHs									
Naphthalene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PAH	DETS 074*	0.2	ug/l	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Phenols									
Phenol	*	0.5	ug/l	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 15-27313-2
Client Ref 12032-SP1
Contract Title Herbet Road Stockpile - Round 1

			Lab No	785710	785711	785712	785713	785714	785715
			Sample ID	S19	S20	S21	S22	S23	S24
			Depth	2.80	0.50	1.30	2.50	0.50	1.40
			Other ID						
			Sample Type	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE
			Sampling Date	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Preparation									
NRA Leachate Preparation	DETS 036*			Y	Y	Y	Y	Y	Y
Metals									
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	1.9	0.76	1.7	1.1	0.68	2.4
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Chromium, Dissolved	DETSC 2306	0.25	ug/l	0.93	0.30	0.55	< 0.25	0.26	0.97
Chromium III Dissolved	DETSC 2302*	5	ug/l	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexavalent Chromium	DETSC 2203	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10
Copper, Dissolved	DETSC 2306	0.4	ug/l	2.9	1.3	5.1	1.8	1.5	4.5
Lead, Dissolved	DETSC 2306	0.09	ug/l	1.0	0.37	0.25	0.21	0.18	0.51
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	0.7	< 0.5	1.0	< 0.5	< 0.5	0.9
Selenium, Dissolved	DETSC 2306	0.25	ug/l	1.7	0.85	1.7	0.78	0.49	1.8
Zinc, Dissolved	DETSC 2306	1.25	ug/l	2.41	2.11	< 1.25	< 1.25	1.40	1.73
Inorganics									
pH	DETSC 2008			8.1	7.9	9.6	8.9	8.5	8.3
Cyanide total	DETSC 2130	40	ug/l	< 40	< 40	< 40	< 40	< 40	< 40
Chloride	DETSC 2055	0.1	mg/l	1.2	0.88	1.6	2.3	2.9	1.7
Fluoride	DETSC 2055	0.1	mg/l	< 0.10	0.16	< 0.10	< 0.10	< 0.10	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	13	9.4	4.0	9.5	6.7	5.2
Total Organic Carbon	DETSC 2085	1	mg/l	4.5	2.5	4.2	3.4	2.7	2.8
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10
TPH Ali/Aro	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 15-27313-2
Client Ref 12032-SP1
Contract Title Herbet Road Stockpile - Round 1

			Lab No	785710	785711	785712	785713	785714	785715
			Sample ID	S19	S20	S21	S22	S23	S24
			Depth	2.80	0.50	1.30	2.50	0.50	1.40
			Other ID						
			Sample Type	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE
			Sampling Date	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
PAHs									
Naphthalene	DETS 074*	0.01	ug/l	0.02	0.02	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PAH	DETS 074*	0.2	ug/l	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Phenols									
Phenol	*	0.5	ug/l	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 15-27313-2
Client Ref 12032-SP1
Contract Title Herbet Road Stockpile - Round 1

Lab No	785716
Sample ID	S25
Depth	2.50
Other ID	
Sample Type	LEACHATE
Sampling Date	12/02/15
Sampling Time	n/s

Test	Method	LOD	Units	
Preparation				
NRA Leachate Preparation	DETS 036*			Y
Metals				
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.82
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03
Chromium, Dissolved	DETSC 2306	0.25	ug/l	0.99
Chromium III Dissolved	DETSC 2302*	5	ug/l	< 5.0
Hexavalent Chromium	DETSC 2203	10	ug/l	< 10
Copper, Dissolved	DETSC 2306	0.4	ug/l	2.7
Lead, Dissolved	DETSC 2306	0.09	ug/l	< 0.09
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	0.89
Zinc, Dissolved	DETSC 2306	1.25	ug/l	< 1.25
Inorganics				
pH	DETSC 2008			10.1
Cyanide total	DETSC 2130	40	ug/l	< 40
Chloride	DETSC 2055	0.1	mg/l	2.4
Fluoride	DETSC 2055	0.1	mg/l	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	5.9
Total Organic Carbon	DETSC 2085	1	mg/l	3.6
Petroleum Hydrocarbons				
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10
TPH Ali/Aro	DETSC 3072*	10	ug/l	< 10

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 15-27313-2
Client Ref 12032-SP1
Contract Title Herbet Road Stockpile - Round 1

Lab No	785716
Sample ID	S25
Depth	2.50
Other ID	
Sample Type	LEACHATE
Sampling Date	12/02/15
Sampling Time	n/s

Test	Method	LOD	Units	
PAHs				
Naphthalene	DETS 074*	0.01	ug/l	< 0.01
Acenaphthylene	DETS 074*	0.01	ug/l	< 0.01
Acenaphthene	DETS 074*	0.01	ug/l	< 0.01
Fluorene	DETS 074*	0.01	ug/l	< 0.01
Phenanthrene	DETS 074*	0.01	ug/l	< 0.01
Anthracene	DETS 074*	0.01	ug/l	< 0.01
Fluoranthene	DETS 074*	0.01	ug/l	< 0.01
Pyrene	DETS 074*	0.01	ug/l	< 0.01
Benzo(a)anthracene	DETS 074*	0.01	ug/l	< 0.01
Chrysene	DETS 074*	0.01	ug/l	< 0.01
Benzo(b)fluoranthene	DETS 074*	0.01	ug/l	< 0.01
Benzo(k)fluoranthene	DETS 074*	0.01	ug/l	< 0.01
Benzo(a)pyrene	DETS 074*	0.01	ug/l	< 0.01
Indeno(1,2,3-c,d)pyrene	DETS 074*	0.01	ug/l	< 0.01
Dibenzo(a,h)anthracene	DETS 074*	0.01	ug/l	< 0.01
Benzo(g,h,i)perylene	DETS 074*	0.01	ug/l	< 0.01
PAH	DETS 074*	0.2	ug/l	< 0.20
Phenols				
Phenol	*	0.5	ug/l	< 0.50

Key: * -not accredited. n/s -not supplied.

Summary of Asbestos Analysis
Bulk & Soil Samples

Our Ref 15-27313-2
Client Ref 12032-SP1
Contract Title Herbet Road Stockpile - Round 1

Lab No	Sample ID	Sample Location	Material Type*	Result	Comment*	Analyst
768693	S1 0.50		SOIL	NAD	none	Andrew Little
768694	S2 1.70		SOIL	NAD	none	Andrew Little
768695	S3 3.00		SOIL	NAD	none	Andrew Little
768696	S4 2.00		SOIL	NAD	none	Andrew Little
768697	S5 3.00		SOIL	NAD	none	Andrew Little
768698	S6 0.50		SOIL	Chrysotile	Clumps of Chrysotile fibres present	Andrew Little
768699	S7 3.00		SOIL	Chrysotile	Bundle of chrysotile fibre present	Andrew Little
768700	S8 0.80		SOIL	NAD	none	Andrew Little
768701	S9 0.50		SOIL	NAD	none	Andrew Little
768702	S10 2.00		SOIL	NAD	none	Andrew Little
768703	S11 3.00		SOIL	Chrysotile	Small bundles of chrysotile fibres present	Andrew Little
768704	S12 0.50		SOIL	Amosite	Free Amosite fibres present	Andrew Little
768705	S13 2.30		SOIL	Amosite Chrysotile	Clump of Amosite/Chrysotile present	Andrew Little
768706	S14 3.00		SOIL	Chrysotile	Clump of Chrysotile fibres present	Andrew Little
768707	S15 2.00		SOIL	Chrysotile	Clump of Chrysotile fibres present	Andrew Little
768708	S16 3.00		SOIL	Chrysotile	Bundle of chrysotile fibre present	Andrew Little
768709	S17 0.30		SOIL	Chrysotile	Clump of Chrysotile fibres present	Andrew Little
768710	S18 1.30		SOIL	Chrysotile	Clump of Chrysotile fibres present	Andrew Little
768711	S19 2.80		SOIL	Chrysotile	Free Chrysotile fibres present	Andrew Little
768712	S20 0.50		SOIL	Chrysotile	Bundles of Chrysotile fibres present	Andrew Little
768713	S21 1.30		SOIL	Chrysotile	Bundle of chrysotile fibre present	Andrew Little
768714	S22 2.50		SOIL	Chrysotile	Bundles of Chrysotile fibres present	Andrew Little
768715	S23 0.50		SOIL	Chrysotile	Free Chrysotile fibres present	Andrew Little
768716	S24 1.40		SOIL	NAD	none	Andrew Little
768717	S25 2.50		SOIL	Chrysotile	Bundles of Chrysotile fibres present	Andrew Little
768718	S16A 3.00		Cement	Chrysotile	none	Andrew Little

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Summary of Asbestos Quantification Analysis
Soil Samples

Our Ref 15-27313-2
Client Ref 12032-SP1
Contract Title Herbet Road Stockpile - Round 1

		Lab No	768698	768699	768703	768704
		Sample ID	S6	S7	S11	S12
		Depth	0.50	3.00	3.00	0.50
		Other ID				
		Sample Type	SOIL	SOIL	SOIL	SOIL
		Sampling Date	12/02/15	12/02/15	12/02/15	12/02/15
		Sampling Time				
Test	**Method**	**Units**				
Total Mass% Asbestos (a+b+c)	DETSC 1102	Mass %	**0.001**	**< 0.001**	**< 0.001**	**< 0.001**
Gravimetric Quantification (a)	DETSC 1102	Mass %	na	na	na	na
Detailed Gravimetric Quantification (b)	DETSC 1102	Mass %	0.001	<0.001	<0.001	na
Quantification by PCOM (c)	DETSC 1102	Mass %	na	na	na	< 0.001
Potentially Respirable Fibres (d)	DETSC 1102	Fibres/g	na	na	na	na
Breakdown of Gravimetric Analysis (a)						
Mass of Sample		g	645.18	1061.41	748.41	1157.84
ACMs present*		type				
Mass of ACM in sample		g				
% ACM by mass		%				
% asbestos in ACM		%				
% asbestos in sample		%				
Breakdown of Detailed Gravimetric Analysis (b)						
% Amphibole bundles in sample		Mass %	na	na	na	na
% Serpentine bundles in sample		Mass %	0.001	<0.001	<0.001	na
Breakdown of PCOM Analysis (c)						
% Amphibole fibres in sample		Mass %	na	na	na	<0.001
% Serpentine fibres in sample		Mass %	na	na	na	<0.001
Breakdown of Potentially Respirable Fibre Analysis (d)						
Amphibole fibres		Fibres/g	na	na	na	na
Chrysotile fibres		Fibres/g	na	na	na	na

* Denotes test or material description outside of UKAS accreditation.
% asbestos in Asbestos Containing Materials (ACMs) is determined by
by reference to HSG 264.
Recommended sample size for quantification is approximately 1kg
# denotes deviating sample

Summary of Asbestos Quantification Analysi

Soil Samples

Our Ref 15-27313-2
Client Ref 12032-SP1
Contract Title Herbet Road Stockpile - Round 1

		Lab No	768705	768706	768707	768708
		Sample ID	S13	S14	S15	S16
		Depth	2.30	3.00	2.00	3.00
		Other ID				
		Sample Type	SOIL	SOIL	SOIL	SOIL
		Sampling Date	12/02/15	12/02/15	12/02/15	12/02/15
		Sampling Time				
Test	**Method**	**Units**				
Total Mass% Asbestos (a+b+c)	DETSC 1102	Mass %	**0.024**	**< 0.001**	**< 0.001**	**< 0.001**
Gravimetric Quantification (a)	DETSC 1102	Mass %	na	na	na	na
Detailed Gravimetric Quantification (b)	DETSC 1102	Mass %	0.024	<0.001	<0.001	<0.001
Quantification by PCOM (c)	DETSC 1102	Mass %	na	na	na	na
Potentially Respirable Fibres (d)	DETSC 1102	Fibres/g	na	na	na	na
Breakdown of Gravimetric Analysis (a)						
Mass of Sample		g	1226.44	1188.37	1497.67	838.56
ACMs present*		type				
Mass of ACM in sample		g				
% ACM by mass		%				
% asbestos in ACM		%				
% asbestos in sample		%				
Breakdown of Detailed Gravimetric Analysis (b)						
% Amphibole bundles in sample		Mass %	0.024	na	na	na
% Serpentine bundles in sample		Mass %	na	<0.001	<0.001	<0.001
Breakdown of PCOM Analysis (c)						
% Amphibole fibres in sample		Mass %	na	na	na	na
% Serpentine fibres in sample		Mass %	na	na	na	na
Breakdown of Potentially Respirable Fibre Analysis (d)						
Amphibole fibres		Fibres/g	na	na	na	na
Chrysotile fibres		Fibres/g	na	na	na	na

* Denotes test or material description outside of UKAS accreditation.
% asbestos in Asbestos Containing Materials (ACMs) is determined by
by reference to HSG 264.
Recommended sample size for quantification is approximately 1kg
# denotes deviating sample

Summary of Asbestos Quantification Analysi

Soil Samples

Our Ref 15-27313-2
Client Ref 12032-SP1
Contract Title Herbet Road Stockpile - Round 1

		Lab No	768709	768710	768711	768712
		Sample ID	S17	S18	S19	S20
		Depth	0.30	1.30	2.80	0.50
		Other ID				
		Sample Type	SOIL	SOIL	SOIL	SOIL
		Sampling Date	12/02/15	12/02/15	12/02/15	12/02/15
		Sampling Time				
Test	**Method**	**Units**				
Total Mass% Asbestos (a+b+c)	DETSC 1102	Mass %	**< 0.001**	**< 0.001**	**< 0.001**	**< 0.001**
Gravimetric Quantification (a)	DETSC 1102	Mass %	na	na	na	na
Detailed Gravimetric Quantification (b)	DETSC 1102	Mass %	<0.001	<0.001	na	<0.001
Quantification by PCOM (c)	DETSC 1102	Mass %	na	na	< 0.001	na
Potentially Respirable Fibres (d)	DETSC 1102	Fibres/g	na	na	na	na
Breakdown of Gravimetric Analysis (a)						
Mass of Sample		g	1345.77	840.34	683.00	1038.48
ACMs present*		type				
Mass of ACM in sample		g				
% ACM by mass		%				
% asbestos in ACM		%				
% asbestos in sample		%				
Breakdown of Detailed Gravimetric Analysis (b)						
% Amphibole bundles in sample		Mass %	na	na	na	na
% Serpentine bundles in sample		Mass %	<0.001	<0.001	na	<0.001
Breakdown of PCOM Analysis (c)						
% Amphibole fibres in sample		Mass %	na	na	<0.001	na
% Serpentine fibres in sample		Mass %	na	na	<0.001	na
Breakdown of Potentially Respirable Fibre Analysis (d)						
Amphibole fibres		Fibres/g	na	na	na	na
Chrysotile fibres		Fibres/g	na	na	na	na

* Denotes test or material description outside of UKAS accreditation.
% asbestos in Asbestos Containing Materials (ACMs) is determined by
by reference to HSG 264.
Recommended sample size for quantification is approximately 1kg
# denotes deviating sample

Summary of Asbestos Quantification Analysi

Soil Samples

Our Ref 15-27313-2
Client Ref 12032-SP1
Contract Title Herbet Road Stockpile - Round 1

		Lab No	768713	768714	768715	768717
		Sample ID	S21	S22	S23	S25
		Depth	1.30	2.50	0.50	2.50
		Other ID				
		Sample Type	SOIL	SOIL	SOIL	SOIL
		Sampling Date	12/02/15	12/02/15	12/02/15	12/02/15
		Sampling Time				
Test	**Method**	**Units**				
Total Mass% Asbestos (a+b+c)	DETSC 1102	Mass %	**< 0.001**	**< 0.001**	**< 0.001**	**< 0.001**
Gravimetric Quantification (a)	DETSC 1102	Mass %	na	na	na	na
Detailed Gravimetric Quantification (b)	DETSC 1102	Mass %	<0.001	<0.001	na	<0.001
Quantification by PCOM (c)	DETSC 1102	Mass %	na	na	< 0.001	na
Potentially Respirable Fibres (d)	DETSC 1102	Fibres/g	na	na	na	na
Breakdown of Gravimetric Analysis (a)						
Mass of Sample		g	960.31	964.16	1039.32	1100.66
ACMs present*		type				
Mass of ACM in sample		g				
% ACM by mass		%				
% asbestos in ACM		%				
% asbestos in sample		%				
Breakdown of Detailed Gravimetric Analysis (b)						
% Amphibole bundles in sample		Mass %	na	na	na	na
% Serpentine bundles in sample		Mass %	<0.001	<0.001	na	<0.001
Breakdown of PCOM Analysis (c)						
% Amphibole fibres in sample		Mass %	na	na	<0.001	na
% Serpentine fibres in sample		Mass %	na	na	<0.001	na
Breakdown of Potentially Respirable Fibre Analysis (d)						
Amphibole fibres		Fibres/g	na	na	na	na
Chrysotile fibres		Fibres/g	na	na	na	na

* Denotes test or material description outside of UKAS accreditation.
% asbestos in Asbestos Containing Materials (ACMs) is determined by
by reference to HSG 264.
Recommended sample size for quantification is approximately 1kg
# denotes deviating sample

Information in Support of the Analytical Results

Our Ref 15-27313-2
Client Ref 12032-SP1
Contract Herbet Road Stockpile - Round 1

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
768693	S1 0.50 SOIL	12/02/15	GJ 1L, GV, PT 1L x2		
768694	S2 1.70 SOIL	12/02/15	GJ 1L, GV, PT 1L x2		
768695	S3 3.00 SOIL	12/02/15	GJ 1L, GV, PT 1L x2		
768696	S4 2.00 SOIL	12/02/15	GJ 1L, GV, PT 1L x2		
768697	S5 3.00 SOIL	12/02/15	GJ 1L, GV, PT 1L x2		
768698	S6 0.50 SOIL	12/02/15	GJ 1L, GV, PT 1L x2		
768699	S7 3.00 SOIL	12/02/15	GJ 1L, GV, PT 1L x2		
768700	S8 0.80 SOIL	12/02/15	GJ 1L, GV, PT 1L x2		
768701	S9 0.50 SOIL	12/02/15	GJ 1L, GV, PT 1L x2		
768702	S10 2.00 SOIL	12/02/15	GJ 1L, GV, PT 1L x2		
768703	S11 3.00 SOIL	12/02/15	GJ 1L, GV, PT 1L x2		
768704	S12 0.50 SOIL	12/02/15	GJ 250ml, PT 1L		
768705	S13 2.30 SOIL	12/02/15	GJ 250ml, PT 1L		
768706	S14 3.00 SOIL	12/02/15	GJ 250ml, PT 1L		
768707	S15 2.00 SOIL	12/02/15	GJ 250ml x2, PT 1L		
768708	S16 3.00 SOIL	12/02/15	GJ 250ml x2, PT 1L		
768709	S17 0.30 SOIL	12/02/15	GJ 250ml, PT 1L x2		
768710	S18 1.30 SOIL	12/02/15	GJ 250ml x2, PT 1L x2		
768711	S19 2.80 SOIL	12/02/15	GJ 250ml x2, PT 1L x2		
768712	S20 0.50 SOIL	12/02/15	GJ 250ml x2, PT 1L x2		
768713	S21 1.30 SOIL	12/02/15	GJ 250ml x2, PT 1L x2		
768714	S22 2.50 SOIL	12/02/15	GJ 1L, GJ 250ml, PT 1L x2		
768715	S23 0.50 SOIL	12/02/15	GJ 250ml x2, PT 1L x2		
768716	S24 1.40 SOIL	12/02/15	GJ 250ml, PT 1L x2		
768717	S25 2.50 SOIL	12/02/15	GJ 250ml x2, PT 1L x2		
768718	S16A 3.00 MISC	12/02/15	PT 1L x2		
785692	S1 0.50 LEACHATE	12/02/15	GJ 1L (1L)		
785693	S2 1.70 LEACHATE	12/02/15	GJ 1L (1L)		
785694	S3 3.00 LEACHATE	12/02/15	GJ 1L (1L)		
785695	S4 2.00 LEACHATE	12/02/15	GJ 1L (1L)		
785696	S5 3.00 LEACHATE	12/02/15	GJ 1L (1L)		
785697	S6 0.50 LEACHATE	12/02/15	GJ 1L (1L)		
785698	S7 3.00 LEACHATE	12/02/15	GJ 1L (1L)		
785699	S8 0.80 LEACHATE	12/02/15	GJ 1L (1L)		
785700	S9 0.50 LEACHATE	12/02/15	GJ 1L (1L)		
785701	S10 2.00 LEACHATE	12/02/15	GJ 1L (1L)		
785702	S11 3.00 LEACHATE	12/02/15	GJ 1L (1L)		
785703	S12 0.50 LEACHATE	12/02/15	GJ 1L (1L)		
785704	S13 2.30 LEACHATE	12/02/15	GJ 1L (1L)		
785705	S14 3.00 LEACHATE	12/02/15	GJ 1L (1L)		
785706	S15 2.00 LEACHATE	12/02/15	GJ 1L (1L)		
785707	S16 3.00 LEACHATE	12/02/15	GJ 1L (1L)		
785708	S17 0.30 LEACHATE	12/02/15	GJ 1L (1L)		
785709	S18 1.30 LEACHATE	12/02/15	GJ 1L (1L)		
785710	S19 2.80 LEACHATE	12/02/15	GJ 1L (1L)		
785711	S20 0.50 LEACHATE	12/02/15	GJ 1L (1L)		
785712	S21 1.30 LEACHATE	12/02/15	GJ 1L (1L)		
785713	S22 2.50 LEACHATE	12/02/15	GJ 1L (1L)		
785714	S23 0.50 LEACHATE	12/02/15	GJ 1L (1L)		

Information in Support of the Analytical Results

Our Ref 15-27313-2
Client Ref 12032-SP1
Contract Herbet Road Stockpile - Round 1

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
785715	S24 1.40 LEACHATE	12/02/15	GJ 1L (1L)		
785716	S25 2.50 LEACHATE	12/02/15	GJ 1L (1L)		

Key: G-Glass P-Plastic J-Jar V-Vial T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time and/or inappropriate containers are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2024	Sulphide	mg/kg	10	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO4	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO4	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	Air Dried	No	Yes	Yes
DETSC2123	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETS 062	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

Derwentside Environmental Testing Services

Certificate of Analysis

Certificate Number 15-27519-2

19-Jun-15

Client Terra Firma (Wales) Ltd
5 Deryn Court
Wharfdale Road
Pentwyn
Cardiff
CF23 7HB

Our Reference	15-27519-2
Client Reference	12032-SP1
Contract Title	Herbert Road Stockpile - Round 1
Description	11 Soil samples, 11 Leachate samples.
Date Received	17-Feb-15
Date Started	17-Feb-15
Date Completed	19-Jun-15
Test Procedures	Identified by prefix DETSn (details on request).

Notes **This report supersedes 15-27519. Extra testing.**

Opinions and interpretations are outside the scope of UKAS accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. Observations and interpretations are outside the scope of ISO 17025. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Rob Brown
Business Manager

mCERTS
THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

UKAS TESTING
2139

Summary of Chemical Analysis
Matrix Descriptions

Our Ref 15-27519-2
Client Ref 12032-SP1
Contract Title Herbert Road Stockpile - Round 1

Sample ID	Lab No	Completed	Matrix Description
S26	769704	10/06/2015	Dark brown gravelly sandy CLAY with odd rootlets
S27	769705	10/06/2015	Dark brown gravelly sandy CLAY
S28	769706	10/06/2015	Dark brown gravelly sandy CLAY with odd rootlets (Made Ground includes brick)
S29	769707	10/06/2015	Dark brown gravelly sandy CLAY with odd rootlets
S30	769708	10/06/2015	Dark brown gravelly sandy CLAY
S31	769709	10/06/2015	Dark brown gravelly sandy CLAY
S32	769710	10/06/2015	Dark brown gravelly sandy CLAY with odd rootlets
S33	769711	10/06/2015	Dark brown gravelly sandy CLAY
S34	769712	10/06/2015	Dark grey gravelly sandy CLAY
S35	769713	10/06/2015	Dark gravelly sandy CLAY
S36	769714	10/06/2015	Brown gravelly sandy CLAY

Summary of Chemical Analysis
Soil Samples

Our Ref 15-27519-2
Client Ref 12032-SP1
Contract Title Herbert Road Stockpile - Round 1

			Lab No	769704	769705	769706	769707	769708	769709	769710
			Sample ID	S26	S27	S28	S29	S30	S31	S32
			Depth							
			Other ID							
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	16/02/15	16/02/15	16/02/15	16/02/15	16/02/15	16/02/15	16/02/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
Metals										
Arsenic	DETSC 2301#	0.2	mg/kg	8.2	8.4	7.4	9.0	8.5	9.2	7.0
Cadmium	DETSC 2301#	0.1	mg/kg	0.6	0.5	1.4	0.6	0.6	2.0	0.6
Chromium	DETSC 2301#	0.15	mg/kg	21	19	21	25	19	21	22
Chromium III	DETSC 2301*	0.15	mg/kg	21	19	21	25	19	21	22
Hexavalent Chromium	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	26	21	31	27	25	21	23
Lead	DETSC 2301#	0.3	mg/kg	40	38	78	41	42	82	33
Mercury	DETSC 2325#	0.05	mg/kg	0.07	< 0.05	0.12	0.10	0.07	0.10	0.09
Nickel	DETSC 2301#	1	mg/kg	24	21	21	25	19	20	26
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Zinc	DETSC 2301#	1	mg/kg	120	80	130	92	80	140	74
Inorganics										
pH	DETSC 2008#			8.7	9.3	9.5	8.6	8.7	11.3	8.8
Cyanide Total	DETSC 2130#	0.1	mg/kg	0.1	0.1	< 0.1	< 0.1	< 0.1	0.3	< 0.1
Organic matter	DETSC 2002#	0.1	%	3.1	2.6	2.1	3.8	3.1	2.5	2.8
Chloride	DETSC 2055	1	mg/kg	I/S	I/S	I/S	I/S	I/S	I/S	I/S
Fluoride	DETSC 2055	1	mg/kg	I/S	I/S	I/S	I/S	I/S	I/S	I/S
Total Sulphate as SO4	DETSC 2321#	0.01	%	0.07	0.07	0.08	0.16	0.27	0.07	0.07
Petroleum Hydrocarbons										
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	15	< 3.4	< 3.4	< 3.4	9.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	15	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	8.5	10
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10	10
TPH Ali/Aro	DETSC 3072*	10	mg/kg	< 10	15	< 10	< 10	< 10	18	10

Summary of Chemical Analysis
Soil Samples

Our Ref 15-27519-2
Client Ref 12032-SP1
Contract Title Herbert Road Stockpile - Round 1

			Lab No	769704	769705	769706	769707	769708	769709	769710
			Sample ID	S26	S27	S28	S29	S30	S31	S32
			Depth							
			Other ID							
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	16/02/15	16/02/15	16/02/15	16/02/15	16/02/15	16/02/15	16/02/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
PAHs										
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.04	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	0.04	0.06	0.06	0.06	0.12	0.17	0.06
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	0.05	0.04	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.08	0.10	0.12	0.09	0.25	0.12	0.08
Pyrene	DETSC 3303#	0.03	mg/kg	0.07	0.09	0.10	0.07	0.22	0.10	0.07
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	0.04	0.04	0.05	< 0.03	0.11	0.04	0.04
Chrysene	DETSC 3303	0.03	mg/kg	0.05	0.06	0.06	0.05	0.12	0.06	0.04
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.04	0.06	0.06	0.04	0.13	0.05	0.04
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	0.04	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.04	0.05	< 0.03	0.09	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	0.06	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	0.05	< 0.03	< 0.03
Total PAH - USEPA 16	DETSC 3303	0.1	mg/kg	0.33	0.45	0.50	0.30	1.2	0.61	0.33
Phenols										
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.4	0.4	< 0.3	< 0.3	0.4	0.4	< 0.3

Summary of Chemical Analysis
Soil Samples

Our Ref 15-27519-2
Client Ref 12032-SP1
Contract Title Herbert Road Stockpile - Round 1

			Lab No	769711	769712	769713	769714
			Sample ID	S33	S34	S35	S36
			Depth				
			Other ID				
			Sample Type	SOIL	SOIL	SOIL	SOIL
			Sampling Date	16/02/15	16/02/15	16/02/15	16/02/15
			Sampling Time	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Metals							
Arsenic	DETSC 2301#	0.2	mg/kg	6.5	4.7	8.5	4.8
Cadmium	DETSC 2301#	0.1	mg/kg	1.2	0.6	0.6	1.0
Chromium	DETSC 2301#	0.15	mg/kg	14	21	15	18
Chromium III	DETSC 2301*	0.15	mg/kg	14	21	15	18
Hexavalent Chromium	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	14	11	20	13
Lead	DETSC 2301#	0.3	mg/kg	39	21	26	41
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	16	12	20	16
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Zinc	DETSC 2301#	1	mg/kg	97	48	63	85
Inorganics							
pH	DETSC 2008#			11.5	10.9	9.0	11.5
Cyanide Total	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	0.7	4.5	1.9	1.0
Chloride	DETSC 2055	1	mg/kg	I/S	I/S	I/S	I/S
Fluoride	DETSC 2055	1	mg/kg	I/S	I/S	I/S	I/S
Total Sulphate as SO4	DETSC 2321#	0.01	%	0.15	0.06	0.12	0.11
Petroleum Hydrocarbons							
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	7.1	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	15	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	9.8	150	17	19
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	180	17	19
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	0.03	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	0.10	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	2.5	14	< 0.6	0.8
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	19	260	< 1.4	15
Aromatic C5-C35	DETSC 3072*	10	mg/kg	22	270	< 10	16
TPH Ali/Aro	DETSC 3072*	10	mg/kg	32	450	17	34

Key: * -not accredited. # -MCERTS (accreditation only implied if report carries the MCERTS logo). n/s -not supplied. I/S -insufficient.

Summary of Chemical Analysis
Soil Samples

Our Ref 15-27519-2
Client Ref 12032-SP1
Contract Title Herbert Road Stockpile - Round 1

			Lab No	769711	769712	769713	769714
			Sample ID	S33	S34	S35	S36
			Depth				
			Other ID				
			Sample Type	SOIL	SOIL	SOIL	SOIL
			Sampling Date	16/02/15	16/02/15	16/02/15	16/02/15
			Sampling Time	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
PAHs							
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	0.21	0.22	< 0.03	0.10
Anthracene	DETSC 3303	0.03	mg/kg	0.07	0.04	< 0.03	0.04
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.41	0.17	0.07	0.20
Pyrene	DETSC 3303#	0.03	mg/kg	0.36	0.17	0.06	0.18
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	0.18	0.08	< 0.03	0.09
Chrysene	DETSC 3303	0.03	mg/kg	0.20	0.20	< 0.03	0.10
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.22	0.13	0.04	0.12
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	0.08	0.04	< 0.03	0.04
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	0.19	0.08	< 0.03	0.09
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	0.11	0.08	< 0.03	0.06
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	0.10	0.05	< 0.03	0.05
Total PAH - USEPA 16	DETSC 3303	0.1	mg/kg	2.1	1.3	0.17	1.1
Phenols							
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	0.3	< 0.3	< 0.3

Summary of Chemical Analysis
Leachate Samples

Our Ref 15-27519-2
Client Ref 12032-SP1
Contract Title Herbert Road Stockpile - Round 1

			Lab No	824969	824970	824971	824972	824973	824974	824975
			Sample ID	S26	S27	S28	S29	S30	S31	S32
			Depth							
			Other ID							
			Sample Type	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE
			Sampling Date	16/02/15	16/02/15	16/02/15	16/02/15	16/02/15	16/02/15	16/02/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
Preparation										
NRA Leachate Preparation	DETS 036*			Y	Y	Y	Y	Y	Y	Y
Metals										
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.78	0.87	1.7	0.63	0.65	1.2	0.56
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Chromium, Dissolved	DETSC 2306	0.25	ug/l	0.27	< 0.25	0.31	< 0.25	0.26	< 0.25	< 0.25
Chromium III Dissolved	DETSC 2302*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexavalent Chromium	DETSC 2203	3	ug/l	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	1.7	1.3	2.1	0.9	1.1	1.2	1.1
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.20	0.20	0.81	0.24	0.32	0.33	0.25
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	0.27	0.28	0.47	< 0.25	< 0.25	0.34	< 0.25
Zinc, Dissolved	DETSC 2306	1.25	ug/l	3.89	1.41	1.76	< 1.25	< 1.25	< 1.25	< 1.25
Inorganics										
pH	DETSC 2008			6.6	6.5	6.5	6.5	6.5	6.6	8.9
Cyanide Total	DETSC 2130	40	ug/l	< 40	< 40	< 40	< 40	< 40	< 40	< 40
Chloride	DETSC 2055	0.1	mg/l	1.0	1.2	1.2	0.83	1.0	2.5	0.97
Fluoride	DETSC 2055	0.1	mg/l	0.11	0.12	< 0.10	0.11	0.10	0.12	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	7.9	11	15	8.8	6.6	10	7.6
Total Organic Carbon	DETSC 2085	1	mg/l	4.1	3.0	4.4	2.1	2.8	4.4	2.2
Petroleum Hydrocarbons										
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	1.0	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH Ali/Aro	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 15-27519-2
Client Ref 12032-SP1
Contract Title Herbert Road Stockpile - Round 1

			Lab No	824969	824970	824971	824972	824973	824974	824975
			Sample ID	S26	S27	S28	S29	S30	S31	S32
			Depth							
			Other ID							
			Sample Type	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE
			Sampling Date	16/02/15	16/02/15	16/02/15	16/02/15	16/02/15	16/02/15	16/02/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
PAHs										
Naphthalene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PAH	DETS 074*	0.2	ug/l	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
PAH	DETSC 3304	0.04	ug/l	1.4	0.79	0.92	0.57	1.9	0.76	0.58
Phenols										
Phenol	*	0.5	ug/l	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 15-27519-2
Client Ref 12032-SP1
Contract Title Herbert Road Stockpile - Round 1

			Lab No	824976	824977	824978	824979
			Sample ID	S33	S34	S35	S36
			Depth				
			Other ID				
			Sample Type	LEACHATE	LEACHATE	LEACHATE	LEACHATE
			Sampling Date	16/02/15	16/02/15	16/02/15	16/02/15
			Sampling Time	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Preparation							
NRA Leachate Preparation	DETS 036*			Y	Y	Y	Y
Metals							
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	2.8	6.5	1.2	1.2
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03	< 0.03	< 0.03
Chromium, Dissolved	DETSC 2306	0.25	ug/l	2.9	1.4	0.53	3.1
Chromium III Dissolved	DETSC 2302*	1	ug/l	2.9	1.4	< 1.0	3.1
Hexavalent Chromium	DETSC 2203	3	ug/l	< 3.0	< 3.0	< 3.0	< 3.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	7.9	11	1.5	9.6
Lead, Dissolved	DETSC 2306	0.09	ug/l	< 0.09	0.37	0.94	< 0.09
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	1.8	2.5	< 0.5	1.7
Selenium, Dissolved	DETSC 2306	0.25	ug/l	0.75	1.5	< 0.25	0.61
Zinc, Dissolved	DETSC 2306	1.25	ug/l	< 1.25	< 1.25	3.42	< 1.25
Inorganics							
pH	DETSC 2008			8.8	8.6	7.8	9.9
Cyanide Total	DETSC 2130	40	ug/l	< 40	< 40	< 40	< 40
Chloride	DETSC 2055	0.1	mg/l	3.5	2.5	1.1	3.9
Fluoride	DETSC 2055	0.1	mg/l	< 0.10	< 0.10	0.11	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	11	15	12	5.8
Total Organic Carbon	DETSC 2085	1	mg/l	3.6	7.6	3.0	3.0
Petroleum Hydrocarbons							
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10
TPH Ali/Aro	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 15-27519-2
Client Ref 12032-SP1
Contract Title Herbert Road Stockpile - Round 1

			Lab No	824976	824977	824978	824979
			Sample ID	S33	S34	S35	S36
			Depth				
			Other ID				
			Sample Type	LEACHATE	LEACHATE	LEACHATE	LEACHATE
			Sampling Date	16/02/15	16/02/15	16/02/15	16/02/15
			Sampling Time	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
PAHs							
Naphthalene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
PAH	DETS 074*	0.2	ug/l	< 0.20	< 0.20	< 0.20	< 0.20
PAH	DETSC 3304	0.04	ug/l	0.19	1.3	0.81	0.24
Phenols							
Phenol	*	0.5	ug/l	< 0.50	< 0.50	< 0.50	< 0.50

Key: * -not accredited. n/s -not supplied.

Summary of Asbestos Analysis
Soil Samples

Our Ref 15-27519-2
Client Ref 12032-SP1
Contract Title Herbert Road Stockpile - Round 1

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
769704	S26	SOIL	NAD	none	Jeff Cruddas
769705	S27	SOIL	NAD	none	Jeff Cruddas
769706	S28	SOIL	NAD	none	Jeff Cruddas
769707	S29	SOIL	NAD	none	Jeff Cruddas
769708	S30	SOIL	NAD	none	Jeff Cruddas
769709	S31	SOIL	NAD	none	Jeff Cruddas
769710	S32	SOIL	Amosite	Amosite present as fibre bundles	Jeff Cruddas
769711	S33	SOIL	NAD	none	Jeff Cruddas
769712	S34	SOIL	NAD	none	Jeff Cruddas
769713	S35	SOIL	NAD	none	Jeff Cruddas
769714	S36	SOIL	NAD	none	Jeff Cruddas

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Summary of Asbestos Quantification Analysis
Soil Samples

Our Ref 15-27519-2
Client Ref 12032-SP1
Contract Title Herbert Road Stockpile - Round 1

Lab No	769710
Sample ID	S32
Depth	
Other ID	
Sample Type	SOIL
Sampling Date	16/02/15
Sampling Time	

Test	**Method**	**Units**	
Total Mass% Asbestos (a+b+c)	DETSC 1102	Mass %	**< 0.001**
Gravimetric Quantification (a)	DETSC 1102	Mass %	na
Detailed Gravimetric Quantification (b)	DETSC 1102	Mass %	<0.001
Quantification by PCOM (c)	DETSC 1102	Mass %	na
Potentially Respirable Fibres (d)	DETSC 1102	Fibres/g	na
Breakdown of Gravimetric Analysis (a)			
Mass of Sample		g	946.82
ACMs present*		type	
Mass of ACM in sample		g	
% ACM by mass		%	
% asbestos in ACM		%	
% asbestos in sample		%	
Breakdown of Detailed Gravimetric Analysis (b)			
% Amphibole bundles in sample		Mass %	<0.001
% Serpentine bundles in sample		Mass %	na
Breakdown of PCOM Analysis (c)			
% Amphibole fibres in sample		Mass %	na
% Serpentine fibres in sample		Mass %	na
Breakdown of Potentially Respirable Fibre Analysis (d)			
Amphibole fibres		Fibres/g	na
Chrysotile fibres		Fibres/g	na

* Denotes test or material description outside of UKAS accreditation.
% asbestos in Asbestos Containing Materials (ACMs) is determined by
by reference to HSG 264.
Recommended sample size for quantification is approximately 1kg
# denotes deviating sample

Information in Support of the Analytical Results

Our Ref 15-27519-2
Client Ref 12032-SP1
Contract Herbert Road Stockpile - Round 1

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
769704	S26 SOIL	16/02/15	GJ 1L, GJ 60ml, PT 1L x2		
769705	S27 SOIL	16/02/15	GJ 250ml x2, GJ 60ml, PT 1L x2		
769706	S28 SOIL	16/02/15	GJ 250ml x2, GJ 60ml, PT 1L x2		
769707	S29 SOIL	16/02/15	GJ 250ml x2, GJ 60ml, PT 1L x2		
769708	S30 SOIL	16/02/15	GJ 250ml x2, GJ 60ml, PT 1L x2		
769709	S31 SOIL	16/02/15	GJ 250ml x2, GJ 60ml, PT 1L x2		
769710	S32 SOIL	16/02/15	GJ 250ml x2, GJ 60ml, PT 1L x2		
769711	S33 SOIL	16/02/15	GJ 250ml x2, GJ 60ml, PT 1L x2		
769712	S34 SOIL	16/02/15	GJ 250ml x2, GJ 60ml, PT 1L x2		
769713	S35 SOIL	16/02/15	GJ 250ml x2, GJ 60ml, PT 1L x2		
769714	S36 SOIL	16/02/15	GJ 250ml x2, PT 1L x2		
824969	S26 LEACHATE	16/02/15	GJ 1L		
824970	S27 LEACHATE	16/02/15	GJ 1L		
824971	S28 LEACHATE	16/02/15	GJ 1L		
824972	S29 LEACHATE	16/02/15	GJ 1L		
824973	S30 LEACHATE	16/02/15	GJ 1L		
824974	S31 LEACHATE	16/02/15	GJ 1L		
824975	S32 LEACHATE	16/02/15	GJ 1L		
824976	S33 LEACHATE	16/02/15	GJ 1L		
824977	S34 LEACHATE	16/02/15	GJ 1L		
824978	S35 LEACHATE	16/02/15	GJ 1L		
824979	S36 LEACHATE	16/02/15	GJ 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time and/or inappropriate containers are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2024	Sulphide	mg/kg	10	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO4	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO4	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	Air Dried	No	Yes	Yes
DETSC2123	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETS 062	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

Derwentside Environmental Testing Services

Certificate of Analysis

Certificate Number 15-40034-2

05-Aug-15

Client Terra Firma (Wales) Ltd
5 Deryn Court
Wharfdale Road
Pentwyn
Cardiff
CF23 7HB

Our Reference 15-40034-2

Client Reference 12032

Contract Title Herbert Road

Description 32 Soil samples, 32 Leachate samples.

Date Received 10-Jul-15

Date Started 10-Jul-15

Date Completed 05-Aug-15

Test Procedures Identified by prefix DETSn (details on request).

Notes **This report supersedes 15-40034. Extra testing.**
Opinions and interpretations are outside the scope of UKAS accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. Observations and interpretations are outside the scope of ISO 17025. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Rob Brown
Business Manager

mCERTS
THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

UKAS TESTING
2139

Summary of Chemical Analysis
Matrix Descriptions

Our Ref 15-40034-2
Client Ref 12032
Contract Title Herbert Road

Sample ID	Depth	Lab No	Completed	Matrix Description
TP1	1	837846	27/07/2015	Brown, gravelly, sandy CLAY
TP1	2	837847	27/07/2015	Dark brown, gravelly, sandy CLAY
TP1	3	837848	27/07/2015	Dark brown, gravelly, sandy CLAY
TP2	1	837849	27/07/2015	Dark brown, gravelly, sandy CLAY
TP2	2	837850	27/07/2015	Dark brown, gravelly, sandy CLAY
TP2	2.9	837851	27/07/2015	Dark brown, gravelly, sandy CLAY
TP3	0.5	837852	27/07/2015	Dark brown, gravelly, sandy CLAY
TP3	1.5	837853	27/07/2015	Dark brown, gravelly, sandy CLAY
TP3	3.5	837854	27/07/2015	Dark brown, gravelly, sandy CLAY
TP4	0.5	837855	27/07/2015	Dark brown, gravelly, sandy CLAY
TP4	2	837856	27/07/2015	Dark brown, gravelly, sandy CLAY
TP4	3	837857	27/07/2015	Dark brown, gravelly, sandy CLAY
TP5	1	837858	27/07/2015	Dark brown, gravelly, sandy CLAY including odd rootlets (Made ground - ceramic)
TP5	2	837859	27/07/2015	Dark brown, gravelly, sandy CLAY including odd rootlets
TP5	3	837860	27/07/2015	Dark brown, gravelly, sandy CLAY including odd rootlets (Made ground - brick)
TP6	0.5	837861	27/07/2015	Dark brown, gravelly, sandy CLAY
TP6	2	837862	27/07/2015	Dark brown, gravelly, sandy CLAY
TP6	3	837863	27/07/2015	Dark brown, gravelly, sandy CLAY
TP7	0.3	837864	27/07/2015	Dark brown, gravelly, sandy CLAY including odd rootlets
TP7	0.6	837865	27/07/2015	Dark brown, gravelly, sandy CLAY
TP7	2	837866	27/07/2015	Dark brown, gravelly, sandy CLAY
TP8	0.5	837867	27/07/2015	Dark brown, gravelly, sandy CLAY
TP8	2	837868	27/07/2015	Dark brown, gravelly, sandy CLAY
TP8	2.5	837869	27/07/2015	Very dark brown gravelly, sandy CLAY including odd rootlets
TP9	0.3	837870	27/07/2015	Dark brown, gravelly, sandy CLAY including odd rootlets
TP9	1	837871	27/07/2015	Brown, gravelly, sandy CLAY including odd rootlets
TP9	1.6	837872	27/07/2015	Dark brown, gravelly, sandy CLAY (Made ground -brick)
TP10	0.5	837873	27/07/2015	Dark brown, gravelly, sandy CLAY including odd rootlets (Made ground - brick)
TP10	1.4	837874	27/07/2015	Brown, gravelly, sandy CLAY
TP10	2.2	837875	27/07/2015	Dark brown, gravelly, sandy CLAY
TP11	0.5	837876	27/07/2015	Dark brown, gravelly, sandy CLAY
TP11	1	837877	27/07/2015	Dark brown, gravelly, sandy CLAY

Summary of Chemical Analysis
Soil Samples

Our Ref 15-40034-2
Client Ref 12032
Contract Title Herbert Road

			Lab No	837846	837847	837848	837849	837850	837851
			Sample ID	TP1	TP1	TP1	TP2	TP2	TP2
			Depth	1.00	2.00	3.00	1.00	2.00	2.90
			Other ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Asbestos Quantification OHR	DETSC 1102	0				Y		Y	Y
Preparation									
Moisture Content	DETSC 1004*	0.1	%	15	18	18	15	21	17
Metals									
Antimony	DETSC 2301*	1	mg/kg	1.7	3.0	2.2	2.0	2.6	2.0
Arsenic	DETSC 2301#	0.2	mg/kg	6.2	9.9	7.5	11	9.9	7.4
Beryllium	DETSC 2301#	0.2	mg/kg	0.6	1.1	1.2	1.2	1.1	1.2
Boron (water soluble)	DETSC 2123#	0.2	mg/kg	1.1	1.2	1.0	1.2	1.2	1.2
Cadmium	DETSC 2301#	0.1	mg/kg	0.5	0.6	0.8	0.4	0.5	0.4
Chromium	DETSC 2301#	0.15	mg/kg	23	65	39	33	29	23
Chromium III	DETSC 2301*	0.15	mg/kg	23	65	39	33	29	23
Hexavalent Chromium	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	14	41	33	23	32	40
Lead	DETSC 2301#	0.3	mg/kg	53	39	34	31	60	59
Manganese	DETSC 2301#	20	mg/kg	730	940	1100	860	770	600
Mercury	DETSC 2325#	0.05	mg/kg	0.06	0.14	0.10	0.11	0.27	0.19
Molybdenum	DETSC 2301#	0.4	mg/kg	1.1	4.9	1.2	0.9	1.9	1.0
Nickel	DETSC 2301#	1	mg/kg	17	44	30	21	26	29
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	0.8	< 0.5	< 0.5
Zinc	DETSC 2301#	1	mg/kg	55	100	89	74	90	78
Inorganics									
pH	DETSC 2008#			8.8	8.9	8.8	10.4	8.9	8.7
Cyanide Total	DETSC 2130#	0.1	mg/kg	0.1	0.2	0.2	0.1	0.2	0.1
Cyanide complex	DETSC 2130*	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Organic matter	DETSC 2002#	0.1	%	1.4	5.3	1.6	6.6	5.8	7.7
Total Sulphate as SO4	DETSC 2321#	0.01	%	0.09	0.09	0.19	0.41	0.12	0.06

Key: * -not accredited. # -MCERTS (accreditation only implied if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 15-40034-2
Client Ref 12032
Contract Title Herbert Road

			Lab No	837846	837847	837848	837849	837850	837851
			Sample ID	TP1	TP1	TP1	TP2	TP2	TP2
			Depth	1.00	2.00	3.00	1.00	2.00	2.90
			Other ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2	2.0	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	4.1	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	19	11	< 3.4	< 3.4	< 3.4
Aliphatic C35-C44	DETSC 3072*	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	19	11	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.12
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	1.7	4.4	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	35	37	< 1.4	< 1.4	< 1.4
Aromatic C35-C44	DETSC 3072*	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	37	41	< 10	< 10	< 10
TPH Ali/Aro	DETSC 3072*	10	mg/kg	< 10	56	53	< 10	< 10	< 10
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	1.3
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.09
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.09
Phenanthrene	DETSC 3303#	0.03	mg/kg	0.06	0.09	0.09	0.03	0.06	0.44
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.09
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.13	0.18	0.22	0.05	0.08	0.43
Pyrene	DETSC 3303#	0.03	mg/kg	0.10	0.13	0.20	0.05	0.07	0.34
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	0.05	0.06	0.11	< 0.03	< 0.03	0.13
Chrysene	DETSC 3303	0.03	mg/kg	0.06	0.08	0.12	< 0.03	< 0.03	0.13
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.07	0.07	0.14	< 0.03	< 0.03	0.10
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	0.05	< 0.03	< 0.03	0.04
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	0.03	0.05	0.09	< 0.03	< 0.03	0.07
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.04	0.07	< 0.03	< 0.03	0.04
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	0.04	0.07	< 0.03	< 0.03	< 0.03
Total PAH - USEPA 16	DETSC 3303	0.1	mg/kg	0.50	0.73	1.2	0.13	0.22	3.3
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3

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Summary of Chemical Analysis
Soil Samples

Our Ref 15-40034-2
Client Ref 12032
Contract Title Herbert Road

				Lab No	837852	837853	837854	837855	837856	837857
				Sample ID	TP3	TP3	TP3	TP4	TP4	TP4
				Depth	0.50	1.50	3.50	0.50	2.00	3.00
				Other ID						
				Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Sampling Date	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15
				Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
Asbestos Quantification OHR	DETSC 1102	0						Y	Y	Y
Preparation										
Moisture Content	DETSC 1004*	0.1	%	15	20	15	17	15	19
Metals										
Antimony	DETSC 2301*	1	mg/kg	2.1	2.4	1.6	2.2	1.7	2.4
Arsenic	DETSC 2301#	0.2	mg/kg	9.9	13	8.3	22	8.1	8.6
Beryllium	DETSC 2301#	0.2	mg/kg	0.8	1.1	1.1	0.7	0.7	0.8
Boron (water soluble)	DETSC 2123#	0.2	mg/kg	0.5	1.1	1.2	1.2	1.2	1.0
Cadmium	DETSC 2301#	0.1	mg/kg	0.4	0.6	3.0	0.6	1.1	0.4
Chromium	DETSC 2301#	0.15	mg/kg	21	25	20	19	20	30
Chromium III	DETSC 2301*	0.15	mg/kg	21	25	20	19	20	30
Hexavalent Chromium	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	21	31	39	36	26	19
Lead	DETSC 2301#	0.3	mg/kg	27	45	130	59	37	330
Manganese	DETSC 2301#	20	mg/kg	550	890	980	630	640	730
Mercury	DETSC 2325#	0.05	mg/kg	0.07	0.14	0.20	0.17	0.10	0.10
Molybdenum	DETSC 2301#	0.4	mg/kg	0.9	1.1	0.8	1.2	0.8	0.9
Nickel	DETSC 2301#	1	mg/kg	24	25	16	20	20	30
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	0.6	< 0.5	< 0.5	< 0.5
Zinc	DETSC 2301#	1	mg/kg	70	96	180	110	83	89
Inorganics										
pH	DETSC 2008#			8.4	8.7	9.1	8.4	8.9	8.6
Cyanide Total	DETSC 2130#	0.1	mg/kg	0.1	0.2	0.1	0.2	0.1	0.2
Cyanide complex	DETSC 2130*	0.2	mg/kg	< 0.2	< 0.2	< 0.2	0.2	< 0.2	< 0.2
Organic matter	DETSC 2002#	0.1	%	2.4	7.2	5.2	3.1	3.1	1.2
Total Sulphate as SO4	DETSC 2321#	0.01	%	0.06	0.10	0.28	0.08	0.08	0.07

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Summary of Chemical Analysis
Soil Samples

Our Ref 15-40034-2
Client Ref 12032
Contract Title Herbert Road

			Lab No	837852	837853	837854	837855	837856	837857
			Sample ID	TP3	TP3	TP3	TP4	TP4	TP4
			Depth	0.50	1.50	3.50	0.50	2.00	3.00
			Other ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	12	< 3.4	< 3.4	< 3.4
Aliphatic C35-C44	DETSC 3072*	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	12	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	5.2	< 0.6	< 0.6	2.2
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	50	< 1.4	< 1.4	10
Aromatic C35-C44	DETSC 3072*	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	55	< 10	< 10	13
TPH Ali/Aro	DETSC 3072*	10	mg/kg	< 10	< 10	67	< 10	< 10	13
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.08	0.18	0.06	0.27	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	0.06	< 0.03	0.06	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	0.13	0.77	0.06	0.52	0.23
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.11	0.62	0.05	0.40	0.24
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	0.05	0.31	< 0.03	0.15	0.12
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	0.06	0.35	< 0.03	0.16	0.14
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	0.06	0.38	< 0.03	0.13	0.26
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	0.15	< 0.03	0.05	0.08
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.04	0.26	< 0.03	0.08	0.21
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	0.17	< 0.03	0.06	0.13
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	0.06	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	0.21	< 0.03	0.05	0.17
Total PAH - USEPA 16	DETSC 3303	0.1	mg/kg	< 0.10	0.53	3.5	0.16	2.0	1.6
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3

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Summary of Chemical Analysis
Soil Samples

Our Ref 15-40034-2
Client Ref 12032
Contract Title Herbert Road

				Lab No	837858	837859	837860	837861	837862	837863
				Sample ID	TP5	TP5	TP5	TP6	TP6	TP6
				Depth	1.00	2.00	3.00	0.50	2.00	3.00
				Other ID						
				Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Sampling Date	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15
				Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
Asbestos Quantification OHR	DETSC 1102	0				Y		Y	Y
Preparation										
Moisture Content	DETSC 1004*	0.1	%	17	23	30	17	21	21
Metals										
Antimony	DETSC 2301*	1	mg/kg	2.7	2.5	2.8	2.0	3.3	2.4
Arsenic	DETSC 2301#	0.2	mg/kg	7.1	23	15	9.6	13	12
Beryllium	DETSC 2301#	0.2	mg/kg	0.9	0.8	0.7	0.8	0.7	0.7
Boron (water soluble)	DETSC 2123#	0.2	mg/kg	2.7	1.6	2.1	1.6	1.7	1.8
Cadmium	DETSC 2301#	0.1	mg/kg	0.9	0.7	0.6	0.5	0.5	0.5
Chromium	DETSC 2301#	0.15	mg/kg	130	25	28	25	20	25
Chromium III	DETSC 2301*	0.15	mg/kg	130	25	28	25	20	25
Hexavalent Chromium	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	16	71	37	24	140	48
Lead	DETSC 2301#	0.3	mg/kg	31	81	64	38	130	76
Manganese	DETSC 2301#	20	mg/kg	1700	660	920	780	670	680
Mercury	DETSC 2325#	0.05	mg/kg	0.18	0.23	0.23	0.09	0.34	0.21
Molybdenum	DETSC 2301#	0.4	mg/kg	1.2	1.3	1.3	0.8	1.3	1.2
Nickel	DETSC 2301#	1	mg/kg	14	19	19	23	22	18
Selenium	DETSC 2301#	0.5	mg/kg	0.8	< 0.5	0.5	< 0.5	0.6	< 0.5
Zinc	DETSC 2301#	1	mg/kg	130	150	110	70	140	110
Inorganics										
pH	DETSC 2008#			9.6	8.3	8.3	9.2	9.2	8.6
Cyanide Total	DETSC 2130#	0.1	mg/kg	0.2	0.3	0.5	0.2	0.2	0.2
Cyanide complex	DETSC 2130*	0.2	mg/kg	< 0.2	< 0.2	0.3	< 0.2	0.2	0.2
Organic matter	DETSC 2002#	0.1	%	2.5	5.8	5.0	2.1	4.5	3.8
Total Sulphate as SO4	DETSC 2321#	0.01	%	0.23	0.09	0.12	0.11	0.12	0.09

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Summary of Chemical Analysis
Soil Samples

Our Ref 15-40034-2
Client Ref 12032
Contract Title Herbert Road

			Lab No	837858	837859	837860	837861	837862	837863
			Sample ID	TP5	TP5	TP5	TP6	TP6	TP6
			Depth	1.00	2.00	3.00	0.50	2.00	3.00
			Other ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	0.10	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	0.12	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	1.8	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	3.7	8.8	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	6.7	7.7	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	19	17	< 3.4	9.6	< 3.4	< 3.4
Aliphatic C35-C44	DETSC 3072*	3.4	mg/kg	8.8	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	19	28	19	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	0.01	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	0.12	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	12	1.7	< 0.6	< 0.6	1.9	5.8
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	90	16	< 1.4	< 1.4	3.6	8.8
Aromatic C35-C44	DETSC 3072*	1.4	mg/kg	38	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	100	18	< 10	< 10	< 10	15
TPH Ali/Aro	DETSC 3072*	10	mg/kg	120	46	19	< 10	< 10	15
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	0.04	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	0.05	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	0.20	0.09	0.16	< 0.03	0.29	0.19
Anthracene	DETSC 3303	0.03	mg/kg	0.05	< 0.03	< 0.03	< 0.03	0.06	0.04
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.36	0.18	0.29	< 0.03	0.52	0.41
Pyrene	DETSC 3303#	0.03	mg/kg	0.26	0.16	0.22	< 0.03	0.43	0.33
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	0.12	0.09	0.10	< 0.03	0.19	0.16
Chrysene	DETSC 3303	0.03	mg/kg	0.14	0.10	0.16	< 0.03	0.23	0.18
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.14	0.12	0.16	< 0.03	0.24	0.22
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	0.05	0.04	0.05	< 0.03	0.07	0.07
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	0.08	0.09	0.09	< 0.03	0.15	0.13
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	0.06	0.05	0.05	< 0.03	0.09	0.07
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	0.05	0.05	0.06	< 0.03	0.09	0.07
Total PAH - USEPA 16	DETSC 3303	0.1	mg/kg	1.6	0.96	1.3	< 0.10	2.4	1.9
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3

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Summary of Chemical Analysis
Soil Samples

Our Ref 15-40034-2
Client Ref 12032
Contract Title Herbert Road

			Lab No	837864	837865	837866	837867	837868	837869
			Sample ID	TP7	TP7	TP7	TP8	TP8	TP8
			Depth	0.30	0.60	2.00	0.50	2.00	2.50
			Other ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Asbestos Quantification OHR	DETSC 1102	0		Y	Y				Y
Preparation									
Moisture Content	DETSC 1004*	0.1	%	16	12	29	16	16	14
Metals									
Antimony	DETSC 2301*	1	mg/kg	2.0	1.3	1.9	2.3	1.9	1.6
Arsenic	DETSC 2301#	0.2	mg/kg	10	4.3	10	13	6.7	9.1
Beryllium	DETSC 2301#	0.2	mg/kg	0.9	0.5	1.1	1.2	0.8	0.9
Boron (water soluble)	DETSC 2123#	0.2	mg/kg	1.4	1.5	2.0	1.5	1.2	1.8
Cadmium	DETSC 2301#	0.1	mg/kg	0.6	0.6	0.5	0.4	1.6	0.3
Chromium	DETSC 2301#	0.15	mg/kg	25	19	26	35	27	31
Chromium III	DETSC 2301*	0.15	mg/kg	25	19	26	35	27	31
Hexavalent Chromium	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	24	11	32	34	17	24
Lead	DETSC 2301#	0.3	mg/kg	43	20	20	90	95	20
Manganese	DETSC 2301#	20	mg/kg	820	510	590	690	830	930
Mercury	DETSC 2325#	0.05	mg/kg	0.15	< 0.05	0.07	0.20	0.09	< 0.05
Molybdenum	DETSC 2301#	0.4	mg/kg	0.8	0.5	3.6	1.2	0.6	0.9
Nickel	DETSC 2301#	1	mg/kg	27	18	30	27	24	22
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Zinc	DETSC 2301#	1	mg/kg	97	52	77	95	130	60
Inorganics									
pH	DETSC 2008#			8.8	11.5	8.5	8.7	9.4	10.2
Cyanide Total	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	0.1	0.2	< 0.1	< 0.1
Cyanide complex	DETSC 2130*	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Organic matter	DETSC 2002#	0.1	%	2.4	1.6	1.5	5.8	0.9	10
Total Sulphate as SO4	DETSC 2321#	0.01	%	0.11	0.22	0.10	0.11	0.12	0.10

Summary of Chemical Analysis
Soil Samples

Our Ref 15-40034-2
Client Ref 12032
Contract Title Herbert Road

			Lab No	837864	837865	837866	837867	837868	837869
			Sample ID	TP7	TP7	TP7	TP8	TP8	TP8
			Depth	0.30	0.60	2.00	0.50	2.00	2.50
			Other ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.17
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	0.01	< 0.01	< 0.01	< 0.01	0.05
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	2.7
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	5.9	< 3.4	< 3.4	< 3.4	< 3.4	66
Aliphatic C35-C44	DETSC 3072*	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	15
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	69
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.03
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	0.01	< 0.01	< 0.01	< 0.01	0.05
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6	9.1
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	140
Aromatic C35-C44	DETSC 3072*	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	41
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	150
TPH Ali/Aro	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	220
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg	0.05	< 0.03	< 0.03	< 0.03	< 0.03	0.05
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	0.23	0.18	< 0.03	0.10	< 0.03	0.14
Anthracene	DETSC 3303	0.03	mg/kg	0.05	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.34	0.21	< 0.03	0.16	< 0.03	0.13
Pyrene	DETSC 3303#	0.03	mg/kg	0.27	0.17	< 0.03	0.14	< 0.03	0.13
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	0.13	0.10	< 0.03	0.07	< 0.03	0.06
Chrysene	DETSC 3303	0.03	mg/kg	0.15	0.11	< 0.03	0.07	< 0.03	0.14
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.16	0.10	< 0.03	0.09	< 0.03	0.09
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	0.06	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	0.09	0.07	< 0.03	0.06	< 0.03	0.05
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	0.06	0.03	< 0.03	0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	0.06	0.04	< 0.03	0.03	< 0.03	0.05
Total PAH - USEPA 16	DETSC 3303	0.1	mg/kg	1.6	1.1	< 0.10	0.77	< 0.10	0.81
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3

Key: * -not accredited. # -MCERTS (accreditation only implied if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 15-40034-2
Client Ref 12032
Contract Title Herbert Road

				Lab No	837870	837871	837872	837873	837874	837875
				Sample ID	TP9	TP9	TP9	TP10	TP10	TP10
				Depth	0.30	1.00	1.60	0.50	1.40	2.20
				Other ID						
				Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Sampling Date	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15
				Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
Asbestos Quantification OHR	DETSC 1102	0		Y		Y	Y		Y
Preparation										
Moisture Content	DETSC 1004*	0.1	%	14	15	21	13	17	21
Metals										
Antimony	DETSC 2301*	1	mg/kg	1.7	2.9	2.9	2.2	1.5	1.9
Arsenic	DETSC 2301#	0.2	mg/kg	7.1	6.8	9.3	8.8	4.2	8.7
Beryllium	DETSC 2301#	0.2	mg/kg	1.3	1.0	0.8	1.0	0.8	0.9
Boron (water soluble)	DETSC 2123#	0.2	mg/kg	2.1	1.4	1.9	1.3	1.5	2.0
Cadmium	DETSC 2301#	0.1	mg/kg	0.5	0.5	0.5	0.4	0.6	0.3
Chromium	DETSC 2301#	0.15	mg/kg	34	36	27	31	29	29
Chromium III	DETSC 2301*	0.15	mg/kg	34	36	27	31	29	29
Hexavalent Chromium	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	24	15	21	18	8.9	25
Lead	DETSC 2301#	0.3	mg/kg	28	43	69	35	30	70
Manganese	DETSC 2301#	20	mg/kg	1200	810	570	820	530	830
Mercury	DETSC 2325#	0.05	mg/kg	0.07	< 0.05	0.09	0.09	< 0.05	0.24
Molybdenum	DETSC 2301#	0.4	mg/kg	0.8	0.5	0.7	0.8	0.6	0.9
Nickel	DETSC 2301#	1	mg/kg	20	29	22	26	25	20
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Zinc	DETSC 2301#	1	mg/kg	77	86	110	110	68	85
Inorganics										
pH	DETSC 2008#			10.0	9.0	9.7	8.4	11.2	9.8
Cyanide Total	DETSC 2130#	0.1	mg/kg	< 0.1	0.2	0.2	0.2	< 0.1	0.2
Cyanide complex	DETSC 2130*	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Organic matter	DETSC 2002#	0.1	%	6.4	1.3	1.5	2.3	0.5	6.2
Total Sulphate as SO4	DETSC 2321#	0.01	%	0.41	0.09	0.18	0.07	0.21	0.17

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Summary of Chemical Analysis
Soil Samples

Our Ref 15-40034-2
Client Ref 12032
Contract Title Herbert Road

			Lab No	837870	837871	837872	837873	837874	837875
			Sample ID	TP9	TP9	TP9	TP10	TP10	TP10
			Depth	0.30	1.00	1.60	0.50	1.40	2.20
			Other ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	9.9	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	140	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C35-C44	DETSC 3072*	3.4	mg/kg	36	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	150	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	25	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	290	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C35-C44	DETSC 3072*	1.4	mg/kg	94	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	320	< 10	< 10	< 10	< 10	< 10
TPH Ali/Aro	DETSC 3072*	10	mg/kg	470	< 10	< 10	< 10	< 10	< 10
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg	0.25	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	0.08	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	0.08	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	0.58	0.08	0.13	0.20	0.25	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	0.10	< 0.03	< 0.03	0.06	0.05	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.51	0.20	0.31	0.41	0.49	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	0.40	0.16	0.27	0.33	0.44	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	0.18	0.07	0.11	0.16	0.19	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	0.24	0.07	0.13	0.19	0.20	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.22	0.07	0.18	0.23	0.27	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	0.07	< 0.03	0.07	0.08	0.08	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	0.16	0.05	0.13	0.12	0.19	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	0.13	< 0.03	0.08	0.08	0.11	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	0.20	< 0.03	0.10	0.08	0.12	< 0.03
Total PAH - USEPA 16	DETSC 3303	0.1	mg/kg	3.2	0.69	1.5	1.9	2.4	< 0.10
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	0.8

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Summary of Chemical Analysis
Soil Samples

Our Ref 15-40034-2
Client Ref 12032
Contract Title Herbert Road

			Lab No	837876	837877
			Sample ID	TP11	TP11
			Depth	0.50	1.00
			Other ID		
			Sample Type	SOIL	SOIL
			Sampling Date	08/07/15	08/07/15
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Asbestos Quantification OHR	DETSC 1102	0		Y	
Preparation					
Moisture Content	DETSC 1004*	0.1	%	14	18
Metals					
Antimony	DETSC 2301*	1	mg/kg	1.8	2.8
Arsenic	DETSC 2301#	0.2	mg/kg	9.4	6.2
Beryllium	DETSC 2301#	0.2	mg/kg	0.7	0.9
Boron (water soluble)	DETSC 2123#	0.2	mg/kg	1.3	1.5
Cadmium	DETSC 2301#	0.1	mg/kg	0.4	0.6
Chromium	DETSC 2301#	0.15	mg/kg	18	29
Chromium III	DETSC 2301*	0.15	mg/kg	18	29
Hexavalent Chromium	DETSC 2204*	1	mg/kg	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	20	28
Lead	DETSC 2301#	0.3	mg/kg	47	35
Manganese	DETSC 2301#	20	mg/kg	690	800
Mercury	DETSC 2325#	0.05	mg/kg	0.13	0.06
Molybdenum	DETSC 2301#	0.4	mg/kg	0.8	0.5
Nickel	DETSC 2301#	1	mg/kg	20	29
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5
Zinc	DETSC 2301#	1	mg/kg	85	96
Inorganics					
pH	DETSC 2008#			9.3	8.4
Cyanide Total	DETSC 2130#	0.1	mg/kg	0.2	0.2
Cyanide complex	DETSC 2130*	0.2	mg/kg	< 0.2	< 0.2
Organic matter	DETSC 2002#	0.1	%	2.0	1.4
Total Sulphate as SO4	DETSC 2321#	0.01	%	0.16	0.06

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Summary of Chemical Analysis
Soil Samples

Our Ref 15-40034-2
Client Ref 12032
Contract Title Herbert Road

			Lab No	837876	837877
			Sample ID	TP11	TP11
			Depth	0.50	1.00
			Other ID		
			Sample Type	SOIL	SOIL
			Sampling Date	08/07/15	08/07/15
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Petroleum Hydrocarbons					
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	57	< 3.4
Aliphatic C35-C44	DETSC 3072*	3.4	mg/kg	14	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	57	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	1.9	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	110	< 1.4
Aromatic C35-C44	DETSC 3072*	1.4	mg/kg	33	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	110	< 10
TPH Ali/Aro	DETSC 3072*	10	mg/kg	170	< 10
PAHs					
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	0.13	0.05
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.26	0.09
Pyrene	DETSC 3303#	0.03	mg/kg	0.24	0.08
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	0.11	0.04
Chrysene	DETSC 3303	0.03	mg/kg	0.14	0.04
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.16	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	0.07	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	0.11	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	0.07	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	0.08	< 0.03
Total PAH - USEPA 16	DETSC 3303	0.1	mg/kg	1.4	0.30
Phenols					
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3

Key: * -not accredited. # -MCERTS (accreditation only implied if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 15-40034-2
Client Ref 12032
Contract Title Herbert Road

			Lab No	837878	837879	837880	837881	837882	837883
			Sample ID	TP1	TP1	TP1	TP2	TP2	TP2
			Depth	1.00	2.00	3.00	1.00	2.00	2.90
			Other ID						
			Sample Type	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE
			Sampling Date	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Preparation									
NRA Leachate Preparation	DETS 036*			Y	Y	Y	Y	Y	Y
Metals									
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	2.5	2.3	1.3	1.1	1.3	1.3
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03	< 0.03	< 0.03	0.09	< 0.03
Chromium, Dissolved	DETSC 2306	0.25	ug/l	1.0	0.26	< 0.25	< 0.25	< 0.25	< 0.25
Chromium III Dissolved	DETSC 2302*	1	ug/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexavalent Chromium	DETSC 2203	3	ug/l	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	3.3	2.8	1.9	1.2	2.0	1.6
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.72	0.70	0.37	0.13	0.66	0.57
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	0.9	0.8	< 0.5	0.6	0.5	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	0.33	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Zinc, Dissolved	DETSC 2306	1.25	ug/l	1.67	1.42	1.29	2.45	1.52	1.38
Inorganics									
pH	DETSC 2008			8.2	7.7	7.6	7.5	7.7	7.6
Cyanide Total	DETSC 2130	40	ug/l	< 40	< 40	< 40	< 40	< 40	< 40
Chloride	DETSC 2055	0.1	mg/l	1.1	0.81	0.93	1.2	0.95	0.93
Fluoride	DETSC 2055	0.1	mg/l	0.13	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	8.8	5.3	5.6	8.2	6.2	3.0
Total Organic Carbon	DETSC 2085	1	mg/l	4.1	3.7	2.5	1.8	2.8	2.2
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10
TPH Ali/Aro	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 15-40034-2
Client Ref 12032
Contract Title Herbert Road

			Lab No	837878	837879	837880	837881	837882	837883
			Sample ID	TP1	TP1	TP1	TP2	TP2	TP2
			Depth	1.00	2.00	3.00	1.00	2.00	2.90
			Other ID						
			Sample Type	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE
			Sampling Date	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
PAHs									
Naphthalene	DETSC 3304	0.01	ug/l	0.03	0.03	0.04	0.04	0.04	0.04
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	0.02	< 0.01	< 0.01	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	0.02	< 0.01	0.01	0.02
Phenanthrene	DETSC 3304	0.01	ug/l	0.03	0.02	0.07	0.05	0.05	0.06
Anthracene	DETSC 3304	0.01	ug/l	< 0.01	0.01	0.02	0.01	0.01	0.01
Fluoranthene	DETSC 3304	0.01	ug/l	0.04	0.05	0.06	0.06	0.05	0.06
Pyrene	DETSC 3304	0.01	ug/l	0.05	0.05	0.05	0.06	0.05	0.05
Benzo(a)anthracene	DETSC 3304	0.01	ug/l	0.03	0.05	0.04	0.03	0.02	0.04
Chrysene	DETSC 3304	0.01	ug/l	0.03	0.05	0.06	0.04	0.03	0.04
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	0.12	0.09	0.03	0.03	0.04
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	0.04	0.03	0.01	< 0.01	0.02
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01	0.11	0.06	0.03	0.02	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304*	0.01	ug/l	0.02	0.09	0.06	0.02	< 0.01	0.02
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETSC 3304*	0.01	ug/l	0.05	0.20	0.08	0.02	< 0.01	0.04
PAH	DETSC 3304	0.04	ug/l	0.30	0.81	0.71	0.41	0.33	0.43
Phenols									
Phenol	*	0.5	ug/l	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 15-40034-2
Client Ref 12032
Contract Title Herbert Road

			Lab No	837884	837885	837886	837887	837888	837889
			Sample ID	TP3	TP3	TP3	TP4	TP4	TP4
			Depth	0.50	1.50	3.50	0.50	2.00	3.00
			Other ID						
			Sample Type	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE
			Sampling Date	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Preparation									
NRA Leachate Preparation	DETS 036*			Y	Y	Y	Y	Y	Y
Metals									
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.90	1.5	0.68	1.2	1.6	1.5
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03	0.07	< 0.03	< 0.03	0.47
Chromium, Dissolved	DETSC 2306	0.25	ug/l	0.40	< 0.25	< 0.25	0.55	< 0.25	< 0.25
Chromium III Dissolved	DETSC 2302*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexavalent Chromium	DETSC 2203	3	ug/l	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	1.3	2.1	1.1	2.4	1.6	0.9
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.47	0.81	0.65	0.96	0.40	0.30
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5	< 0.5	< 0.5	0.5	< 0.5	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Zinc, Dissolved	DETSC 2306	1.25	ug/l	2.20	< 1.25	2.61	3.09	< 1.25	3.26
Inorganics									
pH	DETSC 2008			7.6	7.7	7.6	7.6	7.5	7.5
Cyanide Total	DETSC 2130	40	ug/l	< 40	< 40	< 40	< 40	< 40	< 40
Chloride	DETSC 2055	0.1	mg/l	1.1	0.89	0.83	0.94	0.94	0.73
Fluoride	DETSC 2055	0.1	mg/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	6.2	3.1	4.8	8.0	9.6	5.1
Total Organic Carbon	DETSC 2085	1	mg/l	2.5	2.5	1.6	3.9	3.0	1.7
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10
TPH Ali/Aro	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 15-40034-2
Client Ref 12032
Contract Title Herbert Road

			Lab No	837884	837885	837886	837887	837888	837889
			Sample ID	TP3	TP3	TP3	TP4	TP4	TP4
			Depth	0.50	1.50	3.50	0.50	2.00	3.00
			Other ID						
			Sample Type	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE
			Sampling Date	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
PAHs									
Naphthalene	DETSC 3304	0.01	ug/l	0.03	0.04	0.04	0.04	0.05	0.03
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	0.01	< 0.01	0.01	0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	0.02	< 0.01	0.01	0.03
Fluorene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	0.01	< 0.01	0.02	0.02
Phenanthrene	DETSC 3304	0.01	ug/l	0.02	0.06	0.06	0.03	0.07	0.04
Anthracene	DETSC 3304	0.01	ug/l	< 0.01	0.01	0.02	< 0.01	0.02	0.02
Fluoranthene	DETSC 3304	0.01	ug/l	0.02	0.07	0.11	0.03	0.07	0.08
Pyrene	DETSC 3304	0.01	ug/l	0.02	0.07	0.12	0.03	0.08	0.11
Benzo(a)anthracene	DETSC 3304	0.01	ug/l	< 0.01	0.02	0.10	0.02	0.04	0.05
Chrysene	DETSC 3304	0.01	ug/l	< 0.01	0.05	0.11	0.02	0.04	0.05
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	0.07	0.11	0.03	0.05	0.13
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	0.04	0.05	0.01	0.02	0.05
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01	0.05	0.11	0.02	0.03	0.10
Indeno(1,2,3-c,d)pyrene	DETSC 3304*	0.01	ug/l	< 0.01	0.03	0.15	0.02	0.03	0.17
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	0.05	< 0.01	0.01	0.03
Benzo(g,h,i)perylene	DETSC 3304*	0.01	ug/l	< 0.01	0.03	0.22	0.02	0.04	0.21
PAH	DETSC 3304	0.04	ug/l	0.10	0.53	1.3	0.27	0.58	1.1
Phenols									
Phenol	*	0.5	ug/l	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 15-40034-2
Client Ref 12032
Contract Title Herbert Road

			Lab No	837890	837891	837892	837893	837894	837895
			Sample ID	TP5	TP5	TP5	TP6	TP6	TP6
			Depth	1.00	2.00	3.00	0.50	2.00	3.00
			Other ID						
			Sample Type	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE
			Sampling Date	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Preparation									
NRA Leachate Preparation	DETS 036*			Y	Y	Y	Y	Y	Y
Metals									
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	5.0	1.4	3.7	0.61	2.7	1.8
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03	< 0.03	< 0.03	0.12	< 0.03
Chromium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	< 0.25	0.37	< 0.25	0.29	0.81
Chromium III Dissolved	DETSC 2302*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexavalent Chromium	DETSC 2203	3	ug/l	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	5.7	2.6	9.2	2.0	4.2	3.5
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.67	1.1	3.3	0.66	2.4	1.4
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01	0.02	< 0.01	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	1.8	0.6	1.0	0.7	0.7	0.6
Selenium, Dissolved	DETSC 2306	0.25	ug/l	0.67	< 0.25	0.35	< 0.25	< 0.25	< 0.25
Zinc, Dissolved	DETSC 2306	1.25	ug/l	< 1.25	1.55	2.32	1.43	3.11	1.69
Inorganics									
pH	DETSC 2008			7.7	7.7	7.6	7.7	7.5	7.3
Cyanide Total	DETSC 2130	40	ug/l	< 40	< 40	< 40	< 40	< 40	< 40
Chloride	DETSC 2055	0.1	mg/l	1.5	1.8	1.3	1.2	1.2	1.2
Fluoride	DETSC 2055	0.1	mg/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	3.5	6.2	8.8	9.1	4.7	5.8
Total Organic Carbon	DETSC 2085	1	mg/l	5.0	3.9	6.6	4.1	3.1	6.8
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	0.6	< 0.1	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10
TPH Ali/Aro	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 15-40034-2
Client Ref 12032
Contract Title Herbert Road

			Lab No	837890	837891	837892	837893	837894	837895
			Sample ID	TP5	TP5	TP5	TP6	TP6	TP6
			Depth	1.00	2.00	3.00	0.50	2.00	3.00
			Other ID						
			Sample Type	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE
			Sampling Date	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
PAHs									
Naphthalene	DETSC 3304	0.01	ug/l	0.07	0.04	0.05	0.03	0.04	0.04
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	0.10	0.01	0.02	< 0.01	0.01	0.01
Fluorene	DETSC 3304	0.01	ug/l	0.04	0.01	0.02	< 0.01	0.01	0.01
Phenanthrene	DETSC 3304	0.01	ug/l	0.06	0.04	0.07	0.03	0.06	0.06
Anthracene	DETSC 3304	0.01	ug/l	0.02	0.01	0.02	< 0.01	0.02	0.01
Fluoranthene	DETSC 3304	0.01	ug/l	0.07	0.06	0.11	0.04	0.07	0.08
Pyrene	DETSC 3304	0.01	ug/l	0.07	0.05	0.11	0.04	0.07	0.06
Benzo(a)anthracene	DETSC 3304	0.01	ug/l	0.04	0.03	0.07	0.02	0.04	0.04
Chrysene	DETSC 3304	0.01	ug/l	0.04	0.04	0.06	0.02	0.05	0.05
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	0.05	0.06	0.09	0.03	0.10	0.08
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	0.02	0.02	0.03	0.01	0.03	0.03
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	0.03	0.03	0.05	0.02	0.06	0.04
Indeno(1,2,3-c,d)pyrene	DETSC 3304*	0.01	ug/l	0.04	0.04	0.06	0.01	0.07	0.06
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	0.02	< 0.01	0.02	0.02
Benzo(g,h,i)perylene	DETSC 3304*	0.01	ug/l	0.05	0.04	0.08	0.02	0.07	0.06
PAH	DETSC 3304	0.04	ug/l	0.70	0.48	0.86	0.28	0.70	0.64
Phenols									
Phenol	*	0.5	ug/l	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 15-40034-2
Client Ref 12032
Contract Title Herbert Road

			Lab No	837896	837897	837898	837899	837900	837901
			Sample ID	TP7	TP7	TP7	TP8	TP8	TP8
			Depth	0.30	0.60	2.00	0.50	2.00	2.50
			Other ID						
			Sample Type	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE
			Sampling Date	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Preparation									
NRA Leachate Preparation	DETS 036*			Y	Y	Y	Y	Y	Y
Metals									
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	1.6	0.82	0.35	0.97	1.9	3.4
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Chromium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	2.4	< 0.25	< 0.25	1.1	< 0.25
Chromium III Dissolved	DETSC 2302*	1	ug/l	< 1.0	2.4	< 1.0	< 1.0	1.1	< 1.0
Hexavalent Chromium	DETSC 2203	3	ug/l	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	1.9	5.3	0.6	1.1	1.9	3.4
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.35	< 0.09	0.20	0.18	0.35	0.18
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5	0.6	< 0.5	< 0.5	< 0.5	1.4
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	0.66
Zinc, Dissolved	DETSC 2306	1.25	ug/l	1.42	< 1.25	< 1.25	4.08	< 1.25	< 1.25
Inorganics									
pH	DETSC 2008			7.3	10.7	8.9	8.3	8.3	7.9
Cyanide Total	DETSC 2130	40	ug/l	< 40	< 40	< 40	< 40	< 40	< 40
Chloride	DETSC 2055	0.1	mg/l	1.3	3.3	1.4	0.77	1.4	1.3
Fluoride	DETSC 2055	0.1	mg/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	9.5	2.3	15	8.5	6.2	4.7
Total Organic Carbon	DETSC 2085	1	mg/l	2.6	1.7	4.0	1.6	1.5	3.3
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10
TPH Ali/Aro	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 15-40034-2
Client Ref 12032
Contract Title Herbert Road

			Lab No	837896	837897	837898	837899	837900	837901
			Sample ID	TP7	TP7	TP7	TP8	TP8	TP8
			Depth	0.30	0.60	2.00	0.50	2.00	2.50
			Other ID						
			Sample Type	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE
			Sampling Date	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
PAHs									
Naphthalene	DETSC 3304	0.01	ug/l	0.04	0.07	0.04	0.03	0.03	0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01	0.01	< 0.01	< 0.01	< 0.01	0.01
Fluorene	DETSC 3304	0.01	ug/l	0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.01
Phenanthrene	DETSC 3304	0.01	ug/l	0.05	0.03	0.02	0.04	0.02	0.08
Anthracene	DETSC 3304	0.01	ug/l	0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.01
Fluoranthene	DETSC 3304	0.01	ug/l	0.05	0.02	0.01	0.04	0.02	0.05
Pyrene	DETSC 3304	0.01	ug/l	0.04	0.02	0.02	0.04	0.02	3.9
Benzo(a)anthracene	DETSC 3304	0.01	ug/l	0.02	< 0.01	< 0.01	0.02	< 0.01	0.02
Chrysene	DETSC 3304	0.01	ug/l	0.03	< 0.01	< 0.01	0.02	< 0.01	0.03
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	0.03	< 0.01	< 0.01	0.03	< 0.01	0.03
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	0.02	< 0.01	< 0.01	0.02	< 0.01	0.02
Indeno(1,2,3-c,d)pyrene	DETSC 3304*	0.01	ug/l	0.02	< 0.01	< 0.01	0.01	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETSC 3304*	0.01	ug/l	0.02	< 0.01	< 0.01	0.02	< 0.01	0.02
PAH	DETSC 3304	0.04	ug/l	0.35	0.14	0.10	0.26	0.08	4.3
Phenols									
Phenol	*	0.5	ug/l	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 15-40034-2
Client Ref 12032
Contract Title Herbert Road

			Lab No	837902	837903	837904	837905	837906	837907
			Sample ID	TP9	TP9	TP9	TP10	TP10	TP10
			Depth	0.30	1.00	1.60	0.50	1.40	2.20
			Other ID						
			Sample Type	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE
			Sampling Date	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Preparation									
NRA Leachate Preparation	DETS 036*			Y	Y	Y	Y	Y	Y
Metals									
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	3.9	1.7	1.7	0.56	3.7	1.1
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Chromium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Chromium III Dissolved	DETSC 2302*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexavalent Chromium	DETSC 2203	3	ug/l	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	4.3	2.1	2.6	2.3	2.9	1.1
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.46	0.38	0.69	< 0.09	2.9	0.36
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	1.1	0.6	0.7	0.6	0.9	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	0.66	< 0.25	0.37	< 0.25	< 0.25	< 0.25
Zinc, Dissolved	DETSC 2306	1.25	ug/l	< 1.25	1.61	1.26	< 1.25	1.39	< 1.25
Inorganics									
pH	DETSC 2008			7.6	7.4	7.2	10.5	8.7	8.2
Cyanide Total	DETSC 2130	40	ug/l	< 40	< 40	< 40	< 40	< 40	< 40
Chloride	DETSC 2055	0.1	mg/l	1.1	1.0	1.3	1.3	0.85	0.66
Fluoride	DETSC 2055	0.1	mg/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	5.8	6.2	8.6	2.9	3.9	7.2
Total Organic Carbon	DETSC 2085	1	mg/l	4.1	2.1	2.7	1.8	3.3	2.0
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10
TPH Ali/Aro	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 15-40034-2
Client Ref 12032
Contract Title Herbert Road

			Lab No	837902	837903	837904	837905	837906	837907
			Sample ID	TP9	TP9	TP9	TP10	TP10	TP10
			Depth	0.30	1.00	1.60	0.50	1.40	2.20
			Other ID						
			Sample Type	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE
			Sampling Date	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
PAHs									
Naphthalene	DETSC 3304	0.01	ug/l	0.08	0.03	0.03	0.05	0.03	0.03
Acenaphthylene	DETSC 3304	0.01	ug/l	0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	0.04	0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	0.21	0.02	0.02	0.02	0.04	0.03
Anthracene	DETSC 3304	0.01	ug/l	0.05	< 0.01	< 0.01	< 0.01	0.01	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	0.31	0.02	0.02	0.01	0.07	0.03
Pyrene	DETSC 3304	0.01	ug/l	0.35	0.02	0.02	0.01	0.06	0.02
Benzo(a)anthracene	DETSC 3304	0.01	ug/l	0.25	0.01	0.01	< 0.01	0.03	0.01
Chrysene	DETSC 3304	0.01	ug/l	0.20	0.01	0.01	< 0.01	0.05	0.02
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	0.25	0.03	0.02	< 0.01	0.07	0.02
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	0.09	0.01	< 0.01	< 0.01	0.03	0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	0.17	0.02	< 0.01	< 0.01	0.05	0.02
Indeno(1,2,3-c,d)pyrene	DETSC 3304*	0.01	ug/l	0.16	< 0.01	< 0.01	< 0.01	0.06	0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	0.04	< 0.01	< 0.01	< 0.01	0.01	< 0.01
Benzo(g,h,i)perylene	DETSC 3304*	0.01	ug/l	0.19	0.01	0.01	< 0.01	0.07	0.02
PAH	DETSC 3304	0.04	ug/l	2.5	0.20	0.16	0.09	0.59	0.22
Phenols									
Phenol	*	0.5	ug/l	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 15-40034-2
Client Ref 12032
Contract Title Herbert Road

			Lab No	837908	837909
			Sample ID	TP11	TP11
			Depth	0.50	1.00
			Other ID		
			Sample Type	LEACHATE	LEACHATE
			Sampling Date	08/07/15	08/07/15
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Preparation					
NRA Leachate Preparation	DETS 036*			Y	Y
Metals					
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.72	0.56
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03
Chromium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	< 0.25
Chromium III Dissolved	DETSC 2302*	1	ug/l	< 1.0	< 1.0
Hexavalent Chromium	DETSC 2203	3	ug/l	< 3.0	< 3.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	0.8	2.2
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.19	0.19
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	< 0.25
Zinc, Dissolved	DETSC 2306	1.25	ug/l	< 1.25	< 1.25
Inorganics					
pH	DETSC 2008			8.1	7.9
Cyanide Total	DETSC 2130	40	ug/l	< 40	< 40
Chloride	DETSC 2055	0.1	mg/l	0.69	0.57
Fluoride	DETSC 2055	0.1	mg/l	< 0.10	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	4.9	4.3
Total Organic Carbon	DETSC 2085	1	mg/l	1.5	1.9
Petroleum Hydrocarbons					
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10
TPH Ali/Aro	DETSC 3072*	10	ug/l	< 10	< 10

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 15-40034-2
Client Ref 12032
Contract Title Herbert Road

			Lab No	837908	837909
			Sample ID	TP11	TP11
			Depth	0.50	1.00
			Other ID		
			Sample Type	LEACHATE	LEACHATE
			Sampling Date	08/07/15	08/07/15
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
PAHs					
Naphthalene	DETSC 3304	0.01	ug/l	0.03	0.03
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	0.03	0.02
Anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	0.03	0.02
Pyrene	DETSC 3304	0.01	ug/l	0.02	0.02
Benzo(a)anthracene	DETSC 3304	0.01	ug/l	0.01	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	0.02	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	0.02	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304*	0.01	ug/l	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETSC 3304*	0.01	ug/l	0.01	< 0.01
PAH	DETSC 3304	0.04	ug/l	0.17	0.08
Phenols					
Phenol	*	0.5	ug/l	< 0.50	< 0.50

Key: * -not accredited. n/s -not supplied.

Summary of Asbestos Analysis
Soil Samples

Our Ref 15-40034-2
Client Ref 12032
Contract Title Herbert Road

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
837846	TP1 1.00	SOIL	NAD	none	D Wilkinson
837847	TP1 2.00	SOIL	NAD	none	D Wilkinson
837848	TP1 3.00	SOIL	Chrysotile	Chrysotile present as fibre bundles	D Wilkinson
837849	TP2 1.00	SOIL	NAD	none	D Wilkinson
837850	TP2 2.00	SOIL	Chrysotile	Chrysotile present as small fibre bundles	D Wilkinson
837851	TP2 2.90	SOIL	Chrysotile	Chrysotile present as fibre bundles	D Wilkinson
837852	TP3 0.50	SOIL	NAD	none	D Wilkinson
837853	TP3 1.50	SOIL	NAD	none	D Wilkinson
837854	TP3 3.50	SOIL	NAD	none	D Wilkinson
837855	TP4 0.50	SOIL	Chrysotile	Chrysotile present as fibre bundles	D Wilkinson
837856	TP4 2.00	SOIL	Chrysotile	Chrysotile present as fibre bundles	D Wilkinson
837857	TP4 3.00	SOIL	Chrysotile	Chrysotile present as small fibre bundle	D Wilkinson
837858	TP5 1.00	SOIL	NAD	none	D Wilkinson
837859	TP5 2.00	SOIL	NAD	none	D Wilkinson
837860	TP5 3.00	SOIL	Chrysotile	Chrysotile present as fibre bundles	D Wilkinson
837861	TP6 0.50	SOIL	NAD	none	D Wilkinson
837862	TP6 2.00	SOIL	Chrysotile	Chrysotile present as fibre bundles	D Wilkinson
837863	TP6 3.00	SOIL	Chrysotile	Chrysotile present as fibre bundles	D Wilkinson
837864	TP7 0.30	SOIL	Chrysotile	Chrysotile present as fibre bundles	D Wilkinson
837865	TP7 0.60	SOIL	Chrysotile	Chrysotile present as small fibre bundle	D Wilkinson
837866	TP7 2.00	SOIL	NAD	none	D Wilkinson
837867	TP8 0.50	SOIL	NAD	none	D Wilkinson
837868	TP8 2.00	SOIL	NAD	none	D Wilkinson
837869	TP8 2.50	SOIL	Chrysotile	Chrysotile present as fibre bundles	D Wilkinson
837870	TP9 0.30	SOIL	Chrysotile Amosite	Chrysotile present as fibre bundles Amosite also present as small bundle	D Wilkinson
837871	TP9 1.00	SOIL	NAD	none	D Wilkinson
837872	TP9 1.60	SOIL	Chrysotile	Chrysotile present as fibre bundles	D Wilkinson
837873	TP10 0.50	SOIL	Amosite	Amosite present as small fibre bundle	D Wilkinson
837874	TP10 1.40	SOIL	NAD	none	D Wilkinson
837875	TP10 2.20	SOIL	Chrysotile	Chrysotile present as fibre bundles	D Wilkinson
837876	TP11 0.50	SOIL	Chrysotile	Chrysotile present as small fibre bundle	D Wilkinson
837877	TP11 1.00	SOIL	NAD	none	D Wilkinson

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where

Summary of Asbestos Analysis
Soil Samples

Our Ref 15-40034-2
Client Ref 12032
Contract Title Herbert Road

Lab No	Sample ID	Material Type	Result	Comment*	Analyst

a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Summary of Asbestos Quantification Analysis
Soil Samples

Our Ref 15-40034-2
Client Ref 12032
Contract Title Herbert Road

		Lab No	837848	837850	837851	837855
		Sample ID	TP1	TP2	TP2	TP4
		Depth	3.00	2.00	2.90	0.50
		Other ID				
		Sample Type	SOIL	SOIL	SOIL	SOIL
		Sampling Date	08/07/15	08/07/15	08/07/15	08/07/15
		Sampling Time				
Test	**Method**	**Units**				
Total Mass% Asbestos (a+b+c)	DETSC 1102	Mass %	**< 0.001**	**< 0.001**	**< 0.001**	**< 0.001**
Gravimetric Quantification (a)	DETSC 1102	Mass %	na	na	na	na
Detailed Gravimetric Quantification (b)	DETSC 1102	Mass %	<0.001	<0.001	<0.001	<0.001
Quantification by PCOM (c)	DETSC 1102	Mass %	na	na	na	na
Potentially Respirable Fibres (d)	DETSC 1102	Fibres/g	na	na	na	na
Breakdown of Gravimetric Analysis (a)						
Mass of Sample		g	1036.29	1075.16	1046.26	989.45
ACMs present*		type				
Mass of ACM in sample		g				
% ACM by mass		%				
% asbestos in ACM		%				
% asbestos in sample		%				
Breakdown of Detailed Gravimetric Analysis (b)						
% Amphibole bundles in sample		Mass %	na	na	na	na
% Serpentine bundles in sample		Mass %	<0.001	<0.001	<0.001	<0.001
Breakdown of PCOM Analysis (c)						
% Amphibole fibres in sample		Mass %	na	na	na	na
% Serpentine fibres in sample		Mass %	na	na	na	na
Breakdown of Potentially Respirable Fibre Analysis (d)						
Amphibole fibres		Fibres/g	na	na	na	na
Chrysotile fibres		Fibres/g	na	na	na	na

* Denotes test or material description outside of UKAS accreditation.
% asbestos in Asbestos Containing Materials (ACMs) is determined by
by reference to HSG 264.
Recommended sample size for quantification is approximately 1kg
# denotes deviating sample

Summary of Asbestos Quantification Analysi

Soil Samples

Our Ref 15-40034-2
Client Ref 12032
Contract Title Herbert Road

		Lab No	837856	837857	837860	837862
		Sample ID	TP4	TP4	TP5	TP6
		Depth	2.00	3.00	3.00	2.00
		Other ID				
		Sample Type	SOIL	SOIL	SOIL	SOIL
		Sampling Date	08/07/15	08/07/15	08/07/15	08/07/15
		Sampling Time				
Test	**Method**	**Units**				
Total Mass% Asbestos (a+b+c)	DETSC 1102	Mass %	**< 0.001**	**< 0.001**	**0.005**	**< 0.001**
Gravimetric Quantification (a)	DETSC 1102	Mass %	na	na	na	na
Detailed Gravimetric Quantification (b)	DETSC 1102	Mass %	<0.001	<0.001	0.005	<0.001
Quantification by PCOM (c)	DETSC 1102	Mass %	na	na	na	na
Potentially Respirable Fibres (d)	DETSC 1102	Fibres/g	na	na	na	na
Breakdown of Gravimetric Analysis (a)						
Mass of Sample		g	769.83	1181.87	1123.10	1055.83
ACMs present*		type				
Mass of ACM in sample		g				
% ACM by mass		%				
% asbestos in ACM		%				
% asbestos in sample		%				
Breakdown of Detailed Gravimetric Analysis (b)						
% Amphibole bundles in sample		Mass %	na	na	na	na
% Serpentine bundles in sample		Mass %	<0.001	<0.001	0.005	<0.001
Breakdown of PCOM Analysis (c)						
% Amphibole fibres in sample		Mass %	na	na	na	na
% Serpentine fibres in sample		Mass %	na	na	na	na
Breakdown of Potentially Respirable Fibre Analysis (d)						
Amphibole fibres		Fibres/g	na	na	na	na
Chrysotile fibres		Fibres/g	na	na	na	na

* Denotes test or material description outside of UKAS accreditation.
% asbestos in Asbestos Containing Materials (ACMs) is determined by
by reference to HSG 264.
Recommended sample size for quantification is approximately 1kg
# denotes deviating sample

Summary of Asbestos Quantification Analysi

Soil Samples

Our Ref 15-40034-2
Client Ref 12032
Contract Title Herbert Road

		Lab No	837863	837864	837865	837869
		Sample ID	TP6	TP7	TP7	TP8
		Depth	3.00	0.30	0.60	2.50
		Other ID				
		Sample Type	SOIL	SOIL	SOIL	SOIL
		Sampling Date	08/07/15	08/07/15	08/07/15	08/07/15
		Sampling Time				
Test	**Method**	**Units**				
Total Mass% Asbestos (a+b+c)	DETSC 1102	Mass %	**0.003**	**< 0.001**	**< 0.001**	**< 0.001**
Gravimetric Quantification (a)	DETSC 1102	Mass %	na	na	na	na
Detailed Gravimetric Quantification (b)	DETSC 1102	Mass %	0.003	<0.001	<0.001	<0.001
Quantification by PCOM (c)	DETSC 1102	Mass %	na	na	na	na
Potentially Respirable Fibres (d)	DETSC 1102	Fibres/g	na	na	na	na
Breakdown of Gravimetric Analysis (a)						
Mass of Sample		g	997.47	460.41	502.83	664.80
ACMs present*		type				
Mass of ACM in sample		g				
% ACM by mass		%				
% asbestos in ACM		%				
% asbestos in sample		%				
Breakdown of Detailed Gravimetric Analysis (b)						
% Amphibole bundles in sample		Mass %	na	na	na	na
% Serpentine bundles in sample		Mass %	0.003	<0.001	<0.001	<0.001
Breakdown of PCOM Analysis (c)						
% Amphibole fibres in sample		Mass %	na	na	na	na
% Serpentine fibres in sample		Mass %	na	na	na	na
Breakdown of Potentially Respirable Fibre Analysis (d)						
Amphibole fibres		Fibres/g	na	na	na	na
Chrysotile fibres		Fibres/g	na	na	na	na

* Denotes test or material description outside of UKAS accreditation.
% asbestos in Asbestos Containing Materials (ACMs) is determined by
by reference to HSG 264.
Recommended sample size for quantification is approximately 1kg
# denotes deviating sample

Summary of Asbestos Quantification Analysi

Soil Samples

Our Ref 15-40034-2
Client Ref 12032
Contract Title Herbert Road

		Lab No	837870	837872	837873	837875
		Sample ID	TP9	TP9	TP10	TP10
		Depth	0.30	1.60	0.50	2.20
		Other ID				
		Sample Type	SOIL	SOIL	SOIL	SOIL
		Sampling Date	08/07/15	08/07/15	08/07/15	08/07/15
		Sampling Time				
Test	**Method**	**Units**				
Total Mass% Asbestos (a+b+c)	DETSC 1102	Mass %	**< 0.001**	**0.002**	**< 0.001**	**< 0.001**
Gravimetric Quantification (a)	DETSC 1102	Mass %	na	na	na	na
Detailed Gravimetric Quantification (b)	DETSC 1102	Mass %	<0.001	0.002	<0.001	<0.001
Quantification by PCOM (c)	DETSC 1102	Mass %	na	na	na	na
Potentially Respirable Fibres (d)	DETSC 1102	Fibres/g	na	na	na	na
Breakdown of Gravimetric Analysis (a)						
Mass of Sample		g	983.64	1171.10	576.91	695.43
ACMs present*		type				
Mass of ACM in sample		g				
% ACM by mass		%				
% asbestos in ACM		%				
% asbestos in sample		%				
Breakdown of Detailed Gravimetric Analysis (b)						
% Amphibole bundles in sample		Mass %	na	na	<0.001	na
% Serpentine bundles in sample		Mass %	<0.001	0.002	na	<0.001
Breakdown of PCOM Analysis (c)						
% Amphibole fibres in sample		Mass %	na	na	na	na
% Serpentine fibres in sample		Mass %	na	na	na	na
Breakdown of Potentially Respirable Fibre Analysis (d)						
Amphibole fibres		Fibres/g	na	na	na	na
Chrysotile fibres		Fibres/g	na	na	na	na

* Denotes test or material description outside of UKAS accreditation.
% asbestos in Asbestos Containing Materials (ACMs) is determined by
by reference to HSG 264.
Recommended sample size for quantification is approximately 1kg
# denotes deviating sample

Summary of Asbestos Quantification Analysi

Soil Samples

Our Ref 15-40034-2
Client Ref 12032
Contract Title Herbert Road

		Lab No	837876
		Sample ID	TP11
		Depth	0.50
		Other ID	
		Sample Type	SOIL
		Sampling Date	08/07/15
		Sampling Time	
Test	**Method**	**Units**	
Total Mass% Asbestos (a+b+c)	DETSC 1102	Mass %	**< 0.001**
Gravimetric Quantification (a)	DETSC 1102	Mass %	na
Detailed Gravimetric Quantification (b)	DETSC 1102	Mass %	<0.001
Quantification by PCOM (c)	DETSC 1102	Mass %	na
Potentially Respirable Fibres (d)	DETSC 1102	Fibres/g	na
Breakdown of Gravimetric Analysis (a)			
Mass of Sample		g	457.75
ACMs present*		type	
Mass of ACM in sample		g	
% ACM by mass		%	
% asbestos in ACM		%	
% asbestos in sample		%	
Breakdown of Detailed Gravimetric Analysis (b)			
% Amphibole bundles in sample		Mass %	na
% Serpentine bundles in sample		Mass %	<0.001
Breakdown of PCOM Analysis (c)			
% Amphibole fibres in sample		Mass %	na
% Serpentine fibres in sample		Mass %	na
Breakdown of Potentially Respirable Fibre Analysis (d)			
Amphibole fibres		Fibres/g	na
Chrysotile fibres		Fibres/g	na

* Denotes test or material description outside of UKAS accreditation.
% asbestos in Asbestos Containing Materials (ACMs) is determined by
by reference to HSG 264.
Recommended sample size for quantification is approximately 1kg
# denotes deviating sample

Information in Support of the Analytical Results

Our Ref 15-40034-2
Client Ref 12032
Contract Herbert Road

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
837846	TP1 1.00 SOIL	08/07/15	GJ 250ml x2, PT 1L x2		
837847	TP1 2.00 SOIL	08/07/15	GJ 250ml x2, PT 1L x2		
837848	TP1 3.00 SOIL	08/07/15	GJ 250ml x2, PT 1L x2		
837849	TP2 1.00 SOIL	08/07/15	GJ 250ml x2, PT 1L x2		
837850	TP2 2.00 SOIL	08/07/15	GJ 250ml x2, PT 1L x2		
837851	TP2 2.90 SOIL	08/07/15	GJ 250ml x2, PT 1L x2		
837852	TP3 0.50 SOIL	08/07/15	GJ 250ml x2, PT 1L x2		
837853	TP3 1.50 SOIL	08/07/15	GJ 250ml x2, PT 1L x2		
837854	TP3 3.50 SOIL	08/07/15	GJ 250ml x2, PT 1L x2		
837855	TP4 0.50 SOIL	08/07/15	GJ 250ml x2, PT 1L x2		
837856	TP4 2.00 SOIL	08/07/15	GJ 250ml x2, PT 1L x2		
837857	TP4 3.00 SOIL	08/07/15	GJ 250ml x2, PT 1L x2		
837858	TP5 1.00 SOIL	08/07/15	GJ 250ml x2, PT 1L x2		
837859	TP5 2.00 SOIL	08/07/15	GJ 250ml x2, PT 1L x2		
837860	TP5 3.00 SOIL	08/07/15	GJ 250ml x2, PT 1L x2		
837861	TP6 0.50 SOIL	08/07/15	GJ 250ml x2, PT 1L x2		
837862	TP6 2.00 SOIL	08/07/15	GJ 250ml x2, PT 1L x2		
837863	TP6 3.00 SOIL	08/07/15	GJ 250ml x2, PT 1L x2		
837864	TP7 0.30 SOIL	08/07/15	GJ 250ml x2, PT 1L x2		
837865	TP7 0.60 SOIL	08/07/15	GJ 250ml x2, PT 1L x2		
837866	TP7 2.00 SOIL	08/07/15	GJ 250ml x2, PT 1L x2		
837867	TP8 0.50 SOIL	08/07/15	GJ 250ml x2, PT 1L x2		
837868	TP8 2.00 SOIL	08/07/15	GJ 250ml x2, PT 1L x2		
837869	TP8 2.50 SOIL	08/07/15	GJ 250ml x2, PT 1L x2		
837870	TP9 0.30 SOIL	08/07/15	GJ 250ml x2, PT 1L x2		
837871	TP9 1.00 SOIL	08/07/15	GJ 250ml x2, PT 1L x2		
837872	TP9 1.60 SOIL	08/07/15	GJ 250ml x2, PT 1L x2		
837873	TP10 0.50 SOIL	08/07/15	GJ 250ml x2, PT 1L x2		
837874	TP10 1.40 SOIL	08/07/15	GJ 250ml x2, PT 1L x2		
837875	TP10 2.20 SOIL	08/07/15	GJ 250ml x2, PT 1L x2		
837876	TP11 0.50 SOIL	08/07/15	GJ 250ml x2, PT 1L x2		
837877	TP11 1.00 SOIL	08/07/15	GJ 250ml x2, PT 1L x2		
837878	TP1 1.00 LEACHATE	08/07/15	GJ 250ml x2, PT 1L x2		
837879	TP1 2.00 LEACHATE	08/07/15	GJ 250ml x2, PT 1L x2		
837880	TP1 3.00 LEACHATE	08/07/15	GJ 250ml x2, PT 1L x2		
837881	TP2 1.00 LEACHATE	08/07/15	GJ 250ml x2, PT 1L x2		
837882	TP2 2.00 LEACHATE	08/07/15	GJ 250ml x2, PT 1L x2		
837883	TP2 2.90 LEACHATE	08/07/15	GJ 250ml x2, PT 1L x2		
837884	TP3 0.50 LEACHATE	08/07/15	GJ 250ml x2, PT 1L x2		
837885	TP3 1.50 LEACHATE	08/07/15	GJ 250ml x2, PT 1L x2		
837886	TP3 3.50 LEACHATE	08/07/15	GJ 250ml x2, PT 1L x2		
837887	TP4 0.50 LEACHATE	08/07/15	GJ 250ml x2, PT 1L x2		
837888	TP4 2.00 LEACHATE	08/07/15	GJ 250ml x2, PT 1L x2		
837889	TP4 3.00 LEACHATE	08/07/15	GJ 250ml x2, PT 1L x2		
837890	TP5 1.00 LEACHATE	08/07/15	GJ 250ml x2, PT 1L x2		
837891	TP5 2.00 LEACHATE	08/07/15	GJ 250ml x2, PT 1L x2		
837892	TP5 3.00 LEACHATE	08/07/15	GJ 250ml x2, PT 1L x2		
837893	TP6 0.50 LEACHATE	08/07/15	GJ 250ml x2, PT 1L x2		
837894	TP6 2.00 LEACHATE	08/07/15	GJ 250ml x2, PT 1L x2		

Information in Support of the Analytical Results

Our Ref 15-40034-2
Client Ref 12032
Contract Herbert Road

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
837895	TP6 3.00 LEACHATE	08/07/15	GJ 250ml x2, PT 1L x2		
837896	TP7 0.30 LEACHATE	08/07/15	GJ 250ml x2, PT 1L x2		
837897	TP7 0.60 LEACHATE	08/07/15	GJ 250ml x2, PT 1L x2		
837898	TP7 2.00 LEACHATE	08/07/15	GJ 250ml x2, PT 1L x2		
837899	TP8 0.50 LEACHATE	08/07/15	GJ 250ml x2, PT 1L x2		
837900	TP8 2.00 LEACHATE	08/07/15	GJ 250ml x2, PT 1L x2		
837901	TP8 2.50 LEACHATE	08/07/15	GJ 250ml x2, PT 1L x2		
837902	TP9 0.30 LEACHATE	08/07/15	GJ 250ml x2, PT 1L x2		
837903	TP9 1.00 LEACHATE	08/07/15	GJ 250ml x2, PT 1L x2		
837904	TP9 1.60 LEACHATE	08/07/15	GJ 250ml x2, PT 1L x2		
837905	TP10 0.50 LEACHATE	08/07/15	GJ 250ml x2, PT 1L x2		
837906	TP10 1.40 LEACHATE	08/07/15	GJ 250ml x2, PT 1L x2		
837907	TP10 2.20 LEACHATE	08/07/15	GJ 250ml x2, PT 1L x2		
837908	TP11 0.50 LEACHATE	08/07/15	GJ 250ml x2, PT 1L x2		
837909	TP11 1.00 LEACHATE	08/07/15	GJ 250ml x2, PT 1L x2		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time and/or inappropriate containers are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2024	Sulphide	mg/kg	10	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO4	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO4	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	Air Dried	No	Yes	Yes
DETSC2123	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETS 062	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

Derwentside Environmental Testing Services

Certificate of Analysis

Certificate Number 15-40314

03-Aug-15

Client Terra Firma (Wales) Ltd
5 Deryn Court
Wharfdale Road
Pentwyn
Cardiff
CF23 7HB

Our Reference 15-40314

Client Reference 12032

Contract Title Herbert Road

Description 24 Soil samples, 24 Leachate samples.

Date Received 15-Jul-15

Date Started 15-Jul-15

Date Completed 03-Aug-15

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the scope of UKAS accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. Observations and interpretations are outside the scope of ISO 17025. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Rob Brown
Business Manager

MCERTS
THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

UKAS TESTING
2139

Summary of Chemical Analysis
Matrix Descriptions

Our Ref 15-40314
Client Ref 12032
Contract Title Herbert Road

Sample ID	Depth	Lab No	Completed	Matrix Description
TP12	1	839276	03/08/2015	Brown, gravelly, sandy CLAY
TP12	2	839277	03/08/2015	Brown, gravelly, sandy CLAY
TP12	3	839278	03/08/2015	Brown, gravelly, sandy CLAY
TP13	1	839279	03/08/2015	Brown, gravelly, sandy CLAY
TP13	2	839280	03/08/2015	Brown, gravelly, sandy CLAY
TP13	3	839281	03/08/2015	Brown, gravelly, sandy CLAY
TP14	1	839282	03/08/2015	Brown, gravelly, sandy CLAY
TP14	2	839283	03/08/2015	Brown, gravelly, sandy CLAY
TP14	3	839284	03/08/2015	Brown, gravelly, sandy CLAY
TP15	0.3	839285	03/08/2015	Brown, gravelly, sandy CLAY
TP15	1	839286	03/08/2015	Brown, gravelly, sandy CLAY
TP15	2.2	839287	03/08/2015	Brown, gravelly, sandy CLAY
TP16	0.5	839288	03/08/2015	Brown, gravelly, sandy CLAY
TP16	1.5	839289	03/08/2015	Brown, gravelly, sandy CLAY
TP16	2.5	839290	03/08/2015	Brown, gravelly, sandy CLAY
TP17	0.5	839291	03/08/2015	Brown, gravelly, sandy CLAY
TP17	1.5	839292	03/08/2015	Brown, gravelly, sandy CLAY
TP17	2.5	839293	03/08/2015	Brown, gravelly, sandy CLAY
TP18	0.5	839294	03/08/2015	Brown, gravelly, sandy CLAY
TP18	1.5	839295	03/08/2015	Brown, gravelly, sandy CLAY
TP18	2.5	839296	03/08/2015	Brown, gravelly, sandy CLAY
TP19	0.5	839297	03/08/2015	Brown, gravelly, sandy CLAY
TP19	1.5	839298	03/08/2015	Brown, gravelly, sandy CLAY
TP19	2.5	839299	03/08/2015	Brown, gravelly, sandy CLAY

Summary of Chemical Analysis
Soil Samples

Our Ref 15-40314
Client Ref 12032
Contract Title Herbert Road

			Lab No	839276	839277	839278	839279	839280	839281
			Sample ID	TP12	TP12	TP12	TP13	TP13	TP13
			Depth	1.00	2.00	3.00	1.00	2.00	3.00
			Other ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	13/07/15	13/07/15	13/07/15	13/07/15	13/07/15	13/07/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Asbestos Quantification OHR	DETSC 1102	0			Y				
Preparation									
Moisture Content	DETSC 1004*	0.1	%	16	21	23	13	19	16
Metals									
Antimony	DETSC 2301*	1	mg/kg	2.3	2.8	1.5	2.6	3.5	1.5
Arsenic	DETSC 2301#	0.2	mg/kg	6.7	12	9.6	16	23	7.5
Beryllium	DETSC 2301#	0.2	mg/kg	0.6	0.8	0.5	1.2	0.9	0.6
Boron (water soluble)	DETSC 2123#	0.2	mg/kg	1.5	1.7	1.6	1.6	1.5	1.5
Cadmium	DETSC 2301#	0.1	mg/kg	0.6	1.8	0.6	0.6	0.7	0.5
Chromium	DETSC 2301#	0.15	mg/kg	120	40	16	26	23	25
Chromium III	DETSC 2301*	0.15	mg/kg	120	40	16	26	23	25
Hexavalent Chromium	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	25	54	20	37	56	17
Lead	DETSC 2301#	0.3	mg/kg	35	84	70	110	180	35
Manganese	DETSC 2301#	20	mg/kg	1200	960	630	850	710	830
Mercury	DETSC 2325#	0.05	mg/kg	0.10	0.36	0.22	0.29	0.66	0.14
Molybdenum	DETSC 2301#	0.4	mg/kg	1.6	1.1	0.8	1.5	1.8	0.6
Nickel	DETSC 2301#	1	mg/kg	19	21	14	22	25	17
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Zinc	DETSC 2301#	1	mg/kg	73	150	90	130	190	97
Inorganics									
pH	DETSC 2008#			10.1	10.7	11.1	10.2	10.0	10.4
Cyanide Total	DETSC 2130#	0.1	mg/kg	0.2	0.1	< 0.1	< 0.1	< 0.1	0.5
Cyanide complex	DETSC 2130*	0.2	mg/kg	0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.5
Organic matter	DETSC 2002#	0.1	%	2.2	4.2	3.3	2.1	2.5	2.1
Total Sulphate as SO4	DETSC 2321#	0.01	%	0.12	0.16	0.25	0.23	0.16	0.17

Key: * -not accredited. # -MCERTS (accreditation only implied if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 15-40314
Client Ref 12032
Contract Title Herbert Road

			Lab No	839276	839277	839278	839279	839280	839281
			Sample ID	TP12	TP12	TP12	TP13	TP13	TP13
			Depth	1.00	2.00	3.00	1.00	2.00	3.00
			Other ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	13/07/15	13/07/15	13/07/15	13/07/15	13/07/15	13/07/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	4.0	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	13	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4	47	< 3.4	14
Aliphatic C35-C44	DETSC 3072*	3.4	mg/kg	< 3.4	< 3.4	< 3.4	13	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	64	< 10	14
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	3.1	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	22	2.8	19
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4	84	4.3	67
Aromatic C35-C44	DETSC 3072*	1.4	mg/kg	< 1.4	< 1.4	< 1.4	25	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	110	< 10	86
TPH Ali/Aro	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	170	< 10	100
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	0.04	< 0.03	0.22	0.19	0.17
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.22	0.12	0.17
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.18	0.10	0.17
Phenanthrene	DETSC 3303#	0.03	mg/kg	0.08	0.21	0.20	1.4	0.99	1.4
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	0.04	0.05	0.35	0.23	0.34
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.14	0.36	0.20	2.1	1.6	2.1
Pyrene	DETSC 3303#	0.03	mg/kg	0.13	0.30	0.15	1.9	1.3	1.8
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	0.07	0.15	0.06	0.82	0.57	0.78
Chrysene	DETSC 3303	0.03	mg/kg	0.08	0.18	0.07	0.92	0.61	0.85
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.08	0.19	0.06	0.94	0.61	0.89
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	0.07	< 0.03	0.31	0.23	0.30
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	0.05	0.12	0.05	0.69	0.44	0.63
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	0.03	0.07	< 0.03	0.32	0.19	0.29
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.10	0.07	0.10
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	0.07	< 0.03	0.37	0.22	0.32
Total PAH - USEPA 16	DETSC 3303	0.1	mg/kg	0.66	1.8	0.84	11	7.5	10
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3

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Summary of Chemical Analysis
Soil Samples

Our Ref 15-40314
Client Ref 12032
Contract Title Herbert Road

			Lab No	839282	839283	839284	839285	839286	839287
			Sample ID	TP14	TP14	TP14	TP15	TP15	TP15
			Depth	1.00	2.00	3.00	0.30	1.00	2.20
			Other ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	13/07/15	13/07/15	13/07/15	13/07/15	13/07/15	13/07/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Asbestos Quantification OHR	DETSC 1102	0			Y				Y
Preparation									
Moisture Content	DETSC 1004*	0.1	%	19	10	28	14	15	19
Metals									
Antimony	DETSC 2301*	1	mg/kg	2.3	2.2	1.8	1.9	2.3	2.4
Arsenic	DETSC 2301#	0.2	mg/kg	11	13	8.5	8.1	11	9.5
Beryllium	DETSC 2301#	0.2	mg/kg	0.4	0.6	1.0	0.7	1.8	0.8
Boron (water soluble)	DETSC 2123#	0.2	mg/kg	1.6	1.6	1.2	1.2	1.4	1.7
Cadmium	DETSC 2301#	0.1	mg/kg	0.4	0.6	0.5	0.5	0.5	0.6
Chromium	DETSC 2301#	0.15	mg/kg	17	20	35	22	25	32
Chromium III	DETSC 2301*	0.15	mg/kg	17	20	35	22	25	32
Hexavalent Chromium	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	65	30	33	21	31	34
Lead	DETSC 2301#	0.3	mg/kg	85	43	42	52	61	39
Manganese	DETSC 2301#	20	mg/kg	540	660	760	880	1600	800
Mercury	DETSC 2325#	0.05	mg/kg	0.50	0.17	0.17	0.07	0.17	0.10
Molybdenum	DETSC 2301#	0.4	mg/kg	1.1	1.1	1.3	0.6	1.0	1.2
Nickel	DETSC 2301#	1	mg/kg	17	17	32	21	16	27
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	1.0	< 0.5
Zinc	DETSC 2301#	1	mg/kg	110	95	90	67	96	92
Inorganics									
pH	DETSC 2008#			10.1	7.6	8.5	8.7	8.8	9.6
Cyanide Total	DETSC 2130#	0.1	mg/kg	< 0.1	0.4	0.4	0.2	0.3	0.2
Cyanide complex	DETSC 2130*	0.2	mg/kg	< 0.2	< 0.2	0.4	< 0.2	0.3	< 0.2
Organic matter	DETSC 2002#	0.1	%	3.4	4.0	3.3	1.5	4.1	2.3
Total Sulphate as SO4	DETSC 2321#	0.01	%	0.19	0.09	0.06	0.09	0.27	0.14

Key: * -not accredited. # -MCERTS (accreditation only implied if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 15-40314
Client Ref 12032
Contract Title Herbert Road

				Lab No	839282	839283	839284	839285	839286	839287
				Sample ID	TP14	TP14	TP14	TP15	TP15	TP15
				Depth	1.00	2.00	3.00	0.30	1.00	2.20
				Other ID						
				Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Sampling Date	13/07/15	13/07/15	13/07/15	13/07/15	13/07/15	13/07/15
				Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
Petroleum Hydrocarbons										
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	0.08	0.07	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C35-C44	DETSC 3072*	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	0.01	0.01	0.01	< 0.01	0.01	0.02
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C35-C44	DETSC 3072*	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10
TPH Ali/Aro	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10
PAHs										
Naphthalene	DETSC 3303#	0.03	mg/kg	0.05	0.07	< 0.03	< 0.03	0.15	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	0.08	< 0.03	< 0.03	0.09	0.06
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	0.08	< 0.03	< 0.03	0.08	0.06
Phenanthrene	DETSC 3303#	0.03	mg/kg	0.19	0.62	0.08	0.05	0.40	0.25
Anthracene	DETSC 3303	0.03	mg/kg	0.05	0.13	< 0.03	< 0.03	0.09	0.04
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.30	0.96	0.15	0.08	0.53	0.21
Pyrene	DETSC 3303#	0.03	mg/kg	0.24	0.76	0.12	0.07	0.50	0.17
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	0.11	0.33	0.06	0.03	0.17	0.05
Chrysene	DETSC 3303	0.03	mg/kg	0.13	0.40	0.09	0.03	0.20	0.05
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.14	0.42	0.09	< 0.03	0.17	0.05
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	0.05	0.12	< 0.03	< 0.03	0.07	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	0.08	0.26	0.05	< 0.03	0.12	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	0.06	0.14	0.04	< 0.03	0.06	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	0.04	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	0.05	0.14	< 0.03	< 0.03	0.06	< 0.03
Total PAH - USEPA 16	DETSC 3303	0.1	mg/kg	1.4	4.5	0.68	0.26	2.7	0.93
Phenols										
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.4	< 0.3	< 0.3	< 0.3	< 0.3	0.4

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Summary of Chemical Analysis
Soil Samples

Our Ref 15-40314
Client Ref 12032
Contract Title Herbert Road

			Lab No	839288	839289	839290	839291	839292	839293
			Sample ID	TP16	TP16	TP16	TP17	TP17	TP17
			Depth	0.50	1.50	2.50	0.50	1.50	2.50
			Other ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	13/07/15	13/07/15	13/07/15	13/07/15	13/07/15	13/07/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Asbestos Quantification OHR	DETSC 1102	0							
Preparation									
Moisture Content	DETSC 1004*	0.1	%	23	16	22	17	22	18
Metals									
Antimony	DETSC 2301*	1	mg/kg	3.3	1.8	2.4	2.2	2.0	1.6
Arsenic	DETSC 2301#	0.2	mg/kg	9.4	5.1	7.1	8.3	8.9	7.1
Beryllium	DETSC 2301#	0.2	mg/kg	0.9	0.9	1.0	0.7	0.7	0.6
Boron (water soluble)	DETSC 2123#	0.2	mg/kg	1.7	2.1	2.2	1.5	2.3	1.7
Cadmium	DETSC 2301#	0.1	mg/kg	0.8	0.5	0.8	0.8	0.7	1.0
Chromium	DETSC 2301#	0.15	mg/kg	39	59	64	25	35	24
Chromium III	DETSC 2301*	0.15	mg/kg	39	59	64	25	35	24
Hexavalent Chromium	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	43	13	21	21	24	19
Lead	DETSC 2301#	0.3	mg/kg	52	22	49	81	66	84
Manganese	DETSC 2301#	20	mg/kg	960	2000	1400	700	760	880
Mercury	DETSC 2325#	0.05	mg/kg	0.15	< 0.05	0.13	0.08	0.15	0.13
Molybdenum	DETSC 2301#	0.4	mg/kg	0.8	0.6	1.0	0.7	1.0	0.6
Nickel	DETSC 2301#	1	mg/kg	23	24	26	27	20	19
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Zinc	DETSC 2301#	1	mg/kg	110	56	99	110	110	99
Inorganics									
pH	DETSC 2008#			9.9	11.2	10.4	9.8	9.9	10.9
Cyanide Total	DETSC 2130#	0.1	mg/kg	0.2	0.1	0.2	0.2	0.2	0.2
Cyanide complex	DETSC 2130*	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Organic matter	DETSC 2002#	0.1	%	2.5	1.1	2.2	1.6	2.5	1.8
Total Sulphate as SO4	DETSC 2321#	0.01	%	0.14	0.16	0.13	0.10	0.14	0.12

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Summary of Chemical Analysis
Soil Samples

Our Ref 15-40314
Client Ref 12032
Contract Title Herbert Road

			Lab No	839288	839289	839290	839291	839292	839293
			Sample ID	TP16	TP16	TP16	TP17	TP17	TP17
			Depth	0.50	1.50	2.50	0.50	1.50	2.50
			Other ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	13/07/15	13/07/15	13/07/15	13/07/15	13/07/15	13/07/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C35-C44	DETSC 3072*	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C35-C44	DETSC 3072*	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10
TPH Ali/Aro	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	0.05	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	0.04	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	0.23	0.10	0.07	0.11	0.12	0.12
Anthracene	DETSC 3303	0.03	mg/kg	0.05	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.38	0.21	0.15	0.29	0.34	0.27
Pyrene	DETSC 3303#	0.03	mg/kg	0.31	0.17	0.12	0.55	0.53	0.45
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	0.12	0.07	0.06	0.08	0.09	0.07
Chrysene	DETSC 3303	0.03	mg/kg	0.16	0.08	0.07	0.09	0.10	0.08
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.17	0.10	0.09	0.11	0.10	0.09
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	0.05	0.03	< 0.03	< 0.03	< 0.03	0.05
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	0.10	0.07	0.06	0.08	0.09	0.08
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	0.06	0.05	0.05	0.06	0.05	0.06
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	0.06	0.05	0.04	0.09	0.09	0.09
Total PAH - USEPA 16	DETSC 3303	0.1	mg/kg	1.8	0.94	0.71	1.5	1.5	1.4
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3

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Summary of Chemical Analysis
Soil Samples

Our Ref 15-40314
Client Ref 12032
Contract Title Herbert Road

	Lab No	839294	839295	839296	839297	839298	839299
	Sample ID	TP18	TP18	TP18	TP19	TP19	TP19
	Depth	0.50	1.50	2.50	0.50	1.50	2.50
	Other ID						
	Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampling Date	13/07/15	13/07/15	13/07/15	13/07/15	13/07/15	13/07/15
	Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Asbestos Quantification OHR	DETSC 1102	0		Y					
Preparation									
Moisture Content	DETSC 1004*	0.1	%	17	23	24	15	19	21
Metals									
Antimony	DETSC 2301*	1	mg/kg	2.1	1.9	2.5	1.5	2.0	2.6
Arsenic	DETSC 2301#	0.2	mg/kg	8.7	7.7	9.3	7.2	11	7.7
Beryllium	DETSC 2301#	0.2	mg/kg	0.6	0.6	0.8	0.7	0.8	0.6
Boron (water soluble)	DETSC 2123#	0.2	mg/kg	1.9	2.1	2.3	1.3	1.3	2.4
Cadmium	DETSC 2301#	0.1	mg/kg	0.5	0.6	0.8	1.2	0.8	0.7
Chromium	DETSC 2301#	0.15	mg/kg	19	23	49	19	32	100
Chromium III	DETSC 2301*	0.15	mg/kg	19	23	49	19	32	100
Hexavalent Chromium	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	19	19	24	18	19	48
Lead	DETSC 2301#	0.3	mg/kg	93	48	74	39	120	38
Manganese	DETSC 2301#	20	mg/kg	460	600	870	870	1200	1300
Mercury	DETSC 2325#	0.05	mg/kg	0.08	0.09	0.07	< 0.05	0.05	0.06
Molybdenum	DETSC 2301#	0.4	mg/kg	0.7	0.6	0.9	0.6	0.6	1.1
Nickel	DETSC 2301#	1	mg/kg	18	18	21	19	27	16
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Zinc	DETSC 2301#	1	mg/kg	93	90	130	96	120	98
Inorganics									
pH	DETSC 2008#			11.5	10.8	9.9	10.2	11.2	10.6
Cyanide Total	DETSC 2130#	0.1	mg/kg	0.2	0.1	0.2	0.1	0.1	0.2
Cyanide complex	DETSC 2130*	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Organic matter	DETSC 2002#	0.1	%	1.7	1.8	1.6	4.2	3.3	2.1
Total Sulphate as SO4	DETSC 2321#	0.01	%	0.19	0.21	0.14	0.11	0.14	0.24

Summary of Chemical Analysis
Soil Samples

Our Ref 15-40314
Client Ref 12032
Contract Title Herbert Road

			Lab No	839294	839295	839296	839297	839298	839299
			Sample ID	TP18	TP18	TP18	TP19	TP19	TP19
			Depth	0.50	1.50	2.50	0.50	1.50	2.50
			Other ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	13/07/15	13/07/15	13/07/15	13/07/15	13/07/15	13/07/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	0.22	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	0.26	< 0.01	< 0.01	< 0.01	0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	0.14	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C35-C44	DETSC 3072*	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	0.02	< 0.01	< 0.01	0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	0.15	< 0.01	< 0.01	0.01	0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C35-C44	DETSC 3072*	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10
TPH Ali/Aro	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.04
Phenanthrene	DETSC 3303#	0.03	mg/kg	0.16	0.22	0.17	0.05	0.07	0.34
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	0.04	< 0.03	< 0.03	< 0.03	0.05
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.29	0.49	0.36	0.10	0.11	0.52
Pyrene	DETSC 3303#	0.03	mg/kg	0.43	0.60	0.48	0.24	0.25	0.57
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	0.07	0.16	0.10	< 0.03	< 0.03	0.17
Chrysene	DETSC 3303	0.03	mg/kg	0.09	0.21	0.12	< 0.03	< 0.03	0.23
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.07	0.20	0.11	< 0.03	< 0.03	0.21
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	0.06	0.05	< 0.03	< 0.03	0.07
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	0.06	0.16	< 0.03	< 0.03	< 0.03	0.16
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	0.05	0.10	0.07	< 0.03	< 0.03	0.10
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	0.07	0.14	0.10	< 0.03	0.06	0.14
Total PAH - USEPA 16	DETSC 3303	0.1	mg/kg	1.3	2.4	1.6	0.39	0.49	2.6
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3

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Summary of Chemical Analysis
Leachate Samples

Our Ref 15-40314
Client Ref 12032
Contract Title Herbert Road

			Lab No	839300	839301	839302	839303	839304	839305
			Sample ID	TP12	TP12	TP12	TP13	TP13	TP13
			Depth	1.00	2.00	3.00	1.00	2.00	3.00
			Other ID						
			Sample Type	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE
			Sampling Date	13/07/15	13/07/15	13/07/15	13/07/15	13/07/15	13/07/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Preparation									
NRA Leachate Preparation	DETS 036*			Y	Y	Y	Y	Y	Y
Metals									
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	1.4	4.7	2.0	7.4	5.0	2.3
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Chromium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	0.28	< 0.25	0.41	0.31	< 0.25
Chromium III Dissolved	DETSC 2302*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexavalent Chromium	DETSC 2203	3	ug/l	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	2.4	4.3	2.5	5.4	2.8	1.1
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.67	2.4	0.39	1.0	0.94	0.26
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	0.01	< 0.01	0.02	0.02	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	0.8	1.1	0.9	1.0	0.6	0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	0.54	0.56	0.44	0.71	1.2	0.71
Zinc, Dissolved	DETSC 2306	1.25	ug/l	1.52	2.12	2.20	2.46	1.41	2.08
Inorganics									
pH	DETSC 2008			7.1	7.1	7.1	9.0	8.4	8.0
Cyanide Total	DETSC 2130	40	ug/l	< 40	< 40	< 40	< 40	< 40	< 40
Chloride	DETSC 2055	0.1	mg/l	15	82	130	1.5	1.7	1.0
Fluoride	DETSC 2055	0.1	mg/l	0.14	0.14	0.17	< 0.10	0.11	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	19	6.2	7.0	5.8	11	51
Total Organic Carbon	DETSC 2033	2	mg/l	6.4	6.4	6.6	5.5	5.1	3.7
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	14	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	14	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10
TPH Ali/Aro	DETSC 3072*	10	ug/l	14	< 10	< 10	< 10	< 10	< 10

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 15-40314
Client Ref 12032
Contract Title Herbert Road

			Lab No	839300	839301	839302	839303	839304	839305
			Sample ID	TP12	TP12	TP12	TP13	TP13	TP13
			Depth	1.00	2.00	3.00	1.00	2.00	3.00
			Other ID						
			Sample Type	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE
			Sampling Date	13/07/15	13/07/15	13/07/15	13/07/15	13/07/15	13/07/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
PAHs									
Naphthalene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	0.04	< 0.01	0.42
Acenaphthylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.05
Phenanthrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	0.01	0.58
Anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.02
Fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	0.04	0.04	0.56
Pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	0.06	0.05	0.30
Benzo(a)anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	0.01	0.03	0.01
Chrysene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	0.02	0.03	< 0.01
Benzo(b)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	0.03	0.03	< 0.01
Benzo(k)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	0.01	0.02	< 0.01
Benzo(a)pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	0.03	0.03	< 0.01
Indeno(1,2,3-c,d)pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PAH	DETS 074*	0.2	ug/l	< 0.20	< 0.20	< 0.20	0.24	0.24	2.0
Phenols									
Phenol	*	0.5	ug/l	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

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Summary of Chemical Analysis
Leachate Samples

Our Ref 15-40314
Client Ref 12032
Contract Title Herbert Road

			Lab No	839306	839307	839308	839309	839310	839311
			Sample ID	TP14	TP14	TP14	TP15	TP15	TP15
			Depth	1.00	2.00	3.00	0.30	1.00	2.20
			Other ID						
			Sample Type	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE
			Sampling Date	13/07/15	13/07/15	13/07/15	13/07/15	13/07/15	13/07/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Preparation									
NRA Leachate Preparation	DETS 036*			Y	Y	Y	Y	Y	Y
Metals									
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	4.2	7.2	2.6	0.70	3.3	5.0
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Chromium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	0.42	0.29	0.30	< 0.25	0.29
Chromium III Dissolved	DETSC 2302*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexavalent Chromium	DETSC 2203	3	ug/l	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	6.8	16	3.4	3.1	3.1	4.9
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.27	1.5	1.1	0.50	1.2	0.61
Mercury, Dissolved	DETSC 2306	0.01	ug/l	0.01	0.03	0.01	< 0.01	0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	2.0	2.1	1.3	22	1.1	1.7
Selenium, Dissolved	DETSC 2306	0.25	ug/l	1.1	1.0	0.80	0.70	0.45	0.75
Zinc, Dissolved	DETSC 2306	1.25	ug/l	< 1.25	< 1.25	1.53	6.20	1.96	< 1.25
Inorganics									
pH	DETSC 2008			8.7	8.6	8.1	8.0	7.9	7.8
Cyanide Total	DETSC 2130	40	ug/l	< 40	< 40	< 40	< 40	< 40	< 40
Chloride	DETSC 2055	0.1	mg/l	1.8	20	17	2.0	1.3	2.7
Fluoride	DETSC 2055	0.1	mg/l	< 0.10	< 0.10	0.13	< 0.10	< 0.10	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	10	8.9	26	19	3.9	5.2
Total Organic Carbon	DETSC 2033	2	mg/l	3.8	13	5.7	4.7	4.6	9.7
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10
TPH Ali/Aro	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 15-40314
Client Ref 12032
Contract Title Herbert Road

			Lab No	839306	839307	839308	839309	839310	839311
			Sample ID	TP14	TP14	TP14	TP15	TP15	TP15
			Depth	1.00	2.00	3.00	0.30	1.00	2.20
			Other ID						
			Sample Type	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE
			Sampling Date	13/07/15	13/07/15	13/07/15	13/07/15	13/07/15	13/07/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
PAHs									
Naphthalene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	0.04	< 0.01
Pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	0.04	< 0.01
Benzo(a)anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	0.02	< 0.01
Chrysene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	0.02	< 0.01
Benzo(b)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	0.02	< 0.01
Benzo(k)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	0.01	< 0.01
Benzo(a)pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	0.02	< 0.01
Indeno(1,2,3-c,d)pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PAH	DETS 074*	0.2	ug/l	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Phenols									
Phenol	*	0.5	ug/l	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

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Summary of Chemical Analysis
Leachate Samples

Our Ref 15-40314
Client Ref 12032
Contract Title Herbert Road

				Lab No	839312	839313	839314	839315	839316	839317
				Sample ID	TP16	TP16	TP16	TP17	TP17	TP17
				Depth	0.50	1.50	2.50	0.50	1.50	2.50
				Other ID						
				Sample Type	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE
				Sampling Date	13/07/15	13/07/15	13/07/15	13/07/15	13/07/15	13/07/15
				Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
Preparation										
NRA Leachate Preparation	DETS 036*			Y	Y	Y	Y	Y	Y
Metals										
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	1.7	2.0	2.9	5.6	7.5	4.8
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Chromium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	0.31	< 0.25	< 0.25	< 0.25	0.27
Chromium III Dissolved	DETSC 2302*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexavalent Chromium	DETSC 2203	3	ug/l	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	2.1	1.3	3.0	2.1	6.7	2.6
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.86	< 0.09	0.12	1.3	1.1	3.1
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	0.6	0.8	1.0	0.8	2.1	1.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	0.57	0.56	0.64	0.46	0.76	0.54
Zinc, Dissolved	DETSC 2306	1.25	ug/l	< 1.25	1.67	< 1.25	< 1.25	< 1.25	2.14
Inorganics										
pH	DETSC 2008			7.7	8.9	9.3	8.2	8.2	7.9
Cyanide Total	DETSC 2130	40	ug/l	< 40	< 40	< 40	< 40	< 40	< 40
Chloride	DETSC 2055	0.1	mg/l	1.8	1.1	0.99	1.6	2.0	2.2
Fluoride	DETSC 2055	0.1	mg/l	0.17	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	4.4	7.0	5.8	4.8	6.6	6.7
Total Organic Carbon	DETSC 2033	2	mg/l	10	17	3.7	16	7.5	11
Petroleum Hydrocarbons										
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	4.0	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10
TPH Ali/Aro	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 15-40314
Client Ref 12032
Contract Title Herbert Road

			Lab No	839312	839313	839314	839315	839316	839317
			Sample ID	TP16	TP16	TP16	TP17	TP17	TP17
			Depth	0.50	1.50	2.50	0.50	1.50	2.50
			Other ID						
			Sample Type	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE
			Sampling Date	13/07/15	13/07/15	13/07/15	13/07/15	13/07/15	13/07/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
PAHs									
Naphthalene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	4.0	< 0.01	< 0.01	< 0.01
Acenaphthylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	0.02	< 0.01	< 0.01	< 0.01
Fluorene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	0.47	< 0.01	< 0.01	< 0.01
Anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	0.02	< 0.01	< 0.01	< 0.01
Fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	4.5	< 0.01	< 0.01	< 0.01
Pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	2.2	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PAH	DETS 074*	0.2	ug/l	< 0.20	< 0.20	11	< 0.20	< 0.20	< 0.20
Phenols									
Phenol	*	0.5	ug/l	< 0.50	< 0.50	< 0.50	< 0.50	1.8	< 0.50

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 15-40314
Client Ref 12032
Contract Title Herbert Road

				Lab No	839318	839319	839320	839321	839322	839323
				Sample ID	TP18	TP18	TP18	TP19	TP19	TP19
				Depth	0.50	1.50	2.50	0.50	1.50	2.50
				Other ID						
				Sample Type	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE
				Sampling Date	13/07/15	13/07/15	13/07/15	13/07/15	13/07/15	13/07/15
				Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
Preparation										
NRA Leachate Preparation	DETS 036*			Y	Y	Y	Y	Y	Y
Metals										
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	7.4	1.8	6.0	2.5	3.6	4.2
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Chromium, Dissolved	DETSC 2306	0.25	ug/l	0.30	0.35	0.35	0.32	< 0.25	< 0.25
Chromium III Dissolved	DETSC 2302*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexavalent Chromium	DETSC 2203	3	ug/l	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	5.0	9.1	3.6	2.7	3.4	5.4
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.52	0.13	1.3	0.68	0.35	0.24
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01	< 0.01	0.01	< 0.01	0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	1.5	2.6	1.5	0.6	1.3	2.6
Selenium, Dissolved	DETSC 2306	0.25	ug/l	1.3	1.2	0.63	0.83	0.78	1.4
Zinc, Dissolved	DETSC 2306	1.25	ug/l	< 1.25	< 1.25	1.27	< 1.25	< 1.25	< 1.25
Inorganics										
pH	DETSC 2008			7.7	9.4	8.5	8.2	7.8	8.5
Cyanide Total	DETSC 2130	40	ug/l	< 40	< 40	< 40	< 40	< 40	< 40
Chloride	DETSC 2055	0.1	mg/l	1.5	1.3	2.2	1.6	1.2	1.4
Fluoride	DETSC 2055	0.1	mg/l	< 0.10	< 0.10	0.11	0.11	< 0.10	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	3.6	3.9	11	7.0	2.0	3.9
Total Organic Carbon	DETSC 2033	2	mg/l	4.5	8.8	7.6	7.2	5.9	6.7
Petroleum Hydrocarbons										
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	6.7	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	6.1	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10	< 10
TPH Ali/Aro	DETSC 3072*	10	ug/l	< 10	14	< 10	< 10	< 10	< 10

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 15-40314
Client Ref 12032
Contract Title Herbert Road

			Lab No	839318	839319	839320	839321	839322	839323
			Sample ID	TP18	TP18	TP18	TP19	TP19	TP19
			Depth	0.50	1.50	2.50	0.50	1.50	2.50
			Other ID						
			Sample Type	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE	LEACHATE
			Sampling Date	13/07/15	13/07/15	13/07/15	13/07/15	13/07/15	13/07/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
PAHs									
Naphthalene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	DETS 074*	0.01	ug/l	< 0.01	0.11	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	DETS 074*	0.01	ug/l	< 0.01	0.08	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETS 074*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PAH	DETS 074*	0.2	ug/l	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Phenols									
Phenol	*	0.5	ug/l	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

Key: * -not accredited. n/s -not supplied.

Summary of Asbestos Analysis
Soil Samples

Our Ref 15-40314
Client Ref 12032
Contract Title Herbert Road

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
839276	TP12 1.00	SOIL	NAD	none	Colin Patrick
839277	TP12 2.00	SOIL	Chrysotile	small bundle of Chrysotile	Colin Patrick
839278	TP12 3.00	SOIL	NAD	none	Colin Patrick
839279	TP13 1.00	SOIL	NAD	none	Colin Patrick
839280	TP13 2.00	SOIL	NAD	none	Colin Patrick
839281	TP13 3.00	SOIL	NAD	none	Colin Patrick
839282	TP14 1.00	SOIL	NAD	none	Colin Patrick
839283	TP14 2.00	SOIL	Chrysotile	small bundle of Chrysotile	Colin Patrick
839284	TP14 3.00	SOIL	NAD	none	Colin Patrick
839285	TP15 0.30	SOIL	NAD	none	Colin Patrick
839286	TP15 1.00	SOIL	NAD	none	Colin Patrick
839287	TP15 2.20	SOIL	Chrysotile	small bundle of Chrysotile	Colin Patrick
839288	TP16 0.50	SOIL	NAD	none	Colin Patrick
839289	TP16 1.50	SOIL	NAD	none	Colin Patrick
839290	TP16 2.50	SOIL	NAD	none	Colin Patrick
839291	TP17 0.50	SOIL	NAD	none	Colin Patrick
839292	TP17 1.50	SOIL	NAD	none	Colin Patrick
839293	TP17 2.50	SOIL	NAD	none	Colin Patrick
839294	TP18 0.50	SOIL	Chrysotile	small bundle of Chrysotile	Colin Patrick
839295	TP18 1.50	SOIL	NAD	none	Colin Patrick
839296	TP18 2.50	SOIL	NAD	none	Colin Patrick
839297	TP19 0.50	SOIL	NAD	none	Colin Patrick
839298	TP19 1.50	SOIL	NAD	none	Colin Patrick
839299	TP19 2.50	SOIL	NAD	none	Colin Patrick

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Summary of Asbestos Quantification Analysis
Soil Samples

Our Ref 15-40314
Client Ref 12032
Contract Title Herbert Road

	Lab No	839277	839283	839287	839294
	Sample ID	TP12	TP14	TP15	TP18
	Depth	2.00	2.00	2.20	0.50
	Other ID				
	Sample Type	SOIL	SOIL	SOIL	SOIL
	Sampling Date	13/07/15	13/07/15	13/07/15	13/07/15
	Sampling Time				
Test	**Method**	**Units**			
Total Mass% Asbestos (a+b+c)	DETSC 1102	Mass %	**0.001**	**0.001**	**< 0.001**	**< 0.001**
Gravimetric Quantification (a)	DETSC 1102	Mass %	na	na	na	na
Detailed Gravimetric Quantification (b)	DETSC 1102	Mass %	0.001	0.001	<0.001	<0.001
Quantification by PCOM (c)	DETSC 1102	Mass %	na	na	na	na
Potentially Respirable Fibres (d)	DETSC 1102	Fibres/g	na	na	na	na
Breakdown of Gravimetric Analysis (a)						
Mass of Sample		g	712.36	609.14	657.71	579.34
ACMs present*		type				
Mass of ACM in sample		g				
% ACM by mass		%				
% asbestos in ACM		%				
% asbestos in sample		%				
Breakdown of Detailed Gravimetric Analysis (b)						
% Amphibole bundles in sample		Mass %	na	na	na	na
% Serpentine bundles in sample		Mass %	0.001	0.001	<0.001	<0.001
Breakdown of PCOM Analysis (c)						
% Amphibole fibres in sample		Mass %	na	na	na	na
% Serpentine fibres in sample		Mass %	na	na	na	na
Breakdown of Potentially Respirable Fibre Analysis (d)						
Amphibole fibres		Fibres/g	na	na	na	na
Chrysotile fibres		Fibres/g	na	na	na	na

* Denotes test or material description outside of UKAS accreditation.
% asbestos in Asbestos Containing Materials (ACMs) is determined by
by reference to HSG 264.
Recommended sample size for quantification is approximately 1kg
# denotes deviating sample

Information in Support of the Analytical Results

Our Ref 15-40314
Client Ref 12032
Contract Herbert Road

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
839276	TP12 1.00 SOIL	13/07/15	GJ 250ml x2, PT 1L x2		
839277	TP12 2.00 SOIL	13/07/15	GJ 250ml x2, PT 1L x2		
839278	TP12 3.00 SOIL	13/07/15	GJ 250ml x2, PT 1L x2		
839279	TP13 1.00 SOIL	13/07/15	GJ 250ml x2, PT 1L x2		
839280	TP13 2.00 SOIL	13/07/15	GJ 250ml x2, PT 1L x2		
839281	TP13 3.00 SOIL	13/07/15	GJ 250ml x2, PT 1L x2		
839282	TP14 1.00 SOIL	13/07/15	GJ 250ml x2, PT 1L x2		
839283	TP14 2.00 SOIL	13/07/15	GJ 250ml x2, PT 1L x2		
839284	TP14 3.00 SOIL	13/07/15	GJ 250ml x2, PT 1L x2		
839285	TP15 0.30 SOIL	13/07/15	GJ 250ml x2, PT 1L x2		
839286	TP15 1.00 SOIL	13/07/15	GJ 250ml x2, PT 1L x2		
839287	TP15 2.20 SOIL	13/07/15	GJ 250ml x2, PT 1L x2		
839288	TP16 0.50 SOIL	13/07/15	GJ 250ml x2, PT 1L x2		
839289	TP16 1.50 SOIL	13/07/15	GJ 250ml x2, PT 1L x2		
839290	TP16 2.50 SOIL	13/07/15	GJ 250ml x2, PT 1L x2		
839291	TP17 0.50 SOIL	13/07/15	GJ 250ml x2, PT 1L x2		
839292	TP17 1.50 SOIL	13/07/15	GJ 250ml x2, PT 1L x2		
839293	TP17 2.50 SOIL	13/07/15	GJ 250ml x2, PT 1L x2		
839294	TP18 0.50 SOIL	13/07/15	GJ 250ml x2, PT 1L x2		
839295	TP18 1.50 SOIL	13/07/15	GJ 250ml x2, PT 1L x2		
839296	TP18 2.50 SOIL	13/07/15	GJ 250ml x2, PT 1L x2		
839297	TP19 0.50 SOIL	13/07/15	GJ 250ml x2, PT 1L x2		
839298	TP19 1.50 SOIL	13/07/15	GJ 250ml x2, PT 1L x2		
839299	TP19 2.50 SOIL	13/07/15	GJ 250ml x2, PT 1L x2		
839300	TP12 1.00 LEACHATE	13/07/15	GJ 250ml x2, PT 1L x2		
839301	TP12 2.00 LEACHATE	13/07/15	GJ 250ml x2, PT 1L x2		
839302	TP12 3.00 LEACHATE	13/07/15	GJ 250ml x2, PT 1L x2		
839303	TP13 1.00 LEACHATE	13/07/15	GJ 250ml x2, PT 1L x2		
839304	TP13 2.00 LEACHATE	13/07/15	GJ 250ml x2, PT 1L x2		
839305	TP13 3.00 LEACHATE	13/07/15	GJ 250ml x2, PT 1L x2		
839306	TP14 1.00 LEACHATE	13/07/15	GJ 250ml x2, PT 1L x2		
839307	TP14 2.00 LEACHATE	13/07/15	GJ 250ml x2, PT 1L x2		
839308	TP14 3.00 LEACHATE	13/07/15	GJ 250ml x2, PT 1L x2		
839309	TP15 0.30 LEACHATE	13/07/15	GJ 250ml x2, PT 1L x2		
839310	TP15 1.00 LEACHATE	13/07/15	GJ 250ml x2, PT 1L x2		
839311	TP15 2.20 LEACHATE	13/07/15	GJ 250ml x2, PT 1L x2		
839312	TP16 0.50 LEACHATE	13/07/15	GJ 250ml x2, PT 1L x2		
839313	TP16 1.50 LEACHATE	13/07/15	GJ 250ml x2, PT 1L x2		
839314	TP16 2.50 LEACHATE	13/07/15	GJ 250ml x2, PT 1L x2		
839315	TP17 0.50 LEACHATE	13/07/15	GJ 250ml x2, PT 1L x2		
839316	TP17 1.50 LEACHATE	13/07/15	GJ 250ml x2, PT 1L x2		
839317	TP17 2.50 LEACHATE	13/07/15	GJ 250ml x2, PT 1L x2		
839318	TP18 0.50 LEACHATE	13/07/15	GJ 250ml x2, PT 1L x2		
839319	TP18 1.50 LEACHATE	13/07/15	GJ 250ml x2, PT 1L x2		
839320	TP18 2.50 LEACHATE	13/07/15	GJ 250ml x2, PT 1L x2		
839321	TP19 0.50 LEACHATE	13/07/15	GJ 250ml x2, PT 1L x2		
839322	TP19 1.50 LEACHATE	13/07/15	GJ 250ml x2, PT 1L x2		
839323	TP19 2.50 LEACHATE	13/07/15	GJ 250ml x2, PT 1L x2		

Information in Support of the Analytical Results

Our Ref 15-40314
Client Ref 12032
Contract Herbert Road

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time and/or inappropriate containers are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2024	Sulphide	mg/kg	10	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO4	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO4	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	Air Dried	No	Yes	Yes
DETSC2123	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETS 062	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETS 062	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

Derwentside Environmental Testing Services

Certificate of Analysis

Certificate Number 15-27313-2

01-Apr-15

Client Terra Firma (Wales) Ltd
5 Deryn Court
Wharfdale Road
Pentwyn
Cardiff
CF23 7HB

Our Reference 15-27313-2

Client Reference 12032-SP1

Contract Title Herbet Road Stockpile - Round 1

Description 25 Soil samples, 25 Leachate samples, 1 Misc sample.

Date Received 16-Feb-15

Date Started 16-Feb-15

Date Completed 01-Apr-15

Test Procedures Identified by prefix DETSn (details on request), Asbestos Analysis DETSC 1101.

Notes **This report supersedes 15-27313-1, Extra Testing**

Opinions and interpretations are outside the scope of UKAS accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. Observations and interpretations are outside the scope of ISO 17025. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Rob Brown
Business Manager

mCERTS
THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

UKAS TESTING
2139

Summary of Chemical Analysis
Matrix Descriptions

Our Ref 15-27313-2
Client Ref 12032-SP1
Contract Title Herbet Road Stockpile - Round 1

Sample ID	Depth	Lab No	Completed	Matrix Description
S1	0.5	768693	26/02/2015	Dark brown gravelly sandy CLAY
S2	1.7	768694	26/02/2015	Dark brown gravelly sandy CLAY (Made Ground includes brick)
S3	3	768695	26/02/2015	Dark brown gravelly sandy CLAY
S4	2	768696	26/02/2015	Dark brown gravelly sandy CLAY
S5	3	768697	26/02/2015	Dark brown gravelly sandy CLAY
S6	0.5	768698	26/02/2015	Dark brown gravelly sandy CLAY
S7	3	768699	26/02/2015	Dark brown gravelly sandy CLAY
S8	0.8	768700	26/02/2015	Dark brown gravelly sandy CLAY
S9	0.5	768701	26/02/2015	Dark brown gravelly sandy CLAY
S10	2	768702	26/02/2015	Dark brown gravelly sandy CLAY with odd rootlets
S11	3	768703	26/02/2015	Dark brown gravelly sandy CLAY (Made Ground includes brick)
S12	0.5	768704	26/02/2015	Dark brown gravelly sandy CLAY (Made Ground includes brick)
S13	2.3	768705	26/02/2015	Dark brown gravelly sandy CLAY
S14	3	768706	26/02/2015	Dark brown gravelly sandy CLAY with odd rootlets
S15	2	768707	26/02/2015	Dark brown gravelly sandy CLAY
S16	3	768708	26/02/2015	Dark brown gravelly sandy CLAY (Made Ground includes brick)
S17	0.3	768709	26/02/2015	Dark brown gravelly sandy CLAY
S18	1.3	768710	26/02/2015	Dark brown gravelly sandy CLAY with odd rootlets (Made Ground includes brick)
S19	2.8	768711	26/02/2015	Dark brown gravelly sandy CLAY (Made Ground includes brick)
S20	0.5	768712	26/02/2015	Dark brown gravelly sandy CLAY
S21	1.3	768713	26/02/2015	Dark brown gravelly sandy CLAY (Made Ground includes brick)
S22	2.5	768714	26/02/2015	Dark brown gravelly sandy CLAY (Made Ground includes brick)
S23	0.5	768715	26/02/2015	Dark brown gravelly sandy CLAY
S24	1.4	768716	26/02/2015	Dark brown gravelly sandy CLAY
S25	2.5	768717	26/02/2015	Dark brown gravelly sandy CLAY

Summary of Chemical Analysis
Soil/Misc Samples

Our Ref 15-27313-2
Client Ref 12032-SP1
Contract Title Herbet Road Stockpile - Round 1

			Lab No	768693	768694	768695	768696	768697	768698
			Sample ID	S1	S2	S3	S4	S5	S6
			Depth	0.50	1.70	3.00	2.00	3.00	0.50
			Other ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg	5.8	13	12	< 0.2	12	10
Antimony	DETSC 2301*	1	mg/kg	2.3	1.3	1.6	2.2	2.0	1.8
Beryllium	DETSC 2301#	0.2	mg/kg	0.6	0.6	0.7	0.7	0.7	0.6
Boron (water soluble)	DETSC 2123#	0.2	mg/kg	1.1	1.1	1.2	1.2	1.3	1.0
Cadmium	DETSC 2301#	0.1	mg/kg	1.1	0.7	0.7	< 0.1	0.7	0.6
Chromium	DETSC 2301#	0.15	mg/kg	53	25	20	< 0.15	18	18
Chromium III	DETSC 2301*	0.15	mg/kg	53	25	20	< 0.15	18	18
Hexavalent Chromium	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	39	31	25	< 0.2	26	53
Lead	DETSC 2301#	0.3	mg/kg	51	47	43	< 0.3	43	93
Manganese	DETSC 2301#	20	mg/kg	730	540	650	840	740	670
Mercury	DETSC 2325#	0.05	mg/kg	0.09	0.09	< 0.05	0.05	0.06	< 0.05
Molybdenum	DETSC 2301#	0.4	mg/kg	0.8	0.5	0.8	0.8	0.8	0.6
Nickel	DETSC 2301#	1	mg/kg	53	21	22	< 1.0	20	16
Selenium	DETSC 2301#	0.5	mg/kg	0.7	< 0.5	1.2	< 0.5	0.9	1.1
Zinc	DETSC 2301#	1	mg/kg	140	89	80	< 1.0	85	110
Inorganics									
pH	DETSC 2008#			10.0	9.1	8.7	9.6	8.5	8.4
Cyanide total	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2
Organic matter	DETSC 2002#	0.1	%	3.0	2.4	2.0	2.7	2.6	2.5
Total Sulphate as SO4	DETSC 2321#	0.01	%	0.11	0.16	0.13	0.10	0.06	0.06
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10
TPH Ali/Aro	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10

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Summary of Chemical Analysis
Soil/Misc Samples

Our Ref 15-27313-2
Client Ref 12032-SP1
Contract Title Herbet Road Stockpile - Round 1

			Lab No	768693	768694	768695	768696	768697	768698
			Sample ID	S1	S2	S3	S4	S5	S6
			Depth	0.50	1.70	3.00	2.00	3.00	0.50
			Other ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.04	< 0.03	0.06	< 0.03	0.05
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	0.08	0.07	0.10	0.04	0.07
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.07	0.05	0.08	0.04	0.06
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	0.04	< 0.03	0.04	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	0.06	0.04	0.04	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	0.05	< 0.03	0.04	< 0.03	0.04
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Total PAH - USEPA 16	DETSC 3303	0.1	mg/kg	< 0.10	0.33	0.16	0.36	< 0.10	0.22
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	0.4

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Summary of Chemical Analysis
Soil/Misc Samples

Our Ref 15-27313-2
Client Ref 12032-SP1
Contract Title Herbet Road Stockpile - Round 1

			Lab No	768699	768700	768701	768702	768703	768704
			Sample ID	S7	S8	S9	S10	S11	S12
			Depth	3.00	0.80	0.50	2.00	3.00	0.50
			Other ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15	12/02/15
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg	9.8	14	< 0.2	17	9.0	9.2
Antimony	DETSC 2301*	1	mg/kg	1.5	2.3	2.4	2.0	1.9	< 1.0
Beryllium	DETSC 2301#	0.2	mg/kg	0.6	0.7	0.7	0.7	1.1	0.3
Boron (water soluble)	DETSC 2123#	0.2	mg/kg	0.9	0.8	0.9	0.9	1.1	1.4
Cadmium	DETSC 2301#	0.1	mg/kg	0.6	2.1	< 0.1	1.0	0.6	0.5
Chromium	DETSC 2301#	0.15	mg/kg	20	48	< 0.15	22	19	18
Chromium III	DETSC 2301*	0.15	mg/kg	20	48	< 0.15	22	19	18
Hexavalent Chromium	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	25	140	< 0.2	48	20	29
Lead	DETSC 2301#	0.3	mg/kg	37	110	< 0.3	74	36	45
Manganese	DETSC 2301#	20	mg/kg	520	670	890	640	720	640
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05	0.16	0.10	0.13	< 0.05
Molybdenum	DETSC 2301#	0.4	mg/kg	0.6	0.6	1.3	0.6	1.2	< 0.4
Nickel	DETSC 2301#	1	mg/kg	27	41	< 1.0	23	20	22
Selenium	DETSC 2301#	0.5	mg/kg	1.2	43	< 0.5	1.4	0.7	1.4
Zinc	DETSC 2301#	1	mg/kg	93	200	< 1.0	160	130	82
Inorganics									
pH	DETSC 2008#			8.6	8.1	8.2	11.0	9.0	8.6
Cyanide total	DETSC 2130#	0.1	mg/kg	0.1	< 0.1	0.1	< 0.1	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	2.2	2.2	3.5	2.2	9.7	2.5
Total Sulphate as SO4	DETSC 2321#	0.01	%	0.07	0.06	0.06	0.17	0.10	0.07
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10
TPH Ali/Aro	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10

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