



Summary of Chemical Analysis

Soil Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1668127	1668128	1668129	1668130
Sample ID	PRAIRIE_AUK_ TP119	PRAIRIE_AUK_ TP119	PRAIRIE_AUK_ TP133	PRAIRIE_AUK_ TP152
Depth	1.50	2.50	0.50	2.00
Other ID	3	7	2	6
Sample Type	ES	ES	ES	ES
Sampling Date	22/04/2020	22/04/2020	22/04/2020	22/04/2020
Sampling Time	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
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	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 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
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
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	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 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
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	1.7	< 0.5	< 0.5	1.2
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	25	< 0.6	< 0.6	8.1
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	98	< 1.4	< 1.4	17
Aromatic C5-C35	DETSC 3072*	10	mg/kg	130	< 10	< 10	26
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	130	< 10	< 10	26
EPH (C10-C40)	DETSC 3311#	10	mg/kg				
PAHs							
Naphthalene	DETSC 3303#	0.03	mg/kg	0.13	< 0.03	< 0.03	0.19
Acenaphthylene	DETSC 3303#	0.03	mg/kg	0.15	< 0.03	0.03	0.08
Acenaphthene	DETSC 3303#	0.03	mg/kg	0.30	< 0.03	< 0.03	0.11
Fluorene	DETSC 3303	0.03	mg/kg	0.23	< 0.03	0.04	0.10
Phenanthrene	DETSC 3303#	0.03	mg/kg	5.4	0.05	0.79	3.5
Anthracene	DETSC 3303	0.03	mg/kg	1.2	< 0.03	0.11	0.54
Fluoranthene	DETSC 3303#	0.03	mg/kg	30	0.17	1.6	4.6
Pyrene	DETSC 3303#	0.03	mg/kg	30	0.14	1.3	4.9
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	18	0.09	0.66	2.6
Chrysene	DETSC 3303	0.03	mg/kg	16	0.07	0.62	1.9
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	21	0.12	0.79	2.4
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	9.1	0.04	0.32	0.94
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	15	0.06	0.54	1.2
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	5.4	0.05	0.26	0.72
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	1.7	< 0.03	0.07	0.20
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	6.6	0.06	0.33	0.83
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	160	0.85	7.5	25



Summary of Chemical Analysis

Soil Samples

Our Ref Combined 4251 Prairie
 Client Ref 4251
 Contract Title Prairie Site Ground Investigation Works

Lab No	1668127	1668128	1668129	1668130
Sample ID	PRAIRIE_AUK_ TP119	PRAIRIE_AUK_ TP119	PRAIRIE_AUK_ TP133	PRAIRIE_AUK_ TP152
Depth	1.50	2.50	0.50	2.00
Other ID	3	7	2	6
Sample Type	ES	ES	ES	ES
Sampling Date	22/04/2020	22/04/2020	22/04/2020	22/04/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
PCBs							
PCB 28 + PCB 31	DETSC 3401#	0.01	mg/kg			< 0.01	
PCB 52	DETSC 3401#	0.01	mg/kg			< 0.01	
PCB 101	DETSC 3401#	0.01	mg/kg			< 0.01	
PCB 118	DETSC 3401#	0.01	mg/kg			< 0.01	
PCB 153	DETSC 3401#	0.01	mg/kg			< 0.01	
PCB 138	DETSC 3401#	0.01	mg/kg			< 0.01	
PCB 180	DETSC 3401#	0.01	mg/kg			< 0.01	
PCB 7 Total	DETSC 3401#	0.01	mg/kg			< 0.01	
Phenols							
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3

Summary of Chemical Analysis

Soil Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1668131	1668132	1668133	1668134
Sample ID	PRAIRIE_AUK_TP153	PRAIRIE_AUK_TP154	PRAIRIE_AUK_TP155	PRAIRIE_AUK_TP160
Depth	1.10	0.85	0.70	0.75
Other ID	4	3	3	4
Sample Type	ES	ES	ES	ES
Sampling Date	22/04/2020	20/04/2020	21/04/2020	21/04/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
Asbestos Quantification	DETSC 1102	0.001	%				
Metals							
Aluminium	DETSC 2301*	1	mg/kg	23000	21000	11000	12000
Antimony	DETSC 2301*	1	mg/kg	4.4	4.1	2.3	3.7
Arsenic	DETSC 2301#	0.2	mg/kg	11	9.2	9.4	17
Barium	DETSC 2301#	1.5	mg/kg	330	270	220	270
Beryllium	DETSC 2301#	0.2	mg/kg	2.2	2.0	2.4	1.9
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg	3.0	1.6	1.0	1.0
Cadmium	DETSC 2301#	0.1	mg/kg	0.3	0.5	< 0.1	0.4
Chromium	DETSC 2301#	0.15	mg/kg	110	200	120	110
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	94	40	80	72
Iron	DETSC 2301	25	mg/kg	47000	100000	42000	58000
Lead	DETSC 2301#	0.3	mg/kg	330	33	18	100
Magnesium	DETSC 2301*	1	mg/kg	17000	17000	6300	8700
Manganese	DETSC 2301#	20	mg/kg	7300	25000	3000	2800
Mercury	DETSC 2325#	0.05	mg/kg	0.10	0.07	< 0.05	0.22
Molybdenum	DETSC 2301#	0.4	mg/kg	2.1	2.3	3.8	2.8
Nickel	DETSC 2301#	1	mg/kg	15	16	40	29
Silicon	DETSC 2301*	10	mg/kg	85000	68000	100000	83000
Vanadium	DETSC 2301#	0.8	mg/kg	240	1500	480	210
Zinc	DETSC 2301#	1	mg/kg	85	100	37	220
Inorganics							
Loss on Ignition at 440oC	DETSC 2003#	0.01	%				
pH	DETSC 2008#		pH	11.2	11.3	10.7	11.4
Calorific Value	DETSC 5008	1	MJ/kg				
Cyanide, Total	DETSC 2130#	0.1	mg/kg	1.7	0.8	0.4	0.3
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Thiocyanate	DETSC 2130#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6
Organic matter	DETSC 2002#	0.1	%	4.2	1.6	1.4	4.2
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	400	300	86	290
Sulphur (free)	DETSC 3049#	0.75	mg/kg	8.1	10	< 0.75	7.7

Summary of Chemical Analysis

Soil Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1668131	1668132	1668133	1668134
Sample ID	PRAIRIE_AUK_ TP153	PRAIRIE_AUK_ TP154	PRAIRIE_AUK_ TP155	PRAIRIE_AUK_ TP160
Depth	1.10	0.85	0.70	0.75
Other ID	4	3	3	4
Sample Type	ES	ES	ES	ES
Sampling Date	22/04/2020	20/04/2020	21/04/2020	21/04/2020
Sampling Time	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
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	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 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
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
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	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 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
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	1.4	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	12	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	29	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	42	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	42	< 10	< 10
EPH (C10-C40)	DETSC 3311#	10	mg/kg				
PAHs							
Naphthalene	DETSC 3303#	0.03	mg/kg	0.07	0.04	< 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	0.04	0.37	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	0.04	0.29	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	1.1	4.0	0.09	0.44
Anthracene	DETSC 3303	0.03	mg/kg	0.24	0.80	< 0.03	0.04
Fluoranthene	DETSC 3303#	0.03	mg/kg	4.2	9.7	0.30	0.81
Pyrene	DETSC 3303#	0.03	mg/kg	4.0	9.1	0.24	0.62
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	1.7	4.9	0.14	0.24
Chrysene	DETSC 3303	0.03	mg/kg	1.4	3.6	0.12	0.33
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	2.3	4.4	0.18	0.57
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	0.94	1.7	0.07	0.41
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	1.9	3.2	0.09	0.20
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	1.1	1.2	0.07	0.12
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	0.18	0.36	< 0.03	0.04
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	1.4	1.3	0.07	0.15
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	21	45	1.4	3.9



Summary of Chemical Analysis

Soil Samples

Our Ref Combined 4251 Prairie
 Client Ref 4251
 Contract Title Prairie Site Ground Investigation Works

Lab No	1668131	1668132	1668133	1668134
Sample ID	PRAIRIE_AUK_ TP153	PRAIRIE_AUK_ TP154	PRAIRIE_AUK_ TP155	PRAIRIE_AUK_ TP160
Depth	1.10	0.85	0.70	0.75
Other ID	4	3	3	4
Sample Type	ES	ES	ES	ES
Sampling Date	22/04/2020	20/04/2020	21/04/2020	21/04/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
PCBs							
PCB 28 + PCB 31	DETSC 3401#	0.01	mg/kg				< 0.01
PCB 52	DETSC 3401#	0.01	mg/kg				0.01
PCB 101	DETSC 3401#	0.01	mg/kg				0.02
PCB 118	DETSC 3401#	0.01	mg/kg				0.01
PCB 153	DETSC 3401#	0.01	mg/kg				< 0.01
PCB 138	DETSC 3401#	0.01	mg/kg				0.02
PCB 180	DETSC 3401#	0.01	mg/kg				< 0.01
PCB 7 Total	DETSC 3401#	0.01	mg/kg				0.04
Phenols							
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3

Summary of Chemical Analysis

Soil Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1668135	1668557	1668558	1668559	1668560
Sample ID	PRAIRIE_AUK_TP170	PRAIRIE_AUK_TP164	PRAIRIE_AUK_TP164	PRAIRIE_AUK_TP184	PRAIRIE_AUK_TP106
Depth	1.00	0.70	1.30	0.30	1.00
Other ID	4	3	5	2	3
Sample Type	ES	ES	ES	ES	ES
Sampling Date	20/04/2020	16/04/2020	16/04/2020	16/04/2020	23/04/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units					
Asbestos Quantification	DETSC 1102	0.001	%				< 0.001	
Metals								
Aluminium	DETSC 2301*	1	mg/kg	14000	6100	6300	10000	12000
Antimony	DETSC 2301*	1	mg/kg	2.8	1.2	1.3	6.5	9.5
Arsenic	DETSC 2301#	0.2	mg/kg	9.8	9.6	11	8.6	33
Barium	DETSC 2301#	1.5	mg/kg	160	40	51	250	330
Beryllium	DETSC 2301#	0.2	mg/kg	1.2	0.4	0.6	0.8	1.1
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg	1.7	0.5	0.7	3.8	2.1
Cadmium	DETSC 2301#	0.1	mg/kg	< 0.1	< 0.1	0.1	0.6	2.1
Chromium	DETSC 2301#	0.15	mg/kg	41	27	32	390	82
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	52	11	22	71	150
Iron	DETSC 2301	25	mg/kg	39000	26000	30000	100000	95000
Lead	DETSC 2301#	0.3	mg/kg	38	9.3	14	44	220
Magnesium	DETSC 2301*	1	mg/kg	4300	1700	2000	25000	5400
Manganese	DETSC 2301#	20	mg/kg	680	210	390	22000	1700
Mercury	DETSC 2325#	0.05	mg/kg	0.09	< 0.05	< 0.05	1.0	0.51
Molybdenum	DETSC 2301#	0.4	mg/kg	1.1	< 0.4	0.5	8.2	10
Nickel	DETSC 2301#	1	mg/kg	22	14	17	62	54
Silicon	DETSC 2301*	10	mg/kg	170000	230000	220000	47000	14000
Vanadium	DETSC 2301#	0.8	mg/kg	96	51	76	1700	130
Zinc	DETSC 2301#	1	mg/kg	81	41	59	130	930
Inorganics								
Loss on Ignition at 440oC	DETSC 2003#	0.01	%					
pH	DETSC 2008#		pH	9.1	8.6	8.2	11.5	9.3
Calorific Value	DETSC 5008	1	MJ/kg					
Cyanide, Total	DETSC 2130#	0.1	mg/kg	0.2	12	0.1	0.5	20
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	0.4
Thiocyanate	DETSC 2130#	0.6	mg/kg	< 0.6	0.9	< 0.6	< 0.6	1.1
Organic matter	DETSC 2002#	0.1	%	2.1	0.4	1.5	2.6	2.3
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	130	19	30	95	290
Sulphur (free)	DETSC 3049#	0.75	mg/kg	11	< 0.75	< 0.75	3.6	< 0.75



Summary of Chemical Analysis

Soil Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1668135	1668557	1668558	1668559	1668560
Sample ID	PRAIRIE_AUK_TP170	PRAIRIE_AUK_TP164	PRAIRIE_AUK_TP164	PRAIRIE_AUK_TP184	PRAIRIE_AUK_TP106
Depth	1.00	0.70	1.30	0.30	1.00
Other ID	4	3	5	2	3
Sample Type	ES	ES	ES	ES	ES
Sampling Date	20/04/2020	16/04/2020	16/04/2020	16/04/2020	23/04/2020
Sampling Time	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
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 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
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 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	2.7	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	18	2.9
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4	24	25
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	46	28
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 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
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 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
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	0.7
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6	9.5
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4	46
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	56
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	46	84
EPH (C10-C40)	DETSC 3311#	10	mg/kg					
PAHs								
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.32	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.07	0.05
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.06	0.11
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.12	0.07
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.53	1.8
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.36	0.49
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.67	5.7
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.46	4.8
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.25	2.3
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.29	2.0
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.37	2.6
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.15	1.2
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.25	2.4
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.14	0.84
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.04	0.21
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.16	1.1
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10	< 0.10	4.3	26



Summary of Chemical Analysis

Soil Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1668135	1668557	1668558	1668559	1668560
Sample ID	PRAIRIE_AUK_ TP170	PRAIRIE_AUK_ TP164	PRAIRIE_AUK_ TP164	PRAIRIE_AUK_ TP184	PRAIRIE_AUK_ TP106
Depth	1.00	0.70	1.30	0.30	1.00
Other ID	4	3	5	2	3
Sample Type	ES	ES	ES	ES	ES
Sampling Date	20/04/2020	16/04/2020	16/04/2020	16/04/2020	23/04/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units					
PCBs								
PCB 28 + PCB 31	DETSC 3401#	0.01	mg/kg					
PCB 52	DETSC 3401#	0.01	mg/kg					
PCB 101	DETSC 3401#	0.01	mg/kg					
PCB 118	DETSC 3401#	0.01	mg/kg					
PCB 153	DETSC 3401#	0.01	mg/kg					
PCB 138	DETSC 3401#	0.01	mg/kg					
PCB 180	DETSC 3401#	0.01	mg/kg					
PCB 7 Total	DETSC 3401#	0.01	mg/kg					
Phenols								
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3

Summary of Chemical Analysis

Soil Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1668561	1668562	1668563	1668564
Sample ID	PRAIRIE_AUK_ TP116	PRAIRIE_AUK_ TP117	PRAIRIE_AUK_ TP118	PRAIRIE_AUK_ TP127
Depth	1.30	3.00	1.20	0.30
Other ID	3	8	3	3
Sample Type	ES	ES	ES	ES
Sampling Date	23/04/2020	23/04/2020	23/04/2020	23/04/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
Asbestos Quantification	DETSC 1102	0.001	%	< 0.001	< 0.001		
Metals							
Aluminium	DETSC 2301*	1	mg/kg	49000	45000	25000	10000
Antimony	DETSC 2301*	1	mg/kg	3.4	1.4	11	11
Arsenic	DETSC 2301#	0.2	mg/kg	12	11	24	2.2
Barium	DETSC 2301#	1.5	mg/kg	590	420	570	130
Beryllium	DETSC 2301#	0.2	mg/kg	5.4	6.1	2.3	0.3
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg	1.9	3.1	2.3	3.2
Cadmium	DETSC 2301#	0.1	mg/kg	0.8	0.4	0.7	0.4
Chromium	DETSC 2301#	0.15	mg/kg	150	50	610	740
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	44	24	140	25
Iron	DETSC 2301	25	mg/kg	55000	24000	120000	170000
Lead	DETSC 2301#	0.3	mg/kg	60	38	87	15
Magnesium	DETSC 2301*	1	mg/kg	32000	25000	33000	40000
Manganese	DETSC 2301#	20	mg/kg	9200	3800	25000	19000
Mercury	DETSC 2325#	0.05	mg/kg	0.15	0.12	0.09	0.24
Molybdenum	DETSC 2301#	0.4	mg/kg	4.2	0.9	6.1	5.1
Nickel	DETSC 2301#	1	mg/kg	20	10	26	25
Silicon	DETSC 2301*	10	mg/kg	64000	100000	60000	37000
Vanadium	DETSC 2301#	0.8	mg/kg	150	160	1300	500
Zinc	DETSC 2301#	1	mg/kg	150	120	270	60
Inorganics							
Loss on Ignition at 440oC	DETSC 2003#	0.01	%				
pH	DETSC 2008#		pH	11.5	10.4	11.9	12.2
Calorific Value	DETSC 5008	1	MJ/kg				
Cyanide, Total	DETSC 2130#	0.1	mg/kg	9.4	0.9	0.7	1.3
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Thiocyanate	DETSC 2130#	0.6	mg/kg	1.0	0.7	< 0.6	0.6
Organic matter	DETSC 2002#	0.1	%	1.2	1.8	1.0	0.6
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	780	1100	110	10
Sulphur (free)	DETSC 3049#	0.75	mg/kg	29	5.6	< 0.75	< 0.75

Summary of Chemical Analysis

Soil Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1668561	1668562	1668563	1668564
Sample ID	PRAIRIE_AUK_ TP116	PRAIRIE_AUK_ TP117	PRAIRIE_AUK_ TP118	PRAIRIE_AUK_ TP127
Depth	1.30	3.00	1.20	0.30
Other ID	3	8	3	3
Sample Type	ES	ES	ES	ES
Sampling Date	23/04/2020	23/04/2020	23/04/2020	23/04/2020
Sampling Time	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
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	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	7.1	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	29	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	36	< 10
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	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 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
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	< 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
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	36	< 10
EPH (C10-C40)	DETSC 3311#	10	mg/kg				
PAHs							
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	0.16	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	0.17	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	0.38	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	1.0	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	0.16	7.2	0.26	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	0.03	1.6	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.48	18	0.64	0.05
Pyrene	DETSC 3303#	0.03	mg/kg	0.34	15	0.42	0.04
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	0.19	8.1	0.25	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	0.23	5.8	0.29	0.04
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.38	6.1	0.40	0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	0.13	2.5	0.16	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	0.26	5.5	0.29	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	0.13	1.4	0.12	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	0.03	0.46	0.04	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	0.15	1.7	0.17	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	2.5	75	3.0	0.16



Summary of Chemical Analysis

Soil Samples

Our Ref Combined 4251 Prairie
 Client Ref 4251
 Contract Title Prairie Site Ground Investigation Works

Lab No	1668561	1668562	1668563	1668564
Sample ID	PRAIRIE_AUK_ TP116	PRAIRIE_AUK_ TP117	PRAIRIE_AUK_ TP118	PRAIRIE_AUK_ TP127
Depth	1.30	3.00	1.20	0.30
Other ID	3	8	3	3
Sample Type	ES	ES	ES	ES
Sampling Date	23/04/2020	23/04/2020	23/04/2020	23/04/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
PCBs							
PCB 28 + PCB 31	DETSC 3401#	0.01	mg/kg				
PCB 52	DETSC 3401#	0.01	mg/kg				
PCB 101	DETSC 3401#	0.01	mg/kg				
PCB 118	DETSC 3401#	0.01	mg/kg				
PCB 153	DETSC 3401#	0.01	mg/kg				
PCB 138	DETSC 3401#	0.01	mg/kg				
PCB 180	DETSC 3401#	0.01	mg/kg				
PCB 7 Total	DETSC 3401#	0.01	mg/kg				
Phenols							
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3

Summary of Chemical Analysis

Soil Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1668565	1668566	1668567	1668568
Sample ID	PRAIRIE_AUK_ TP127A	PRAIRIE_AUK_ TP140	PRAIRIE_AUK_ TP141	PRAIRIE_AUK_ TP142
Depth	2.80	1.00	2.00	0.90
Other ID	3	3	4	3
Sample Type	ES	ES	ES	ES
Sampling Date	23/04/2020	23/04/2020	23/04/2020	23/04/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
Asbestos Quantification	DETSC 1102	0.001	%				
Metals							
Aluminium	DETSC 2301*	1	mg/kg	9000	52000	8900	4300
Antimony	DETSC 2301*	1	mg/kg	1.1	1.6	34	16
Arsenic	DETSC 2301#	0.2	mg/kg	6.2	10	130	32
Barium	DETSC 2301#	1.5	mg/kg	230	520	350	50
Beryllium	DETSC 2301#	0.2	mg/kg	1.2	6.5	0.7	< 0.2
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg	1.0	2.2	2.9	0.4
Cadmium	DETSC 2301#	0.1	mg/kg	0.1	0.3	15	1.5
Chromium	DETSC 2301#	0.15	mg/kg	30	38	450	220
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	23	36	1700	220
Iron	DETSC 2301	25	mg/kg	23000	19000	260000	450000
Lead	DETSC 2301#	0.3	mg/kg	27	33	1200	170
Magnesium	DETSC 2301*	1	mg/kg	2500	33000	14000	7400
Manganese	DETSC 2301#	20	mg/kg	560	4100	10000	10000
Mercury	DETSC 2325#	0.05	mg/kg	0.05	0.06	0.37	0.11
Molybdenum	DETSC 2301#	0.4	mg/kg	0.6	0.8	21	17
Nickel	DETSC 2301#	1	mg/kg	20	7.1	200	82
Silicon	DETSC 2301*	10	mg/kg	150000	73000	37000	15000
Vanadium	DETSC 2301#	0.8	mg/kg	41	96	740	170
Zinc	DETSC 2301#	1	mg/kg	89	75	3100	170
Inorganics							
Loss on Ignition at 440oC	DETSC 2003#	0.01	%				
pH	DETSC 2008#		pH	9.6	10.4	11.1	11.9
Calorific Value	DETSC 5008	1	MJ/kg				
Cyanide, Total	DETSC 2130#	0.1	mg/kg	0.3	0.2	2.1	< 0.1
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Thiocyanate	DETSC 2130#	0.6	mg/kg	< 0.6	0.6	0.9	< 0.6
Organic matter	DETSC 2002#	0.1	%	0.4	1.5	10	10
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	150	290	770	31
Sulphur (free)	DETSC 3049#	0.75	mg/kg	< 0.75	2.9	220	30



Summary of Chemical Analysis

Soil Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1668565	1668566	1668567	1668568
Sample ID	PRAIRIE_AUK_ TP127A	PRAIRIE_AUK_ TP140	PRAIRIE_AUK_ TP141	PRAIRIE_AUK_ TP142
Depth	2.80	1.00	2.00	0.90
Other ID	3	3	4	3
Sample Type	ES	ES	ES	ES
Sampling Date	23/04/2020	23/04/2020	23/04/2020	23/04/2020
Sampling Time	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
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	10	3.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	130	37
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	1300	300
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	5600	6100
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	7000	6400
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	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	3.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	97	19
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	1400	160
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	6600	2100
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	8100	2200
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	15000	8700
EPH (C10-C40)	DETSC 3311#	10	mg/kg				
PAHs							
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	0.35	0.12
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	0.11	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	0.61	0.23
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	0.97	0.18
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.47	3.0	0.90
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	0.06	0.57	0.25
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	0.85	4.9	1.6
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.55	3.8	1.1
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	0.16	1.8	0.45
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	0.30	2.7	0.68
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	0.28	2.3	0.76
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	0.09	0.95	0.39
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.15	1.7	0.54
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.08	0.64	0.25
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	0.18	0.08
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	0.10	0.78	0.33
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	3.1	25	7.9



Summary of Chemical Analysis

Soil Samples

Our Ref Combined 4251 Prairie
 Client Ref 4251
 Contract Title Prairie Site Ground Investigation Works

Lab No	1668565	1668566	1668567	1668568
Sample ID	PRAIRIE_AUK_ TP127A	PRAIRIE_AUK_ TP140	PRAIRIE_AUK_ TP141	PRAIRIE_AUK_ TP142
Depth	2.80	1.00	2.00	0.90
Other ID	3	3	4	3
Sample Type	ES	ES	ES	ES
Sampling Date	23/04/2020	23/04/2020	23/04/2020	23/04/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
PCBs							
PCB 28 + PCB 31	DETSC 3401#	0.01	mg/kg				
PCB 52	DETSC 3401#	0.01	mg/kg				
PCB 101	DETSC 3401#	0.01	mg/kg				
PCB 118	DETSC 3401#	0.01	mg/kg				
PCB 153	DETSC 3401#	0.01	mg/kg				
PCB 138	DETSC 3401#	0.01	mg/kg				
PCB 180	DETSC 3401#	0.01	mg/kg				
PCB 7 Total	DETSC 3401#	0.01	mg/kg				
Phenols							
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	0.4	0.5	< 0.3

Summary of Chemical Analysis Soil Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1668569	1668570	1668571	1668572
Sample ID	PRAIRIE_AUK_ TP142	PRAIRIE_AUK_ TP143	PRAIRIE_AUK_ TP143	PRAIRIE_AUK_ TP151
Depth	1.50	0.80	1.60	1.20
Other ID	4	3	6	5
Sample Type	ES	ES	ES	ES
Sampling Date	23/04/2020	23/04/2020	23/04/2020	23/04/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
Asbestos Quantification	DETSC 1102	0.001	%				
Metals							
Aluminium	DETSC 2301*	1	mg/kg	2700	39000	12000	47000
Antimony	DETSC 2301*	1	mg/kg	36	4.3	17	3.4
Arsenic	DETSC 2301#	0.2	mg/kg	130	20	68	18
Barium	DETSC 2301#	1.5	mg/kg	92	570	210	590
Beryllium	DETSC 2301#	0.2	mg/kg	< 0.2	4.0	0.9	5.5
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg	1.0	1.6	1.7	2.7
Cadmium	DETSC 2301#	0.1	mg/kg	5.7	0.6	2.7	0.9
Chromium	DETSC 2301#	0.15	mg/kg	310	120	180	120
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	1400	82	650	84
Iron	DETSC 2301	25	mg/kg	650000	81000	320000	78000
Lead	DETSC 2301#	0.3	mg/kg	550	190	310	90
Magnesium	DETSC 2301*	1	mg/kg	2600	25000	3600	29000
Manganese	DETSC 2301#	20	mg/kg	4000	4100	2500	5400
Mercury	DETSC 2325#	0.05	mg/kg	0.14	0.45	0.09	0.25
Molybdenum	DETSC 2301#	0.4	mg/kg	61	3.4	29	3.0
Nickel	DETSC 2301#	1	mg/kg	320	23	200	26
Silicon	DETSC 2301*	10	mg/kg	22000	73000	110000	48000
Vanadium	DETSC 2301#	0.8	mg/kg	140	150	97	250
Zinc	DETSC 2301#	1	mg/kg	890	230	510	490
Inorganics							
Loss on Ignition at 440oC	DETSC 2003#	0.01	%				
pH	DETSC 2008#		pH	10.7	11.4	10.4	10.0
Calorific Value	DETSC 5008	1	MJ/kg				
Cyanide, Total	DETSC 2130#	0.1	mg/kg	0.7	4.6	< 0.1	0.7
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Thiocyanate	DETSC 2130#	0.6	mg/kg	0.7	0.7	< 0.6	0.7
Organic matter	DETSC 2002#	0.1	%	6.4	1.8	7.6	3.4
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	210	170	200	490
Sulphur (free)	DETSC 3049#	0.75	mg/kg	< 0.75	< 0.75	1.7	49



Summary of Chemical Analysis

Soil Samples

Our Ref Combined 4251 Prairie
 Client Ref 4251
 Contract Title Prairie Site Ground Investigation Works

Lab No	1668569	1668570	1668571	1668572
Sample ID	PRAIRIE_AUK_ TP142	PRAIRIE_AUK_ TP143	PRAIRIE_AUK_ TP143	PRAIRIE_AUK_ TP151
Depth	1.50	0.80	1.60	1.20
Other ID	4	3	6	5
Sample Type	ES	ES	ES	ES
Sampling Date	23/04/2020	23/04/2020	23/04/2020	23/04/2020
Sampling Time	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
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	0.10	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	8.6	< 1.5	< 1.5	2.8
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	41	< 1.2	< 1.2	4.8
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	260	< 1.5	< 1.5	39
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	2300	4.5	3.6	180
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	2600	< 10	< 10	220
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	0.11	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	0.06	< 0.01	< 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	21	< 0.5	< 0.5	1.0
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	160	8.2	< 0.6	18
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	1000	24	< 1.4	95
Aromatic C5-C35	DETSC 3072*	10	mg/kg	1200	32	< 10	110
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	3800	37	< 10	340
EPH (C10-C40)	DETSC 3311#	10	mg/kg				
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	0.04
Acenaphthene	DETSC 3303#	0.03	mg/kg	0.04	0.06	< 0.03	0.24
Fluorene	DETSC 3303	0.03	mg/kg	0.10	0.05	< 0.03	0.18
Phenanthrene	DETSC 3303#	0.03	mg/kg	0.33	2.2	< 0.03	2.8
Anthracene	DETSC 3303	0.03	mg/kg	0.18	0.50	< 0.03	0.64
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.13	9.9	< 0.03	7.2
Pyrene	DETSC 3303#	0.03	mg/kg	0.17	9.2	< 0.03	5.9
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	0.05	5.8	< 0.03	3.0
Chrysene	DETSC 3303	0.03	mg/kg	0.21	4.3	< 0.03	2.3
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.07	6.1	< 0.03	3.1
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	2.3	< 0.03	1.3
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	0.04	3.9	< 0.03	2.7
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	1.7	< 0.03	0.84
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	0.52	< 0.03	0.23
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	0.04	2.2	< 0.03	1.2
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	1.4	49	< 0.10	32



Summary of Chemical Analysis

Soil Samples

Our Ref Combined 4251 Prairie
 Client Ref 4251
 Contract Title Prairie Site Ground Investigation Works

Lab No	1668569	1668570	1668571	1668572
Sample ID	PRAIRIE_AUK_ TP142	PRAIRIE_AUK_ TP143	PRAIRIE_AUK_ TP143	PRAIRIE_AUK_ TP151
Depth	1.50	0.80	1.60	1.20
Other ID	4	3	6	5
Sample Type	ES	ES	ES	ES
Sampling Date	23/04/2020	23/04/2020	23/04/2020	23/04/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
PCBs							
PCB 28 + PCB 31	DETSC 3401#	0.01	mg/kg				
PCB 52	DETSC 3401#	0.01	mg/kg				
PCB 101	DETSC 3401#	0.01	mg/kg				
PCB 118	DETSC 3401#	0.01	mg/kg				
PCB 153	DETSC 3401#	0.01	mg/kg				
PCB 138	DETSC 3401#	0.01	mg/kg				
PCB 180	DETSC 3401#	0.01	mg/kg				
PCB 7 Total	DETSC 3401#	0.01	mg/kg				
Phenols							
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.8	< 0.3	< 0.3	< 0.3

Summary of Chemical Analysis

Soil Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1668657	1668869	1669251	1670142
Sample ID	PRAIRIE_AUK_TP139	PRAIRIE_AUK_TP144	PRAIRIE_AUK_TP112	PRAIRIE_AUK_TP194A
Depth	1.10	0.80	2.10	1.40
Other ID	4	3	7	1
Sample Type	ES	ES	ES	ES
Sampling Date	16/04/2020	24/04/2020	22/04/2020	29/04/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
Asbestos Quantification	DETSC 1102	0.001	%		0.001		
Metals							
Aluminium	DETSC 2301*	1	mg/kg	15000	47000	12000	73000
Antimony	DETSC 2301*	1	mg/kg	12	4.4	6.6	< 1.0
Arsenic	DETSC 2301#	0.2	mg/kg	75	24	26	8.4
Barium	DETSC 2301#	1.5	mg/kg	820	470	280	210
Beryllium	DETSC 2301#	0.2	mg/kg	1.4	6.0	1.5	9.7
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg	39	2.7	1.6	16
Cadmium	DETSC 2301#	0.1	mg/kg	17	0.8	0.7	0.1
Chromium	DETSC 2301#	0.15	mg/kg	47	66	340	14
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	90	220	67	18
Iron	DETSC 2301	25	mg/kg	110000	76000	90000	9400
Lead	DETSC 2301#	0.3	mg/kg	1100	130	90	11
Magnesium	DETSC 2301*	1	mg/kg	25000	24000	19000	28000
Manganese	DETSC 2301#	20	mg/kg	64000	3600	9900	1300
Mercury	DETSC 2325#	0.05	mg/kg	3.6	0.68	< 0.05	0.37
Molybdenum	DETSC 2301#	0.4	mg/kg	7.9	4.9	2.1	< 0.4
Nickel	DETSC 2301#	1	mg/kg	42	35	28	4.9
Silicon	DETSC 2301*	10	mg/kg	37000	56000	58000	140000
Vanadium	DETSC 2301#	0.8	mg/kg	46	81	1500	53
Zinc	DETSC 2301#	1	mg/kg	1200	550	470	57
Inorganics							
Loss on Ignition at 440oC	DETSC 2003#	0.01	%				
pH	DETSC 2008#		pH	9.4	9.7	11.7	10.8
Calorific Value	DETSC 5008	1	MJ/kg				
Cyanide, Total	DETSC 2130#	0.1	mg/kg	470	6.8	0.1	24
Cyanide, Free	DETSC 2130#	0.1	mg/kg	1.0	0.1	< 0.1	0.2
Thiocyanate	DETSC 2130#	0.6	mg/kg	21	1.0	< 0.6	2.2
Organic matter	DETSC 2002#	0.1	%	2.6	2.3	1.9	1.9
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	520	370	110	530
Sulphur (free)	DETSC 3049#	0.75	mg/kg	95	57	2.5	93

Summary of Chemical Analysis

Soil Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1668657	1668869	1669251	1670142
Sample ID	PRAIRIE_AUK_TP139	PRAIRIE_AUK_TP144	PRAIRIE_AUK_TP112	PRAIRIE_AUK_TP194A
Depth	1.10	0.80	2.10	1.40
Other ID	4	3	7	1
Sample Type	ES	ES	ES	ES
Sampling Date	16/04/2020	24/04/2020	22/04/2020	29/04/2020
Sampling Time	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
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	4.2	< 1.5	1.8
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	3.8	< 1.2	45
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	7.9	< 1.5	190
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	39	< 3.4	40
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	55	< 10	280
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	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	6800
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	3500
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	620
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4	170
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	11000
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	55	< 10	11000
EPH (C10-C40)	DETSC 3311#	10	mg/kg				
PAHs							
Naphthalene	DETSC 3303#	0.03	mg/kg	3.8	0.10	0.05	1100
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	0.07	< 0.03	46
Acenaphthene	DETSC 3303#	0.03	mg/kg	0.29	0.11	< 0.03	780
Fluorene	DETSC 3303	0.03	mg/kg	0.13	0.16	< 0.03	330
Phenanthrene	DETSC 3303#	0.03	mg/kg	0.74	1.7	2.8	230
Anthracene	DETSC 3303	0.03	mg/kg	0.31	0.34	0.47	49
Fluoranthene	DETSC 3303#	0.03	mg/kg	1.3	2.6	4.0	41
Pyrene	DETSC 3303#	0.03	mg/kg	0.72	2.3	2.7	25
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	0.39	1.2	0.79	6.5
Chrysene	DETSC 3303	0.03	mg/kg	0.61	1.6	0.75	5.0
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.54	2.0	0.64	2.9
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	0.14	0.78	0.30	1.2
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	0.33	1.3	0.28	1.8
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	0.07	0.87	0.24	0.56
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	0.04	0.29	< 0.03	0.19
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	0.14	1.2	0.20	0.80
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	9.5	17	13	2600



Summary of Chemical Analysis

Soil Samples

Our Ref Combined 4251 Prairie
 Client Ref 4251
 Contract Title Prairie Site Ground Investigation Works

Lab No	1668657	1668869	1669251	1670142
Sample ID	PRAIRIE_AUK_TP139	PRAIRIE_AUK_TP144	PRAIRIE_AUK_TP112	PRAIRIE_AUK_TP194A
Depth	1.10	0.80	2.10	1.40
Other ID	4	3	7	1
Sample Type	ES	ES	ES	ES
Sampling Date	16/04/2020	24/04/2020	22/04/2020	29/04/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
PCBs							
PCB 28 + PCB 31	DETSC 3401#	0.01	mg/kg				
PCB 52	DETSC 3401#	0.01	mg/kg				
PCB 101	DETSC 3401#	0.01	mg/kg				
PCB 118	DETSC 3401#	0.01	mg/kg				
PCB 153	DETSC 3401#	0.01	mg/kg				
PCB 138	DETSC 3401#	0.01	mg/kg				
PCB 180	DETSC 3401#	0.01	mg/kg				
PCB 7 Total	DETSC 3401#	0.01	mg/kg				
Phenols							
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	< 0.3	0.4

Summary of Chemical Analysis

Soil Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1670143	1670144	1670502	1675450
Sample ID	PRAIRIE_AUK_ TP196A	PRAIRIE_AUK_ TP201	PRAIRIE_AUK_ TP193	PRAIRIE_AUK_ BH101
Depth	1.40	3.60	0.80	3.00
Other ID	1	1	1	1
Sample Type	ES	ES	ES	ES
Sampling Date	29/04/2020	28/04/2020	30/04/2020	27/04/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
Asbestos Quantification	DETSC 1102	0.001	%				
Metals							
Aluminium	DETSC 2301*	1	mg/kg	77000	23000	890	12000
Antimony	DETSC 2301*	1	mg/kg	1.3	6.5	< 1.0	1.6
Arsenic	DETSC 2301#	0.2	mg/kg	7.6	100	4.0	8.3
Barium	DETSC 2301#	1.5	mg/kg	200	190	85	290
Beryllium	DETSC 2301#	0.2	mg/kg	8.9	3.0	< 0.2	1.1
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg	2.2	4.2	0.9	1.1
Cadmium	DETSC 2301#	0.1	mg/kg	0.1	2.1	0.6	0.3
Chromium	DETSC 2301#	0.15	mg/kg	66	84	3.9	26
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	15	170	9.7	27
Iron	DETSC 2301	25	mg/kg	14000	150000	4400	32000
Lead	DETSC 2301#	0.3	mg/kg	9.2	320	20	33
Magnesium	DETSC 2301*	1	mg/kg	31000	7900	3700	7700
Manganese	DETSC 2301#	20	mg/kg	2700	3100	330	730
Mercury	DETSC 2325#	0.05	mg/kg	0.22	0.27	0.71	0.05
Molybdenum	DETSC 2301#	0.4	mg/kg	< 0.4	4.1	0.4	0.6
Nickel	DETSC 2301#	1	mg/kg	4.1	110	3.8	32
Silicon	DETSC 2301*	10	mg/kg	160000	54000	9400	160000
Vanadium	DETSC 2301#	0.8	mg/kg	270	270	11	27
Zinc	DETSC 2301#	1	mg/kg	37	2000	140	110
Inorganics							
Loss on Ignition at 440oC	DETSC 2003#	0.01	%				
pH	DETSC 2008#		pH	10.3	8.2	10.3	7.8
Calorific Value	DETSC 5008	1	MJ/kg				
Cyanide, Total	DETSC 2130#	0.1	mg/kg	50	14	130	0.9
Cyanide, Free	DETSC 2130#	0.1	mg/kg	0.5	0.1	0.5	< 0.1
Thiocyanate	DETSC 2130#	0.6	mg/kg	3.7	0.7	< 0.6	< 0.6
Organic matter	DETSC 2002#	0.1	%	1.8	2.6	1.3	2.8
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	470	1800	270	230
Sulphur (free)	DETSC 3049#	0.75	mg/kg	69	0.75	43	< 0.75



Summary of Chemical Analysis

Soil Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1670143	1670144	1670502	1675450
Sample ID	PRAIRIE_AUK_ TP196A	PRAIRIE_AUK_ TP201	PRAIRIE_AUK_ TP193	PRAIRIE_AUK_ BH101
Depth	1.40	3.60	0.80	3.00
Other ID	1	1	1	1
Sample Type	ES	ES	ES	ES
Sampling Date	29/04/2020	28/04/2020	30/04/2020	27/04/2020
Sampling Time	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
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	0.12	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	7.1	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	3.8	< 1.2	6.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	7.6	< 1.5	14	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	16	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	19	17	22	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	0.16	< 0.01	0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	0.08	< 0.01	0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	4.4	< 0.01	0.95	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	390	17	41	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	290	7.9	300	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	64	4.7	67	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	23	16	28	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	770	45	440	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	790	62	460	< 10
EPH (C10-C40)	DETSC 3311#	10	mg/kg				
PAHs							
Naphthalene	DETSC 3303#	0.03	mg/kg	220	0.20	140	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	9.9	0.27	22	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	230	0.13	310	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	120	0.10	120	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	74	0.52	68	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	17	0.13	26	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	14	1.0	24	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	8.9	0.78	15	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	1.5	0.52	2.4	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	1.2	0.85	2.0	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.75	2.4	0.95	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	0.28	0.85	0.47	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	0.53	0.72	0.63	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	0.19	1.1	0.20	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	0.05	0.32	0.06	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	0.21	1.4	0.21	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	690	11	730	< 0.10



Summary of Chemical Analysis

Soil Samples

Our Ref Combined 4251 Prairie
 Client Ref 4251
 Contract Title Prairie Site Ground Investigation Works

Lab No	1670143	1670144	1670502	1675450
Sample ID	PRAIRIE_AUK_ TP196A	PRAIRIE_AUK_ TP201	PRAIRIE_AUK_ TP193	PRAIRIE_AUK_ BH101
Depth	1.40	3.60	0.80	3.00
Other ID	1	1	1	1
Sample Type	ES	ES	ES	ES
Sampling Date	29/04/2020	28/04/2020	30/04/2020	27/04/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
PCBs							
PCB 28 + PCB 31	DETSC 3401#	0.01	mg/kg				
PCB 52	DETSC 3401#	0.01	mg/kg				
PCB 101	DETSC 3401#	0.01	mg/kg				
PCB 118	DETSC 3401#	0.01	mg/kg				
PCB 153	DETSC 3401#	0.01	mg/kg				
PCB 138	DETSC 3401#	0.01	mg/kg				
PCB 180	DETSC 3401#	0.01	mg/kg				
PCB 7 Total	DETSC 3401#	0.01	mg/kg				
Phenols							
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.5	< 0.3	< 0.3	< 0.3

Summary of Chemical Analysis Soil Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1675451	1700277
Sample ID	PRAIRIE_AUK_ BH107	PRAIRIE_AUK_ _SW4
Depth	3.00	0.00
Other ID	1	1
Sample Type	ES	ES
Sampling Date	24/04/2020	15/07/2020
Sampling Time	n/s	n/s

Test	Method	LOD	Units		
Asbestos Quantification	DETSC 1102	0.001	%		
Metals					
Aluminium	DETSC 2301*	1	mg/kg	18000	61000
Antimony	DETSC 2301*	1	mg/kg	3.4	< 1.0
Arsenic	DETSC 2301#	0.2	mg/kg	12	4.1
Barium	DETSC 2301#	1.5	mg/kg	440	210
Beryllium	DETSC 2301#	0.2	mg/kg	2.3	5.2
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg	0.9	2.3
Cadmium	DETSC 2301#	0.1	mg/kg	1.1	< 0.1
Chromium	DETSC 2301#	0.15	mg/kg	68	9.3
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	73	8.8
Iron	DETSC 2301	25	mg/kg	41000	3600
Lead	DETSC 2301#	0.3	mg/kg	71	4.2
Magnesium	DETSC 2301*	1	mg/kg	6500	23000
Manganese	DETSC 2301#	20	mg/kg	960	1100
Mercury	DETSC 2325#	0.05	mg/kg	0.05	< 0.05
Molybdenum	DETSC 2301#	0.4	mg/kg	2.3	< 0.4
Nickel	DETSC 2301#	1	mg/kg	63	1.8
Silicon	DETSC 2301*	10	mg/kg	170000	69000
Vanadium	DETSC 2301#	0.8	mg/kg	39	35
Zinc	DETSC 2301#	1	mg/kg	130	16
Inorganics					
Loss on Ignition at 440oC	DETSC 2003#	0.01	%		
pH	DETSC 2008#		pH	7.8	12.5
Calorific Value	DETSC 5008	1	MJ/kg		
Cyanide, Total	DETSC 2130#	0.1	mg/kg	0.3	0.2
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1
Thiocyanate	DETSC 2130#	0.6	mg/kg	< 0.6	1.0
Organic matter	DETSC 2002#	0.1	%	2.3	6.6
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	130	880
Sulphur (free)	DETSC 3049#	0.75	mg/kg	< 0.75	3.9

Summary of Chemical Analysis Soil Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1675451	1700277
Sample ID	PRAIRIE_AUK_ BH107	PRAIRIE_AUK_ _SW4
Depth	3.00	0.00
Other ID	1	1
Sample Type	ES	ES
Sampling Date	24/04/2020	15/07/2020
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	9.1
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	20
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	29
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	60
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	120
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	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	120
EPH (C10-C40)	DETSC 3311#	10	mg/kg		
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	0.11	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	0.10	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	0.37	0.06
Anthracene	DETSC 3303	0.03	mg/kg	0.04	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.27	0.04
Pyrene	DETSC 3303#	0.03	mg/kg	0.19	0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	0.06	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	0.09	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.05	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 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	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	1.3	0.14



Summary of Chemical Analysis Soil Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1675451	1700277
Sample ID	PRAIRIE_AUK_ BH107	PRAIRIE_AUK_ _SW4
Depth	3.00	0.00
Other ID	1	1
Sample Type	ES	ES
Sampling Date	24/04/2020	15/07/2020
Sampling Time	n/s	n/s

Test	Method	LOD	Units		
PCBs					
PCB 28 + PCB 31	DETSC 3401#	0.01	mg/kg		
PCB 52	DETSC 3401#	0.01	mg/kg		
PCB 101	DETSC 3401#	0.01	mg/kg		
PCB 118	DETSC 3401#	0.01	mg/kg		
PCB 153	DETSC 3401#	0.01	mg/kg		
PCB 138	DETSC 3401#	0.01	mg/kg		
PCB 180	DETSC 3401#	0.01	mg/kg		
PCB 7 Total	DETSC 3401#	0.01	mg/kg		
Phenols					
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3



Summary of Chemical Analysis

Soil VOC/SVOC Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1665134	1665141	1665588	1665610
Sample ID	PRAIRIE_AUK_ TP175	PRAIRIE_AUK_ TP108	PRAIRIE_AUK_ TP114	PRAIRIE_AUK_ TP179
Depth	0.80	2.00	0.90	1.40
Other ID	3	8	6	4
Sample Type	ES	ES	ES	ES
Sampling Date	06/04/2020	06/04/2020	07/04/2020	09/04/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
VOCs							
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	0.02	< 0.01	13	0.03
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	0.64	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	0.03	< 0.01	12	0.19
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	0.03	< 0.01	0.74	0.11
m+p-Xylene	DETSC 3431	0.01	mg/kg	0.15	< 0.01	11	4.5
o-Xylene	DETSC 3431	0.01	mg/kg	0.08	< 0.01	4.5	0.62
Styrene	DETSC 3431*	0.01	mg/kg	0.05	< 0.01	5.6	0.28
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	0.05	< 0.01	3.5	0.53



Summary of Chemical Analysis

Soil VOC/SVOC Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1665134	1665141	1665588	1665610
Sample ID	PRAIRIE_AUK_ TP175	PRAIRIE_AUK_ TP108	PRAIRIE_AUK_ TP114	PRAIRIE_AUK_ TP179
Depth	0.80	2.00	0.90	1.40
Other ID	3	8	6	4
Sample Type	ES	ES	ES	ES
Sampling Date	06/04/2020	06/04/2020	07/04/2020	09/04/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	1.2	0.21
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	0.10	< 0.01	5.3	0.83
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
SVOCs							
Phenol	DETSC 3433	0.1	mg/kg	3.8	0.3	180	< 0.1
Aniline	DETSC 3433*	0.1	mg/kg	0.5	< 0.1	< 100.0	< 0.1
2-Chlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 100.0	< 0.1
Benzyl Alcohol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 100.0	< 0.1
2-Methylphenol	DETSC 3433	0.1	mg/kg	2.7	< 0.1	< 100.0	< 0.1
Bis(2-chloroisopropyl)ether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 100.0	< 0.1
3&4-Methylphenol	DETSC 3433	0.1	mg/kg	5.3	0.4	150	< 0.1
2,4-Dimethylphenol	DETSC 3433	0.1	mg/kg	4.7	0.2	< 100.0	< 0.1
Bis-(dichloroethoxy)methane	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 100.0	< 0.1
2,4-Dichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 100.0	< 0.1
1,2,4-Trichlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 100.0	< 0.1
4-Chloro-3-methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 100.0	< 0.1
2-Methylnaphthalene	DETSC 3433	0.1	mg/kg	80	0.6	3000	64
Hexachlorocyclopentadiene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 100.0	< 0.1
2,4,6-Trichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 100.0	< 0.1
2,4,5-Trichlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 100.0	< 0.1
2-Chloronaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 100.0	< 0.1
2-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 100.0	< 0.1
2,4-Dinitrotoluene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 100.0	< 0.1
3-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 100.0	< 0.1
4-Nitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 100.0	< 0.1
Dibenzofuran	DETSC 3433	0.1	mg/kg	500	1.0	3300	49
2,6-Dinitrotoluene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 100.0	< 0.1
2,3,4,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 100.0	< 0.1



Summary of Chemical Analysis

Soil VOC/SVOC Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1665134	1665141	1665588	1665610
Sample ID	PRAIRIE_AUK_ TP175	PRAIRIE_AUK_ TP108	PRAIRIE_AUK_ TP114	PRAIRIE_AUK_ TP179
Depth	0.80	2.00	0.90	1.40
Other ID	3	8	6	4
Sample Type	ES	ES	ES	ES
Sampling Date	06/04/2020	06/04/2020	07/04/2020	09/04/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
Diethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 100.0	< 0.1
4-Chlorophenylphenylether	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 100.0	< 0.1
4-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 100.0	< 0.1
2-Methyl-4,6-Dinitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 100.0	< 0.1
Diphenylamine	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 100.0	< 0.1
4-Bromophenylphenylether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 100.0	< 0.1
Hexachlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 100.0	< 0.1
Pentachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 100.0	< 0.1
Di-n-butylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 100.0	< 0.1
Butylbenzylphthalate	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 100.0	< 0.1
Bis(2-ethylhexyl)phthalate	DETSC 3433	0.1	mg/kg	0.3	< 0.1	< 100.0	< 0.1
Di-n-octylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 100.0	< 0.1
1,4-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 100.0	2.6
Dimethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 100.0	< 0.1
1,3-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 100.0	< 0.1
1,2-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 100.0	< 0.1
2,3,5,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 100.0	< 0.1
Azobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 100.0	< 0.1
Carbazole	DETSC 3433*	0.1	mg/kg	32	1.0	2200	0.7



Summary of Chemical Analysis

Soil VOC/SVOC Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1665611	1665612	1665613	1665990
Sample ID	PRAIRIE_AUK_ TP179	PRAIRIE_AUK_ TP181	PRAIRIE_AUK_ TP182	PRAIRIE_AUK_ TP145
Depth	2.00	0.60	0.90	1.60
Other ID	7	3	3	4
Sample Type	ES	ES	ES	ES
Sampling Date	09/04/2020	09/04/2020	09/04/2020	14/04/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
VOCs							
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	2.9	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	0.14	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	5.0	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	0.01	< 0.01	< 0.10	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	2.3	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	17	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	0.01	< 0.01	8.1	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	5.1	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	7.0	< 0.01



Summary of Chemical Analysis

Soil VOC/SVOC Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1665611	1665612	1665613	1665990
Sample ID	PRAIRIE_AUK_ TP179	PRAIRIE_AUK_ TP181	PRAIRIE_AUK_ TP182	PRAIRIE_AUK_ TP145
Depth	2.00	0.60	0.90	1.60
Other ID	7	3	3	4
Sample Type	ES	ES	ES	ES
Sampling Date	09/04/2020	09/04/2020	09/04/2020	14/04/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	2.9	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	0.01	0.01	10	< 0.01
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01
SVOCs							
Phenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
Aniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
2-Chlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
Benzyl Alcohol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
2-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
Bis(2-chloroisopropyl)ether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
3&4-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
2,4-Dimethylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
Bis-(dichloroethoxy)methane	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
2,4-Dichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
1,2,4-Trichlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
4-Chloro-3-methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
2-Methylnaphthalene	DETSC 3433	0.1	mg/kg	0.3	0.5	1300	< 0.1
Hexachlorocyclopentadiene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
2,4,6-Trichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
2,4,5-Trichlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
2-Chloronaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
2-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
2,4-Dinitrotoluene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
3-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
4-Nitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
Dibenzofuran	DETSC 3433	0.1	mg/kg	0.2	0.5	820	< 0.1
2,6-Dinitrotoluene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
2,3,4,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1



Summary of Chemical Analysis

Soil VOC/SVOC Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1665611	1665612	1665613	1665990
Sample ID	PRAIRIE_AUK_ TP179	PRAIRIE_AUK_ TP181	PRAIRIE_AUK_ TP182	PRAIRIE_AUK_ TP145
Depth	2.00	0.60	0.90	1.60
Other ID	7	3	3	4
Sample Type	ES	ES	ES	ES
Sampling Date	09/04/2020	09/04/2020	09/04/2020	14/04/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
Diethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
4-Chlorophenylphenylether	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
4-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
2-Methyl-4,6-Dinitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
Diphenylamine	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
4-Bromophenylphenylether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
Hexachlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
Pentachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
Di-n-butylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
Butylbenzylphthalate	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
Bis(2-ethylhexyl)phthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
Di-n-octylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
1,4-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	72	< 0.1
Dimethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
1,3-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
1,2-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
2,3,5,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
Azobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 0.1
Carbazole	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	38	< 0.1



Summary of Chemical Analysis

Soil VOC/SVOC Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1665995	1666344	1667233	1668123	1668135
Sample ID	PRAIRIE_AUK_TP163	PRAIRIE_AUK_TP136	PRAIRIE_AUK_TP128	PRAIRIE_AUK_TP110	PRAIRIE_AUK_TP170
Depth	1.20	0.80	0.90	1.00	1.00
Other ID	3	3	3	3	4
Sample Type	ES	ES	ES	ES	ES
Sampling Date	14/04/2020	15/04/2020	17/04/2020	21/04/2020	20/04/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units					
VOCs								
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	0.27	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	0.13	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	0.18	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	0.49	< 0.01	< 0.01

Summary of Chemical Analysis

Soil VOC/SVOC Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1665995	1666344	1667233	1668123	1668135
Sample ID	PRAIRIE_AUK_TP163	PRAIRIE_AUK_TP136	PRAIRIE_AUK_TP128	PRAIRIE_AUK_TP110	PRAIRIE_AUK_TP170
Depth	1.20	0.80	0.90	1.00	1.00
Other ID	3	3	3	3	4
Sample Type	ES	ES	ES	ES	ES
Sampling Date	14/04/2020	15/04/2020	17/04/2020	21/04/2020	20/04/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units					
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	0.53	< 0.01	< 0.01
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.10	< 0.01	< 0.01
SVOCs								
Phenol	DETSC 3433	0.1	mg/kg	0.2	< 0.1	< 0.1	< 0.1	< 0.1
Aniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzyl Alcohol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-chloroisopropyl)ether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
3&4-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dimethylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis-(dichloroethoxy)methane	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2,4-Trichlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylnaphthalene	DETSC 3433	0.1	mg/kg	0.2	< 0.1	830	0.2	< 0.1
Hexachlorocyclopentadiene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dinitrotoluene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Nitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenzofuran	DETSC 3433	0.1	mg/kg	140	< 0.1	210	0.9	< 0.1
2,6-Dinitrotoluene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,3,4,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1



Summary of Chemical Analysis Soil VOC/SVOC Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1665995	1666344	1667233	1668123	1668135
Sample ID	PRAIRIE_AUK_TP163	PRAIRIE_AUK_TP136	PRAIRIE_AUK_TP128	PRAIRIE_AUK_TP110	PRAIRIE_AUK_TP170
Depth	1.20	0.80	0.90	1.00	1.00
Other ID	3	3	3	3	4
Sample Type	ES	ES	ES	ES	ES
Sampling Date	14/04/2020	15/04/2020	17/04/2020	21/04/2020	20/04/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units					
Diethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chlorophenylphenylether	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4,6-Dinitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Diphenylamine	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Bromophenylphenylether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Di-n-butylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Butylbenzylphthalate	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-ethylhexyl)phthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	1.0	< 0.1	< 0.1
Di-n-octylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,4-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,3-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,3,5,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Azobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbazole	DETSC 3433*	0.1	mg/kg	0.9	< 0.1	< 0.1	0.5	< 0.1

Summary of Chemical Analysis

Soil VOC/SVOC Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1668566	1668567	1668569	1668869
Sample ID	PRAIRIE_AUK_ TP140	PRAIRIE_AUK_ TP141	PRAIRIE_AUK_ TP142	PRAIRIE_AUK_ TP144
Depth	1.00	2.00	1.50	0.80
Other ID	3	4	4	3
Sample Type	ES	ES	ES	ES
Sampling Date	23/04/2020	23/04/2020	23/04/2020	24/04/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
VOCs							
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	0.02	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01



Summary of Chemical Analysis

Soil VOC/SVOC Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1668566	1668567	1668569	1668869
Sample ID	PRAIRIE_AUK_ TP140	PRAIRIE_AUK_ TP141	PRAIRIE_AUK_ TP142	PRAIRIE_AUK_ TP144
Depth	1.00	2.00	1.50	0.80
Other ID	3	4	4	3
Sample Type	ES	ES	ES	ES
Sampling Date	23/04/2020	23/04/2020	23/04/2020	24/04/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
SVOCs							
Phenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	1.1	< 0.1
Aniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
2-Chlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Benzyl Alcohol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-chloroisopropyl)ether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
3&4-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	0.6	< 0.1
2,4-Dimethylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Bis-(dichloroethoxy)methane	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
1,2,4-Trichlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylnaphthalene	DETSC 3433	0.1	mg/kg	0.1	0.1	< 0.1	0.3
Hexachlorocyclopentadiene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
2-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dinitrotoluene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
3-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4-Nitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibenzofuran	DETSC 3433	0.1	mg/kg	0.2	0.3	< 0.1	0.3
2,6-Dinitrotoluene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
2,3,4,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1



Summary of Chemical Analysis

Soil VOC/SVOC Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1668566	1668567	1668569	1668869
Sample ID	PRAIRIE_AUK_ TP140	PRAIRIE_AUK_ TP141	PRAIRIE_AUK_ TP142	PRAIRIE_AUK_ TP144
Depth	1.00	2.00	1.50	0.80
Other ID	3	4	4	3
Sample Type	ES	ES	ES	ES
Sampling Date	23/04/2020	23/04/2020	23/04/2020	24/04/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
Diethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4-Chlorophenylphenylether	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4,6-Dinitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Diphenylamine	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4-Bromophenylphenylether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Pentachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Di-n-butylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Butylbenzylphthalate	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-ethylhexyl)phthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Di-n-octylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
1,4-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dimethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
1,3-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
1,2-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
2,3,5,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Azobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Carbazole	DETSC 3433*	0.1	mg/kg	0.3	< 0.1	< 0.1	< 0.1



Summary of Chemical Analysis

Soil VOC/SVOC Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1669251	1670142	1670143	1670144
Sample ID	PRAIRIE_AUK_ TP112	PRAIRIE_AUK_ TP194A	PRAIRIE_AUK_ TP196A	PRAIRIE_AUK_ TP201
Depth	2.10	1.40	1.40	3.60
Other ID	7	1	1	1
Sample Type	ES	ES	ES	ES
Sampling Date	22/04/2020	29/04/2020	29/04/2020	28/04/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
VOCs							
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	0.53	< 0.10	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	0.43	< 0.10	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	0.73	< 0.10	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	1.1	0.37	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	0.76	0.33	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	0.01	0.52	0.32	0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	0.20	< 0.10	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	2.0	0.49	< 0.01

Summary of Chemical Analysis

Soil VOC/SVOC Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1669251	1670142	1670143	1670144
Sample ID	PRAIRIE_AUK_ TP112	PRAIRIE_AUK_ TP194A	PRAIRIE_AUK_ TP196A	PRAIRIE_AUK_ TP201
Depth	2.10	1.40	1.40	3.60
Other ID	7	1	1	1
Sample Type	ES	ES	ES	ES
Sampling Date	22/04/2020	29/04/2020	29/04/2020	28/04/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	1.1	0.27	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	2.9	0.62	< 0.01
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	0.27	< 0.10	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	0.53	< 0.10	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.10	< 0.10	< 0.01
SVOCs							
Phenol	DETSC 3433	0.1	mg/kg	< 0.1	1.1	1.1	0.3
Aniline	DETSC 3433*	0.1	mg/kg	< 0.1	0.5	< 0.1	< 0.1
2-Chlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Benzyl Alcohol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	0.5	0.3	< 0.1
Bis(2-chloroisopropyl)ether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
3&4-Methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	0.7	0.5	< 0.1
2,4-Dimethylphenol	DETSC 3433	0.1	mg/kg	< 0.1	0.6	< 0.1	< 0.1
Bis-(dichloroethoxy)methane	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
1,2,4-Trichlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylnaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	660	75	0.6
Hexachlorocyclopentadiene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
2-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dinitrotoluene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
3-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4-Nitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibenzofuran	DETSC 3433	0.1	mg/kg	< 0.1	590	82	1.4
2,6-Dinitrotoluene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
2,3,4,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1

Summary of Chemical Analysis Soil VOC/SVOC Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1669251	1670142	1670143	1670144
Sample ID	PRAIRIE_AUK_ TP112	PRAIRIE_AUK_ TP194A	PRAIRIE_AUK_ TP196A	PRAIRIE_AUK_ TP201
Depth	2.10	1.40	1.40	3.60
Other ID	7	1	1	1
Sample Type	ES	ES	ES	ES
Sampling Date	22/04/2020	29/04/2020	29/04/2020	28/04/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
Diethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4-Chlorophenylphenylether	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4,6-Dinitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Diphenylamine	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4-Bromophenylphenylether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Pentachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Di-n-butylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Butylbenzylphthalate	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-ethylhexyl)phthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Di-n-octylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
1,4-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dimethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
1,3-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
1,2-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
2,3,5,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Azobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Carbazole	DETSC 3433*	0.1	mg/kg	< 0.1	5.1	3.6	0.3

Summary of Chemical Analysis Soil VOC/SVOC Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1670502	1700277
Sample ID	PRAIRIE_AUK_ TP193	PRAIRIE_AUK_ _SW4
Depth	0.80	0.00
Other ID	1	1
Sample Type	ES	ES
Sampling Date	30/04/2020	15/07/2020
Sampling Time	n/s	n/s

Test	Method	LOD	Units		
VOCs					
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	0.13	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	0.15	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	0.13	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	0.33	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	0.21	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	0.20	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	0.37	< 0.01

Summary of Chemical Analysis

Soil VOC/SVOC Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1670502	1700277
Sample ID	PRAIRIE_AUK_ TP193	PRAIRIE_AUK_ _SW4
Depth	0.80	0.00
Other ID	1	1
Sample Type	ES	ES
Sampling Date	30/04/2020	15/07/2020
Sampling Time	n/s	n/s

Test	Method	LOD	Units		
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	0.42	< 0.01
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.10	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.10	< 0.01
SVOCs					
Phenol	DETSC 3433	0.1	mg/kg	1.4	< 0.1
Aniline	DETSC 3433*	0.1	mg/kg	0.2	< 0.1
2-Chlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Benzyl Alcohol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2-Methylphenol	DETSC 3433	0.1	mg/kg	0.8	< 0.1
Bis(2-chloroisopropyl)ether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
3&4-Methylphenol	DETSC 3433	0.1	mg/kg	1.2	< 0.1
2,4-Dimethylphenol	DETSC 3433	0.1	mg/kg	0.5	< 0.1
Bis-(dichloroethoxy)methane	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,4-Dichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
1,2,4-Trichlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
4-Chloro-3-methylphenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2-Methylnaphthalene	DETSC 3433	0.1	mg/kg	120	< 0.1
Hexachlorocyclopentadiene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2,4,6-Trichlorophenol	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,4,5-Trichlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2-Chloronaphthalene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2,4-Dinitrotoluene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
3-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
4-Nitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Dibenzofuran	DETSC 3433	0.1	mg/kg	230	< 0.1
2,6-Dinitrotoluene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
2,3,4,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1

Summary of Chemical Analysis

Soil VOC/SVOC Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1670502	1700277
Sample ID	PRAIRIE_AUK_TP193	PRAIRIE_AUK_SW4
Depth	0.80	0.00
Other ID	1	1
Sample Type	ES	ES
Sampling Date	30/04/2020	15/07/2020
Sampling Time	n/s	n/s

Test	Method	LOD	Units		
Diethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
4-Chlorophenylphenylether	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
4-Nitroaniline	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2-Methyl-4,6-Dinitrophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Diphenylamine	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
4-Bromophenylphenylether	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Hexachlorobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Pentachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Di-n-butylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Butylbenzylphthalate	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Bis(2-ethylhexyl)phthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Di-n-octylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
1,4-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Dimethylphthalate	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
1,3-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
1,2-Dinitrobenzene	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
2,3,5,6-Tetrachlorophenol	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Azobenzene	DETSC 3433	0.1	mg/kg	< 0.1	< 0.1
Carbazole	DETSC 3433*	0.1	mg/kg	3.9	< 0.1



Summary of Chemical Analysis

Water Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1665287	1665289	1665294	1671485	1671486
Sample ID	PRAIRIE_AUK_S W1	PRAIRIE_AUK_ TP115	PRAIRIE_AUK_ TP186	PRAIRIE_AUK_ BH102	PRAIRIE_AUK_ BH103
Depth	0.00	0.50	1.00	1.10-7.20	2.25-8.50
Other ID	1	9	4	100	100
Sample Type	EW	EW	EW	EW	EW
Sampling Date	09/04/2020	08/04/2020	07/04/2020	05/05/2020	05/05/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Metals									
Aluminium, Dissolved	DETSC 2306	10	ug/l				80	37	
Antimony, Dissolved	DETSC 2306	0.17	ug/l				1.3	2.4	
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	2.6	4.3	6.7	0.70	5.3	
Barium, Dissolved	DETSC 2306	0.26	ug/l				1000	45	
Beryllium, Dissolved	DETSC 2306*	0.1	ug/l				< 0.1	< 0.1	
Boron, Dissolved	DETSC 2306*	12	ug/l	370	170	370	13	240	
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	0.14	< 0.03	< 0.03	0.07	
Calcium, Dissolved	DETSC 2306	0.09	mg/l				980	170	
Chromium, Dissolved	DETSC 2306	0.25	ug/l						
Chromium, Total	DETSC 2306*	0.25	ug/l	7.9	110	6.4	< 0.25	0.34	
Chromium, Hexavalent	DETSC 2203	7	ug/l				< 7.0	< 7.0	
Copper, Dissolved	DETSC 2306	0.4	ug/l	4.4	11	3.6	1.8	4.6	
Iron, Dissolved	DETSC 2306	5.5	ug/l				17	170	
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.52	20	2.2	0.49	0.48	
Magnesium, Dissolved	DETSC 2306	0.02	mg/l				0.14	15	
Manganese, Dissolved	DETSC 2306	0.22	ug/l	19	990	400	6.5	390	
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	0.06	< 0.01	0.02	0.11	
Molybdenum, Dissolved	DETSC 2306	1.1	ug/l				11	51	
Nickel, Dissolved	DETSC 2306	0.5	ug/l	1.1	4.7	2.9	7.1	3.6	
Sodium, Dissolved	DETSC 2306	0.07	mg/l				31	51	
Vanadium, Dissolved	DETSC 2306	0.6	ug/l				2.1	17	
Zinc, Dissolved	DETSC 2306	1.3	ug/l	2.2	86	10	8.6	< 1.3	
Inorganics									
pH	DETSC 2008		pH	6.8	10.9	7.2	12.5	9.2	
Cyanide, Total	DETSC 2130	40	ug/l	< 40	71	410	< 40	100	
Cyanide, Free	DETSC 2130	20	ug/l				< 20	86	
Thiocyanate	DETSC 2130	20	ug/l				150	91	
Dissolved Organic Carbon	DETSC 2085	2	mg/l	9.9	10	23	15	7.9	
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	< 0.015	0.54	5.6	1.0	0.46	
Chloride	DETSC 2055	0.1	mg/l				29	36	
Nitrate as N	*	0.1	mg/l				0.29	0.29	
Nitrite as N	DETSC 2201	0.035	mg/l				< 0.035	0.049	
Salinity (Calculated)	DETSC 2017*	0.01	%				3.3	0.5	
Silicate as SiO2	DETSC 2211*	0.1	mg/l				2.0	12	
Sulphate as SO4	DETSC 2055	0.1	mg/l	210	230	510	35	330	
Sulphur (free)	DETSC 3049	84	ug/l				< 84	< 84	



Summary of Chemical Analysis

Water Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1665287	1665289	1665294	1671485	1671486
Sample ID	PRAIRIE_AUK_S W1	PRAIRIE_AUK_ TP115	PRAIRIE_AUK_ TP186	PRAIRIE_AUK_ BH102	PRAIRIE_AUK_ BH103
Depth	0.00	0.50	1.00	1.10-7.20	2.25-8.50
Other ID	1	9	4	100	100
Sample Type	EW	EW	EW	EW	EW
Sampling Date	09/04/2020	08/04/2020	07/04/2020	05/05/2020	05/05/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units	1665287	1665289	1665294	1671485	1671486
Petroleum Hydrocarbons								
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	310	< 0.1	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	54	< 0.1	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	1.1	< 1.0	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	180	< 1.0	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	1200	< 1.0	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	1000	< 1.0	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	2800	< 10	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	280	< 0.1	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	44	< 0.1	< 0.1
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	110	< 1.0	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	1.6	3100	< 1.0	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	29	1200	< 1.0	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	150	240	< 1.0	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	180	5000	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	< 10	180	7800	< 10	< 10
EPH (C10-C40)	DETSC 3311	10	ug/l	220	1900	20000		
PAHs								
Naphthalene	DETSC 3304	0.05	ug/l	0.06	0.18	690	3.7	0.06
Acenaphthylene	DETSC 3304	0.01	ug/l	0.02	0.05	69	0.10	0.23
Acenaphthene	DETSC 3304	0.01	ug/l	0.03	1.3	690	4.4	0.87
Fluorene	DETSC 3304	0.01	ug/l	0.02	0.80	310	1.5	0.22
Phenanthrene	DETSC 3304	0.01	ug/l	0.18	2.8	210	1.8	0.07
Anthracene	DETSC 3304	0.01	ug/l	0.07	0.54	35	0.14	0.09
Fluoranthene	DETSC 3304	0.01	ug/l	0.50	2.3	28	0.24	0.27
Pyrene	DETSC 3304	0.01	ug/l	0.41	1.7	18	0.18	0.25
Benzo(a)anthracene	DETSC 3304	0.01	ug/l	0.19	0.55	3.4	0.03	0.11
Chrysene	DETSC 3304	0.01	ug/l	0.28	0.59	3.7	0.03	0.11
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	0.44	0.83	4.5	0.03	0.24
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	0.15	0.30	1.5	0.01	0.06
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	0.22	0.56	2.4	0.02	0.12
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	0.14	0.38	1.2	0.02	0.21
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	0.05	0.11	< 1.00	< 0.01	0.04
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	0.20	0.52	1.6	0.02	0.20
PAH Total	DETSC 3304	0.2	ug/l	3.0	14	2100	12	3.1
Phenols								
Phenol - Monohydric	DETSC 2130	100	ug/l	< 100	< 100	3400	< 100	< 100



Summary of Chemical Analysis

Water Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1671487	1671488	1671489	1671490	1671899
Sample ID	PRAIRIE_AUK_BH104	PRAIRIE_AUK_BH105	PRAIRIE_AUK_BH107	PRAIRIE_AUK_BH109	PRAIRIE_AUK_BH101
Depth	6.40-18.50	4.60-11.00	3.16-8.00	5.44-11.80	2.00-10.00
Other ID	100	100	100	100	100
Sample Type	EW	EW	EW	EW	EW
Sampling Date	05/05/2020	05/05/2020	05/05/2020	05/05/2020	06/05/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units					
Metals								
Aluminium, Dissolved	DETSC 2306	10	ug/l	39	68	33	260	710
Antimony, Dissolved	DETSC 2306	0.17	ug/l	0.59	0.46	0.53	1.2	0.76
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	1.7	1.9	0.65	5.1	2.4
Barium, Dissolved	DETSC 2306	0.26	ug/l	87	42	66	180	68
Beryllium, Dissolved	DETSC 2306*	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Boron, Dissolved	DETSC 2306*	12	ug/l	410	310	150	86	440
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03	0.08	< 0.03	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	99	220	340	38	270
Chromium, Dissolved	DETSC 2306	0.25	ug/l					
Chromium, Total	DETSC 2306*	0.25	ug/l	2.9	2.6	41	110	9.4
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0	< 7.0	< 7.0	< 7.0	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	0.7	< 0.4	1.7	< 0.4	2.8
Iron, Dissolved	DETSC 2306	5.5	ug/l	30	600	60	160	780
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.18	0.11	0.20	0.15	1.1
Magnesium, Dissolved	DETSC 2306	0.02	mg/l	58	45	88	17	53
Manganese, Dissolved	DETSC 2306	0.22	ug/l	440	810	290	85	720
Mercury, Dissolved	DETSC 2306	0.01	ug/l	0.09	< 0.01	< 0.01	0.33	0.02
Molybdenum, Dissolved	DETSC 2306	1.1	ug/l	13	8.2	2.8	23	30
Nickel, Dissolved	DETSC 2306	0.5	ug/l	3.7	1.9	4.5	1.2	4.1
Sodium, Dissolved	DETSC 2306	0.07	mg/l	110	130	290	99	320
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	0.9	< 0.6	< 0.6	1.2	2.4
Zinc, Dissolved	DETSC 2306	1.3	ug/l	16	< 1.3	3.7	< 1.3	6.7
Inorganics								
pH	DETSC 2008		pH	8.2	7.9	7.6	7.9	7.4
Cyanide, Total	DETSC 2130	40	ug/l	< 40	< 40	< 40	< 40	54
Cyanide, Free	DETSC 2130	20	ug/l	< 20	< 20	< 20	< 20	23
Thiocyanate	DETSC 2130	20	ug/l	< 40	< 40	< 40	130	120
Dissolved Organic Carbon	DETSC 2085	2	mg/l	2.2	12	4.0	12	6.6
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.17	0.030	< 0.015	0.45	0.80
Chloride	DETSC 2055	0.1	mg/l	85	51	130	83	240
Nitrate as N	*	0.1	mg/l	0.32	0.31	0.32	0.26	1.1
Nitrite as N	DETSC 2201	0.035	mg/l	< 0.035	< 0.035	< 0.035	< 0.035	< 0.035
Salinity (Calculated)	DETSC 2017*	0.01	%	0.6	0.8	1.4	0.4	1.4
Silicate as SiO2	DETSC 2211*	0.1	mg/l	7.1	16	10	8.1	10
Sulphate as SO4	DETSC 2055	0.1	mg/l	310	640	840	54	920
Sulphur (free)	DETSC 3049	84	ug/l	< 84	< 84	< 84	460	< 84



Summary of Chemical Analysis

Water Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1671487	1671488	1671489	1671490	1671899
Sample ID	PRAIRIE_AUK_BH104	PRAIRIE_AUK_BH105	PRAIRIE_AUK_BH107	PRAIRIE_AUK_BH109	PRAIRIE_AUK_BH101
Depth	6.40-18.50	4.60-11.00	3.16-8.00	5.44-11.80	2.00-10.00
Other ID	100	100	100	100	100
Sample Type	EW	EW	EW	EW	EW
Sampling Date	05/05/2020	05/05/2020	05/05/2020	05/05/2020	06/05/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units					
Petroleum Hydrocarbons								
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	20	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	160	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	210	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	13	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	330	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	1200	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	230	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	2200	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	130	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	41	< 0.1
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	1200	6.4
Aromatic C12-C16	DETSC 3072*	1	ug/l	14	< 1.0	< 1.0	4600	24
Aromatic C16-C21	DETSC 3072*	1	ug/l	16	< 1.0	< 1.0	1100	8.5
Aromatic C21-C35	DETSC 3072*	1	ug/l	1.3	< 1.0	< 1.0	140	1.1
Aromatic C5-C35	DETSC 3072*	10	ug/l	31	< 10	< 10	7200	40
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	31	< 10	< 10	9400	40
EPH (C10-C40)	DETSC 3311	10	ug/l					
PAHs								
Naphthalene	DETSC 3304	0.05	ug/l	4.3	0.08	< 0.05	4900	1.4
Acenaphthylene	DETSC 3304	0.01	ug/l	1.1	< 0.01	0.02	19	0.08
Acenaphthene	DETSC 3304	0.01	ug/l	22	0.10	0.48	1600	3.5
Fluorene	DETSC 3304	0.01	ug/l	23	0.10	0.01	540	2.0
Phenanthrene	DETSC 3304	0.01	ug/l	44	0.21	0.02	630	2.7
Anthracene	DETSC 3304	0.01	ug/l	6.2	0.03	0.01	55	0.40
Fluoranthene	DETSC 3304	0.01	ug/l	4.5	0.04	0.01	35	0.46
Pyrene	DETSC 3304	0.01	ug/l	2.6	0.03	0.02	21	0.30
Benzo(a)anthracene	DETSC 3304	0.01	ug/l	0.35	< 0.01	< 0.01	6.4	0.07
Chrysene	DETSC 3304	0.01	ug/l	0.61	< 0.01	< 0.01	5.9	0.09
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	0.40	< 0.01	< 0.01	5.8	0.09
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	0.10	< 0.01	< 0.01	2.6	0.02
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	0.22	< 0.01	< 0.01	2.8	0.05
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	0.32	< 0.01	< 0.01	2.6	0.06
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	0.05	< 0.01	< 0.01	< 1.00	0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	0.30	< 0.01	< 0.01	2.6	0.06
PAH Total	DETSC 3304	0.2	ug/l	110	0.65	0.62	7800	11
Phenols								
Phenol - Monohydric	DETSC 2130	100	ug/l	< 100	< 100	< 100	< 100	< 100

Summary of Chemical Analysis

Water Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1671900	1671901	1671902	1671903
Sample ID	PRAIRIE_AUK_BH101	PRAIRIE_AUK_BH106	PRAIRIE_AUK_BH108	PRAIRIE_AUK_BH108
Depth	3.00-16.50	3.94-10.00	2.20-6.00	5.00-14.00
Other ID	100	100	100	100
Sample Type	EW	EW	EW	EW
Sampling Date	06/05/2020	06/05/2020	06/05/2020	06/05/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
Metals							
Aluminium, Dissolved	DETSC 2306	10	ug/l	110	470	140	170
Antimony, Dissolved	DETSC 2306	0.17	ug/l	0.76	1.3	0.28	0.29
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	2.3	3.7	0.40	0.40
Barium, Dissolved	DETSC 2306	0.26	ug/l	69	110	46	46
Beryllium, Dissolved	DETSC 2306*	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Boron, Dissolved	DETSC 2306*	12	ug/l	390	140	230	230
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03	0.03	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	260	140	940	930
Chromium, Dissolved	DETSC 2306	0.25	ug/l				
Chromium, Total	DETSC 2306*	0.25	ug/l	11	57	26	30
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0	< 7.0	< 7.0	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	2.2	2.2	0.9	0.8
Iron, Dissolved	DETSC 2306	5.5	ug/l	380	310	74	73
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.26	1.0	0.18	0.09
Magnesium, Dissolved	DETSC 2306	0.02	mg/l	50	19	93	90
Manganese, Dissolved	DETSC 2306	0.22	ug/l	590	160	620	590
Mercury, Dissolved	DETSC 2306	0.01	ug/l	0.02	0.13	< 0.01	< 0.01
Molybdenum, Dissolved	DETSC 2306	1.1	ug/l	33	16	3.9	3.8
Nickel, Dissolved	DETSC 2306	0.5	ug/l	3.7	2.8	2.3	2.2
Sodium, Dissolved	DETSC 2306	0.07	mg/l	310	61	71	70
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	1.3	11	< 0.6	< 0.6
Zinc, Dissolved	DETSC 2306	1.3	ug/l	3.9	5.5	4.9	5.8
Inorganics							
pH	DETSC 2008		pH	7.5	8.5	7.6	7.5
Cyanide, Total	DETSC 2130	40	ug/l	64	< 40	< 40	< 40
Cyanide, Free	DETSC 2130	20	ug/l	27	< 20	< 20	< 20
Thiocyanate	DETSC 2130	20	ug/l	130	46	< 40	< 40
Dissolved Organic Carbon	DETSC 2085	2	mg/l	6.8	24	< 2.0	< 2.0
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.82	0.98	0.17	0.18
Chloride	DETSC 2055	0.1	mg/l	230	28	41	35
Nitrate as N	*	0.1	mg/l	< 0.10	< 0.10	< 0.10	< 0.10
Nitrite as N	DETSC 2201	0.035	mg/l	< 0.035	< 0.035	< 0.035	< 0.035
Salinity (Calculated)	DETSC 2017*	0.01	%	1.3	0.5	1.3	1.3
Silicate as SiO2	DETSC 2211*	0.1	mg/l	9.6	11	9.1	9.0
Sulphate as SO4	DETSC 2055	0.1	mg/l	820	270	1300	1100
Sulphur (free)	DETSC 3049	84	ug/l	< 84	< 84	< 84	< 84



Summary of Chemical Analysis

Water Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1671900	1671901	1671902	1671903
Sample ID	PRAIRIE_AUK_BH101	PRAIRIE_AUK_BH106	PRAIRIE_AUK_BH108	PRAIRIE_AUK_BH108
Depth	3.00-16.50	3.94-10.00	2.20-6.00	5.00-14.00
Other ID	100	100	100	100
Sample Type	EW	EW	EW	EW
Sampling Date	06/05/2020	06/05/2020	06/05/2020	06/05/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
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 Total C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10
EPH (C10-C40)	DETSC 3311	10	ug/l				
PAHs							
Naphthalene	DETSC 3304	0.05	ug/l	0.53	0.57	0.10	0.10
Acenaphthylene	DETSC 3304	0.01	ug/l	0.03	0.07	< 0.01	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	1.3	1.0	0.28	0.19
Fluorene	DETSC 3304	0.01	ug/l	0.80	0.85	0.21	0.14
Phenanthrene	DETSC 3304	0.01	ug/l	1.0	1.0	0.32	0.20
Anthracene	DETSC 3304	0.01	ug/l	0.14	0.09	0.04	0.03
Fluoranthene	DETSC 3304	0.01	ug/l	0.17	0.13	0.05	0.04
Pyrene	DETSC 3304	0.01	ug/l	0.12	0.09	0.03	0.03
Benzo(a)anthracene	DETSC 3304	0.01	ug/l	0.03	0.02	< 0.01	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	0.02	0.04	< 0.01	0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	0.03	0.04	< 0.01	0.02
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	0.01	0.02	< 0.01	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	0.02	0.02	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	0.03	0.04	< 0.01	0.02
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	0.03	0.05	< 0.01	0.03
PAH Total	DETSC 3304	0.2	ug/l	4.3	4.1	1.1	0.85
Phenols							
Phenol - Monohydric	DETSC 2130	100	ug/l	< 100	< 100	< 100	< 100

Summary of Chemical Analysis

Water Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1671904	1685108	1685109	1688245	1688246
Sample ID	PRAIRIE_AUK_BH110	PRAIRIE_AUK_SW1	PRAIRIE_AUK_SW2	PRAIRIE_AUK_BH101	PRAIRIE_AUK_BH101
Depth	4.00-20.80	0.00	0.00	1.77-10.00	1.78-16.50
Other ID	100	1	1	200	200
Sample Type	EW	EW	EW	EW	EW
Sampling Date	06/05/2020	15/06/2020	15/06/2020	17/06/2020	17/06/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units					
Metals								
Aluminium, Dissolved	DETSC 2306	10	ug/l	52	15	35	23	39
Antimony, Dissolved	DETSC 2306	0.17	ug/l	0.69	0.33	0.42	1.3	1.1
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	1.2	4.4	4.6	5.7	2.9
Barium, Dissolved	DETSC 2306	0.26	ug/l	58	42	41	18	49
Beryllium, Dissolved	DETSC 2306*	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Boron, Dissolved	DETSC 2306*	12	ug/l	520	260	270	380	370
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	790			49	160
Chromium, Dissolved	DETSC 2306	0.25	ug/l					
Chromium, Total	DETSC 2306*	0.25	ug/l	4.5	5.2	2.4	6.1	1.1
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0	< 7.0	< 7.0	< 7.0	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	3.1	2.0	2.0	0.6	0.8
Iron, Dissolved	DETSC 2306	5.5	ug/l	40	10	25	1500	630
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.44	0.13	< 0.09	0.11	0.20
Magnesium, Dissolved	DETSC 2306	0.02	mg/l	84	63	65	7.7	28
Manganese, Dissolved	DETSC 2306	0.22	ug/l	180	70	52	380	470
Mercury, Dissolved	DETSC 2306	0.01	ug/l	0.04	< 0.01	< 0.01	0.02	0.01
Molybdenum, Dissolved	DETSC 2306	1.1	ug/l	17	1.9	2.0	140	67
Nickel, Dissolved	DETSC 2306	0.5	ug/l	2.6	1.9	3.6	12	4.6
Sodium, Dissolved	DETSC 2306	0.07	mg/l	220			190	320
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	0.9	1.5	2.5	1.6	< 0.6
Zinc, Dissolved	DETSC 2306	1.3	ug/l	8.7	4.1	3.6	2.4	4.3
Inorganics								
pH	DETSC 2008		pH	7.6	7.8	8.0	7.6	7.5
Cyanide, Total	DETSC 2130	40	ug/l	< 40	< 40	< 40	3000	1200
Cyanide, Free	DETSC 2130	20	ug/l	< 20	< 20	< 20	73	38
Thiocyanate	DETSC 2130	20	ug/l	94	< 20	< 20	470	270
Dissolved Organic Carbon	DETSC 2085	2	mg/l	< 2.0			15	8.7
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.32	0.11	< 0.015	1.8	1.2
Chloride	DETSC 2055	0.1	mg/l	81			210	260
Nitrate as N	*	0.1	mg/l	< 0.10			0.14	0.11
Nitrite as N	DETSC 2201	0.035	mg/l	< 0.035			< 0.035	< 0.035
Salinity (Calculated)	DETSC 2017*	0.01	%	1.5			1.0	1.4
Silicate as SiO2	DETSC 2211*	0.1	mg/l	9.4	12	12	5.5	7.0
Sulphate as SO4	DETSC 2055	0.1	mg/l	1500	680	760	540	800
Sulphur (free)	DETSC 3049	84	ug/l	< 84	< 84	< 84	< 84	< 84



Summary of Chemical Analysis

Water Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1671904	1685108	1685109	1688245	1688246
Sample ID	PRAIRIE_AUK_BH110	PRAIRIE_AUK_SW1	PRAIRIE_AUK_SW2	PRAIRIE_AUK_BH101	PRAIRIE_AUK_BH101
Depth	4.00-20.80	0.00	0.00	1.77-10.00	1.78-16.50
Other ID	100	1	1	200	200
Sample Type	EW	EW	EW	EW	EW
Sampling Date	06/05/2020	15/06/2020	15/06/2020	17/06/2020	17/06/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units					
Petroleum Hydrocarbons								
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 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
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 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
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 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
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 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
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 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
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 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
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10
EPH (C10-C40)	DETSC 3311	10	ug/l					
PAHs								
Naphthalene	DETSC 3304	0.05	ug/l	0.06	< 0.05	< 0.05	0.09	0.09
Acenaphthylene	DETSC 3304	0.01	ug/l	0.03	< 0.01	0.02	< 0.01	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	0.46	0.02	0.03	0.14	0.03
Fluorene	DETSC 3304	0.01	ug/l	0.27	0.01	< 0.01	0.04	0.01
Phenanthrene	DETSC 3304	0.01	ug/l	0.31	0.04	< 0.01	0.08	0.04
Anthracene	DETSC 3304	0.01	ug/l	0.04	< 0.01	< 0.01	0.04	0.03
Fluoranthene	DETSC 3304	0.01	ug/l	0.06	0.05	0.02	0.06	0.03
Pyrene	DETSC 3304	0.01	ug/l	0.04	0.04	0.02	0.06	0.03
Benzo(a)anthracene	DETSC 3304	0.01	ug/l	0.01	0.01	< 0.01	< 0.01	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01	0.01	< 0.01	0.01	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 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
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01	0.01	< 0.01	< 0.01	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	1.3	0.26	< 0.20	0.55	0.27
Phenols								
Phenol - Monohydric	DETSC 2130	100	ug/l	< 100	< 100	< 100	< 100	< 100

Summary of Chemical Analysis

Water Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1688247	1688248	1688249	1688250	1688251
Sample ID	PRAIRIE_AUK_BH102	PRAIRIE_AUK_BH103	PRAIRIE_AUK_BH104	PRAIRIE_AUK_BH105	PRAIRIE_AUK_BH106
Depth	0.83-7.20	1.71-8.50	4.06-18.50	4.49-11.00	2.73-10.00
Other ID	200	200	200	200	200
Sample Type	EW	EW	EW	EW	EW
Sampling Date	18/06/2020	17/06/2020	17/06/2020	18/06/2020	17/06/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units					
Metals								
Aluminium, Dissolved	DETSC 2306	10	ug/l	23	47	61	360	29
Antimony, Dissolved	DETSC 2306	0.17	ug/l	< 0.17	1.2	0.93	0.22	0.87
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.72	4.7	2.4	2.0	2.9
Barium, Dissolved	DETSC 2306	0.26	ug/l	930	57	35	46	120
Beryllium, Dissolved	DETSC 2306*	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Boron, Dissolved	DETSC 2306*	12	ug/l	18	240	240	210	120
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03	0.04	< 0.03	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	630	220	330	200	200
Chromium, Dissolved	DETSC 2306	0.25	ug/l					
Chromium, Total	DETSC 2306*	0.25	ug/l	14	15	2.0	1.1	11
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0	< 7.0	< 7.0	< 7.0	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	0.5	1.2	4.7	< 0.4	1.3
Iron, Dissolved	DETSC 2306	5.5	ug/l	19	210	48	650	45
Lead, Dissolved	DETSC 2306	0.09	ug/l	1.0	0.52	0.27	0.45	< 0.09
Magnesium, Dissolved	DETSC 2306	0.02	mg/l	0.28	23	44	33	49
Manganese, Dissolved	DETSC 2306	0.22	ug/l	13	520	1200	650	320
Mercury, Dissolved	DETSC 2306	0.01	ug/l	0.01	0.05	< 0.01	< 0.01	0.05
Molybdenum, Dissolved	DETSC 2306	1.1	ug/l	16	29	11	6.0	19
Nickel, Dissolved	DETSC 2306	0.5	ug/l	4.4	2.8	1.8	0.9	1.5
Sodium, Dissolved	DETSC 2306	0.07	mg/l	33	60	48	130	35
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	2.3	21	5.2	0.9	8.0
Zinc, Dissolved	DETSC 2306	1.3	ug/l	2.1	2.1	4.7	1.6	1.5
Inorganics								
pH	DETSC 2008		pH	12.3	8.0	7.6	7.4	7.7
Cyanide, Total	DETSC 2130	40	ug/l	< 40	220	43	< 40	< 40
Cyanide, Free	DETSC 2130	20	ug/l	< 20	24	< 20	< 20	< 20
Thiocyanate	DETSC 2130	20	ug/l	170	< 20	< 20	< 20	< 20
Dissolved Organic Carbon	DETSC 2085	2	mg/l	10	6.9	6.9	4.2	14
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.55	0.37	0.11	0.15	1.2
Chloride	DETSC 2055	0.1	mg/l	84	120	38	100	57
Nitrate as N	*	0.1	mg/l	< 0.10	0.12	3.8	0.14	0.44
Nitrite as N	DETSC 2201	0.035	mg/l	< 0.035	< 0.035	0.24	< 0.035	3.4
Salinity (Calculated)	DETSC 2017*	0.01	%	4.1	0.9	1.1	1.1	0.8
Silicate as SiO2	DETSC 2211*	0.1	mg/l	1.4	9.4	9.2	14	6.1
Sulphate as SO4	DETSC 2055	0.1	mg/l	190	580	1000	640	740
Sulphur (free)	DETSC 3049	84	ug/l	< 84	< 84	< 84	< 84	< 84

Summary of Chemical Analysis

Water Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1688247	1688248	1688249	1688250	1688251
Sample ID	PRAIRIE_AUK_BH102	PRAIRIE_AUK_BH103	PRAIRIE_AUK_BH104	PRAIRIE_AUK_BH105	PRAIRIE_AUK_BH106
Depth	0.83-7.20	1.71-8.50	4.06-18.50	4.49-11.00	2.73-10.00
Other ID	200	200	200	200	200
Sample Type	EW	EW	EW	EW	EW
Sampling Date	18/06/2020	17/06/2020	17/06/2020	18/06/2020	17/06/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units					
Petroleum Hydrocarbons								
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 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
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 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
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 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
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 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
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	2.8	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	4.9	< 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
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10
EPH (C10-C40)	DETSC 3311	10	ug/l					
PAHs								
Naphthalene	DETSC 3304	0.05	ug/l	22	< 0.05	< 0.05	0.05	0.06
Acenaphthylene	DETSC 3304	0.01	ug/l	0.31	0.16	< 0.01	< 0.01	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	17	0.48	< 0.01	0.02	0.03
Fluorene	DETSC 3304	0.01	ug/l	7.5	0.13	< 0.01	< 0.01	0.01
Phenanthrene	DETSC 3304	0.01	ug/l	9.4	0.02	0.01	0.02	0.02
Anthracene	DETSC 3304	0.01	ug/l	0.43	0.05	0.02	0.01	0.02
Fluoranthene	DETSC 3304	0.01	ug/l	0.48	0.11	< 0.01	0.01	0.02
Pyrene	DETSC 3304	0.01	ug/l	0.35	0.10	< 0.01	0.01	0.02
Benzo(a)anthracene	DETSC 3304	0.01	ug/l	0.02	0.03	< 0.01	< 0.01	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	0.03	0.03	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	0.01	0.02	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01	0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 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
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01	0.01	< 0.01	< 0.01	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	57	1.2	< 0.20	< 0.20	< 0.20
Phenols								
Phenol - Monohydric	DETSC 2130	100	ug/l	< 100	< 100	< 100	< 100	< 100

Summary of Chemical Analysis

Water Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1688252	1688253	1688254	1688255	1688256
Sample ID	PRAIRIE_AUK_BH107	PRAIRIE_AUK_BH108	PRAIRIE_AUK_BH108	PRAIRIE_AUK_BH109	PRAIRIE_AUK_BH110
Depth	3.21-8.00	1.14-6.00	4.95-14.00	5.97-11.80	3.84-20.80
Other ID	200	200	200	200	200
Sample Type	EW	EW	EW	EW	EW
Sampling Date	19/06/2020	18/06/2020	18/06/2020	19/06/2020	19/06/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units					
Metals								
Aluminium, Dissolved	DETSC 2306	10	ug/l	18	12	< 10	< 10	11
Antimony, Dissolved	DETSC 2306	0.17	ug/l	0.61	0.19	< 0.17	0.19	1.5
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.53	0.66	0.55	0.33	3.7
Barium, Dissolved	DETSC 2306	0.26	ug/l	0.98	46	32	23	49
Beryllium, Dissolved	DETSC 2306*	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Boron, Dissolved	DETSC 2306*	12	ug/l	150	320	420	30	740
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03	< 0.03	< 0.03	0.31
Calcium, Dissolved	DETSC 2306	0.09	mg/l	0.46	620	650	9.4	480
Chromium, Dissolved	DETSC 2306	0.25	ug/l					
Chromium, Total	DETSC 2306*	0.25	ug/l	0.51	8.7	0.75	2.5	2.5
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0	< 7.0	< 7.0	< 7.0	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	< 0.4	< 0.4	< 0.4	< 0.4	5.4
Iron, Dissolved	DETSC 2306	5.5	ug/l	69	290	240	11	910
Lead, Dissolved	DETSC 2306	0.09	ug/l	< 0.09	0.09	< 0.09	< 0.09	0.18
Magnesium, Dissolved	DETSC 2306	0.02	mg/l	0.23	110	120	45	88
Manganese, Dissolved	DETSC 2306	0.22	ug/l	1.7	1300	910	6.7	770
Mercury, Dissolved	DETSC 2306	0.01	ug/l	0.04	< 0.01	< 0.01	< 0.01	0.02
Molybdenum, Dissolved	DETSC 2306	1.1	ug/l	25	3.5	1.9	1.5	20
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5	3.2	2.3	< 0.5	2.5
Sodium, Dissolved	DETSC 2306	0.07	mg/l	980	110	140	1100	420
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	0.7	< 0.6	< 0.6	< 0.6	1.7
Zinc, Dissolved	DETSC 2306	1.3	ug/l	< 1.3	3.0	3.9	< 1.3	12
Inorganics								
pH	DETSC 2008		pH	7.0	7.3	7.1	7.0	7.6
Cyanide, Total	DETSC 2130	40	ug/l	95	< 40	< 40	< 40	1700
Cyanide, Free	DETSC 2130	20	ug/l	< 20	< 20	< 20	< 20	240
Thiocyanate	DETSC 2130	20	ug/l	< 20	< 20	< 20	57	< 20
Dissolved Organic Carbon	DETSC 2085	2	mg/l	3.8	3.6	< 2.0	6.0	11
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.029	0.046	0.19	0.55	0.26
Chloride	DETSC 2055	0.1	mg/l	130	86	200	2400	780
Nitrate as N	*	0.1	mg/l	0.12	0.11	0.11	0.14	3.5
Nitrite as N	DETSC 2201	0.035	mg/l	< 0.035	< 0.035	< 0.035	< 0.035	0.70
Salinity (Calculated)	DETSC 2017*	0.01	%	1.5	1.6	2.0	3.7	2.6
Silicate as SiO2	DETSC 2211*	0.1	mg/l	11	8.2	9.5	17	12
Sulphate as SO4	DETSC 2055	0.1	mg/l	1000	1800	1800	230	1500
Sulphur (free)	DETSC 3049	84	ug/l	< 84	< 84	< 84	< 84	< 84



Summary of Chemical Analysis

Water Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1688252	1688253	1688254	1688255	1688256
Sample ID	PRAIRIE_AUK_BH107	PRAIRIE_AUK_BH108	PRAIRIE_AUK_BH108	PRAIRIE_AUK_BH109	PRAIRIE_AUK_BH110
Depth	3.21-8.00	1.14-6.00	4.95-14.00	5.97-11.80	3.84-20.80
Other ID	200	200	200	200	200
Sample Type	EW	EW	EW	EW	EW
Sampling Date	19/06/2020	18/06/2020	18/06/2020	19/06/2020	19/06/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units					
Petroleum Hydrocarbons								
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 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
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	1.1	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	1.1	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	4.9	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 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
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	190	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	230	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	6.9	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	1.2	10
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	430	10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	440	10
EPH (C10-C40)	DETSC 3311	10	ug/l					
PAHs								
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05	< 0.05	< 0.05	190	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	6.4	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01	0.01	< 0.01	290	0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	56	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	0.02	0.02	0.01	0.83	0.01
Anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	3.9	0.03
Fluoranthene	DETSC 3304	0.01	ug/l	0.01	0.05	< 0.01	3.0	< 0.01
Pyrene	DETSC 3304	0.01	ug/l	0.02	0.05	< 0.01	1.9	< 0.01
Benzo(a)anthracene	DETSC 3304	0.01	ug/l	< 0.01	0.03	< 0.01	0.36	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01	0.03	< 0.01	0.35	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	0.04	< 0.01	0.32	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	0.02	< 0.01	0.14	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01	0.03	< 0.01	0.25	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01	0.02	< 0.01	0.14	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	0.05	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01	0.02	< 0.01	0.15	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20	0.37	< 0.20	550	< 0.20
Phenols								
Phenol - Monohydric	DETSC 2130	100	ug/l	< 100	< 100	< 100	< 100	< 100



Summary of Chemical Analysis

Water Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1694889	1694890	1694891	1694892	1694893
Sample ID	PRAIRIE_AUK_BH101	PRAIRIE_AUK_BH101	PRAIRIE_AUK_BH102	PRAIRIE_AUK_BH103	PRAIRIE_AUK_BH104
Depth	1.69-10.00	1.64-16.50	0.90-7.20	1.92-8.50	6.21-18.50
Other ID	300	300	300	300	300
Sample Type	EW	EW	EW	EW	EW
Sampling Date	01/07/2020	01/07/2020	02/07/2020	01/07/2020	02/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units					
Metals								
Aluminium, Dissolved	DETSC 2306	10	ug/l					
Antimony, Dissolved	DETSC 2306	0.17	ug/l					
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	6.9	3.1	0.74	1.2	0.81
Barium, Dissolved	DETSC 2306	0.26	ug/l					
Beryllium, Dissolved	DETSC 2306*	0.1	ug/l					
Boron, Dissolved	DETSC 2306*	12	ug/l	570	430	62	310	240
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03	0.12	0.04	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	80	110	210	< 0.09	29
Chromium, Dissolved	DETSC 2306	0.25	ug/l					
Chromium, Total	DETSC 2306*	0.25	ug/l	0.51	0.31	0.97	1.9	0.88
Chromium, Hexavalent	DETSC 2203	7	ug/l					
Copper, Dissolved	DETSC 2306	0.4	ug/l	< 0.4	0.4	1.6	1.8	2.0
Iron, Dissolved	DETSC 2306	5.5	ug/l					
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.21	< 0.09	< 0.09	< 0.09	< 0.09
Magnesium, Dissolved	DETSC 2306	0.02	mg/l					
Manganese, Dissolved	DETSC 2306	0.22	ug/l					
Mercury, Dissolved	DETSC 2306	0.01	ug/l	0.03	0.02	0.17	0.13	0.06
Molybdenum, Dissolved	DETSC 2306	1.1	ug/l					
Nickel, Dissolved	DETSC 2306	0.5	ug/l	4.6	3.3	8.3	0.6	5.2
Sodium, Dissolved	DETSC 2306	0.07	mg/l	210	270	550	530	230
Vanadium, Dissolved	DETSC 2306	0.6	ug/l					
Zinc, Dissolved	DETSC 2306	1.3	ug/l	31	270	2.8	4.9	11
Inorganics								
pH	DETSC 2008		pH	8.4	7.9	12.4	9.2	8.0
Cyanide, Total	DETSC 2130	40	ug/l	1400	1300	< 40	250	< 40
Cyanide, Free	DETSC 2130	20	ug/l	53	50	< 20	< 20	< 20
Thiocyanate	DETSC 2130	20	ug/l	280	340	160	< 20	< 20
Dissolved Organic Carbon	DETSC 2085	2	mg/l	8.9	9.0	13	7.3	5.1
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.95	1.1	0.86	0.35	0.13
Chloride	DETSC 2055	0.1	mg/l	200	210	45	59	67
Nitrate as N	*	0.1	mg/l	< 0.10	< 0.10	< 0.10	< 0.10	1.2
Nitrite as N	DETSC 2201	0.035	mg/l	< 0.035	< 0.035	< 0.035	< 0.035	0.14
Salinity (Calculated)	DETSC 2017*	0.01	%	0.9	1.2	2.9	0.5	1.0
Silicate as SiO2	DETSC 2211*	0.1	mg/l					
Sulphate as SO4	DETSC 2055	0.1	mg/l	430	590	130	310	750
Sulphur (free)	DETSC 3049	84	ug/l	< 84	< 84	< 84	< 84	< 84



Summary of Chemical Analysis

Water Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1694889	1694890	1694891	1694892	1694893
Sample ID	PRAIRIE_AUK_BH101	PRAIRIE_AUK_BH101	PRAIRIE_AUK_BH102	PRAIRIE_AUK_BH103	PRAIRIE_AUK_BH104
Depth	1.69-10.00	1.64-16.50	0.90-7.20	1.92-8.50	6.21-18.50
Other ID	300	300	300	300	300
Sample Type	EW	EW	EW	EW	EW
Sampling Date	01/07/2020	01/07/2020	02/07/2020	01/07/2020	02/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units					
Petroleum Hydrocarbons								
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 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
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	1.2	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	1.7	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	6.8	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	9.6	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	19	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 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
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 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
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 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
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	19	< 10	< 10	< 10	< 10
EPH (C10-C40)	DETSC 3311	10	ug/l					
PAHs								
Naphthalene	DETSC 3304	0.05	ug/l	2.2	0.16	2.3	0.06	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	0.14	0.14	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	1.4	0.11	8.0	0.35	0.01
Fluorene	DETSC 3304	0.01	ug/l	0.05	0.05	3.6	0.12	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	0.09	0.07	4.8	0.08	0.02
Anthracene	DETSC 3304	0.01	ug/l	0.04	0.03	0.39	0.04	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	0.05	0.05	0.42	0.21	0.01
Pyrene	DETSC 3304	0.01	ug/l	0.06	0.05	0.31	0.24	0.02
Benzo(a)anthracene	DETSC 3304	0.01	ug/l	< 0.01	0.02	0.02	0.11	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01	0.02	0.02	0.12	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	0.03	< 0.01	0.15	0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	0.01	< 0.01	0.06	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01	0.02	< 0.01	0.10	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01	0.02	< 0.01	0.08	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	0.02	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01	0.02	< 0.01	0.09	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	3.9	0.66	20	2.0	< 0.20
Phenols								
Phenol - Monohydric	DETSC 2130	100	ug/l	< 100	< 100	< 100	< 100	< 100

Summary of Chemical Analysis

Water Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1694894	1694895	1694896	1694897
Sample ID	PRAIRIE_AUK_BH105	PRAIRIE_AUK_BH106	PRAIRIE_AUK_BH107	PRAIRIE_AUK_BH108
Depth	4.51-11.00	3.28-10.00	3.12-8.00	0.35-6.00
Other ID	300	300	300	300
Sample Type	EW	EW	EW	EW
Sampling Date	02/07/2020	02/07/2020	02/07/2020	02/07/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
Metals							
Aluminium, Dissolved	DETSC 2306	10	ug/l				
Antimony, Dissolved	DETSC 2306	0.17	ug/l				
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	2.1	3.7	0.50	0.71
Barium, Dissolved	DETSC 2306	0.26	ug/l				
Beryllium, Dissolved	DETSC 2306*	0.1	ug/l				
Boron, Dissolved	DETSC 2306*	12	ug/l	290	95	100	270
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03	0.06	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	190	230	260	610
Chromium, Dissolved	DETSC 2306	0.25	ug/l				
Chromium, Total	DETSC 2306*	0.25	ug/l	0.56	1.1	0.43	2.6
Chromium, Hexavalent	DETSC 2203	7	ug/l				
Copper, Dissolved	DETSC 2306	0.4	ug/l	< 0.4	1.3	0.6	0.7
Iron, Dissolved	DETSC 2306	5.5	ug/l				
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.11	0.17	0.10	0.21
Magnesium, Dissolved	DETSC 2306	0.02	mg/l				
Manganese, Dissolved	DETSC 2306	0.22	ug/l				
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	0.13	< 0.01	< 0.01
Molybdenum, Dissolved	DETSC 2306	1.1	ug/l				
Nickel, Dissolved	DETSC 2306	0.5	ug/l	1.5	1.8	3.4	5.3
Sodium, Dissolved	DETSC 2306	0.07	mg/l	170	52	220	160
Vanadium, Dissolved	DETSC 2306	0.6	ug/l				
Zinc, Dissolved	DETSC 2306	1.3	ug/l	31	5.8	24	33
Inorganics							
pH	DETSC 2008		pH	7.7	8.7	7.5	7.6
Cyanide, Total	DETSC 2130	40	ug/l	< 40	< 40	110	< 40
Cyanide, Free	DETSC 2130	20	ug/l	< 20	< 20	< 20	< 20
Thiocyanate	DETSC 2130	20	ug/l	< 20	25	< 20	< 20
Dissolved Organic Carbon	DETSC 2085	2	mg/l	4.1	15	3.4	5.2
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.21	1.4	0.14	0.19
Chloride	DETSC 2055	0.1	mg/l	97	59	89	90
Nitrate as N	*	0.1	mg/l	< 0.10	< 0.10	< 0.10	< 0.10
Nitrite as N	DETSC 2201	0.035	mg/l	< 0.035	< 0.035	< 0.035	< 0.035
Salinity (Calculated)	DETSC 2017*	0.01	%	1.0	0.8	1.3	1.5
Silicate as SiO2	DETSC 2211*	0.1	mg/l				
Sulphate as SO4	DETSC 2055	0.1	mg/l	620	680	770	1300
Sulphur (free)	DETSC 3049	84	ug/l	< 84	< 84	< 84	< 84



Summary of Chemical Analysis

Water Samples

Our Ref Combined 4251 Prairie
 Client Ref 4251
 Contract Title Prairie Site Ground Investigation Works

Lab No	1694894	1694895	1694896	1694897
Sample ID	PRAIRIE_AUK_BH105	PRAIRIE_AUK_BH106	PRAIRIE_AUK_BH107	PRAIRIE_AUK_BH108
Depth	4.51-11.00	3.28-10.00	3.12-8.00	0.35-6.00
Other ID	300	300	300	300
Sample Type	EW	EW	EW	EW
Sampling Date	02/07/2020	02/07/2020	02/07/2020	02/07/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
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	2.9
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	13	27
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	45	31
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	60	62
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 Total C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	60	62
EPH (C10-C40)	DETSC 3311	10	ug/l				
PAHs							
Naphthalene	DETSC 3304	0.05	ug/l	0.06	0.25	< 0.05	0.08
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01	0.05	0.01	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	0.03	0.09	0.02	0.01
Fluorene	DETSC 3304	0.01	ug/l	0.01	0.16	0.02	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	0.03	0.16	0.03	0.01
Anthracene	DETSC 3304	0.01	ug/l	0.01	0.04	< 0.01	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	0.01	0.06	0.02	0.01
Pyrene	DETSC 3304	0.01	ug/l	0.02	0.05	0.03	0.01
Benzo(a)anthracene	DETSC 3304	0.01	ug/l	< 0.01	0.02	0.01	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01	0.02	0.01	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01	0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 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
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01	0.01	< 0.01	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	0.21	0.95	0.24	< 0.20
Phenols							
Phenol - Monohydric	DETSC 2130	100	ug/l	< 100	< 100	< 100	< 100

Summary of Chemical Analysis

Water Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1694898	1694899	1694900	1700278
Sample ID	PRAIRIE_AUK_BH108	PRAIRIE_AUK_BH109	PRAIRIE_AUK_BH110	PRAIRIE_AUK_SW4
Depth	4.81-14.00	6.72-11.80	3.87-20.80	0.00
Other ID	300	300	300	2
Sample Type	EW	EW	EW	EW
Sampling Date	02/07/2020	02/07/2020	02/07/2020	15/07/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
Metals							
Aluminium, Dissolved	DETSC 2306	10	ug/l				5400
Antimony, Dissolved	DETSC 2306	0.17	ug/l				4.4
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.60	6.4	2.7	11
Barium, Dissolved	DETSC 2306	0.26	ug/l				57
Beryllium, Dissolved	DETSC 2306*	0.1	ug/l				< 0.1
Boron, Dissolved	DETSC 2306*	12	ug/l	480	70	800	47
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	0.03	< 0.03	0.23
Calcium, Dissolved	DETSC 2306	0.09	mg/l	640	540	61	
Chromium, Dissolved	DETSC 2306	0.25	ug/l				4.1
Chromium, Total	DETSC 2306*	0.25	ug/l	0.51	1.3	1.4	
Chromium, Hexavalent	DETSC 2203	7	ug/l				460
Copper, Dissolved	DETSC 2306	0.4	ug/l	< 0.4	1.7	0.7	1.1
Iron, Dissolved	DETSC 2306	5.5	ug/l				82
Lead, Dissolved	DETSC 2306	0.09	ug/l	< 0.09	0.33	< 0.09	1.9
Magnesium, Dissolved	DETSC 2306	0.02	mg/l				0.03
Manganese, Dissolved	DETSC 2306	0.22	ug/l				18
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01	0.03	5.5
Molybdenum, Dissolved	DETSC 2306	1.1	ug/l				36
Nickel, Dissolved	DETSC 2306	0.5	ug/l	2.5	28	< 0.5	11
Sodium, Dissolved	DETSC 2306	0.07	mg/l	190	350	950	
Vanadium, Dissolved	DETSC 2306	0.6	ug/l				15
Zinc, Dissolved	DETSC 2306	1.3	ug/l	2.7	19	< 1.3	4.8
Inorganics							
pH	DETSC 2008		pH	7.3	7.0	7.5	11.7
Cyanide, Total	DETSC 2130	40	ug/l	< 40	< 40	1400	59
Cyanide, Free	DETSC 2130	20	ug/l	< 20	< 20	56	< 20
Thiocyanate	DETSC 2130	20	ug/l	< 20	43	< 20	8000
Dissolved Organic Carbon	DETSC 2085	2	mg/l	< 2.0	6.1	11	
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.21	0.45	0.13	< 0.015
Chloride	DETSC 2055	0.1	mg/l	220	860	750	56
Nitrate as N	*	0.1	mg/l	< 0.10	< 0.10	0.89	
Nitrite as N	DETSC 2201	0.035	mg/l	< 0.035	< 0.035	0.17	
Salinity (Calculated)	DETSC 2017*	0.01	%	2.0	2.7	2.7	
Silicate as SiO2	DETSC 2211*	0.1	mg/l				7.6
Sulphate as SO4	DETSC 2055	0.1	mg/l	1800	120	1300	26
Sulphur (free)	DETSC 3049	84	ug/l	< 84	< 84	< 84	< 84



Summary of Chemical Analysis

Water Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1694898	1694899	1694900	1700278
Sample ID	PRAIRIE_AUK_BH108	PRAIRIE_AUK_BH109	PRAIRIE_AUK_BH110	PRAIRIE_AUK_SW4
Depth	4.81-14.00	6.72-11.80	3.87-20.80	0.00
Other ID	300	300	300	2
Sample Type	EW	EW	EW	EW
Sampling Date	02/07/2020	02/07/2020	02/07/2020	15/07/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
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	13	< 1.0	< 1.0	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	8.2	< 1.0	< 1.0	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	23	< 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	62	< 1.0	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	220	< 1.0	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	3.5	< 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	280	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	23	280	< 10	< 10
EPH (C10-C40)	DETSC 3311	10	ug/l				
PAHs							
Naphthalene	DETSC 3304	0.05	ug/l	0.08	0.08	< 0.05	42
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01	13	0.17	0.33
Acenaphthene	DETSC 3304	0.01	ug/l	0.02	170	8.4	1.1
Fluorene	DETSC 3304	0.01	ug/l	0.01	29	0.76	0.84
Phenanthrene	DETSC 3304	0.01	ug/l	0.02	0.06	0.04	4.8
Anthracene	DETSC 3304	0.01	ug/l	< 0.01	1.4	0.04	0.98
Fluoranthene	DETSC 3304	0.01	ug/l	0.01	0.54	0.02	4.6
Pyrene	DETSC 3304	0.01	ug/l	0.02	0.32	0.02	3.7
Benzo(a)anthracene	DETSC 3304	0.01	ug/l	< 0.01	0.05	< 0.01	1.7
Chrysene	DETSC 3304	0.01	ug/l	< 0.01	0.05	< 0.01	2.5
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	0.03	< 0.01	2.2
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	0.01	< 0.01	0.80
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01	0.03	< 0.01	1.6
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01	0.01	< 0.01	1.1
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	0.42
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01	0.02	< 0.01	1.4
PAH Total	DETSC 3304	0.2	ug/l	< 0.20	210	9.5	70
Phenols							
Phenol - Monohydric	DETSC 2130	100	ug/l	< 100	< 100	< 100	170



Summary of Chemical Analysis

Water VOC/SVOC Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1671485	1671486	1671487	1671488	1671489
Sample ID	PRAIRIE_AUK_BH102	PRAIRIE_AUK_BH103	PRAIRIE_AUK_BH104	PRAIRIE_AUK_BH105	PRAIRIE_AUK_BH107
Depth	1.10-7.20	2.25-8.50	6.40-18.50	4.60-11.00	3.16-8.00
Other ID	100	100	100	100	100
Sample Type	EW	EW	EW	EW	EW
Sampling Date	05/05/2020	05/05/2020	05/05/2020	05/05/2020	05/05/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units	1671485	1671486	1671487	1671488	1671489
VOCs								
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27	< 27	< 27	< 27	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
2,2-dichloropropane	DETSC 3432	2	ug/l	< 2	< 2	< 2	< 2	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4	< 4	< 4	< 4	< 4
Chloroform	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Benzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4	< 4	< 4	< 4	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Toluene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2	< 2	< 2	< 2	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Styrene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Bromoform	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1



Summary of Chemical Analysis

Water VOC/SVOC Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1671485	1671486	1671487	1671488	1671489
Sample ID	PRAIRIE_AUK_BH102	PRAIRIE_AUK_BH103	PRAIRIE_AUK_BH104	PRAIRIE_AUK_BH105	PRAIRIE_AUK_BH107
Depth	1.10-7.20	2.25-8.50	6.40-18.50	4.60-11.00	3.16-8.00
Other ID	100	100	100	100	100
Sample Type	EW	EW	EW	EW	EW
Sampling Date	05/05/2020	05/05/2020	05/05/2020	05/05/2020	05/05/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units					
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2	< 2	< 2	< 2	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
MTBE	DETSC 3432*	1	ug/l	< 1	< 1	< 1	< 1	< 1
SVOCs								
Phenol	DETSC 3434*	1	ug/l					
Aniline	DETSC 3434*	1	ug/l					
2-Chlorophenol	DETSC 3434*	1	ug/l					
Benzyl Alcohol	DETSC 3434*	1	ug/l					
2-Methylphenol	DETSC 3434*	1	ug/l					
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l					
3&4-Methylphenol	DETSC 3434*	1	ug/l					
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l					
2,4-Dimethylphenol	DETSC 3434*	1	ug/l					
2,4-Dichlorophenol	DETSC 3434*	1	ug/l					
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l					
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l					
2-Methylnaphthalene	DETSC 3434*	1	ug/l					
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l					
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l					
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l					
2-Chloronaphthalene	DETSC 3434*	1	ug/l					
2-Nitroaniline	DETSC 3434*	1	ug/l					



Summary of Chemical Analysis

Water VOC/SVOC Samples

Our Ref Combined 4251 Prairie
 Client Ref 4251
 Contract Title Prairie Site Ground Investigation Works

Lab No	1671485	1671486	1671487	1671488	1671489
Sample ID	PRAIRIE_AUK_BH102	PRAIRIE_AUK_BH103	PRAIRIE_AUK_BH104	PRAIRIE_AUK_BH105	PRAIRIE_AUK_BH107
Depth	1.10-7.20	2.25-8.50	6.40-18.50	4.60-11.00	3.16-8.00
Other ID	100	100	100	100	100
Sample Type	EW	EW	EW	EW	EW
Sampling Date	05/05/2020	05/05/2020	05/05/2020	05/05/2020	05/05/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units					
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l					
3-Nitroaniline	DETSC 3434*	1	ug/l					
4-Nitrophenol	DETSC 3434*	1	ug/l					
Dibenzofuran	DETSC 3434*	1	ug/l					
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l					
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l					
Diethylphthalate	DETSC 3434*	1	ug/l					
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l					
4-Nitroaniline	DETSC 3434*	1	ug/l					
Diphenylamine	DETSC 3434*	1	ug/l					
4-Bromophenylphenylether	DETSC 3434*	1	ug/l					
Hexachlorobenzene	DETSC 3434*	1	ug/l					
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l					
Pentachlorophenol	DETSC 3434*	1	ug/l					
Di-n-butylphthalate	DETSC 3434*	1	ug/l					
Butylbenzylphthalate	DETSC 3434*	1	ug/l					
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l					
Di-n-octylphthalate	DETSC 3434*	1	ug/l					
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l					
Dimethylphthalate	DETSC 3434*	1	ug/l					
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l					
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l					
Azobenzene	DETSC 3434*	1	ug/l					
Carbazole	DETSC 3434*	1	ug/l					
1-Methylnaphthalene	DETSC 3434*	1	ug/l					



Summary of Chemical Analysis

Water VOC/SVOC Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1671490	1671899	1671900	1671901	1671902
Sample ID	PRAIRIE_AUK_BH109	PRAIRIE_AUK_BH101	PRAIRIE_AUK_BH101	PRAIRIE_AUK_BH106	PRAIRIE_AUK_BH108
Depth	5.44-11.80	2.00-10.00	3.00-16.50	3.94-10.00	2.20-6.00
Other ID	100	100	100	100	100
Sample Type	EW	EW	EW	EW	EW
Sampling Date	05/05/2020	06/05/2020	06/05/2020	06/05/2020	06/05/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units	1671490	1671899	1671900	1671901	1671902
VOCs								
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27	< 27	< 27	< 27	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
2,2-dichloropropane	DETSC 3432	2	ug/l	< 2	< 2	< 2	< 2	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4	< 4	< 4	< 4	< 4
Chloroform	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Benzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	7	< 1	< 1	< 1	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4	< 4	< 4	< 4	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Toluene	DETSC 3432	1	ug/l	48	< 1	< 1	< 1	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Ethylbenzene	DETSC 3432	1	ug/l	11	< 1	< 1	< 1	< 1
m+p-Xylene	DETSC 3432	2	ug/l	77	< 2	< 2	< 2	< 2
o-Xylene	DETSC 3432	1	ug/l	30	< 1	< 1	< 1	< 1
Styrene	DETSC 3432	1	ug/l	4	< 1	< 1	< 1	< 1
Bromoform	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	1	< 1	< 1	< 1	< 1



Summary of Chemical Analysis

Water VOC/SVOC Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1671490	1671899	1671900	1671901	1671902
Sample ID	PRAIRIE_AUK_BH109	PRAIRIE_AUK_BH101	PRAIRIE_AUK_BH101	PRAIRIE_AUK_BH106	PRAIRIE_AUK_BH108
Depth	5.44-11.80	2.00-10.00	3.00-16.50	3.94-10.00	2.20-6.00
Other ID	100	100	100	100	100
Sample Type	EW	EW	EW	EW	EW
Sampling Date	05/05/2020	06/05/2020	06/05/2020	06/05/2020	06/05/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units					
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	2	< 1	< 1	< 1	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	14	< 1	< 1	< 1	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	34	< 1	< 1	< 1	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2	< 2	< 2	< 2	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1	64	< 1	< 1	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
MTBE	DETSC 3432*	1	ug/l	< 1	< 1	< 1	< 1	< 1
SVOCs								
Phenol	DETSC 3434*	1	ug/l					
Aniline	DETSC 3434*	1	ug/l					
2-Chlorophenol	DETSC 3434*	1	ug/l					
Benzyl Alcohol	DETSC 3434*	1	ug/l					
2-Methylphenol	DETSC 3434*	1	ug/l					
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l					
3&4-Methylphenol	DETSC 3434*	1	ug/l					
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l					
2,4-Dimethylphenol	DETSC 3434*	1	ug/l					
2,4-Dichlorophenol	DETSC 3434*	1	ug/l					
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l					
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l					
2-Methylnaphthalene	DETSC 3434*	1	ug/l					
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l					
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l					
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l					
2-Chloronaphthalene	DETSC 3434*	1	ug/l					
2-Nitroaniline	DETSC 3434*	1	ug/l					



Summary of Chemical Analysis

Water VOC/SVOC Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1671490	1671899	1671900	1671901	1671902
Sample ID	PRAIRIE_AUK_BH109	PRAIRIE_AUK_BH101	PRAIRIE_AUK_BH101	PRAIRIE_AUK_BH106	PRAIRIE_AUK_BH108
Depth	5.44-11.80	2.00-10.00	3.00-16.50	3.94-10.00	2.20-6.00
Other ID	100	100	100	100	100
Sample Type	EW	EW	EW	EW	EW
Sampling Date	05/05/2020	06/05/2020	06/05/2020	06/05/2020	06/05/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units					
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l					
3-Nitroaniline	DETSC 3434*	1	ug/l					
4-Nitrophenol	DETSC 3434*	1	ug/l					
Dibenzofuran	DETSC 3434*	1	ug/l					
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l					
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l					
Diethylphthalate	DETSC 3434*	1	ug/l					
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l					
4-Nitroaniline	DETSC 3434*	1	ug/l					
Diphenylamine	DETSC 3434*	1	ug/l					
4-Bromophenylphenylether	DETSC 3434*	1	ug/l					
Hexachlorobenzene	DETSC 3434*	1	ug/l					
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l					
Pentachlorophenol	DETSC 3434*	1	ug/l					
Di-n-butylphthalate	DETSC 3434*	1	ug/l					
Butylbenzylphthalate	DETSC 3434*	1	ug/l					
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l					
Di-n-octylphthalate	DETSC 3434*	1	ug/l					
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l					
Dimethylphthalate	DETSC 3434*	1	ug/l					
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l					
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l					
Azobenzene	DETSC 3434*	1	ug/l					
Carbazole	DETSC 3434*	1	ug/l					
1-Methylnaphthalene	DETSC 3434*	1	ug/l					



Summary of Chemical Analysis

Water VOC/SVOC Samples

Our Ref Combined 4251 Prairie

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Lab No	1671903	1671904	1685108	1685109	1700278
Sample ID	PRAIRIE_AUK_BH108	PRAIRIE_AUK_BH110	PRAIRIE_AUK_SW1	PRAIRIE_AUK_SW2	PRAIRIE_AUK_SW4
Depth	5.00-14.00	4.00-20.80	0.00	0.00	0.00
Other ID	100	100	1	1	2
Sample Type	EW	EW	EW	EW	EW
Sampling Date	06/05/2020	06/05/2020	15/06/2020	15/06/2020	15/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units	1671903	1671904	1685108	1685109	1700278
VOCs								
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27	< 27	< 27	< 27	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
2,2-dichloropropane	DETSC 3432	2	ug/l	< 2	< 2	< 2	< 2	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4	< 4	< 4	< 4	< 4
Chloroform	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Benzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4	< 4	< 4	< 4	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Toluene	DETSC 3432	1	ug/l	< 1	< 1	1	1	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2	< 2	< 2	< 2	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Styrene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Bromoform	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1



Summary of Chemical Analysis

Water VOC/SVOC Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1671903	1671904	1685108	1685109	1700278
Sample ID	PRAIRIE_AUK_BH108	PRAIRIE_AUK_BH110	PRAIRIE_AUK_SW1	PRAIRIE_AUK_SW2	PRAIRIE_AUK_SW4
Depth	5.00-14.00	4.00-20.80	0.00	0.00	0.00
Other ID	100	100	1	1	2
Sample Type	EW	EW	EW	EW	EW
Sampling Date	06/05/2020	06/05/2020	15/06/2020	15/06/2020	15/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units					
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2	< 2	< 2	< 2	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1	< 1
MTBE	DETSC 3432*	1	ug/l	< 1	< 1	< 1	< 1	< 1
SVOCs								
Phenol	DETSC 3434*	1	ug/l		< 1.0	< 1.0	< 10.0	
Aniline	DETSC 3434*	1	ug/l		< 1.0	< 1.0	< 10.0	
2-Chlorophenol	DETSC 3434*	1	ug/l		< 1.0	< 1.0	< 10.0	
Benzyl Alcohol	DETSC 3434*	1	ug/l		< 1.0	< 1.0	< 10.0	
2-Methylphenol	DETSC 3434*	1	ug/l		< 1.0	< 1.0	< 10.0	
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l		< 1.0	< 1.0	< 10.0	
3&4-Methylphenol	DETSC 3434*	1	ug/l		< 1.0	< 1.0	14	
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l		< 1.0	< 1.0	< 10.0	
2,4-Dimethylphenol	DETSC 3434*	1	ug/l		< 1.0	< 1.0	< 10.0	
2,4-Dichlorophenol	DETSC 3434*	1	ug/l		< 1.0	< 1.0	< 10.0	
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l		< 1.0	< 1.0	< 10.0	
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l		< 1.0	< 1.0	< 10.0	
2-Methylnaphthalene	DETSC 3434*	1	ug/l		< 1.0	< 1.0	< 10.0	
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l		< 1.0	< 1.0	< 10.0	
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l		< 1.0	< 1.0	< 10.0	
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l		< 1.0	< 1.0	< 10.0	
2-Chloronaphthalene	DETSC 3434*	1	ug/l		< 1.0	< 1.0	< 10.0	
2-Nitroaniline	DETSC 3434*	1	ug/l		< 1.0	< 1.0	< 10.0	



Summary of Chemical Analysis

Water VOC/SVOC Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1671903	1671904	1685108	1685109	1700278
Sample ID	PRAIRIE_AUK_BH108	PRAIRIE_AUK_BH110	PRAIRIE_AUK_SW1	PRAIRIE_AUK_SW2	PRAIRIE_AUK_SW4
Depth	5.00-14.00	4.00-20.80	0.00	0.00	0.00
Other ID	100	100	1	1	2
Sample Type	EW	EW	EW	EW	EW
Sampling Date	06/05/2020	06/05/2020	15/06/2020	15/06/2020	15/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units					
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l			< 1.0	< 1.0	< 10.0
3-Nitroaniline	DETSC 3434*	1	ug/l			< 1.0	< 1.0	< 10.0
4-Nitrophenol	DETSC 3434*	1	ug/l			< 1.0	< 1.0	< 10.0
Dibenzofuran	DETSC 3434*	1	ug/l			< 1.0	< 1.0	< 10.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l			< 1.0	< 1.0	< 10.0
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l			< 1.0	< 1.0	< 10.0
Diethylphthalate	DETSC 3434*	1	ug/l			< 1.0	< 1.0	< 10.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l			< 1.0	< 1.0	< 10.0
4-Nitroaniline	DETSC 3434*	1	ug/l			< 1.0	< 1.0	< 10.0
Diphenylamine	DETSC 3434*	1	ug/l			< 1.0	< 1.0	< 10.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l			< 1.0	< 1.0	< 10.0
Hexachlorobenzene	DETSC 3434*	1	ug/l			< 1.0	< 1.0	< 10.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l			< 1.0	< 1.0	< 10.0
Pentachlorophenol	DETSC 3434*	1	ug/l			< 1.0	< 1.0	< 10.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l			< 1.0	< 1.0	< 10.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l			< 1.0	< 1.0	< 10.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l			< 1.0	< 1.0	< 10.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l			< 1.0	< 1.0	< 10.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l			< 1.0	< 1.0	< 10.0
Dimethylphthalate	DETSC 3434*	1	ug/l			< 1.0	< 1.0	< 10.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l			< 1.0	< 1.0	< 10.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l			< 1.0	< 1.0	< 10.0
Azobenzene	DETSC 3434*	1	ug/l			< 1.0	< 1.0	< 10.0
Carbazole	DETSC 3434*	1	ug/l			< 1.0	< 1.0	< 10.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l			< 1.0	< 1.0	< 10.0



Summary of Chemical Analysis

Leachate Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1665143	1665582	1665595	1665614
Sample ID	PRAIRIE_AUK_ TP175	PRAIRIE_AUK_ TP108	PRAIRIE_AUK_ TP114	PRAIRIE_AUK_ TP179
Depth	0.80	2.00	0.90	1.40
Other ID	3	8	6	4
Sample Type	ES	ES	ES	ES
Sampling Date	06/04/2020	06/04/2020	07/04/2020	09/04/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
Preparation							
Leachate 2:1 250g Non-WAC	DETSC 1009*			Y	Y	Y	Y
Metals							
Antimony, Dissolved	DETSC 2306	0.17	ug/l	0.32	0.55	2.9	0.18
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.88	2.8	5.7	1.9
Barium, Dissolved	DETSC 2306	0.26	ug/l	7.9	27	2.3	70
Beryllium, Dissolved	DETSC 2306*	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Boron, Dissolved	DETSC 2306*	12	ug/l	47	75	63	91
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	0.03	< 0.03	< 0.03	< 0.03
Chromium, Dissolved	DETSC 2306	0.25	ug/l	0.42	43	< 0.25	< 0.25
Chromium, Total	DETSC 2306*	0.25	ug/l				
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0	< 7.0	< 7.0	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	1.0	2.0	1.2	1.0
Iron, Dissolved	DETSC 2306	5.5	ug/l	21	< 5.5	52	80
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.45	0.09	0.85	< 0.09
Magnesium, Dissolved	DETSC 2306	0.02	mg/l	2.1	0.72	0.34	14
Manganese, Dissolved	DETSC 2306	0.22	ug/l	52	1.8	10	890
Mercury, Dissolved	DETSC 2306	0.01	ug/l	0.02	0.01	< 0.01	< 0.01
Molybdenum, Dissolved	DETSC 2306	1.1	ug/l	2.5	7.3	5.2	2.0
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5	3.9	0.6	2.6
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	0.6	22	21	0.6
Zinc, Dissolved	DETSC 2306	1.3	ug/l	1.6	< 1.3	2.3	5.3
Inorganics							
pH	DETSC 2008		pH	8.2	10.4	8.5	7.1
Cyanide, Total	DETSC 2130	40	ug/l	< 40	< 40	< 40	67
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	1.6	< 0.015	0.029	0.20
Chloride	DETSC 2055	0.1	mg/l	6.5	10	6.5	4.5
Sulphate as SO4	DETSC 2055	0.1	mg/l	11	72	6.7	37



Summary of Chemical Analysis

Leachate Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1665143	1665582	1665595	1665614
Sample ID	PRAIRIE_AUK_ TP175	PRAIRIE_AUK_ TP108	PRAIRIE_AUK_ TP114	PRAIRIE_AUK_ TP179
Depth	0.80	2.00	0.90	1.40
Other ID	3	8	6	4
Sample Type	ES	ES	ES	ES
Sampling Date	06/04/2020	06/04/2020	07/04/2020	09/04/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
Petroleum Hydrocarbons							
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 10.0	< 1.0
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 10.0	< 1.0
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 10.0	< 1.0
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	30	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 10.0	< 1.0
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 10.0	< 1.0
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 10.0	< 1.0
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	10	3000	480
Aromatic C12-C16	DETSC 3072*	1	ug/l	110	260	410	370
Aromatic C16-C21	DETSC 3072*	1	ug/l	22	65	180	18
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	51	13
Aromatic C5-C35	DETSC 3072*	10	ug/l	130	340	3700	880
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	130	340	3700	880
EPH (C10-C40)	DETSC 3311	10	ug/l	9300	66		
PAHs							
Naphthalene	DETSC 3304	0.05	ug/l	890	0.17	10000	2300
Acenaphthylene	DETSC 3304	0.01	ug/l	86	0.11	390	32
Acenaphthene	DETSC 3304	0.01	ug/l	910	0.12	30	490
Fluorene	DETSC 3304	0.01	ug/l	380	0.06	88	78
Phenanthrene	DETSC 3304	0.01	ug/l	360	0.13	200	16
Anthracene	DETSC 3304	0.01	ug/l	57	0.09	32	1.2
Fluoranthene	DETSC 3304	0.01	ug/l	66	0.40	45	1.2
Pyrene	DETSC 3304	0.01	ug/l	41	0.35	34	< 1.00
Benzo(a)anthracene	DETSC 3304	0.01	ug/l	24	0.24	9.6	< 1.00
Chrysene	DETSC 3304	0.01	ug/l	20	0.31	8.8	< 1.00
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	27	0.65	12	< 1.00
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	9.7	0.23	4.6	< 1.00
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	19	0.36	8.6	< 1.00
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	15	0.33	5.7	< 1.00
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	3.0	0.05	< 1.00	< 1.00
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	9.5	0.27	5.6	< 1.00
PAH Total	DETSC 3304	0.2	ug/l	2900	3.9	11000	2900
Phenols							
Phenol - Monohydric	DETSC 2130	100	ug/l	< 100	< 100	2600	< 100



Summary of Chemical Analysis

Leachate Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1665615	1665616	1665617	1665996
Sample ID	PRAIRIE_AUK_ TP179	PRAIRIE_AUK_ TP181	PRAIRIE_AUK_ TP182	PRAIRIE_AUK_ TP145
Depth	2.00	0.60	0.90	1.60
Other ID	7	3	3	4
Sample Type	ES	ES	ES	ES
Sampling Date	09/04/2020	09/04/2020	09/04/2020	14/04/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
Preparation							
Leachate 2:1 250g Non-WAC	DETSC 1009*			Y	Y	Y	Y
Metals							
Antimony, Dissolved	DETSC 2306	0.17	ug/l	< 0.17	0.47	0.33	2.2
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.89	4.2	3.6	3.9
Barium, Dissolved	DETSC 2306	0.26	ug/l	6.0	5.6	6.5	26
Beryllium, Dissolved	DETSC 2306*	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Boron, Dissolved	DETSC 2306*	12	ug/l	100	21	73	170
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03	< 0.03	< 0.03
Chromium, Dissolved	DETSC 2306	0.25	ug/l	0.79	0.93	0.57	1.1
Chromium, Total	DETSC 2306*	0.25	ug/l				
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0	< 7.0	< 7.0	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	2.7	5.6	< 0.4	4.2
Iron, Dissolved	DETSC 2306	5.5	ug/l	1700	94	480	50
Lead, Dissolved	DETSC 2306	0.09	ug/l	1.2	4.2	0.09	0.26
Magnesium, Dissolved	DETSC 2306	0.02	mg/l	1.9	1.7	3.3	4.6
Manganese, Dissolved	DETSC 2306	0.22	ug/l	28	6.2	86	7.6
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01	< 0.01	0.02
Molybdenum, Dissolved	DETSC 2306	1.1	ug/l	1.3	1.2	2.7	7.9
Nickel, Dissolved	DETSC 2306	0.5	ug/l	1.1	0.5	2.5	0.7
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	1.3	2.4	< 0.6	26
Zinc, Dissolved	DETSC 2306	1.3	ug/l	3.3	2.0	< 1.3	< 1.3
Inorganics							
pH	DETSC 2008		pH	7.5	8.3	7.6	8.7
Cyanide, Total	DETSC 2130	40	ug/l	41	46	1100	< 40
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	1.2	0.022	0.071	< 0.015
Chloride	DETSC 2055	0.1	mg/l	2.1	5.7	3.0	3.0
Sulphate as SO4	DETSC 2055	0.1	mg/l	180	27	18	55



Summary of Chemical Analysis

Leachate Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1665615	1665616	1665617	1665996
Sample ID	PRAIRIE_AUK_ TP179	PRAIRIE_AUK_ TP181	PRAIRIE_AUK_ TP182	PRAIRIE_AUK_ TP145
Depth	2.00	0.60	0.90	1.60
Other ID	7	3	3	4
Sample Type	ES	ES	ES	ES
Sampling Date	09/04/2020	09/04/2020	09/04/2020	14/04/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
Petroleum Hydrocarbons							
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 1.0	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 1.0	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	820	< 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	820	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 1.0	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 1.0	< 0.1
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 1.0	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	3400	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	3500	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	610	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	180	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	7700	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	8500	< 10
EPH (C10-C40)	DETSC 3311	10	ug/l				
PAHs							
Naphthalene	DETSC 3304	0.05	ug/l	50	1.7	11000	0.78
Acenaphthylene	DETSC 3304	0.01	ug/l	3.4	9.0	190	0.16
Acenaphthene	DETSC 3304	0.01	ug/l	47	3.3	1100	0.40
Fluorene	DETSC 3304	0.01	ug/l	7.5	1.9	290	0.26
Phenanthrene	DETSC 3304	0.01	ug/l	2.1	4.2	170	0.95
Anthracene	DETSC 3304	0.01	ug/l	0.51	3.3	35	0.31
Fluoranthene	DETSC 3304	0.01	ug/l	0.41	4.3	24	2.2
Pyrene	DETSC 3304	0.01	ug/l	0.25	4.4	14	2.0
Benzo(a)anthracene	DETSC 3304	0.01	ug/l	< 0.10	2.1	2.8	0.94
Chrysene	DETSC 3304	0.01	ug/l	< 0.10	3.9	3.1	1.8
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.10	8.1	2.4	3.7
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.10	2.8	1.1	1.3
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.10	4.4	1.3	2.2
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.10	7.1	< 1.00	2.2
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.10	1.7	< 1.00	0.33
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.10	8.0	< 1.00	2.9
PAH Total	DETSC 3304	0.2	ug/l	110	70	13000	22
Phenols							
Phenol - Monohydric	DETSC 2130	100	ug/l	< 100	< 100	< 100	< 100

Summary of Chemical Analysis

Leachate Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1665997	1666349	1667239	1668136	1668137
Sample ID	PRAIRIE_AUK_TP163	PRAIRIE_AUK_TP136	PRAIRIE_AUK_TP128	PRAIRIE_AUK_TP110	PRAIRIE_AUK_TP170
Depth	1.20	0.80	0.90	1.00	1.00
Other ID	3	3	3	3	4
Sample Type	ES	ES	ES	ES	ES
Sampling Date	14/04/2020	15/04/2020	17/04/2020	20/04/2020	20/04/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units					
Preparation								
Leachate 2:1 250g Non-WAC	DETSC 1009*			Y	Y	Y	Y	Y
Metals								
Antimony, Dissolved	DETSC 2306	0.17	ug/l	0.33	0.25	0.58	0.70	0.80
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	1.6	1.0	5.9	0.47	0.52
Barium, Dissolved	DETSC 2306	0.26	ug/l	32	2.8	61	36	40
Beryllium, Dissolved	DETSC 2306*	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Boron, Dissolved	DETSC 2306*	12	ug/l	50	< 12	76	15	16
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 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
Chromium, Total	DETSC 2306*	0.25	ug/l					
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0	< 7.0	< 7.0	8.1	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	0.6	1.4	5.8	1.0	1.0
Iron, Dissolved	DETSC 2306	5.5	ug/l	860	14	160	28	36
Lead, Dissolved	DETSC 2306	0.09	ug/l	< 0.09	< 0.09	0.57	0.14	0.16
Magnesium, Dissolved	DETSC 2306	0.02	mg/l	4.5	0.21	3.6	1.2	1.4
Manganese, Dissolved	DETSC 2306	0.22	ug/l	400	0.85	98	160	180
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Molybdenum, Dissolved	DETSC 2306	1.1	ug/l	1.5	< 1.1	1.9	< 1.1	< 1.1
Nickel, Dissolved	DETSC 2306	0.5	ug/l	2.1	0.7	2.5	3.7	4.2
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	< 0.6	5.4	2.2	< 0.6	< 0.6
Zinc, Dissolved	DETSC 2306	1.3	ug/l	2.8	< 1.3	7.2	15	15
Inorganics								
pH	DETSC 2008		pH	8.1	10.4	7.3	10.7	8.4
Cyanide, Total	DETSC 2130	40	ug/l	2200	< 40	< 40	< 40	< 40
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	< 0.015	< 0.015	0.36	0.14	0.20
Chloride	DETSC 2055	0.1	mg/l	2.6	1.8	15	4.3	5.8
Sulphate as SO4	DETSC 2055	0.1	mg/l	64	18	1.7	31	33

Summary of Chemical Analysis

Leachate Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1665997	1666349	1667239	1668136	1668137
Sample ID	PRAIRIE_AUK_TP163	PRAIRIE_AUK_TP136	PRAIRIE_AUK_TP128	PRAIRIE_AUK_TP110	PRAIRIE_AUK_TP170
Depth	1.20	0.80	0.90	1.00	1.00
Other ID	3	3	3	3	4
Sample Type	ES	ES	ES	ES	ES
Sampling Date	14/04/2020	15/04/2020	17/04/2020	20/04/2020	20/04/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	13	19	< 0.1	< 0.1	
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	87	260	< 0.1	< 0.1	
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	7.1	< 1.0	4.3	
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	340	1.7	25	
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	54	2.4	29	
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	15	17	
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10	100	680	19	75	
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	6.6	4.5	< 0.1	< 0.1	
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	6.7	15	< 0.1	< 0.1	
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	3100	1.2	1.0	
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	13000	< 1.0	5.7	
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	95	18	18	
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	4.2	81	20	
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	13	16000	100	45	
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	< 10	110	17000	120	120	
EPH (C10-C40)	DETSC 3311	10	ug/l						
PAHs									
Naphthalene	DETSC 3304	0.05	ug/l	3.2	0.07	230	0.32	< 0.05	
Acenaphthylene	DETSC 3304	0.01	ug/l	30	0.14	2.6	0.34	0.03	
Acenaphthene	DETSC 3304	0.01	ug/l	650	0.21	160	0.52	0.02	
Fluorene	DETSC 3304	0.01	ug/l	120	0.09	30	0.19	0.01	
Phenanthrene	DETSC 3304	0.01	ug/l	5.7	0.17	0.75	1.2	0.07	
Anthracene	DETSC 3304	0.01	ug/l	11	0.14	0.20	0.63	0.09	
Fluoranthene	DETSC 3304	0.01	ug/l	11	2.7	0.05	9.9	0.28	
Pyrene	DETSC 3304	0.01	ug/l	6.7	2.6	0.04	9.1	0.26	
Benzo(a)anthracene	DETSC 3304	0.01	ug/l	1.4	1.3	0.02	5.5	0.12	
Chrysene	DETSC 3304	0.01	ug/l	1.5	2.2	0.04	6.7	0.14	
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	1.6	2.8	0.04	13	0.19	
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 1.00	0.99	0.01	4.3	0.07	
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 1.00	1.7	0.02	8.5	0.11	
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 1.00	1.6	0.04	4.0	0.17	
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 1.00	0.32	< 0.01	1.3	0.04	
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 1.00	1.5	0.04	5.0	0.15	
PAH Total	DETSC 3304	0.2	ug/l	840	18	420	71	1.8	
Phenols									
Phenol - Monohydric	DETSC 2130	100	ug/l	< 100	< 100	< 100	< 100	< 100	

Summary of Chemical Analysis

Leachate Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1668573	1668574	1668575	1668870
Sample ID	PRAIRIE_AUK_ TP140	PRAIRIE_AUK_ TP141	PRAIRIE_AUK_ TP142	PRAIRIE_AUK_ TP144
Depth	1.00	2.00	1.50	0.80
Other ID	3	4	4	3
Sample Type	ES	ES	ES	ES
Sampling Date	23/04/2020	23/04/2020	23/04/2020	24/04/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
Preparation							
Leachate 2:1 250g Non-WAC	DETSC 1009*			Y	Y	Y	Y
Metals							
Antimony, Dissolved	DETSC 2306	0.17	ug/l	0.43	14	18	1.8
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	1.7	8.1	41	3.1
Barium, Dissolved	DETSC 2306	0.26	ug/l	11	20	2.9	38
Beryllium, Dissolved	DETSC 2306*	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Boron, Dissolved	DETSC 2306*	12	ug/l	46	180	17	60
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03	0.04	< 0.03
Chromium, Dissolved	DETSC 2306	0.25	ug/l	1.7	< 0.25	0.44	0.91
Chromium, Total	DETSC 2306*	0.25	ug/l				
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0	< 7.0	< 7.0	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	4.2	0.7	30	6.4
Iron, Dissolved	DETSC 2306	5.5	ug/l	31	8.7	240	47
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.41	0.30	16	0.86
Magnesium, Dissolved	DETSC 2306	0.02	mg/l	1.7	3.4	0.15	2.0
Manganese, Dissolved	DETSC 2306	0.22	ug/l	2.4	47	3.1	12
Mercury, Dissolved	DETSC 2306	0.01	ug/l	0.17	0.27	1.2	0.05
Molybdenum, Dissolved	DETSC 2306	1.1	ug/l	6.6	51	77	4.4
Nickel, Dissolved	DETSC 2306	0.5	ug/l	0.5	11	18	1.2
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	15	0.9	1.6	5.4
Zinc, Dissolved	DETSC 2306	1.3	ug/l	2.5	4.3	6.0	3.8
Inorganics							
pH	DETSC 2008		pH	8.4	8.2	10.0	7.2
Cyanide, Total	DETSC 2130	40	ug/l	< 40	< 40	< 40	< 40
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.033	0.91	3.2	0.17
Chloride	DETSC 2055	0.1	mg/l	0.73	1.4	1.5	1.6
Sulphate as SO4	DETSC 2055	0.1	mg/l	29	25	2.2	58

Summary of Chemical Analysis

Leachate Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1668573	1668574	1668575	1668870
Sample ID	PRAIRIE_AUK_ TP140	PRAIRIE_AUK_ TP141	PRAIRIE_AUK_ TP142	PRAIRIE_AUK_ TP144
Depth	1.00	2.00	1.50	0.80
Other ID	3	4	4	3
Sample Type	ES	ES	ES	ES
Sampling Date	23/04/2020	23/04/2020	23/04/2020	24/04/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
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	4.1	1.2	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	9.3	8.3	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	83	130	5.4
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	350	1000	47
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10	440	1200	53
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	1.1	1.4	1.2
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	4.9	12	1.7
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	79	100	14
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	390	670	66
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	480	790	83
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	< 10	920	1900	140
EPH (C10-C40)	DETSC 3311	10	ug/l				
PAHs							
Naphthalene	DETSC 3304	0.05	ug/l	0.30	2.5	0.29	1.9
Acenaphthylene	DETSC 3304	0.01	ug/l	0.23	0.14	< 0.10	2.7
Acenaphthene	DETSC 3304	0.01	ug/l	0.11	0.54	< 0.10	0.93
Fluorene	DETSC 3304	0.01	ug/l	0.11	0.51	0.11	1.1
Phenanthrene	DETSC 3304	0.01	ug/l	1.2	1.4	0.24	16
Anthracene	DETSC 3304	0.01	ug/l	0.38	0.23	< 0.10	3.1
Fluoranthene	DETSC 3304	0.01	ug/l	3.5	1.4	< 0.10	36
Pyrene	DETSC 3304	0.01	ug/l	3.1	1.0	< 0.10	33
Benzo(a)anthracene	DETSC 3304	0.01	ug/l	1.6	0.40	< 0.10	19
Chrysene	DETSC 3304	0.01	ug/l	2.4	0.61	< 0.10	20
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	4.4	0.50	< 0.10	35
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	1.9	0.20	< 0.10	11
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	2.9	0.31	< 0.10	21
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	4.0	0.33	< 0.10	22
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	0.69	< 0.10	< 0.10	10
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	3.8	0.35	< 0.10	20
PAH Total	DETSC 3304	0.2	ug/l	31	10	< 1.60	250
Phenols							
Phenol - Monohydric	DETSC 2130	100	ug/l	< 100	< 100	400	< 100

Summary of Chemical Analysis

Leachate Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1669252	1670145	1675436	1675439
Sample ID	PRAIRIE_AUK_ TP112	PRAIRIE_AUK_ TP201	PRAIRIE_AUK_ TP123	PRAIRIE_AUK_ TP120A
Depth	2.10	3.60	0.60	1.00
Other ID	7	1	3	3
Sample Type	ES	ES	ES	ES
Sampling Date	22/04/2020	28/04/2020	08/04/2020	20/04/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
Preparation							
Leachate 2:1 250g Non-WAC	DETSC 1009*			Y	Y	Y	Y
Metals							
Antimony, Dissolved	DETSC 2306	0.17	ug/l	0.57	0.98	2.8	1.6
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	1.1	2.1	4.7	1.4
Barium, Dissolved	DETSC 2306	0.26	ug/l	17	47	20	32
Beryllium, Dissolved	DETSC 2306*	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Boron, Dissolved	DETSC 2306*	12	ug/l	14	150	51	110
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	0.11	< 0.03	< 0.03
Chromium, Dissolved	DETSC 2306	0.25	ug/l	2.0		1.6	2.0
Chromium, Total	DETSC 2306*	0.25	ug/l		0.32		
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0	< 7.0	< 7.0	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	3.6	3.6	22	3.2
Iron, Dissolved	DETSC 2306	5.5	ug/l	34	< 5.5	31	9.6
Lead, Dissolved	DETSC 2306	0.09	ug/l	1.1	0.20	0.20	< 0.09
Magnesium, Dissolved	DETSC 2306	0.02	mg/l	1.1	24	0.22	0.29
Manganese, Dissolved	DETSC 2306	0.22	ug/l	7.9	30	1.6	0.90
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	0.01	0.02	0.03
Molybdenum, Dissolved	DETSC 2306	1.1	ug/l	2.3	2.1	3.4	1.8
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5	6.3	1.2	< 0.5
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	1.0	0.8	48	78
Zinc, Dissolved	DETSC 2306	1.3	ug/l	2.9	33	< 1.3	< 1.3
Inorganics							
pH	DETSC 2008		pH	10.7	7.7	10.7	10.2
Cyanide, Total	DETSC 2130	40	ug/l	< 40	< 40	44	< 40
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.039	0.097	0.13	0.058
Chloride	DETSC 2055	0.1	mg/l	7.7	4.0	1.9	1.4
Sulphate as SO4	DETSC 2055	0.1	mg/l	33	400	31	37

Summary of Chemical Analysis

Leachate Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1669252	1670145	1675436	1675439
Sample ID	PRAIRIE_AUK_ TP112	PRAIRIE_AUK_ TP201	PRAIRIE_AUK_ TP123	PRAIRIE_AUK_ TP120A
Depth	2.10	3.60	0.60	1.00
Other ID	7	1	3	3
Sample Type	ES	ES	ES	ES
Sampling Date	22/04/2020	28/04/2020	08/04/2020	20/04/2020
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
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 Total C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10
EPH (C10-C40)	DETSC 3311	10	ug/l				
PAHs							
Naphthalene	DETSC 3304	0.05	ug/l	0.25	0.28	0.30	0.63
Acenaphthylene	DETSC 3304	0.01	ug/l	0.23	0.02	0.58	0.43
Acenaphthene	DETSC 3304	0.01	ug/l	0.05	0.12	0.65	0.42
Fluorene	DETSC 3304	0.01	ug/l	0.11	0.03	0.28	0.21
Phenanthrene	DETSC 3304	0.01	ug/l	5.7	0.05	0.49	1.9
Anthracene	DETSC 3304	0.01	ug/l	0.82	0.04	0.21	0.89
Fluoranthene	DETSC 3304	0.01	ug/l	2.5	0.05	0.74	16
Pyrene	DETSC 3304	0.01	ug/l	1.1	0.04	0.50	18
Benzo(a)anthracene	DETSC 3304	0.01	ug/l	0.26	0.02	0.35	9.4
Chrysene	DETSC 3304	0.01	ug/l	0.32	0.02	0.38	12
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	0.30	0.03	0.71	20
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	0.16	< 0.01	0.29	11
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	0.14	0.02	0.44	14
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	0.22	0.02	0.59	16
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	0.04	< 0.01	0.12	3.8
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	0.18	0.02	0.58	16
PAH Total	DETSC 3304	0.2	ug/l	12	0.75	7.2	140
Phenols							
Phenol - Monohydric	DETSC 2130	100	ug/l	< 100	< 100	< 100	< 100

Summary of Chemical Analysis

Leachate Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1675441	1675442	1675443
Sample ID	PRAIRIE_AUK_ TP103	PRAIRIE_AUK_ TP194A	PRAIRIE_AUK_ TP196A
Depth	1.00	1.40	1.40
Other ID	3	1	1
Sample Type	ES	ES	ES
Sampling Date	20/04/2020	29/04/2020	29/04/2020
Sampling Time	n/s	n/s	n/s

Test	Method	LOD	Units			
Preparation						
Leachate 2:1 250g Non-WAC	DETSC 1009*			Y	Y	Y
Metals						
Antimony, Dissolved	DETSC 2306	0.17	ug/l	0.46	0.71	0.66
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	1.5	1.5	0.98
Barium, Dissolved	DETSC 2306	0.26	ug/l	18	26	27
Beryllium, Dissolved	DETSC 2306*	0.1	ug/l	< 0.1	< 0.1	0.3
Boron, Dissolved	DETSC 2306*	12	ug/l	51	150	75
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03	0.10
Chromium, Dissolved	DETSC 2306	0.25	ug/l	0.65	< 0.25	0.93
Chromium, Total	DETSC 2306*	0.25	ug/l			
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0	< 7.0	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	2.8	1.2	2.0
Iron, Dissolved	DETSC 2306	5.5	ug/l	15	150	410
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.14	< 0.09	1.1
Magnesium, Dissolved	DETSC 2306	0.02	mg/l	2.4	5.6	4.8
Manganese, Dissolved	DETSC 2306	0.22	ug/l	7.9	330	580
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01	0.04
Molybdenum, Dissolved	DETSC 2306	1.1	ug/l	1.5	2.7	6.1
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5	2.1	2.6
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	27	1.1	1.4
Zinc, Dissolved	DETSC 2306	1.3	ug/l	10	4.5	1.7
Inorganics						
pH	DETSC 2008		pH	8.6	8.5	6.9
Cyanide, Total	DETSC 2130	40	ug/l	< 40	320	1000
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.16	0.078	0.063
Chloride	DETSC 2055	0.1	mg/l	1.3	2.5	2.2
Sulphate as SO4	DETSC 2055	0.1	mg/l	36	28	44

Summary of Chemical Analysis

Leachate Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1675441	1675442	1675443
Sample ID	PRAIRIE_AUK_ TP103	PRAIRIE_AUK_ TP194A	PRAIRIE_AUK_ TP196A
Depth	1.00	1.40	1.40
Other ID	3	1	1
Sample Type	ES	ES	ES
Sampling Date	20/04/2020	29/04/2020	29/04/2020
Sampling Time	n/s	n/s	n/s

Test	Method	LOD	Units			
Petroleum Hydrocarbons						
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	22	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10	22	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	1.1	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	25	12
Aromatic C16-C21	DETSC 3072*	1	ug/l	1.9	4.1	1.6
Aromatic C21-C35	DETSC 3072*	1	ug/l	6.4	1.0	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	31	15
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	< 10	53	15
EPH (C10-C40)	DETSC 3311	10	ug/l			
PAHs						
Naphthalene	DETSC 3304	0.05	ug/l	4.6	57	34
Acenaphthylene	DETSC 3304	0.01	ug/l	3.2	200	170
Acenaphthene	DETSC 3304	0.01	ug/l	< 1.00	430	760
Fluorene	DETSC 3304	0.01	ug/l	1.1	200	270
Phenanthrene	DETSC 3304	0.01	ug/l	4.4	180	66
Anthracene	DETSC 3304	0.01	ug/l	4.8	53	66
Fluoranthene	DETSC 3304	0.01	ug/l	83	82	92
Pyrene	DETSC 3304	0.01	ug/l	95	48	56
Benzo(a)anthracene	DETSC 3304	0.01	ug/l	70	22	18
Chrysene	DETSC 3304	0.01	ug/l	76	19	18
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	210	24	27
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	57	10	11
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	130	19	18
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	210	15	17
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	28	3.7	4.4
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	400	12	15
PAH Total	DETSC 3304	0.2	ug/l	1400	1400	1700
Phenols						
Phenol - Monohydric	DETSC 2130	100	ug/l	< 100	< 100	< 100

Summary of Asbestos Analysis

Soil Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Sample

Lab No	Sample ID	Location	Material Type	Result	Comment*	Analyst
1663605	PRAIRIE_AUK_TP132 4 1.30	PRAIRIE_AUK_TP 132_SO_0130	SOIL	NAD	none	Joanne Luscombe
1663606	PRAIRIE_AUK_TP131 5 1.80	PRAIRIE_AUK_TP 131_SO_0180	SOIL	NAD	none	Joanne Luscombe
1663734	PRAIRIE_AUK_TP101 5 1.00	PRAIRIE_AUK_TP 101_SO_0100	SOIL	Chrysotile	Chrysotile present as fibre bundles	Joanne Luscombe
1663735	PRAIRIE_AUK_TP101 9 2.20	PRAIRIE_AUK_TP 101_SO_0220	SOIL	NAD	none	Joanne Luscombe
1663736	PRAIRIE_AUK_TP104 5 1.50	PRAIRIE_AUK_TP 104_SO_0150	SOIL	NAD	none	Joanne Luscombe
1663737	PRAIRIE_AUK_TP105 11 2.50	PRAIRIE_AUK_TP 105_SO_0250	SOIL	NAD	none	Joanne Luscombe
1663978	PRAIRIE_AUK_BH104 1 5.50	PRAIRIE_AUK_B H104_SO_0550	SOIL	NAD	none	Joanne Luscombe
1665133	PRAIRIE_AUK_TP172 3 0.80	PRAIRIE_AUK_TP 172_SO_0080	SOIL	Amosite	Amosite present in bundles	Lee Kerridge
1665134	PRAIRIE_AUK_TP175 3 0.80	PRAIRIE_AUK_TP 175_SO_0080	SOIL	NAD	none	Lee Kerridge
1665135	PRAIRIE_AUK_TP175 6 1.80	PRAIRIE_AUK_TP 175_SO_0180	SOIL	NAD	none	Lee Kerridge
1665136	PRAIRIE_AUK_TP178 3 0.80	PRAIRIE_AUK_TP 178_SO_0080	SOIL	NAD	none	Lee Kerridge
1665137	PRAIRIE_AUK_BH106 1 5.50	PRAIRIE_AUK_B H106_SO_0550	SOIL	NAD	none	Lee Kerridge
1665138	PRAIRIE_AUK_TP107 6 1.80	PRAIRIE_AUK_TP 107_SO_0180	SOIL	NAD	none	Lee Kerridge
1665139	PRAIRIE_AUK_TP107 11 0.80	PRAIRIE_AUK_TP 107_SO_0080	SOIL	NAD	none	Lee Kerridge
1665140	PRAIRIE_AUK_TP108 5 1.00	PRAIRIE_AUK_TP 108_SO_0100	SOIL	Amosite	Amosite present in bundles	Lee Kerridge
1665141	PRAIRIE_AUK_TP108 8 2.00	PRAIRIE_AUK_TP 108_SO_0200	SOIL	Amosite	Amosite present in bundles	Lee Kerridge
1665142	PRAIRIE_AUK_TP113 5 1.30	PRAIRIE_AUK_TP 113_SO_0130	SOIL	Chrysotile	Chrysotile present in bundles	Lee Kerridge
1665286	PRAIRIE_AUK_BH103 1 2.50	PRAIRIE_AUK_B H103_SO_0250	SOIL	NAD	none	Lee Kerridge
1665288	PRAIRIE_AUK_TP115 6 1.90	PRAIRIE_AUK_TP 115_SO_0190	SOIL	NAD	none	Lee Kerridge
1665290	PRAIRIE_AUK_TP122 3 1.00	PRAIRIE_AUK_TP 122_SO_0100	SOIL	Chrysotile	Chrysotile present in microscopic cement fragments	Lee Kerridge
1665291	PRAIRIE_AUK_TP123 3 0.60	PRAIRIE_AUK_TP 123_SO_0060	SOIL	NAD	none	Lee Kerridge
1665292	PRAIRIE_AUK_TP185 5 4.30	PRAIRIE_AUK_TP 185_SO_0430	SOIL	NAD	none	Lee Kerridge
1665293	PRAIRIE_AUK_TP186 3 0.50	PRAIRIE_AUK_TP 186_SO_0050	SOIL	NAD	none	Lee Kerridge
1665295	PRAIRIE_AUK_TP188 3 1.00	PRAIRIE_AUK_TP 188_SO_0100	SOIL	NAD	none	Lee Kerridge
1665450	PRAIRIE_AUK_TP121 4 1.50	PRAIRIE_AUK_TP 121_SO_0150	SOIL	NAD	none	D Wilkinson
1665451	PRAIRIE_AUK_TP138 3 1.20	PRAIRIE_AUK_TP 138_SO_0120	SOIL	Chrysotile	Chrysotile present in microscopic loose fibrous asbestos debris	D Wilkinson
1665452	PRAIRIE_AUK_TP149 3 1.30	PRAIRIE_AUK_TP 149_SO_0130	SOIL	Chrysotile	Chrysotile present as fibre bundles	D Wilkinson

Summary of Asbestos Analysis

Soil Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	Sample ID	Location	Material Type	Result	Comment*	Analyst
1665453	PRAIRIE_AUK_TP168 1 0.05	PRAIRIE_AUK_TP 168_SO_0005	SOIL	Chrysotile	Chrysotile present as fibre bundles	D Wilkinson
1665454	PRAIRIE_AUK_TP173 3 0.90	PRAIRIE_AUK_TP 173_SO_0090	SOIL	Chrysotile	Chrysotile present as fibre bundles	D Wilkinson
1665455	PRAIRIE_AUK_SURFACE1 1 0.00	PRAIRIE_AUK_S URFACE1_SO_00 00	SOIL	NAD	none	D Wilkinson
1665588	PRAIRIE_AUK_TP114 6 0.90	PRAIRIE_AUK_TP 114_SO_0090	SOIL	NAD	none	Lee Kerridge
1665589	PRAIRIE_AUK_TP124 5 1.50	PRAIRIE_AUK_TP 124_SO_0150	SOIL	Chrysotile	Chrysotile present in bundles	Lee Kerridge
1665590	PRAIRIE_AUK_TP174 3 0.80	PRAIRIE_AUK_TP 174_SO_0080	SOIL	NAD	none	Lee Kerridge
1665591	PRAIRIE_AUK_TP174 6 1.60	PRAIRIE_AUK_TP 174_SO_0160	SOIL	NAD	none	Lee Kerridge
1665592	PRAIRIE_AUK_TP176 3 0.90	PRAIRIE_AUK_TP 176_SO_0090	SOIL	NAD	none	Lee Kerridge
1665593	PRAIRIE_AUK_TP177 2 0.60	PRAIRIE_AUK_TP 177_SO_0060	SOIL	NAD	none	Lee Kerridge
1665594	PRAIRIE_AUK_TP189 7 3.00	PRAIRIE_AUK_TP 189_SO_0300	SOIL	NAD	none	Lee Kerridge
1665610	PRAIRIE_AUK_TP179 4 1.40	PRAIRIE_AUK_TP 179_SO_0140	SOIL	U/S	U/S	U/S
1665611	PRAIRIE_AUK_TP179 7 2.00	PRAIRIE_AUK_TP 179_SO_0200	SOIL	NAD	none	D Wilkinson
1665612	PRAIRIE_AUK_TP181 3 0.60	PRAIRIE_AUK_TP 181_SO_0060	SOIL	NAD	none	D Wilkinson
1665613	PRAIRIE_AUK_TP182 3 0.90	PRAIRIE_AUK_TP 182_SO_0090	SOIL	U/S	U/S	U/S
1665990	PRAIRIE_AUK_TP145 4 1.60	PRAIRIE_AUK_TP 145_SO_0160	SOIL	NAD	none	Joanne Luscombe
1665991	PRAIRIE_AUK_TP146C 5 1.30	PRAIRIE_AUK_TP 146C_SO_0130	SOIL	NAD	none	Joanne Luscombe
1665992	PRAIRIE_AUK_TP156A 2 0.30	PRAIRIE_AUK_TP 156A_SO_0030	SOIL	Chrysotile	Bundles of Chrysotile fibres	Joanne Luscombe
1665993	PRAIRIE_AUK_TP162 3A 1.70	PRAIRIE_AUK_TP 162_SO_0170	SOIL	NAD	none	Joanne Luscombe
1665994	PRAIRIE_AUK_TP180 3 0.30	PRAIRIE_AUK_TP 180_SO_0030	SOIL	NAD	none	Joanne Luscombe
1665995	PRAIRIE_AUK_TP163 3 1.20	PRAIRIE_AUK_TP 163_SO_0120	SOIL	Chrysotile	Bundles of Chrysotile fibres	Joanne Luscombe
1666343	PRAIRIE_AUK_TP135 5 1.30	PRAIRIE_AUK_TP 135_SO_0130	SOIL	Chrysotile Amosite	Amosite and Chrysotile present in Loose Fibrous Asbestos Debris	Lee Kerridge
1666344	PRAIRIE_AUK_TP136 3 0.80	PRAIRIE_AUK_TP 136_SO_0080	SOIL	NAD	none	Lee Kerridge
1666345	PRAIRIE_AUK_TP136 10 2.90	PRAIRIE_AUK_TP 136_SO_0290	SOIL	NAD	none	Lee Kerridge
1666346	PRAIRIE_AUK_TP165 3 1.00	PRAIRIE_AUK_TP 165_SO_0100	SOIL	NAD	none	Lee Kerridge
1666347	PRAIRIE_AUK_TP167 6 2.50	PRAIRIE_AUK_TP 167_SO_0250	SOIL	NAD	none	Lee Kerridge
1666348	PRAIRIE_AUK_TP169 3 1.50	PRAIRIE_AUK_TP 169_SO_0150	SOIL	Chrysotile	Chrysotile present in bundles	Lee Kerridge
1666610	PRAIRIE_AUK_BH108 1 2.50	PRAIRIE_AUK_B H108_SO_0250	SOIL	NAD	none	Lee Kerridge

Summary of Asbestos Analysis Soil Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	Sample ID	Location	Material Type	Result	Comment*	Analyst
1666611	PRAIRIE_AUK_TP139B 3 0.30	PRAIRIE_AUK_TP 139B_SO_0030	SOIL	Chrysotile	Chrysotile present in bundles	Lee Kerridge
1666612	PRAIRIE_AUK_TP139B 6 3.30	PRAIRIE_AUK_TP 139B_SO_0330	SOIL	NAD	none	Lee Kerridge
1666613	PRAIRIE_AUK_TP148A 5 1.40	PRAIRIE_AUK_TP 148A_SO_0140	SOIL	NAD	none	Lee Kerridge
1666614	PRAIRIE_AUK_TP150 3 1.50	PRAIRIE_AUK_TP 150_SO_0150	SOIL	Amosite Chrysotile	Amosite and Chrysotile present in Loose Fibrous Asbestos Debris	Lee Kerridge
1666615	PRAIRIE_AUK_TP159 3 0.60	PRAIRIE_AUK_TP 159_SO_0060	SOIL	Amosite Chrysotile	Amosite and Chrysotile present in Loose Fibrous Asbestos Debris	Lee Kerridge
1666616	PRAIRIE_AUK_TP190A 3 1.10	PRAIRIE_AUK_TP 190A_SO_0110	SOIL	Amosite Chrysotile	Amosite and Chrysotile present in Loose Fibrous Asbestos Debris	Lee Kerridge
1667231	PRAIRIE_AUK_BH105 1 3.00	PRAIRIE_AUK_B H105_SO_0300	SOIL	NAD	none	Joanne Luscombe
1667232	PRAIRIE_AUK_TP126 5 2.60	PRAIRIE_AUK_TP 126_SO_0260	SOIL	NAD	none	Joanne Luscombe
1667233	PRAIRIE_AUK_TP128 3 0.90	PRAIRIE_AUK_TP 128_SO_0090	SOIL	Chrysotile	small bundles of Chrysotile present	Joanne Luscombe
1667234	PRAIRIE_AUK_TP129 4A 2.10	PRAIRIE_AUK_TP 129_SO_0210	SOIL	NAD	none	Joanne Luscombe
1667235	PRAIRIE_AUK_TP130 4A 1.00	PRAIRIE_AUK_TP 130_SO_0100	SOIL	NAD	none	Joanne Luscombe
1667236	PRAIRIE_AUK_TP147 4 1.50	PRAIRIE_AUK_TP 147_SO_0150	SOIL	Amosite	Amosite present as fibre bundles	Joanne Luscombe
1667237	PRAIRIE_AUK_TP158 3 1.30	PRAIRIE_AUK_TP 158_SO_0130	SOIL	NAD	none	Joanne Luscombe
1667238	PRAIRIE_AUK_TP157 2 0.80	PRAIRIE_AUK_TP 157_SO_0080	SOIL	Amosite	Amosite present as fibre bundles	Joanne Luscombe
1667501	PRAIRIE_AUK_TP120A 3 1.00	PRAIRIE_AUK_TP 120A_SO_0100	SOIL	Chrysotile	Chrysotile bundles present	Lee Kerridge
1667502	PRAIRIE_AUK_TP134 3 1.00	PRAIRIE_AUK_TP 134_SO_0100	SOIL	NAD	none	Lee Kerridge
1667503	PRAIRIE_AUK_TP134 6 2.00	PRAIRIE_AUK_TP 134_SO_0200	SOIL	NAD	none	Lee Kerridge
1667504	PRAIRIE_AUK_TP161 3 1.00	PRAIRIE_AUK_TP 161_SO_0100	SOIL	NAD	none	Lee Kerridge
1667505	PRAIRIE_AUK_TP166 3 0.45	PRAIRIE_AUK_TP 166_SO_0045	SOIL	Amosite	Amosite present in bundles	Lee Kerridge
1667506	PRAIRIE_AUK_TP166 8 1.20	PRAIRIE_AUK_TP 166_SO_0120	SOIL	NAD	none	Lee Kerridge
1667507	PRAIRIE_AUK_TP171 3 0.75	PRAIRIE_AUK_TP 171_SO_0075	SOIL	NAD	none	Lee Kerridge
1667508	PRAIRIE_AUK_TP187 3 0.70	PRAIRIE_AUK_TP 187_SO_0070	SOIL	NAD	none	Lee Kerridge
1668118	PRAIRIE_AUK_BH110 1 3.00	PRAIRIE_AUK_B H110_SO_0300	SOIL	NAD	none	Lee Kerridge
1668119	PRAIRIE_AUK_TP102 4 1.00	PRAIRIE_AUK_TP 102_SO_0100	SOIL	NAD	none	Lee Kerridge
1668120	PRAIRIE_AUK_TP102 11 3.00	PRAIRIE_AUK_TP 102_SO_0300	SOIL	Chrysotile	Chrysotile present in bundles	Lee Kerridge
1668121	PRAIRIE_AUK_TP103 3 1.00	PRAIRIE_AUK_TP 103_SO_0100	SOIL	NAD	none	Lee Kerridge

Summary of Asbestos Analysis

Soil Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	Sample ID	Location	Material Type	Result	Comment*	Analyst
1668122	PRAIRIE_AUK_TP109 3 1.00	PRAIRIE_AUK_TP 109_SO_0100	SOIL	NAD	none	Lee Kerridge
1668123	PRAIRIE_AUK_TP110 3 1.00	PRAIRIE_AUK_TP 110_SO_0100	SOIL	NAD	none	Lee Kerridge
1668124	PRAIRIE_AUK_TP110 7 2.00	PRAIRIE_AUK_TP 110_SO_0200	SOIL	NAD	none	Lee Kerridge
1668125	PRAIRIE_AUK_TP111 4 1.50	PRAIRIE_AUK_TP 111_SO_0150	SOIL	Chrysotile Amosite	Amosite and Chrysotile present in Loose Fibrous Asbestos Debris	Lee Kerridge
1668126	PRAIRIE_AUK_TP112 4 1.50	PRAIRIE_AUK_TP 112_SO_0150	SOIL	NAD	none	Lee Kerridge
1668127	PRAIRIE_AUK_TP119 3 1.50	PRAIRIE_AUK_TP 119_SO_0150	SOIL	NAD	none	Lee Kerridge
1668128	PRAIRIE_AUK_TP119 7 2.50	PRAIRIE_AUK_TP 119_SO_0250	SOIL	NAD	none	Lee Kerridge
1668129	PRAIRIE_AUK_TP133 2 0.50	PRAIRIE_AUK_TP 133_SO_0050	SOIL	NAD	none	Lee Kerridge
1668130	PRAIRIE_AUK_TP152 6 2.00	PRAIRIE_AUK_TP 152_SO_0200	SOIL	Chrysotile	Chrysotile present in bundles	Lee Kerridge
1668131	PRAIRIE_AUK_TP153 4 1.10	PRAIRIE_AUK_TP 153_SO_0110	SOIL	NAD	none	Lee Kerridge
1668132	PRAIRIE_AUK_TP154 3 0.85	PRAIRIE_AUK_TP 154_SO_0085	SOIL	NAD	none	Lee Kerridge
1668133	PRAIRIE_AUK_TP155 3 0.70	PRAIRIE_AUK_TP 155_SO_0070	SOIL	NAD	none	Lee Kerridge
1668134	PRAIRIE_AUK_TP160 4 0.75	PRAIRIE_AUK_TP 160_SO_0075	SOIL	NAD	none	Lee Kerridge
1668135	PRAIRIE_AUK_TP170 4 1.00	PRAIRIE_AUK_TP 170_SO_0100	SOIL	NAD	none	Lee Kerridge
1668557	PRAIRIE_AUK_TP164 3 0.70	PRAIRIE_AUK_TP 164_SO_0070	SOIL	NAD	none	Lee Kerridge
1668558	PRAIRIE_AUK_TP164 5 1.30	PRAIRIE_AUK_TP 164_SO_0130	SOIL	NAD	none	Lee Kerridge
1668559	PRAIRIE_AUK_TP184 2 0.30	PRAIRIE_AUK_TP 184_SO_0030	SOIL	Amosite	Amosite present in bundles	Lee Kerridge
1668560	PRAIRIE_AUK_TP106 3 1.00	PRAIRIE_AUK_TP 106_SO_0100	SOIL	NAD	none	Keith Wilson
1668561	PRAIRIE_AUK_TP116 3 1.30	PRAIRIE_AUK_TP 116_SO_0130	SOIL	Chrysotile	Bundle of Chrysotile fibres	Keith Wilson
1668562	PRAIRIE_AUK_TP117 8 3.00	PRAIRIE_AUK_TP 117_SO_0300	SOIL	Chrysotile	Bundle of Chrysotile fibres	Keith Wilson
1668563	PRAIRIE_AUK_TP118 3 1.20	PRAIRIE_AUK_TP 118_SO_0120	SOIL	NAD	none	Keith Wilson
1668564	PRAIRIE_AUK_TP127 3 0.30	PRAIRIE_AUK_TP 127_SO_0030	SOIL	NAD	none	Keith Wilson
1668565	PRAIRIE_AUK_TP127A 3 2.80	PRAIRIE_AUK_TP 127A_SO_0280	SOIL	NAD	none	Keith Wilson
1668566	PRAIRIE_AUK_TP140 3 1.00	PRAIRIE_AUK_TP 140_SO_0100	SOIL	NAD	none	Keith Wilson
1668567	PRAIRIE_AUK_TP141 4 2.00	PRAIRIE_AUK_TP 141_SO_0200	SOIL	U/S	U/S	U/S
1668568	PRAIRIE_AUK_TP142 3 0.90	PRAIRIE_AUK_TP 142_SO_0090	SOIL	U/S	U/S	U/S
1668569	PRAIRIE_AUK_TP142 4 1.50	PRAIRIE_AUK_TP 142_SO_0150	SOIL	U/S	U/S	U/S

Summary of Asbestos Analysis

Soil Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	Sample ID	Sample		Material Type	Result	Comment*	Analyst
		Location					
1668570	PRAIRIE_AUK_TP143 3 0.80	PRAIRIE_AUK_TP 143_SO_0080		SOIL	NAD	none	Keith Wilson
1668571	PRAIRIE_AUK_TP143 6 1.60	PRAIRIE_AUK_TP 143_SO_0160		SOIL	NAD	none	Keith Wilson
1668572	PRAIRIE_AUK_TP151 5 1.20	PRAIRIE_AUK_TP 151_SO_0120		SOIL	NAD	none	Keith Wilson
1668657	PRAIRIE_AUK_TP139 4 1.10	PRAIRIE_AUK_TP 139_SO_0110		SOIL	NAD	none	Keith Wilson
1668869	PRAIRIE_AUK_TP144 3 0.80	PRAIRIE_AUK_TP 144_SO_0080		SOIL	Chrysotile	Bundles of Chrysotile fibres	Keith Wilson
1669251	PRAIRIE_AUK_TP112 7 2.10	PRAIRIE_AUK_TP 112_SO_0210		SOIL	NAD	none	Lee Kerridge
1670142	PRAIRIE_AUK_TP194A 1 1.40	PRAIRIE_AUK_TP 194A_SO_0140		SOIL	NAD	none	Keith Wilson
1670143	PRAIRIE_AUK_TP196A 1 1.40	PRAIRIE_AUK_TP 196A_SO_0140		SOIL	NAD	none	Keith Wilson
1670144	PRAIRIE_AUK_TP201 1 3.60	PRAIRIE_AUK_TP 201_SO_0360		SOIL	NAD	none	Joanne Luscombe
1670502	PRAIRIE_AUK_TP193 1 0.80	PRAIRIE_AUK_TP 193_SO_0080		SOIL	NAD	none	Keith Wilson
1675450	PRAIRIE_AUK_BH101 1 3.00	PRAIRIE_AUK_B H101_SO_0300		SOIL	NAD	none	Keith Wilson
1675451	PRAIRIE_AUK_BH107 1 3.00	PRAIRIE_AUK_B H107_SO_0300		SOIL	NAD	none	Keith Wilson
1700277	PRAIRIE_AUK_SW4 1 0.00	PRAIRIE_AUK_S W4_SO_0000		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 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 Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1663734	1665133	1665140	1665141
Sample ID	PRAIRIE_AUK _TP101	PRAIRIE_AUK _TP172	PRAIRIE_AUK _TP108	PRAIRIE_AUK _TP108
Depth	1.00	0.80	1.00	2.00
Other ID	5	3	5	8
Sample Type	SOIL	SOIL	SOIL	SOIL
Sampling Date	01/04/2020	06/04/2020	06/04/2020	06/04/2020
Sampling Time				

Test	Method	Units				
Total Mass% Asbestos (a+b+c)	DETSC 1102	Mass %	0.001	0.001	0.001	0.002
Gravimetric Quantification (a)	DETSC 1102	Mass %	na	na	na	na
Detailed Gravimetric Quantification (b)	DETSC 1102	Mass %	0.001	0.001	0.001	0.002
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	853.49	782.89	1098.85	761.41
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	0.001	0.001	0.002
% Chrysotile bundles in sample		Mass %	0.001	na	na	na
Breakdown of PCOM Analysis (c)						
% Amphibole fibres in sample		Mass %	na	na	na	na
% Chrysotile 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 Analysis Soil Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1665142	1665589	1665290	1665451		
Sample ID	PRAIRIE_AUK_TP113	PRAIRIE_AUK_TP124	PRAIRIE_AUK_TP122	PRAIRIE_AUK_TP138		
Depth	1.30	1.50	1.00	1.20		
Other ID	5	5	3	3		
Sample Type	SOIL	SOIL	SOIL	SOIL		
Sampling Date	06/04/2020	08/04/2020	08/04/2020	09/04/2020		
Sampling Time						
Test	Method	Units				
Total Mass% Asbestos (a+b+c)	DETSC 1102	Mass %	0.005	0.002	0.002	0.020
Gravimetric Quantification (a)	DETSC 1102	Mass %	na	na	0.002	0.020
Detailed Gravimetric Quantification (b)	DETSC 1102	Mass %	0.005	0.002	na	na
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	715.05	918.67	1153.64	1191.05
ACMs present*		type			Cement	LFAD
Mass of ACM in sample		g			0.13	0.29
% ACM by mass		%			0.01	0.02
% asbestos in ACM		%			15	85.00
% asbestos in sample		%			0.002	0.020
Breakdown of Detailed Gravimetric Analysis (b)						
% Amphibole bundles in sample		Mass %	na	na	na	na
% Chrysotile bundles in sample		Mass %	0.005	0.002	na	na
Breakdown of PCOM Analysis (c)						
% Amphibole fibres in sample		Mass %	na	na	na	na
% Chrysotile 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 reference to HSG 264.
 Recommended sample size for quantification is approximately 1kg
 # denotes deviating sample



Summary of Asbestos Quantification Analysis

Soil Samples

Our Ref Combined 4251 Prairie
 Client Ref 4251
 Contract Title Prairie Site Ground Investigation Works

Lab No	1665452	1665453	1665454	1665992
Sample ID	PRAIRIE_AUK_TP149	PRAIRIE_AUK_TP168	PRAIRIE_AUK_TP173	PRAIRIE_AUK_TP156A
Depth	1.30	0.05	0.90	0.30
Other ID	3	1	3	2
Sample Type	SOIL	SOIL	SOIL	SOIL
Sampling Date	09/04/2020	09/04/2020	09/04/2020	14/04/2020
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	965.87	1101.46	952.28	795.26
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
% Chrysotile 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
% Chrysotile 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 reference to HSG 264.
 Recommended sample size for quantification is approximately 1kg
 # denotes deviating sample

Summary of Asbestos Quantification Analysis Soil Samples

Our Ref Combined 4251 Prairie
 Client Ref 4251
 Contract Title Prairie Site Ground Investigation Works

Lab No	1665995	1666343	1666348	1666611
Sample ID	PRAIRIE_AUK_TP163	PRAIRIE_AUK_TP135	PRAIRIE_AUK_TP169	PRAIRIE_AUK_TP139B
Depth	1.20	1.30	1.50	0.30
Other ID	3	5	3	3
Sample Type	SOIL	SOIL	SOIL	SOIL
Sampling Date	14/04/2020	15/04/2020	15/04/2020	16/04/2020
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	0.001	na	na
Detailed Gravimetric Quantification (b)	DETSC 1102	Mass %	<0.001	na	<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	483.48	1011.94	1335.01	780.11
ACMs present*		type		LFAD		
Mass of ACM in sample		g		0.01		
% ACM by mass		%		0.00		
% asbestos in ACM		%		85.00		
% asbestos in sample		%		0.001		
Breakdown of Detailed Gravimetric Analysis (b)						
% Amphibole bundles in sample		Mass %	na	na	na	na
% Chrysotile bundles in sample		Mass %	<0.001	na	<0.001	<0.001
Breakdown of PCOM Analysis (c)						
% Amphibole fibres in sample		Mass %	na	na	na	na
% Chrysotile 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 reference to HSG 264.
 Recommended sample size for quantification is approximately 1kg
 # denotes deviating sample

Summary of Asbestos Quantification Analysis

Soil Samples

Our Ref Combined 4251 Prairie
 Client Ref 4251
 Contract Title Prairie Site Ground Investigation Works

Lab No	1666614	1666615	1666616	1667233
Sample ID	PRAIRIE_AUK_TP150	PRAIRIE_AUK_TP159	PRAIRIE_AUK_TP190A	PRAIRIE_AUK_TP128
Depth	1.50	0.60	1.10	0.90
Other ID	3	3	3	3
Sample Type	SOIL	SOIL	SOIL	SOIL
Sampling Date	16/04/2020	16/04/2020	16/04/2020	17/04/2020
Sampling Time				

Test	Method	Units				
Total Mass% Asbestos (a+b+c)	DETSC 1102	Mass %	0.009	0.002	0.003	< 0.001
Gravimetric Quantification (a)	DETSC 1102	Mass %	0.009	0.002	0.003	na
Detailed Gravimetric Quantification (b)	DETSC 1102	Mass %	na	na	na	<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	932.90	695.59	1052.76	649.46
ACMs present*		type	LFAD	LFAD	LFAD	
Mass of ACM in sample		g	0.10	0.01	0.04	
% ACM by mass		%	0.01	0.00	0.00	
% asbestos in ACM		%	85	85	85	
% asbestos in sample		%	0.009	0.002	0.003	
Breakdown of Detailed Gravimetric Analysis (b)						
% Amphibole bundles in sample		Mass %	na	na	na	na
% Chrysotile bundles in sample		Mass %	na	na	na	<0.001
Breakdown of PCOM Analysis (c)						
% Amphibole fibres in sample		Mass %	na	na	na	na
% Chrysotile 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 reference to HSG 264.
 Recommended sample size for quantification is approximately 1kg
 # denotes deviating sample

Summary of Asbestos Quantification Analysis Soil Samples

Our Ref Combined 4251 Prairie

Client Ref 4251

Contract Title Prairie Site Ground Investigation Works

Lab No	1667236	1667238	1667501	1667505
Sample ID	PRAIRIE_AUK_TP147	PRAIRIE_AUK_TP157	PRAIRIE_AUK_TP120A	PRAIRIE_AUK_TP166
Depth	1.50	0.80	1.00	0.45
Other ID	4	2	3	3
Sample Type	SOIL	SOIL	SOIL	SOIL
Sampling Date	17/04/2020	17/04/2020	20/04/2020	20/04/2020
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	1033.16	999.70	925.95	1405.15
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	<0.001	na	0.001
% Chrysotile bundles in sample		Mass %	na	na	0.001	na
Breakdown of PCOM Analysis (c)						
% Amphibole fibres in sample		Mass %	na	na	na	na
% Chrysotile 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 reference to HSG 264.
 Recommended sample size for quantification is approximately 1kg
 # denotes deviating sample

Summary of Asbestos Quantification Analysis

Soil Samples

Our Ref Combined 4251 Prairie
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 Contract Title Prairie Site Ground Investigation Works

Lab No	1668120	1668125	1668130	1668559
Sample ID	PRAIRIE_AUK_TP102	PRAIRIE_AUK_TP111	PRAIRIE_AUK_TP152	PRAIRIE_AUK_TP184
Depth	3.00	1.50	2.00	0.30
Other ID	11	4	6	2
Sample Type	SOIL	SOIL	SOIL	SOIL
Sampling Date	21/04/2020	22/04/2020	22/04/2020	16/04/2020
Sampling Time				

Test	Method	Units				
Total Mass% Asbestos (a+b+c)	DETSC 1102	Mass %	< 0.001	0.002	0.002	< 0.001
Gravimetric Quantification (a)	DETSC 1102	Mass %	na	0.002	na	na
Detailed Gravimetric Quantification (b)	DETSC 1102	Mass %	<0.001	na	0.002	<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	709.21	825.28	1135.68	1256.23
ACMs present*		type		LFAD		
Mass of ACM in sample		g		0.02		
% ACM by mass		%		0.00		
% asbestos in ACM		%		85		
% asbestos in sample		%		0.002		
Breakdown of Detailed Gravimetric Analysis (b)						
% Amphibole bundles in sample		Mass %	na	na	na	<0.001
% Chrysotile bundles in sample		Mass %	<0.001	na	0.002	na
Breakdown of PCOM Analysis (c)						
% Amphibole fibres in sample		Mass %	na	na	na	na
% Chrysotile 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 reference to HSG 264.
 Recommended sample size for quantification is approximately 1kg
 # denotes deviating sample

Summary of Asbestos Quantification Analysis Soil Samples

Our Ref Combined 4251 Prairie

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Lab No	1668561	1668562	1668869
Sample ID	PRAIRIE_AUK_TP116	PRAIRIE_AUK_TP117	PRAIRIE_AUK_TP144
Depth	1.30	3.00	0.80
Other ID	3	8	3
Sample Type	SOIL	SOIL	SOIL
Sampling Date	23/04/2020	23/04/2020	24/04/2020
Sampling Time			

Test	Method	Units			
Total Mass% Asbestos (a+b+c)	DETSC 1102	Mass %	< 0.001	< 0.001	0.001
Gravimetric Quantification (a)	DETSC 1102	Mass %	na	na	na
Detailed Gravimetric Quantification (b)	DETSC 1102	Mass %	<0.001	<0.001	0.001
Quantification by PCOM (c)	DETSC 1102	Mass %	na	na	na
Potentially Respirable Fibres (d)	DETSC 1102	Fibres/g	na	na	na
Breakdown of Gravimetric Analysis (a)					
Mass of Sample		g	942.18	883.57	1140.96
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
% Chrysotile bundles in sample		Mass %	<0.001	<0.001	0.001
Breakdown of PCOM Analysis (c)					
% Amphibole fibres in sample		Mass %	na	na	na
% Chrysotile fibres in sample		Mass %	na	na	na
Breakdown of Potentially Respirable Fibre Analysis (d)					
Amphibole fibres		Fibres/g	na	na	na
Chrysotile fibres		Fibres/g	na	na	na

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

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Contract Prairie Site Ground Investigation Works

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1663605	PRAIRIE_AUK_TP132 1.30 SOIL	02/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1663606	PRAIRIE_AUK_TP131 1.80 SOIL	02/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1663734	PRAIRIE_AUK_TP101 1.00 SOIL	01/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1663735	PRAIRIE_AUK_TP101 2.20 SOIL	01/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1663736	PRAIRIE_AUK_TP104 1.50 SOIL	01/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1663737	PRAIRIE_AUK_TP105 2.50 SOIL	01/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1663978	PRAIRIE_AUK_BH104 5.50 SOIL	03/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665133	PRAIRIE_AUK_TP172 0.80 SOIL	06/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665134	PRAIRIE_AUK_TP175 0.80 SOIL	06/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665135	PRAIRIE_AUK_TP175 1.80 SOIL	06/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665136	PRAIRIE_AUK_TP178 0.80 SOIL	06/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665137	PRAIRIE_AUK_BH106 5.50 SOIL	06/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665138	PRAIRIE_AUK_TP107 1.80 SOIL	06/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665139	PRAIRIE_AUK_TP107 0.80 SOIL	06/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665140	PRAIRIE_AUK_TP108 1.00 SOIL	06/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665141	PRAIRIE_AUK_TP108 2.00 SOIL	06/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665142	PRAIRIE_AUK_TP113 1.30 SOIL	06/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665143	PRAIRIE_AUK_TP175 0.80 LEACHATE	06/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665286	PRAIRIE_AUK_BH103 2.50 SOIL	08/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665287	PRAIRIE_AUK_SW1 0.00 WATER	09/04/20	PB 1L		
1665288	PRAIRIE_AUK_TP115 1.90 SOIL	08/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665289	PRAIRIE_AUK_TP115 0.50 WATER	08/04/20	PB 1L		

Information in Support of the Analytical Results

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Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1665290	PRAIRIE_AUK_TP122 1.00 SOIL	08/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665291	PRAIRIE_AUK_TP123 0.60 SOIL	08/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665292	PRAIRIE_AUK_TP185 4.30 SOIL	08/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665293	PRAIRIE_AUK_TP186 0.50 SOIL	07/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665294	PRAIRIE_AUK_TP186 1.00 WATER	07/04/20	PB 1L x2		
1665295	PRAIRIE_AUK_TP188 1.00 SOIL	08/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665450	PRAIRIE_AUK_TP121 1.50 SOIL	09/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665451	PRAIRIE_AUK_TP138 1.20 SOIL	09/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665452	PRAIRIE_AUK_TP149 1.30 SOIL	09/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665453	PRAIRIE_AUK_TP168 0.05 SOIL	09/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665454	PRAIRIE_AUK_TP173 0.90 SOIL	09/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665455	PRAIRIE_AUK_SURFACE1 0.00 SOIL	09/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665582	PRAIRIE_AUK_TP108 2.00 LEACHATE	06/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665588	PRAIRIE_AUK_TP114 0.90 SOIL	07/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665589	PRAIRIE_AUK_TP124 1.50 SOIL	08/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665590	PRAIRIE_AUK_TP174 0.80 SOIL	08/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665591	PRAIRIE_AUK_TP174 1.60 SOIL	08/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665592	PRAIRIE_AUK_TP176 0.90 SOIL	07/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665593	PRAIRIE_AUK_TP177 0.60 SOIL	07/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665594	PRAIRIE_AUK_TP189 3.00 SOIL	07/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665595	PRAIRIE_AUK_TP114 0.90 LEACHATE	07/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665610	PRAIRIE_AUK_TP179 1.40 SOIL	09/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665611	PRAIRIE_AUK_TP179 2.00 SOIL	09/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665612	PRAIRIE_AUK_TP181 0.60 SOIL	09/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665613	PRAIRIE_AUK_TP182 0.90 SOIL	09/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		

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Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1665614	PRAIRIE_AUK_TP179 1.40 LEACHATE	09/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665615	PRAIRIE_AUK_TP179 2.00 LEACHATE	09/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665616	PRAIRIE_AUK_TP181 0.60 LEACHATE	09/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665617	PRAIRIE_AUK_TP182 0.90 LEACHATE	09/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665990	PRAIRIE_AUK_TP145 1.60 SOIL	14/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665991	PRAIRIE_AUK_TP146C 1.30 SOIL	14/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665992	PRAIRIE_AUK_TP156A 0.30 SOIL	14/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665993	PRAIRIE_AUK_TP162 1.70 SOIL	14/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665994	PRAIRIE_AUK_TP180 0.30 SOIL	14/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665995	PRAIRIE_AUK_TP163 1.20 SOIL	14/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665996	PRAIRIE_AUK_TP145 1.60 LEACHATE	14/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1665997	PRAIRIE_AUK_TP163 1.20 LEACHATE	14/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1666343	PRAIRIE_AUK_TP135 1.30 SOIL	15/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1666344	PRAIRIE_AUK_TP136 0.80 SOIL	15/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1666345	PRAIRIE_AUK_TP136 2.90 SOIL	15/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1666346	PRAIRIE_AUK_TP165 1.00 SOIL	15/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1666347	PRAIRIE_AUK_TP167 2.50 SOIL	15/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1666348	PRAIRIE_AUK_TP169 1.50 SOIL	15/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1666349	PRAIRIE_AUK_TP136 0.80 LEACHATE	15/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1666610	PRAIRIE_AUK_BH108 2.50 SOIL	15/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1666611	PRAIRIE_AUK_TP139B 0.30 SOIL	16/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1666612	PRAIRIE_AUK_TP139B 3.30 SOIL	16/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1666613	PRAIRIE_AUK_TP148A 1.40 SOIL	16/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1666614	PRAIRIE_AUK_TP150 1.50 SOIL	16/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1666615	PRAIRIE_AUK_TP159 0.60 SOIL	16/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1666616	PRAIRIE_AUK_TP190A 1.10 SOIL	16/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		

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Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1667231	PRAIRIE_AUK_BH105 3.00 SOIL	16/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1667232	PRAIRIE_AUK_TP126 2.60 SOIL	17/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1667233	PRAIRIE_AUK_TP128 0.90 SOIL	17/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1667234	PRAIRIE_AUK_TP129 2.10 SOIL	17/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1667235	PRAIRIE_AUK_TP130 1.00 SOIL	17/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1667236	PRAIRIE_AUK_TP147 1.50 SOIL	17/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1667237	PRAIRIE_AUK_TP158 1.30 SOIL	17/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1667238	PRAIRIE_AUK_TP157 0.80 SOIL	17/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1667239	PRAIRIE_AUK_TP128 0.90 LEACHATE	17/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1667501	PRAIRIE_AUK_TP120A 1.00 SOIL	20/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1667502	PRAIRIE_AUK_TP134 1.00 SOIL	20/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1667503	PRAIRIE_AUK_TP134 2.00 SOIL	20/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1667504	PRAIRIE_AUK_TP161 1.00 SOIL	20/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1667505	PRAIRIE_AUK_TP166 0.45 SOIL	20/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1667506	PRAIRIE_AUK_TP166 1.20 SOIL	20/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1667507	PRAIRIE_AUK_TP171 0.75 SOIL	20/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1667508	PRAIRIE_AUK_TP187 0.70 SOIL	20/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668118	PRAIRIE_AUK_BH110 3.00 SOIL	20/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668119	PRAIRIE_AUK_TP102 1.00 SOIL	21/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668120	PRAIRIE_AUK_TP102 3.00 SOIL	21/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668121	PRAIRIE_AUK_TP103 1.00 SOIL	21/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668122	PRAIRIE_AUK_TP109 1.00 SOIL	21/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668123	PRAIRIE_AUK_TP110 1.00 SOIL	21/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668124	PRAIRIE_AUK_TP110 2.00 SOIL	21/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668125	PRAIRIE_AUK_TP111 1.50 SOIL	22/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668126	PRAIRIE_AUK_TP112 1.50 SOIL	22/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		

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Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1668127	PRAIRIE_AUK_TP119 1.50 SOIL	22/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668128	PRAIRIE_AUK_TP119 2.50 SOIL	22/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668129	PRAIRIE_AUK_TP133 0.50 SOIL	22/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668130	PRAIRIE_AUK_TP152 2.00 SOIL	22/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668131	PRAIRIE_AUK_TP153 1.10 SOIL	22/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668132	PRAIRIE_AUK_TP154 0.85 SOIL	20/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668133	PRAIRIE_AUK_TP155 0.70 SOIL	21/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668134	PRAIRIE_AUK_TP160 0.75 SOIL	21/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668135	PRAIRIE_AUK_TP170 1.00 SOIL	20/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668136	PRAIRIE_AUK_TP110 1.00 LEACHATE	20/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668137	PRAIRIE_AUK_TP170 1.00 LEACHATE	20/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668557	PRAIRIE_AUK_TP164 0.70 SOIL	16/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668558	PRAIRIE_AUK_TP164 1.30 SOIL	16/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668559	PRAIRIE_AUK_TP184 0.30 SOIL	16/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668560	PRAIRIE_AUK_TP106 1.00 SOIL	23/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668561	PRAIRIE_AUK_TP116 1.30 SOIL	23/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668562	PRAIRIE_AUK_TP117 3.00 SOIL	23/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668563	PRAIRIE_AUK_TP118 1.20 SOIL	23/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668564	PRAIRIE_AUK_TP127 0.30 SOIL	23/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668565	PRAIRIE_AUK_TP127A 2.80 SOIL	23/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668566	PRAIRIE_AUK_TP140 1.00 SOIL	23/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668567	PRAIRIE_AUK_TP141 2.00 SOIL	23/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668568	PRAIRIE_AUK_TP142 0.90 SOIL	23/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668569	PRAIRIE_AUK_TP142 1.50 SOIL	23/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668570	PRAIRIE_AUK_TP143 0.80 SOIL	23/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668571	PRAIRIE_AUK_TP143 1.60 SOIL	23/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		

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Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1668572	PRAIRIE_AUK_TP151 1.20 SOIL	23/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668573	PRAIRIE_AUK_TP140 1.00 LEACHATE	23/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668574	PRAIRIE_AUK_TP141 2.00 LEACHATE	23/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668575	PRAIRIE_AUK_TP142 1.50 LEACHATE	23/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668657	PRAIRIE_AUK_TP139 1.10 SOIL	16/04/20	No containers logged		
1668869	PRAIRIE_AUK_TP144 0.80 SOIL	24/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1668870	PRAIRIE_AUK_TP144 0.80 LEACHATE	24/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1669251	PRAIRIE_AUK_TP112 2.10 SOIL	22/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1669252	PRAIRIE_AUK_TP112 2.10 LEACHATE	22/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1670142	PRAIRIE_AUK_TP194A 1.40 SOIL	29/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1670143	PRAIRIE_AUK_TP196A 1.40 SOIL	29/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1670144	PRAIRIE_AUK_TP201 3.60 SOIL	28/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1670145	PRAIRIE_AUK_TP201 3.60 LEACHATE	28/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1670502	PRAIRIE_AUK_TP193 0.80 SOIL	30/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1671485	PRAIRIE_AUK_BH102 1.10-7.20 WATER	05/05/20	GB 1L x3, GV, PB 1L		
1671486	PRAIRIE_AUK_BH103 2.25-8.50 WATER	05/05/20	GB 1L x3, GV, PB 1L		
1671487	PRAIRIE_AUK_BH104 6.40-18.50 WATER	05/05/20	GB 1L x3, GV, PB 1L		
1671488	PRAIRIE_AUK_BH105 4.60-11.00 WATER	05/05/20	GB 1L x3, GV, PB 1L		
1671489	PRAIRIE_AUK_BH107 3.16-8.00 WATER	05/05/20	GB 1L x3, GV, PB 1L		
1671490	PRAIRIE_AUK_BH109 5.44-11.80 WATER	05/05/20	GB 1L x3, GV, PB 1L		
1671899	PRAIRIE_AUK_BH101 2.00-10.00 WATER	06/05/20	GB 1L x2, GV, PB 1L		
1671900	PRAIRIE_AUK_BH101 3.00-16.50 WATER	06/05/20	GB 1L x2, GV, PB 1L		

Information in Support of the Analytical Results

Our Ref Combined 4251 Prairie
 Client Ref 4251
 Contract Prairie Site Ground Investigation Works

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1671901	PRAIRIE_AUK_BH106 3.94-10.00 WATER	06/05/20	GB 1L x2, GV, PB 1L		
1671902	PRAIRIE_AUK_BH108 2.20-6.00 WATER	06/05/20	GB 1L x2, GV, PB 1L		
1671903	PRAIRIE_AUK_BH108 5.00-14.00 WATER	06/05/20	GB 1L x2, GV, PB 1L		
1671904	PRAIRIE_AUK_BH110 4.00-20.80 WATER	06/05/20	GB 1L x2, GV, PB 1L		
1675436	PRAIRIE_AUK_TP123 0.60 LEACHATE	08/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1675439	PRAIRIE_AUK_TP120A 1.00 LEACHATE	20/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1675441	PRAIRIE_AUK_TP103 1.00 LEACHATE	20/04/20	No containers logged		
1675442	PRAIRIE_AUK_TP194A 1.40 LEACHATE	29/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1675443	PRAIRIE_AUK_TP196A 1.40 LEACHATE	29/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1675450	PRAIRIE_AUK_BH101 3.00 SOIL	27/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1675451	PRAIRIE_AUK_BH107 3.00 SOIL	24/04/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1685108	PRAIRIE_AUK_SW1 0.00 WATER	15/06/20	GB 1L x2, GV, PB 1L, P(other)		
1685109	PRAIRIE_AUK_SW2 0.00 WATER	15/06/20	GB 1L x2, GV, PB 1L, P(other)		
1688245	PRAIRIE_AUK_BH101 1.77-10.00 WATER	17/06/20	GB 1L x2, GV, PB 1L, P(other)		

Information in Support of the Analytical Results

Our Ref Combined 4251 Prairie
 Client Ref 4251
 Contract Prairie Site Ground Investigation Works

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1688246	PRAIRIE_AUK_BH101 1.78-16.50 WATER	17/06/20	GB 1L x2, GV, PB 1L, P(other)		
1688247	PRAIRIE_AUK_BH102 0.83-7.20 WATER	18/06/20	GB 1L x2, GV, PB 1L, P(other)		
1688248	PRAIRIE_AUK_BH103 1.71-8.50 WATER	17/06/20	GB 1L x2, GV, PB 1L, P(other)		
1688249	PRAIRIE_AUK_BH104 4.06-18.50 WATER	17/06/20	GB 1L x2, GV, PB 1L, P(other)		
1688250	PRAIRIE_AUK_BH105 4.49-11.00 WATER	18/06/20	GB 1L x2, GV, PB 1L, P(other)		
1688251	PRAIRIE_AUK_BH106 2.73-10.00 WATER	17/06/20	GB 1L x2, GV, PB 1L, P(other)		
1688252	PRAIRIE_AUK_BH107 3.21-8.00 WATER	19/06/20	GB 1L x2, GV, PB 1L		
1688253	PRAIRIE_AUK_BH108 1.14-6.00 WATER	18/06/20	GB 1L x2, GV, PB 1L, P(other)		
1688254	PRAIRIE_AUK_BH108 4.95-14.00 WATER	18/06/20	GB 1L x2, GV, PB 1L, P(other)		
1688255	PRAIRIE_AUK_BH109 5.97-11.80 WATER	19/06/20	GB 1L x2, GV, PB 1L		
1688256	PRAIRIE_AUK_BH110 3.84-20.80 WATER	19/06/20	GB 1L x2, GV, PB 1L, P(other)		
1694889	PRAIRIE_AUK_BH101 1.69-10.00 WATER	01/07/20	GB 1L, GV, PB 1L, PU		

Information in Support of the Analytical Results

Our Ref Combined 4251 Prairie
 Client Ref 4251
 Contract Prairie Site Ground Investigation Works

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1694890	PRAIRIE_AUK_BH101 1.64-16.50 WATER	01/07/20	GB 1L, GV, PB 1L, PU		
1694891	PRAIRIE_AUK_BH102 0.90-7.20 WATER	02/07/20	GB 1L, GV, PB 1L, PU		
1694892	PRAIRIE_AUK_BH103 1.92-8.50 WATER	01/07/20	GB 1L, GV, PB 1L, PU		
1694893	PRAIRIE_AUK_BH104 6.21-18.50 WATER	02/07/20	GB 1L, GV, PB 1L, PU		
1694894	PRAIRIE_AUK_BH105 4.51-11.00 WATER	02/07/20	GB 1L, GV, PB 1L, PU		
1694895	PRAIRIE_AUK_BH106 3.28-10.00 WATER	02/07/20	GB 1L, GV, PB 1L, PU		
1694896	PRAIRIE_AUK_BH107 3.12-8.00 WATER	02/07/20	GB 1L, GV, PB 1L, PU		
1694897	PRAIRIE_AUK_BH108 0.35-6.00 WATER	02/07/20	GB 1L, GV, PB 1L, PU		
1694898	PRAIRIE_AUK_BH108 4.81-14.00 WATER	02/07/20	GB 1L, GV, PB 1L, PU		
1694899	PRAIRIE_AUK_BH109 6.72-11.80 WATER	02/07/20	GB 1L, GV, PB 1L, PU		
1694900	PRAIRIE_AUK_BH110 3.87-20.80 WATER	02/07/20	GB 1L, GV, PB 1L, PU		
1700277	PRAIRIE_AUK_SW4 0.00 SOIL	15/07/20	GJ 250ml x2, GJ 60ml x2, PT 1L x2		
1700278	PRAIRIE_AUK_SW4 0.00 WATER	15/07/20	PB 1L x2		

Key: G-Glass P-Plastic J-Jar T-Tub B-Bottle V-Vial U-Tube

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, inappropriate containers etc 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
DETS 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETS 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETS 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETS 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETS 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETS 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETS 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETS 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETS 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETS 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETS 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETS 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETS 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETS 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETS 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETS 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETS 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETS 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETS 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETS 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETS 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.

End of Report



Quality Control

Quality Systems.

Derwentside Environmental Testing Services employs numerous measures to ensure high levels of confidence in the results produced. Our laboratory has been accredited by the United Kingdom Accreditation Service (UKAS) since its inception and operates in full compliance with the internationally recognised standard ISO17025 and the Environment Agency's MCERTS (Monitoring & Certification Scheme) standard for soils and waters, which provides greater assurance to all parties of the reliability of data from chemical analysis.



2139

To obtain a copy of our full UKAS schedule visit the UKAS website at www.ukas.org and search for our laboratory number 2139.

Proficiency Testing Schemes.

DETS participates in seven external proficiency testing schemes in order to monitor and ensure the continuing quality of analysis. These schemes are:



Contest



Internal Quality Control.

DETS runs a strict internal quality control system. A minimum of 5% of all samples that undergo analysis in our laboratories are quality control samples. This way we can ensure a high level of confidence in all of the analytical data produced. In addition, MCERTS accredited tests must meet strict, ongoing limits for precision and bias in order to maintain their accreditation status.

SAMPLE HOLDING TIME INFORMATION

Soil

Analyte	Container type	Minimum sample required	Reference	Maximum holding time from sampling	
				pre drying/extraction ¹	post drying/extraction ²
Ammonium	Glass or plastic	20g	BS ISO18512:2007	1 week	
Anions	Glass or plastic	20g	BS ISO18512:2007	1 month	3 years
BTEX	60ml glass jar	Full container	EPA 8260	2 weeks	N/A
Conductivity	Glass or plastic	20g	BS ISO18512:2007	1 week	3 years
Cyanide	Glass or plastic	20g	EPA 9010B/9012	2 weeks	
Heavy metals	Glass or plastic	10g	BS ISO18512:2007	6 months	30 years
Hexavalent chromium	Glass or plastic	20g	BS ISO18512:2007	1 month	
Loss on ignition	Glass or plastic	10g	BS ISO18512:2007	1 month	
OCP	Glass	20g	BS ISO18512:2007	1 month	
Oil & grease	Glass	20g	EPA 9070/1	1 month	
Organic matter/TOC	Glass or plastic	20g	BS ISO18512:2007	1 month	
PAH	Glass	20g	EPA 8100/8270	2 weeks	6 weeks
PCB	Glass	20g	BS ISO18512:2007	1 month	
pH	Glass or plastic	20g	BS ISO18512:2007	1 week	3 years
Phenols	Glass	20g	EPA 8270	2 weeks	6 weeks
PRO	60ml glass jar	Full container	EPA 8015	2 weeks	N/A
Sulphide	Glass or plastic	20g	BRE SD1	3 weeks	1 month
SVOC	Glass	20g	EPA 8270	2 weeks	6 weeks
TEM/CEM	Glass	20g	EPA 418.1	2 weeks	6 weeks
Thiocyanate	Glass or plastic	20g	EPA 9251	No special requirement	
Total sulphur	Glass or plastic	20g	BS ISO18512:2007	1 month	3 years
TPH (C10-C40)	Glass	20g	EPA 418.1	2 weeks	6 weeks
VOC	60ml glass jar	Full container	EPA 8260	2 weeks	N/A

Sample storage environment 5°C

1. From sampling to extraction
2. Once extracted

Waters

Analyte	Container type	Min sample required (ml)	Reference	Preservative required	Max holding time until extraction
Alkalinity	Glass or plastic	100	EPA 310.2	none	2 weeks
Ammonium	Glass or plastic	20	ISO 5667 3:2012	Sulphuric acid	3 weeks
BOD	Glass or plastic	500	EPA 405.1 5120B	none	2 days
BTEX	Glass vial	Full container	Lab validation	none	2 weeks
Chloride	Glass or plastic	20	ISO 5667 3:2012	none	1 month
COD	Glass or plastic	20	ISO 5667 3:2012	Sulphuric acid	1 month
Conductivity/TDS	Glass or plastic	100	EPA 160.1	none	1 week
Cyanide	Plastic	50	EPA 9012/335.3	Sodium hydroxide	2 weeks
Hexavalent chromium	Glass or plastic	20	ISO 5667 3:2012	none	4 days
Metals	Glass or plastic	20	ISO 5667 3:2012	Nitric acid	1 month
Nitrate	Glass or plastic	20	EPA 353.2	none	2 days
Nitrite	Glass or plastic	20	EPA 600/4 079-020	none	2 days
OCP	Glass	500	EPA 8081A/608	none	1 week
Oil & grease	Glass	500	ISO 5667 3:2012	Hydrochloric acid	1 month
PAH	Glass	500	ISO 5667 3:2012	none	1 week
pH	Glass or plastic	50	Lab validation	none	1 week
PCB	Glass	500	EPA 8082A	none	6 weeks
Phenols	Glass	500	ISO 5667 3:2012	Sulphuric acid	3 weeks
Phosphate	Glass or plastic	20	ISO 5667 3:2012	Sulphuric acid	1 month
PRO	Glass vial	Full container	EPA 8015	none	2 weeks
Sulphate	Glass or plastic	20	ISO 5667 3:2012	none	1 month
Sulphide	Plastic	50	ISO 5667 3:2012	NaOH/Zinc acetate	1 week
Suspended solids	Glass or plastic	100	EPA 160.2 2540D	none	1 week
SVOC	Glass	500	EPA 8270/625	none	1 week
TOC	Glass or plastic	20	ISO 5667 3:2012	Sulphuric/Phosphoric acid	1 week
TON	Glass or plastic	20	EPA 353.2	none	1 month
TPH/EPH	Glass	500	Lab validation	none	1 weeks
VOC	Glass vial	Full container	Lab validation	none	1 week

Sample storage environment 3°C ± 2°C



DETS INFO 001 – ANALYTICAL METHOD SUMMARY

Method Number	Title	Description	Reference	LOD	Accreditation Status
DETS 036	Leachate Preparation (NRA Method and BS EN 12457 Parts 1-3)	Leachates are prepared as per the NRA (1994) method and as per BS EN 12457 Parts 1 - 3 one and two stage leachate preparation.	Leaching Test Method for the Assessment of Contaminated Land, Interim Guidance, NRA(1994) BS EN 12457 Part 1,2 & 3	n/a	Not Accredited
DETS 073	Acid Neutralisation Capacity of Soils and Other Solids	ANC is a measure of the buffering capacity of soils and other waste materials. The analysis measures the amount of acid required to bring the sample to a fixed pH. The initial pH of the sample extract must be measured before analysis begins. Analysis is performed by the addition of acid in conjunction with pH measurement by pH meter until the specified pH has been reached as indicated by the meter. The result is expressed in mol/kg (dry wt).	Annex B (Preliminary determination of the acid/base consumption) – CEN/TC 292 – WI 292046 – Characterization of waste – Leaching behaviour tests – Acid and Base neutralization capacity test	1.0 mol/kg	Not Accredited
DETS 074	Low Level PAH by HPLC Fluorescence	PAH is extracted from one litre of filtered water sample by solid phase extraction. PAH is eluted from the SPE column with DCM evaporated to dryness under nitrogen and redissolved in acetonitrile. Analysis of samples is carried out by HPLC fluorescence.	EPA Method 550 The Analyst 2001, 126:1336-1331 Phenomonex Strata X Application Note for PAH by SPE	0.01ug/L each 5.0 ug/L Total	Not Accredited



DETS INFO 001 – ANALYTICAL METHOD SUMMARY

Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 1001	Sample Pre-Treatment and Preparation of Solids	Solid samples are classified and identified. Samples requiring analysis for unstable or volatile determinands are analysed as received. Samples requiring analysis for stable and non-volatile determinands are dried at <30°C or 50°C, depending on requirements, for a minimum of 16hrs (overnight). Dried samples are crushed in a jaw crusher, if necessary, and then ground using a mechanical mixer mill and sieved through a 250µm sieve to ensure they are homogenous.	BS1377:1990 – Soils for Civil Engineering Purposes The preparation and pre-treatment of potentially contaminated soils prior to chemical analysis – MEWAM – 2006 – Environment Agency (Updated procedure under preparation)	n/a	Not Accredited
DETSC 1002	Description of Soil Sample Type	This method outlines the procedure used to describe soil samples with respect to basic type, predominant colour and inclusions. The procedure is carried out during the sample preparation stage.	BS 5930:Section 6:1999	n/a	Not Accredited
DETSC 1003	Stone and Glass / Metal / Plastic Content of Soil	This method outlines the procedure used to determine the Stone and Glass/Metal/Plastic content of soil samples. The procedure is carried out during the sample preparation stage.	BS 3882:2007 BS 1377:1990	0.1%	Not Accredited
DETSC 1004	Moisture Content/Loss on Drying of Soil	Loss on drying is determined by loss of mass on drying in an oven set at 28°C or 50°C. Moisture content is determined by loss of mass on drying in an oven set at 105°C. The procedure is carried out during the sample preparation stage.	Practical Environmental Analysis. Radojevic & Bashkin. RSC 1999 BS 1377: Part 2:1990 DETS drying time study	0.1%	Not Accredited
DETSC 1101	Asbestos - Bulk Analysis	Samples are examined visually for the presence of asbestos containing materials or asbestos fibres. Suspect fibres are removed from the sample and examined using polarised light microscopy to determine whether they are asbestos fibres. If no asbestos fibres are identified by the method after an adequate length of examination time, and after at least two small pinch samples have been examined, then the sample may be reported as 'NAD' (no asbestos detected).	HSG 248 Asbestos: The Analysis Guide for Sampling, Analysis and Clearance Procedures. 2005 McCrone W.C., Asbestos Identification (Second Edition), The McCrone Research Institute, 1987 LAB 30, Application of ISO/IEC17025 for Asbestos Sampling and Testing, UKAS, Edition 2, April 2008	n/a	UKAS



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Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 1102	Quantification of asbestos in soils, loose aggregates and ballast	The method of quantification is divided into three procedures: Gravimetric analysis, detailed gravimetric analysis and PCOM analysis. The analysis may be affected by the client's requirements as determined by contract review, and by the nature of the asbestos found in the sample, e.g. whether ACMs are present, and whether fibre bundles large enough to pick out using tweezers are have been found in the sample.	HSG 248 Asbestos: The Analysis Guide for Sampling, Analysis and Clearance Procedures. 2005 HSG264 Asbestos: The survey guide. HSE Books, 2010. Davies, L. S.T., Wetherill, G. Z., McIntosh, C., McGonagle, C., Addison, J. 1996. Development and validation of an analytical method to determine the amount of asbestos in soils and loose aggregates. HSE Contract Research Report N0. 83/1996. HSE Books	Gravimetric Analysis: 0.01% for 1kg sample Detailed Gravimetric Analysis: 0.001% for 50g sample PCOM Analysis: 0.001%	UKAS
DETSC 1103	Asbestos Water Absorption Test	This test involves a sample of the asbestos product being dried and weighed before being immersed in water for a period of time. The sample is then removed from the water and re-weighed. If the amount of water absorbed is <30% by weight, then the sample should be reported as 'Not Licensed'. If $\geq 30\%$ water is absorbed then the sample should be reported as being 'Licensed', i.e. an asbestos material for which a licence is required to work on.	Work with Materials Containing Asbestos: Approved Code of Practice and Guidance. HSE Books, 2006.	n/a	UKAS
DETSC 2002	Organic matter content of soil	The procedure is based upon Walkley and Black's method. Organic matter in soil is oxidised with potassium dichromate in the presence of concentrated sulphuric acid. The excess dichromate is titrated with ferrous sulphate using diphenylamine as an external indicator. The organic matter content is calculated from the amount of dichromate used during the oxidation process based on an empirical relationship.	BS1377 : Part 3 : 1990 Method 3 BS1377 : Part 1 : 1990 BS 3882:2007	0.1%	UKAS MCERTS(Soils)



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DETSC 2003	Loss On Ignition	Soil is ignited at 440C and the amount of sample lost on ignition is determined gravimetrically. Other specified temperatures may be used but are not accredited.	BS1377 : Part 3 : 1990 Method 4 BS1377 : Part 1 : 1990	0.01%	UKAS MCERTS(Soils)
Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 2004	Sulphate Content of Soil and Water	The sulphate in the soil is dissolved in dilute hydrochloric acid, or in an aqueous extract having a water:soil ratio of 2:1 and the insoluble residue is removed by filtration. Waters are also filtered prior to analysis. The sulphate in the filtrate is precipitated as barium sulphate which is then filtered, ignited and weighed.	BS1377 : Part 3 : 1990 Method 5 BS1377 : Part 1 : 1990 BRE SD1: 2005 Concrete in Aggressive Ground	Acid Soluble: 0.01% Water Soluble 100mg/l Waters 10mg/l	UKAS MCERTS(Soils)
DETSC 2005	Carbonate content of soil by Rapid Titration	The carbonate present in the soil reacts with a known excess of hydrochloric acid liberating carbon dioxide. The acid remaining after the reaction is determined by titration against sodium hydroxide. The result is calculated in terms of the equivalent proportion of carbon dioxide.	BS 1377: Part 1: 1990. BS 1377: Part 3: 1990: Method 5	1%	UKAS
DETSC 2006	Water Soluble Chloride Content of Soil & Chloride Content of Water	The chloride in the soil is dissolved in water and the insoluble material is removed by filtration. Waters are filtered before analysis. The chloride is analysed by Mohr's method. The chloride in a neutral solution is titrated against standard silver nitrate using potassium chromate as an indicator. The colour change is from yellow to brick red.	BS1377 : Part 3 : 1990 Method 7.2 BS1377: Part 1: 1990	Soil: 0.01% Water: 10mg/l	UKAS MCERTS(Soils)
DETSC 2007	Acid Soluble Chloride Content of Soil and Concrete	The chloride in the sample is dissolved in nitric acid and the insoluble material is removed by filtration. The dissolved chloride is analysed by Volhard's method. The chloride in solution is precipitated with a known excess of standard silver nitrate. The excess silver nitrate is titrated against standard ammonium thiocyanate using ferric alum as an indicator. The colour change is white to red.	BS1377 : Part 3 : 1990 Method 7.3 BS1377: Part 1: 1990 BS 1881-124:1988	0.01%	UKAS



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Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 2008	pH Value of Soil and Water	The pH value of a soil suspension in water or a groundwater sample is determined electrometrically using a glass electrode.	BS1377: Part 3: 1990 – Soils for Civil Engineering Purposes – Chemical and Electrochemical Methods	n/a	UKAS (Soils + Waters) MCERTS (Soils + Waters-Trade Effluent only)
DETSC 2009	Electrical Conductivity of Soil & Water	The electrical conductance of a soil suspension in water or of a water sample is determined by voltammetry using a conductivity meter. In some cases, the soil may need to be extracted with an aqueous solution of an inorganic salt e.g. the conductivity of topsoil is determined by preparing a suspension of the soil in saturated calcium sulphate.	Standard Methods for the Examination of water and Wastewater Part 2510B 21st Edition 2005 APHA, AWWA, WEF BS3882:2007 Specification for Topsoil	1uS/cm	UKAS
DETSC 2019	Loose Packed Dry Soil Density	Dried, ground soil is transferred to a dry, tared measuring cylinder and the volume recorded. The cylinder and its contents are then weighed and the density of the soil calculated.	BS3882:2007 Specification for Topsoil	n/a	Not Accredited



DETS INFO 001 – ANALYTICAL METHOD SUMMARY

Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 2024	Sulphide in Soil and Water by Iodometry	Hydrogen sulphide is liberated by acidification of the sample with hydrochloric acid in a steam distillation unit. The hydrogen sulphide produced is carried over with the steam and is absorbed in alkaline zinc acetate. The zinc sulphide produced reacts with iodine formed when iodate-iodide is acidified and the excess iodine titrated with standard thiosulphate.	In House Method based on: Environment Agency The determination of easily liberated sulphide in soils and similar matrices (2010) - Blue Book 228 Method D - The determination of easily liberated sulphide in as received or air-dried samples following acid steam distillation with iodometric titration. Environment Agency The determination of sulphide in waters and associated materials (2007) Draft Method D - The determination of easily liberated sulphide in as received or air-dried samples following phosphoric acid steam distillation with iodometric titration.	Soils: 10mg/kg Waters: 250ug/l	Soils: UKAS MCERTS(Soils) Waters: Not Accredited
DETSC 2030	Alkalinity in Water	Alkalinity of a water sample is determined by indicator end point titration with a strong acid from sample pH to pH8.3 (where applicable) and then to pH4.5. From the titres obtained the total alkalinity and concentrations and types of alkalinity present can be calculated.	SCA Method ISBN 0 11 751601 5 The Determination of Alkalinity and Acidity in Water 1981 Instruction Manual for Skalar SP50 Robotic Analyser	20mg/l as CaCO ₃	UKAS MCERTS(Waters) Trade Effluent only
DETSC 2031	5 Day Biochemical Oxygen Demand	The sample, either diluted or undiluted, is placed in a BOD bottle and the initial dissolved oxygen content of the sample is measured using a dissolved oxygen meter. The bottle is placed in an incubator at 20°C in the dark for 5 days. After this time the bottle is removed and the residual dissolved oxygen content of the sample is measured. The BOD of the sample is calculated from the reduction in the concentration of dissolved oxygen over 5 days.	SCA Method ISBN 0 117522120 5 Day Biochemical Oxygen Demand (BOD5) Second Edition 1988	1 mg/l	UKAS MCERTS(Waters)- Trade Effluent only



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Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 2032	Chemical Oxygen Demand	Oxidisable substances react with sulphuric acid – potassium dichromate solution in the presence of silver sulphate as a catalyst. Chloride is masked by mercury sulphate. The reduction in the yellow colouration of Cr ⁶⁺ is evaluated using a spectrophotometer for the low range tubes (LCK 314) whilst the green colouration of Cr ³⁺ is evaluated for the medium and high range tubes (LCK 014 and LCK 114).	Environment Agency The determination of chemical oxygen demand in waters and effluents (2007) Methods for the Examination of Waters and Associated Materials	10 mg/l	UKAS MCERTS(Waters)- Trade Effluent only
DETSC 2033	Total and Dissolved Organic Carbon in Water	The term TOC (Total Organic Carbon) is used to describe the total content of organically bound carbon in dissolved and undissolved compounds. The TOC content is expressed in mg/l. If DOC (Dissolved Organic Carbon) is required, samples are filtered through a 0.45µm filter paper prior to analysis. Inorganic carbon is expelled by acidification of the sample. TOC is then determined by digestion of the sample with sulphuric acid and peroxodisulphate. Carbon containing compounds are transformed into carbon dioxide. The carbon dioxide evolves and reacts with an indicator solution. The colour change is measured using a spectrophotometer.	Hach-Lange Technical Instructions: LCK 385, LCK 386, LCK 387	2 mg/l	UKAS
DETSC 2034	Suspended and Settleable Solids in Water	Suspended matter is removed from a measured volume of sample by filtration under reduced pressure through a pre-treated, pre-weighed glass fibre filter paper. The paper is washed with deionised water to remove dissolved salts and the total suspended matter is determined gravimetrically after drying at 105 ±5°C Settleable solids are determined by subtracting the solids left in suspension after settlement for 1 hour (or other agreed time) from the total suspended matter in the sample.	SCA Method ISBN 011 751957 X Suspended, Settleable and Total Dissolved Solids in Waters and Effluents 1980	5 mg/l	Suspended Solids: UKAS MCERTS(Waters)- Trade Effluent only Settleable Solids: Not Accredited



DETS INFO 001 – ANALYTICAL METHOD SUMMARY

Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 2035	Total Dissolved Solids in Water	Water samples are pre-filtered to remove any suspended solids and evaporated in an oven at 180°C. The amount of residual dissolved solids is determined gravimetrically. An estimate of the total dissolved solids can be obtained by measuring the conductivity of the sample. This method is not accredited.	SCA Method ISBN 011 751957 X Suspended, Settleable and Total Dissolved Solids in Waters and Effluents 1980 BS1377: Part 3 : 1990 Section 8	5 mg/l	UKAS
DETSC 2047	Formaldehyde in Water	Formaldehyde in soil is extracted in water, with a water to soil ratio of 10:1. The insoluble residue is removed by filtration prior to analysis. Waters are filtered prior to analysis to remove any particulates in suspension. Formaldehyde in the extract or water sample reacts with chromatropic acid-sulphuric acid solution to form a purple coloured complex. The absorbance of the coloured solution is read at 580nm using a suitable visible spectrophotometer.	Formaldehyde by visible absorption spectrophotometry – Method 3500, Issue 2 – NIOSH Manual of Analytical Methods, Fourth edition, August 1994	Soil: 0.2mg/kg Water: 20µg/l	Not Accredited
DETSC 2048	Dissolved Oxygen Content of Water	The dissolved oxygen content of the sample is measured using a dissolved oxygen meter either electrochemically or by fluorescence, or by the titrimetric method developed by Winkler.	SCA Method ISBN 0.11 751442X Dissolved Oxygen in Natural and Waste Waters 1979	0.1 mg/l	Not Accredited
DETSC 2055	Anions in Water and Aqueous Soil Extracts by Ion Chromatography	Liquid samples and aqueous soil extracts are filtered through a 0.22µm syringe filter prior to analysis. The filtered samples are injected into an Ion Chromatograph. The anions of interest are separated on the basis of their affinity for the active sites of the column packing material. The separated anions are converted into their highly conductive acid forms and measured by conductivity. The anions are identified on the basis of retention time as compared to standards and quantisation is by measurement of peak area.	Standard Methods for the Examination of Water and Wastewater Section 4110 21st Edition 2005 APHA, AWWA, WEF	Soil: 1.0 mg/kg Water: 0.1 mg/L	UKAS



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Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 2076	Sulphate and Magnesium Content of 2:1 Aqueous Extract of Soil by ICP-OES	The sulphate and magnesium in the soil are extracted in an aqueous extract having water: soil ratio of 2:1 and the insoluble material is removed by filtration. The concentrations of sulphate and magnesium in the filtrate are determined by Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES). The wavelengths used for identification and quantification are 181.972nm for sulphate and 285.213nm for magnesium.	BS1377 : Part 3: 1990 Method 5 BS1377 : Part 1: 1990 TRL 447 Sulphate Specification for Structural Backfills 2005 BRE SD1:2005 Concrete in Aggressive Ground 2005	10mg/L	Sulphate: UKAS MCERTS(Soils) Magnesium: Not Accredited
DETSC 2084	Total Organic Carbon by PrimacATC Analyser	Soil samples are treated with phosphoric acid to expel any inorganic carbonates. The samples are then heated at high temperature in a continuous flow of air so that any organic carbon is oxidised to carbon dioxide. The gas is then allowed to cool and analysed by an infra-red detector.	PrimacsATC Analyser – User Manual, Skalar	0.47%	MCERTS(Soils)
DETSC 2085	Total and Dissolved Organic Carbon in Water	<p style="text-align: center;">Direct TOC Analysis</p> <p>The sample is acidified, stirred and purged to remove the IC before the sample is injected and handled as in the TC Analysis. The sample is filtered before acidification for DOC.</p> <p style="text-align: center;">TC Analysis</p> <p>The sample is injected by an automated septum less rotary port into a high temperature reactor. In the reactor, at a temperature of 750 - 950°C all organic and inorganic carbon is oxidized to the gaseous carbon dioxide (CO₂). The catalyst that is present in the reactor catalysis the oxidation to completion. A flow of air transports these oxidation products to the detectors. The oxygen required for reaction is taken from the airflow. The products are led into the non-dispersive infrared detector where the carbon dioxide is determined. The carbon dioxide is measured at a wavelength of 4.2 μm by NDIR detection.</p>	<p>Standard Methods for the Examination of Water and Wastewater Section 5310 B 21st Edition 2005 APHA, AWWA, WEF</p> <p>HMSO Methods for the Examination of Waters and Associated Materials – The Instrumental Determination of Total Organic Carbon and Related Determinands 1995</p>	1mg/l as C	UKAS

DETS INFO 001 – ANALYTICAL METHOD SUMMARY

Method Number	Title	Description	Reference	LOD	Accreditation Status
DETS 2119	Exchangeable Ammonia in Soil	An intense blue-green complex, related to indophenol blue, is formed by the reaction of ammonia with hypochlorite and sodium salicylate, with sodium nitroprusside acting as a catalyst. The complex is measured at 655nm and is related to the ammonia concentration by means of a calibration curve. Sodium citrate is added to overcome interfering ions.	MAFF/ADAS Reference Book 427 – the Analysis of Agricultural Materials – Method 53, Ammonium, Nitrate and Nitrite-Nitrogen, Potassium Chloride Extractable	0.5mg/kg	UKAS MCERTS(Soils)
DETS 2120	Ammonia in Water by Spectrophotometry	An intense blue-green complex, related to indophenol blue, is formed by the reaction of ammonia with hypochlorite and sodium salicylate, with sodium nitroprusside acting as a catalyst. The complex is measured at 655nm and is related to the ammonia concentration by means of a calibration curve. Sodium citrate is added to overcome interfering ions.	Environment Agency Ammonia in Waters 1981 ISBN 0117516139 Methods for the Examination of Waters and Associated Materials	20µg/l	UKAS
DETS 2121	Total Kjeldahl Nitrogen Content of Soils and Waters	The sample is digested with sulphuric acid and a mixture of catalysts to convert organic nitrogen to ammonia. The sample is then distilled under alkaline conditions, and the distilled ammonia is absorbed in sulphuric acid. The ammonia content of the distillate is then determined colorimetrically either using the UV/vis spectrophotometer or the Konelab 60i. Ammonia reacts with hypochlorite ions generated by the alkaline hydrolysis of sodium dichloroisocyanurate to form monochloramine. Monochloramine reacts with salicylate ions in the presence of sodium nitroprusside at around pH 12.6 to form a blue compound. The absorbance of this compound is measured spectrophotometrically at wavelength 660nm	The Analysis of Agricultural Materials – MAFF/ADAS Reference Book 427 – HMSO BS 3882: 2007 Specification for topsoil Standard Methods for the Examination of Water and Wastewater Part 4500-N. 21st Edition 2005 APHA, WWA, WEF	Soil: 0.01% Water: 2mg/l	Not Accredited
DETS 2123	Water Soluble Boron in Soil & Boron in Water	Boron in soil is extracted in boiling saline water. Waters are filtered prior to analysis to remove any particulates in suspension. The water soluble boron in the extract or filtrate reacts with azomethine-H to produce a yellow coloured complex. The resulting colour absorbance is measured at 420nm using a suitable visible spectrophotometer.	SecondSite Property (now National Grid Property Holdings) - Guidance for assessing and managing potential contamination on former gasworks and associated sites (Part I) (Version 3) Method 17.12 The analysis of Agricultural materials MAFF/ADAS – reference book 427	Soil: 0.2mg/kg Water: 100ug/L	UKAS MCERTS(Soils)



DETS INFO 001 – ANALYTICAL METHOD SUMMARY

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Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 2130	Cyanides & Monohydric Phenols by Skalar	<p>Water samples are filtered through a 0.45µm syringe filter and solid samples are extracted with 1M caustic soda prior to analysis on the automated flow analyser.</p> <p>The method determines total cyanide, easily liberated cyanide, complex cyanide, thiocyanate and monohydric phenols</p>	Skalar methods: I295-001 w/r+P7 I295-002 w/r+P7 293-902 w/r+P7 497-001	<p>Soils mg/kg: Total & Free CN=0.1, Thio=0.6, Phenol=0.3</p> <p>Waters ug/L: Total CN=40, Free CN=20, Thio=20, Phenol=100</p>	UKAS MCERTS(Soils)
DETSC 2140	Sugar in Mixing Water for Cement	<p>Waters are filtered prior to analysis to remove any particulates in suspension.</p> <p>The sugar in the filtrate reacts with phenol and sulphuric acid to produce a yellow-orange coloured complex. The resulting colour absorbance is measured at 490nm using a suitable visible spectrophotometer.</p>	Colorimetric Method for Determination of Sugars and Related Substances MICHEL DUBOIS, K. A. GILLES, J. K. HAMILTON, P. A. REBERS, and FRED SMITH - Division of Biochemistry, University of Minnesota, St. Paul, Minnesota.	10mg/l	Not Accredited
DETSC 2201	Nitrite in Waters and Leachates by Konelab 60i	<p>Nitrite is determined colorimetrically using the Konelab60i autoanalyser. The nitrite colour reaction occurs at pH 2.0 to 2.5 by coupling diazotized Sulphanilamide with N-1-naphthyl-ethylenediamine. The absorbance of this compound is measured spectrophotometrically at 520nm.</p>	Standard Methods for the Examination of Water and Wastewater Part 4500-NO2 B – 21st Edition 2005 APHA, AWWA, WEF Aquakem Method Nitrite in Waters Iss No 2 Methods for the Examination of Water and Associated Materials Oxidised Nitrogen in Waters 1981.	0.04mg/l (as N)	UKAS



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			EPA Method 354.1 Nitrite, spectrophotometric (Approved at 40 CFR Part 136, not approved at Part 141)		
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Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 2202	Total Oxidised Nitrogen in Waters and Leachates by Konelab 60i	Nitrate is reduced to nitrite by hydrazine under alkaline conditions. The total nitrite ions are then reacted with sulphanilamide and N-1-naphthylethylenediamine dihydrochloride under acidic conditions to form a reddish purple azo-dye. The absorbance of this compound is measured spectrophotometrically at 540 nm using the Konelab 60i autoanalyser.	Standard Methods for the Examination of Water and Wastewater Part 4500-NO2 B and Part 4500-NO3 H – 21st Edition 2005 APHA, AWWA, WEF Aquakem Method Total Oxidised Nitrogen. Methods for the Examination of Water and Associated Materials Oxidised Nitrogen in Waters 1981. EPA Method 353.1 Nitrate, Nitrite Colorimetric Automated Hydrazine Reduction (Approved at 40 CFR Part 136, Not approved at Part 141)	0.7mg/l (as N)	UKAS
DETSC 2203	Hexavalent Chromium in Waters and Leachates by Konelab 60i	Hexavalent Chromium is determined colorimetrically using the Konelab 60i autoanalyser. Hexavalent chromium reacts with diphenylcarbide in acid solution and produces a red-violet colour. The absorbance of this compound is measured spectrophotometrically at 540nm.	Standard Methods for the Examination of Water and Wastewater Part 3500-Cr – 21st Edition 2005 APHA, AWWA, WEF USEPA 7196-A Aquakem Method. Hexavalent Chromium	10µg/l	UKAS
DETSC 2204	Hexavalent Chromium in Soil by Konelab 60i	Hexavalent Chromium is determined colorimetrically using the Konelab 60i autoanalyser. Hexavalent chromium reacts with diphenylcarbide in acid solution and produces a red-violet colour. The absorbance of this compound is measured spectrophotometrically at 540nm.	Aquakem Method. Hexavalent Chromium	1mg/kg	Not Accredited



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Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 2205	Reactive & Total Phosphorus in Waters and Leachates by Konelab 60i	Phosphate is determined colorimetrically using the Konelab60i autoanalyser. The orthophosphate ion reacts with ammonium molybdate and antimony potassium tartrate under acidic conditions to form a 12-molybdophosphoric acid complex. The complex is then reduced with ascorbic acid to form a blue heteropoly compound. The absorbance of this compound is measured spectrophotometrically at wavelength 880nm.	Standard Methods for the Examination of Water and Wastewater Part 4500-P E– 21st Edition 2005 APHA, AWWA, WEF Aquakem Method. Phosphate in Waters Issue 2	0.01mg/l	Reactive Phosphorus: UKAS MCERTS (Waters-Trade Effluent only) Total Phosphorus: Not Accredited
DETSC 2206	High Level Ammonia in Waters and Leachates by Konelab 60i	Ammonia is determined colorimetrically using the Konelab60i autoanalyser. Ammonia reacts with hypochlorite ions generated by the alkaline hydrolysis of sodium dichloroisocyanurate to form monochloramine. Monochloramine reacts with salicylate ions in the presence of sodium nitroprusside at around pH 12.6 to form a blue compound. The absorbance of this compound is measured spectrophotometrically at wavelength 660nm.	Methods for the Examination of Waters and Associated Materials Ammonia in Waters 1981 ISBN 0117516139. Aquakem Method. Ammonia in Waters Issue 2	0.8mg/l	UKAS
DETSC 2207	Low Level Ammonia in Waters and Leachates by Konelab 60i	Ammonia is determined colorimetrically using the Konelab60i autoanalyser. Ammonia reacts with hypochlorite ions generated by the alkaline hydrolysis of sodium dichloroisocyanurate to form monochloramine. Monochloramine reacts with salicylate ions in the presence of sodium nitroprusside at around pH 12.6 to form a blue compound. The absorbance of this compound is measured spectrophotometrically at wavelength 660nm.	Methods for the Examination of Waters and Associated Materials Ammonia in Waters 1981 ISBN 0117516139. Aquakem Method. Ammonia in Waters Issue 2	0.015mg/l	UKAS



DETS INFO 001 – ANALYTICAL METHOD SUMMARY

Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 2208	Sulphide in Waters and Leachates by Konelab 60i	Sulphide is determined colorimetrically using the Konelab60i autoanalyser. Potassium Dichromate converts N-N-Diethyl-p-phenylenediamine to the free radical which reacts rapidly with sulphide to produce the coloured 'DPD Blue' or 'Ethylene Blue'. The absorbance can then be measured at wavelength 660nm.	The determination of sulphide in waters and associated materials (2007) - SCA - Draft (March 2007) Aquakem Method. Sulphide SP001 Issue 2 Standard Methods for the Examination of Water and Wastewater, 21st Edition 2005, Part 4500. ISBN0-87553-223-3	10µg/l	UKAS
DETSC 2210	Ferrous Iron in Waters and Leachates by Konelab 60i	Three molecules of phenanthroline chelate with each atom of ferrous iron to form an orange/red complex. The intensity of the coloured solution is stable between pH3 to pH9. Rapid colour development occurs between pH2.9 and pH3.5 in the presence of excess phenanthroline. The resulting colour absorbance is measured at 510nm	Aquakem Method Ferrous Iron FIR001 Issue 2	0.1mg/l	Not Accredited
DETSC 2211	Silicate in Waters and Leachates by Konelab 60i	Reactive forms of silicon in acid solution, below pH2, react with ammonium molybdate ions to form a yellow silicomolybdate. Ascorbic acid reduces the yellow silicomolybdate to produce a blue silicomolybdate complex. Oxalic acid is added to destroy any molybdophosphoric acid formed.	ASTM D7126 - 10 Standard Test Method for On-Line Colorimetric Measurement of Silica Aquakem Method Silica SIL Issue 2	0.1mg/l	Not Accredited
DETSC 2301	Metals in Soil by ICP-OES As, Ba, Be, Cd, Cr, Co, Cu, Fe, Mn, Mo, Ni, Pb, Se, V, Zn	Metals in soil are extracted using aqua regia and their concentrations are determined by Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES). Any metals not listed can be determined but are not accredited under UKAS or MCERTS for soils.	Standard Methods for the Examination of Water and Wastewater Part 3120 B – 21st Edition 2005, AWWA, WEF	mg/kg: As, Be Cu, Ni =0.2, Ba=1.5, Cd=0.1, Cr=0.15, Co=0.7, Mn=20, Mo=0.4, Pb=0.3, Fe=1200, Se=0.5, V=0.8, Zn=1.0	UKAS (all listed) MCERTS (All soils listed except Fe)



DETS INFO 001 – ANALYTICAL METHOD SUMMARY

Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 2302	<p>Metals in Waters by ICP-OES</p> <p>Al, As, Ca, Cd, Cr, Cu, Fe, K, Mg, Mn, Na, Ni, Pb, Se, Zn</p>	<p>Concentrations of metals in water are determined by Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES).</p> <p>Any metals not listed can be determined but are not accredited under UKAS or MCERTS for waters</p>	Standard Methods for the Examination of Water and Wastewater Part 3120 B – 21st Edition 2005 APHA, AWWA, WEF	<p>µg/l:</p> <p>Al=6.5, As= 7.1, Ca=100, Cd=0.3, Cr=0.75, Cu=0.75, Fe=70, K=20, Mg=5, Na=12, Ni=2.7, Pb=4, Se=11.3, Zn=3.8</p>	<p>Dissolved: UKAS (all listed) MCERTS(Waters)- Trade Effluent only (Al, Cd, Cr, Cu, Ni, Pb, Zn)</p> <p>Total: Not Accredited</p>
DETSC 2303	Total Hardness (By Calculation)	The concentrations of calcium and magnesium are determined using the appropriate methodologies. The hardness is a measure of the sum of the calcium and magnesium concentration expressed as calcium carbonate.	Standard Methods for the Examination of Water and Wastewater Part 3120 B – 21st Edition 2005 APHA, AWWA, WEF	n/a	UKAS
DETSC 2304	Zinc Equivalent in Soil (By Calculation)	The concentrations of copper, nickel and zinc concentrations are determined using the appropriate methodologies. The zinc equivalent is a measure of the combined toxicity of the three metals, relative to the toxicity of zinc.	n/a	n/a	Not Accredited
DETSC 2306	<p>Metals in Waters by ICP-MS</p> <p>Ag, Al, As, Ba, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Se, Sn, V, Zn</p>	<p>Concentrations of metals in water are determined by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS).</p> <p>Any metals not listed can be determined but are not accredited under UKAS.</p>	Standard Methods for the Examination of Water and Wastewater Part 3125 B – 21st Edition 2005 APHA, AWWA, WEF	<p>µg/l:</p> <p>Ag=0.13, Al=10.0, As=0.16, Ba=0.26, Ca=90, Cd=0.03, Co=0.16, Cr=0.25, Cu=0.40, Fe=5.50, Hg=0.01, K=80, Mg=20, Mn=0.22, Mo=1.1, Na=70, Ni=0.50, P=18.0, Pb=0.09, Sb=0.17, Se=0.25, Sn=0.40, V=0.60, Zn=1.3</p>	<p>Dissolved: UKAS (all listed)</p> <p>Total: Not Accredited</p>



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Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 2320	Total Sulphur in Soil by ICP	Sulphur compounds in soil are extracted using aqua regia and the insoluble residue is removed by filtration. The concentration of sulphur in the filtrate is determined by Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES). Loss of sulphur as H ₂ S is prevented by oxidation of the sulphur compounds to sulphate by the aqua regia.	TRL 447 Sulphate Specification for Structural Backfills 2005 BRE SD1 Concrete in Aggressive Ground 2005	0.01%	UKAS
DETSC 2321	Total Sulphate content of Soil by ICP-OES	The sulphate in the soil is extracted in dilute hydrochloric acid and the insoluble residue is removed by filtration. The filtrate is made up to volume and the concentration of sulphate in the filtrate is determined by Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES).	BS1377 : Part 3: 1990 Method 5 BS1377 : Part 1 : 1990	0.01%	UKAS MCERTS(Soils)
DETSC 2322	Total Potential Sulfate and Total Oxidisable Sulphur (By Calculation)	<p>Sulphur compounds in soil are extracted using aqua regia and the insoluble residue is removed by filtration. The concentration of sulphur in the filtrate is determined by Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES). Loss of sulphur as H₂S is prevented by oxidation of the sulphur compounds to sulphate by the aqua regia. The wavelength used for identification and quantification of sulphate is 181.972nm.</p> <p>The sulphate in the soil is extracted in dilute hydrochloric acid and the insoluble residue is removed by filtration. The filtrate is made up to volume and the concentration of sulphate in the filtrate is determined by Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES). The wavelength used for identification and quantification of sulphate is 181.972nm.</p> <p>The two results obtained from the above tests may then be combined to calculate the Total Potential Sulphate and Total Oxidisable Sulphur content</p>	BS1377 : Part 3: 1990 Method 5 BS1377 : Part 1 : 1990	0.01%	Not Accredited



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Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 2324	Mercury in Waters by Atomic Fluorescence Spectroscopy	Waters and aqueous samples are preserved by fixing with concentrated nitric acid. Treatment with tin (II) chloride reduces mercury (II) to mercury (0) vapour which is detected using atomic fluorescence spectrometry.	Standard Methods for the Examination of Water and Wastewater Part 3112 B – 21st Edition 2005 APHA, AWWA, WEF PSA Method – Millennium Merlin Method for Total Mercury in Drinking, Surface, Ground, Industrial and Domestic Wastewaters and Saline Waters	0.05µg/l	UKAS
DETSC 2325	Mercury in Soil Atomic Fluorescence Spectroscopy	The mercury is extracted from soil in aqua regia with gentle refluxing. The extract is filtered to remove particulates and diluted to volume. Treatment with tin (II) chloride reduces mercury (II) to mercury (0) vapour which is detected using atomic fluorescence spectrometry.	PSA Method – Millennium Merlin Method for Mercury in Sludge, Soils and Sediments	0.05 mg/kg	UKAS MCERTS(Soils)
DETSC 2332	Inorganic and Methyl Mercury Speciation	Soils are air-dried and crushed before being subjected to a two-stage microwave extraction procedure for Inorganic (Hg(II)) and Methyl (MeHg) mercury. Waters and aqueous samples are filtered to remove particulates. An aliquot is separated via HPLC before treatment with bromate-bromide and tin (II) chloride to generate mercury and the mercury is determined by atomic fluorescence spectroscopy.	USEPA Method 3200 – Mercury Species Fractionation and Quantification by Microwave Assisted Extraction. PSA Application Note 053 – Mercury Speciation Using The Millennium Merlin Speciation System	Soil: 100µg/kg Water: 1µg/l	Not Accredited
DETSC 2333	Elemental Mercury Speciation	Soils, waters and aqueous samples are tested on an as-received bases. A known quantity of sample is extracted using argon and the released elemental mercury is trapped. The trapped mercury is released upon heating in a scarifier module and determined by atomic fluorescence spectroscopy.		Soil: 0.6µg/kg Water: 1µg/l	Not Accredited



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Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 2400	Unified Barge Bioaccessible Metals in Soils	<p>The Unified BARGE Method (UBM) is a an in vitro method for simulating the human digestive system. Synthetic digestive fluids are used to simulate the fluids present in the body.</p> <p>Both inorganic solutions (Containing inorganic salts such as KCl, NaCl etc), and organic solutions (Containing organic compounds such as Urea, Glucose etc) are mixed with enzymes to produce 4 Synthetic digestive fluids saliva (S), Gastric fluid (G), duodenal fluid (D) and bile (B). These solutions are then used to mimic the effect of a sample passing through a human gastro intestinal tract by shaking portions of the sample at 37°C, human body temperature (17.4).</p>	<p>EPA 9200.2-86 April 2012- Standard Operating Procedure for an In Vitro Bioaccessibility Assay for Lead in Soil</p> <p>BGS Chemical & Biological Hazards Programme Open Report OR/07/027 - Inter-laboratory Trial of a Unified Bioaccessibility Procedure</p>	<p>V = 1.0mg/kg Cr = 5.0mg/kg Co = 1.0mg/kg Ni = 5.0mg/kg As = 0.5mg/kg Se = 0.5mg/kg Cd = 0.5mg/kg Pb = 1.0mg/kg</p>	Not Accredited
DETSC 3001	Solvent Extractable Matter in Soil	<p>Soil samples are extracted with a water-immiscible solvent and filtered to remove the water. The solvent is evaporated and the amount of extractable matter in the sample is determined gravimetrically.</p>	<p>In-house method based on:- Problems Arising from the Redevelopment of Gas Works and Similar Sites - AERE Harwell Laboratory 1981.</p> <p>Environmental Agency The Determination of Material Extractable by Carbon Tetrachloride and of Certain Hydrocarbon Oil and Grease Components in sewage Sludge – 1978</p>	40mg/kg	<p>Toluene & Cyclohexane: UKAS</p> <p>Other Solvents: Not Accredited</p>
DETSC 3002	Oil & Grease/Solvent Extractable Matter in Waters	<p>A known volume of sample is acidified to pH<2 and extracted three times with an organic solvent, such as n-Hexane, in a separating funnel. The solvent is removed by evaporation and the amount of extractable matter in the sample is determined gravimetrically.</p>	<p>APHA 21st Edition, 2005 – Method 5520 B. Oil & Grease - Partition Gravimetric Method</p> <p>USEPA Method 1664, Revision A: n-Hexane Extractable Material (HEM: Oil & Grease) and Silica Treated N-Hexane Extractable Material (SGT-HEM; Non Polar Material) by Extraction and Gravimetry.</p>	1mg/l for 500ml sample	UKAS



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Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 3049	Elemental Sulphur in Soils and Waters by HPLC	Soils are extracted in dichloromethane (DCM) by sonication. The elemental sulphur concentration is determined by high performance liquid chromatography (HPLC) with UV detection using a C ₁₈ (e.g. 250mm x 4.6mm) column and a mobile phase composed of 95% methanol and 5% water. Waters and aqueous extracts of soils are extracted using DCM in a separating funnel, filtered, and the concentration determined using HPLC.	National Grid Property Holdings Limited, Methods for the Collection and Analysis of Samples from National Grid Sites, Version 1, September 2006. Section 3.12 Soil Analysis: Elemental Sulphur.	Soil: 0.75mg/kg Waters: 90ug/l	Soil: UKAS MCERTS(Soils) Water: UKAS
DETSC 3072	Aliphatic / Aromatic TPH by GC-FID	Aliphatic and aromatic petroleum hydrocarbons (C ₁₀ -C ₃₅) are extracted from soil and water using n-Hexane. The fractions are separated by solid phase extraction using silica columns, whereby the aliphatic fraction is eluted first with n-Hexane and the aromatic portion is eluted second with dichloromethane. The total, aliphatic, and aromatic concentrations are determined by gas chromatography flame ionisation detection (GC-FID) using a capillary column and hydrogen as the carrier gas. The chromatographic data is further characterized by subdivision into approximate boiling point/carbon number ranges with respect to n-alkane retention time markers.	National Grid Property Holdings Limited, Methods for the Collection and Analysis of Samples from National Grid Sites, Version 1, September 2006. Section 3.12 Soil Analysis: Draft TNRCC Method 1006	Soil mg/kg: AL10-12 =1.5 AL12-16 =1.2 AL16-21 =1.5 AL21-35 =3.4 AR10-12 =0.9 AR12-16 =0.5 AR16-21 =0.6 AR21-35 =1.4 Water: 1ug/l	Soil: UKAS MCERTS(Soils) (C10-C35 only) Water: Not Accredited
DETSC 3301	PAH in Soil by GC-FID	Soils and associated materials are extracted in dichloromethane (DCM) using sonication. The PAH concentration is recorded both as “Total PAH” and as “Speciated PAH”, specified in terms of the 16 US EPA “Priority Pollutant” Polycyclic Aromatic Hydrocarbons. Concentrations are determined by gas chromatography using a BPX 50 (30m; 0.25µm ID; 0.25µm film) capillary column (or equivalent).	In-house method based on US EPA Method 8100, Polynuclear Aromatic Hydrocarbons	0.5 mg/kg each 1.6 mg/kg Total PAH	UKAS (16 PAH's only)
DETSC 3302	Hexane / Acetone Extracted PAH in Soil by GC-FID	Soils are extracted into hexane: acetone by shaking. The PAH concentration is recorded both as “Total PAH” and as “Speciated PAH”, specified in terms of the 16 US EPA “Priority Pollutant” Polycyclic Aromatic Hydrocarbons. Concentrations are determined by gas chromatography using a BPX 50 (30m; 0.25µm ID; 0.25µm film) capillary column (or equivalent).	In-house method based on US EPA Method 8100, Polynuclear Aromatic Hydrocarbons	0.1 mg/kg each 1.6 mg/kg Total PAH	Not Accredited



DETS INFO 001 – ANALYTICAL METHOD SUMMARY

Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 3303	Polyaromatic Hydrocarbons in Soils by GC-MS	The PAHs in the soil sample are extracted into hexane: acetone by shaking. The PAHs in the extract are separated by gas chromatography and identified by the mass selective detector. The concentration of each PAH is determined by referencing individual mass peak areas to the appropriate internal standard mass peak area. Quantification is carried out within the instrument software.	In-house method based on EPA Method 8270- US EPA Method 8270, Revision C, Semivolatile Organic Compounds by Gas Chromatography – Mass Spectrometry (GC/MS)	0.03 mg/kg each 0.10 mg/kg Total PAH	UKAS (All 16 PAH's) MCERTS (not Fluorene, Anthracene, Chrysene or Total)
DETSC 3304	Polyaromatic Hydrocarbons in Waters by GC-MS	The PAHs in the water sample are extracted into dichloromethane by shaking. The PAHs in the extract are separated by gas chromatography and identified by the mass selective detector. The concentration of each PAH is determined by referencing individual mass peak areas to the appropriate internal standard mass peak area. Quantification is carried out within the Instrument software.	In-house method based on EPA Method 8270- US EPA Method 8270, Revision 3, Semivolatile Organic Compounds by Gas Chromatography – Mass Spectrometry (GC/MS) In-house method based on EPA Method 3510C- EPA Method 3510C, Revision 3, Separatory Funnel Liquid-Liquid Extraction	10 ng/l each	UKAS (16 PAH's only)
DETSC 3311	Extractable Petroleum Hydrocarbons (EPH) in Soil, Ballast and Water	This method is designed to determine total concentrations of extractable petroleum hydrocarbons (EPH) in solid and aqueous matrices. This method uses a dichloromethane (DCM) extraction followed by quantification using gas chromatography/ flame ionisation detection (GC-FID) analysis using a 1:1 mixture of diesel and mineral oil as calibration standards and n-alkane markers to establish the boiling point ranges. This method is used for the quantitative analysis of “Total EPH” (C10-C40) and as “Speciated EPH”, specified in terms of the “diesel range” (C10-C24), and “mineral oil range” (C24-C40).	USEPA Method 3550C – Ultrasonic Extraction USEPA Method 8015B – Non-Halogenated Organics Using GC/FID	Soil: 10 mg/kg Ballast: 10mg/kg Water: 10µg/l	Soil: UKAS MCERTS(Soils) Water: UKAS



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Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 3312	Hexane Extractable Petroleum Hydrocarbons (HPH)	This method is designed to determine total concentrations of extractable petroleum hydrocarbons (EPH) in solid matrices. This method uses a hexane: acetone (9.4) extraction followed by quantification using gas chromatography/flame ionisation detection (GC-FID) analysis using a 1:1 mixture of diesel and mineral oil as calibration standards and n-alkane markers to establish the boiling point ranges. This method is used for the quantitative analysis of “Total EPH” (C10-C40) and as “Speciated EPH”, specified in terms of the “diesel range” (C10- C24) and “mineral oil range” (C24-C40).	USEPA Method 8015B – Non-Halogenated Organics Using GC/FID	Soil: 5 mg/kg	Not Accredited
DETSC 3321	BTEX, MTBE & PRO in Soils by Headspace GC-FID	BTEX, MTBE and PRO in soils are determined via Headspace GC-FID. Individual aromatic compounds are quantified by external calibration against known standards. PRO range is banded using alkane markers to define retention time windows.	EPA Methods 5021 and 8015D	0.01 mg/kg	UKAS MCERTS(Soils) Not accredited for PRO range (C5-10)
DETSC 3322	BTEX, MTBE & PRO in Waters & Leachates by Headspace GC-FID	BTEX, MTBE and PRO in soils are determined via Headspace GC-FID. Individual aromatic compounds are quantified by external calibration against known standards. PRO range is banded using alkane markers to define retention time windows.	EPA Methods 5021 and 8015D	1 µg/l	UKAS
DETSC 3401	PCBs in Soils by GC-MS	An as-received soil sample is extracted in Hexane:Acetone (1:2) using sonication methodology. The sample is separated by gas chromatography and identified by mass selective detector. Quantification is carried out within the instrument software.	EPA Method 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography.	µg/kg PCB 28=1.25 PCB 52=1.12 PCB 101=1.32 PCB 118=1.43 PCB 153=2.08 PCB 138=1.35 PCB 180=1.42	UKAS MCERTS(Soils)



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Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 3402	Polychlorinated Biphenols in Waters by GC/MS	The water sample is extracted in DCM on a reciprocal shaker. The sample is separated by gas chromatography and identified by mass selective detector. Quantification is carried out within the GC-MS software using an internal standard.	EPA Method 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography.	ng/l PCB 28=208 PCB 52=161 PCB 101=211 PCB 118+123=513 PCB 153=163 PCB 138=107 PCB 180=132 PCB 105=133 PCB 114=253 PCB 126=399 PCB 156=253 PCB 157=119 PCB 167=248 PCB 169=181 PCB 189=271 PCB 77=202 PCB 81=186	UKAS
DETSC 3432	Volatile Organic Compounds in Waters by Headspace GC-MS	The method covers the range of volatile organic compounds with boiling points up to 220°C. Water samples are heated and agitated in a crimp cap vial. This drives the volatile components in to the headspace. An aliquot of the headspace is taken and injected in to a gas chromatograph with mass selective detection (GC-MS). The detector operates in full scan mode and is calibrated with standards containing known concentrations of the compounds of interest.	USEPA Method 8260B Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS), Revision 2, December 1996	1 ug/l except: DCM (27), 2,2-Dichloropropane (2), Bromochloromethane (4), Bromodichloromethane (4), m+p-Xylene (2), 1,3-Dichlorobenzene (2)	UKAS except: Trichlorofluoromethane, Methylene Chloride, 1,1,1-Trichloroethane,



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Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 3433	Semi-Volatile Organic Compounds in Soils by GCMS	The SVOCs in the soil sample are extracted into DCM: Acetone by shaking. The SVOCs in the extract are separated by gas chromatography and identified by the mass selective detector. The concentration of each SVOC is determined by referencing individual mass peak areas to the appropriate internal standard mass peak area. Quantification is carried out within the instrument software.	In-house method based on EPA Method 8270- US EPA Method 8270, Revision 3, Semi volatile Organic Compounds by Gas Chromatography – Mass Spectrometry (GC/MS)	Individual SVOCs 0.1 mg/kg	UKAS
DETSC 5001	Ash Content of Coal	The ash content of the sample is determined gravimetrically. A known weight of the sample is placed in a prepared ash crucible and placed in a furnace. The furnace is heated to 750°C ±10°C where the temperature is maintained. Following combustion the crucible and sample are removed, cooled and reweighed.	ASTM D3174-11 BS 1016-104.4 1998 ISO 1171: 2010	0.1%	UKAS
DETSC 5002	Ash & LOI Content of Solid Biomass & Solid Recovered Fuels	The ash and LOI content of the sample is determined gravimetrically. A known weight of the sample is placed in a prepared ash crucible and placed in a furnace. The furnace is heated to 550°C ±10°C where the temperature is maintained. Following combustion the crucible and sample are removed, cooled and reweighed.	BS EN 14775:2009 BS EN 15403:2011	0.1%	UKAS
DETSC 5003	Volatile Matter Content of Solid Biomass, Solid Recovered Fuels and Coal	A known weight of the sample produced for volatile matter determination is placed in a suitable crucible fitted with a lid. The crucible and sample is weighed and heated in a furnace with a limited air through put at a temperature of 900°C ±10°C for 7 minutes. The sample and crucible are re-weighed and the volatile matter content determined by difference.	BSEN15148:2009 – Solid Biofuels Determination of the Content of Volatile Matter BS EN 15402:2011 - Solid Recovered Fuels - Determination of the Content of Volatile Matter	0.1%	UKAS



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Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 5004	Total Moisture / Dry Solids Content of Solid Biomass & Solid Recovered Fuels & Coal	The sample produced for general analysis is placed into a suitable prepared and weighed tray and reweighed. The sample is dried at 105°C to constant weight and the total moisture / dry solids content is calculated from the reduction in weight.	BSEN 14774 Parts 1 & 2 2009 DD CEN/TS 15414 Parts 1 & 2: 2010	0.1%	UKAS
DETSC 5005	Analysis Moisture Content of Solid Biomass, Solid Recovered Fuels & Coal	The sample produced for total moisture determination in accordance with DETSC 5009 or DETSC 5010 is placed in a suitable pre-weighed tray and reweighed. The sample is then dried at 105°C ±2°C to constant weight and then weighed again. The analysis moisture content is calculated from the reduction in weight.	BS EN 14774-3 2009 BS EN 15414-3 2011 BS 1016-104.1 -1999 ISO 11722 – 1999	n/a	UKAS
DETSC 5007	Calorific Value of Solid Biomass, Solid Recovered Fuels & Coal	Calorific value of a material is determined in an Isoperbol calorimeter by burning it in pure oxygen in a combustion bomb. A known amount of sample is placed in a combustion bomb which is then pressurised to 30bar with oxygen. A calorimeter bucket is filled with a known amount of deionised water which is placed in the calorimeter and the bomb placed in the bucket. The system is allowed to equilibrate and the bomb fired by electrical connection. The difference in temperature of the water in the calorimeter bucket caused by the ignition of the material in the bomb is measured and the calorific value calculated	BS EN 14918: Solid biofuels – Determination of calorific value BS EN 15400: Solid recovered fuels - Determination of calorific value	1MJ/kg	UKAS
DETSC 5008	Calorific Value of Soil	A known amount of sample material is burnt in a combustion bomb that is immersed in water in a calorimeter and the difference in the water temperature before and after ignition measured. The calorific value of the sample material is calculated making any necessary corrections for heat generation not associated with the combusting sample. A gelatine capsule will be required to assist combustion which is also corrected for in the final calculations.	BS 1016-105 1992 ISO 19208 ASTM 5865	1MJ/kg	UKAS



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Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 5009	Sample Preparation of Solid Biomass & Solid Recovered Fuels	If analysis is required on the original material (i.e. Bulk Density) a sub-sample will be taken after initial mixing after which the sample is then reduced by cutting/chopping oversized pieces of material. The material is then mixed and subdivided by manual means during which process representative samples are taken for analysis i.e. total moisture. The remainder of the sample is dried and then reduced to <1mm and again mixed and subdivided to produce the sample for laboratory analysis.	BS EN 14780:2011 BS EN 15413:2011	n/a	Not Accredited
DETSC 5010	Sample Preparation of Coal	If required the sample received is first mixed and a sample taken for bulk density or bulk density is carried out on the whole initial sample. The remaining sample or the whole sample used for bulk density is then reduced to <10mm preferably by jaw crushing. The material is then mixed and subdivided by mechanical or manual means during which process representative samples are taken for any analysis required at this stage i.e. total moisture, The remainder of the sample is again mixed and subdivided to produce the sample for laboratory analysis which may require drying prior to crushing to <212 microns. If there is excessive water content a pre- drying stage of the whole sample may have to be carried out before sample blending and subdivision commences.	BS ISO 13909-4: 2001	n/a	Not Accredited
DETSC 5011	Calculation of Fixed Carbon Content of Coal, SRF and Solid Biomass Fuels	The total moisture, analysis moisture, ash and volatile matter content are determined by approved methods. The values obtained are deducted from 100 and this gives the fixed carbon value of the fuel.	DD CENT/S 15296:2006 BS 1016.100:1994 BS ISO 17246:2005	0.1%	Not Accredited

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Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 5012	Determination of Biomass Content of SRF	Approximately 5g of the sample is dissolved in 150ml of 78% Sulphuric Acid for 16 hours \pm 2 hours after which 35ml of 30% Hydrogen Peroxide is added and the sample left for an additional 5 hours \pm 1 hour. At the end of this period 300ml of deionised water is added to the sample and the residue remaining filtered off using a glass fibre filter paper, washing the residue with an additional 300ml of deionised water. The filter paper and residue are placed in a pre-weighed crucible and dried at 1500C until completely dry. The filter paper is reweighed after drying and the non biomass residue determined. Corrections for carbonates content is made by determining the ash content of the original sample and the non biomass residue remaining. The result can also be expressed by percentage calorific value by performing a calorific valve on the solid captured on the filter paper.	BS EN 15440 Solid recovered fuels - Methods for the determination of biomass content	n/a	UKAS
DETSC 5013	Determination Of Carbon, Hydrogen, Nitrogen & Oxygen In Solid Biomass, Solid Recovered Fuels & Coal	A known mass of fuel is weighed into tin capsules which are dropped sequentially into the combustion reactor prior to the arrival of oxygen. The sample and tin capsule react with oxygen and combust at temperatures of 1700-1800 °C and the sample is broken down into its elemental components N ₂ , CO ₂ , and H ₂ O. High performance copper wires absorb the excess oxygen not used for sample combustion. The gases flow through the gas chromatographic (GC) separation column which is kept at a constant temperature. As they pass through the GC column, the gases are separated and are detected sequentially by the thermal conductivity detector (TCD). The TCD generates a signal, which is proportional to the amount of element in the sample. The instrument software compares the elemental peak to a known standard material (after calibration) and generates a report for each element on a weight basis. The oxygen is calculated by deducting these quantities from 100 along with the moisture, ash, sulphur & chlorine contents determined by other methods.	BS EN 15104:2011 Solid biofuels - Determination of total content of carbon, hydrogen and nitrogen - Instrumental methods BS EN 15407:2011 Solid recovered fuels - Methods for the determination of carbon (C), hydrogen (H) and nitrogen(N) content BS EN 15296:2011 Solid biofuels - Conversion of analytical results from one basis to another	Carbon 0.10% Nitrogen 0.30% Hydrogen 0.30% Oxygen 3.55%	UKAS

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Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 5014	Metals in Coal, SRF and Biomass by ICP	Metals in coal, solid recovered fuel (SRF) and biomass samples are extracted by microwave using Hydrogen Peroxide (to oxidise and break down organic matter) and Aqua Regia (to dissolve the matrix and hold the metals in solution). Their concentrations are determined by Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES).	<p>BS EN 15410 - Solid recovered fuels - Methods for the determination of the content of major elements (Al, Ca, Fe, K, Mg, Na, P, Si, Ti)</p> <p>BS EN 15411 - Solid recovered fuels - Methods for the determination of the content of trace elements (As, Ba, Be, Cd, Co, Cr, Cu, Hg, Mo, Mn, Ni, Pb, Sb, Se, Tl, V and Zn)</p> <p>BS EN 15290 - Solid biofuels - Determination of major elements - Al, Ca, Fe, Mg, P, K, Si, Na and Ti</p> <p>BS EN 15297 - Solid biofuels - Determination of minor elements - As, Cd, Co, Cr, Cu, Hg, Mn, Mo, Ni, Pb, Sb, V and Zn</p>	<p>0.1 mg/kg: As, Be, Cd, Co, Mn, Ni, P, Pb, Sb, Se, Sn, Ti, V, Zn</p> <p>0.2mg/kg: Cr, Cu, Tl</p> <p>0.5mg/kg: Mo</p> <p>1mg/kg: Al, Fe, K, Mg</p> <p>5mg/kg: Ca</p> <p>10mg/kg: Ag, Ba, Rh, Sr, Te</p>	<p>UKAS: Al, As (SRF only), Ca, Cd, Co, Cr, Cu, K, Mg, Mn, Na (SRF only), Ni, P, Pb, Se, Sn, Tl, V, Zn</p> <p>All other metals not accredited</p>
DETSC 5015	Mercury in Coal, SRF and Biomass by Atomic Fluorescence Spectroscopy	The mercury is extracted from coal, SRF and biomass in aqua regia with gentle refluxing. The extract is filtered to remove particulates and diluted to volume. Treatment of the resulting solution with tin (II) chloride reduces mercury (II) to mercury (0) vapour which is then quantitatively detected using atomic fluorescence spectrometry.	PSA Method – Millennium Merlin Method for Mercury in Sludge, Soils and Sediments.	0.055mg/kg	UKAS



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Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 5016	Total Sulphur Content Of Coal, SRF And Biomass	<p>Sulphur compounds in SRF and biomass are extracted using aqua regia / hydrogen peroxide and the insoluble residue is removed by filtration. The concentration of sulphur in the filtrate is determined by Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES). Loss of sulphur as H₂S is prevented by oxidation of the sulphur compounds to sulphate by the aqua regia. The use of hydrogen peroxide enhances the oxidation properties of nitric acid especially in the digestion of organics.</p> <p>Sulphur compounds in coal are determined by ICP-OES from the aqueous washings of the combustion products after firing in a bomb calorimeter.</p>	TRL Report TRL447 (Updated) - Sulphate specification for structural backfills 2005	0.001mg/kg	UKAS
DETSC 5017	Sulphur, Chlorine, Fluorine & Bromine Content of Solid Biomass, Solid Recovered Fuels and Coal by IC	A known weight of fuel is burnt in a pressurised bomb in pure oxygen. After firing of the bomb, it is stood for a minimum of five minutes to allow the combustion products to settle then the oxygen is slowly released over a period of at least three minutes. The bomb is then taken apart and the bomb electrodes rinsed with deionised water into the inside of the bomb. These washings are then decanted into a 50ml volumetric flask. The inside of the bomb is rinsed with deionised water and the washings added to those in the volumetric flask. The contents of the volumetric flask are made up to volume with deionised water and stored for the analysis of sulphur, chloride, fluoride and bromide by ion chromatography.	<p>Operating Instruction Manual No. 442M 6200 Parr Oxygen Bomb Calorimeter</p> <p>Operating Instruction Manual No. 205M 1108 Oxygen Combustion Bomb</p> <p>Operating Instruction Manual No. 454M 6510 Water Handling System</p>	<p>0.01% Chlorine</p> <p>0.01% Fluorine</p> <p>0.01% Bromine</p> <p>0.04% Sulphur (Coal only)</p>	UKAS

DETS INFO 001 – ANALYTICAL METHOD SUMMARY

Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 5018	XRF Analysis of Coal, Biomass, SRF and Cement	<p>When X-rays are targeted at a material they will cause electrons to be ejected from the component atoms (Ionisation). The ejection of electrons will cause the electronic structure of the component atoms to become unstable resulting in electrons from the higher energy outer orbitals “falling” into the inner orbitals to compensate. This causes a release of energy in the form of a photon equal to the energy difference between the two orbitals involved. Thus the material emits radiation which has energy characteristics of the atoms present.</p> <p>In energy dispersive X-ray fluorescence the fluorescent X-rays emitted are directed to a detector from which the data is processed by a multichannel analyser, producing a digital spectrum which is processed to obtain analytical data.</p> <p>The instrument analytical parameters are set up for the matrix type. A sample cell is prepared by placing a piece of prolene film over the outer cell and then inserting the inner cell. This gives a complete cell with a clear prolene base. A portion of the sample is placed into the cell and then analysed.</p>	Rigaku NEX CG EDXRF instruction manual	<p>Cement: 0.01% BaO, Cr₂O₃, CuO, PbO, Rb₂O, SrO, ZnO 0.02% Cl, V₂O₅ 0.05% TiO₂ 0.1% Mn₂O₃, P₂O₅, SO₃ 0.5% K₂O 1% Al₂O₃, CaO, CdO, Co₂O₃, Fe₂O₃, MgO, Na₂O, NiO, SiO₂, Y₂O₃</p> <p>Fuel: 0.01% Co, Cr, Cu, I, Li, Mn, Ni, P, Pb, Sn, Ti, V, Zn 0.02% Al, Ba, S, Si 0.1% Mg 0.2% Ca 0.5% As, Cd, Hg, Mo, Na, Sb, Se, Th, Tl 1% Ag</p>	<p>UKAS Al, As, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Mg, Mn, Mo, Na, Ni, P, Sb, Si, Sn, Tl, Ti, V, Zn Al₂O₃, BaO, CaO, Cl, Cr₂O₃, CuO, Fe₂O₃, K₂O, MgO, Mn₂O₃, Na₂O, P₂O₅, PbO, Rb₂O, SiO₂, SO₃, SrO, TiO₂, V₂O₅, ZnO</p> <p>All other testing not accredited</p>
DETSC 5019	Determination of Biodegradable Municipal Waste Content (Compositional Analysis)	The method is based on handpicking the BMW fraction from the municipal waste sample, and then weighing the amount of BMW sorted and expressing this as a percentage on a wet weight basis of the weight of the whole municipal waste sample.	ENVIRONMENT AGENCY: Guidance on monitoring of MBT and other treatment processes for the landfill allowances schemes (LATS and LAS) for England and Wales	n/a	Not Accredited
DETSC 5020	Determination of Bulk Density in Solid Biomass and Solid Recovered Fuels	The test portion is filled into a standard container of a given size and shape and weighed afterwards. Bulk density is calculated from the net weight per standard volume and reported for the moisture content.	BS EN 15103:2009 Solid Biofuels- Determination of bulk density BS EN 15401:2010 Solid Recovered Fuels- Determination of bulk density	0.5kg/m ³	Not Accredited



DETS INFO 001 – ANALYTICAL METHOD SUMMARY

Method Number	Title	Description	Reference	LOD	Accreditation Status
DETSC 5021	Auto Ignition Temperature	A quantity of the sample is placed into a metal tray or crucible and placed into an oven or furnace. The temperature of the oven / furnace is increased in predefined increments and the temperature in which the sample ignites is noted.	None	25°C	Not Accredited

ESTON ROAD INTRUSIVE WORKS



Final Factual Report
(Rev.00)

**Allied
Exploration &
Geotechnics Ltd.**

Contract Number: 4287
Client: South Tees Development Corporation
Consulting Engineer: Arcadis

Date: November 2020

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REPORT CONTROL SHEET

Contract Details

Contract Title	Eston Road Intrusive Works
Contract Number	4287
Location	Middlesbrough Road East, Clay Lane Commercial Park, South Bank, Lackenby, TS6 6TZ
National Grid Reference	NZ 543 210

Report Details

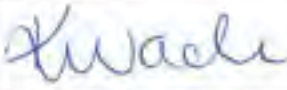
Report Status	Final (Rev.00)		
Report Type	Factual		
Volume Number	1	of	1
Copy Number	PDF	of	PDF
Report Recipient	Jonathan Miles	Arcadis	

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On Behalf of Allied Exploration & Geotechnics Limited

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ESTON ROAD INTRUSIVE WORKS

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Laboratory Report Certificate	0
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Specialist Chemical Testing (Tested Externally)	Appendix I
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Abbreviation	Definition
CC	Concrete Coring

Text Abbreviations

1. INTRODUCTION

The site works were commissioned in order to determine the ground conditions on site prior to the construction of the proposed roundabout and spur road connected to Eston Road in Lackenby, Middlesbrough.

Allied Exploration & Geotechnics Limited (AEG) were contracted by South Tees Development Corporation with Arcadis acting in the capacity of Consulting Engineer to perform a ground investigation at this site in order to provide information on the subsurface ground and groundwater conditions as well as to obtain samples for geotechnical and specialist chemical testing.

1.1 Scope of Works

The investigation works consisted of the following main elements:

- Three road core holes.
- Twelve mechanically excavated trial pits.
- Associated sampling.
- *In-situ* Hand Shear Vane and TRL Dynamic Cone Penetrometer Testing.

Site work was carried out between the 15th and 19th June 2020 with subsequent laboratory testing and reporting thereafter. A factual report only was requested.

The comments and opinions expressed in this report are based on the ground conditions encountered during the site work and on the results of tests carried out in the field and in the laboratory. There may, however, be special conditions prevailing on the site which have not been disclosed by this investigation and which have not been taken into account by this report.

2. THE SITE

2.1 Location

The National Grid Reference of the approximate centre of the site is NZ 543 210. This can be found on Ordnance Survey 1:50,000 Sheet Number 93 (Middlesbrough, Darlington & Hartlepool). Part of this sheet is reproduced as Figure 1, the Site Location Plan.

The site is located approximately 3.7km east of the Riverside Stadium, and 3.8km west northwest of Wilton Castle.

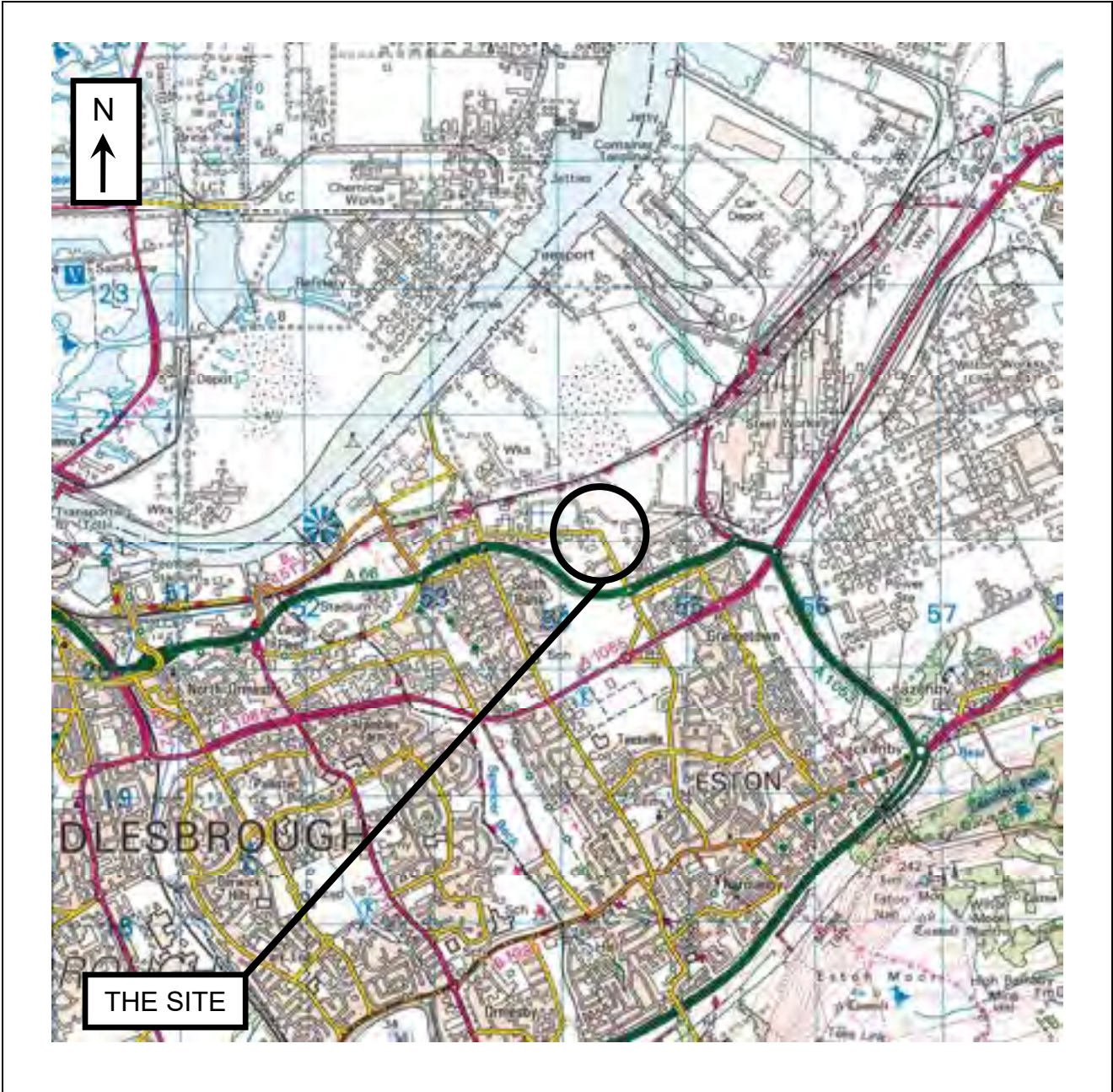


Figure 1: Site Location Plan

Reproduced from the Ordnance Survey 1:50,000 scale Landranger map by permission of Ordnance Survey on behalf of The Controller of Her Majesty's Stationery Office, Crown Copyright. All rights reserved. Licence number AL 100002282.

2.2 Site Description and Topography

The site is located on the corner of Middlesbrough Road East (running east-west), where it becomes Eston Road (running north-south). The site comprises mainly abandoned industrial land which is partially overgrown with vegetation and is bound to the south and west by industrial land uses, predominantly container storage. A railway line runs roughly east-west past the north of the site. The A66 runs approximately east-west roughly 0.5km south of the site, and the Tees Valley Railway Line lies approximately 0.5km to the north.

3. SITE OPERATIONS

3.1 General

All exploratory hole work, associated sampling, *in-situ* testing and logging was carried out in accordance with techniques outlined in Table 1, as appropriate; at positions as near as practicable to those supplied by the Consulting Engineer. These are shown on the Exploratory Hole Location Plan, Field Data Enclosure 1.

Reference Code Number	Title
BS 1377:1990	Methods of Test for Soils for Civil Engineering Purposes (where not in contravention or superseded by Eurocode references)
BS 5930:2015	Code of Practice for Ground Investigation (where not in contravention or superseded by Eurocode references)
BS EN ISO 14688-1:2018 & 14688-2:2018	Identification and Classification of Soil
BS 10175:2011+A2:2017	Investigation of Potentially Contaminated Sites

Table 1: British Standard Reference Code Number

The depths of all exploratory holes, descriptions of the material encountered, details of any groundwater encountered, samples taken and *in-situ* testing carried out together with any other relevant information can be found on the Road Core Holes and Trial Pit Records, Field Data Enclosures 2 and 3 respectively. A key to all symbols and abbreviations used throughout the report is included in the Key Sheets.

The primary purpose of ground investigation exploratory holes is to probe the stratified sequences of soil and/or rock. From the results of these probings no conclusion should be drawn concerning the presence of, size, lithological nature, and numbers per unit volume of ground cobbles and boulders in soil types such as glacial till (boulder clay). Refer to the Key Sheets for further information.

All works were undertaken with coordinated traffic management installed by Premier Traffic Management Limited along the carriageway to facilitate the investigation operation.

3.2 Health & Safety Considerations: Services

Before the commencement of any exploratory hole a search for underground services was conducted as prescribed in HSE publication 'Avoiding Underground Services (HSG47)' and in accordance with in-house internal safety procedure AEG-14.

Service plans were provided by the Client and were consulted prior to using a service locating device (such as a Cable Avoidance Tool or C.A.T.) to scan a working area around the proposed exploratory hole location. Where no services were indicated a 'Permit-to-Work' form was issued by the investigation supervisor and, with the exception of trial pits, the position was commenced with a hand excavated inspection pit. The inspection pit was also scanned during the excavation procedure. It should be noted that the digging of an inspection pit only confirms or guards against the possible presence of underground public utility services within the excavated pit. Where no services were indicated by the scanning procedure or inspection pit the exploratory hole was commenced in accordance with the Contract Specification.

Where services were located or there was reasonable belief that they were present, the position was relocated in agreement with the Client. Details of any services uncovered/located during this investigation are given in Table 2.

Exploratory Hole Number	Type of Service	Orientation & Depth (size where indicated)	Status (Damaged/Undamaged)	Additional Remarks
ATK_TP_001	Cast iron pipe	c.045° at 0.60m BGL (610mm diameter)	Undamaged	Sketch provided, please refer to Trial Pit Record
ATK_TP_002	Railway track line	0.80m BGL	Damaged/Removed	3.50m of track noted
ATK_TP_003	Cable	000° at 0.90m BGL (76mm diameter)	Damaged	None
ATK_TP_005	Cast iron pipe	090° at 0.40m BGL (152mm diameter)	Undamaged	None
	Cable	090° at 0.90m BGL (76mm diameter).	Damaged	None
ATK_TP_007	1 No. electric cable inside clay pipe conduit	135° at 0.80m BGL. (Cable - 25mm diameter Clay pipe - 152mm diameter)	Damaged	None
	2 No. electric cables	000° at 0.80m BGL (76mm diameter)	Damaged	None
	1 No. electric cable	090° at 0.80m BGL (76mm diameter)	Damaged	None

Table 2: Services Encountered

3.3 Exploratory Holes: Road Core Holes

Three vertical road cores were advanced using an Xcalibre Vulcan drilling rig, to depths of between 0.40m (RC003) and 0.53m BGL (RC001). This rig was used to recover 155mm unlined cylindrical specimens of road core. The Road Core Records are presented as Field Data Enclosure 2 and a summary of any relevant remarks are detailed in Table 3.

Exploratory Hole Number	Drilling Method	Completion Depth (m BGL)	Installation	Remarks
RC001	CC	0.53	No – reinstated	Advanced to required depth.
RC002	CC	0.47	No – reinstated	Advanced to required depth.
RC003	CC	0.40	No – reinstated	Advanced to required depth.

Any relevant photographs are presented after the applicable Road Core Record

Table 3: Road Core Summary

3.4 Exploratory Holes: Mechanically Excavated Trial Pits

Twelve trial pits were mechanically excavated using a JCB 360 tracked excavator to a maximum depth of 3.50m BGL. The Trial Pit Records are presented as Field Data Enclosure 3 and a summary of any relevant remarks are detailed in Table 4.

Exploratory Hole Number	Excavation Method	Completion Depth (m BGL)	Remarks
ATK_TP_001	Machine Excavated	2.60	Terminated due to concrete slab.
ATK_TP_002	Machine Excavated	3.50	Advanced to required depth.
ATK_TP_003	Machine Excavated	3.50	Advanced to required depth.
ATK_TP_004	Machine Excavated	3.50	Advanced to required depth.
ATK_TP_005	Machine Excavated	3.50	Advanced to required depth.
ATK_TP_006	Machine Excavated	3.50	Advanced to required depth.
ATK_TP_007	Machine Excavated	3.50	Advanced to required depth.
ATK_TP_008	Machine Excavated	1.30	Terminated due to concrete slab.
ATK_TP_009	Machine Excavated	3.50	Advanced to required depth.
ATK_TP_010	Machine Excavated	3.50	Advanced to required depth.
ATK_TP_011	Machine Excavated	3.50	Advanced to required depth.
ATK_TP_012	Machine Excavated	3.50	Advanced to required depth.

Any relevant photographs are presented after the applicable Trial Pit Record

Table 4: Trial Pit Summary

3.5 Samples

Representative samples of soil and road core were obtained from the exploratory holes and were taken to the laboratory for selected geotechnical and specialist chemical testing.

Environmental samples were taken in accordance with the contract specification during the investigation using an approved selection of container types in order to suit the encountered material properties and designated laboratory analytical parameters. Full chain of custody procedures were in place post sampling and during the transportation stage to the nominated specialist chemical laboratory. Environmental samples were administered appropriately following the best practice guidance provided in the contract specification.

3.6 Groundwater

The comments on groundwater conditions are based on the observations made at the time of investigation. It should be noted that groundwater levels may vary due to seasonal and other effects.

Groundwater was encountered in the majority of trial pits during the site works operation. Where groundwater observations were made details are given on the relevant Trial Pit Record and in greater detail (collectively in tabulated format) as Field Data Enclosure 4: Groundwater Observations Made at the Time of Site Works.



Standing groundwater levels were recorded in none of the drillholes at the beginning or end of each drilling shift.

3.7 Operative Observations: Potential Contamination

For the purposes of determining the condition of the site, with regard to human health and environmental issues, reference should specifically be made to any specialist chemical testing undertaken as part of the investigation scheme, as well as any supporting desk study and risk assessment documentation. The information given herein collates the observations made by the operatives involved in the investigation only and comments that have been indicated on the engineering records.

Where there was potential evidence of contamination, principally as a consequence of olfactory and visual identification, information is provided in Table 5.

Exploratory Hole Number	Occurrence (<i>in-situ</i> /surface/ laboratory sample)	Visual / Olfactory / Laboratory Testing	Depth (m BGL)	Occurrence Type	Additional Remarks
ATK_TP_009	<i>In-situ</i>	Olfactory	0.60- 1.00	Slight hydrocarbon odour from wooden piles	None

Table 5: Potential Contamination Encountered

It should be stressed that the information provided herein is subjective, as it is based on the perceptions of individuals and not specialists routinely involved in the chemical determination of contaminated residues, liquors, vapours or solid contaminants.

3.8 Surveying

The investigation positions were surveyed after completion of site works using a Leica Smartrover (Model ATX 1230+ GNSS) GPS based instrument which provides corrected Ordnance Survey co-ordinates in real time to an accuracy of within ± 30 mm vertical and ± 30 mm horizontal. These positions have been subsequently plotted in AutoCAD® software and are shown on the Exploratory Hole Location Plan, Field Data Enclosure 1.

4. IN-SITU TESTING

4.1 General

In-situ testing as specified by the Consulting Engineer was carried out in selected at three selected points in accordance with techniques outlined in the relevant British Standard and/or AEG Quality Procedure. The results are presented in the *In-situ* Testing Enclosures.

4.2 Hand Shear Vane

Hand shear vane testing using calibrated Edeco Pilcon Hand Vane equipment was carried out in one trial pit (ATK_TP_012) in accordance to the ground conditions encountered. The results are presented in detail

within *In-situ* Testing Enclosure 2 with the average peak and residual shear strength values provided on the applicable Trial Pit Record.

4.3 TRL Dynamic Cone Penetrometer Testing

Three TRL dynamic cone penetrometer tests were undertaken to depths of between 2.02m (DCP2) and 2.31m BGL (DCP3) from ground level at three selected points. The results from this testing are presented as *In-situ* Testing Enclosure 3.

5. LABORATORY TESTING

5.1 General

Laboratory testing as scheduled by the Consulting Engineer was carried out on selected samples in accordance with techniques outlined in BS 1377:1990, AEG Laboratory Quality Procedures or other appropriate standard as quoted.

5.2 Geotechnical Testing

The results are presented in the Laboratory Enclosures with an outline list of the procedures undertaken given in Table 6.

Test	Procedure
Moisture Content	BS 1377 Part 2 1990 (BS EN ISO 17892-1:2014)
Plasticity Index and Moisture Content	BS 1377 Part 2 1990 (BS EN ISO 17892-1:2014)
Determination of Density by Linear Measurement	BS 1377 Part 2 1990 (BS EN ISO 17892-2:2014)
Determination of Particle Density	BS 1377 Part 2 1990
Particle Size Distribution Sieving	BS 1377 Part 2 1990
Particle Size Distribution Sedimentation	BS 1377 Part 2 1990
Determination of Organic Matter Content, Sulphate and pH (Tested externally)	See External Laboratory Certificates
Determination of Dry Density/Moisture Content Relationship	BS 1377 Part 4 1990
Determination of California Bearing Ratio	BS 1377 Part 4 1990

Table 6: Geotechnical Testing

5.3 Specialist Chemical Testing

Selected samples have been submitted for chemical analysis as specified by the Consulting Engineer, conducted under a subcontract arrangement with Derwentside Environmental Testing Services (DETS). The results of this testing are presented as Appendix I.

5.4 Laboratory Identified Asbestos

Selected samples were analysed for asbestos content as specified by the Consulting Engineer. Any identified asbestos is presented in Table 7 which has been summarised from specialist chemical testing results (see Appendix I for further details).

Exploratory Hole Number	Occurrence	Depth (m BGL)	Occurrence Type	Additional Remarks
ATK_TP_001	Laboratory Sample	0.60	Brown asbestos	Small bundles of Amosite present

Table 7: Laboratory Identified Asbestos

Key Sheets





Allied Exploration and Geotechnics Limited

Key Sheets



INTRODUCTION

The following explanatory notes define the terminologies, abbreviations and symbols pertaining to each individual column or section of the Exploratory Hole records. 'Exploratory Hole' is used as a general term in this report to comprise borehole, drillhole, and trial pit. All exploratory hole records have been produced using 'gINT®', which is an integrated software environment for the storage and manipulation of subsurface data.

The primary purpose of ground investigation exploratory holes is to probe the stratified sequences of soil and/or rock. From the results of these probings no conclusion should be drawn concerning the presence of, size, lithological nature, and numbers per unit volume of ground cobbles and boulders in soil types such as glacial till (boulder clay). With respect to rotary coring, driller's records and observations of the recovered core are used to determine any zones of no recovery (core loss). These zones are based on the interpretation of the logging engineer and are therefore potentially subjective. In addition, where relevant, every effort is made to highlight material/zones that may relate to suspected old workings. However, it should be noted that this is not straightforward (especially without detailed information regarding anticipated subsurface conditions) and therefore no guarantee can be made with regards to the accuracy of the interpretation of the recovered core.

INFORMATION COMMON TO ALL EXPLORATORY HOLE RECORDS

Status Box

The status box in the top right hand corner of each exploratory hole record gives the status of each individual record i.e. PRELIM1, PRELIM2, PRELIM3 FINAL etc. The date shown relates to the last instance the data was revised. This information is for AEG Quality Assurance only.

Exploratory Hole No

The identity number used throughout the report.

Project

The ground investigation project name. Occasionally the project name may be shortened or abbreviated due to string length restraints imposed by the gINT® computer programme.

Client

Client's name responsible for funding the ground investigation project. The Client's name may be shortened or abbreviated due to string length restraints imposed by the gINT® computer programme.

Location

The exploratory hole position given as either national grid co-ordinates, local grid if specified, or a reference name normally pertaining to the area of investigation.

Method (Equipment)

Represents the drilling, excavation or boring method(s) or equipment used.

Ground Level (m(AOD))

The precise ground level in metres above Ordnance Datum at the exploratory hole location from which the reduced level for each stratigraphic boundary is calculated.

Date

The date relating to the start of the exploratory hole excavation.

Sheet

The sheet number and total number of sheets for the particular record.

Checked By

Printed signature of the person who has carried out the technical quality check on the log.

Logged By

The name of the engineer who has carried out the logging of the exploratory hole.

Contract No.

The Allied Exploration & Geotechnics Limited reference number for the project.



Allied Exploration and Geotechnics Limited

Key Sheets






INFORMATION RELEVANT TO BOREHOLE AND WINDOW/WINDOWLESS SAMPLE HOLE RECORDS

Sample & Tests Columns

Depth	The depth over which a sample or test is taken is shown in depth column of the exploratory hole record in a "from...to" format.
Type No	Indicates the type of sample/test and number given by the driller.
Test Result	Result of the test given in the applicable units.

Water Column

Water Strike	Level of groundwater strike within an exploratory hole. The symbol  denotes a water strike and is suffixed with a number, which indicates the strike order. The corresponding unfilled symbol  is the depth the strike rose to.
Seepage	Groundwater seepage within an exploratory hole is denoted by the  symbol.

Strata Columns

Reduced Level	The corresponding reduced level of each soil or rock boundary in metres Ordnance Datum.
Legend	A graphical representation of the materials encountered using BS 5930:2015 recommended symbols for soil and rock.
Depth (Thickness)	The depth below ground level of each soil or rock boundary in metres and the thickness of each individual stratigraphic unit (given in brackets).
Description	Engineering description of each individual soil or rock type follows recommendations outlined in Section 6 of BS 5930:2015 with the following implementation: <ol style="list-style-type: none"> The amendment of section 6 incorporates the guidance indicated in BS EN ISO 14688-1:2018, BS EN ISO 14688-2:2018 and BS EN ISO 14689-1:2018 European Standard with particular emphasis on current UK practice. Supplementary laboratory or in-situ assessed measurements of undrained strength are provided where applicable information is available in parenthesis in accordance with BS 5930:2015 after the field strength determined consistency. The description based measurement table indicating the quantitative undrained strength classification divisions is provided in Key Sheets Table 1.

Term based on measurement	Undrained strength classification definition cu, in kPa (from BS EN ISO 14688-2:2018, 5.3, Table 6)
Extremely low	<10
Very low	10-20
Low	20-40
Medium	40-75
High	75-150
Very High	150-300
Extremely High	300-600

KEY SHEETS TABLE 1

- Cobble and boulder content is expressed in accordance with the terms provided in BS5930:2015 where visually identified in trial pit excavations, or inferred/recovered during the drilling operations. The assessment of frequency and spatial occurrence of coarse and very coarse rock material should not be considered as precise, but only an indicator or estimate of the potential conditions. It should be noted that the recovery of coarse or very coarse particles in boreholes is dependent on the limitations imposed by the casing diameter. The terminology used is outlined in Key Sheets Table 2.



Allied Exploration and Geotechnics Limited

Key Sheets



Fraction	Percent by Mass	Term
Boulders	<5	Low boulder content
	5 to 20	Medium boulder content
	>20	High boulder content
Cobbles	<10	Low cobble content
	10 to 20	Medium cobble content
	>20	High cobble content

KEY SHEETS TABLE 2

- 4 Rock Strength based on assessed field or measured unconfined compressive strength follows the classification scheme given in BS5930:2015 as outlined in Key Sheets Table 3.

Term for use in field or based on measurement	Definition for field use	Definition on basis of Unconfined Compressive Strength measurement (MPa)	Superseded Classification of Rock Strength: Terminology (Strength Range MPa)	Definition for field use
Extremely weak	Scratched by thumbnail, gravel size lumps can be crushed between finger and thumb.	0.6-1.0	Extremely weak (0.6-1.0)	Can be indented by thumbnail. Gravel sized lumps crush between finger and thumb.
Very weak	Scratched by thumbnail, lumps can be broken by heavy hand pressure, can be peeled easily by a pocket knife, crumbles under firm blows with point of geological hammer.	1-5	Very weak (1-5)	Crumbles under firm blows with point of geological hammer. Can be peeled by a pocket knife.
Weak	Thin slabs, corners or edges can be broken off with hand pressure, can be peeled by a pocket knife, shallow indentations made by firm blow with point of geological hammer.	5-12.5	Weak (5-25)	Can be peeled by a pocket knife with difficulty. Shallow indentations made by firm blow with the point of geological hammer.
Moderately Weak	Thin slabs, corners or edges can be broken off with hand pressure, can be scratched with difficulty by pocket knife, hand-held specimen can be broken with single firm blow of geological hammer.	12.5-25		
Medium Strong	Cannot be scraped or peeled with a pocket knife, specimen on a solid surface can be fractured with single firm blow of geological hammer.	25-50	Medium Strong (25-50)	Cannot be scraped with pocket knife. Can be fractured with a single firm blow of geological hammer.
Strong	Specimen requires more than one blow of geological hammer to fracture it.	50-100	Strong (50-100)	Requires more than one blow of geological hammer to fracture.
Very Strong	Specimen requires many blows of geological hammer to fracture it.	100-250	Very Strong (100-250)	Requires many blows of geological hammer to fracture.
Extremely strong	Specimen can only be chipped with geological hammer.	>250	Extremely strong (>250)	Can only be chipped with geological hammer.
Based on BS EN ISO 14689-1:2018 4.2.7, Table 2			Based on BS EN ISO 14689-1:2003 4.2.7, Table 5 (Superseded Version)	

KEY SHEETS TABLE 3

- 5 Where 'rock weathering classification' can be applied it is 'Approach 4' which will be used. If any other approach is used the factual text of the report will provide details of the applicable specific approach. (Ref.: BS5930:2015). An outline of the 'Approach 4' rock weathering classification scheme is provided as Key Sheets Table 4.

APPROACH 4 CLASSIFICATION INCORPORATING MATERIAL AND MASS FEATURES		
Class	Classifier	Typical characteristics
A	Unweathered	Original strength, colour, fracture spacing
B	Partially weathered	Slightly reduced strength, slightly closer fracture spacing, weathering penetrating in from fractures, brown oxidation
C	Distinctly weathered	Further weathered, much closer fracture spacing grey reduction
D	Destructured	Greatly weakened, mottled, ordered lithorelics in matrix becoming weakened and disordered, bedding disturbed.
E	Residual or reworked	Matrix with occasional altered random or 'apparent' lithorelics, bedding destroyed. Classed as reworked when foreign inclusions are present as a result of transportation.

KEY SHEETS TABLE 4



Allied Exploration and Geotechnics Limited

Key Sheets



Instrument/Backfill Column

A graphical representation of backfill material or instrumentation detail using graphic legends. Its placement in the column is relative to depth in metres and corresponds to the exploratory hole in scale.

Boring Progress and Water Observations Columns

This section provides information on each day's production as a daily log.

Date	Date of shift.
Depth	Depth of hole at the start of the shift.
Casing	Casing's depth at the start of the shift.
Casing Dia	Casing's diameter at the start of the shift.
Water Depth	Water level within the borehole at the start and end of shift.

Chiselling Columns

Indicates where hard strata occurred in the borehole and breaking out was carried out to advance the borehole.

From	The depth commenced.
To	The depth finished.
Hours	The time spent for breaking out.

Water Added Columns

Indicates the depth range where water was added to the borehole to facilitate boring or to prevent stress relief disturbance "blowing/boiling" in granular soils.

From	Depth in metres from where water was added.
To	Depth in metres to where water was added.

General Remarks

Any remarks believed to be relevant to the exploratory hole.

INFORMATION RELEVANT TO PIT/TRENCH RECORDS

The pit/trench records follow the same format as the borehole and window/windowless sample hole records for the Samples & Tests, Water and Strata columns. However, in addition to these there are the following:

Plan

A schematic plan view of the pit showing its excavated dimensions together with its orientation, given as a compass bearing to magnetic north.

Groundwater

Notes on water bearing horizons.

Stability

The engineer's comments outlining the stability of the sides during pit excavation.

General Remarks

The engineer's comments of any other information relevant to construction of the pit.

Additional Information

An indication if a sketch and/or photographs accompany the record.



Allied Exploration and Geotechnics Limited

Key Sheets



Underground Services

Depth	Depth service was encountered.
Orientation	Orientation given as a compass bearing to magnetic north.
Type	Type of service encountered.
Diameter	Diameter of service encountered.
Condition	Condition the service encountered was noticed in.

INFORMATION RELEVANT TO DRILLHOLE RECORDS AND ROTARY CONTINUATION

Run Details Columns

Depth	Each drill run is highlighted by a horizontal line with the top and bottom depths shown in metres. Core diameter (C Dia) is presented also within each run.
TCR (SCR) RQD	Information provided on the total core recovery, solid core recovery and rock quality designation. Refer to Abbreviations for further details.
Fracture Index	Information given relating to the fracture index of the rock.

Strata Columns

As the strata columns for borehole and window/windowless sample hole records except for description which is as follows:

Discontinuities Detail	Information on core discontinuities, localised variations in weathering, lithology, strength and structure follows recommendations outlined in BS5930:2015.
Main	Engineering description of each individual soil or rock type follows recommendations outlined in BS5930:2015.

Instrument/Backfill Column

A graphical representation of backfill material or instrumentation detail using graphic legends. Its placement in the column is relative to depth in metres and corresponds to the exploratory hole in scale.

Drilling Progress and Water Observations Columns

Date	Date of shift.
Depth	Depth of hole at the start of the shift.
Casing	Casing's depth at the start of the shift.
Water Strike	Depth at which water was encountered.
Water Standing	Depth at which water in the hole levelled off.
Water Remarks	Any remarks believed to be relevant to the water e.g. Artesian.

Standard Penetration Test

Depth	The depth commenced.
Type	Type of standard penetration test (SPT).
Result	Result of SPT.

Flush

From	The depth commenced.
To	The depth finished.
Type	Details of the type of flush used. A = Air, F = Foam, W = Water and Pol = Polymer.
Returns	An indication of the percentage of the returned flush material.

General Remarks

Any remarks believed to be relevant to the exploratory hole.



Allied Exploration and Geotechnics Limited

Key Sheets



SAMPLES

B	Bulk disturbed sample.
ES	Environmental soil sample.
EW	Environmental water sample.
G	Gas sample.
J	Small disturbed sample.
LB	Large bulk disturbed sample.
P	Piston sample.
P*	An attempted but failed undisturbed piston sample.
U	Undisturbed sample.
U*	An attempted but failed general purpose undisturbed sample.
U _(ss)	Sample has been subsampled.
ES _(U)	Brackets following a sample denotes a subsample. The sample information within the brackets is the origin of the subsample.
W	Water sample.

IN-SITU TESTS

CBR	California Bearing Ratio mould sample or test.
HSV	In-situ hand shear vane.
HSV*	An attempted but failed in-situ hand shear vane.
HSV result of e.g 80(20)kPa	Denotes average HSV peak result followed by average HSV residual result (in brackets).
HP	Hand penetrometer test.
K (F)	Falling head permeability test.
K (R)	Rising head permeability test.
K (C)	Constant head permeability test.
K (P)	Packer permeability test.
PT	Pressuremeter test.
PID	Photo ionisation detector test.
FID	Flame ionisation detector test.
S	Standard Penetration Test (SPT) using the split barrel sampler (shoe). The corresponding uncorrected 'N' value is given in the test result column with more detailed information provided in the In-Situ Testing Enclosures where applicable. Testing has been conducted in accordance with BS EN ISO 22476-3: 2005.
C	Denotes SPT test using a solid cone in preference to the split barrel sampler (usually in coarse granular soil) with all other reporting requirements as outlined above for the split barrel sampler.
S/C result of e.g. 1/2.94	Denotes where full penetration has not been achieved during the SPT test. In such cases the penetration (mm) per blow is recorded in the test result column e.g. 1/2.94 is 2.94mm of penetration per single blow.
SV	In-situ down-the-hole shear vane test. The remoulded shear strength is given in brackets.

ROCK QUALITY AND CORE RECOVERY

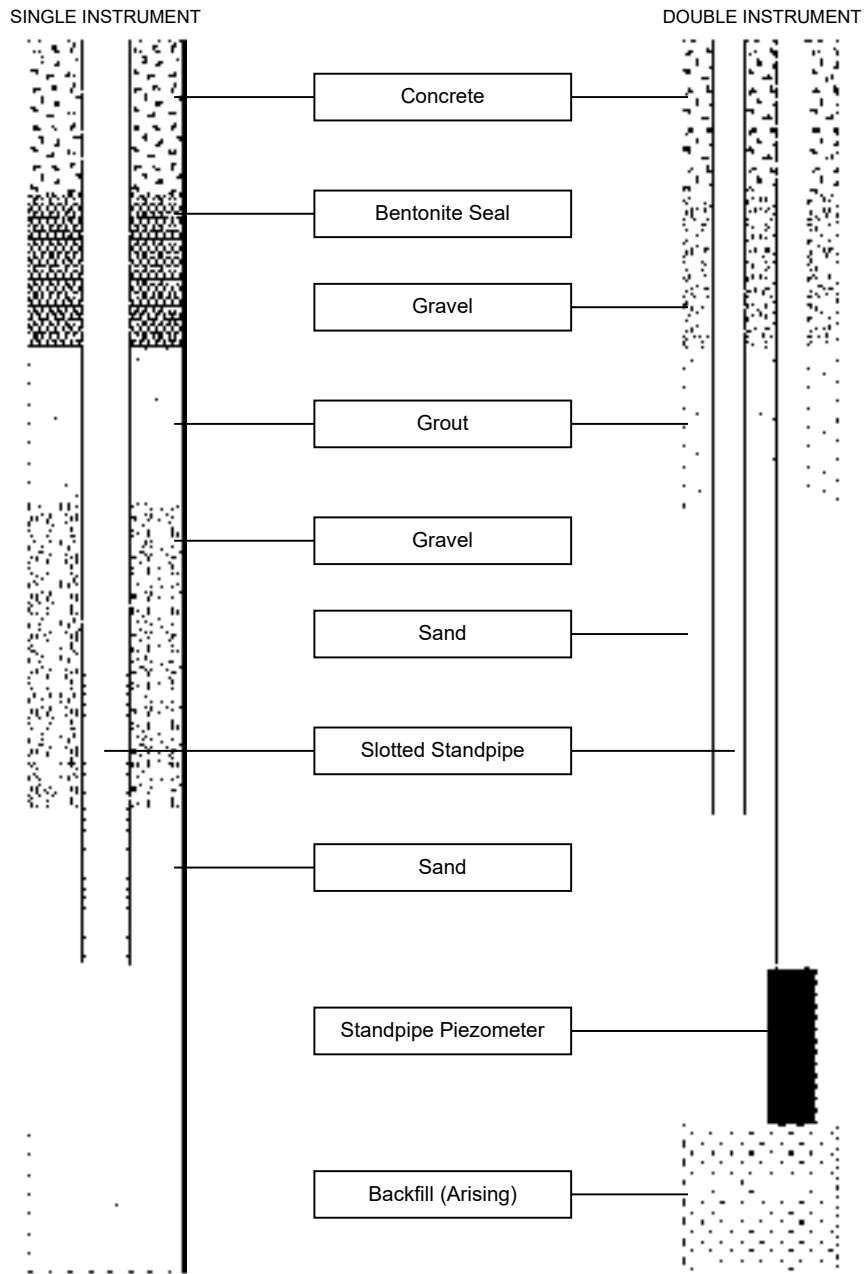
TCR	Total Core Recovery - the length of the recovered core expressed as a percentage of the length of core run.
SCR	Solid Core Recovery - the sum length of all core pieces that are recovered with at least one full diameter, expressed as a percentage of the length of core run.
RQD	Rock Quality Designation - The sum length of all core pieces that are 100mm or longer (measured along the centre of the core), expressed as a percentage of the length of core run.
FI	Fracture Index - The number of fractures per 1000mm length of solid core.
NI	Non-intact - The material recovered in a non-intact state.
NR	No recovery from the core run. These zones are based on the interpretation of the logging engineer and are therefore potentially subjective.



Allied Exploration and Geotechnics Limited Key Sheets



Symbols and Abbreviations: Explanation of Instrumentation Legends Used

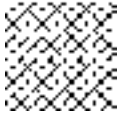

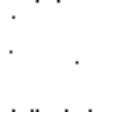


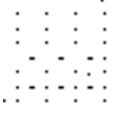
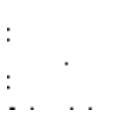
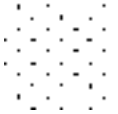


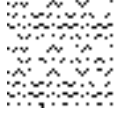


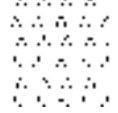
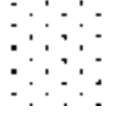


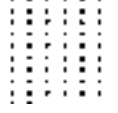
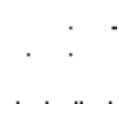
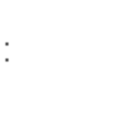
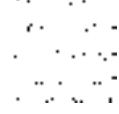

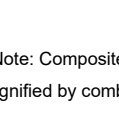


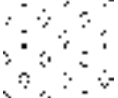




Allied Exploration and Geotechnics Limited Key Sheets



Symbols and Abbreviations: Explanation of Legends Used

Soils	Rocks		
	<i>Sedimentary</i>	<i>Metamorphic</i>	<i>Igneous</i>
 Made Ground	 Chalk	 Coarse Grained	 Coarse Grained
 Cobbles and Boulders	 Limestone	 Medium Grained	 Medium Grained
 Gravel	 Conglomerate	 Fine Grained	 Fine Grained
 Sand	 Breccia		
 Silt	 Sandstone		
 Clay	 Siltstone		
 Peat	 Mudstone		
 Topsoil	 Shale		
 Silty Sand	 Coal		
	 Pyroclastic (Volcanic Ash)		
	 Gypsum		

Note: Composite soil types will be signified by combined symbols e.g.

Exploratory Hole Location Plan





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(Fax): 0191 387 4710
(Email): enquiries@aeg.uk.net

KEY:



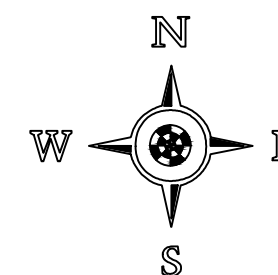
ROAD CORE



TRIAL PIT



DYNAMIC CONE PENETROMETER



Base Plan Supplied by Consulting Engineer

Drawing Title:
ENC 01 : Exploratory Hole Location Plan

Drawing No.:
AEG/4287/01

Contract Title:
Eston Road Intrusive Works

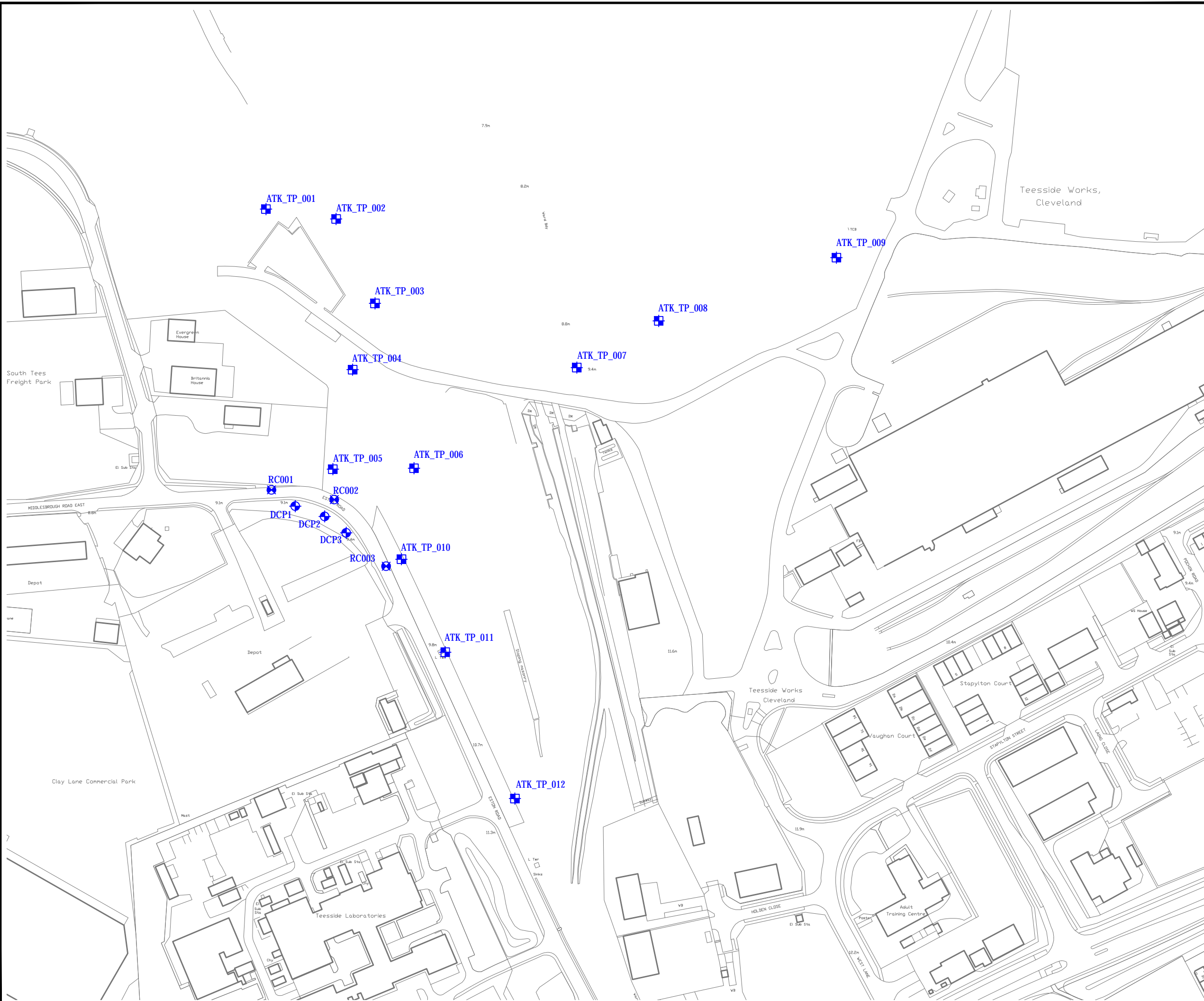
Client:
Tees Valley Combined Authority

Consultant:
**Arcadis
1 Whitehall Riverside,
Leeds, LS1 4BN**

Contract No.:
4287

Scale:
1:2500 @ A3

Date:
21/09/2020



Road Core Hole Records





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ROAD CORE RECORD

Status:-
FINAL

Project: Eston Road Intrusive Works		Exploratory Hole No. RC001	
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454270.790 N:521077.157		Sheet: 1 of 2
Method (Equipment): Road Coring (Xcalibre Vulcan)	Ground Level (m): 9.362	Start Date: 15/06/2020	

RUN DETAILS		STRATA			
Depth & (Core Ø)	Recovery %	Reduced Level	Legend	Depth (Thickness)	Description
(155mm)	100	9.32		0.045	5mm Hot Rolled Tarmacadam Surface Course (Binder = Bitumen, Aggregate = 30-40%, Aggregate = Dolerite, Estimated Voids = <1%), Layer Condition = Slightly Deteriorated).
				(0.095)	20mm Hot Rolled Asphalt Base Course (Binder = Tar, Aggregate = 60-70%, Aggregate = Slag and Basalt, Estimated Voids = <1%), Layer Condition = Fresh).
		9.22		0.140	10mm Stone Mastic Asphalt Base Course (Binder = Unknown, Aggregate = 60-70%, Aggregate = Basalt and possibly brick, Estimated Voids = <1%), Layer Condition = Fresh).
		9.18		0.185	20mm Stone Mastic Asphalt Base Course (Binder = Unknown, Aggregate = 50-60%, Aggregate = Slag, Estimated Voids = <1%), Layer Condition = Fresh).
		9.14		0.220	14mm Stone Mastic Asphalt Base Course (Binder = Unknown, Aggregate = 60-70%, Aggregate = Basalt, Estimated Voids = <1%), Layer Condition = Fresh).
		9.11		0.250	5mm Stone Mastic Asphalt Base Course (Binder = Unknown, Aggregate = 20-30%, Aggregate = Unknown, Estimated Voids = <1%), Layer Condition = Fresh).
		9.08		0.280	20mm Stone Mastic Asphalt Base Course (Binder = Unknown, Aggregate = 50-60%, Aggregate = Basalt, Estimated Voids = <1%), Layer Condition = Fresh).
		9.05		0.310	28mm Stone Mastic Asphalt Base Course (Binder = Unknown, Aggregate = 60-70%, Aggregate = Dolerite, Estimated Voids = <1%), Layer Condition = Fresh).
				(0.090)	40mm Stone Mastic Asphalt Base Course (Binder = Unknown, Aggregate = 60-70%, Aggregate = Slag, Estimated Voids = <1%), Layer Condition = Fresh).
				(0.080)	40mm Slag Bound Material Sub Base (Binder = Unknown, Aggregate = 70-80%, Aggregate = Slag, Layer Condition = Fragmented).
		8.96		0.400	
		8.88		0.480	
		8.83		0.530	
Complete at 0.530m BGL.					

Drilling Progress and Water Observations			Flush		Samples		PAK Marker		General Remarks
Date	Depth	Water Standing	Depth	Flush	Depth	Type & No.	Depth	Result	
15/06/2020	0.00		0.00-0.53	Water	0.00-0.53	C1			
15/06/2020	0.53								

All dimensions in metres Scale 1:6.25	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: D. Portsmouth	Contract No. 4287
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ROAD CORE RECORD

Status:-
FINAL

Project: Eston Road Intrusive Works			Exploratory Hole No. RC001
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454270.790 N:521077.157		
Method (Equipment): Road Coring (Xcalibre Vulcan)	Ground Level (m): 9.362	Start Date: 15/06/2020	Sheet: 2 of 2

Figure RC001.1
RC001 - Core



Figure RC001.2
RC001 - Pit





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ROAD CORE RECORD

Status:-
FINAL

Project: Eston Road Intrusive Works		Exploratory Hole No. RC002	
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454314.661 N:521070.339		
Method (Equipment): Road Coring (Xcalibre Vulcan)	Ground Level (m): 9.601	Start Date: 15/06/2020	Sheet: 1 of 2

RUN DETAILS		STRATA			
Depth & (Core Ø)	Recovery %	Reduced Level	Legend	Depth (Thickness)	Description
(155mm)	100	9.55		(0.050) 0.050	5mm Hot Rolled Tarmacadam Surface Course (Binder = Bitumen, Aggregate = 30-40%, Aggregate = Dolerite, Estimated Voids = <1%), Layer Condition = Slightly Deteriorated).
		9.42		(0.135) 0.185	28mm Hot Rolled Asphalt Base Course (Binder = Tar, Aggregate = 60-70%, Aggregate = Slag and Basalt, Estimated Voids = <1% (Max. Void Size = 2mm)), Layer Condition = Fresh).
		9.37		0.230	20mm Stone Mastic Asphalt Base Course (Binder = Unknown, Aggregate = 50-60%, Aggregate = Basalt and possibly brick, Estimated Voids = <1%), Layer Condition = Fresh).
		9.34		0.265	20mm Stone Mastic Asphalt Base Course (Binder = Unknown, Aggregate = 50-60%, Aggregate = Slag, Estimated Voids = <1%), Layer Condition = Fresh).
		9.27		(0.065) 0.330	28mm Stone Mastic Asphalt Base Course (Binder = Unknown, Aggregate = 60-70%, Aggregate = Basalt, Estimated Voids = <1%), Layer Condition = Fresh).
		9.22		(0.050) 0.380	5mm Stone Mastic Asphalt Base Course (Binder = Unknown, Aggregate = 20-30%, Aggregate = Unknown, Estimated Voids = <1%), Layer Condition = Fresh).
		9.13		(0.090) 0.470	40mm Stone Mastic Asphalt Base Course (Binder = Unknown, Aggregate = 50-60%, Aggregate = Basalt and Slag, Estimated Voids = <1%), Layer Condition = Slightly Deteriorated).

Drilling Progress and Water Observations			Flush		Samples		PAK Marker		General Remarks
Date	Depth	Water Standing	Depth	Flush	Depth	Type & No.	Depth	Result	
15/06/2020	0.00		0.00-0.47	Water	0.00-0.47	C1			
15/06/2020	0.47								

All dimensions in metres Scale 1:6.25	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: D. Portsmouth	Contract No. 4287
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Tel: 01772 735 300 Fax: 01772 735 999

ROAD CORE RECORD

Status:-
FINAL

Project: Eston Road Intrusive Works			Exploratory Hole No. RC002
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454314.661 N:521070.339		
Method (Equipment): Road Coring (Xcalibre Vulcan)	Ground Level (m): 9.601	Start Date: 15/06/2020	Sheet: 2 of 2

Figure RC002.1
RC002 - Core



Figure RC002.2
RC002 - Pit





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ROAD CORE RECORD

Status:-
FINAL

Project: Eston Road Intrusive Works		Exploratory Hole No. RC003	
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454350.867 N:521023.884		Sheet: 1 of 2
Method (Equipment): Road Coring (Xcalibre Vulcan)	Ground Level (m): 9.812	Start Date: 15/06/2020	

RUN DETAILS		STRATA			
Depth & (Core Ø)	Recovery %	Reduced Level	Legend	Depth (Thickness)	Description
(155mm)	100	9.77		0.040	10mm Hot Rolled Tarmac Surface Course (Binder = Bitumen, Aggregate = 30-40%, Aggregate = Dolerite, Estimated Voids = <1%, Layer Condition = Slightly Deteriorated).
		9.74		0.070	28mm Hot Rolled Asphalt Base Course (Binder = Tar, Aggregate = 60-70%, Aggregate = Slag and Dolerite, Estimated Voids = <1% (Max. Void Size = 2mm)), Layer Condition = Fresh).
				(0.130)	28mm Stone Mastic Asphalt Base Course (Binder = Unknown, Aggregate = 50-60%, Aggregate = Basalt, Estimated Voids = <1%), Layer Condition = Fresh).
		9.61		0.200	20mm Stone Mastic Asphalt Base Course (Binder = Unknown, Aggregate = 50-60%, Aggregate = Dolerite, Estimated Voids = <1%), Layer Condition = Fresh).
		9.55		0.260	5mm Stone Mastic Asphalt Base Course (Binder = Unknown, Aggregate = 20-30%, Aggregate = Unknown, Estimated Voids = <1%), Layer Condition = Fresh).
		9.52		0.290	40mm Stone Mastic Asphalt Base Course (Binder = Unknown, Aggregate = 50-60%, Aggregate = Basalt and Slag, Estimated Voids = <1%), Layer Condition = Slightly Deteriorated).
		9.41		0.400	<i>Complete at 0.400m BGL.</i>

Drilling Progress and Water Observations			Flush		Samples		PAK Marker		General Remarks
Date	Depth	Water Standing	Depth	Flush	Depth	Type & No.	Depth	Result	
15/06/2020	0.00		0.00-0.40	Water	0.00-0.40	C1			
15/06/2020	0.40								

All dimensions in metres Scale 1:6.25	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: D. Portsmouth	Contract No. 4287
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Tel: 01772 735 300 Fax: 01772 735 999

ROAD CORE RECORD

Status:-

FINAL

Project: Eston Road Intrusive Works		Exploratory Hole No. RC003	
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454350.867 N:521023.884		Sheet: 2 of 2
Method (Equipment): Road Coring (Xcalibre Vulcan)	Ground Level (m): 9.812	Start Date: 15/06/2020	

Figure RC003.1
RC003 - Core



Figure RC003.2
RC003 - Pit



Trial Pit Records





ALLIED EXPLORATION & GEOTECHNICS LIMITED

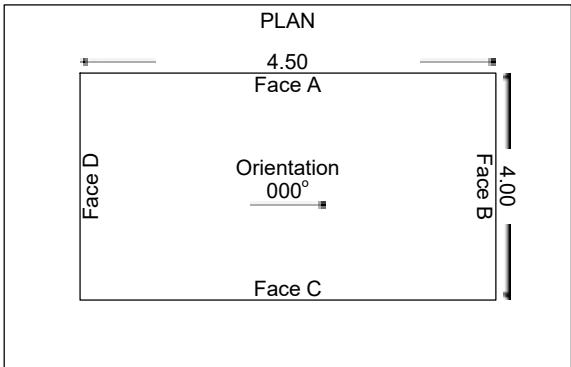
Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG Tel: 0191 387 4700 Fax: 0191 387 4710
 Regional Office: Unit 20 Business Development Centre, Eanam Wharf, Blackburn, BB1 5BL Tel: 01772 735 300 Fax: 01772 735 999

TRIAL PIT RECORD

Status:-
FINAL

Project: Eston Road Intrusive Works		Exploratory Hole No. ATK_TP_001
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454266.975 N:521273.000	Sheet: 1 of 4
Method (Equipment): Machine Excavated (JCB 360 Tracked)	Ground Level (m): 8.363 Start Date: 19/06/2020	

SAMPLES & TESTS			STRATA				
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description
0.20	J1			8.21		0.15	MADE GROUND (Compacted grey sandy gravel. Sand is fine to coarse and includes mainly concrete and ash. Gravel is fine to coarse subangular and includes slag and concrete. Slag content is 50-75%. Slag is grey vesicular).
0.40	B2			(1.55)		MADE GROUND (Grey brown sandy gravel with medium cobble content. Sand is fine to coarse and includes mainly ash. Gravel is fine to coarse subangular and includes slag, concrete, brick, ash, metal and clinker. Slag content is 25-50%. Slag is grey vesicular. Cobbles are angular slag, red brick and concrete. Slag content is 0-25%. Slag is grey vesicular).	
0.60	ES3			6.66		1.70	at c.0.60m BGL ... 610mm diameter cast iron pipe running 045 degrees.
1.20	J4			(0.90)		at c.1.40m BGL ... slightly sandy slightly gravelly clay with high cobble content.	
1.40	B5			5.76		2.60	MADE GROUND (Grey brown clayey sandy gravel with medium to high cobble content and reworked grey brown soft silty clay bands. Sand is fine to coarse and includes mainly ash. Gravel is fine to coarse subangular and includes slag, concrete, brick, ash, metal and clinker. Slag content is 25-50%. Slag is grey vesicular. Cobbles are angular and include slag, red brick and concrete. Slag content is 0-25%. Slag is grey vesicular).
2.20	J6						at c.2.60m BGL ... concrete slab/base.
2.60	B7						<i>Terminated at 2.60m BGL - due to encountering a concrete slab.</i>



GROUNDWATER
Groundwater seepage at 2.10m BGL (Slow inflow).

STABILITY
Pit sides and base stable throughout excavation.

ADDITIONAL INFORMATION		
Sketch Diagram:	Sketch Taken	
Photographs:	Yes	See additional sheets.

GENERAL REMARKS

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: D. Portsmouth	Contract No. 4287
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Tel: 01772 735 300 Fax: 01772 735 999

TRIAL PIT RECORD

Status:-

FINAL

Project: Eston Road Intrusive Works		Exploratory Hole No. ATK_TP_001	
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454266.975 N:521273.000		
Method (Equipment): Machine Excavated (JCB 360 Tracked)	Ground Level (m): 8.363	Start Date: 19/06/2020	Sheet: 2 of 4

Figure ATK_TP_001.1
ATK_TP_001 - Long Face



Figure ATK_TP_001.2
ATK_TP_001 - Long Face





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TRIAL PIT RECORD

Status:-

FINAL

Project: Eston Road Intrusive Works			Exploratory Hole No. ATK_TP_001
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454266.975 N:521273.000		
Method (Equipment): Machine Excavated (JCB 360 Tracked)	Ground Level (m): 8.363	Start Date: 19/06/2020	Sheet: 3 of 4

Figure ATK_TP_001.3
ATK_TP_001 - Short Face



Figure ATK_TP_001.4
ATK_TP_001 - Short Face





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TRIAL PIT RECORD

Status:-

FINAL

Project: Eston Road Intrusive Works			Exploratory Hole No. ATK_TP_001
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454266.975 N:521273.000		
Method (Equipment): Machine Excavated (JCB 360 Tracked)	Ground Level (m): 8.363	Start Date: 19/06/2020	Sheet: 4 of 4

Figure ATK_TP_001.5
ATK_TP_001 - Structures



Figure ATK_TP_001.6
ATK_TP_001 - Spoil





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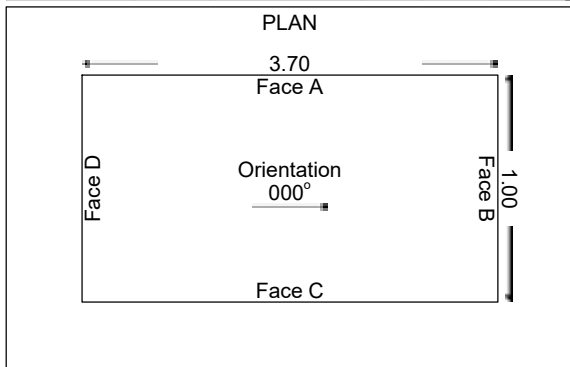
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TRIAL PIT RECORD

Status:-
FINAL

Project: Eston Road Intrusive Works		Exploratory Hole No. ATK_TP_002
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454315.939 N:521266.141	
Method (Equipment): Machine Excavated (JCB 360 Tracked)	Ground Level (m): 8.153	Start Date: 18/06/2020
		Sheet: 1 of 3

SAMPLES & TESTS			STRATA				
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description
0.30 0.40	J1 B2			7.65	(0.50)	0.50	MADE GROUND (Compacted grey brown black clayey very sandy gravel. Sand is fine to coarse and includes mainly ash. Gravel is fine to coarse subangular and includes slag, red brick, ash, concrete. Slag content 25-50%. Slag is grey vesicular).
0.80	J3				(1.10)		MADE GROUND (Grey brown black sandy gravel with medium cobble content. Sand is fine to coarse and includes mainly ash. Gravel is fine to coarse subangular and includes slag, red brick, ash and concrete. Slag content is 0-25%. Slag is grey vesicular. Cobbles are angular and include slag, concrete, metal and wooden railway sleepers. Slag content is 25-50%. Slag is grey vesicular). at c.0.80m BGL ... 3.50m of railway track line removed.
1.30 1.40	B4 ES5			6.55	(1.20)	1.60	Soft and friable grey mottled black silty CLAY gradually becoming firm brown grey slightly sandy silty CLAY with root fibers and sand lenses. Sand is fine to medium. Slight organic odour noted. at c.1.80m BGL ... clay is of high plasticity.
1.80 2.00	J6 B7				(2.80)		
2.90 3.00 3.20	J8 ES9 B10			5.35	(0.70)	2.80	Firm and friable laminated grey brown CLAY with silty lenses. at c.2.90m BGL ... clay is of intermediate plasticity.
				4.65		3.50	Complete at 3.50m BGL.



GROUNDWATER
 No groundwater inflow observed.

STABILITY
 Pit sides and base stable throughout excavation.

ADDITIONAL INFORMATION		
Sketch Diagram:	No Sketch Taken	
Photographs:	Yes	See additional sheets.

GENERAL REMARKS
 (1) Material unsuitable for HSV testing - too friable.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: D. Portsmouth	Contract No. 4287
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TRIAL PIT RECORD

Status:-

FINAL

Project: Eston Road Intrusive Works		Exploratory Hole No.	
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454315.939 N:521266.141	ATK_TP_002	
Method (Equipment): Machine Excavated (JCB 360 Tracked)	Ground Level (m): 8.153	Start Date: 18/06/2020	Sheet: 2 of 3

Figure ATK_TP_002.1
ATK_TP_002 - Long Face



Figure ATK_TP_002.2
ATK_TP_002 - Short Face





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TRIAL PIT RECORD

Status:-

FINAL

Project: Eston Road Intrusive Works			Exploratory Hole No. ATK_TP_002
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454315.939 N:521266.141		
Method (Equipment): Machine Excavated (JCB 360 Tracked)	Ground Level (m): 8.153	Start Date: 18/06/2020	Sheet: 3 of 3

Figure ATK_TP_002.3
ATK_TP_002 - Spoil





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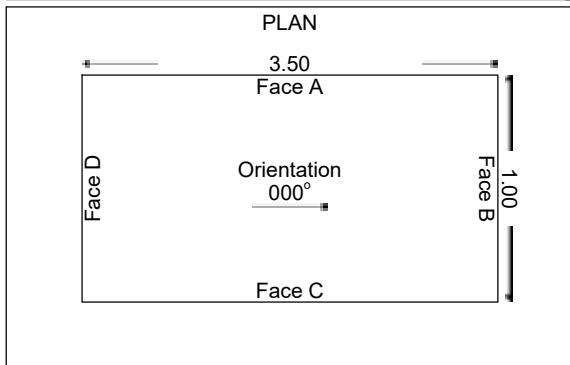
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TRIAL PIT RECORD

Status:-
FINAL

Project: Eston Road Intrusive Works		Exploratory Hole No. ATK_TP_003
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454343.052 N:521207.258	
Method (Equipment): Machine Excavated (JCB 360 Tracked)	Ground Level (m): 8.493	Start Date: 18/06/2020 Sheet: 1 of 3

SAMPLES & TESTS			STRATA				
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description
0.60	J1			7.99	[Cross-hatched pattern]	0.50	MADE GROUND (Compacted grey brown black sandy gravel. Sand is fine to coarse and includes mainly ash. Gravel is fine to coarse subangular and includes slag, red brick, ash and concrete. Slag content is 0-25%. Slag is grey vesicular).
0.80	B2					0.60	MADE GROUND (Grey brown black sandy gravel with medium cobble content and fragments of metal. Sand is fine to coarse and includes mainly ash. Gravel is fine to coarse subangular and includes slag, red brick, ash and concrete. Slag content is 0-25%. Slag is grey vesicular. Cobbles are angular and include slag and concrete. Slag content is 0-25%. Slag is grey vesicular). at c.0.90m BGL ... 76mm diameter cable located 1.00m from western edge of pit running 000 degrees.
1.00	ES3			7.39	[X-pattern]	1.10	
1.40	J4					1.10	Firm brown grey slightly sandy silty CLAY with root fibers. Sand is fine to medium.
1.60	B5				[X-pattern]	2.20	
2.30	J6			6.29		[X-pattern]	3.00
2.60	B7				[X-pattern]		3.50
2.80	ES8			5.49		[X-pattern]	
3.10	J9				[X-pattern]		
3.30	B10			4.99		[X-pattern]	



GROUNDWATER
 No groundwater inflow observed.

STABILITY
 Pit sides and base stable throughout excavation.

ADDITIONAL INFORMATION		
Sketch Diagram:	No Sketch Taken	
Photographs:	Yes	See additional sheets.

GENERAL REMARKS
 (1) Material unsuitable for HSV testing - too friable.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: D. Portsmouth	Contract No. 4287
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TRIAL PIT RECORD

Status:-

FINAL

Project: Eston Road Intrusive Works		Exploratory Hole No. ATK_TP_003	
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454343.052 N:521207.258		
Method (Equipment): Machine Excavated (JCB 360 Tracked)	Ground Level (m): 8.493	Start Date: 18/06/2020	Sheet: 2 of 3

Figure ATK_TP_003.1
ATK_TP_003 - Long Face



Figure ATK_TP_003.2
ATK_TP_003 - Short Face





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TRIAL PIT RECORD

Status:-

FINAL

Project: Eston Road Intrusive Works			Exploratory Hole No. ATK_TP_003
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454343.052 N:521207.258		
Method (Equipment): Machine Excavated (JCB 360 Tracked)	Ground Level (m): 8.493	Start Date: 18/06/2020	Sheet: 3 of 3

Figure ATK_TP_003.3
ATK_TP_003 - Spoil





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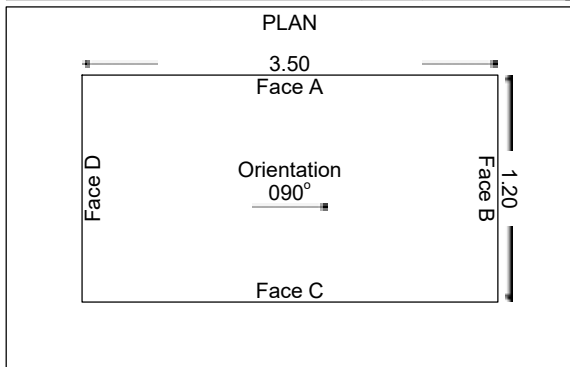
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TRIAL PIT RECORD

Status:-
FINAL

Project: Eston Road Intrusive Works		Exploratory Hole No. ATK_TP_004
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454327.452 N:521160.998	
Method (Equipment): Machine Excavated (JCB 360 Tracked)	Ground Level (m): 8.811	Start Date: 18/06/2020 Sheet: 1 of 3

SAMPLES & TESTS			STRATA			
Depth	Type No	Test Result	Water	Reduced Level	Legend	Description
0.80	J1		↓ Water	8.51	[Cross-hatch pattern]	MADE GROUND (Grey brown red sandy gravel. Sand is fine to coarse. Gravel is fine to coarse subangular and includes red brick, concrete and slag. Slag content is 25-50%. Slag is grey vesicular).
1.00	B2			8.31		0.30
1.40	ES3			7.21	(1.10)	MADE GROUND (Grey green blue gravel and cobbles. Gravel is fine to coarse subangular and includes slag. Cobbles are subangular and include slag. Slag content is 75-100%. Slag is vesicular).
1.80	J4			6.61	(0.60)	Soft and friable grey mottled black silty CLAY. Slight organic odour noted. at c.1.80m BGL ... clay is of intermediate plasticity.
2.10	B5			[X pattern]	(1.30)	Firm brown grey slightly organic slightly sandy silty CLAY with root fibers. Sand is fine to medium.
2.40	J6					
2.60	B9					
2.80	ES10					
3.50	J11			5.31	3.50	Complete at 3.50m BGL.



GROUNDWATER
Saturated strata at 1.60m BGL (Heavy inflow).

STABILITY
Pit sides and base stable throughout excavation.

ADDITIONAL INFORMATION		
Sketch Diagram:	No Sketch Taken	
Photographs:	Yes	See additional sheets.

GENERAL REMARKS
(1) Material unsuitable for HSV testing - too friable.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: D. Portsmouth	Contract No. 4287
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TRIAL PIT RECORD

Status:-

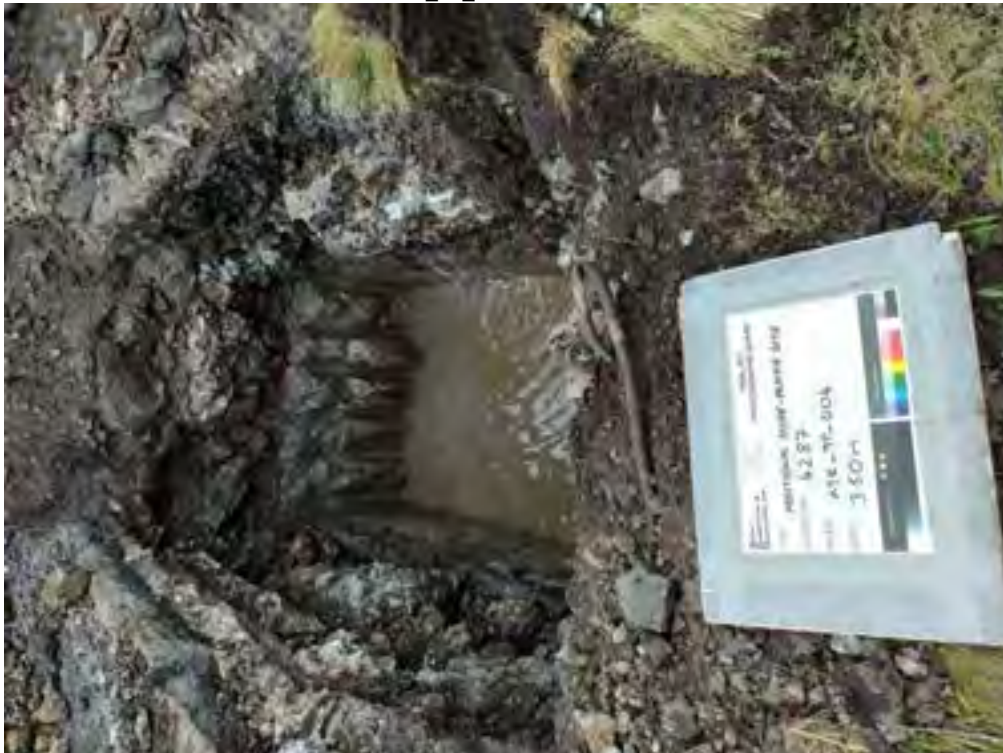
FINAL

Project: Eston Road Intrusive Works		Exploratory Hole No. ATK_TP_004	
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454327.452 N:521160.998		
Method (Equipment): Machine Excavated (JCB 360 Tracked)	Ground Level (m): 8.811	Start Date: 18/06/2020	Sheet: 2 of 3

Figure ATK_TP_004.1
ATK_TP_004 - Long Face



Figure ATK_TP_004.2
ATK_TP_004 - Short Face





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TRIAL PIT RECORD

Status:-

FINAL

Project: Eston Road Intrusive Works			Exploratory Hole No. ATK_TP_004
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454327.452 N:521160.998		
Method (Equipment): Machine Excavated (JCB 360 Tracked)	Ground Level (m): 8.811	Start Date: 18/06/2020	Sheet: 3 of 3

Figure ATK_TP_004.3
ATK_TP_004 - Spoil





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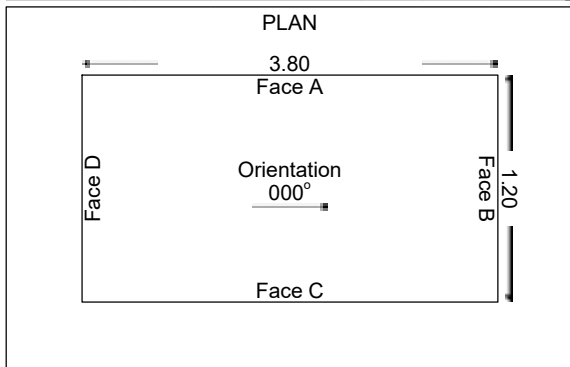
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TRIAL PIT RECORD

Status:-
FINAL

Project: Eston Road Intrusive Works		Exploratory Hole No. ATK_TP_005
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454313.642 N:521091.599	
Method (Equipment): Machine Excavated (JCB 360 Tracked)	Ground Level (m): 9.475	Start Date: 18/06/2020 Sheet: 1 of 3

SAMPLES & TESTS			STRATA				
Depth	Type No	Test Result	Water	Reduced Level	Legend	Description	
0.50	J1		Water	9.18	[Cross-hatch pattern]	0.30	MADE GROUND (Brown slightly clayey slightly gravelly sand with many rootlets. Sand is fine to coarse. Gravel is fine to medium subangular and includes brick and glass).
0.80	B2			10.90		MADE GROUND (Red brown black very clayey very sandy gravel with high cobble content and wood and metal fragments. Sand is fine to coarse and includes mainly ash. Gravel is fine to coarse subangular and includes slag, red brick, ash and concrete. Cobbles are angular and include slag and concrete. Slag content is 0-25%. Slag is grey vesicular).	
1.00	ES3			8.28	1.20	at c.0.40m BGL ... 152mm diameter cast iron pipe at southern end of pit running 090 degrees (intact). at c.0.90m BGL ... 76mm diameter broken cable at northern end of pit running 090 degrees.	
1.60	J4			[Horizontal line pattern]	(2.30)	Soft becoming firm brown grey slightly sandy CLAY. Sand is fine to medium.	
1.80	B5					between c.1.20-2.00m BGL ... slight organic odour noted. at c.1.60m BGL ... clay is of intermediate plasticity.	
2.20	J6						
2.80	B7						
2.90	ES8						
3.20	J9			5.98	3.50	<i>Complete at 3.50m BGL.</i>	



GROUNDWATER
No groundwater inflow observed.

STABILITY
Pit sides and base stable throughout excavation.

ADDITIONAL INFORMATION		
Sketch Diagram:	No Sketch Taken	
Photographs:	Yes	See additional sheets.

GENERAL REMARKS
(1) Material unsuitable for HSV testing - too friable.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: D. Portsmouth	Contract No. 4287
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TRIAL PIT RECORD

Status:-

FINAL

Project: Eston Road Intrusive Works		Exploratory Hole No.	
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454313.642 N:521091.599	ATK_TP_005	
Method (Equipment): Machine Excavated (JCB 360 Tracked)	Ground Level (m): 9.475	Start Date: 18/06/2020	Sheet: 2 of 3

Figure ATK_TP_005.1
ATK_TP_005 - Long Face



Figure ATK_TP_005.2
ATK_TP_005 - Short Face





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TRIAL PIT RECORD

Status:-

FINAL

Project: Eston Road Intrusive Works			Exploratory Hole No. ATK_TP_005
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454313.642 N:521091.599		
Method (Equipment): Machine Excavated (JCB 360 Tracked)	Ground Level (m): 9.475	Start Date: 18/06/2020	Sheet: 3 of 3

Figure ATK_TP_005.3
ATK_TP_005 - Spoil





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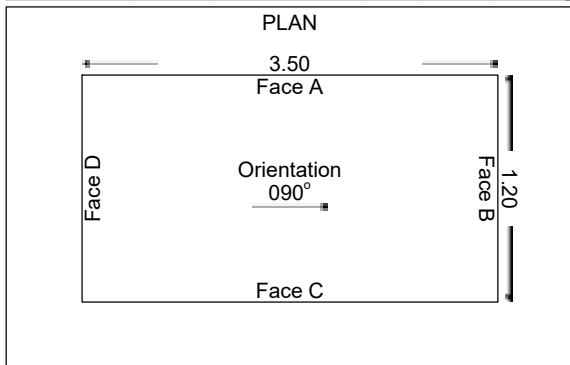
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TRIAL PIT RECORD

Status:-
FINAL

Project: Eston Road Intrusive Works		Exploratory Hole No. ATK_TP_006
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454370.300 N:521092.263	
Method (Equipment): Machine Excavated (JCB 360 Tracked)	Ground Level (m): 9.475	Start Date: 18/06/2020 Sheet: 1 of 3

SAMPLES & TESTS			STRATA				
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description
0.20	J1		↓	9.33	[Cross-hatch pattern]	0.15	MADE GROUND (Grey gravel. Gravel is fine to coarse subangular and includes slag, Slag content is 100%. Slag is vesicular).
0.30	B2			9.08		0.40	
0.60	J3			[Diagonal hatch pattern]	(0.80)	MADE GROUND (Grey brown black sandy gravel with medium cobble content and fragments of metal. Sand is fine to coarse and includes mainly ash. Gravel is fine to coarse subangular slag, red brick, ash and concrete. Cobbles are angular and include slag and concrete. Slag content is 0-25%. Slag is vesicular).	
0.80	B4				8.28		1.20
0.90	ES5						
1.20	J6			[X-hatch pattern]	(0.70)	MADE GROUND (Red orange brown sandy gravel. Sand is fine to coarse and includes mainly ash. Gravel is fine to coarse subangular of clinker, concrete, red brick and slag. Slag content is 0-25%. Slag is vesicular).	
1.40	B7				7.58		1.90
2.10	J8			[Dotted pattern]	(0.90)	Soft and friable grey mottled black slightly sandy silty CLAY. Slight organic odour noted. at c.1.20m BGL ... clay/silt of high plasticity.	
2.30	B9				6.68		2.80
2.50	ES10						
2.90	J11		[Horizontal line pattern]	(0.70)	Firm brown grey slightly sandy silty CLAY with root fibers. Sand is fine to medium. at c.2.10m BGL ... clay is of intermediate plasticity.		
3.00	B12			5.98		3.50	
							Complete at 3.50m BGL.



GROUNDWATER
 Saturated strata at 1.20m BGL (Slight inflow).

STABILITY
 Pit sides and base stable throughout excavation.

ADDITIONAL INFORMATION		
Sketch Diagram:	No Sketch Taken	
Photographs:	Yes	See additional sheets.

GENERAL REMARKS
 (1) Material unsuitable for HSV testing - too friable.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: D. Portsmouth	Contract No. 4287
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TRIAL PIT RECORD

Status:-

FINAL

Project: Eston Road Intrusive Works		Exploratory Hole No.	
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454370.300 N:521092.263	ATK_TP_006	
Method (Equipment): Machine Excavated (JCB 360 Tracked)	Ground Level (m): 9.475	Start Date: 18/06/2020	Sheet: 2 of 3

Figure ATK_TP_006.1
ATK_TP_006 - Long Face



Figure ATK_TP_006.2
ATK_TP_006 - Short Face





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TRIAL PIT RECORD

Status:-

FINAL

Project: Eston Road Intrusive Works		Exploratory Hole No.	
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454370.300 N:521092.263	ATK_TP_006	
Method (Equipment): Machine Excavated (JCB 360 Tracked)	Ground Level (m): 9.475	Start Date: 18/06/2020	Sheet: 3 of 3

Figure ATK_TP_006.3
ATK_TP_006 - Spoil





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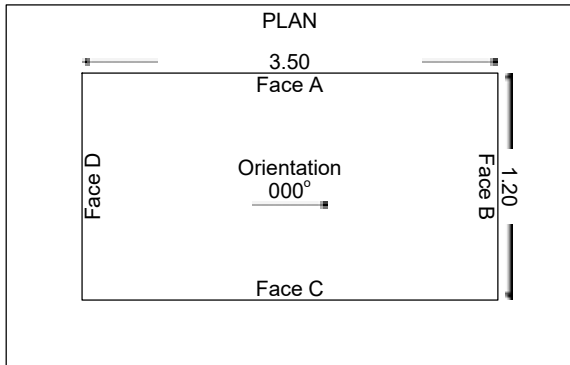
Head Office: Unit 25 Stella Gill Industrial Estate, Pelton Fell, Chester-le-Street, Co. Durham, DH2 2RG Tel: 0191 387 4700 Fax: 0191 387 4710
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TRIAL PIT RECORD

Status:-
FINAL

Project: Eston Road Intrusive Works		Exploratory Hole No. ATK_TP_007
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454483.910 N:521162.451	
Method (Equipment): Machine Excavated (JCB 360 Tracked)	Ground Level (m): 9.143	Start Date: 16/06/2020 Sheet: 1 of 3

SAMPLES & TESTS			STRATA				
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description
0.20	J1			8.84		0.30	MADE GROUND (Compacted grey sandy gravel. Sand is fine to coarse and includes mainly concrete and ash. Gravel is fine to coarse subangular and includes slag and concrete. Slag content is 50-75%. Slag is grey vesicular).
0.40	J2			8.59		0.55	MADE GROUND (Grey brown clayey very sandy gravel with medium cobble content. Sand is fine to coarse and includes mainly ash. Gravel is fine to coarse subangular and includes slag, concrete, brick, ash, dolomite and clinker. Slag content is 25-50%. Slag is grey vesicular. Cobbles are angular and includes slag and concrete. Slag content is 0-25%. Slag is grey vesicular).
0.50	B3			8.14		(0.45)	
0.60	J4					1.00	
0.70	B5					1.10	
0.90	ES6			2.10			
1.30	J7			7.04	1.10	at c.0.80m BGL ... 1No. 25mm diameter electric cable (broken) running 315 degrees (corner to corner) of pit inside a 152mm diameter clay pipe conduit, 2No. 76mm diameter electric cables (broken) running side by side 180 degrees centered in pit and 1No. 76mm diameter electric cable (broken) running 270 degrees at southern end of pit.	
1.50	B8			5.94		3.20	Soft brown interlaminated slightly sandy SILT and CLAY with silt lenses.
2.30	J9			5.64		3.50	at c.1.30m BGL ... clay is of low plasticity.
2.50	B10						Firm and friable brown grey slightly sandy CLAY. Sand is fine to medium.
2.80	ES11						at c.2.30m BGL ... clay is of high plasticity.
3.30	J12						Firm and friable laminated grey brown CLAY. (Recovered in slab like layers).
3.50	B13						at c.3.30m BGL ... clay is of high plasticity.
							Complete at 3.50m BGL.



GROUNDWATER
 Water ingress from 152mm diameter cable conduit. (Slight ingress).

STABILITY
 Pit sides and base stable throughout excavation.

ADDITIONAL INFORMATION		
Sketch Diagram:	No Sketch Taken	
Photographs:	Yes	See additional sheets.

GENERAL REMARKS
 (1) Material unsuitable for HSV testing - too friable.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: D. Portsmouth	Contract No. 4287
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TRIAL PIT RECORD

Status:-

FINAL

Project: Eston Road Intrusive Works			Exploratory Hole No. ATK_TP_007
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454483.910 N:521162.451		
Method (Equipment): Machine Excavated (JCB 360 Tracked)	Ground Level (m): 9.143	Start Date: 16/06/2020	Sheet: 2 of 3

Figure ATK_TP_007.1
ATK_TP_007 - Long Face



Figure ATK_TP_007.2
ATK_TP_007 - Short Face





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TRIAL PIT RECORD

Status:-

FINAL

Project: Eston Road Intrusive Works			Exploratory Hole No. ATK_TP_007
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454483.910 N:521162.451		
Method (Equipment): Machine Excavated (JCB 360 Tracked)	Ground Level (m): 9.143	Start Date: 16/06/2020	Sheet: 3 of 3

Figure ATK_TP_007.3
ATK_TP_007 - Spoil





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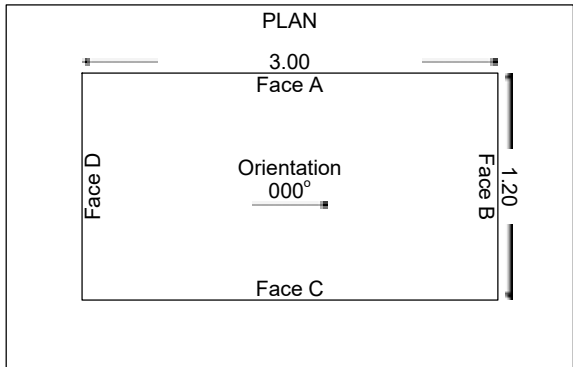
Tel: 0191 387 4700 Fax: 0191 387 4710
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TRIAL PIT RECORD

Status:-
FINAL

Project: Eston Road Intrusive Works		Exploratory Hole No. ATK_TP_008
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454541.113 N:521195.031	
Method (Equipment): Machine Excavated (JCB 360 Tracked)	Ground Level (m): 8.741	Start Date: 16/06/2020
		Sheet: 1 of 3

SAMPLES & TESTS			STRATA			
Depth	Type No	Test Result	Water	Reduced Level	Legend	Description
0.40	J1				(0.90)	MADE GROUND (Black brown clayey very sandy gravel with medium cobble content. Sand is fine to coarse and includes mainly ash. Gravel is fine to coarse subangular and includes slag, concrete, brick, ash, dolomite and clinker. Slag content is 25-50%. Slag is grey vesicular. Cobbles are angular and include slag, concrete and red brick. Slag content is 0-25%. Slag is grey vesicular).
0.80	B2			7.84	(0.90)	
1.00	ES2A				(0.40)	MADE GROUND (Yellow, red and brown sandy gravel with high cobble and medium boulder content and wood, metal girders and metal fragments. Sand is fine to coarse and includes mainly ash. Gravel is fine to coarse subangular and includes slag, red and yellow brick, ash and concrete. Cobbles are angular and include slag and concrete. Slag content is 0-25%. Slag is grey vesicular. Boulders are angular and include concrete). <i>Terminated at 1.30m BGL - due to encountering a concrete slab.</i>
1.20	J3			7.44	(1.30)	
1.30	B4					



GROUNDWATER
 Saturated strata at 0.90m BGL (Heavy inflow).

STABILITY
 Pit sides and base stable throughout excavation.

ADDITIONAL INFORMATION		
Sketch Diagram:	No Sketch Taken	
Photographs:	Yes	See additional sheets.

GENERAL REMARKS

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: D. Portsmouth	Contract No. 4287
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TRIAL PIT RECORD

Status:-

FINAL

Project: Eston Road Intrusive Works		Exploratory Hole No. ATK_TP_008
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454541.113 N:521195.031	
Method (Equipment): Machine Excavated (JCB 360 Tracked)	Ground Level (m): 8.741	Start Date: 16/06/2020
Sheet: 2 of 3		

Figure ATK_TP_008.1
ATK_TP_008 - Long Face



Figure ATK_TP_008.2
ATK_TP_008 - Short Face





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TRIAL PIT RECORD

Status:-

FINAL

Project: Eston Road Intrusive Works			Exploratory Hole No. ATK_TP_008
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454541.113 N:521195.031		
Method (Equipment): Machine Excavated (JCB 360 Tracked)	Ground Level (m): 8.741	Start Date: 16/06/2020	Sheet: 3 of 3

Figure ATK_TP_008.3
ATK_TP_008 - Spoil





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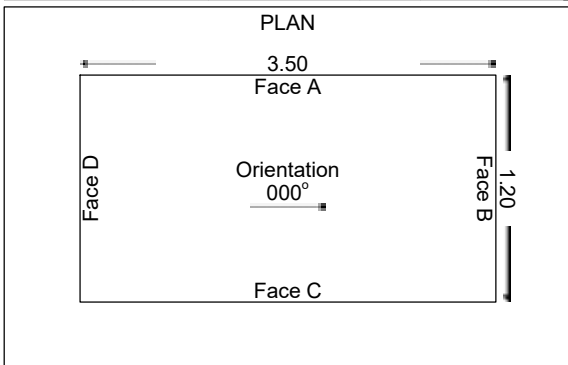
Tel: 0191 387 4700 Fax: 0191 387 4710
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TRIAL PIT RECORD

Status:-
FINAL

Project: Eston Road Intrusive Works		Exploratory Hole No. ATK_TP_009
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454665.138 N:521239.157	
Method (Equipment): Machine Excavated (JCB 360 Tracked)	Ground Level (m): 8.999	Start Date: 17/06/2020 Sheet: 1 of 3

SAMPLES & TESTS			STRATA				
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description
0.20	J1		↓	8.80	[Cross-hatched pattern]	0.20	MADE GROUND (Compacted grey sandy gravel. Sand is fine to coarse and includes mainly powdered concrete and ash. Gravel is fine to coarse subangular and includes concrete, slag and clinker. Slag content is 25-50%. Slag is grey vesicular).
0.40	B2			(0.40)			
0.50	ES3			8.40	[Diagonal lines pattern]	0.60	MADE GROUND (Red, brown and black sandy gravel with high cobble and medium boulder content and fragments of wood, metal and metal railway track lines. Sand is fine to coarse and includes mainly ash. Gravel is fine to coarse subangular and includes slag, red and yellow brick, ash and concrete. Cobbles are angular and include slag and concrete. Slag content is 0-25%. Slag is grey vesicular. Boulders are angular and include concrete).
1.10	J4			(0.40)			
1.30	B5			8.00		1.00	
1.50	ES6			[Horizontal lines pattern]		(2.50)	MADE GROUND (Soft to firm brown grey mottled black slightly sandy clay with 229mm diameter square wooden piles (assumed to be piles) Sand is fine to medium. Slight hydrocarbon odour noted from wooden piles). Firm and friable becoming stiff grey red slightly sandy slightly gravelly CLAY with occasional silty laminae. Sand is fine to medium. Gravel is fine to medium subangular and includes sandstone and mudstone. at c.1.10m BGL ... clay is of high plasticity. at c.2.30m BGL ... slightly sandy silty clay of intermediate plasticity.
2.10	J7						
2.30	B8						
3.10	J9						
3.30	B10			5.50		3.50	at c.3.30m BGL ... clay is of intermediate plasticity. <i>Complete at 3.50m BGL.</i>



GROUNDWATER
 Saturated strata at 0.60m BGL (Slight inflow).

STABILITY
 Pit sides and base stable throughout excavation.

ADDITIONAL INFORMATION		
Sketch Diagram:	No Sketch Taken	
Photographs:	Yes	See additional sheets.

GENERAL REMARKS
 (1) Material unsuitable for HSV testing - too friable.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: D. Portsmouth	Contract No. 4287
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TRIAL PIT RECORD

Status:-

FINAL

Project: Eston Road Intrusive Works			Exploratory Hole No. ATK_TP_009
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454665.138 N:521239.157		
Method (Equipment): Machine Excavated (JCB 360 Tracked)	Ground Level (m): 8.999	Start Date: 17/06/2020	Sheet: 2 of 3

Figure ATK_TP_009.1
ATK_TP_009 - Long Face



Figure ATK_TP_009.2
ATK_TP_009 - Short Face





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TRIAL PIT RECORD

Status:-

FINAL

Project: Eston Road Intrusive Works			Exploratory Hole No. ATK_TP_009
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454665.138 N:521239.157		
Method (Equipment): Machine Excavated (JCB 360 Tracked)	Ground Level (m): 8.999	Start Date: 17/06/2020	Sheet: 3 of 3

Figure ATK_TP_009.3
ATK_TP_009 - Spoil





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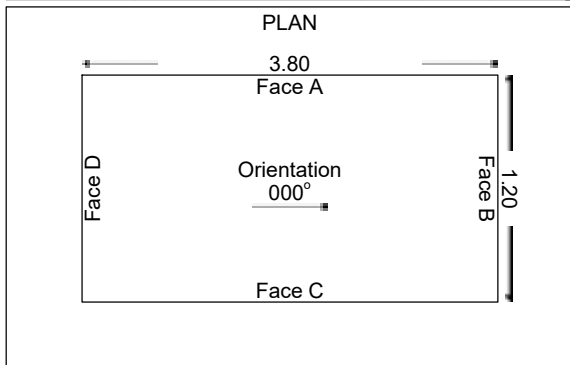
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TRIAL PIT RECORD

Status:-
FINAL

Project: Eston Road Intrusive Works		Exploratory Hole No. ATK_TP_010	
Client: South Tees Development Corporation		Location: Clay Lane Commercial Park E:454361.527 N:521028.809	
Method (Equipment): Machine Excavated (JCB 360 Tracked)		Ground Level (m): 10.192	Start Date: 17/06/2020
		Sheet: 1 of 3	

SAMPLES & TESTS			STRATA			
Depth	Type No	Test Result	Water	Reduced Level	Legend	Description
0.30 0.40 0.50 0.70 0.90	J1 B2 J3 B4 ES5			9.69	(0.50)	MADE GROUND (Grey gravel. Gravel is fine to coarse subangular to subrounded and includes slag. Slag content 100%. Slag is grey vesicular).
1.30 1.50 1.60	J6 B7 ES8			9.19	(1.00)	MADE GROUND (Grey black sandy gravel. Sand is fine to coarse and includes mainly ash. Gravel is fine to coarse subangular and includes concrete, ash, clinker, red brick and slag. Slag content is 0-25%. Slag is grey vesicular).
2.30 2.50	J9 B10			7.99	(1.20)	MADE GROUND (Soft to firm brown grey mottled black slightly sandy silty clay with black silty sand and silt lenses. Sand is fine to medium). (Reworked material). at c.1.30m BGL ... slightly sandy clay/silt of high plasticity. at c.1.50m BGL ... sandy slightly gravelly silty clay.
3.00 3.20	J11 B12			7.39	(0.60)	MADE GROUND (Black clayey gravelly sand with frequent metal pipes, girders and rebar 20mm. Gravel is coarse angular and includes clinker and red brick).
				6.69	(0.70)	Firm friable and stiff red brown slightly sandy slightly gravelly silty CLAY with silty sand bands. Sand is fine to medium. Gravel is fine to medium subangular and includes mudstone and siltstone. at c.3.00m BGL ... clay is of intermediate plasticity. at c.3.20m BGL ... silty slightly sandy clay. <i>Complete at 3.50m BGL.</i>



GROUNDWATER
 Saturated strata at 2.50m BGL (Slight inflow).

STABILITY
 Pit sides and base stable throughout excavation.

ADDITIONAL INFORMATION		
Sketch Diagram:	No Sketch Taken	
Photographs:	Yes	See additional sheets.

GENERAL REMARKS
 (1) Material unsuitable for HSV testing - too friable.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: D. Portsmouth	Contract No. 4287
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TRIAL PIT RECORD

Status:-

FINAL

Project: Eston Road Intrusive Works		Exploratory Hole No. ATK_TP_010
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454361.527 N:521028.809	
Method (Equipment): Machine Excavated (JCB 360 Tracked)	Ground Level (m): 10.192	Start Date: 17/06/2020
		Sheet: 2 of 3

Figure ATK_TP_010.1
ATK_TP_010 - Long Face



Figure ATK_TP_010.2
ATK_TP_010 - Short Face





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TRIAL PIT RECORD

Status:-

FINAL

Project: Eston Road Intrusive Works			Exploratory Hole No. ATK_TP_010
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454361.527 N:521028.809		
Method (Equipment): Machine Excavated (JCB 360 Tracked)	Ground Level (m): 10.192	Start Date: 17/06/2020	Sheet: 3 of 3

Figure ATK_TP_010.3
ATK_TP_010 - Spoil





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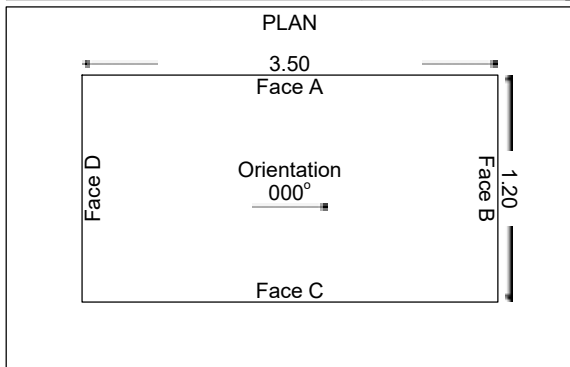
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TRIAL PIT RECORD

Status:-
FINAL

Project: Eston Road Intrusive Works		Exploratory Hole No. ATK_TP_011
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454392.106 N:520963.917	
Method (Equipment): Machine Excavated (JCB 360 Tracked)	Ground Level (m): 10.712	Start Date: 17/06/2020 Sheet: 1 of 3

SAMPLES & TESTS			STRATA			
Depth	Type No	Test Result	Water	Reduced Level	Legend	Description
0.60	J1		↓ Water	10.21		MADE GROUND (Grey gravel. Gravel is fine to coarse subangular to subrounded and includes slag. Slag content 100%. Slag is grey vesicular).
0.80	B2			9.21		MADE GROUND (Yellow brown clayey sandy gravel and cobbles. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded and includes slag, concrete, clinker and red brick. Slag content is 50-75%. Slag is red/brown. Cobbles are angular and includes slag. Slag content is 75-100%. Slag is grey/red/brown and iron rich).
1.70	J4			7.21		Soft to firm brown grey mottled black slightly sandy silty CLAY grading to firm and friable becoming stiff grey red brown sandy CLAY with occasional silty laminae. Sand is fine to medium. (Engineer notes wooden piles driven into upper section of clay (soft zone to approximately 2.20m BGL)). at c.1.70m BGL ... clay is of intermediate plasticity.
2.70	J6					at c.2.80m BGL ... slightly sandy slightly gravelly silty clay.
2.80	B7					Complete at 3.50m BGL.



GROUNDWATER
 Saturated strata at 0.90m BGL (Heavy inflow).

STABILITY
 Pit sides and base stable throughout excavation.

ADDITIONAL INFORMATION		
Sketch Diagram:	No Sketch Taken	
Photographs:	Yes	See additional sheets.

GENERAL REMARKS
 (1) Material unsuitable for HSV testing - too friable.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: D. Portsmouth	Contract No. 4287
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TRIAL PIT RECORD

Status:-

FINAL

Project: Eston Road Intrusive Works		Exploratory Hole No.	
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454392.106 N:520963.917	ATK_TP_011	
Method (Equipment): Machine Excavated (JCB 360 Tracked)	Ground Level (m): 10.712	Start Date: 17/06/2020	Sheet: 2 of 3

Figure ATK_TP_011.1
ATK_TP_011 - Long Face



Figure ATK_TP_011.2
ATK_TP_011 - Short Face





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TRIAL PIT RECORD

Status:-

FINAL

Project: Eston Road Intrusive Works			Exploratory Hole No. ATK_TP_011
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454392.106 N:520963.917		
Method (Equipment): Machine Excavated (JCB 360 Tracked)	Ground Level (m): 10.712	Start Date: 17/06/2020	Sheet: 3 of 3

Figure ATK_TP_011.3
ATK_TP_011 - Spoil





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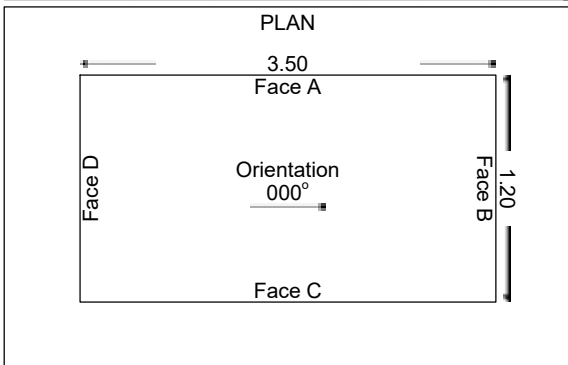
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TRIAL PIT RECORD

Status:-
FINAL

Project: Eston Road Intrusive Works		Exploratory Hole No. ATK_TP_012	
Client: South Tees Development Corporation		Location: Clay Lane Commercial Park E:454440.721 N:520861.822	
Method (Equipment): Machine Excavated (JCB 360 Tracked)		Ground Level (m): 11.568	Start Date: 17/06/2020
		Sheet: 1 of 3	

SAMPLES & TESTS			STRATA				
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	Description
0.40	J1	105 (44)kPa		11.27	[Cross-hatched pattern]	0.30	MADE GROUND (Grey gravel. Gravel is fine to coarse subangular to subrounded and includes slag. Slag content is 100%. Slag is grey vesicular).
0.50	B2			10.87		(0.40)	0.70
0.90	J3			[X-pattern]	(1.10)	1.80	Soft to firm brown grey mottled black slightly sandy silty CLAY. Sand is fine to medium. (Possibly reworked). at c.0.90m BGL ... clay is of high plasticity.
1.20	B4						
1.40	ES5						
2.00	J6				(1.00)	2.80	Firm and friable becoming stiff grey red brown sandy CLAY with occasional silty laminae. Sand is fine to medium. at c.2.00m BGL ... clay is of intermediate plasticity.
2.30	B7						
2.80	HSV						
2.90	J8				(0.70)	3.50	Stiff red brown slightly sandy slightly gravelly CLAY. Sand is fine to medium. Gravel is fine to medium subangular and includes mudstone and siltstone. at c.2.90m BGL ... clay is of intermediate plasticity.
3.20	B9						
							<i>Complete at 3.50m BGL.</i>



GROUNDWATER
 No groundwater inflow observed.

STABILITY
 Pit sides and base stable throughout excavation.

ADDITIONAL INFORMATION		
Sketch Diagram:	No Sketch Taken	
Photographs:	Yes	See additional sheets.

GENERAL REMARKS
 (1) Material unsuitable for HSV testing between 0.00-2.80m BGL - too friable.

All dimensions in metres Scale 1:50	For explanation of symbols and abbreviations see Key Sheets	Checked by: <i>K.W.</i>	Logged by: D. Portsmouth	Contract No. 4287
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Tel: 01772 735 300 Fax: 01772 735 999

TRIAL PIT RECORD

Status:-

FINAL

Project: Eston Road Intrusive Works		Exploratory Hole No.	
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454440.721 N:520861.822	ATK_TP_012	
Method (Equipment): Machine Excavated (JCB 360 Tracked)	Ground Level (m): 11.568	Start Date: 17/06/2020	Sheet: 2 of 3

Figure ATK_TP_012.1
ATK_TP_012 - Long Face



Figure ATK_TP_012.2
ATK_TP_012 - Short Face





ALLIED EXPLORATION & GEOTECHNICS LIMITED

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TRIAL PIT RECORD

Status:-

FINAL

Project: Eston Road Intrusive Works			Exploratory Hole No. ATK_TP_012
Client: South Tees Development Corporation	Location: Clay Lane Commercial Park E:454440.721 N:520861.822		
Method (Equipment): Machine Excavated (JCB 360 Tracked)	Ground Level (m): 11.568	Start Date: 17/06/2020	Sheet: 3 of 3

Figure ATK_TP_012.3
ATK_TP_012 - Spoil



Groundwater Observations Made at the Time of Site Works



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GROUNDWATER OBSERVATIONS MADE AT THE TIME OF SITE WORKS (WATER STRIKES)

Exploratory Hole No.	Date	Depth of Water (m)	Depth of Casing (m)	Depth of Sealed (m)	Final Depth (m)	Total Time (mins)	Depth After 5 mins	Depth After 10 mins	Depth After 15 mins	Depth After 20 mins	Remarks
ATK_TP_004	16/05/2020	1.50									Saturated strata (heavy inflow)
ATK_TP_005	16/05/2020	1.20									Saturated strata (Slight inflow)
ATK_TP_008	16/05/2020	0.90									Saturated strata (heavy inflow)
ATK_TP_009	17/05/2020	0.50									Saturated strata (slight inflow)
ATK_TP_010	17/05/2020	2.50									Saturated strata (slight inflow)
ATK_TP_011	17/05/2020	0.90									Saturated strata (Heavy inflow)



Contract Title -

Elston Road Intensive Works

Client -

South Tees Development Corporation

AEG Contract No -

4287

Date of Issue -

05/11/2020

Page No. -

1 of 1

Checked By -

LC

Approved By -

AW

Certificate No. -

GWOWS/4287/1



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GROUNDWATER OBSERVATIONS MADE AT THE TIME OF SITE WORKS (GROUNDWATER SEEPAGES)

Monitoring Point	Date	Depth (m)	Remarks
ATK_TP_001	19/06/2020	2.10	Slow inflow

Contract Title :- <p style="text-align: center;">Eston Road Intrusive Works</p>	Client :- <p style="text-align: center;">South Tees Development Corporation</p>
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	Certificate No. :- <p style="text-align: center;">GWDS/4287/1</p>	Date of Issue :- <p style="text-align: center;">05/11/2020</p>	Page No. :- <p style="text-align: center;">1 of 1</p>	
	Checked By :- <p style="text-align: center;"><i>LC</i></p>	Approved By :- <p style="text-align: center;"><i>KW</i></p>	AEG Contract No. :- <p style="text-align: center;">4287</p>	

In-situ Test Report Certificate



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IN-SITU TESTING REPORT CERTIFICATE



Contract Title: Eston Road Intrusive Works

AEG Reference: 4287

Client Address: South Tees Development Corporation

I certify that *in-situ* testing was carried out on the above contract in accordance with techniques outlined in BS 1377: 1990, Part 9 or other appropriate standards as quoted, and the following results, given on the attached enclosures, were obtained.

The tests carried out are indicated in the attached table showing the enclosure number and the total number of pages.

For and on behalf of Allied Exploration & Geotechnics Limited



Nick Vater (Managing Director)



Kerry Wade (Technical Manager)

Signed

Kwade

Date: 05 November 2020

Tests marked not UKAS accredited in this certificate are not included in the UKAS accreditation schedule for our laboratory. Any opinions and interpretations expressed herein are outside the scope of the laboratory's UKAS accreditation.

IN-SITU TESTING REPORT CERTIFICATE

ENCLOSURES

Enclosure Number	Description	UKAS Accredited	Reference	No. of Pages
0	Test Report Certificate	N/A		2
-	Standard Penetration Test Results (SPT)	Yes	BS 1377 Part 9 1990	-
1	Hand Shear Vane Test Results	No		1
2	TRL Dynamic Cone Penetrometer Test Results	No	BS 5930 1999:Section 4	9
-	<i>In-situ</i> Water Quality Parameter Test Results	No		-
-	Density by Sand Replacement Method	Yes	BS 1377 Part 9 1990	-
-	Density by Core Cutter Method	Yes	BS 1377 Part 9 1990	-
-	Determination of the Vane Shear Strength (Down the Hole)	Yes	BS 1377 Part 9 1990	-
-	Shallow Pad (skip) Load Test Results	No	BS 1377 Part 9 1990	-
-	Determination of the California Bearing Ratio	Yes	BS 1377 Part 9 1990	-
-	Plate Loading Test Results	No	BS 1377 Part 9 1990	-
-	Apparent Resistivity of Soil	No	BS 1377 Part 9 1990	-
-	Redox Potential of Soil	No	BS 1377 Part 9 1990	-
-	Determination of the Soil Infiltration Rate for Soakaway Design	No	BRE Digest 365:1991	-

Hand Shear Vane Test Results



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 11000 100th Ave. Suite 200, Edmonton, Alberta T5A 1K6, Canada
 Tel: 780.441.1111 Fax: 780.441.1112

HAND SHEAR VANE TEST RESULTS

Exploratory Hole No.	Date	Depth (m)	1st Result (kPa)	2nd Result (kPa)	3rd Result (kPa)	Average (kPa)	Remarks
ATK_TP_012	17/06/2020	2.80	93 (44)	96	120	105 (44)	

Residual results given in brackets.

	Contract Title :-	Client :-	AEG Contract No :-
	Eston Road Intrusive Works	South Tees Development Corporation	4287
Date of issue :-	Page No :-	Checked By :-	Certificate No :-
05/11/2020	1 of 1	LC	HSV/4287/1
		Approved By :-	
		KW	

TRL Dynamic Cone Penetrometer Test Results



ALLIED EXPLORATION & GEOTECHNICS LIMITED
TRL Dynamic Cone Penetrometer Testing

Probe Reference:	DCP1	
Date Tested:	15/06/2020	
Investigation Type:	TBC	
Method:	TRL Dynamic Cone Penetrometer	
Coordinates:		
Eastings (m):	454287.441	
Northings (m):	521065.772	
Level (m):	9.335	
Chainage (m):	TBC	
Probing Equipment Specification		
Hammer Mass:	8.00	kg
Drop Distance:	575.00	mm
Cone Angle:	30.00	Degrees
Tip Diameter:	20.00	mm
Operator Details		
Operator :	L. Hayes	
Supervisor :	D. Portsmouth	
Other Information		
Remarks	(1) mm/blows taken over 1 blow intervals in order to derive equivalent CBR value (%).	
Test Start Depth:	0.00	mm
Reference Reading:	0.00	mm
Total Readings:	36.00	
Total Depth:	2207.00	mm

TRL Reading Index	No. of Blows	Start Depth (mm)	End Depth (mm)	Total Drive Penetration (mm)	TRL mm/Blow	Equivalent TRL CBR%
1	5.00	0.00	175.00	175	35.00	7.05
2	5.00	175.00	232.00	57	11.40	23.06
3	5.00	232.00	295.00	63	12.60	20.74
4	5.00	295.00	438.00	143	28.60	8.72
5	5.00	438.00	700.00	262	52.40	4.60
6	5.00	700.00	835.00	135	27.00	9.27
7	5.00	835.00	1005.00	170	34.00	7.26
8	5.00	1005.00	1170.00	165	33.00	7.50
9	5.00	1170.00	1330.00	160	32.00	7.75
10	5.00	1330.00	1430.00	100	20.00	12.73
11	5.00	1430.00	1495.00	65	13.00	20.07
12	5.00	1495.00	1560.00	65	13.00	20.07
13	5.00	1560.00	1615.00	55	11.00	23.95
14	5.00	1615.00	1661.00	46	9.20	28.93
15	5.00	1661.00	1703.00	42	8.40	31.84
16	5.00	1703.00	1740.00	37	7.40	36.41
17	5.00	1740.00	1775.00	35	7.00	38.61
18	5.00	1775.00	1807.00	32	6.40	42.45
19	5.00	1807.00	1835.00	28	5.60	48.88
20	5.00	1835.00	1865.00	30	6.00	45.45
21	5.00	1865.00	1890.00	25	5.00	55.10
22	5.00	1890.00	1913.00	23	4.60	60.18
23	5.00	1913.00	1938.00	25	5.00	55.10
24	5.00	1938.00	1962.00	24	4.80	57.53
25	5.00	1962.00	1990.00	28	5.60	48.88

Contract: Eston Road Intrusive Works

Contract No.: 4287

Date: 22/09/2020

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