

Project / Site name: Thorpe Marsh Green Energy Hub: Battery Energy Storage System (BESS)										24-002891		
										Strata (PFA/MG)	PFA	PFA
										Sample Reference	RBH136	RTP183
										Date Sampled	08/02/2024	13/02/2024
										Depth	2.50-2.60	0.40-0.60
Analytical Parameter (Water Analysis)	Units	Limit of detection	Minimum reporting values (hazardous substances only)	Groundwater resource potential - risk based standards to protect potable water supply potential	Freshwater AA EQS	Lowest GAC	Minimum Concentration	Maximum Concentration	Number of Exceedances			
General Inorganics												
pH (automated)	pH Units	N/A		≥6.5 & ≤9.5	≥6 & ≤9		7.00	8.20			7.30	7.20
Total Cyanide (Low Level 1 µg/l)	µg/l	1		50	1.0	1.00	0.00	0.00	0			
Sulphate as SO4	µg/l	45										
Sulphate as SO4	mg/l	0.045		250	400.0	250.00	0.77	1590.00	11		349.00	350.00
Total Sulphur	mg/l	0.015					63.00	117.00			116.00	117.00
Chloride	mg/l	0.15		250	250	250.00	0.33	1.70	0		0.41	0.68
Ammoniacal Nitrogen as N	µg/l	15		500	600[1]	500.00	73.00	120.00	0		120.00	73.00
Nitrate as N	mg/l	0.01		50		50.00	0.03	0.06	0		0.06	0.03
Nitrite as N	µg/l	1		500		500.00	1.00	1.20	0		1.20	1.00
Total Phenols												
Total Phenols (monohydric) low level	µg/l	1			7.7	7.70	0.00	0.00	0			
Speciated PAHs												
Naphthalene	µg/l	0.01		0.075	2.0	0.08	0.96	0.96	1			
Acenaphthylene	µg/l	0.01					0.00	0.00				
Acenaphthene	µg/l	0.01	0.01				0.00	0.00				
Fluorene	µg/l	0.01					0.00	0.00				
Phenanthrene	µg/l	0.01					0.00	0.00				
Anthracene	µg/l	0.01	0.01		0.1	0.10	0.00	0.00	0			
Fluoranthene	µg/l	0.01	0.01		0.0063	0.01	0.00	0.00	0			
Pyrene	µg/l	0.01					0.00	0.00				
Benzo(a)anthracene	µg/l	0.01					0.00	0.00				
Chrysene	µg/l	0.01					0.00	0.00				
Benzo(b)fluoranthene	µg/l	0.01	0.01	0.1 (sum of the 4 compounds)	0.00017	0.00	0.00	0.00	0			
Benzo(k)fluoranthene	µg/l	0.01	0.01	0.1 (sum of the 4 compounds)	0.00017	0.00	0.00	0.00	0			
Benzo(a)pyrene	µg/l	0.01	0.01	0.01	0.00017	0.00	0.00	0.00	0			
Indeno(1,2,3-cd)pyrene	µg/l	0.01	0.01	0.1 (sum of the 4 compounds)	0.00017	0.00	0.00	0.00	0			
Dibenzo(a,h)anthracene	µg/l	0.01					0.00	0.00				
Benzo(ghi)perylene	µg/l	0.01	0.01	0.1 (sum of the 4 compounds)	0.00017	0.00	0.00	0.00	0			
Total PAH												
Total EPA-16 PAHs	µg/l	0.16					0.96	0.96				
Heavy Metals / Metalloids												
Aluminium (dissolved)	mg/l	0.012		200		200.00	0.03	0.15	0		0.07	0.07
Antimony (dissolved)	µg/l	1.7		5.0		5.00	8.10	8.10	1		8.10	< 1.7
Arsenic (dissolved)	µg/l	1	1.0	10	50.00	10.00	1.66	69.00	12		37.00	26.00
Barium (dissolved)	µg/l	-		700		700.00	0.26	53.80	0			
Beryllium (dissolved)	µg/l	0.2					0.00	0.00				
Boron (dissolved)	µg/l	10		1000	2000.00	1000.00	12.00	820.00	0		100.00	630.00
Cadmium (dissolved)	µg/l	0.08		5.0	0.25 (Class 5)	0.25	0.00	0.00	0		< 0.08	< 0.08
Chromium (hexavalent)	µg/l	5	5.0	5.0	3.40	3.40	0.00	0.00	0			
Chromium (dissolved)	µg/l	0.4		50	4.7 (CrIII)	4.70	0.50	13.00	4		0.80	2.30
Copper (dissolved)	µg/l	0.7		2000		2000.00	2.10	13.00	0			
Bioavailable Copper (dissolved)	µg/l	0.5			1 (bioavailable)	1.00	0.05	1.04	1			
Iron (dissolved)	µg/l	4		200	1000	200.00	0.00	0.00	0			

Project / Site name: Thorpe Marsh Green Energy Hub: Battery Energy Storage System (BESS)										24-002891		
										Strata (PFA/MG)	PFA	PFA
										Sample Reference	RBH136	RTP183
										Date Sampled	08/02/2024	13/02/2024
										Depth	2.50-2.60	0.40-0.60
Analytical Parameter (Water Analysis)	Units	Limit of detection	Minimum reporting values (hazardous substances only)	Groundwater resource potential - risk based standards to protect potable water supply potential	Freshwater AA EQS	Lowest GAC	Minimum Concentration	Maximum Concentration	Number of Exceedances			
Iron (dissolved)	mg/l	0.004		0.2	1.0	0.20	0.01	0.04	0	0.04	0.01	
Lead (dissolved)	µg/l	1	1.0	10		10.00	1.00	2.50	0	< 1.0	1.00	
Bioavailable Lead (dissolved)	µg/l	0.2			1.2 (bioavailable)	1.20	0.05	0.62	0	0.25	0.25	
Manganese (dissolved)	µg/l	0.06		50		50.00	43.00	78.00	1	78.00	43.00	
Bioavailable Manganese (dissolved)	µg/l	0.05			123 (bioavailable)	123.00	5.12	11.27	0	11.27	5.12	
Mercury (dissolved)	µg/l	0.5	0.01	1.0	0.07 (Inland Surface MAC)	0.07	0.00	0.00	0			
Molybdenum (dissolved)	µg/l	0.4					0.44	15.00		2.20	15.00	
Nickel (dissolved)	µg/l	0.3		20		20.00	0.30	8.20	0			
Bioavailable Nickel (dissolved)	µg/l	0.5			4 (bioavailable)	4.00	0.06	2.76	0			
Selenium (dissolved)	µg/l	4		10		10.00	6.00	33.00	4	7.10	< 4.0	
Vanadium (dissolved)	µg/l	1.7			20	20.00	9.00	29.00	4	17.00	9.00	
Zinc (dissolved)	µg/l	0.4		5000		5000.00	2.00	20.00	0			
Bioavailable Zinc (dissolved)	µg/l	0.5			10.9 (bioavailable)	10.90	0.19	8.73	0			
Calcium (dissolved)	mg/l	0.012					87.00	186.00		130.00	140.00	
Calcium (dissolved)	µg/l	12					87000.00	186000.00			140000.00	
Magnesium (dissolved)	mg/l	0.005					3.20	9.10		3.20	9.10	
Potassium (dissolved)	mg/l	0.025					2.10	3.30		2.10	3.30	
Sodium (dissolved)	mg/l	0.01		200		200.00	1.20	2.10	0	1.20	2.10	
TPH - Aliphatic >C5 - C6 HS 1D AL	µg/l	1		15000		15000.00	0.00	0.00	0			
TPH - Aliphatic >C6 - C8 HS 1D AL	µg/l	1		15000		15000.00	0.00	0.00	0			
TPH - Aliphatic >C8 - C10 HS 1D AL	µg/l	1		300		300.00	0.00	0.00	0			
TPH - Aliphatic >C10 - C12 EH 1D AL MS	µg/l	10		300		300.00	0.00	0.00	0			
TPH - Aliphatic >C12 - C16 EH 1D AL MS	µg/l	10		300		300.00	0.00	0.00	0			
TPH - Aliphatic >C16 - C21 EH 1D AL MS	µg/l	10					0.00	0.00				
TPH - Aliphatic >C21 - C35 EH 1D AL MS	µg/l	10					0.00	0.00				
TPH - Aliphatic >C5 - C35 HS+EH 1D AL MS	µg/l	10					0.00	0.00				
TPH - Aromatic >EC5 - EC7 HS 1D AR	µg/l	1					0.00	0.00				
TPH - Aromatic >EC7 - EC8 HS 1D AR	µg/l	1					0.00	0.00				
TPH - Aromatic >EC8 - EC10 EH 1D AR MS	µg/l	1					0.00	0.00				
TPH - Aromatic >EC10 - EC12 EH 1D AR MS	µg/l	10		90		90.00	0.00	0.00	0			
TPH - Aromatic >EC12 - EC16 EH 1D AR MS	µg/l	10		90		90.00	0.00	0.00	0			
TPH - Aromatic >EC16 - EC21 EH 1D AR MS	µg/l	10		90		90.00	0.00	0.00	0			
TPH - Aromatic >EC21 - EC35 EH 1D AR MS	µg/l	10		90		90.00	0.00	0.00	0			
TPH - Aromatic >EC6 - EC35 HS+EH 1D AR MS	µg/l	10					0.00	0.00				
MTBE (Methyl Tertiary Butyl Ether)							0.00	0.00				
Benzene			1.0				0.00	0.00				
Toluene			4.0				0.00	0.00				
Ethylbenzene			5.0				0.00	0.00				
p & m-xylene			3.0				0.00	0.00				
o-xylene							0.00	0.00				

Project / Site name: Thorpe Marsh Green Energy Hub: Battery Energy Storage System (BESS)										132254	130725	
										Strata (PFA/MG)	PFA	PFA
										Sample Reference	RBH125	RBH137
										Date Sampled	28/02/2024	27/02/2024
										Depth	4.00-4.50	2.00-2.50
Analytical Parameter (Water Analysis)	Units	Limit of detection	Minimum reporting values (hazardous substances only)	Groundwater resource potential - risk based standards to protect potable water supply potential	Freshwater AA EQS	Lowest GAC	Minimum Concentration	Maximum Concentration	Number of Exceedances			
General Inorganics												
pH (automated)	pH Units	N/A		≥6.5 & ≤9.5	≥6 & ≤9		7.00	8.20		7.40	7.60	
Total Cyanide (Low Level 1 µg/l)	µg/l	1		50	1.0	1.00	0.00	0.00	0	< 1.0		
Sulphate as SO4	µg/l	45										
Sulphate as SO4	mg/l	0.045		250	400.0	250.00	0.77	1590.00	11	449.00	540.00	
Total Sulphur	mg/l	0.015					63.00	117.00				
Chloride	mg/l	0.15		250	250	250.00	0.33	1.70	0		0.65	
Ammoniacal Nitrogen as N	µg/l	15		500	600[1]	500.00	73.00	120.00	0			
Nitrate as N	mg/l	0.01		50		50.00	0.03	0.06	0			
Nitrite as N	µg/l	1		500		500.00	1.00	1.20	0			
Total Phenols												
Total Phenols (monohydric) low level	µg/l	1			7.7	7.70	0.00	0.00	0	< 1.0		
Speciated PAHs												
Naphthalene	µg/l	0.01		0.075	2.0	0.08	0.96	0.96	1	0.96		
Acenaphthylene	µg/l	0.01					0.00	0.00		< 0.01		
Acenaphthene	µg/l	0.01	0.01				0.00	0.00		< 0.01		
Fluorene	µg/l	0.01					0.00	0.00		< 0.01		
Phenanthrene	µg/l	0.01					0.00	0.00		< 0.01		
Anthracene	µg/l	0.01	0.01		0.1	0.10	0.00	0.00	0	< 0.01		
Fluoranthene	µg/l	0.01	0.01		0.0063	0.01	0.00	0.00	0	< 0.01		
Pyrene	µg/l	0.01					0.00	0.00		< 0.01		
Benzo(a)anthracene	µg/l	0.01					0.00	0.00		< 0.01		
Chrysene	µg/l	0.01					0.00	0.00		< 0.01		
Benzo(b)fluoranthene	µg/l	0.01	0.01	0.1 (sum of the 4 compounds)	0.00017	0.00	0.00	0.00	0	< 0.01		
Benzo(k)fluoranthene	µg/l	0.01	0.01	0.1 (sum of the 4 compounds)	0.00017	0.00	0.00	0.00	0	< 0.01		
Benzo(a)pyrene	µg/l	0.01	0.01	0.01	0.00017	0.00	0.00	0.00	0	< 0.01		
Indeno(1,2,3-cd)pyrene	µg/l	0.01	0.01	0.1 (sum of the 4 compounds)	0.00017	0.00	0.00	0.00	0	< 0.01		
Dibenzo(a,h)anthracene	µg/l	0.01		0.1 (sum of the 4 compounds)			0.00	0.00		< 0.01		
Benzo(ghi)perylene	µg/l	0.01	0.01	0.1 (sum of the 4 compounds)	0.00017	0.00	0.00	0.00	0	< 0.01		
Total PAH												
Total EPA-16 PAHs	µg/l	0.16					0.96	0.96		0.96		
Heavy Metals / Metalloids												
Aluminium (dissolved)	mg/l	0.012		200		200.00	0.03	0.15	0			
Antimony (dissolved)	µg/l	1.7		5.0		5.00	8.10	8.10	1			
Arsenic (dissolved)	µg/l	1	1.0	10	50.00	10.00	1.66	69.00	12	31.00	69.00	
Barium (dissolved)	µg/l	-		700		700.00	0.26	53.80	0		41.40	
Beryllium (dissolved)	µg/l	0.2					0.00	0.00		< 0.2		
Boron (dissolved)	µg/l	10		1000	2000.00	1000.00	12.00	820.00	0	140.00		
Cadmium (dissolved)	µg/l	0.08		5.0	0.25 (Class 5)	0.25	0.00	0.00	0	< 0.08	< 0.1	
Chromium (hexavalent)	µg/l	5	5.0	5.0	3.40	3.40	0.00	0.00	0	< 5.0		
Chromium (dissolved)	µg/l	0.4		50	4.7 (CrIII)	4.70	0.50	13.00	4	0.90	< 0.4	
Copper (dissolved)	µg/l	0.7		2000		2000.00	2.10	13.00	0	7.60	12.00	
Bioavailable Copper (dissolved)	µg/l	0.5			1 (bioavailable)	1.00	0.05	1.04	1	0.43	1.04	
Iron (dissolved)	µg/l	4		200	1000	200.00	0.00	0.00	0			

Project / Site name: Thorpe Marsh Green Energy Hub: Battery Energy Storage System (BESS)										132254	130725	
										Strata (PFA/MG)	PFA	PFA
										Sample Reference	RBH125	RBH137
										Date Sampled	28/02/2024	27/02/2024
										Depth	4.00-4.50	2.00-2.50
Analytical Parameter (Water Analysis)	Units	Limit of detection	Minimum reporting values (hazardous substances only)	Groundwater resource potential - risk based standards to protect potable water supply potential	Freshwater AA EQS	Lowest GAC	Minimum Concentration	Maximum Concentration	Number of Exceedances			
Iron (dissolved)	mg/l	0.004		0.2	1.0	0.20	0.01	0.04	0			
Lead (dissolved)	µg/l	1	1.0	10		10.00	1.00	2.50	0	< 1.0	< 1.0	
Bioavailable Lead (dissolved)	µg/l	0.2			1.2 (bioavailable)	1.20	0.05	0.62	0	0.25	0.34	
Manganese (dissolved)	µg/l	0.06		50		50.00	43.00	78.00	1			
Bioavailable Manganese (dissolved)	µg/l	0.05			123 (bioavailable)	123.00	5.12	11.27	0			
Mercury (dissolved)	µg/l	0.5	0.01	1.0	0.07 (Inland Surface MAC)	0.07	0.00	0.00	0	< 0.5	< 0.5	
Molybdenum (dissolved)	µg/l	0.4					0.44	15.00			13.60	
Nickel (dissolved)	µg/l	0.3		20		20.00	0.30	8.20	0	1.70	8.20	
Bioavailable Nickel (dissolved)	µg/l	0.5			4 (bioavailable)	4.00	0.06	2.76	0	0.44	2.76	
Selenium (dissolved)	µg/l	4		10		10.00	6.00	33.00	4	10.00	7.80	
Vanadium (dissolved)	µg/l	1.7			20	20.00	9.00	29.00	4	29.00		
Zinc (dissolved)	µg/l	0.4		5000		5000.00	2.00	20.00	0	20.00	12.00	
Bioavailable Zinc (dissolved)	µg/l	0.5			10.9 (bioavailable)	10.90	0.19	8.73	0	8.73	5.73	
Calcium (dissolved)	mg/l	0.012					87.00	186.00				
Calcium (dissolved)	µg/l	12					87000.00	186000.00				
Magnesium (dissolved)	mg/l	0.005					3.20	9.10				
Potassium (dissolved)	mg/l	0.025					2.10	3.30				
Sodium (dissolved)	mg/l	0.01		200		200.00	1.20	2.10	0			
TPH - Aliphatic >C5 - C6 HS 1D AL	µg/l	1		15000		15000.00	0.00	0.00	0	< 1.0		
TPH - Aliphatic >C6 - C8 HS 1D AL	µg/l	1		15000		15000.00	0.00	0.00	0	< 1.0		
TPH - Aliphatic >C8 - C10 HS 1D AL	µg/l	1		300		300.00	0.00	0.00	0	< 1.0		
TPH - Aliphatic >C10 - C12 EH 1D AL MS	µg/l	10		300		300.00	0.00	0.00	0	< 10		
TPH - Aliphatic >C12 - C16 EH 1D AL MS	µg/l	10		300		300.00	0.00	0.00	0	< 10		
TPH - Aliphatic >C16 - C21 EH 1D AL MS	µg/l	10					0.00	0.00		< 10		
TPH - Aliphatic >C21 - C35 EH 1D AL MS	µg/l	10					0.00	0.00		< 10		
TPH - Aliphatic >C5 - C35 HS+EH 1D AL MS	µg/l	10					0.00	0.00		< 10		
TPH - Aromatic >EC5 - EC7 HS 1D AR	µg/l	1					0.00	0.00		< 1.0		
TPH - Aromatic >EC7 - EC8 HS 1D AR	µg/l	1					0.00	0.00		< 1.0		
TPH - Aromatic >EC8 - EC10 EH 1D AR MS	µg/l	1					0.00	0.00		< 1.0		
TPH - Aromatic >EC10 - EC12 EH 1D AR MS	µg/l	10		90		90.00	0.00	0.00	0	< 10		
TPH - Aromatic >EC12 - EC16 EH 1D AR MS	µg/l	10		90		90.00	0.00	0.00	0	< 10		
TPH - Aromatic >EC16 - EC21 EH 1D AR MS	µg/l	10		90		90.00	0.00	0.00	0	< 10		
TPH - Aromatic >EC21 - EC35 EH 1D AR MS	µg/l	10		90		90.00	0.00	0.00	0	< 10		
TPH - Aromatic >EC6 - EC35 HS+EH 1D AR MS	µg/l	10					0.00	0.00		< 10		
MTBE (Methyl Tertiary Butyl Ether)							0.00	0.00		< 3.0		
Benzene			1.0				0.00	0.00		< 3.0		
Toluene			4.0				0.00	0.00		< 3.0		
Ethylbenzene			5.0				0.00	0.00		< 3.0		
p & m-xylene			3.0				0.00	0.00		< 3.0		
o-xylene							0.00	0.00		< 3.0		

Project / Site name: Thorpe Marsh Green Energy Hub: Battery Energy Storage System (BESS)										120653	121260	
										Strata (PFA/MG)	PFA	PFA
										Sample Reference	RTP136	RTP138
										Date Sampled	14/02/2024	15/02/2024
										Depth	2.20-2.40	1.50-1.70
Analytical Parameter (Water Analysis)	Units	Limit of detection	Minimum reporting values (hazardous substances only)	Groundwater resource potential - risk based standards to protect potable water supply potential	Freshwater AA EQS	Lowest GAC	Minimum Concentration	Maximum Concentration	Number of Exceedances			
General Inorganics												
pH (automated)	pH Units	N/A		≥6.5 & ≤9.5	≥6 & ≤9		7.00	8.20		8.20	7.60	
Total Cyanide (Low Level 1 µg/l)	µg/l	1		50	1.0	1.00	0.00	0.00	0			
Sulphate as SO4	µg/l	45										
Sulphate as SO4	mg/l	0.045		250	400.0	250.00	0.77	1590.00	11	2.20	350.00	
Total Sulphur	mg/l	0.015					63.00	117.00				
Chloride	mg/l	0.15		250	250	250.00	0.33	1.70	0	0.72	0.33	
Ammoniacal Nitrogen as N	µg/l	15		500	600[1]	500.00	73.00	120.00	0			
Nitrate as N	mg/l	0.01		50		50.00	0.03	0.06	0			
Nitrite as N	µg/l	1		500		500.00	1.00	1.20	0			
Total Phenols												
Total Phenols (monohydric) low level	µg/l	1			7.7	7.70	0.00	0.00	0			
Speciated PAHs												
Naphthalene	µg/l	0.01		0.075	2.0	0.08	0.96	0.96	1			
Acenaphthylene	µg/l	0.01					0.00	0.00				
Acenaphthene	µg/l	0.01	0.01				0.00	0.00				
Fluorene	µg/l	0.01					0.00	0.00				
Phenanthrene	µg/l	0.01					0.00	0.00				
Anthracene	µg/l	0.01	0.01		0.1	0.10	0.00	0.00	0			
Fluoranthene	µg/l	0.01	0.01		0.0063	0.01	0.00	0.00	0			
Pyrene	µg/l	0.01					0.00	0.00				
Benzo(a)anthracene	µg/l	0.01					0.00	0.00				
Chrysene	µg/l	0.01					0.00	0.00				
Benzo(b)fluoranthene	µg/l	0.01	0.01	0.1 (sum of the 4 compounds)	0.00017	0.00	0.00	0.00	0			
Benzo(k)fluoranthene	µg/l	0.01	0.01	0.1 (sum of the 4 compounds)	0.00017	0.00	0.00	0.00	0			
Benzo(a)pyrene	µg/l	0.01	0.01	0.01	0.00017	0.00	0.00	0.00	0			
Indeno(1,2,3-cd)pyrene	µg/l	0.01	0.01	0.1 (sum of the 4 compounds)	0.00017	0.00	0.00	0.00	0			
Dibenzo(a,h)anthracene	µg/l	0.01					0.00	0.00				
Benzo(ghi)perylene	µg/l	0.01	0.01	0.1 (sum of the 4 compounds)	0.00017	0.00	0.00	0.00	0			
Total PAH												
Total EPA-16 PAHs	µg/l	0.16					0.96	0.96				
Heavy Metals / Metalloids												
Aluminium (dissolved)	mg/l	0.012		200		200.00	0.03	0.15	0			
Antimony (dissolved)	µg/l	1.7		5.0		5.00	8.10	8.10	1			
Arsenic (dissolved)	µg/l	1	1.0	10	50.00	10.00	1.66	69.00	12	20.90	29.90	
Barium (dissolved)	µg/l	-		700		700.00	0.26	53.80	0	0.26	53.10	
Beryllium (dissolved)	µg/l	0.2					0.00	0.00				
Boron (dissolved)	µg/l	10		1000	2000.00	1000.00	12.00	820.00	0			
Cadmium (dissolved)	µg/l	0.08		5.0	0.25 (Class 5)	0.25	0.00	0.00	0	< 0.1	< 0.1	
Chromium (hexavalent)	µg/l	5	5.0	5.0	3.40	3.40	0.00	0.00	0			
Chromium (dissolved)	µg/l	0.4		50	4.7 (CrIII)	4.70	0.50	13.00	4	< 0.4	13.00	
Copper (dissolved)	µg/l	0.7		2000		2000.00	2.10	13.00	0	< 0.7	7.30	
Bioavailable Copper (dissolved)	µg/l	0.5			1 (bioavailable)	1.00	0.05	1.04	1	0.14	0.77	
Iron (dissolved)	µg/l	4		200	1000	200.00	0.00	0.00	0			



Project / Site name: Thorpe Marsh Green Energy Hub: Battery Energy Storage System (BESS)										120653	121260	
										Strata (PFA/MG)	PFA	PFA
										Sample Reference	RTP136	RTP138
										Date Sampled	14/02/2024	15/02/2024
										Depth	2.20-2.40	1.50-1.70
Analytical Parameter (Water Analysis)	Units	Limit of detection	Minimum reporting values (hazardous substances only)	Groundwater resource potential - risk based standards to protect potable water supply potential	Freshwater AA EQS	Lowest GAC	Minimum Concentration	Maximum Concentration	Number of Exceedances			
Iron (dissolved)	mg/l	0.004		0.2	1.0	0.20	0.01	0.04	0			
Lead (dissolved)	µg/l	1	1.0	10		10.00	1.00	2.50	0	1.80	< 1.0	
Bioavailable Lead (dissolved)	µg/l	0.2			1.2 (bioavailable)	1.20	0.05	0.62	0	0.34	0.40	
Manganese (dissolved)	µg/l	0.06		50		50.00	43.00	78.00	1			
Bioavailable Manganese (dissolved)	µg/l	0.05			123 (bioavailable)	123.00	5.12	11.27	0			
Mercury (dissolved)	µg/l	0.5	0.01	1.0	0.07 (Inland Surface MAC)	0.07	0.00	0.00	0	< 0.5	< 0.5	
Molybdenum (dissolved)	µg/l	0.4					0.44	15.00		1.43	6.17	
Nickel (dissolved)	µg/l	0.3		20		20.00	0.30	8.20	0	< 0.3	1.00	
Bioavailable Nickel (dissolved)	µg/l	0.5			4 (bioavailable)	4.00	0.06	2.76	0	0.19	0.36	
Selenium (dissolved)	µg/l	4		10		10.00	6.00	33.00	4	7.50	6.00	
Vanadium (dissolved)	µg/l	1.7			20	20.00	9.00	29.00	4			
Zinc (dissolved)	µg/l	0.4		5000		5000.00	2.00	20.00	0	< 0.4	14.00	
Bioavailable Zinc (dissolved)	µg/l	0.5			10.9 (bioavailable)	10.90	0.19	8.73	0	0.19	7.04	
Calcium (dissolved)	mg/l	0.012					87.00	186.00				
Calcium (dissolved)	µg/l	12					87000.00	186000.00				
Magnesium (dissolved)	mg/l	0.005					3.20	9.10				
Potassium (dissolved)	mg/l	0.025					2.10	3.30				
Sodium (dissolved)	mg/l	0.01		200		200.00	1.20	2.10	0			
TPH - Aliphatic >C5 - C6 HS 1D AL	µg/l	1		15000		15000.00	0.00	0.00	0			
TPH - Aliphatic >C6 - C8 HS 1D AL	µg/l	1		15000		15000.00	0.00	0.00	0			
TPH - Aliphatic >C8 - C10 HS 1D AL	µg/l	1		300		300.00	0.00	0.00	0			
TPH - Aliphatic >C10 - C12 EH 1D AL MS	µg/l	10		300		300.00	0.00	0.00	0			
TPH - Aliphatic >C12 - C16 EH 1D AL MS	µg/l	10		300		300.00	0.00	0.00	0			
TPH - Aliphatic >C16 - C21 EH 1D AL MS	µg/l	10					0.00	0.00				
TPH - Aliphatic >C21 - C35 EH 1D AL MS	µg/l	10					0.00	0.00				
TPH - Aliphatic >C5 - C35 HS+EH 1D AL MS	µg/l	10					0.00	0.00				
TPH - Aromatic >EC5 - EC7 HS 1D AR	µg/l	1					0.00	0.00				
TPH - Aromatic >EC7 - EC8 HS 1D AR	µg/l	1					0.00	0.00				
TPH - Aromatic >EC8 - EC10 EH 1D AR MS	µg/l	1					0.00	0.00				
TPH - Aromatic >EC10 - EC12 EH 1D AR MS	µg/l	10		90		90.00	0.00	0.00	0			
TPH - Aromatic >EC12 - EC16 EH 1D AR MS	µg/l	10		90		90.00	0.00	0.00	0			
TPH - Aromatic >EC16 - EC21 EH 1D AR MS	µg/l	10		90		90.00	0.00	0.00	0			
TPH - Aromatic >EC21 - EC35 EH 1D AR MS	µg/l	10		90		90.00	0.00	0.00	0			
TPH - Aromatic >EC6 - EC35 HS+EH 1D AR MS	µg/l	10					0.00	0.00				
MTBE (Methyl Tertiary Butyl Ether)							0.00	0.00				
Benzene			1.0				0.00	0.00				
Toluene			4.0				0.00	0.00				
Ethylbenzene			5.0				0.00	0.00				
p & m-xylene			3.0				0.00	0.00				
o-xylene							0.00	0.00				

Project / Site name: Thorpe Marsh Green Energy Hub: Battery Energy Storage System (BESS)										118284	125510	
										Strata (PFA/MG)	PFA	MG
										Sample Reference	RTP151	RTP143
										Date Sampled	12/02/2024	20/02/2024
										Depth	0.50-0.70	0.90-1.00
Analytical Parameter (Water Analysis)	Units	Limit of detection	Minimum reporting values (hazardous substances only)	Groundwater resource potential - risk based standards to protect potable water supply potential	Freshwater AA EQS	Lowest GAC	Minimum Concentration	Maximum Concentration	Number of Exceedances			
General Inorganics												
pH (automated)	pH Units	N/A		≥6.5 & ≤9.5	≥6 & ≤9		7.00	8.20		7.80	7.80	
Total Cyanide (Low Level 1 µg/l)	µg/l	1		50	1.0	1.00	0.00	0.00	0			
Sulphate as SO4	µg/l	45										
Sulphate as SO4	mg/l	0.045		250	400.0	250.00	0.77	1590.00	11	0.77	17.00	
Total Sulphur	mg/l	0.015					63.00	117.00				
Chloride	mg/l	0.15		250	250	250.00	0.33	1.70	0	1.70	1.40	
Ammoniacal Nitrogen as N	µg/l	15		500	600[1]	500.00	73.00	120.00	0			
Nitrate as N	mg/l	0.01		50		50.00	0.03	0.06	0			
Nitrite as N	µg/l	1		500		500.00	1.00	1.20	0			
Total Phenols												
Total Phenols (monohydric) low level	µg/l	1			7.7	7.70	0.00	0.00	0			
Speciated PAHs												
Naphthalene	µg/l	0.01		0.075	2.0	0.08	0.96	0.96	1			
Acenaphthylene	µg/l	0.01					0.00	0.00				
Acenaphthene	µg/l	0.01	0.01				0.00	0.00				
Fluorene	µg/l	0.01					0.00	0.00				
Phenanthrene	µg/l	0.01					0.00	0.00				
Anthracene	µg/l	0.01	0.01		0.1	0.10	0.00	0.00	0			
Fluoranthene	µg/l	0.01	0.01		0.0063	0.01	0.00	0.00	0			
Pyrene	µg/l	0.01					0.00	0.00				
Benzo(a)anthracene	µg/l	0.01					0.00	0.00				
Chrysene	µg/l	0.01					0.00	0.00				
Benzo(b)fluoranthene	µg/l	0.01	0.01	0.1 (sum of the 4 compounds)	0.00017	0.00	0.00	0.00	0			
Benzo(k)fluoranthene	µg/l	0.01	0.01	0.1 (sum of the 4 compounds)	0.00017	0.00	0.00	0.00	0			
Benzo(a)pyrene	µg/l	0.01	0.01	0.01	0.00017	0.00	0.00	0.00	0			
Indeno(1,2,3-cd)pyrene	µg/l	0.01	0.01	0.1 (sum of the 4 compounds)	0.00017	0.00	0.00	0.00	0			
Dibenzo(a,h)anthracene	µg/l	0.01					0.00	0.00				
Benzo(ghi)perylene	µg/l	0.01	0.01	0.1 (sum of the 4 compounds)	0.00017	0.00	0.00	0.00	0			
Total PAH												
Total EPA-16 PAHs	µg/l	0.16					0.96	0.96				
Heavy Metals / Metalloids												
Aluminium (dissolved)	mg/l	0.012		200		200.00	0.03	0.15	0			
Antimony (dissolved)	µg/l	1.7		5.0		5.00	8.10	8.10	1			
Arsenic (dissolved)	µg/l	1	1.0	10	50.00	10.00	1.66	69.00	12	2.61	1.66	
Barium (dissolved)	µg/l	-		700		700.00	0.26	53.80	0	3.31	19.20	
Beryllium (dissolved)	µg/l	0.2					0.00	0.00				
Boron (dissolved)	µg/l	10		1000	2000.00	1000.00	12.00	820.00	0			
Cadmium (dissolved)	µg/l	0.08		5.0	0.25 (Class 5)	0.25	0.00	0.00	0	< 0.1	< 0.1	
Chromium (hexavalent)	µg/l	5	5.0	5.0	3.40	3.40	0.00	0.00	0			
Chromium (dissolved)	µg/l	0.4		50	4.7 (CrIII)	4.70	0.50	13.00	4	0.76	< 0.4	
Copper (dissolved)	µg/l	0.7		2000		2000.00	2.10	13.00	0	2.10	6.50	
Bioavailable Copper (dissolved)	µg/l	0.5			1 (bioavailable)	1.00	0.05	1.04	1	0.05	0.20	
Iron (dissolved)	µg/l	4		200	1000	200.00	0.00	0.00	0			

Project / Site name: Thorpe Marsh Green Energy Hub: Battery Energy Storage System (BESS)										118284	125510	
										Strata (PFA/MG)	PFA	MG
										Sample Reference	RTP151	RTP143
										Date Sampled	12/02/2024	20/02/2024
										Depth	0.50-0.70	0.90-1.00
Analytical Parameter (Water Analysis)	Units	Limit of detection	Minimum reporting values (hazardous substances only)	Groundwater resource potential - risk based standards to protect potable water supply potential	Freshwater AA EQS	Lowest GAC	Minimum Concentration	Maximum Concentration	Number of Exceedances			
Iron (dissolved)	mg/l	0.004		0.2	1.0	0.20	0.01	0.04	0			
Lead (dissolved)	µg/l	1	1.0	10		10.00	1.00	2.50	0	2.40	< 1.0	
Bioavailable Lead (dissolved)	µg/l	0.2			1.2 (bioavailable)	1.20	0.05	0.62	0	0.21	0.05	
Manganese (dissolved)	µg/l	0.06		50		50.00	43.00	78.00	1			
Bioavailable Manganese (dissolved)	µg/l	0.05			123 (bioavailable)	123.00	5.12	11.27	0			
Mercury (dissolved)	µg/l	0.5	0.01	1.0	0.07 (Inland Surface MAC)	0.07	0.00	0.00	0	< 0.5	< 0.5	
Molybdenum (dissolved)	µg/l	0.4					0.44	15.00		0.44	10.20	
Nickel (dissolved)	µg/l	0.3		20		20.00	0.30	8.20	0	< 0.3	2.00	
Bioavailable Nickel (dissolved)	µg/l	0.5			4 (bioavailable)	4.00	0.06	2.76	0	0.06	0.24	
Selenium (dissolved)	µg/l	4		10		10.00	6.00	33.00	4	< 4.0	< 4.0	
Vanadium (dissolved)	µg/l	1.7			20	20.00	9.00	29.00	4			
Zinc (dissolved)	µg/l	0.4		5000		5000.00	2.00	20.00	0	2.00	11.00	
Bioavailable Zinc (dissolved)	µg/l	0.5			10.9 (bioavailable)	10.90	0.19	8.73	0	0.44	1.52	
Calcium (dissolved)	mg/l	0.012					87.00	186.00				
Calcium (dissolved)	µg/l	12					87000.00	186000.00				
Magnesium (dissolved)	mg/l	0.005					3.20	9.10				
Potassium (dissolved)	mg/l	0.025					2.10	3.30				
Sodium (dissolved)	mg/l	0.01		200		200.00	1.20	2.10	0			
TPH - Aliphatic >C5 - C6 HS 1D AL	µg/l	1		15000		15000.00	0.00	0.00	0			
TPH - Aliphatic >C6 - C8 HS 1D AL	µg/l	1		15000		15000.00	0.00	0.00	0			
TPH - Aliphatic >C8 - C10 HS 1D AL	µg/l	1		300		300.00	0.00	0.00	0			
TPH - Aliphatic >C10 - C12 EH 1D AL MS	µg/l	10		300		300.00	0.00	0.00	0			
TPH - Aliphatic >C12 - C16 EH 1D AL MS	µg/l	10		300		300.00	0.00	0.00	0			
TPH - Aliphatic >C16 - C21 EH 1D AL MS	µg/l	10					0.00	0.00				
TPH - Aliphatic >C21 - C35 EH 1D AL MS	µg/l	10					0.00	0.00				
TPH - Aliphatic >C5 - C35 HS+EH 1D AL MS	µg/l	10					0.00	0.00				
TPH - Aromatic >EC5 - EC7 HS 1D AR	µg/l	1					0.00	0.00				
TPH - Aromatic >EC7 - EC8 HS 1D AR	µg/l	1					0.00	0.00				
TPH - Aromatic >EC8 - EC10 EH 1D AR MS	µg/l	1					0.00	0.00				
TPH - Aromatic >EC10 - EC12 EH 1D AR MS	µg/l	10		90		90.00	0.00	0.00	0			
TPH - Aromatic >EC12 - EC16 EH 1D AR MS	µg/l	10		90		90.00	0.00	0.00	0			
TPH - Aromatic >EC16 - EC21 EH 1D AR MS	µg/l	10		90		90.00	0.00	0.00	0			
TPH - Aromatic >EC21 - EC35 EH 1D AR MS	µg/l	10		90		90.00	0.00	0.00	0			
TPH - Aromatic >EC6 - EC35 HS+EH 1D AR MS	µg/l	10					0.00	0.00				
MTBE (Methyl Tertiary Butyl Ether)							0.00	0.00				
Benzene			1.0				0.00	0.00				
Toluene			4.0				0.00	0.00				
Ethylbenzene			5.0				0.00	0.00				
p & m-xylene			3.0				0.00	0.00				
o-xylene							0.00	0.00				



Project / Site name: Thorpe Marsh Green Energy Hub: Battery Energy Storage System (BESS)										124158		
										Strata (PFA/MG)	MG	MG
										Sample Reference	RTP166	RBH124
										Date Sampled	19/02/2024	14/02/2024
										Depth	1.80-1.90	0.1-0.2
Analytical Parameter (Water Analysis)	Units	Limit of detection	Minimum reporting values (hazardous substances only)	Groundwater resource potential - risk based standards to protect potable water supply potential	Freshwater AA EQS	Lowest GAC	Minimum Concentration	Maximum Concentration	Number of Exceedances			
General Inorganics												
pH (automated)	pH Units	N/A		≥6.5 & ≤9.5	≥6 & ≤9		7.00	8.20		7.80	7.70	
Total Cyanide (Low Level 1 µg/l)	µg/l	1		50	1.0	1.00	0.00	0.00	0		< 1.0	
Sulphate as SO4	µg/l	45										
Sulphate as SO4	mg/l	0.045		250	400.0	250.00	0.77	1590.00	11	250.00	1590.00	
Total Sulphur	mg/l	0.015					63.00	117.00				
Chloride	mg/l	0.15		250	250	250.00	0.33	1.70	0	0.71		
Ammoniacal Nitrogen as N	µg/l	15		500	600[1]	500.00	73.00	120.00	0			
Nitrate as N	mg/l	0.01		50		50.00	0.03	0.06	0			
Nitrite as N	µg/l	1		500		500.00	1.00	1.20	0			
Total Phenols												
Total Phenols (monohydric) low level	µg/l	1			7.7	7.70	0.00	0.00	0			
Speciated PAHs												
Naphthalene	µg/l	0.01		0.075	2.0	0.08	0.96	0.96	1		< 0.01	
Acenaphthylene	µg/l	0.01					0.00	0.00			< 0.01	
Acenaphthene	µg/l	0.01	0.01				0.00	0.00			< 0.01	
Fluorene	µg/l	0.01					0.00	0.00			< 0.01	
Phenanthrene	µg/l	0.01					0.00	0.00			< 0.01	
Anthracene	µg/l	0.01	0.01		0.1	0.10	0.00	0.00	0		< 0.01	
Fluoranthene	µg/l	0.01	0.01		0.0063	0.01	0.00	0.00	0		< 0.01	
Pyrene	µg/l	0.01					0.00	0.00			< 0.01	
Benzo(a)anthracene	µg/l	0.01					0.00	0.00			< 0.01	
Chrysene	µg/l	0.01					0.00	0.00			< 0.01	
Benzo(b)fluoranthene	µg/l	0.01	0.01	0.1 (sum of the 4 compounds)	0.00017	0.00	0.00	0.00	0		< 0.01	
Benzo(k)fluoranthene	µg/l	0.01	0.01	0.1 (sum of the 4 compounds)	0.00017	0.00	0.00	0.00	0		< 0.01	
Benzo(a)pyrene	µg/l	0.01	0.01	0.01	0.00017	0.00	0.00	0.00	0		< 0.01	
Indeno(1,2,3-cd)pyrene	µg/l	0.01	0.01	0.1 (sum of the 4 compounds)	0.00017	0.00	0.00	0.00	0		< 0.01	
Dibenzo(a,h)anthracene	µg/l	0.01		0.1 (sum of the 4 compounds)			0.00	0.00			< 0.01	
Benzo(ghi)perylene	µg/l	0.01	0.01	0.1 (sum of the 4 compounds)	0.00017	0.00	0.00	0.00	0		< 0.01	
Total PAH												
Total EPA-16 PAHs	µg/l	0.16					0.96	0.96			< 0.16	
Heavy Metals / Metalloids												
Aluminium (dissolved)	mg/l	0.012		200		200.00	0.03	0.15	0			
Antimony (dissolved)	µg/l	1.7		5.0		5.00	8.10	8.10	1			
Arsenic (dissolved)	µg/l	1	1.0	10	50.00	10.00	1.66	69.00	12	37.50	< 1.0	
Barium (dissolved)	µg/l	-		700		700.00	0.26	53.80	0	53.80		
Beryllium (dissolved)	µg/l	0.2					0.00	0.00			< 0.2	
Boron (dissolved)	µg/l	10		1000	2000.00	1000.00	12.00	820.00	0		12.00	
Cadmium (dissolved)	µg/l	0.08		5.0	0.25 (Class 5)	0.25	0.00	0.00	0	< 0.1	< 0.08	
Chromium (hexavalent)	µg/l	5	5.0	5.0	3.40	3.40	0.00	0.00	0			
Chromium (dissolved)	µg/l	0.4		50	4.7 (CrIII)	4.70	0.50	13.00	4	4.30	< 0.4	
Copper (dissolved)	µg/l	0.7		2000		2000.00	2.10	13.00	0	5.70	13.00	
Bioavailable Copper (dissolved)	µg/l	0.5			1 (bioavailable)	1.00	0.05	1.04	1	0.36	0.83	
Iron (dissolved)	µg/l	4		200	1000	200.00	0.00	0.00	0			

Project / Site name: Thorpe Marsh Green Energy Hub: Battery Energy Storage System (BESS)										124158		
										Strata (PFA/MG)	MG	MG
										Sample Reference	RTP166	RBH124
										Date Sampled	19/02/2024	14/02/2024
										Depth	1.80-1.90	0.1-0.2
Analytical Parameter (Water Analysis)	Units	Limit of detection	Minimum reporting values (hazardous substances only)	Groundwater resource potential - risk based standards to protect potable water supply potential	Freshwater AA EQS	Lowest GAC	Minimum Concentration	Maximum Concentration	Number of Exceedances			
Iron (dissolved)	mg/l	0.004		0.2	1.0	0.20	0.01	0.04	0			
Lead (dissolved)	µg/l	1	1.0	10		10.00	1.00	2.50	0	< 1.0	2.50	
Bioavailable Lead (dissolved)	µg/l	0.2			1.2 (bioavailable)	1.20	0.05	0.62	0	0.25	0.62	
Manganese (dissolved)	µg/l	0.06		50		50.00	43.00	78.00	1			
Bioavailable Manganese (dissolved)	µg/l	0.05			123 (bioavailable)	123.00	5.12	11.27	0			
Mercury (dissolved)	µg/l	0.5	0.01	1.0	0.07 (Inland Surface MAC)	0.07	0.00	0.00	0	< 0.5	< 0.5	
Molybdenum (dissolved)	µg/l	0.4					0.44	15.00		14.70		
Nickel (dissolved)	µg/l	0.3		20		20.00	0.30	8.20	0	1.50	1.20	
Bioavailable Nickel (dissolved)	µg/l	0.5			4 (bioavailable)	4.00	0.06	2.76	0	0.50	0.38	
Selenium (dissolved)	µg/l	4		10		10.00	6.00	33.00	4	7.30	< 4.0	
Vanadium (dissolved)	µg/l	1.7			20	20.00	9.00	29.00	4			
Zinc (dissolved)	µg/l	0.4		5000		5000.00	2.00	20.00	0	20.00	5.00	
Bioavailable Zinc (dissolved)	µg/l	0.5			10.9 (bioavailable)	10.90	0.19	8.73	0	8.10	2.12	
Calcium (dissolved)	mg/l	0.012					87.00	186.00				
Calcium (dissolved)	µg/l	12					87000.00	186000.00				
Magnesium (dissolved)	mg/l	0.005					3.20	9.10				
Potassium (dissolved)	mg/l	0.025					2.10	3.30				
Sodium (dissolved)	mg/l	0.01		200		200.00	1.20	2.10	0			
TPH - Aliphatic >C5 - C6 HS 1D AL	µg/l	1		15000		15000.00	0.00	0.00	0		< 1.0	
TPH - Aliphatic >C6 - C8 HS 1D AL	µg/l	1		15000		15000.00	0.00	0.00	0		< 1.0	
TPH - Aliphatic >C8 - C10 HS 1D AL	µg/l	1		300		300.00	0.00	0.00	0		< 1.0	
TPH - Aliphatic >C10 - C12 EH 1D AL MS	µg/l	10		300		300.00	0.00	0.00	0		< 10	
TPH - Aliphatic >C12 - C16 EH 1D AL MS	µg/l	10		300		300.00	0.00	0.00	0		< 10	
TPH - Aliphatic >C16 - C21 EH 1D AL MS	µg/l	10					0.00	0.00			< 10	
TPH - Aliphatic >C21 - C35 EH 1D AL MS	µg/l	10					0.00	0.00			< 10	
TPH - Aliphatic >C5 - C35 HS+EH 1D AL MS	µg/l	10					0.00	0.00			< 10	
TPH - Aromatic >EC5 - EC7 HS 1D AR	µg/l	1					0.00	0.00			< 1.0	
TPH - Aromatic >EC7 - EC8 HS 1D AR	µg/l	1					0.00	0.00			< 1.0	
TPH - Aromatic >EC8 - EC10 EH 1D AR MS	µg/l	1					0.00	0.00			< 1.0	
TPH - Aromatic >EC10 - EC12 EH 1D AR MS	µg/l	10		90		90.00	0.00	0.00	0		< 10	
TPH - Aromatic >EC12 - EC16 EH 1D AR MS	µg/l	10		90		90.00	0.00	0.00	0		< 10	
TPH - Aromatic >EC16 - EC21 EH 1D AR MS	µg/l	10		90		90.00	0.00	0.00	0		< 10	
TPH - Aromatic >EC21 - EC35 EH 1D AR MS	µg/l	10		90		90.00	0.00	0.00	0		< 10	
TPH - Aromatic >EC6 - EC35 HS+EH 1D AR MS	µg/l	10					0.00	0.00			< 10	
MTBE (Methyl Tertiary Butyl Ether)							0.00	0.00			< 3.0	
Benzene			1.0				0.00	0.00			< 3.0	
Toluene			4.0				0.00	0.00			< 3.0	
Ethylbenzene			5.0				0.00	0.00			< 3.0	
p & m-xylene			3.0				0.00	0.00			< 3.0	
o-xylene							0.00	0.00			< 3.0	

Project / Site name: Thorpe Marsh Green Energy Hub: Battery Energy Storage System (BESS)										Strata (PFA/MG)	PFA	PFA
										Sample Reference	RBH126	RTP134
										Date Sampled	19/02/2024	14/02/2024
										Depth	1.0-1.5	3.5-3.7
Analytical Parameter (Water Analysis)	Units	Limit of detection	Minimum reporting values (hazardous substances only)	Groundwater resource potential - risk based standards to protect potable water supply potential	Freshwater AA EQS	Lowest GAC	Minimum Concentration	Maximum Concentration	Number of Exceedances			
General Inorganics												
pH (automated)	pH Units	N/A		≥6.5 & ≤9.5	≥6 & ≤9		7.00	8.20			7.70	7.20
Total Cyanide (Low Level 1 µg/l)	µg/l	1		50	1.0	1.00	0.00	0.00	0		< 1.0	
Sulphate as SO4	µg/l	45										
Sulphate as SO4	mg/l	0.045		250	400.0	250.00	0.77	1590.00	11		172.00	285.00
Total Sulphur	mg/l	0.015					63.00	117.00				95.00
Chloride	mg/l	0.15		250	250	250.00	0.33	1.70	0			
Ammoniacal Nitrogen as N	µg/l	15		500	600[1]	500.00	73.00	120.00	0			< 15
Nitrate as N	mg/l	0.01		50		50.00	0.03	0.06	0			
Nitrite as N	µg/l	1		500		500.00	1.00	1.20	0			
Total Phenols												
Total Phenols (monohydric) low level	µg/l	1			7.7	7.70	0.00	0.00	0			
Speciated PAHs												
Naphthalene	µg/l	0.01		0.075	2.0	0.08	0.96	0.96	1		< 0.01	
Acenaphthylene	µg/l	0.01					0.00	0.00			< 0.01	
Acenaphthene	µg/l	0.01	0.01				0.00	0.00			< 0.01	
Fluorene	µg/l	0.01					0.00	0.00			< 0.01	
Phenanthrene	µg/l	0.01					0.00	0.00			< 0.01	
Anthracene	µg/l	0.01	0.01		0.1	0.10	0.00	0.00	0		< 0.01	
Fluoranthene	µg/l	0.01	0.01		0.0063	0.01	0.00	0.00	0		< 0.01	
Pyrene	µg/l	0.01					0.00	0.00			< 0.01	
Benzo(a)anthracene	µg/l	0.01					0.00	0.00			< 0.01	
Chrysene	µg/l	0.01					0.00	0.00			< 0.01	
Benzo(b)fluoranthene	µg/l	0.01	0.01	0.1 (sum of the 4 compounds)	0.00017	0.00	0.00	0.00	0		< 0.01	
Benzo(k)fluoranthene	µg/l	0.01	0.01	0.1 (sum of the 4 compounds)	0.00017	0.00	0.00	0.00	0		< 0.01	
Benzo(a)pyrene	µg/l	0.01	0.01	0.01	0.00017	0.00	0.00	0.00	0		< 0.01	
Indeno(1,2,3-cd)pyrene	µg/l	0.01	0.01	0.1 (sum of the 4 compounds)	0.00017	0.00	0.00	0.00	0		< 0.01	
Dibenzo(a,h)anthracene	µg/l	0.01					0.00	0.00			< 0.01	
Benzo(ghi)perylene	µg/l	0.01	0.01	0.1 (sum of the 4 compounds)	0.00017	0.00	0.00	0.00	0		< 0.01	
Total PAH												
Total EPA-16 PAHs	µg/l	0.16					0.96	0.96			< 0.16	
Heavy Metals / Metalloids												
Aluminium (dissolved)	mg/l	0.012		200		200.00	0.03	0.15	0			0.08
Antimony (dissolved)	µg/l	1.7		5.0		5.00	8.10	8.10	1			< 1.7
Arsenic (dissolved)	µg/l	1	1.0	10	50.00	10.00	1.66	69.00	12		31.00	51.00
Barium (dissolved)	µg/l	-		700		700.00	0.26	53.80	0			
Beryllium (dissolved)	µg/l	0.2					0.00	0.00			< 0.2	
Boron (dissolved)	µg/l	10		1000	2000.00	1000.00	12.00	820.00	0		820.00	93.00
Cadmium (dissolved)	µg/l	0.08		5.0	0.25 (Class 5)	0.25	0.00	0.00	0		< 0.08	< 0.08
Chromium (hexavalent)	µg/l	5	5.0	5.0	3.40	3.40	0.00	0.00	0		< 5.0	
Chromium (dissolved)	µg/l	0.4		50	4.7 (CrIII)	4.70	0.50	13.00	4		0.50	5.60
Copper (dissolved)	µg/l	0.7		2000		2000.00	2.10	13.00	0		8.70	
Bioavailable Copper (dissolved)	µg/l	0.5			1 (bioavailable)	1.00	0.05	1.04	1		0.55	
Iron (dissolved)	µg/l	4		200	1000	200.00	0.00	0.00	0			

Project / Site name: Thorpe Marsh Green Energy Hub: Battery Energy Storage System (BESS)										Strata (PFA/MG)	PFA	PFA
										Sample Reference	RBH126	RTP134
										Date Sampled	19/02/2024	14/02/2024
										Depth	1.0-1.5	3.5-3.7
Analytical Parameter (Water Analysis)	Units	Limit of detection	Minimum reporting values (hazardous substances only)	Groundwater resource potential - risk based standards to protect potable water supply potential	Freshwater AA EQS	Lowest GAC	Minimum Concentration	Maximum Concentration	Number of Exceedances			
Iron (dissolved)	mg/l	0.004		0.2	1.0	0.20	0.01	0.04	0			
Lead (dissolved)	µg/l	1	1.0	10		10.00	1.00	2.50	0	< 1.0	< 1.0	
Bioavailable Lead (dissolved)	µg/l	0.2			1.2 (bioavailable)	1.20	0.05	0.62	0	0.25	0.25	
Manganese (dissolved)	µg/l	0.06		50		50.00	43.00	78.00	1			
Bioavailable Manganese (dissolved)	µg/l	0.05			123 (bioavailable)	123.00	5.12	11.27	0			
Mercury (dissolved)	µg/l	0.5	0.01	1.0	0.07 (Inland Surface MAC)	0.07	0.00	0.00	0	< 0.5		
Molybdenum (dissolved)	µg/l	0.4				20.00	0.44	15.00	0			3.70
Nickel (dissolved)	µg/l	0.3		20		20.00	0.30	8.20	0	0.30		
Bioavailable Nickel (dissolved)	µg/l	0.5			4 (bioavailable)	4.00	0.06	2.76	0	0.10		
Selenium (dissolved)	µg/l	4		10		10.00	6.00	33.00	4	< 4.0	< 4.0	
Vanadium (dissolved)	µg/l	1.7			20	20.00	9.00	29.00	4	16.00	20.00	
Zinc (dissolved)	µg/l	0.4		5000		5000.00	2.00	20.00	0	9.80		
Bioavailable Zinc (dissolved)	µg/l	0.5			10.9 (bioavailable)	10.90	0.19	8.73	0	4.15		
Calcium (dissolved)	mg/l	0.012					87.00	186.00				130.00
Calcium (dissolved)	µg/l	12					87000.00	186000.00				130000.00
Magnesium (dissolved)	mg/l	0.005					3.20	9.10				
Potassium (dissolved)	mg/l	0.025					2.10	3.30				
Sodium (dissolved)	mg/l	0.01		200		200.00	1.20	2.10	0			
TPH - Aliphatic >C5 - C6 HS 1D AL	µg/l	1		15000		15000.00	0.00	0.00	0	< 1.0		
TPH - Aliphatic >C6 - C8 HS 1D AL	µg/l	1		15000		15000.00	0.00	0.00	0	< 1.0		
TPH - Aliphatic >C8 - C10 HS 1D AL	µg/l	1		300		300.00	0.00	0.00	0	< 1.0		
TPH - Aliphatic >C10 - C12 EH 1D AL MS	µg/l	10		300		300.00	0.00	0.00	0	< 10		
TPH - Aliphatic >C12 - C16 EH 1D AL MS	µg/l	10		300		300.00	0.00	0.00	0	< 10		
TPH - Aliphatic >C16 - C21 EH 1D AL MS	µg/l	10					0.00	0.00		< 10		
TPH - Aliphatic >C21 - C35 EH 1D AL MS	µg/l	10					0.00	0.00		< 10		
TPH - Aliphatic >C5 - C35 HS+EH 1D AL MS	µg/l	10					0.00	0.00		< 10		
TPH - Aromatic >EC5 - EC7 HS 1D AR	µg/l	1					0.00	0.00		< 1.0		
TPH - Aromatic >EC7 - EC8 HS 1D AR	µg/l	1					0.00	0.00		< 1.0		
TPH - Aromatic >EC8 - EC10 EH 1D AR MS	µg/l	1					0.00	0.00		< 1.0		
TPH - Aromatic >EC10 - EC12 EH 1D AR MS	µg/l	10		90		90.00	0.00	0.00	0	< 10		
TPH - Aromatic >EC12 - EC16 EH 1D AR MS	µg/l	10		90		90.00	0.00	0.00	0	< 10		
TPH - Aromatic >EC16 - EC21 EH 1D AR MS	µg/l	10		90		90.00	0.00	0.00	0	< 10		
TPH - Aromatic >EC21 - EC35 EH 1D AR MS	µg/l	10		90		90.00	0.00	0.00	0	< 10		
TPH - Aromatic >EC6 - EC35 HS+EH 1D AR MS	µg/l	10					0.00	0.00		< 10		
MTBE (Methyl Tertiary Butyl Ether)							0.00	0.00		< 3.0		
Benzene			1.0				0.00	0.00		< 3.0		
Toluene			4.0				0.00	0.00		< 3.0		
Ethylbenzene			5.0				0.00	0.00		< 3.0		
p & m-xylene			3.0				0.00	0.00		< 3.0		
o-xylene							0.00	0.00		< 3.0		

Project / Site name: Thorpe Marsh Green Energy Hub: Battery Energy Storage System (BESS)

										Strata (PFA/MG)	PFA	PFA
										Sample Reference	RTP135	RTP137
										Date Sampled	15/02/2024	14/02/2024
										Depth	4.2-4.4	2.6-2.8
Analytical Parameter (Water Analysis)	Units	Limit of detection	Minimum reporting values (hazardous substances only)	Groundwater resource potential - risk based standards to protect potable water supply potential	Freshwater AA EQS	Lowest GAC	Minimum Concentration	Maximum Concentration	Number of Exceedances			
General Inorganics												
pH (automated)	pH Units	N/A		≥6.5 & ≤9.5	≥6 & ≤9		7.00	8.20			7.90	7.00
Total Cyanide (Low Level 1 µg/l)	µg/l	1		50	1.0	1.00	0.00	0.00	0			
Sulphate as SO4	µg/l	45										
Sulphate as SO4	mg/l	0.045		250	400.0	250.00	0.77	1590.00	11		242.00	189.00
Total Sulphur	mg/l	0.015					63.00	117.00			80.80	63.00
Chloride	mg/l	0.15		250	250	250.00	0.33	1.70	0			
Ammoniacal Nitrogen as N	µg/l	15		500	600[1]	500.00	73.00	120.00	0		< 15	< 15
Nitrate as N	mg/l	0.01		50		50.00	0.03	0.06	0			
Nitrite as N	µg/l	1		500		500.00	1.00	1.20	0			
Total Phenols												
Total Phenols (monohydric) low level	µg/l	1			7.7	7.70	0.00	0.00	0			
Speciated PAHs												
Naphthalene	µg/l	0.01		0.075	2.0	0.08	0.96	0.96	1			
Acenaphthylene	µg/l	0.01					0.00	0.00				
Acenaphthene	µg/l	0.01	0.01				0.00	0.00				
Fluorene	µg/l	0.01					0.00	0.00				
Phenanthrene	µg/l	0.01					0.00	0.00				
Anthracene	µg/l	0.01	0.01		0.1	0.10	0.00	0.00	0			
Fluoranthene	µg/l	0.01	0.01		0.0063	0.01	0.00	0.00	0			
Pyrene	µg/l	0.01					0.00	0.00				
Benzo(a)anthracene	µg/l	0.01					0.00	0.00				
Chrysene	µg/l	0.01					0.00	0.00				
Benzo(b)fluoranthene	µg/l	0.01	0.01	0.1 (sum of the 4 compounds)	0.00017	0.00	0.00	0.00	0			
Benzo(k)fluoranthene	µg/l	0.01	0.01	0.1 (sum of the 4 compounds)	0.00017	0.00	0.00	0.00	0			
Benzo(a)pyrene	µg/l	0.01	0.01	0.01	0.00017	0.00	0.00	0.00	0			
Indeno(1,2,3-cd)pyrene	µg/l	0.01	0.01	0.1 (sum of the 4 compounds)	0.00017	0.00	0.00	0.00	0			
Dibenzo(a,h)anthracene	µg/l	0.01					0.00	0.00				
Benzo(ghi)perylene	µg/l	0.01	0.01	0.1 (sum of the 4 compounds)	0.00017	0.00	0.00	0.00	0			
Total PAH												
Total EPA-16 PAHs	µg/l	0.16					0.96	0.96				
Heavy Metals / Metalloids												
Aluminium (dissolved)	mg/l	0.012		200		200.00	0.03	0.15	0		0.15	0.03
Antimony (dissolved)	µg/l	1.7		5.0		5.00	8.10	8.10	1		< 1.7	< 1.7
Arsenic (dissolved)	µg/l	1	1.0	10	50.00	10.00	1.66	69.00	12		54.00	56.00
Barium (dissolved)	µg/l	-		700		700.00	0.26	53.80	0			
Beryllium (dissolved)	µg/l	0.2					0.00	0.00				
Boron (dissolved)	µg/l	10		1000	2000.00	1000.00	12.00	820.00	0		96.00	44.00
Cadmium (dissolved)	µg/l	0.08		5.0	0.25 (Class 5)	0.25	0.00	0.00	0		< 0.08	< 0.08
Chromium (hexavalent)	µg/l	5	5.0	5.0	3.40	3.40	0.00	0.00	0			
Chromium (dissolved)	µg/l	0.4		50	4.7 (CrIII)	4.70	0.50	13.00	4		6.30	3.60
Copper (dissolved)	µg/l	0.7		2000		2000.00	2.10	13.00	0			
Bioavailable Copper (dissolved)	µg/l	0.5			1 (bioavailable)	1.00	0.05	1.04	1			
Iron (dissolved)	µg/l	4		200	1000	200.00	0.00	0.00	0			



Project / Site name: Thorpe Marsh Green Energy Hub: Battery Energy Storage System (BESS)										Strata (PFA/MG)	PFA	PFA
										Sample Reference	RTP135	RTP137
										Date Sampled	15/02/2024	14/02/2024
										Depth	4.2-4.4	2.6-2.8
Analytical Parameter (Water Analysis)	Units	Limit of detection	Minimum reporting values (hazardous substances only)	Groundwater resource potential - risk based standards to protect potable water supply potential	Freshwater AA EQS	Lowest GAC	Minimum Concentration	Maximum Concentration	Number of Exceedances			
Iron (dissolved)	mg/l	0.004		0.2	1.0	0.20	0.01	0.04	0			
Lead (dissolved)	µg/l	1	1.0	10		10.00	1.00	2.50	0	< 1.0	1.20	
Bioavailable Lead (dissolved)	µg/l	0.2			1.2 (bioavailable)	1.20	0.05	0.62	0	0.25	0.30	
Manganese (dissolved)	µg/l	0.06		50		50.00	43.00	78.00	1			
Bioavailable Manganese (dissolved)	µg/l	0.05			123 (bioavailable)	123.00	5.12	11.27	0			
Mercury (dissolved)	µg/l	0.5	0.01	1.0	0.07 (Inland Surface MAC)	0.07	0.00	0.00	0			
Molybdenum (dissolved)	µg/l	0.4				20.00	0.44	15.00	0	4.40	2.60	
Nickel (dissolved)	µg/l	0.3		20		20.00	0.30	8.20	0			
Bioavailable Nickel (dissolved)	µg/l	0.5			4 (bioavailable)	4.00	0.06	2.76	0			
Selenium (dissolved)	µg/l	4		10		10.00	6.00	33.00	4	< 4.0	10.00	
Vanadium (dissolved)	µg/l	1.7			20	20.00	9.00	29.00	4	20.00	20.00	
Zinc (dissolved)	µg/l	0.4		5000		5000.00	2.00	20.00	0			
Bioavailable Zinc (dissolved)	µg/l	0.5			10.9 (bioavailable)	10.90	0.19	8.73	0			
Calcium (dissolved)	mg/l	0.012					87.00	186.00		110.00	87.00	
Calcium (dissolved)	µg/l	12					87000.00	186000.00		110000.00	87000.00	
Magnesium (dissolved)	mg/l	0.005					3.20	9.10				
Potassium (dissolved)	mg/l	0.025					2.10	3.30				
Sodium (dissolved)	mg/l	0.01		200		200.00	1.20	2.10	0			
TPH - Aliphatic >C5 - C6 HS 1D AL	µg/l	1		15000		15000.00	0.00	0.00	0			
TPH - Aliphatic >C6 - C8 HS 1D AL	µg/l	1		15000		15000.00	0.00	0.00	0			
TPH - Aliphatic >C8 - C10 HS 1D AL	µg/l	1		300		300.00	0.00	0.00	0			
TPH - Aliphatic >C10 - C12 EH 1D AL MS	µg/l	10		300		300.00	0.00	0.00	0			
TPH - Aliphatic >C12 - C16 EH 1D AL MS	µg/l	10		300		300.00	0.00	0.00	0			
TPH - Aliphatic >C16 - C21 EH 1D AL MS	µg/l	10					0.00	0.00				
TPH - Aliphatic >C21 - C35 EH 1D AL MS	µg/l	10					0.00	0.00				
TPH - Aliphatic >C5 - C35 HS+EH 1D AL MS	µg/l	10					0.00	0.00				
TPH - Aromatic >EC5 - EC7 HS 1D AR	µg/l	1					0.00	0.00				
TPH - Aromatic >EC7 - EC8 HS 1D AR	µg/l	1					0.00	0.00				
TPH - Aromatic >EC8 - EC10 EH 1D AR MS	µg/l	1					0.00	0.00				
TPH - Aromatic >EC10 - EC12 EH 1D AR MS	µg/l	10		90		90.00	0.00	0.00	0			
TPH - Aromatic >EC12 - EC16 EH 1D AR MS	µg/l	10		90		90.00	0.00	0.00	0			
TPH - Aromatic >EC16 - EC21 EH 1D AR MS	µg/l	10		90		90.00	0.00	0.00	0			
TPH - Aromatic >EC21 - EC35 EH 1D AR MS	µg/l	10		90		90.00	0.00	0.00	0			
TPH - Aromatic >EC6 - EC35 HS+EH 1D AR MS	µg/l	10					0.00	0.00				
MTBE (Methyl Tertiary Butyl Ether)							0.00	0.00				
Benzene			1.0				0.00	0.00				
Toluene			4.0				0.00	0.00				
Ethylbenzene			5.0				0.00	0.00				
p & m-xylene			3.0				0.00	0.00				
o-xylene							0.00	0.00				

Project / Site name: Thorpe Marsh Green Energy Hub: Battery Energy Storage System (BESS)										Strata (PFA/MG)	PFA	PFA
										Sample Reference	RTP140	RTP177
										Date Sampled	15/02/2024	19/02/2024
										Depth	3.2-3.4	3.0-3.2
Analytical Parameter (Water Analysis)	Units	Limit of detection	Minimum reporting values (hazardous substances only)	Groundwater resource potential - risk based standards to protect potable water supply potential	Freshwater AA EQS	Lowest GAC	Minimum Concentration	Maximum Concentration	Number of Exceedances			
General Inorganics												
pH (automated)	pH Units	N/A		≥6.5 & ≤9.5	≥6 & ≤9		7.00	8.20			7.40	7.40
Total Cyanide (Low Level 1 µg/l)	µg/l	1		50	1.0	1.00	0.00	0.00	0			< 1.0
Sulphate as SO4	µg/l	45										
Sulphate as SO4	mg/l	0.045		250	400.0	250.00	0.77	1590.00	11		255.00	491.00
Total Sulphur	mg/l	0.015					63.00	117.00			85.00	
Chloride	mg/l	0.15		250	250	250.00	0.33	1.70	0			
Ammoniacal Nitrogen as N	µg/l	15		500	600[1]	500.00	73.00	120.00	0		< 15	
Nitrate as N	mg/l	0.01		50		50.00	0.03	0.06	0			
Nitrite as N	µg/l	1		500		500.00	1.00	1.20	0			
Total Phenols												
Total Phenols (monohydric) low level	µg/l	1			7.7	7.70	0.00	0.00	0			
Speciated PAHs												
Naphthalene	µg/l	0.01		0.075	2.0	0.08	0.96	0.96	1			< 0.01
Acenaphthylene	µg/l	0.01					0.00	0.00				< 0.01
Acenaphthene	µg/l	0.01	0.01				0.00	0.00				< 0.01
Fluorene	µg/l	0.01					0.00	0.00				< 0.01
Phenanthrene	µg/l	0.01					0.00	0.00				< 0.01
Anthracene	µg/l	0.01	0.01		0.1	0.10	0.00	0.00	0			< 0.01
Fluoranthene	µg/l	0.01	0.01		0.0063	0.01	0.00	0.00	0			< 0.01
Pyrene	µg/l	0.01					0.00	0.00				< 0.01
Benzo(a)anthracene	µg/l	0.01					0.00	0.00				< 0.01
Chrysene	µg/l	0.01					0.00	0.00				< 0.01
Benzo(b)fluoranthene	µg/l	0.01	0.01	0.1 (sum of the 4 compounds)	0.00017	0.00	0.00	0.00	0			< 0.01
Benzo(k)fluoranthene	µg/l	0.01	0.01	0.1 (sum of the 4 compounds)	0.00017	0.00	0.00	0.00	0			< 0.01
Benzo(a)pyrene	µg/l	0.01	0.01	0.01	0.00017	0.00	0.00	0.00	0			< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	0.01	0.1 (sum of the 4 compounds)	0.00017	0.00	0.00	0.00	0			< 0.01
Dibenzo(a,h)anthracene	µg/l	0.01		0.1 (sum of the 4 compounds)			0.00	0.00				< 0.01
Benzo(ghi)perylene	µg/l	0.01	0.01	0.1 (sum of the 4 compounds)	0.00017	0.00	0.00	0.00	0			< 0.01
Total PAH												
Total EPA-16 PAHs	µg/l	0.16					0.96	0.96				< 0.16
Heavy Metals / Metalloids												
Aluminium (dissolved)	mg/l	0.012		200		200.00	0.03	0.15	0		0.13	
Antimony (dissolved)	µg/l	1.7		5.0		5.00	8.10	8.10	1		< 1.7	
Arsenic (dissolved)	µg/l	1	1.0	10	50.00	10.00	1.66	69.00	12		29.00	4.80
Barium (dissolved)	µg/l	-		700		700.00	0.26	53.80	0			
Beryllium (dissolved)	µg/l	0.2					0.00	0.00				< 0.2
Boron (dissolved)	µg/l	10		1000	2000.00	1000.00	12.00	820.00	0		28.00	250.00
Cadmium (dissolved)	µg/l	0.08		5.0	0.25 (Class 5)	0.25	0.00	0.00	0		< 0.08	< 0.08
Chromium (hexavalent)	µg/l	5	5.0	5.0	3.40	3.40	0.00	0.00	0			< 5.0
Chromium (dissolved)	µg/l	0.4		50	4.7 (CrIII)	4.70	0.50	13.00	4		4.70	< 0.4
Copper (dissolved)	µg/l	0.7		2000		2000.00	2.10	13.00	0			9.50
Bioavailable Copper (dissolved)	µg/l	0.5			1 (bioavailable)	1.00	0.05	1.04	1			0.53
Iron (dissolved)	µg/l	4		200	1000	200.00	0.00	0.00	0			

Project / Site name: Thorpe Marsh Green Energy Hub: Battery Energy Storage System (BESS)

Project / Site name: Thorpe Marsh Green Energy Hub: Battery Energy Storage System (BESS)										Strata (PFA/MG)	PFA	PFA
										Sample Reference	RTP140	RTP177
										Date Sampled	15/02/2024	19/02/2024
										Depth	3.2-3.4	3.0-3.2
Analytical Parameter (Water Analysis)	Units	Limit of detection	Minimum reporting values (hazardous substances only)	Groundwater resource potential - risk based standards to protect potable water supply potential	Freshwater AA EQS	Lowest GAC	Minimum Concentration	Maximum Concentration	Number of Exceedances			
Iron (dissolved)	mg/l	0.004		0.2	1.0	0.20	0.01	0.04	0			
Lead (dissolved)	µg/l	1	1.0	10		10.00	1.00	2.50	0	< 1.0	1.30	
Bioavailable Lead (dissolved)	µg/l	0.2			1.2 (bioavailable)	1.20	0.05	0.62	0	0.25	0.32	
Manganese (dissolved)	µg/l	0.06		50		50.00	43.00	78.00	1			
Bioavailable Manganese (dissolved)	µg/l	0.05			123 (bioavailable)	123.00	5.12	11.27	0			
Mercury (dissolved)	µg/l	0.5	0.01	1.0	0.07 (Inland Surface MAC)	0.07	0.00	0.00	0		< 0.5	
Molybdenum (dissolved)	µg/l	0.4					0.44	15.00		2.80		
Nickel (dissolved)	µg/l	0.3		20		20.00	0.30	8.20	0		2.00	
Bioavailable Nickel (dissolved)	µg/l	0.5			4 (bioavailable)	4.00	0.06	2.76	0		0.52	
Selenium (dissolved)	µg/l	4		10		10.00	6.00	33.00	4	14.00	33.00	
Vanadium (dissolved)	µg/l	1.7			20	20.00	9.00	29.00	4	15.00	< 1.7	
Zinc (dissolved)	µg/l	0.4		5000		5000.00	2.00	20.00	0		14.00	
Bioavailable Zinc (dissolved)	µg/l	0.5			10.9 (bioavailable)	10.90	0.19	8.73	0		6.11	
Calcium (dissolved)	mg/l	0.012					87.00	186.00		120.00		
Calcium (dissolved)	µg/l	12					87000.00	186000.00		120000.00		
Magnesium (dissolved)	mg/l	0.005					3.20	9.10				
Potassium (dissolved)	mg/l	0.025					2.10	3.30				
Sodium (dissolved)	mg/l	0.01		200		200.00	1.20	2.10	0			
TPH - Aliphatic >C5 - C6 HS 1D AL	µg/l	1		15000		15000.00	0.00	0.00	0		< 1.0	
TPH - Aliphatic >C6 - C8 HS 1D AL	µg/l	1		15000		15000.00	0.00	0.00	0		< 1.0	
TPH - Aliphatic >C8 - C10 HS 1D AL	µg/l	1		300		300.00	0.00	0.00	0		< 1.0	
TPH - Aliphatic >C10 - C12 EH 1D AL MS	µg/l	10		300		300.00	0.00	0.00	0		< 10	
TPH - Aliphatic >C12 - C16 EH 1D AL MS	µg/l	10		300		300.00	0.00	0.00	0		< 10	
TPH - Aliphatic >C16 - C21 EH 1D AL MS	µg/l	10					0.00	0.00			< 10	
TPH - Aliphatic >C21 - C35 EH 1D AL MS	µg/l	10					0.00	0.00			< 10	
TPH - Aliphatic >C5 - C35 HS+EH 1D AL MS	µg/l	10					0.00	0.00			< 10	
TPH - Aromatic >EC5 - EC7 HS 1D AR	µg/l	1					0.00	0.00			< 1.0	
TPH - Aromatic >EC7 - EC8 HS 1D AR	µg/l	1					0.00	0.00			< 1.0	
TPH - Aromatic >EC8 - EC10 EH 1D AR MS	µg/l	1					0.00	0.00			< 1.0	
TPH - Aromatic >EC10 - EC12 EH 1D AR MS	µg/l	10		90		90.00	0.00	0.00	0		< 10	
TPH - Aromatic >EC12 - EC16 EH 1D AR MS	µg/l	10		90		90.00	0.00	0.00	0		< 10	
TPH - Aromatic >EC16 - EC21 EH 1D AR MS	µg/l	10		90		90.00	0.00	0.00	0		< 10	
TPH - Aromatic >EC21 - EC35 EH 1D AR MS	µg/l	10		90		90.00	0.00	0.00	0		< 10	
TPH - Aromatic >EC6 - EC35 HS+EH 1D AR MS	µg/l	10					0.00	0.00			< 10	
MTBE (Methyl Tertiary Butyl Ether)							0.00	0.00			< 3.0	
Benzene			1.0				0.00	0.00			< 3.0	
Toluene			4.0				0.00	0.00			< 3.0	
Ethylbenzene			5.0				0.00	0.00			< 3.0	
p & m-xylene			3.0				0.00	0.00			< 3.0	
o-xylene							0.00	0.00			< 3.0	

Project / Site name: Thorpe Marsh Green Energy Hub: Battery Energy Storage System (BESS)

Project / Site name: Thorpe Marsh Green Energy Hub: Battery Energy Storage System (BESS)										Strata (PFA/MG)	PFA
										Sample Reference	RTP186
										Date Sampled	14/02/2024
										Depth	2.5-2.7
Analytical Parameter (Water Analysis)	Units	Limit of detection	Minimum reporting values (hazardous substances only)	Groundwater resource potential - risk based standards to protect potable water supply potential	Freshwater AA EQS	Lowest GAC	Minimum Concentration	Maximum Concentration	Number of Exceedances		
General Inorganics											
pH (automated)	pH Units	N/A		≥6.5 & ≤9.5	≥6 & ≤9		7.00	8.20		7.30	
Total Cyanide (Low Level 1 µg/l)	µg/l	1		50	1.0	1.00	0.00	0.00	0		
Sulphate as SO4	µg/l	45									
Sulphate as SO4	mg/l	0.045		250	400.0	250.00	0.77	1590.00	11	326.00	
Total Sulphur	mg/l	0.015					63.00	117.00		109.00	
Chloride	mg/l	0.15		250	250	250.00	0.33	1.70	0		
Ammoniacal Nitrogen as N	µg/l	15		500	600[1]	500.00	73.00	120.00	0	< 15	
Nitrate as N	mg/l	0.01		50		50.00	0.03	0.06	0		
Nitrite as N	µg/l	1		500		500.00	1.00	1.20	0		
Total Phenols											
Total Phenols (monohydric) low level	µg/l	1			7.7	7.70	0.00	0.00	0		
Speciated PAHs											
Naphthalene	µg/l	0.01		0.075	2.0	0.08	0.96	0.96	1		
Acenaphthylene	µg/l	0.01					0.00	0.00			
Acenaphthene	µg/l	0.01	0.01				0.00	0.00			
Fluorene	µg/l	0.01					0.00	0.00			
Phenanthrene	µg/l	0.01					0.00	0.00			
Anthracene	µg/l	0.01	0.01		0.1	0.10	0.00	0.00	0		
Fluoranthene	µg/l	0.01	0.01		0.0063	0.01	0.00	0.00	0		
Pyrene	µg/l	0.01					0.00	0.00			
Benzo(a)anthracene	µg/l	0.01					0.00	0.00			
Chrysene	µg/l	0.01					0.00	0.00			
Benzo(b)fluoranthene	µg/l	0.01	0.01	0.1 (sum of the 4 compounds)	0.00017	0.00	0.00	0.00	0		
Benzo(k)fluoranthene	µg/l	0.01	0.01	0.1 (sum of the 4 compounds)	0.00017	0.00	0.00	0.00	0		
Benzo(a)pyrene	µg/l	0.01	0.01	0.01	0.00017	0.00	0.00	0.00	0		
Indeno(1,2,3-cd)pyrene	µg/l	0.01	0.01	0.1 (sum of the 4 compounds)	0.00017	0.00	0.00	0.00	0		
Dibenzo(a,h)anthracene	µg/l	0.01					0.00	0.00			
Benzo(ghi)perylene	µg/l	0.01	0.01	0.1 (sum of the 4 compounds)	0.00017	0.00	0.00	0.00	0		
Total PAH											
Total EPA-16 PAHs	µg/l	0.16					0.96	0.96			
Heavy Metals / Metalloids											
Aluminium (dissolved)	mg/l	0.012		200		200.00	0.03	0.15	0	0.06	
Antimony (dissolved)	µg/l	1.7		5.0		5.00	8.10	8.10	1	< 1.7	
Arsenic (dissolved)	µg/l	1	1.0	10	50.00	10.00	1.66	69.00	12	5.90	
Barium (dissolved)	µg/l	-		700		700.00	0.26	53.80	0		
Beryllium (dissolved)	µg/l	0.2					0.00	0.00			
Boron (dissolved)	µg/l	10		1000	2000.00	1000.00	12.00	820.00	0	48.00	
Cadmium (dissolved)	µg/l	0.08		5.0	0.25 (Class 5)	0.25	0.00	0.00	0	< 0.08	
Chromium (hexavalent)	µg/l	5	5.0	5.0	3.40	3.40	0.00	0.00	0		
Chromium (dissolved)	µg/l	0.4		50	4.7 (CrIII)	4.70	0.50	13.00	4	1.80	
Copper (dissolved)	µg/l	0.7		2000		2000.00	2.10	13.00	0		
Bioavailable Copper (dissolved)	µg/l	0.5			1 (bioavailable)	1.00	0.05	1.04	1		
Iron (dissolved)	µg/l	4		200	1000	200.00	0.00	0.00	0		

Project / Site name: Thorpe Marsh Green Energy Hub: Battery Energy Storage System (BESS)

Project / Site name: Thorpe Marsh Green Energy Hub: Battery Energy Storage System (BESS)										Strata (PFA/MG)	PFA
										Sample Reference	RTP186
										Date Sampled	14/02/2024
										Depth	2.5-2.7
Analytical Parameter (Water Analysis)	Units	Limit of detection	Minimum reporting values (hazardous substances only)	Groundwater resource potential - risk based standards to protect potable water supply potential	Freshwater AA EQS	Lowest GAC	Minimum Concentration	Maximum Concentration	Number of Exceedances		
Iron (dissolved)	mg/l	0.004		0.2	1.0	0.20	0.01	0.04	0		
Lead (dissolved)	µg/l	1	1.0	10		10.00	1.00	2.50	0	< 1.0	
Bioavailable Lead (dissolved)	µg/l	0.2			1.2 (bioavailable)	1.20	0.05	0.62	0	0.25	
Manganese (dissolved)	µg/l	0.06		50		50.00	43.00	78.00	1		
Bioavailable Manganese (dissolved)	µg/l	0.05			123 (bioavailable)	123.00	5.12	11.27	0		
Mercury (dissolved)	µg/l	0.5	0.01	1.0	0.07 (Inland Surface MAC)	0.07	0.00	0.00	0		
Molybdenum (dissolved)	µg/l	0.4					0.44	15.00		12.00	
Nickel (dissolved)	µg/l	0.3		20		20.00	0.30	8.20	0		
Bioavailable Nickel (dissolved)	µg/l	0.5			4 (bioavailable)	4.00	0.06	2.76	0		
Selenium (dissolved)	µg/l	4		10		10.00	6.00	33.00	4	7.20	
Vanadium (dissolved)	µg/l	1.7			20	20.00	9.00	29.00	4	16.00	
Zinc (dissolved)	µg/l	0.4		5000		5000.00	2.00	20.00	0		
Bioavailable Zinc (dissolved)	µg/l	0.5			10.9 (bioavailable)	10.90	0.19	8.73	0		
Calcium (dissolved)	mg/l	0.012					87.00	186.00		186.00	
Calcium (dissolved)	µg/l	12					87000.00	186000.00		186000.00	
Magnesium (dissolved)	mg/l	0.005					3.20	9.10			
Potassium (dissolved)	mg/l	0.025					2.10	3.30			
Sodium (dissolved)	mg/l	0.01		200		200.00	1.20	2.10	0		
TPH - Aliphatic >C5 - C6 HS 1D AL	µg/l	1		15000		15000.00	0.00	0.00	0		
TPH - Aliphatic >C6 - C8 HS 1D AL	µg/l	1		15000		15000.00	0.00	0.00	0		
TPH - Aliphatic >C8 - C10 HS 1D AL	µg/l	1		300		300.00	0.00	0.00	0		
TPH - Aliphatic >C10 - C12 EH 1D AL MS	µg/l	10		300		300.00	0.00	0.00	0		
TPH - Aliphatic >C12 - C16 EH 1D AL MS	µg/l	10		300		300.00	0.00	0.00	0		
TPH - Aliphatic >C16 - C21 EH 1D AL MS	µg/l	10					0.00	0.00			
TPH - Aliphatic >C21 - C35 EH 1D AL MS	µg/l	10					0.00	0.00			
TPH - Aliphatic >C5 - C35 HS+EH 1D AL MS	µg/l	10					0.00	0.00			
TPH - Aromatic >EC5 - EC7 HS 1D AR	µg/l	1					0.00	0.00			
TPH - Aromatic >EC7 - EC8 HS 1D AR	µg/l	1					0.00	0.00			
TPH - Aromatic >EC8 - EC10 EH 1D AR MS	µg/l	1					0.00	0.00			
TPH - Aromatic >EC10 - EC12 EH 1D AR MS	µg/l	10		90		90.00	0.00	0.00	0		
TPH - Aromatic >EC12 - EC16 EH 1D AR MS	µg/l	10		90		90.00	0.00	0.00	0		
TPH - Aromatic >EC16 - EC21 EH 1D AR MS	µg/l	10		90		90.00	0.00	0.00	0		
TPH - Aromatic >EC21 - EC35 EH 1D AR MS	µg/l	10		90		90.00	0.00	0.00	0		
TPH - Aromatic >EC6 - EC35 HS+EH 1D AR MS	µg/l	10					0.00	0.00			
MTBE (Methyl Tertiary Butyl Ether)							0.00	0.00			
Benzene			1.0				0.00	0.00			
Toluene			4.0				0.00	0.00			
Ethylbenzene			5.0				0.00	0.00			
p & m-xylene			3.0				0.00	0.00			
o-xylene							0.00	0.00			