



Photograph 7 – Arisings from WWS02.



Photograph 8 – Arisings from WWS07.



Photograph 9 – Arisings from WWS06.



Photograph 10 – Arisings from WWS04.



Photograph 11 – Arisings from WWS09.



Photograph 12 – Arisings from WWS10.



Photograph 13 – Concrete obstruction in WTP10 near underground tank.



Photograph 14 – WTP07.



Photograph 15 – WTP11.



Photograph 16 – WTP04.

APPENDIX 3 - Exploratory Hole Logs



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Borehole Log

Borehole No.

WWS01

Sheet 1 of 1

Project Name: ASHLEY HOUSE AND CANNON
FACTORY

Project No.
GRO-23113

Co-ords: 534439.80 - 189779.07

Hole Type
WS

Location: TOTTENHAM

Level: 9.01

Scale
1:25

Client: NOTTING HILL GENESIS

Dates: 20/04/2023 -

Logged By
MB

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.16			0.16	8.85		MADE GROUND: Grey reinforced concrete with medium gravel inclusions of quartzite.	
		0.18			0.18	8.83		MADE GROUND: Brown gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of quartzite.	
		0.42	ES	PID=0	0.41	8.60		MADE GROUND: Grey rebar reinforced concrete with medium gravel inclusions of quartzite.	
		0.50	ES	PID=0	0.50	8.51		MADE GROUND: Grey sandy angular to subangular fine to coarse gravel of brick and concrete. Sand is fine to coarse.	
					0.80	8.21		MADE GROUND: Red brown gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of brick.	
		1.00	ES	PID=0				MADE GROUND: Soft brown sandy gravelly CLAY. Gravel is subangular to subrounded fine to medium of quartzite. Sand is fine to medium.	
					1.20	7.81		End of borehole at 1.20 m	

Remarks

1. Area cleared by specialist utility clearance company. 2. Hand dug pit to 1.2m bgl. 3. Borehole terminated at 1.2m bgl on the advice from UXO supervisor. 4. Groundwater not encountered. 5. Borehole backfilled with arisings.





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Borehole Log

Borehole No.

WWS02

Sheet 1 of 1

Project Name: ASHLEY HOUSE AND CANNON FACTORY

Project No.
GRO-23113

Co-ords: 534472.41 - 189746.01

Hole Type
WS

Location: TOTTENHAM

Level: 9.05

Scale
1:25

Client: NOTTING HILL GENESIS

Dates: 20/04/2023 -

Logged By
MB

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.13			0.13	8.92		MADE GROUND: Grey reinforced concrete with medium gravel inclusions of quartzite.	
		0.23			0.23	8.82		MADE GROUND: Brown grey gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of brick, concrete and sandstone.	
		0.38			0.38	8.67		MADE GROUND: Grey rebar reinforced concrete with medium gravel inclusions of quartzite.	
		0.40	ES	PID=0				MADE GROUND: Brown grey gravelly fine to coarse sand with low cobble content of brick. Gravel is angular to subangular fine to coarse of brick, concrete and sandstone.	
		0.50	ES	PID=0					
		1.00	ES	PID=0					
		1.20		N=12 (1,1/2,3,3,4)					
		1.30			1.30	7.75			
		1.50	ES	PID=0				Soft brown sandy gravelly silty CLAY. Gravel is subangular to subrounded fine to coarse of quartzite and flint. Sand is fine to medium.	
		2.00		N=15 (4,4/5,4,4,2)					
		2.20			2.20	6.85			
		2.50	ES	PID=0				Brown silty fine to medium SAND with moderate hydrocarbon odour. <i>Moderate Hydrocarbon odour and dark grey staining from 2.8m to 3.0m bgl.</i>	
		2.80	ES	PID=0	2.80	6.25		Dark grey silty fine to medium SAND. Moderate hydrocarbon odour.	
		3.00		N=11 (1,1/3,2,3,3)	3.00	6.05			
		3.50	ES	PID=0				Light brown very gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of quartzite. Sand is fine to medium.	
		4.00		N=35 (7,7/8,9,9,9)					
		4.50	ES	PID=0					
		5.00		N=39 (8,7/6,8,12,13)	5.00	4.05		End of borehole at 5.00 m	

Remarks

1. Area cleared by specialist utility clearance company. 2. Hand dug pit to 1.2m bgl. 3. Borehole cleared by UXO supervision. 4. Groundwater encountered at 2.8m bgl. 5. Borehole terminated at 5.0m bgl. 6. Borehole installed to 3.0m bgl using 1.0m plain and 2.0m slotted.





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Borehole Log

Borehole No.

WWS03

Sheet 1 of 1

Project Name: ASHLEY HOUSE AND CANNON
FACTORY

Project No.
GRO-23113

Co-ords: 534454.49 - 189773.86

Hole Type
WS

Location: TOTTENHAM

Level: 9.04

Scale
1:25

Client: NOTTING HILL GENESIS

Dates: 20/04/2023 -

Logged By
MB

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.20			0.20	8.84		MADE GROUND: Grey reinforced concrete with medium gravel inclusions of quartzite.	1
		0.30	ES	PID=0				MADE GROUND: Brown sandy angular to subangular fine to coarse gravel of concrete and brick with low cobble content of brick. Sand is fine to coarse.	
		0.50	ES	PID=0					
		1.00			1.00	8.04		Soft orange brown very sandy gravelly CLAY. Gravel is angular to subrounded fine to coarse of flint and quartzite. Sand is fine to medium.	
		1.80			1.80	7.24		Orange brown clayey gravelly fine to medium SAND. Gravel is angular to subrounded fine to coarse of flint and quartzite.	
		2.60	ES						2
		3.00		N=50 (11,11/50 for 290mm)	3.00	6.04		End of borehole at 3.00 m	3
									4
									5

Remarks

1. Area cleared by specialist utility clearance company. 2. Borehole drilled through backfill of WTP02. 3. Borehole cleared by UXO supervision. 4. Groundwater encountered at 3.0m bgl. 5. Borehole terminated at 3.0m bgl due to refusal on dense sand. 6. Falling Head Test conducted in borehole at 3.0m bgl. 7. Borehole installed to 3.0m bgl using 2.0m plain and 1.0m slotted.





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Borehole Log

Borehole No.

WWS04

Sheet 1 of 1

Project Name: ASHLEY HOUSE AND CANNON
FACTORY

Project No.
GRO-23113

Co-ords: 534354.43 - 189678.19

Hole Type
WS

Location: TOTTENHAM

Level: 9.25

Scale
1:25

Client: NOTTING HILL GENESIS

Dates: 20/04/2023 -

Logged By
MB

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.23	ES	PID=0	0.23	9.02		MADE GROUND: Grey reinforced concrete with medium gravel inclusions of quartzite.	1
		0.30			0.33	8.92		MADE GROUND: Brown grey sandy angular to subangular fine to coarse gravel of concrete and brick.	
		0.55	ES	PID=0	0.54	8.71		MADE GROUND: Brown concrete with medium to coarse gravel inclusions of quartzite.	
					0.80	8.45		MADE GROUND: Brown grey sandy angular to subangular fine to coarse gravel of concrete and brick. Sand is fine to coarse.	
		1.00	ES	PID=0				MADE GROUND: Dark grey clayey gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of brick.	
		1.20			1.30	7.95			
		1.40	ES	PID=0				Soft brown clayey sandy SILT. Sand is fine to medium.	2
		2.00			2.10	7.15			
		2.20	ES	PID=0				Brown sandy angular to subrounded fine to coarse GRAVEL of flint and quartzite. Sand is fine to coarse.	3
		3.00							
		3.20							
					3.50	5.75		End of borehole at 3.50 m	4
									5

Remarks

1. Area cleared by specialist utility clearance company. 2. Hand dug pit to 1.2m bgl. 3. Borehole cleared by UXO supervision. 4. Groundwater encountered at 3.4m bgl. 5. Borehole terminated at 3.5m bgl due to refusal on dense gravel. 6. Falling Head Test conducted in borehole at 3.5m bgl. 7. Borehole installed to 3.5m bgl using 2.0m plain and 1.5m slotted.





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Borehole Log

Borehole No.

WWS05

Sheet 1 of 1

Project Name: ASHLEY HOUSE AND CANNON
FACTORY

Project No.
GRO-23113

Co-ords: 534319.28 - 189681.94

Hole Type
WS

Location: TOTTENHAM

Level: 9.30

Scale
1:25

Client: NOTTING HILL GENESIS

Dates: 20/04/2023 -

Logged By
MB

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.30	ES	PID=0	0.20	9.10		MADE GROUND: Grey reinforced concrete with medium gravel inclusions of quartzite.	1
					0.40	8.90		MADE GROUND: Brown gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of quartzite.	
					0.50	8.80		MADE GROUND: Grey reinforced concrete with medium gravel inclusions of quartzite. End of borehole at 0.50 m	
									2
									3
									4
									5

Remarks

1. Area cleared by specialist utility clearance company. 2. Hand dug pit to 1.2m bgl. 3. Borehole terminated at 0.5m bgl due to second concrete slab. 4. Groudwater not encountered. 5. Borehole backfilled with arisings.





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Borehole Log

Borehole No.

WWS06

Sheet 1 of 1

Project Name: ASHLEY HOUSE AND CANNON FACTORY

Project No.
GRO-23113

Co-ords: 534291.55 - 189665.78

Hole Type
WS

Location: TOTTENHAM

Level: 8.92

Scale
1:25

Client: NOTTING HILL GENESIS

Dates: 20/04/2023 -

Logged By
MB

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.22			0.22	8.70		MADE GROUND: Grey rebar reinforced concrete with medium gravel inclusions of quartzite.	1
		0.30	ES	PID=0				MADE GROUND: Grey brown sandy angular to subangular fine to coarse gravel of brick and concrete. Sand is fine to coarse.	
		0.50	ES	PID=0					
		0.80			0.80	8.12		MADE GROUND: Brown silty gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of brick.	
		1.00	ES	PID=0					
		1.20		N=0 (0,0/0,0,0,0)					
		1.30			1.30	7.62		Brown sandy SILT. Sand is fine to coarse.	
		1.50	ES	PID=0					
		2.00		N=16 (3,4/4,4,5,3)					2
		2.10			2.10	6.82		Brown gravelly fine to coarse SAND. Gravel is angular to subrounded fine to coarse of quartzite and flint.	
		2.50	ES	PID=0					
		3.00		N=23 (4,4/3,7,7,6)					3
		3.50	ES	PID=0					
		4.00		N=40 (25 for 140mm/11,11,10,8)					4
		4.30		50 (11,11/50 for 220mm)					
		4.50	ES	PID=0					
		5.00			5.00	3.92		End of borehole at 5.00 m	5

Remarks

1. Area cleared by specialist utility clearance company. 2. Hand dug pit to 1.2m bgl. 3. Borehole cleared by UXO supervision. 4. Groundwater encountered at 2.5m bgl. 5. Borehole terminated at 5.0m bgl. 6. Borehole installed to 3.5m bgl using 2.0m plain and 1.5m slotted.





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Borehole Log

Borehole No.

WWS07

Sheet 1 of 1

Project Name: ASHLEY HOUSE AND CANNON
FACTORY

Project No.
GRO-23113

Co-ords: 534348.34 - 189660.84

Hole Type
WS

Location: TOTTENHAM

Level: 9.14

Scale
1:25

Client: NOTTING HILL GENESIS

Dates: 20/04/2023 -

Logged By
MB

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.20	8.94		MADE GROUND: Grey reinforced concrete with medium gravel inclusions of quartzite.	1
		0.30	ES	PID=0				MADE GROUND: Brown grey clayey gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of brick and concrete.	
		0.50	ES	PID=0	0.70	8.44		MADE GROUND: Orange gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of brick and quartzite.	
		0.90	ES	PID=0				MADE GROUND: Soft brown silty sandy clay. Sand is fine to coarse.	
		1.20	ES	N=3 (2,3/1,1,0,1)	1.30	7.84		MADE GROUND: Red brown gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of brick.	2
		1.20	ES	PID=0				Brown gravelly fine to coarse SAND. Gravel is angular to subrounded fine to coarse of quartzite and flint.	
		1.40	ES	PID=0	1.80	7.34		Grey gravelly fine to coarse SAND. Gravel is angular to subrounded fine to coarse of quartzite and flint.	
		1.90	ES	PID=0	2.00	7.14		End of borehole at 3.00 m	
		2.00	ES	N=34 (4,7/7,7,8,12)					3
		2.10	ES	PID=0	2.50	6.64			
		2.60	ES	PID=0	3.00	6.14			4
		3.00		N=50 (5,8/50 for 235mm)					5

Remarks

1. Area cleared by specialist utility clearance company. 2. Hand dug pit to 1.2m bgl. 3. Borehole cleared by UXO supervision. 4. Groundwater encountered at 2.8m bgl. 5. Borehole terminated at 3.0m bgl due to refusal on dense sand. 6. Borehole installed to 3.0m bgl using 1.0m plain and 2.0m slotted.





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Borehole Log

Borehole No.

WWS08

Sheet 1 of 1

Project Name: ASHLEY HOUSE AND CANNON
FACTORY

Project No.
GRO-23113

Co-ords: 534356.85 - 189643.57

Hole Type
WS

Location: TOTTENHAM

Level: 9.11

Scale
1:25

Client: NOTTING HILL GENESIS

Dates: 20/04/2023 -

Logged By
MB

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.23	8.88		MADE GROUND: Grey reinforced concrete with medium gravel inclusions of quartzite.	1
		0.40	ES	PID=0				MADE GROUND: Brown red gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of brick, concrete, flint and quartzite.	
		0.60	ES	PID=0					
		1.00	ES	PID=0	0.80	8.31		MADE GROUND: Dark brown gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of flint, quartzite, brick and concrete.	
		1.20		N=5 (1,0/1,1,2,1)					
		1.50	ES	PID=0	1.30	7.81		MADE GROUND: Dark brown clayey gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of flint, quartzite, brick and concrete.	2
		2.00	ES	N=12 (1,2/5,3,3,1) PID=0	1.80	7.31		MADE GROUND: Soft to firm brown grey sandy gravelly clay. Gravel is angular to subangular fine to coarse of brick and concrete. Sand is fine to coarse.	
		2.50	ES	PID=0	2.50	6.61		Brown sandy angular to subrounded fine to coarse GRAVEL of flint and quartzite. Sand is fine to coarse.	
		3.00		50 (25 for 10mm/50 for 10mm)					3
					3.50	5.61		End of borehole at 3.50 m	4
									5

Remarks

1. Area cleared by specialist utility clearance company. 2. Hand dug pit to 1.2m bgl. 3. Borehole cleared by UXO supervision. 4. Groundwater encountered at 2.5m bgl. 5. Borehole terminated at 3.5m bgl due to refusal in dense gravel. 6. Borehole installed to 3.5m bgl using 2.0m plain and 1.5m slotted.





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Borehole Log

Borehole No.

WWS09

Sheet 1 of 1

Project Name: ASHLEY HOUSE AND CANNON
FACTORY

Project No.
GRO-23113

Co-ords: 534275.41 - 18960.14

Hole Type
WS

Location: TOTTENHAM

Level: 8.94

Scale
1:25

Client: NOTTING HILL GENESIS

Dates: 20/04/2023 -

Logged By
MB

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.21	8.73		MADE GROUND: Grey reinforced concrete with medium gravel inclusions of quartzite.	1
		0.30	ES	PID=0				MADE GROUND: Brown gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of brick	
		0.50	ES	PID=0					
		1.00	ES	PID=0					2
		1.20		N=6 (1,1/1,2,2,1)	1.30	7.64			
		1.50	ES	PID=0				MADE GROUND: Soft brown grey sandy gravelly clay. Gravel is angular to subangular fine to coarse of brick. Sand is fine to coarse. <i>Slight hydrocarbon odour from 1.3m to 1.5m bgl.</i>	
		1.90	ES	PID=0					3
		2.00		N=30 (3,2/2,8,10,10)	2.00	6.94		Firm brown silty sandy CLAY. Sand is fine to medium.	
		2.10	ES	PID=0					
		3.00	ES	N=50 (9,9/50 for 295mm) PID=0	2.90	6.04		Brown sandy clayey angular to subrounded fine to coarse GRAVEL of quartzite and flint. Sand is fine to coarse.	4
		3.00			3.40	5.54		End of borehole at 3.40 m	

Remarks

1. Area cleared by specialist utility clearance company. 2. Hand dug pit to 1.2m bgl. 3. Borehole cleared by UXO supervision. 4. Groundwater encountered at 2.9m bgl. 5. Borehole terminated at 3.4m bgl due to refusal on dense gravel. 6. Borehole bacfilled with arisings.





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Borehole Log

Borehole No.

WWS10

Sheet 1 of 1

Project Name: ASHLEY HOUSE AND CANNON
FACTORY

Project No.
GRO-23113

Co-ords: 534477.00 - 189761.00

Hole Type
WS

Location: TOTTENHAM

Level:

Scale
1:25

Client: NOTTING HILL GENESIS

Dates: 20/04/2023 -

Logged By
MB

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.25			MADE GROUND: Grey rebar reinforced concrete with medium gravel inclusions of quartzite.	1
		0.30	ES	PID=0	0.40			MADE GROUND: Red brown gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of brick.	
		0.50	ES	PID=0				MADE GROUND: Dark grey clayey gravelly fine to coarse sand. Gravel is angular to subangular of brick.	
		1.00	ES	PID=0					
		1.20		N=7 (1,1/1,1,1,4)					2
		1.60	ES	PID=0	1.50			Soft to firm brown silty sandy CLAY. Sand is fine to medium.	
		2.00		N=46 (5,9/10,12,12,12)	2.10				
		2.20	ES	PID=3	2.40			Dark grey gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of flint and quartzite. Moderate hydrocarbon odour with dark grey staining.	
		2.50	ES	PID=0				Brown gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of flint and quartzite.	3
		3.00		N=21 (3,3/4,4,6,7)					
		3.50	ES	PID=0	3.70				
		3.80	ES	PID=2				Dark grey gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of flint and quartzite. Moderate hydrocarbon odour with dark grey staining.	
		4.00		N=50 (12,12/50 for 255mm)	4.00			End of borehole at 4.00 m	4
									5

Remarks

1. Area cleared by specialist utility clearance company. 2. Hand dug pit to 1.2m bgl. 3. Borehole cleared by UXO supervision. 4. Groundwater encountered at 3.0m bgl. 5. Borehole terminated at 4.0m bgl due to refusal on dense sand. 6. Borehole installed to 4.0m bgl using 2.0m plain and 2.0m slotted.





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Borehole Log

Borehole No.

WWS11

Sheet 1 of 1

Project Name: ASHLEY HOUSE AND CANNON
FACTORY

Project No.
GRO-23113

Co-ords: 534476.25 - 189778.56

Hole Type
WS

Location: TOTTENHAM

Level: 9.05

Scale
1:25

Client: NOTTING HILL GENESIS

Dates: 20/04/2023 -

Logged By
MB

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.30	8.75		MADE GROUND: Grey reinforced concrete with medium gravel inclusions of quartzite.	1
					1.30	7.75		MADE GROUND: Dark grey sandy angular to subangular fine to coarse gravel of brick and concrete.	
					2.30	6.75		Soft orange brown sandy gravelly fine to medium SILT. Gravel is angular to subrounded fine to coarse of flint and quartzite. Sand is fine to medium.	2
		3.00	ES	PID=0	3.50	5.55		Brown sandy angular to subrounded fine to coarse GRAVEL of flint and quartzite. Sand is fine to medium. <i>Between 2.3m and 2.6m bgl moderate hydrocarbon odour.</i>	3
								End of borehole at 3.50 m	4
									5

Remarks

1. Area cleared by specialist utility clearance company. 2. Borehole drilled through backfilled WTP03. 3. Borehole cleared by UXO supervision. 4. Groundwater encountered at 3.0m bgl. 5. Borehole terminated at 3.0m bgl in dense gravel. 6. Borehole installed to 3.0m bgl using 2.0m plain and 1.0m slotted.



Trial Pit Log

Trialpit No

WTP01

Sheet 1 of 1

Project Name:	ASHLEY HOUSE AND CANNON FACTORY
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Project No.
GRO-23113

Co-ords:	534443.45 - 189766.70
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Level: 8.99

Date _____

20/04/2023

Location: TOTTENHAM

Dimensions
(m):

Depth
0.60

Scale

1:25

Logged
MB

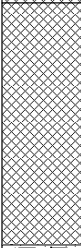
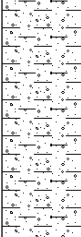
Client: NOTTING HILL GENESIS

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.50	ES	PID=0	0.16	8.83		MADE GROUND: Grey reinforced concrete with medium gravel inclusions of quartzite.
				0.18	8.81		MADE GROUND: Brown gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of quartzite.
				0.40	8.59		MADE GROUND: Grey reinforced concrete with medium gravel inclusions of quartzite.
				0.60	8.39		<i>Asbestos cement embedded within the base of the concrete.</i> MADE GROUND: Grey brown gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of quartzite, flint and asbestos cement. End of pit at 0.60 m

Remarks:	1. Area cleared by specialist utility clearance company. 2. Groundwater not encountered. 3. Asbestos cement encountered below concrete slab between 0.3m and 0.6m bgl. 4. Trial pit backfilled with arisings. 5. Trial pit reinstated with concrete to avoid unwanted disturbance of the asbestos.
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Stability: STABLE



				Trial Pit Log			Trialpit No WTP02 Sheet 1 of 1				
Project Name: ASHLEY HOUSE AND CANNON FACTORY				Project No. GRO-23113		Co-ords: 534454.49 - 189773.86 Level: 9.04		Date 20/04/2023			
Location: TOTTENHAM						Dimensions (m): Depth 2.50		Scale 1:25 Logged MB			
Client: NOTTING HILL GENESIS											
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description				
	Depth	Type	Results								
				0.20	8.84		MADE GROUND: Grey reinforced concrete with medium gravel inclusions of quartzite.			1 2 3 4 5	
	0.30	ES	PID=0					MADE GROUND: Brown sandy angular to subangular fine to coarse gravel of concrete and brick with low cobble content of brick. Sand is fine to coarse.			
	0.50	ES	PID=0								
	1.00	ES	PID=0	1.00	8.04		Soft orange brown very sandy gravelly CLAY. Gravel is angular to subrounded fine to coarse of flint and quartzite. Sand is fine to medium.				
			PID=0								
	2.00	ES	PID=0	1.80	7.24		Orange brown clayey gravelly fine to medium SAND. Gravel is angular to subrounded fine to coarse of flint and quartzite.				
		PID=0	2.50	6.54	End of pit at 2.50 m						
Remarks: 1. Area cleared by specialist utility clearance company. 2. Groundwater not encountered. 3. Trial pit backfilled with arisings.											
Stability: STABLE											

Trial Pit Log

Trialpit No
WTP03
Sheet 1 of 1

Project Name: ASHLEY HOUSE AND CANNON FACTORY

Project No.
GRO-23113

Co-ords: 534476.25 - 189778.56
Level: 9.05

Date
21/04/2023

Location: TOTTENHAM

Dimensions (m):

Depth
2.50

Scale
1:25

Logged
MB

Client: NOTTING HILL GENESIS

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.50	ES	PID=0	0.30	8.75		MADE GROUND: Grey reinforced concrete with medium gravel inclusions of quartzite.	1
	1.20	ES	PID=0	1.30	7.75		MADE GROUND: Dark grey sandy angular to subangular fine to coarse gravel of brick and concrete. Sand is fine to coarse.	
	1.50	ES	PID=0				Soft brange brown sandy gravelly fine to medium SILT. Gravel is angular to subrounded fine to coarse of flint and quartzite. Sand is fine to medium.	2
	1.90	ES	PID=0					
	2.50	ES	PID=0	2.30	6.75		Brown sandy angular to subrounded fine to coarse GRAVEL of flint and quartzite. Sand is fine to coarse.	
				2.50	6.55		End of pit at 2.50 m	3
								4
								5

Remarks: 1. Area cleared by specialist utility clearance company. 2. Groundwater not encountered. 3. Trial pit backfilled with arisings.

Stability: STABLE



Trial Pit Log

Trialpit No
WTP04
Sheet 1 of 1

Project Name: ASHLEY HOUSE AND CANNON FACTORY

Project No.
GRO-23113

Co-ords: 534302.77 - 189689.40
Level: 9.00

Date
21/04/2023

Location: TOTTENHAM

Dimensions (m):

Depth
2.60

Scale
1:25

Logged
MB

Client: NOTTING HILL GENESIS

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.20	8.80		MADE GROUND: Grey reinforced concrete with medium gravel inclusions of quartzite.	
	0.30	ES	PID=0				MADE GROUND: Grey gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of brick concrete and quartzite.	
	0.50	ES	PID=0	0.60	8.40			
	0.80	ES	PID=0				MADE GROUND: Dark grey gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of brick and concrete. Moderate hydrocarbon odour.	
	1.00	ES	PID=2					1
	1.50	ES	PID=1					
				1.80	7.20		Firm brown sandy silty CLAY. Sand is fine to medium.	
	2.00	ES	PID=0					2
	2.40	ES	PID=0	2.30	6.70		Brown clayey gravelly fine to coarse SAND. Gravel is angular to subangular fine to medium of quartzite and flint.	
	2.60	ES	PID=0	2.60	6.40		End of pit at 2.60 m	
								3
								4
								5

Remarks: 1. Area cleared by specialist utility clearance company. 2. Groundwater not encountered. 3. Trial pit backfilled with arisings.

Stability: STABLE



				Trial Pit Log			Trialpit No WTP05 Sheet 1 of 1		
Project Name: ASHLEY HOUSE AND CANNON FACTORY				Project No. GRO-23113		Co-ords: 534279.07 - 189687.26 Level: 9.05		Date 21/04/2023	
Location: TOTTENHAM				Dimensions (m): Depth 1.20			Scale 1:25		
Client: NOTTING HILL GENESIS							Logged MB		
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
	Depth	Type	Results						
	0.30	ES	PID=0				MADE GROUND: Grey reinforced concrete with medium gravel inclusions of quartzite.		
	0.50	ES	PID=0				MADE GROUND: Brown gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of brick and quartzite.		
	1.00	ES	PID=0	1.20	7.85		MADE GROUND: Red brown clayey gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of brick and flint.		
								End of pit at 1.20 m	
1 2 3 4 5									
Remarks: 1. Area cleared by specialist utility clearance company. 2. Groundwater not encountered. 3. Low pressure gas pipe encountered at 1.1m bgl. Hole abandoned and pipe repaired by Cadent. 4. Trial pit backfilled with arisings.									
Stability: STABLE									



Trial Pit Log

Trialpit No
WTP06
Sheet 1 of 1

Project Name: ASHLEY HOUSE AND CANNON FACTORY

Project No.
GRO-23113

Co-ords: 534302.61 - 189650.97
Level: 8.95

Date
21/04/2023

Location: TOTTENHAM

Dimensions (m):

Depth
1.50

Scale
1:25

Logged
MB

Client: NOTTING HILL GENESIS

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.30	ES	PID=0	0.24	8.70		MADE GROUND: Grey reinforced concrete with medium gravel inclusions of quartzite.	
	0.50	ES	PID=0				MADE GROUND: Brown gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of brick and quartzite.	
	1.00	ES	PID=0	0.70	8.24		Firm orange brown sandy gravelly silty CLAY. Gravel is subangular to subrounded fine to medium of quartzite. Sand is fine to coarse.	1
	1.50	ES	PID=0	1.50	7.44		End of pit at 1.50 m	2
								3
								4
								5

Remarks: 1. Area cleared by specialist utility clearance company. 2. Groundwater not encountered. 3. Trial pit backfilled with arisings.

Stability: STABLE



Trial Pit Log

Trialpit No
WTP07
Sheet 1 of 1

Project Name:	ASHLEY HOUSE AND CANNON FACTORY	Project No.	GRO-23113	Co-ords:	534354.74 - 189649.03	Date	24/04/2023
Location:	TOTTENHAM	Dimensions (m):	Depth 2.50			Scale 1:25	Logged MB
Client:	NOTTING HILL GENESIS						

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.20	ES	PID=0	0.20	8.85		MADE GROUND: Grey reinforced concrete with medium gravel inclusions of quartzite.	
	0.30	ES	PID=0				MADE GROUND: Red brown clayey gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of brick and flint.	
	0.50	ES	PID=0					
	1.00	ES	PID=0	1.10	7.95		MADE GROUND: Dark brown gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of brick.	1
	1.20	ES	PID=0					
	2.00	ES	PID=0					2
	2.40			2.40	6.65		Firm light brown silty CLAY.	
	2.50			2.50	6.55		End of pit at 2.50 m	
								3
								4
								5

Remarks: 1. Area cleared by specialist utility clearance company. 2. Groundwater not encountered. 3. Trial pit backfilled with arisings.

Stability: STABLE



				Trial Pit Log				Trialpit No WTP08-10			
				Sheet 1 of 1							
Project Name: ASHLEY HOUSE AND CANNON FACTORY				Project No. GRO-23113		Co-ords: 534353.65 - 189631.42		Date 24/04/2023			
Location: TOTTENHAM				Dimensions (m):				Scale 1:25			
Client: NOTTING HILL GENESIS				Depth 0.60				Logged MB			
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description				
	Depth	Type	Results								
	0.30	ES	PID=0	0.20	8.95		MADE GROUND: Grey reinforced concrete with medium gravel inclusions of quartzite.				
	0.50	ES	PID=0	0.45	8.70			MADE GROUND: Yellow brown gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of brick and quartzite.			
				0.60	8.55				MADE GROUND: Red brown gravelly fine to coarse sand with moderate cobble content of bricks. Gravel is angular to subangular fine to coarse of brick and quartzite.		
				0.61	8.54					MADE GROUND: Grey concrete with medium gravel inclusions of quartzite.	
								End of pit at 0.60 m			
1 2 3 4 5											
Remarks: 1. Area cleared by specialist utility clearance company. 2. Groundwater not encountered. 3. Concrete structure encountered at 0.6m bgl. 4. Trial pit backfilled with arisings.											
Stability: STABLE											



Trial Pit Log

Trialpit No
WTP11
Sheet 1 of 1

Project Name: ASHLEY HOUSE AND CANNON FACTORY

Project No.
GRO-23113

Co-ords: 534445.42 - 189754.99
Level: 8.84

Date
24/04/2023

Location: TOTTENHAM

Dimensions (m):

Depth
1.65

Scale
1:25

Logged
MB

Client: NOTTING HILL GENESIS

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.20	ES	PID=0	0.20	8.64		MADE GROUND: Grey reinforced concrete with medium gravel inclusions of quartzite.	
	0.50	ES	PID=0	0.50	8.34		MADE GROUND: Brown gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of brick and concrete.	
	1.00	ES	PID=0				MADE GROUND: Firm dark brown gravelly sandy silty clay. Gravel is angular to subangular fine to coarse of brick. <i>From 0.55m bgl localised areas of multicoloured clay.</i>	1
	1.60	ES	PID=0	1.55 1.65	7.29 7.19		Soft light brown silty CLAY.	
							End of pit at 1.65 m	2
								3
								4
								5

Remarks: 1. Area cleared by specialist utility clearance company. 2. Groundwater not encountered. 3. Linear concrete feature encountered at 0.8m and 1.5m bgl thought to be foundations of previous structures. 4. Trial pit backfilled with arisings.

Stability: STABLE



APPENDIX 4 – Falling Head Test Results

ASHLEY HOUSE & CANNON FACTORY
GRO-23113
NOTTING HILL GENESIS

VARIABLE HEAD PERMEABILITY TEST



Sheet 1 of 2

Date of Test: 21/04/2023 Type of Test: Falling Head Position: WWS04 Engineer: Michael Berry Weather: Sunny, clear

Test Measurements

Depth below top of casing/standpipe to:

(i) bottom of borehole:	3.50	m
(ii) bottom of casing:	2.50	m
(iii) top of filter material:	-	m
(iv) centre of piezometer tip:	-	m
(v) initial groundwater level:		m
Height of casing/standpipe above surface	-	m
Elevation of casing/standpipe (AOD)	-	m
Diameter of casing/standpipe	0.10	m
Length of filter	1.00	m
Diameter of filter	0.10	m

Test Data

Time Elapsed (mins)

Depth to Water Level (m)

0	1.24
0.5	1.30
1	1.40
1.5	1.45
2	1.47
2.5	1.50
3	1.56
3.5	1.60
4	1.65
4.5	1.72
5	1.79
6	1.86
7	7.90
8	2.02
9	2.04
10	2.06
15	2.34
20	2.40
25	2.50
30	2.55
40	2.64
50	2.83
60	3.00

VARIABLE HEAD PERMEABILITY TEST

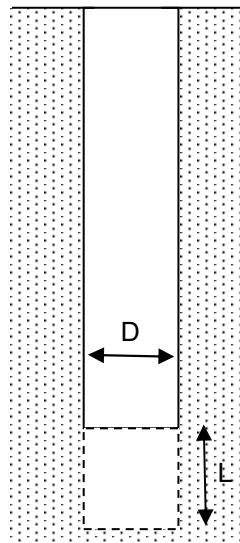
Sheet 2 of 2

Borehole WWS04

By: MB Checked: RW

Variable Head Permeability Test in accordance with BS 5930

Calculation of Intake Factor (F)



Area of base (A) = 0.01 m²

Diameter (D) = 0.10 m

Length (L) = 1.00 m

$$F = \frac{2 \pi L}{\ln \left\{ \left(\frac{L}{D} \right) + \sqrt{1 + \left(\frac{L}{D} \right)^2} \right\}}$$

$$F = \frac{6.283}{2.998}$$

$$F = 2.096$$

Calculation of Infiltration Rate

At time = 10 mins (t₁) Depth to water = 2.06 m

t₁ = 600 sec

Depth to base of borehole = 3.50 m

Depth of Water (H₁) = 1.44 m

At time = 60 mins (t₂) Depth to water = 3.00 m

t₂ = 3600 sec

Depth to base of borehole = 3.50 m

Depth of Water (H₂) = 0.50 m

$$k = \frac{A}{F(t_2 - t_1)} \ln \frac{H_1}{H_2}$$

$$k = \frac{0.01}{6287} \ln \frac{1.44}{0.5}$$

$$k = 1.32E-06 \text{ m/s}$$

ASHLEY HOUSE & CANNON FACTORY
GRO-23113
NOTTING HILL GENESIS

VARIABLE HEAD PERMEABILITY TEST



Sheet 1 of 2

Date of Test: 24/04/2023 Type of Test: Falling Head Position: WWS11 Engineer: Michael Berry Weather: Sunny, clear

Test Measurements

Depth below top of casing/standpipe to:

(i) bottom of borehole:	3.50	m
(ii) bottom of casing:	2.50	m
(iii) top of filter material:	-	m
(iv) centre of piezometer tip:	-	m
(v) initial groundwater level:		m
Height of casing/standpipe above surface	-	m
Elevation of casing/standpipe (AOD)	-	m
Diameter of casing/standpipe	0.10	m
Length of filter	1.00	m
Diameter of filter	0.10	m

Test Data

Time Elapsed (mins)

Depth to Water Level (m)

0	1.00
0.5	1.02
1	1.02
1.5	1.02
2	1.03
2.5	1.03
3	1.03
3.5	1.03
4	1.03
4.5	1.03
5	1.03
6	1.05
7	1.06
8	1.07
9	1.09
10	1.10
15	1.12
20	1.15
25	1.16
30	1.18
40	1.18
50	1.19
60	1.20

VARIABLE HEAD PERMEABILITY TEST

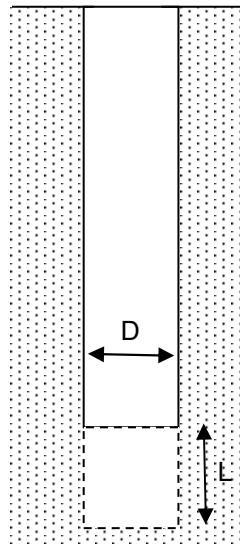
Sheet 2 of 2

Borehole WWS11

By: MB Checked: RW

Variable Head Permeability Test in accordance with BS 5930

Calculation of Intake Factor (F)



Area of base (A) = 0.01 m²

Diameter (D) = 0.10 m

Length (L) = 1.00 m

$$F = \frac{2 \pi L}{\ln \left\{ \left(\frac{L}{D} \right) + \sqrt{1 + \left(\frac{L}{D} \right)^2} \right\}}$$

$$F = \frac{6.283}{2.998}$$

$$F = 2.096$$

Calculation of Infiltration Rate

At time = 10 mins (t₁) Depth to water = 1.10 m

t₁ = 600 sec

Depth to base of borehole = 3.50 m

Depth of Water (H₁) = 2.40 m

At time = 60 mins (t₂) Depth to water = 1.20 m

t₂ = 3600 sec

Depth to base of borehole = 3.50 m

Depth of Water (H₂) = 2.30 m

$$k = \frac{A}{F(t_2 - t_1)} \ln \frac{H_1}{H_2}$$

$$k = \frac{0.01}{6287} \ln \frac{2.4}{2.3}$$

$$k = 5.32E-08 \text{ m/s}$$

ASHLEY HOUSE & CANNON FACTORY
GRO-23113
NOTTING HILL GENESIS

VARIABLE HEAD PERMEABILITY TEST



Sheet 1 of 2

Date of Test: 24/04/2023 Type of Test: Falling Head Position: WWS03 Engineer: Michael Berry Weather: Sunny, clear

Test Measurements

Depth below top of casing/standpipe to:

(i) bottom of borehole:	3.00	m
(ii) bottom of casing:	2.00	m
(iii) top of filter material:	-	m
(iv) centre of piezometer tip:	-	m
(v) initial groundwater level:		m
Height of casing/standpipe above surface	-	m
Elevation of casing/standpipe (AOD)	-	m
Diameter of casing/standpipe	0.10	m
Length of filter	1.00	m
Diameter of filter	0.10	m

Test Data

Time Elapsed (mins)

Depth to Water Level (m)

0	1.01
0.5	1.01
1	1.02
1.5	1.02
2	1.02
2.5	1.02
3	1.02
3.5	1.02
4	1.02
4.5	1.02
5	1.02
6	1.03
7	1.04
8	1.05
9	1.06
10	1.06
15	1.10
20	1.15
25	1.15
30	1.20
40	1.24
50	1.30
60	1.32

VARIABLE HEAD PERMEABILITY TEST

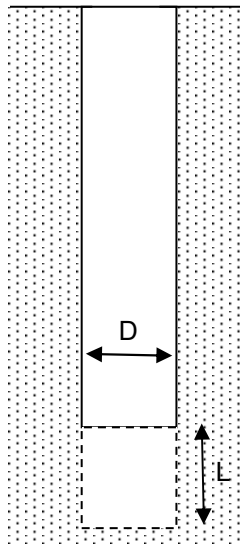
Sheet 2 of 2

Borehole WWS03

By: MB Checked: RW

Variable Head Permeability Test in accordance with BS 5930

Calculation of Intake Factor (F)



Area of base (A) = 0.01 m²

Diameter (D) = 0.10 m

Length (L) = 1.00 m

$$F = \frac{2 \pi L}{\ln \left\{ \left(\frac{L}{D} \right) + \sqrt{1 + \left(\frac{L}{D} \right)^2} \right\}}$$

$$F = \frac{6.283}{2.998}$$

$$F = 2.096$$

Calculation of Infiltration Rate

At time = 10 mins (t₁) Depth to water = 1.06 m

t₁ = 600 sec

Depth to base of borehole = 3.00 m

Depth of Water (H₁) = 1.94 m

At time = 60 mins (t₂) Depth to water = 1.32 m

t₂ = 3600 sec

Depth to base of borehole = 3.00 m

Depth of Water (H₂) = 1.68 m

$$k = \frac{A}{F(t_2 - t_1)} \ln \frac{H_1}{H_2}$$

$$k = \frac{0.01}{6287} \ln \frac{1.94}{1.68}$$

$$k = 1.80E-07 \text{ m/s}$$

APPENDIX 5 – PID Results

SITE NAME:	ASHLEY HOUSE & CANNON FACTORY
CLIENT:	NOTTING HILL GENESIS
JOB NO:	GRO-23113

BH Ref.	Depth (m)	Result (ppm)
WTP01	0.50	0.0000
WTP02	0.30	0.0000
WTP02	0.50	0.0000
WTP02	1.00	0.0000
WTP02	1.50	0.0000
WTP02	2.00	0.0000
WTP02	2.50	0.0000
WWS01	0.42	0.0000
WWS01	0.50	0.0000
WWS01	1.00	0.0000
WWS02	0.40	0.0000
WWS02	0.50	0.0000
WWS02	1.00	0.0000
WWS02	1.50	0.0000
WWS02	2.50	0.0000
WWS02	2.80	0.0000
WWS02	3.50	0.0000
WWS02	4.50	0.0000
WWS03	0.30	0.0000
WWS03	0.50	0.0000
WWS07	0.30	0.0000
WWS07	0.50	0.0000
WWS07	0.90	0.0000
WWS07	1.20	0.0000
WWS05	0.30	0.0000
WWS06	0.30	0.0000
WWS06	0.50	0.0000
WWS06	1.00	0.0000
WWS06	1.50	0.0000
WWS06	2.50	0.0000
WWS06	3.50	0.0000
WWS06	4.50	0.0000
WWS07	1.40	0.0000
WWS07	1.90	0.0000
WWS07	2.10	0.0000
WWS07	2.60	0.0000
WWS08	0.40	0.0000
WWS08	0.60	0.0000
WWS08	1.00	0.0000

BH Ref.	Depth (m)	Result (ppm)
WWS08	1.50	0.0000
WWS08	2.00	0.0000
WWS08	2.50	0.0000
WWS09	0.30	0.0000
WWS09	0.50	0.0000
WWS09	1.00	0.0000
WWS09	1.50	0.0000
WWS09	1.90	0.0000
WWS09	2.10	0.0000
WWS09	3.00	0.0000
WWS04	0.30	0.0000
WWS04	0.55	0.0000
WWS04	1.00	0.0000
WWS04	1.40	0.0000
WWS04	2.20	0.0000
WWS04	3.20	0.0000
WTP07	0.30	0.0000
WTP07	0.50	0.0000
WTP07	1.00	0.0000
WTP07	1.20	0.0000
WTP07	2.00	0.0000
WTP10	0.30	0.0000
WTP10	0.50	0.0000
WTP11	0.20	0.0000
WTP11	0.50	0.0000
WTP11	1.00	0.0000
WTP11	1.60	0.0000
WWS10	0.30	0.0000
WWS10	0.50	0.0000
WWS10	1.00	0.0000
WWS10	1.60	0.0000
WWS10	2.20	2.6000
WWS10	2.50	0.5000
WWS10	3.50	0.0000
WWS10	3.80	1.8000
WWS11	3.00	0.2000
WTP03	0.50	0.0000
WTP03	1.20	0.0000
WTP03	1.50	0.0000

BH Ref.	Depth (m)	Result (ppm)
WTP03	1.90	0.0000
WTP03	2.50	0.0000
WTP04	0.30	0.0000
WTP04	0.50	0.0000
WTP04	0.80	0.0000
WTP04	1.00	1.5000
WTP04	1.50	0.6000
WTP04	2.00	0.0000
WTP04	2.40	0.0000
WTP04	2.60	0.0000
WTP05	0.30	0.0000
WTP05	0.50	0.0000
WTP05	1.00	0.0000
WTP06	0.30	0.0000
WTP06	0.50	0.0000
WTP06	1.00	0.0000
WTP06	1.50	0.0000

APPENDIX 6 - Limitations

Limitations

This report (Report) forms part of the Services and if applicable Additional Services undertaken by Groundtech Consulting Ltd pursuant to a written contract (Agreement) which contains detailed provisions including express limitations of the liability of Groundtech Consulting Ltd.

This Report was prepared using reasonable skill and care as stated in the Agreement for the purpose including intended end use stated by the Client (Purpose) and the liability of Groundtech Consulting Ltd in respect of the form and content of this Report is no greater than its liability under the Agreement. All records, measurements notes, or any other data (Data) obtained by or for the benefit of the Consultant were obtained at a specific point in time and it may not be assumed by the Client or any person relying on this Report that the Data will remain unaffected by the passage of time, the seasons, weather conditions, changes in the water table or the carrying out and completion of works at the Site.

Unless otherwise agreed this Report has been prepared exclusively for the use and reliance of the Client and may not be relied upon, by any other party except as provided for in the Agreement. A third party who relies on this Report, does so at their own and sole risk and Groundtech Consulting Ltd has no liability to such parties.

Groundtech Consulting Ltd that this Report is to be used for the Purpose. The Purpose was instrumental in determining the scope and of the Services provided. If the Purpose should change, the Client may not be able to rely on the Report without the separate agreement of Groundtech Consulting Ltd.

Since the Report was written, later changes in legislation, statutory requirements and industry best practices have not been considered and this should be allowed for. Ground conditions can also change (see below) and should be investigated if there is any significant delay in acting on the findings of this Report. The period of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the Report inaccurate or unreliable. The information and conclusions in this Report should not be relied upon in the future without written confirmation from Groundtech Consulting Ltd that it is safe to do so.

The observations and conclusions outlined in this Report are based exclusively on the services that were provided as set out in the agreement between the client and Groundtech Consulting Ltd.

Groundtech Consulting Ltd is not liable for the existence of any condition, the discovery of which would require additional investigation outside the agreed scope of works or core competency. The Report is based upon Groundtech Consulting Ltd's observations of existing physical conditions at the Site gained from site reconnaissance together with interpretation of information including documentation, obtained from third parties and from the Client on the history and usage of the Site. The findings and recommendations contained in this Report are based in part upon information provided by third parties, and Groundtech Consulting Ltd have relied upon such information assuming it to be correct.

Groundtech Consulting Ltd accepts no responsibility for errors or inaccuracies in third party information presented in this Report. Groundtech Consulting Ltd was not authorised to independently verify the accuracy or completeness of information, documentation or materials received from the client or third parties, including laboratories and information services, during the performance of the Services or Additional Services. Groundtech Consulting Ltd is not liable for any inaccurate information, misrepresentation of data or conclusions, which may inform the scope of investigation undertaken by Groundtech Consulting Ltd and forms the contract with the client.

Where field investigations have been carried out these have been restricted to a level of detail required to achieve the stated objectives of the work. Ground conditions may also vary due to the ground's heterogeneous properties and because investigation exploratory locations only allow examination of the ground at discrete locations. The potential exists for ground conditions to be encountered which are different to those considered in this Report, particularly between exploratory holes. The extent of the limited area depends on the soil and groundwater conditions, together with other constraints such as the position of any existing structures and underground utilities. If so stipulated in the Agreement, geo-environmental testing was carried out for a limited number of parameters based on an understanding of the available operational and historical information, and it should not be inferred that other chemical species are not present.

Any groundwater conditions entered on the exploratory hole records are those observed at the time of investigation. The groundwater level often has not had time to reach equilibrium and a monitoring period is required. Furthermore, groundwater levels are subject to seasonal variation or changes in local drainage conditions and groundwater levels may occur at other times of the year which are higher than were recorded during this investigation.

Any site drawings provided in this Report are preliminary and used to present the general relative locations of features on, and surrounding, the Site.



Appendix C

Groundwater Monitoring Data

- **Monitored Groundwater Levels and Observations**
- **Groundwater Monitoring Multiparameter Readings**

02/05/2023 Ashley Road Groundwater Monitoring Observations

Borehole	Dip (m bgl)	GW Elevation (m AOD)	Oil Interface Meter	Bailer Observations
Ashley House				
BH102 S	2.53	6.51	No napl recorded	Cloudy, slightly silty. No odour
BH03	N/A		N/A	Not servicable. Damaged Cover
WWS06	2.56	6.36	No napl recorded	Very silty orange water, no smell or sheen.
WS101	2.78	6.38	No napl recorded	Clear water at top of column, dark silt at base
WS104	N/A		N/A	Not servicable. Damaged Cover
WWS07	DRY		N/A	Dry well
BH04	2.59	6.43	No napl recorded	Cloudy and silty towards the base. No oil spotting or sheen. Slight hydrocarbon-like odour
BH101 S	2.53	6.55	No napl recorded	Slightly cloudy water
WWS04	DRY		N/A	Dry well
WS109	2.6	6.62	No napl recorded	Brown murky water, no sheen or smell. Drained clear during low flow
WWS08	N/A		N/A	Well cover sealed with cement. Could not open.
BH103 S	2.52	6.55	No napl recorded	Clear, slightly brown water.
Cannon Factory				
BH01	2.67	6.19	No napl recorded	Clear waters slight floating sediment particles and hydrocarbon odour
BH02	2.43	6.32	No napl recorded	Brown murky water with slight solvent hydrocarbon-like odour
WWS02	2.64	6.41	No napl recorded	Brown murky water with slight hydrocarbon-like odour.
WWS10	2.55	6.49	No napl recorded	Brown murky water with slight hydrocarbon-like odour
WWS03	2.8	6.24	No napl recorded	Negligable water column. (<0.16m) Unable to recover sample
WWS11	DRY		N/A	Dry well

16/05/2023 Ashley Road Groundwater Monitoring Observations - Additional Targeted Visit

Borehole	Dip (m bgl)	GW Elevation (m AOD)	Oil Interface Meter	Bailer Observations
Ashley House				
WWS06	2.53	6.39	No napl recorded	N/A. Low flow sampling only.
WWS08	2.51	6.6	No napl recorded	N/A. Low flow sampling only.
Cannon Factory				
BH01	2.32	6.54	No napl recorded	N/A. Low flow sampling only.
BH02	2.41	6.34	No napl recorded	N/A. GW level dip only
WWS02	2.62	6.43	No napl recorded	N/A. Low flow sampling only.
WWS10	2.58	6.46	No napl recorded	N/A. Low flow sampling only.
WWS03	Dry		N/A	
WWS11	2.87	6.18	No napl recorded	Could not sample. (0.03m water column present)

Low-Flow Test Report:

Test Date / Time: 02/05/2023 09:58:33
Project: WIE16248 Ashley House
Operator Name: RJM

Location Name: Ashley House WS109 Well Diameter: 5 cm Casing Type: Plastic Total Depth: 3.14 m Initial Depth to Water: 2.6 m	Pump Type: Peristaltic Tubing Type: Plastic Estimated Total Volume Pumped: 400 ml Flow Cell Volume: 130 ml Final Flow Rate: 40 ml/min Final Draw Down: 0.07 m	Instrument Used: Aqua TROLL 500 Serial Number: 848860
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 0.3	+/- 10	+/- 10	+/- 5	
02/05/2023 09:58	00:00	6.98 pH	16.51 °C	1,548.5 µS/cm	0.00 mg/L	90.94 NTU	-196.4 mV	260.00 cm	40.00 ml/min
02/05/2023 09:59	00:30	7.01 pH	15.86 °C	1,272.1 µS/cm	0.00 mg/L	281.97 NTU	-188.1 mV	260.00 cm	40.00 ml/min
02/05/2023 09:59	01:00	7.02 pH	15.87 °C	1,122.9 µS/cm	0.00 mg/L	132.68 NTU	-195.6 mV	260.00 cm	40.00 ml/min
02/05/2023 10:00	01:30	7.02 pH	15.34 °C	1,106.7 µS/cm	0.00 mg/L	518.89 NTU	-206.1 mV	260.00 cm	40.00 ml/min
02/05/2023 10:00	02:00	7.01 pH	15.31 °C	1,015.7 µS/cm	0.00 mg/L	626.54 NTU	-206.3 mV	260.00 cm	40.00 ml/min
02/05/2023 10:01	02:30	7.02 pH	15.29 °C	1,007.1 µS/cm	0.00 mg/L	966.36 NTU	-212.0 mV	260.00 cm	40.00 ml/min
02/05/2023 10:01	03:00	7.05 pH	15.06 °C	980.24 µS/cm	0.00 mg/L	1,762.8 NTU	-215.3 mV	260.00 cm	40.00 ml/min
02/05/2023 10:02	03:30	7.08 pH	14.95 °C	969.44 µS/cm	0.01 mg/L	2,075.8 NTU	-218.0 mV	260.00 cm	40.00 ml/min
02/05/2023 10:02	04:00	7.11 pH	14.88 °C	944.48 µS/cm	0.05 mg/L	1,685.5 NTU	-218.3 mV	260.00 cm	40.00 ml/min
02/05/2023 10:03	04:30	7.10 pH	14.83 °C	946.87 µS/cm	0.10 mg/L	1,288.2 NTU	-215.5 mV	260.00 cm	40.00 ml/min
02/05/2023 10:03	05:00	7.12 pH	14.81 °C	855.88 µS/cm	0.15 mg/L	774.46 NTU	-221.5 mV	260.00 cm	40.00 ml/min
02/05/2023 10:04	05:30	7.10 pH	14.78 °C	855.28 µS/cm	0.19 mg/L	642.14 NTU	-227.2 mV	260.00 cm	40.00 ml/min
02/05/2023 10:04	06:00	7.10 pH	14.75 °C	859.73 µS/cm	0.22 mg/L	609.96 NTU	-230.2 mV	260.00 cm	40.00 ml/min
02/05/2023 10:05	06:30	7.10 pH	14.72 °C	858.65 µS/cm	0.24 mg/L	538.38 NTU	-231.6 mV	260.00 cm	40.00 ml/min
02/05/2023 10:05	07:00	7.09 pH	14.71 °C	852.13 µS/cm	0.25 mg/L	487.16 NTU	-232.7 mV	260.00 cm	40.00 ml/min
02/05/2023 10:06	07:30	7.11 pH	14.69 °C	851.38 µS/cm	0.26 mg/L	347.70 NTU	-231.5 mV	260.00 cm	40.00 ml/min

02/05/2023 10:06	08:00	7.08 pH	14.68 °C	851.37 µS/cm	0.27 mg/L	338.06 NTU	-230.0 mV	260.00 cm	40.00 ml/min
02/05/2023 10:07	08:30	7.08 pH	14.66 °C	859.19 µS/cm	0.28 mg/L	249.86 NTU	-230.4 mV	260.00 cm	40.00 ml/min
02/05/2023 10:07	09:00	7.09 pH	14.64 °C	852.55 µS/cm	0.28 mg/L	209.61 NTU	-223.3 mV	260.00 cm	40.00 ml/min
02/05/2023 10:08	09:30	7.08 pH	14.62 °C	849.01 µS/cm	0.28 mg/L	243.66 NTU	-223.3 mV	260.00 cm	40.00 ml/min
02/05/2023 10:08	10:00	7.10 pH	14.60 °C	847.59 µS/cm	0.28 mg/L	215.40 NTU	-227.3 mV	260.00 cm	40.00 ml/min

Samples

Sample ID:	Description:
Ashley House WS109	

Low-Flow Test Report:

Test Date / Time: 02/05/2023 10:28:34
Project: WIE16248
Operator Name: NU

Location Name: Ashley House BH04 Well Diameter: 5 cm Casing Type: Plastic Total Depth: 4.67 m Initial Depth to Water: 2.59 m	Pump Type: Peristaltic Tubing Type: Plastic Estimated Total Volume Pumped: 800 ml Flow Cell Volume: 130 ml Final Flow Rate: 80 ml/min Final Draw Down: 0 m	Instrument Used: Aqua TROLL 500 Serial Number: 848860
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 0.3	+/- 10	+/- 10	+/- 5	
02/05/2023 10:28	00:00	7.14 pH	14.61 °C	1,001.1 µS/cm	1.66 mg/L	365.77 NTU	-228.6 mV	259.00 cm	80.00 ml/min
02/05/2023 10:29	00:30	7.15 pH	14.16 °C	987.77 µS/cm	1.13 mg/L	266.56 NTU	-262.8 mV	259.00 cm	80.00 ml/min
02/05/2023 10:29	01:00	7.15 pH	13.99 °C	980.79 µS/cm	0.73 mg/L	241.49 NTU	-272.9 mV	259.00 cm	80.00 ml/min
02/05/2023 10:30	01:30	7.15 pH	13.92 °C	970.29 µS/cm	0.50 mg/L	229.73 NTU	-277.5 mV	259.00 cm	80.00 ml/min
02/05/2023 10:30	02:00	7.15 pH	13.91 °C	966.54 µS/cm	0.40 mg/L	209.38 NTU	-284.9 mV	259.00 cm	80.00 ml/min
02/05/2023 10:31	02:30	7.16 pH	13.89 °C	965.36 µS/cm	0.34 mg/L	210.58 NTU	-289.9 mV	259.00 cm	80.00 ml/min
02/05/2023 10:31	03:00	7.16 pH	13.88 °C	964.09 µS/cm	0.31 mg/L	202.36 NTU	-291.8 mV	259.00 cm	80.00 ml/min
02/05/2023 10:32	03:30	7.15 pH	13.86 °C	961.28 µS/cm	0.28 mg/L	199.74 NTU	-294.4 mV	259.00 cm	80.00 ml/min
02/05/2023 10:32	04:00	7.16 pH	13.85 °C	962.20 µS/cm	0.27 mg/L	217.35 NTU	-299.2 mV	259.00 cm	80.00 ml/min
02/05/2023 10:33	04:30	7.16 pH	13.85 °C	960.83 µS/cm	0.26 mg/L	194.99 NTU	-301.8 mV	259.00 cm	80.00 ml/min
02/05/2023 10:33	05:00	7.17 pH	13.84 °C	960.21 µS/cm	0.24 mg/L	207.73 NTU	-307.5 mV	259.00 cm	80.00 ml/min
02/05/2023 10:34	05:30	7.16 pH	13.84 °C	960.24 µS/cm	0.24 mg/L	179.01 NTU	-312.3 mV	259.00 cm	80.00 ml/min
02/05/2023 10:34	06:00	7.16 pH	13.84 °C	954.02 µS/cm	0.22 mg/L	177.29 NTU	-318.7 mV	259.00 cm	80.00 ml/min
02/05/2023 10:35	06:30	7.16 pH	13.84 °C	954.22 µS/cm	0.22 mg/L	175.67 NTU	-323.3 mV	259.00 cm	80.00 ml/min
02/05/2023 10:35	07:00	7.17 pH	13.84 °C	956.34 µS/cm	0.21 mg/L	166.11 NTU	-325.0 mV	259.00 cm	80.00 ml/min
02/05/2023 10:36	07:30	7.17 pH	13.83 °C	953.19 µS/cm	0.21 mg/L	155.23 NTU	-328.5 mV	259.00 cm	80.00 ml/min

02/05/2023 10:36	08:00	7.19 pH	13.83 °C	953.72 µS/cm	0.20 mg/L	154.49 NTU	-330.2 mV	259.00 cm	80.00 ml/min
02/05/2023 10:37	08:30	7.17 pH	13.83 °C	955.16 µS/cm	0.20 mg/L	143.23 NTU	-332.0 mV	259.00 cm	80.00 ml/min
02/05/2023 10:37	09:00	7.17 pH	13.83 °C	952.11 µS/cm	0.20 mg/L	160.95 NTU	-331.8 mV	259.00 cm	80.00 ml/min
02/05/2023 10:38	09:30	7.19 pH	13.83 °C	952.08 µS/cm	0.19 mg/L	145.17 NTU	-335.1 mV	259.00 cm	80.00 ml/min
02/05/2023 10:38	10:00	7.18 pH	13.83 °C	953.50 µS/cm	0.18 mg/L	190.40 NTU	-334.8 mV	259.00 cm	80.00 ml/min

Samples

Sample ID:	Description:
Ashley House BH04	

Low-Flow Test Report:

Test Date / Time: 02/05/2023 11:03:49
Project: WIE16248 Ashley House (2)
Operator Name: NU

Location Name: Ashley House BH102 s Well Diameter: 0.38 cm Casing Type: Plastic Total Depth: 6.91 m Initial Depth to Water: 2.53 m	Pump Type: Peristaltic Tubing Type: Plastic Estimated Total Volume Pumped: 440 ml Flow Cell Volume: 130 ml Final Flow Rate: 80 ml/min Final Draw Down: 0 m	Instrument Used: Aqua TROLL 500 Serial Number: 848860
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 0.3	+/- 10	+/- 10	+/- 5	
02/05/2023 11:03	00:00	7.19 pH	14.73 °C	872.10 µS/cm	2.00 mg/L	348.53 NTU	-146.1 mV	253.00 cm	80.00 ml/min
02/05/2023 11:04	00:30	7.22 pH	14.57 °C	862.19 µS/cm	1.66 mg/L	142.51 NTU	-147.9 mV	253.00 cm	80.00 ml/min
02/05/2023 11:04	01:00	7.24 pH	14.30 °C	861.14 µS/cm	1.21 mg/L	104.71 NTU	-148.5 mV	253.00 cm	80.00 ml/min
02/05/2023 11:05	01:30	7.24 pH	14.22 °C	857.77 µS/cm	0.94 mg/L	79.00 NTU	-150.2 mV	253.00 cm	80.00 ml/min
02/05/2023 11:05	02:00	7.24 pH	14.15 °C	863.36 µS/cm	0.73 mg/L	68.86 NTU	-150.9 mV	253.00 cm	80.00 ml/min
02/05/2023 11:06	02:30	7.24 pH	14.14 °C	866.65 µS/cm	0.61 mg/L	51.00 NTU	-151.7 mV	253.00 cm	80.00 ml/min
02/05/2023 11:06	03:00	7.24 pH	14.12 °C	847.25 µS/cm	0.53 mg/L	52.43 NTU	-153.4 mV	253.00 cm	80.00 ml/min
02/05/2023 11:07	03:30	7.24 pH	14.10 °C	854.45 µS/cm	0.49 mg/L	50.91 NTU	-153.9 mV	253.00 cm	80.00 ml/min
02/05/2023 11:07	04:00	7.24 pH	14.08 °C	858.26 µS/cm	0.45 mg/L	44.35 NTU	-154.1 mV	253.00 cm	80.00 ml/min
02/05/2023 11:08	04:30	7.24 pH	14.07 °C	851.47 µS/cm	0.42 mg/L	46.33 NTU	-153.9 mV	253.00 cm	80.00 ml/min
02/05/2023 11:08	05:00	7.25 pH	14.07 °C	859.32 µS/cm	0.41 mg/L	43.70 NTU	-154.7 mV	253.00 cm	80.00 ml/min
02/05/2023 11:09	05:30	7.24 pH	14.06 °C	863.94 µS/cm	0.39 mg/L	47.58 NTU	-155.0 mV	253.00 cm	80.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 02/05/2023 11:26:17
Project: WIE16248 Ashley House (3)
Operator Name: RJM

Location Name: Ashley House WWS06 Well Diameter: 5 cm Casing Type: Plastic Total Depth: 2.79 m Initial Depth to Water: 2.56 m	Pump Type: Peristaltic Tubing Type: Plastic Estimated Total Volume Pumped: 90 ml Flow Cell Volume: 130 ml Final Flow Rate: 30 ml/min Final Draw Down: 0.23 m	Instrument Used: Aqua TROLL 500 Serial Number: 848860
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 0.3	+/- 10	+/- 10	+/- 5	
02/05/2023 11:26	00:00	7.36 pH	14.89 °C	991.36 µS/cm	3.48 mg/L	953.25 NTU	-137.7 mV	256.00 cm	30.00 ml/min
02/05/2023 11:26	00:30	7.40 pH	14.91 °C	1,997.7 µS/cm	3.29 mg/L	24.41 NTU	-133.3 mV	256.00 cm	30.00 ml/min
02/05/2023 11:27	01:00	7.42 pH	14.92 °C	2,251.0 µS/cm	3.12 mg/L	2.53 NTU	-131.1 mV	256.00 cm	30.00 ml/min
02/05/2023 11:27	01:30	7.42 pH	14.90 °C	2,262.5 µS/cm	3.01 mg/L	3.25 NTU	-130.0 mV	256.00 cm	30.00 ml/min
02/05/2023 11:28	02:00	7.41 pH	14.89 °C	2,284.1 µS/cm	2.92 mg/L	3.05 NTU	-129.0 mV	256.00 cm	30.00 ml/min
02/05/2023 11:28	02:30	7.42 pH	14.94 °C	2,447.0 µS/cm	2.83 mg/L	4.15 NTU	-128.1 mV	256.00 cm	30.00 ml/min
02/05/2023 11:29	03:00	7.42 pH	14.95 °C	2,461.8 µS/cm	3.38 mg/L	6.50 NTU	-125.7 mV	256.00 cm	30.00 ml/min

Samples

Sample ID:	Description:
Ashley House WWS06	Drained dry, sample from purge bucket

Low-Flow Test Report:

Test Date / Time: 02/05/2023 12:34:09
Project: WIE16248 Ashley House (4)
Operator Name: RJM

Location Name: Ashley Road BH101 S Well Diameter: 3.8 cm Casing Type: Plastic Total Depth: 6.62 m Initial Depth to Water: 2.53 m	Pump Type: Peristaltic Tubing Type: Plastic Estimated Total Volume Pumped: 240 ml Flow Cell Volume: 130 ml Final Flow Rate: 30 ml/min Final Draw Down: 0 m	Instrument Used: Aqua TROLL 500 Serial Number: 848860
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 0.3	+/- 10	+/- 10	+/- 5	
02/05/2023 12:34	00:00	6.97 pH	14.31 °C	1,308.3 µS/cm	2.74 mg/L	193.39 NTU	-67.4 mV	253.00 cm	30.00 ml/min
02/05/2023 12:34	00:30	6.97 pH	14.14 °C	1,348.5 µS/cm	2.14 mg/L	185.75 NTU	-67.3 mV	253.00 cm	30.00 ml/min
02/05/2023 12:35	01:00	6.96 pH	14.09 °C	1,343.9 µS/cm	1.55 mg/L	175.23 NTU	-67.2 mV	253.00 cm	30.00 ml/min
02/05/2023 12:35	01:30	6.96 pH	14.06 °C	1,340.7 µS/cm	1.17 mg/L	163.24 NTU	-66.8 mV	253.00 cm	30.00 ml/min
02/05/2023 12:36	02:00	6.97 pH	14.07 °C	1,338.2 µS/cm	0.99 mg/L	142.05 NTU	-66.9 mV	253.00 cm	30.00 ml/min
02/05/2023 12:36	02:30	6.97 pH	14.07 °C	1,335.5 µS/cm	0.86 mg/L	118.54 NTU	-67.3 mV	253.00 cm	30.00 ml/min
02/05/2023 12:37	03:00	6.97 pH	14.06 °C	1,330.6 µS/cm	0.77 mg/L	101.77 NTU	-66.9 mV	253.00 cm	30.00 ml/min
02/05/2023 12:37	03:30	6.98 pH	14.07 °C	1,329.0 µS/cm	0.71 mg/L	90.58 NTU	-66.9 mV	253.00 cm	30.00 ml/min
02/05/2023 12:38	04:00	6.98 pH	14.07 °C	1,329.2 µS/cm	0.68 mg/L	78.93 NTU	-66.7 mV	253.00 cm	30.00 ml/min
02/05/2023 12:38	04:30	6.98 pH	14.08 °C	1,322.8 µS/cm	0.66 mg/L	72.54 NTU	-65.8 mV	253.00 cm	30.00 ml/min
02/05/2023 12:39	05:00	6.99 pH	14.09 °C	1,319.9 µS/cm	0.64 mg/L	59.07 NTU	-65.6 mV	253.00 cm	30.00 ml/min
02/05/2023 12:39	05:30	6.98 pH	14.11 °C	1,318.8 µS/cm	0.62 mg/L	53.44 NTU	-65.7 mV	253.00 cm	30.00 ml/min
02/05/2023 12:40	06:00	6.98 pH	14.10 °C	1,317.9 µS/cm	0.60 mg/L	49.19 NTU	-65.1 mV	253.00 cm	30.00 ml/min
02/05/2023 12:40	06:30	7.00 pH	14.09 °C	1,316.4 µS/cm	0.59 mg/L	38.64 NTU	-64.7 mV	253.00 cm	30.00 ml/min
02/05/2023 12:41	07:00	6.99 pH	14.10 °C	1,315.0 µS/cm	0.57 mg/L	34.72 NTU	-64.4 mV	253.00 cm	30.00 ml/min
02/05/2023 12:41	07:30	6.99 pH	14.10 °C	1,312.0 µS/cm	0.55 mg/L	31.63 NTU	-64.1 mV	253.00 cm	30.00 ml/min

02/05/2023 12:42	08:00	7.00 pH	14.09 °C	1,308.7 μS/cm	0.53 mg/L	28.50 NTU	-63.8 mV	253.00 cm	30.00 ml/min
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Samples

Sample ID:	Description:
Ashley House BH101 S	

Low-Flow Test Report:

Test Date / Time: 02/05/2023 13:01:07
Project: WIE16248 Ashley House (5)
Operator Name: RJM

Location Name: Ashley House BH103 s Well Diameter: 3.8 cm Casing Type: Plastic Total Depth: 5.58 m Initial Depth to Water: 2.52 m	Pump Type: Peristaltic Tubing Type: Plastic Estimated Total Volume Pumped: 880 ml Flow Cell Volume: 130 ml Final Flow Rate: 80 ml/min Final Draw Down: 0.01 m	Instrument Used: Aqua TROLL 500 Serial Number: 848860
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 0.3	+/- 10	+/- 10	+/- 5	
02/05/2023 13:01	00:00	7.28 pH	14.47 °C	910.67 µS/cm	8.01 mg/L	1,861.9 NTU	-66.1 mV	252.00 cm	80.00 ml/min
02/05/2023 13:01	00:30	7.24 pH	14.18 °C	905.29 µS/cm	7.22 mg/L	1,412.0 NTU	-63.9 mV	252.00 cm	80.00 ml/min
02/05/2023 13:02	01:00	7.22 pH	14.06 °C	904.12 µS/cm	6.74 mg/L	1,089.9 NTU	-62.3 mV	252.00 cm	80.00 ml/min
02/05/2023 13:02	01:30	7.21 pH	13.96 °C	906.26 µS/cm	6.39 mg/L	784.47 NTU	-61.5 mV	252.00 cm	80.00 ml/min
02/05/2023 13:03	02:00	7.21 pH	13.89 °C	908.61 µS/cm	6.01 mg/L	634.35 NTU	-61.5 mV	252.00 cm	80.00 ml/min
02/05/2023 13:03	02:30	7.21 pH	13.83 °C	907.59 µS/cm	5.65 mg/L	533.36 NTU	-61.8 mV	252.00 cm	80.00 ml/min
02/05/2023 13:04	03:00	7.20 pH	13.81 °C	910.61 µS/cm	5.34 mg/L	470.22 NTU	-62.1 mV	252.00 cm	80.00 ml/min
02/05/2023 13:04	03:30	7.20 pH	13.79 °C	911.81 µS/cm	5.06 mg/L	359.91 NTU	-62.5 mV	252.00 cm	80.00 ml/min
02/05/2023 13:05	04:00	7.20 pH	13.78 °C	913.63 µS/cm	4.79 mg/L	321.36 NTU	-63.0 mV	252.00 cm	80.00 ml/min
02/05/2023 13:05	04:30	7.20 pH	13.77 °C	912.09 µS/cm	4.56 mg/L	281.05 NTU	-63.4 mV	252.00 cm	80.00 ml/min
02/05/2023 13:06	05:00	7.20 pH	13.77 °C	913.75 µS/cm	4.41 mg/L	246.30 NTU	-64.1 mV	252.00 cm	80.00 ml/min
02/05/2023 13:06	05:30	7.20 pH	13.76 °C	915.94 µS/cm	4.25 mg/L	204.58 NTU	-64.9 mV	252.00 cm	80.00 ml/min
02/05/2023 13:07	06:00	7.20 pH	13.75 °C	916.17 µS/cm	4.09 mg/L	179.22 NTU	-65.9 mV	252.00 cm	80.00 ml/min
02/05/2023 13:07	06:30	7.20 pH	13.73 °C	916.80 µS/cm	3.95 mg/L	167.62 NTU	-66.8 mV	252.00 cm	80.00 ml/min
02/05/2023 13:08	07:00	7.19 pH	13.73 °C	917.86 µS/cm	3.81 mg/L	140.43 NTU	-67.7 mV	252.00 cm	80.00 ml/min
02/05/2023 13:08	07:30	7.19 pH	13.71 °C	919.73 µS/cm	3.70 mg/L	133.54 NTU	-68.8 mV	252.00 cm	80.00 ml/min

02/05/2023 13:09	08:00	7.19 pH	13.71 °C	920.96 µS/cm	3.60 mg/L	107.60 NTU	-69.9 mV	252.00 cm	80.00 ml/min
02/05/2023 13:09	08:30	7.20 pH	13.70 °C	921.73 µS/cm	3.50 mg/L	120.25 NTU	-71.0 mV	252.00 cm	80.00 ml/min
02/05/2023 13:10	09:00	7.20 pH	13.70 °C	923.49 µS/cm	3.41 mg/L	105.16 NTU	-72.1 mV	252.00 cm	80.00 ml/min
02/05/2023 13:10	09:30	7.19 pH	13.69 °C	924.71 µS/cm	3.32 mg/L	92.88 NTU	-72.9 mV	252.00 cm	80.00 ml/min
02/05/2023 13:11	10:00	7.19 pH	13.68 °C	924.72 µS/cm	3.25 mg/L	83.54 NTU	-73.8 mV	252.00 cm	80.00 ml/min
02/05/2023 13:11	10:30	7.20 pH	13.69 °C	925.65 µS/cm	3.17 mg/L	78.11 NTU	-74.7 mV	252.00 cm	80.00 ml/min
02/05/2023 13:12	11:00	7.19 pH	13.68 °C	927.52 µS/cm	3.10 mg/L	74.38 NTU	-75.7 mV	252.00 cm	80.00 ml/min

Samples

Sample ID:	Description:
Ashley House BH103 S	

Low-Flow Test Report:

Test Date / Time: 02/05/2023 14:27:25
Project: WIE16248 Ashley House (6)
Operator Name: RJM

Location Name: Ashley House (Cannon) BH02 Well Diameter: 5 cm Casing Type: Plastic Total Depth: 6.33 m Initial Depth to Water: 2.43 m	Pump Type: Peristaltic Tubing Type: Plastic Estimated Total Volume Pumped: 800 ml Flow Cell Volume: 130 ml Final Flow Rate: 80 ml/min Final Draw Down: 0.01 m	Instrument Used: Aqua TROLL 500 Serial Number: 848860
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 0.3	+/- 10	+/- 10	+/- 5	
02/05/2023 14:27	00:00	6.92 pH	15.92 °C	780.02 µS/cm	4.74 mg/L	1,781.6 NTU	-174.4 mV	243.00 cm	80.00 ml/min
02/05/2023 14:27	00:30	6.90 pH	15.34 °C	680.07 µS/cm	2.35 mg/L	2,765.6 NTU	-183.2 mV	243.00 cm	80.00 ml/min
02/05/2023 14:28	01:00	6.89 pH	15.18 °C	673.14 µS/cm	1.18 mg/L	2,574.5 NTU	-185.5 mV	243.00 cm	80.00 ml/min
02/05/2023 14:28	01:30	6.90 pH	15.04 °C	668.96 µS/cm	0.66 mg/L	2,535.1 NTU	-187.0 mV	243.00 cm	80.00 ml/min
02/05/2023 14:29	02:00	6.90 pH	14.98 °C	663.37 µS/cm	0.40 mg/L	2,107.4 NTU	-187.4 mV	243.00 cm	80.00 ml/min
02/05/2023 14:29	02:30	6.90 pH	14.92 °C	687.13 µS/cm	0.29 mg/L	1,838.8 NTU	-186.9 mV	243.00 cm	80.00 ml/min
02/05/2023 14:30	03:00	6.90 pH	14.87 °C	643.72 µS/cm	0.24 mg/L	1,900.7 NTU	-187.9 mV	243.00 cm	80.00 ml/min
02/05/2023 14:30	03:30	6.89 pH	14.82 °C	874.48 µS/cm	0.22 mg/L	1,818.8 NTU	-188.6 mV	243.00 cm	80.00 ml/min
02/05/2023 14:31	04:00	6.89 pH	14.80 °C	869.95 µS/cm	0.22 mg/L	1,765.3 NTU	-189.0 mV	243.00 cm	80.00 ml/min
02/05/2023 14:31	04:30	6.89 pH	14.76 °C	852.22 µS/cm	0.22 mg/L	1,694.0 NTU	-189.2 mV	243.00 cm	80.00 ml/min
02/05/2023 14:32	05:00	6.89 pH	14.76 °C	843.43 µS/cm	0.21 mg/L	1,676.5 NTU	-189.7 mV	243.00 cm	80.00 ml/min
02/05/2023 14:32	05:30	6.90 pH	14.74 °C	827.10 µS/cm	0.20 mg/L	1,607.8 NTU	-190.2 mV	243.00 cm	80.00 ml/min
02/05/2023 14:33	06:00	6.89 pH	14.74 °C	804.77 µS/cm	0.19 mg/L	1,623.3 NTU	-190.6 mV	243.00 cm	80.00 ml/min
02/05/2023 14:33	06:30	6.90 pH	14.73 °C	832.10 µS/cm	0.19 mg/L	1,483.5 NTU	-190.9 mV	243.00 cm	80.00 ml/min
02/05/2023 14:34	07:00	6.89 pH	14.73 °C	817.62 µS/cm	0.18 mg/L	1,421.5 NTU	-191.4 mV	243.00 cm	80.00 ml/min
02/05/2023 14:34	07:30	6.90 pH	14.72 °C	799.04 µS/cm	0.17 mg/L	1,331.8 NTU	-192.0 mV	243.00 cm	80.00 ml/min

02/05/2023 14:35	08:00	6.91 pH	14.73 °C	776.66 µS/cm	0.17 mg/L	1,232.5 NTU	-192.6 mV	243.00 cm	80.00 ml/min
02/05/2023 14:35	08:30	6.90 pH	14.73 °C	758.00 µS/cm	0.16 mg/L	1,163.1 NTU	-193.3 mV	243.00 cm	80.00 ml/min
02/05/2023 14:36	09:00	6.91 pH	14.74 °C	752.95 µS/cm	0.16 mg/L	1,021.8 NTU	-194.9 mV	243.00 cm	80.00 ml/min
02/05/2023 14:36	09:30	6.91 pH	14.75 °C	744.02 µS/cm	0.17 mg/L	914.27 NTU	-196.9 mV	243.00 cm	80.00 ml/min
02/05/2023 14:37	10:00	6.92 pH	14.77 °C	905.93 µS/cm	0.16 mg/L	785.57 NTU	-199.8 mV	243.00 cm	80.00 ml/min

Samples

Sample ID:	Description:
Ashley House (Cannon) BH02	

Low-Flow Test Report:

Test Date / Time: 02/05/2023 14:53:45
Project: WIE16248 Ashley House (7)
Operator Name: RJM

Location Name: Ashley House (Cannon) WWS02 Well Diameter: 5 cm Casing Type: Plastic Total Depth: 2.98 m Initial Depth to Water: 2.64 m	Pump Type: Peristaltic Tubing Type: Plastic Estimated Total Volume Pumped: 400 ml Flow Cell Volume: 130 ml Final Flow Rate: 80 ml/min Final Draw Down: 0.34 m	Instrument Used: Aqua TROLL 500 Serial Number: 848860
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 0.3	+/- 10	+/- 10	+/- 5	
02/05/2023 14:53	00:00	7.15 pH	15.69 °C	631.39 µS/cm	1.70 mg/L	0.33 NTU	-194.9 mV	264.00 cm	80.00 ml/min
02/05/2023 14:54	00:30	7.15 pH	15.66 °C	538.27 µS/cm	0.89 mg/L	0.00 NTU	-192.3 mV	264.00 cm	80.00 ml/min
02/05/2023 14:54	01:00	7.15 pH	15.55 °C	529.35 µS/cm	0.37 mg/L	0.00 NTU	-187.8 mV	264.00 cm	80.00 ml/min
02/05/2023 14:55	01:30	7.15 pH	15.28 °C	530.76 µS/cm	0.15 mg/L	0.00 NTU	-192.6 mV	264.00 cm	80.00 ml/min
02/05/2023 14:55	02:00	7.15 pH	15.15 °C	646.04 µS/cm	0.06 mg/L	0.00 NTU	-192.5 mV	264.00 cm	80.00 ml/min
02/05/2023 14:56	02:30	7.14 pH	15.30 °C	646.43 µS/cm	0.04 mg/L	0.77 NTU	-193.8 mV	264.00 cm	80.00 ml/min
02/05/2023 14:56	03:00	7.13 pH	15.39 °C	643.10 µS/cm	0.06 mg/L	0.84 NTU	-196.6 mV	264.00 cm	80.00 ml/min
02/05/2023 14:57	03:30	7.13 pH	15.47 °C	636.30 µS/cm	0.10 mg/L	1.92 NTU	-198.9 mV	264.00 cm	80.00 ml/min
02/05/2023 14:57	04:00	7.13 pH	15.52 °C	629.28 µS/cm	0.13 mg/L	1.77 NTU	-200.5 mV	264.00 cm	80.00 ml/min
02/05/2023 14:58	04:30	7.14 pH	15.57 °C	626.69 µS/cm	0.13 mg/L	3.88 NTU	-201.7 mV	264.00 cm	80.00 ml/min
02/05/2023 14:58	05:00	7.15 pH	15.61 °C	626.58 µS/cm	0.16 mg/L	8.65 NTU	-197.5 mV	264.00 cm	80.00 ml/min

Samples

Sample ID:	Description:
Ashley House (Cannon) WWS02	Drained dry during low flow, sampled from purge bucket

Low-Flow Test Report:

Test Date / Time: 02/05/2023 15:18:10
Project: WIE16248 Ashley House (8)
Operator Name: RJM

Location Name: Ashley House (Cannon) WWS10 Well Diameter: 5 cm Casing Type: Plastic Total Depth: 2.95 m Initial Depth to Water: 2.55 m	Pump Type: Peristaltic Tubing Type: Plastic Estimated Total Volume Pumped: 640 ml Flow Cell Volume: 130 ml Final Flow Rate: 80 ml/min Final Draw Down: 0.26 m	Instrument Used: Aqua TROLL 500 Serial Number: 848860
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 0.3	+/- 10	+/- 10	+/- 5	
02/05/2023 15:18	00:00	7.15 pH	15.94 °C	669.86 µS/cm	5.81 mg/L	0.00 NTU	-174.3 mV	255.00 cm	80.00 ml/min
02/05/2023 15:18	00:30	7.17 pH	15.81 °C	684.11 µS/cm	2.95 mg/L	0.00 NTU	-175.3 mV	255.00 cm	80.00 ml/min
02/05/2023 15:19	01:00	7.19 pH	15.68 °C	705.40 µS/cm	1.23 mg/L	0.00 NTU	-175.2 mV	255.00 cm	80.00 ml/min
02/05/2023 15:19	01:30	7.22 pH	15.59 °C	702.52 µS/cm	0.42 mg/L	0.00 NTU	-182.5 mV	255.00 cm	80.00 ml/min
02/05/2023 15:20	02:00	7.25 pH	15.50 °C	712.59 µS/cm	0.14 mg/L	0.00 NTU	-202.8 mV	255.00 cm	80.00 ml/min
02/05/2023 15:20	02:30	7.30 pH	15.44 °C	698.61 µS/cm	0.04 mg/L	0.00 NTU	-228.5 mV	255.00 cm	80.00 ml/min
02/05/2023 15:21	03:00	7.35 pH	15.38 °C	706.13 µS/cm	0.00 mg/L	0.00 NTU	-239.4 mV	255.00 cm	80.00 ml/min
02/05/2023 15:21	03:30	7.37 pH	15.33 °C	709.02 µS/cm	0.00 mg/L	0.00 NTU	-247.5 mV	255.00 cm	80.00 ml/min
02/05/2023 15:22	04:00	7.37 pH	15.30 °C	746.78 µS/cm	0.00 mg/L	0.00 NTU	-254.8 mV	255.00 cm	80.00 ml/min
02/05/2023 15:22	04:30	7.36 pH	15.27 °C	730.93 µS/cm	0.00 mg/L	0.00 NTU	-257.4 mV	255.00 cm	80.00 ml/min
02/05/2023 15:23	05:00	7.36 pH	15.24 °C	734.72 µS/cm	0.00 mg/L	0.00 NTU	-258.8 mV	255.00 cm	80.00 ml/min
02/05/2023 15:23	05:30	7.37 pH	15.22 °C	754.44 µS/cm	0.00 mg/L	0.00 NTU	-247.2 mV	255.00 cm	80.00 ml/min
02/05/2023 15:24	06:00	7.38 pH	15.20 °C	740.74 µS/cm	0.00 mg/L	0.00 NTU	-250.0 mV	255.00 cm	80.00 ml/min
02/05/2023 15:24	06:30	7.39 pH	15.18 °C	722.16 µS/cm	0.00 mg/L	0.00 NTU	-257.2 mV	255.00 cm	80.00 ml/min
02/05/2023 15:25	07:00	7.40 pH	15.17 °C	715.33 µS/cm	0.00 mg/L	0.00 NTU	-263.5 mV	255.00 cm	80.00 ml/min
02/05/2023 15:25	07:30	7.42 pH	15.16 °C	702.48 µS/cm	0.00 mg/L	0.24 NTU	-263.0 mV	255.00 cm	80.00 ml/min

02/05/2023 15:26	08:00	7.44 pH	15.16 °C	716.00 µS/cm	0.00 mg/L	0.00 NTU	-267.4 mV	255.00 cm	80.00 ml/min
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Samples

Sample ID:	Description:
Ashley House (Cannon) WWS10	

Appendix D

Laboratory Analysis

- **Soils**
- **Groundwater and Surface Water**

Jon Coates
Waterman Infrastructure & Environment Ltd
Pickfords Wharf
Clink Street
London
SE1 9DG

i2 Analytical Ltd.
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Analytical Report Number : 23-29890

Replaces Analytical Report Number: 23-29890, issue no. 1

Additional analysis undertaken.

VOCs and SVOCs added to sample 2656737 as per clients request

The report has been updated to the current Schedule of Accreditation issue No: 113 Issue date: 09 May 2023

Project / Site name: Ashley House Cannon Factory Samples received on: 21/04/2023

Your job number: WIE16248 Samples instructed on/ Analysis started on: 21/04/2023

Your order number: 122387 Analysis completed by: 10/05/2023

Report Issue Number: 2 Report issued on: 11/05/2023

Samples Analysed: 10 soil samples



Signed: _____

Elżbieta Suchy
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 23-29890
Project / Site name: Ashley House Cannon Factory
Your Order No: 122387

Lab Sample Number				2656728	2656729	2656730	2656731	2656732
Sample Reference				WWS01	WWS01	WWS02	WWS02	WWS02
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	1.00	0.50	1.50	2.80
Date Sampled				20/04/2023	20/04/2023	20/04/2023	20/04/2023	20/04/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	25	50	< 0.1
Moisture Content	%	0.01	NONE	14	14	11	2.7	7.8
Total mass of sample received	kg	0.001	NONE	0.9	0.9	0.6	0.9	0.9

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-	Not-detected	-	-
Asbestos Analyst ID	N/A	N/A	N/A	WEM	N/A	WEM	N/A	N/A

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.7	7.6	7.4	8	8.6
Organic Matter (automated)	%	0.1	MCERTS	1.9	1	2.5	0.2	3.9
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.011	0.0055	0.015	0.0012	0.022
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1.1	0.6	1.5	0.1	2.2

Speciated PAHs

Naphthalene	mg/kg	0.05	NONE	< 0.05	< 0.05	-	-	< 0.05
Acenaphthylene	mg/kg	0.05	NONE	< 0.05	< 0.05	-	-	< 0.05
Acenaphthene	mg/kg	0.05	NONE	< 0.05	< 0.05	-	-	< 0.05
Fluorene	mg/kg	0.05	NONE	< 0.05	< 0.05	-	-	< 0.05
Phenanthrene	mg/kg	0.05	NONE	0.54	< 0.05	-	-	< 0.05
Anthracene	mg/kg	0.05	NONE	0.08	< 0.05	-	-	< 0.05
Fluoranthene	mg/kg	0.05	NONE	1.3	< 0.05	-	-	< 0.05
Pyrene	mg/kg	0.05	NONE	1.2	< 0.05	-	-	< 0.05
Benzo(a)anthracene	mg/kg	0.05	NONE	0.55	< 0.05	-	-	< 0.05
Chrysene	mg/kg	0.05	NONE	0.56	< 0.05	-	-	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	NONE	0.62	< 0.05	-	-	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	NONE	0.37	< 0.05	-	-	< 0.05
Benzo(a)pyrene	mg/kg	0.05	NONE	0.56	< 0.05	-	-	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	0.35	< 0.05	-	-	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	< 0.05	< 0.05	-	-	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	NONE	0.41	< 0.05	-	-	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	6.47	< 0.80	-	-	< 0.80
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	24	-	28	-	-
Boron (water soluble)	mg/kg	0.2	MCERTS	1.7	-	6.5	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.5	-	< 0.2	-	-
Chromium (hexavalent)	mg/kg	1.2	NONE	< 1.2	-	< 1.2	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	78	-	23	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	190	-	69	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	1700	-	290	-	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	-	0.7	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	52	-	24	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	-	< 1.0	-	-
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	58	-	42	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	2500	-	92	-	-

Analytical Report Number: 23-29890
Project / Site name: Ashley House Cannon Factory
Your Order No: 122387

Lab Sample Number	2656728	2656729	2656730	2656731	2656732
Sample Reference	WWS01	WWS01	WWS02	WWS02	WWS02
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.50	1.00	0.50	1.50	2.80
Date Sampled	20/04/2023	20/04/2023	20/04/2023	20/04/2023	20/04/2023
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

Monoaromatics & Oxygenates

Benzene	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	< 5.0
Toluene	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	< 5.0
p & m-xylene	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	< 5.0
o-xylene	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	-	< 5.0	< 5.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 HS 1D AL	mg/kg	0.001	NONE	< 0.001	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 HS 1D AL	mg/kg	0.001	NONE	< 0.001	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS 1D AL	mg/kg	0.001	NONE	< 0.001	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 EH CU 1D AL	mg/kg	1	NONE	< 1.0	< 1.0	-	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 EH CU 1D AL	mg/kg	2	NONE	< 2.0	< 2.0	-	< 2.0	17
TPH-CWG - Aliphatic >EC16 - EC21 EH CU 1D AL	mg/kg	8	NONE	12	< 8.0	-	18	1100
TPH-CWG - Aliphatic >EC21 - EC35 EH CU 1D AL	mg/kg	8	NONE	65	< 8.0	-	130	10000
TPH-CWG - Aliphatic > EC35 - EC44 EH CU 1D AL	mg/kg	8.4	NONE	20	< 8.4	-	20	1300
TPH-CWG - Aliphatic (EC5 - EC35) EH CU+HS 1D AL	mg/kg	10	NONE	77	< 10	-	150	11000
TPH-CWG - Aliphatic (EC5 - EC44) EH CU+HS 1D AL	mg/kg	10	NONE	97	< 10	-	170	12000

TPH-CWG - Aromatic >EC5 - EC7 HS 1D AR	mg/kg	0.001	NONE	< 0.001	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 HS 1D AR	mg/kg	0.001	NONE	< 0.001	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS 1D AR	mg/kg	0.001	NONE	< 0.001	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH CU 1D AR	mg/kg	1	NONE	< 1.0	< 1.0	-	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 EH CU 1D AR	mg/kg	2	NONE	2	< 2.0	-	< 2.0	4.2
TPH-CWG - Aromatic >EC16 - EC21 EH CU 1D AR	mg/kg	10	NONE	11	< 10	-	< 10	250
TPH-CWG - Aromatic >EC21 - EC35 EH CU 1D AR	mg/kg	10	NONE	50	< 10	-	34	2100
TPH-CWG - Aromatic > EC35 - EC44 EH CU 1D AR	mg/kg	8.4	NONE	9.1	< 8.4	-	< 8.4	920
TPH-CWG - Aromatic (EC5 - EC35) EH CU+HS 1D AR	mg/kg	10	NONE	63	< 10	-	38	2400
TPH-CWG - Aromatic (EC5 - EC44) EH CU+HS 1D AR	mg/kg	10	NONE	73	< 10	-	40	3300

VOCs

Chloromethane	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
Chloroethane	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
Bromomethane	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
Vinyl Chloride	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
1,1-Dichloroethane	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
Trichloromethane	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
1,1,1-Trichloroethane	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
1,2-Dichloroethane	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
1,1-Dichloropropene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
Trans-1,2-dichloroethene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
Benzene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
Tetrachloromethane	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
1,2-Dichloropropane	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
Trichloroethene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
Dibromomethane	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
Bromodichloromethane	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0

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Project / Site name: Ashley House Cannon Factory
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Lab Sample Number				2656728	2656729	2656730	2656731	2656732
Sample Reference				WWS01	WWS01	WWS02	WWS02	WWS02
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	1.00	0.50	1.50	2.80
Date Sampled				20/04/2023	20/04/2023	20/04/2023	20/04/2023	20/04/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Trans-1,3-dichloropropene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
Toluene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
1,1,2-Trichloroethane	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
1,3-Dichloropropane	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
Dibromochloromethane	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
Tetrachloroethene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
1,2-Dibromoethane	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
Chlorobenzene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
Ethylbenzene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
p & m-Xylene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
Styrene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
Tribromomethane	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
o-Xylene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
Isopropylbenzene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
Bromobenzene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
n-Propylbenzene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
2-Chlorotoluene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
4-Chlorotoluene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
tert-Butylbenzene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
sec-Butylbenzene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
1,3-Dichlorobenzene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
p-Isopropyltoluene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
1,2-Dichlorobenzene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
1,4-Dichlorobenzene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
Butylbenzene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	NONE	-	< 5.0	-	-	< 5.0

SVOCs

Aniline	mg/kg	0.1	NONE	-	-	-	-	-
Phenol	mg/kg	0.2	NONE	-	-	-	-	-
2-Chlorophenol	mg/kg	0.1	NONE	-	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	NONE	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	NONE	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	NONE	-	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	NONE	-	-	-	-	-
2-Methylphenol	mg/kg	0.3	NONE	-	-	-	-	-
Hexachloroethane	mg/kg	0.05	NONE	-	-	-	-	-
Nitrobenzene	mg/kg	0.3	NONE	-	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-	-
Isophorone	mg/kg	0.2	NONE	-	-	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	NONE	-	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	NONE	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	NONE	-	-	-	-	-
Naphthalene	mg/kg	0.05	NONE	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	NONE	-	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-	-

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Lab Sample Number				2656728	2656729	2656730	2656731	2656732
Sample Reference				WWS01	WWS01	WWS02	WWS02	WWS02
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	1.00	0.50	1.50	2.80
Date Sampled				20/04/2023	20/04/2023	20/04/2023	20/04/2023	20/04/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Hexachlorobutadiene	mg/kg	0.1	NONE	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	NONE	-	-	-	-	-
Dimethylphthalate	mg/kg	0.1	NONE	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	-	-	-
Acenaphthylene	mg/kg	0.05	NONE	-	-	-	-	-
Acenaphthene	mg/kg	0.05	NONE	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	-	-	-
Dibenzofuran	mg/kg	0.2	NONE	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	NONE	-	-	-	-	-
Diethyl phthalate	mg/kg	0.2	NONE	-	-	-	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	-	-	-	-
Fluorene	mg/kg	0.05	NONE	-	-	-	-	-
Azobenzene	mg/kg	0.3	NONE	-	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	NONE	-	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	NONE	-	-	-	-	-
Phenanthrene	mg/kg	0.05	NONE	-	-	-	-	-
Anthracene	mg/kg	0.05	NONE	-	-	-	-	-
Carbazole	mg/kg	0.3	NONE	-	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	-	-	-
Anthraquinone	mg/kg	0.3	NONE	-	-	-	-	-
Fluoranthene	mg/kg	0.05	NONE	-	-	-	-	-
Pyrene	mg/kg	0.05	NONE	-	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	-	-	-
Benzo(a)anthracene	mg/kg	0.05	NONE	-	-	-	-	-
Chrysene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.05	NONE	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	NONE	-	-	-	-	-

Miscellaneous Organics

Product ID		N/A	NONE	-	-	-	-	See Appendix
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 23-29890
Project / Site name: Ashley House Cannon Factory
Your Order No: 122387

Lab Sample Number				2656733	2656734	2656735	2656736	2656737
Sample Reference				WWS02	WWS02	WTP01	WTP02	WTP02
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.50	4.50	0.50	1.00	2.50
Date Sampled				20/04/2023	20/04/2023	20/04/2023	20/04/2023	20/04/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	5.7	7.4	2	11	8.5
Total mass of sample received	kg	0.001	NONE	1	1	0.9	0.9	0.9

Asbestos in Soil	Type	N/A	ISO 17025	-	-	Not-detected	Not-detected	-
Asbestos Analyst ID	N/A	N/A	N/A	N/A	N/A	WEM	WEM	N/A

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	-	-	12.3	7.8	8.6
Organic Matter (automated)	%	0.1	MCERTS	-	-	0.4	0.5	0.2
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.001	< 0.0010	0.002	0.003	< 0.0010
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	-	-	0.2	0.3	< 0.1

Speciated PAHs

Naphthalene	mg/kg	0.05	NONE	-	-	-	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	NONE	-	-	-	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	NONE	-	-	-	< 0.05	< 0.05
Fluorene	mg/kg	0.05	NONE	-	-	-	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	NONE	-	-	-	< 0.05	< 0.05
Anthracene	mg/kg	0.05	NONE	-	-	-	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	NONE	-	-	-	0.07	< 0.05
Pyrene	mg/kg	0.05	NONE	-	-	-	0.06	< 0.05
Benzo(a)anthracene	mg/kg	0.05	NONE	-	-	-	< 0.05	< 0.05
Chrysene	mg/kg	0.05	NONE	-	-	-	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	NONE	-	-	-	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	NONE	-	-	-	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	NONE	-	-	-	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	-	-	-	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	-	-	-	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	NONE	-	-	-	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	-	-	-	< 0.80	< 0.80
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	16	-
Boron (water soluble)	mg/kg	0.2	MCERTS	-	-	-	0.9	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	-	-	< 0.2	-
Chromium (hexavalent)	mg/kg	1.2	NONE	-	-	-	< 1.2	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	26	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	16	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	30	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	-	-	< 0.3	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	23	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	< 1.0	-
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	44	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	89	-

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Project / Site name: Ashley House Cannon Factory
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Lab Sample Number				2656733	2656734	2656735	2656736	2656737
Sample Reference				VWS02	VWS02	WTP01	WTP02	WTP02
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.50	4.50	0.50	1.00	2.50
Date Sampled				20/04/2023	20/04/2023	20/04/2023	20/04/2023	20/04/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Monoaromatics & Oxygenates								
Benzene	µg/kg	5	NONE	-	-	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	NONE	-	-	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	NONE	-	-	< 5.0	< 5.0	< 5.0
p & m-xylene	µg/kg	5	NONE	-	-	< 5.0	< 5.0	< 5.0
o-xylene	µg/kg	5	NONE	-	-	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	-	< 5.0	< 5.0	< 5.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 HS 1D AL	mg/kg	0.001	NONE	-	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 HS 1D AL	mg/kg	0.001	NONE	-	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS 1D AL	mg/kg	0.001	NONE	-	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 EH CU 1D AL	mg/kg	1	NONE	-	-	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 EH CU 1D AL	mg/kg	2	NONE	-	-	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 EH CU 1D AL	mg/kg	8	NONE	-	-	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 EH CU 1D AL	mg/kg	8	NONE	-	-	24	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC35 - EC44 EH CU 1D AL	mg/kg	8.4	NONE	-	-	< 8.4	< 8.4	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35) EH CU+HS 1D AL	mg/kg	10	NONE	-	-	28	< 10	< 10
TPH-CWG - Aliphatic (EC5 - EC44) EH CU+HS 1D AL	mg/kg	10	NONE	-	-	28	< 10	< 10

TPH-CWG - Aromatic >EC5 - EC7 HS 1D AR	mg/kg	0.001	NONE	-	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 HS 1D AR	mg/kg	0.001	NONE	-	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS 1D AR	mg/kg	0.001	NONE	-	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH CU 1D AR	mg/kg	1	NONE	-	-	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 EH CU 1D AR	mg/kg	2	NONE	-	-	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 EH CU 1D AR	mg/kg	10	NONE	-	-	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 EH CU 1D AR	mg/kg	10	NONE	-	-	< 10	< 10	< 10
TPH-CWG - Aromatic >EC35 - EC44 EH CU 1D AR	mg/kg	8.4	NONE	-	-	< 8.4	< 8.4	< 8.4
TPH-CWG - Aromatic (EC5 - EC35) EH CU+HS 1D AR	mg/kg	10	NONE	-	-	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC44) EH CU+HS 1D AR	mg/kg	10	NONE	-	-	< 10	< 10	< 10

VOCs

Chloromethane	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
Chloroethane	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
Bromomethane	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
Vinyl Chloride	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
1,1-Dichloroethane	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
Trichloromethane	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
1,1,1-Trichloroethane	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
1,2-Dichloroethane	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
1,1-Dichloropropene	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
Trans-1,2-dichloroethene	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
Benzene	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
Tetrachloromethane	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
1,2-Dichloropropane	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
Trichloroethene	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
Dibromomethane	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
Bromodichloromethane	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0

Analytical Report Number: 23-29890
Project / Site name: Ashley House Cannon Factory
Your Order No: 122387

Lab Sample Number				2656733	2656734	2656735	2656736	2656737
Sample Reference				WWS02	WWS02	WTP01	WTP02	WTP02
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.50	4.50	0.50	1.00	2.50
Date Sampled				20/04/2023	20/04/2023	20/04/2023	20/04/2023	20/04/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Trans-1,3-dichloropropene	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
Toluene	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
1,1,2-Trichloroethane	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
1,3-Dichloropropane	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
Dibromochloromethane	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
Tetrachloroethene	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
1,2-Dibromoethane	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
Chlorobenzene	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
Ethylbenzene	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
p & m-Xylene	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
Styrene	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
Tribromomethane	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
o-Xylene	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
Isopropylbenzene	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
Bromobenzene	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
n-Propylbenzene	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
2-Chlorotoluene	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
4-Chlorotoluene	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
tert-Butylbenzene	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
sec-Butylbenzene	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
1,3-Dichlorobenzene	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
p-Isopropyltoluene	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
1,2-Dichlorobenzene	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
1,4-Dichlorobenzene	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
Butylbenzene	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	NONE	-	-	< 5.0	-	< 5.0

SVOCs

Aniline	mg/kg	0.1	NONE	-	-	< 0.1	-	< 0.1
Phenol	mg/kg	0.2	NONE	-	-	< 0.2	-	< 0.2
2-Chlorophenol	mg/kg	0.1	NONE	-	-	< 0.1	-	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	NONE	-	-	< 0.2	-	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-	-	< 0.2	-	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	NONE	-	-	< 0.1	-	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	NONE	-	-	< 0.2	-	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	NONE	-	-	< 0.1	-	< 0.1
2-Methylphenol	mg/kg	0.3	NONE	-	-	< 0.3	-	< 0.3
Hexachloroethane	mg/kg	0.05	NONE	-	-	< 0.05	-	< 0.05
Nitrobenzene	mg/kg	0.3	NONE	-	-	< 0.3	-	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	-	-	< 0.2	-	< 0.2
Isophorone	mg/kg	0.2	NONE	-	-	< 0.2	-	< 0.2
2-Nitrophenol	mg/kg	0.3	NONE	-	-	< 0.3	-	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	NONE	-	-	< 0.3	-	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	NONE	-	-	< 0.3	-	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	NONE	-	-	< 0.3	-	< 0.3
Naphthalene	mg/kg	0.05	NONE	-	-	< 0.05	-	< 0.05
2,4-Dichlorophenol	mg/kg	0.3	NONE	-	-	< 0.3	-	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	-	-	< 0.1	-	< 0.1

Analytical Report Number: 23-29890
Project / Site name: Ashley House Cannon Factory
Your Order No: 122387

Lab Sample Number				2656733	2656734	2656735	2656736	2656737
Sample Reference				WWS02	WWS02	WTP01	WTP02	WTP02
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.50	4.50	0.50	1.00	2.50
Date Sampled				20/04/2023	20/04/2023	20/04/2023	20/04/2023	20/04/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Hexachlorobutadiene	mg/kg	0.1	NONE	-	-	< 0.1	-	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	< 0.1	-	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	< 0.1	-	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	< 0.2	-	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	< 0.1	-	< 0.1
2-Chloronaphthalene	mg/kg	0.1	NONE	-	-	< 0.1	-	< 0.1
Dimethylphthalate	mg/kg	0.1	NONE	-	-	< 0.1	-	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	< 0.1	-	< 0.1
Acenaphthylene	mg/kg	0.05	NONE	-	-	< 0.05	-	< 0.05
Acenaphthene	mg/kg	0.05	NONE	-	-	< 0.05	-	< 0.05
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	< 0.2	-	< 0.2
Dibenzofuran	mg/kg	0.2	NONE	-	-	< 0.2	-	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	NONE	-	-	< 0.3	-	< 0.3
Diethyl phthalate	mg/kg	0.2	NONE	-	-	< 0.2	-	< 0.2
4-Nitroaniline	mg/kg	0.2	NONE	-	-	< 0.2	-	< 0.2
Fluorene	mg/kg	0.05	NONE	-	-	< 0.05	-	< 0.05
Azobenzene	mg/kg	0.3	NONE	-	-	< 0.3	-	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	NONE	-	-	< 0.2	-	< 0.2
Hexachlorobenzene	mg/kg	0.3	NONE	-	-	< 0.3	-	< 0.3
Phenanthrene	mg/kg	0.05	NONE	-	-	< 0.05	-	< 0.05
Anthracene	mg/kg	0.05	NONE	-	-	< 0.05	-	< 0.05
Carbazole	mg/kg	0.3	NONE	-	-	< 0.3	-	< 0.3
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	< 0.2	-	< 0.2
Anthraquinone	mg/kg	0.3	NONE	-	-	< 0.3	-	< 0.3
Fluoranthene	mg/kg	0.05	NONE	-	-	< 0.05	-	< 0.05
Pyrene	mg/kg	0.05	NONE	-	-	< 0.05	-	< 0.05
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	< 0.3	-	< 0.3
Benzo(a)anthracene	mg/kg	0.05	NONE	-	-	< 0.05	-	< 0.05
Chrysene	mg/kg	0.05	NONE	-	-	< 0.05	-	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	NONE	-	-	< 0.05	-	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	NONE	-	-	< 0.05	-	< 0.05
Benzo(a)pyrene	mg/kg	0.05	NONE	-	-	< 0.05	-	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	-	-	< 0.05	-	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	-	-	< 0.05	-	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	NONE	-	-	< 0.05	-	< 0.05

Miscellaneous Organics

Product ID		N/A	NONE	-	-	-	-	-
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 23-29890

Project / Site name: Ashley House Cannon Factory

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2656728	WWS01	None Supplied	0.5	Brown sand with gravel.
2656729	WWS01	None Supplied	1	Brown clay and sand with gravel.
2656730	WWS02	None Supplied	0.5	Brown sand with gravel and stones.
2656731	WWS02	None Supplied	1.5	Brown sand with gravel and stones.
2656732	WWS02	None Supplied	2.8	Brown sand with gravel.
2656733	WWS02	None Supplied	3.5	Brown sand with gravel.
2656734	WWS02	None Supplied	4.5	Brown sand with gravel.
2656735	WTP01	None Supplied	0.5	Brown sand with gravel and rubble.
2656736	WTP02	None Supplied	1	Brown clay and sand with gravel.
2656737	WTP02	None Supplied	2.5	Brown clay and sand with gravel.

Analytical Report Number : 23-29890
Project / Site name: Ashley House Cannon Factory

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 °C)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	NONE
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	NONE
Product ID in soil	Determination of product ID by interpretation against standard chromatograms - Soil.	In-house method	L064-PL/UK	W	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	NONE
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	NONE
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Fraction Organic Carbon FOC Automated	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method	L009	D	MCERTS
Hexavalent chromium in soil (Lower Level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	NONE

Analytical Report Number : 23-29890
Project / Site name: Ashley House Cannon Factory

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.

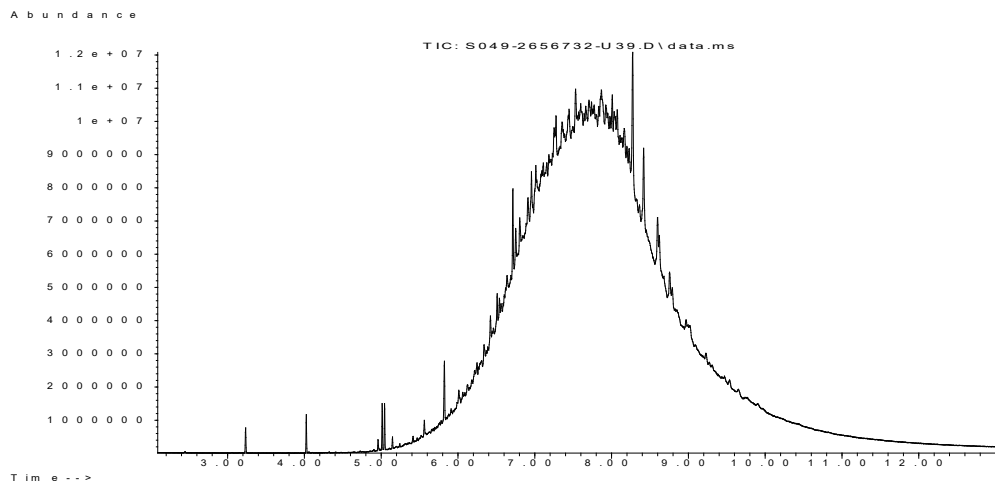
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
-	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total



The total ion count (TIC trace) shows a carbon range from C10 to greater than C40
The sample TIC trace is complex, showing aliphatic product sources.
The trace does not match the standard product profiles but is suggestive of lube oil.



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Analytical Report Number : 23-30326

Project / Site name:	Ashley House Cannon Factory	Samples received on:	21/04/2023
Your job number:	WIE16248	Samples instructed on / Analysis started on:	25/04/2023
Your order number:	122387	Analysis completed by:	02/05/2023
Report Issue Number:	1	Report issued on:	03/05/2023
Samples Analysed:	1 soil sample		

Signed: _____

Anna Goc
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :	soils	- 4 weeks from reporting
	leachates	- 2 weeks from reporting
	waters	- 2 weeks from reporting
	asbestos	- 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 23-30326

Project / Site name: Ashley House Cannon Factory

Your Order No: 122387

Lab Sample Number				2659080
Sample Reference				WWS02
Sample Number				None Supplied
Depth (m)				1.00
Date Sampled				20/04/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	12
Total mass of sample received	kg	0.001	NONE	1

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	6.9
Organic Matter (automated)	%	0.1	MCERTS	1.8
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.01
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



Analytical Report Number : 23-30326

Project / Site name: Ashley House Cannon Factory

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2659080	WWS02	None Supplied	1	Brown clay and sand with gravel.

Analytical Report Number : 23-30326

Project / Site name: Ashley House Cannon Factory

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Fraction Organic Carbon FOC Automated	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method	L009	D	MCERTS

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

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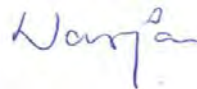
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Analytical Report Number : 23-30785

Project / Site name:	Ashley House, Cannon Factory	Samples received on:	26/04/2023
Your job number:	WIE16248	Samples instructed on/ Analysis started on:	26/04/2023
Your order number:	122387	Analysis completed by:	08/05/2023
Report Issue Number:	1	Report issued on:	08/05/2023
Samples Analysed:	8 soil samples		



Signed: _____

Dominika Warjan
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 23-30785
 Project / Site name: Ashley House, Cannon Factory
 Your Order No: 122387

Lab Sample Number	2661681	2661682	2661683	2661684	2661685
Sample Reference	WTP03	WTP03	WTP06	WTP06	WTP06
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.50	2.50	0.30	0.50	1.00
Date Sampled	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Stone Content	%	0.1	NONE	47	71
Moisture Content	%	0.01	NONE	6.5	3.9
Total mass of sample received	kg	0.001	NONE	0.9	0.8

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	Amosite	Chrysotile & Crocidolite	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-	Detected	Detected	-
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	< 0.001	0.005	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	< 0.001	0.005	-
Asbestos Analyst ID	N/A	N/A	N/A	WEM	N/A	WEM	WEM	N/A

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	10.9	8.1	11.7	10.7	8.1
Organic Matter (automated)	%	0.1	MCERTS	3.7	2.4	< 0.1	1.3	0.6
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.022	0.014	< 0.0010	0.0077	0.0034
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2.1	1.4	< 0.1	0.8	0.3

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.26	-	-	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	-
Acenaphthene	mg/kg	0.05	MCERTS	1.3	-	-	-	-
Fluorene	mg/kg	0.05	MCERTS	0.56	-	-	-	-
Phenanthrene	mg/kg	0.05	MCERTS	6.1	-	-	-	-
Anthracene	mg/kg	0.05	MCERTS	0.83	-	-	-	-
Fluoranthene	mg/kg	0.05	MCERTS	8.1	-	-	-	-
Pyrene	mg/kg	0.05	MCERTS	7.2	-	-	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	3.3	-	-	-	-
Chrysene	mg/kg	0.05	MCERTS	2.8	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	3.2	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	1.4	-	-	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	2.4	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.2	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.37	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.4	-	-	-	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	40.3	-	-	-	-
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	17	9.9	-	-	-
Boron (water soluble)	mg/kg	0.2	MCERTS	3.5	0.2	-	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	-	-
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	-	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	22	9.4	-	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	33	5.9	-	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	83	11	-	-	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	17	14	-	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	36	17	-	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	110	19	-	-	-

Analytical Report Number: 23-30785
Project / Site name: Ashley House, Cannon Factory
Your Order No: 122387

Lab Sample Number	2661681	2661682	2661683	2661684	2661685
Sample Reference	WTP03	WTP03	WTP06	WTP06	WTP06
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.50	2.50	0.30	0.50	1.00
Date Sampled	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

Monoaromatics & Oxygenates

Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	-	-	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	-	-	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	-	-	< 5.0
p & m-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	-	-	< 5.0
o-xylene	µg/kg	5	MCERTS	< 5.0	21	-	-	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	-	-	< 5.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 HS 1D AL	mg/kg	0.001	NONE	< 0.001	< 0.001	-	-	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 HS 1D AL	mg/kg	0.001	NONE	< 0.001	< 0.001	-	-	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS 1D AL	mg/kg	0.001	NONE	< 0.001	0.55	-	-	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 EH CU 1D AL	mg/kg	1	MCERTS	< 1.0	< 1.0	-	-	2.1
TPH-CWG - Aliphatic >EC12 - EC16 EH CU 1D AL	mg/kg	2	MCERTS	2.7	39	-	-	13
TPH-CWG - Aliphatic >EC16 - EC21 EH CU 1D AL	mg/kg	8	MCERTS	51	910	-	-	38
TPH-CWG - Aliphatic >EC21 - EC35 EH CU 1D AL	mg/kg	8	MCERTS	300	4700	-	-	34
TPH-CWG - Aliphatic > EC35 - EC44 EH CU 1D AL	mg/kg	8.4	NONE	91	1600	-	-	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35) EH CU+HS 1D AL	mg/kg	10	NONE	350	5700	-	-	87
TPH-CWG - Aliphatic (EC5 - EC44) EH CU+HS 1D AL	mg/kg	10	NONE	440	7300	-	-	89

TPH-CWG - Aromatic >EC5 - EC7 HS 1D AR	mg/kg	0.001	NONE	< 0.001	< 0.001	-	-	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 HS 1D AR	mg/kg	0.001	NONE	< 0.001	< 0.001	-	-	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS 1D AR	mg/kg	0.001	NONE	< 0.001	0.061	-	-	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH CU 1D AR	mg/kg	1	MCERTS	< 1.0	< 1.0	-	-	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 EH CU 1D AR	mg/kg	2	MCERTS	3.2	23	-	-	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 EH CU 1D AR	mg/kg	10	MCERTS	45	670	-	-	< 10
TPH-CWG - Aromatic >EC21 - EC35 EH CU 1D AR	mg/kg	10	MCERTS	330	3300	-	-	< 10
TPH-CWG - Aromatic > EC35 - EC44 EH CU 1D AR	mg/kg	8.4	NONE	120	830	-	-	< 8.4
TPH-CWG - Aromatic (EC5 - EC35) EH CU+HS 1D AR	mg/kg	10	NONE	380	4000	-	-	12
TPH-CWG - Aromatic (EC5 - EC44) EH CU+HS 1D AR	mg/kg	10	NONE	500	4800	-	-	12

VOCs

Chloromethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Chloroethane	µg/kg	5	NONE	-	-	-	-	< 5.0
Bromomethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Vinyl Chloride	µg/kg	5	NONE	-	-	-	-	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	-	-	-	-	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	-	-	-	-	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	-	-	-	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	-	-	-	< 5.0
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
2,2-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Trichloromethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Trans-1,2-dichloroethene	µg/kg	5	NONE	-	-	-	-	< 5.0
Benzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Tetrachloromethane	µg/kg	5	NONE	-	-	-	-	< 5.0
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Trichloroethene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Dibromomethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0

Analytical Report Number: 23-30785
 Project / Site name: Ashley House, Cannon Factory
 Your Order No: 122387

Lab Sample Number				2661681	2661682	2661683	2661684	2661685
Sample Reference				WTP03	WTP03	WTP06	WTP06	WTP06
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	2.50	0.30	0.50	1.00
Date Sampled				21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Toluene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Tetrachloroethene	µg/kg	5	NONE	-	-	-	-	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
p & m-Xylene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Styrene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Tribromomethane	µg/kg	5	NONE	-	-	-	-	< 5.0
o-Xylene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Bromobenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
n-Propylbenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
tert-Butylbenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
sec-Butylbenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Butylbenzene	µg/kg	5	NONE	-	-	-	-	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	-	-	-	-	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	< 5.0

SVOCs

Aniline	mg/kg	0.1	NONE	-	-	-	-	< 0.1
Phenol	mg/kg	0.2	ISO 17025	-	-	-	-	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Hexachloroethane	mg/kg	0.05	ISO 17025	-	-	-	-	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Isophorone	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
2-Nitrophenol	mg/kg	0.3	NONE	-	-	-	-	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	-	-	-	-	< 0.05
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-	< 0.1

Analytical Report Number: 23-30785
 Project / Site name: Ashley House, Cannon Factory
 Your Order No: 122387

Lab Sample Number				2661681	2661682	2661683	2661684	2661685
Sample Reference				WTP03	WTP03	WTP06	WTP06	WTP06
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	2.50	0.30	0.50	1.00
Date Sampled				21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	-	-	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	-	-	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	-	-	< 0.1
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	-	-	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	-	-	-	-	< 0.05
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
4-Nitroaniline	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Fluorene	mg/kg	0.05	MCERTS	-	-	-	-	< 0.05
Azobenzene	mg/kg	0.3	NONE	-	-	-	-	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Phenanthrene	mg/kg	0.05	MCERTS	-	-	-	-	0.09
Anthracene	mg/kg	0.05	MCERTS	-	-	-	-	< 0.05
Carbazole	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Anthraquinone	mg/kg	0.3	NONE	-	-	-	-	< 0.3
Fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-	0.26
Pyrene	mg/kg	0.05	MCERTS	-	-	-	-	0.26
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	-	-	< 0.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	-	-	0.12
Chrysene	mg/kg	0.05	MCERTS	-	-	-	-	0.17
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	-	-	-	-	0.14
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	-	-	-	-	0.09
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	-	-	0.12
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	-	-	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	-	-	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	-	-	< 0.05

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 23-30785
Project / Site name: Ashley House, Cannon Factory
Your Order No: 122387

Lab Sample Number				2661686	2661687	2661688
Sample Reference				WTP04	WTP04	WTP04
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				1.00	2.00	2.60
Date Sampled				21/04/2023	21/04/2023	21/04/2023
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	18	17	13
Total mass of sample received	kg	0.001	NONE	0.8	0.8	0.5

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile & Crocidolite	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Detected	-	-
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	0.063	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	0.063	-	-
Asbestos Analyst ID	N/A	N/A	N/A	WEM	N/A	N/A

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.6	8.3	8.3
Organic Matter (automated)	%	0.1	MCERTS	3.8	1.9	0.9
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.022	0.011	0.005
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2.2	1.1	0.5

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.14	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	-	-
Acenaphthene	mg/kg	0.05	MCERTS	0.09	-	-
Fluorene	mg/kg	0.05	MCERTS	0.25	-	-
Phenanthrene	mg/kg	0.05	MCERTS	0.77	-	-
Anthracene	mg/kg	0.05	MCERTS	0.11	-	-
Fluoranthene	mg/kg	0.05	MCERTS	0.75	-	-
Pyrene	mg/kg	0.05	MCERTS	0.8	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.41	-	-
Chrysene	mg/kg	0.05	MCERTS	0.51	-	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.69	-	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.35	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.46	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.36	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.08	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.39	-	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	6.16	-	-
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-
Boron (water soluble)	mg/kg	0.2	MCERTS	-	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	-	-
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-

Analytical Report Number: 23-30785
Project / Site name: Ashley House, Cannon Factory
Your Order No: 122387

Lab Sample Number				2661686	2661687	2661688
Sample Reference				WTP04	WTP04	WTP04
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				1.00	2.00	2.60
Date Sampled				21/04/2023	21/04/2023	21/04/2023
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Monoaromatics & Oxygenates						
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
p & m-xylene	µg/kg	5	MCERTS	42	< 5.0	41
o-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 HS 1D AL	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 HS 1D AL	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS 1D AL	mg/kg	0.001	NONE	< 0.001	< 0.001	1.7
TPH-CWG - Aliphatic >EC10 - EC12 EH CU 1D AL	mg/kg	1	MCERTS	3.4	4.6	3.2
TPH-CWG - Aliphatic >EC12 - EC16 EH CU 1D AL	mg/kg	2	MCERTS	120	75	130
TPH-CWG - Aliphatic >EC16 - EC21 EH CU 1D AL	mg/kg	8	MCERTS	190	110	160
TPH-CWG - Aliphatic >EC21 - EC35 EH CU 1D AL	mg/kg	8	MCERTS	240	220	160
TPH-CWG - Aliphatic > EC35 - EC44 EH CU 1D AL	mg/kg	8.4	NONE	24	31	9.9
TPH-CWG - Aliphatic (EC5 - EC35) EH CU+HS 1D AL	mg/kg	10	NONE	550	410	460
TPH-CWG - Aliphatic (EC5 - EC44) EH CU+HS 1D AL	mg/kg	10	NONE	580	440	470

TPH-CWG - Aromatic >EC5 - EC7 HS 1D AR	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 HS 1D AR	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS 1D AR	mg/kg	0.001	NONE	0.03	< 0.001	0.032
TPH-CWG - Aromatic >EC10 - EC12 EH CU 1D AR	mg/kg	1	MCERTS	1.7	4.2	3.3
TPH-CWG - Aromatic >EC12 - EC16 EH CU 1D AR	mg/kg	2	MCERTS	49	47	76
TPH-CWG - Aromatic >EC16 - EC21 EH CU 1D AR	mg/kg	10	MCERTS	100	110	120
TPH-CWG - Aromatic >EC21 - EC35 EH CU 1D AR	mg/kg	10	MCERTS	220	320	150
TPH-CWG - Aromatic > EC35 - EC44 EH CU 1D AR	mg/kg	8.4	NONE	34	50	< 8.4
TPH-CWG - Aromatic (EC5 - EC35) EH CU+HS 1D AR	mg/kg	10	NONE	380	480	350
TPH-CWG - Aromatic (EC5 - EC44) EH CU+HS 1D AR	mg/kg	10	NONE	410	530	360

VOCs

Chloromethane	µg/kg	5	ISO 17025	-	-	-
Chloroethane	µg/kg	5	NONE	-	-	-
Bromomethane	µg/kg	5	ISO 17025	-	-	-
Vinyl Chloride	µg/kg	5	NONE	-	-	-
Trichlorofluoromethane	µg/kg	5	NONE	-	-	-
1,1-Dichloroethene	µg/kg	5	NONE	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	-	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	-	-
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	-	-
2,2-Dichloropropane	µg/kg	5	ISO 17025	-	-	-
Trichloromethane	µg/kg	5	ISO 17025	-	-	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	-	-
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	-	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	-	-
Trans-1,2-dichloroethene	µg/kg	5	NONE	-	-	-
Benzene	µg/kg	5	MCERTS	-	-	-
Tetrachloromethane	µg/kg	5	NONE	-	-	-
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	-	-
Trichloroethene	µg/kg	5	ISO 17025	-	-	-
Dibromomethane	µg/kg	5	ISO 17025	-	-	-
Bromodichloromethane	µg/kg	5	ISO 17025	-	-	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-

Analytical Report Number: 23-30785
 Project / Site name: Ashley House, Cannon Factory
 Your Order No: 122387

Lab Sample Number				2661686	2661687	2661688
Sample Reference				WTP04	WTP04	WTP04
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				1.00	2.00	2.60
Date Sampled				21/04/2023	21/04/2023	21/04/2023
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-
Toluene	µg/kg	5	MCERTS	-	-	-
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	-	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	-	-
Dibromochloromethane	µg/kg	5	ISO 17025	-	-	-
Tetrachloroethene	µg/kg	5	NONE	-	-	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	-	-
Chlorobenzene	µg/kg	5	ISO 17025	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-	-
Ethylbenzene	µg/kg	5	MCERTS	-	-	-
p & m-Xylene	µg/kg	5	MCERTS	-	-	-
Styrene	µg/kg	5	ISO 17025	-	-	-
Tribromomethane	µg/kg	5	NONE	-	-	-
o-Xylene	µg/kg	5	MCERTS	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-	-
Isopropylbenzene	µg/kg	5	ISO 17025	-	-	-
Bromobenzene	µg/kg	5	ISO 17025	-	-	-
n-Propylbenzene	µg/kg	5	ISO 17025	-	-	-
2-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-
4-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-
tert-Butylbenzene	µg/kg	5	ISO 17025	-	-	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-
sec-Butylbenzene	µg/kg	5	ISO 17025	-	-	-
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	-	-
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-
Butylbenzene	µg/kg	5	NONE	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	-	-
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-
Hexachlorobutadiene	µg/kg	5	NONE	-	-	-
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-

SVOCs

Aniline	mg/kg	0.1	NONE	-	-	-
Phenol	mg/kg	0.2	ISO 17025	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	-
Isophorone	mg/kg	0.2	MCERTS	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-
Naphthalene	mg/kg	0.05	MCERTS	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-

Analytical Report Number: 23-30785
 Project / Site name: Ashley House, Cannon Factory
 Your Order No: 122387

Lab Sample Number				2661686	2661687	2661688
Sample Reference				WTP04	WTP04	WTP04
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				1.00	2.00	2.60
Date Sampled				21/04/2023	21/04/2023	21/04/2023
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	-
Acenaphthene	mg/kg	0.05	MCERTS	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	-	-
Fluorene	mg/kg	0.05	MCERTS	-	-	-
Azobenzene	mg/kg	0.3	NONE	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-
Phenanthrene	mg/kg	0.05	MCERTS	-	-	-
Anthracene	mg/kg	0.05	MCERTS	-	-	-
Carbazole	mg/kg	0.3	MCERTS	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	-
Anthraquinone	mg/kg	0.3	NONE	-	-	-
Fluoranthene	mg/kg	0.05	MCERTS	-	-	-
Pyrene	mg/kg	0.05	MCERTS	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	-
Chrysene	mg/kg	0.05	MCERTS	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	-	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 23-30785
 Project / Site name: Ashley House, Cannon Factory
 Your Order No: 122387

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006-PL based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
2661683	WTP06	0.30	137	Loose Fibres	Amosite	< 0.001	< 0.001
2661684	WTP06	0.50	129	Loose Fibres & Loose Fibrous Debris	Chrysotile & Crocidolite	0.005	0.005
2661686	WTP04	1.00	146	Loose Fibres & Loose Fibrous Debris	Chrysotile & Crocidolite	0.063	0.063

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

Analytical Report Number : 23-30785

Project / Site name: Ashley House, Cannon Factory

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2661681	WTP03	None Supplied	0.5	Brown sand with gravel and stones.
2661682	WTP03	None Supplied	2.5	Brown sand with gravel and stones.
2661683	WTP06	None Supplied	0.3	Brown sand with gravel.
2661684	WTP06	None Supplied	0.5	Brown sand with gravel.
2661685	WTP06	None Supplied	1	Brown clay and sand with gravel.
2661686	WTP04	None Supplied	1	Brown clay and sand with gravel.
2661687	WTP04	None Supplied	2	Brown clay and sand with gravel.
2661688	WTP04	None Supplied	2.6	Brown clay and sand with gravel.

Analytical Report Number : 23-30785
Project / Site name: Ashley House, Cannon Factory

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 °C)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	NONE
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Fraction Organic Carbon FOC Automated	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method	L009	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS

Analytical Report Number : 23-30785
Project / Site name: Ashley House, Cannon Factory

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
-	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

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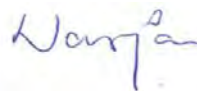
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Analytical Report Number : 23-30796

Project / Site name:	Ashley House Cannon Factory	Samples received on:	26/04/2023
Your job number:	WIE16248	Samples instructed on/ Analysis started on:	26/04/2023
Your order number:	122387	Analysis completed by:	08/05/2023
Report Issue Number:	1	Report issued on:	08/05/2023
Samples Analysed:	17 soil samples		



Signed: _____

Dominika Warjan
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 23-30796
Project / Site name: Ashley House Cannon Factory
Your Order No: 122387

Lab Sample Number				2661711	2661712	2661713	2661714	2661715
Sample Reference				WWS04	WWS04	WWS05	WWS06	WWS06
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.55	2.20	0.30	0.30	1.50
Date Sampled				21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	16	10	13	5.5	15
Total mass of sample received	kg	0.001	NONE	0.9	0.8	0.8	0.8	0.8

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	Amosite	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-	Detected	Not-detected	-
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	< 0.001	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	< 0.001	-	-
Asbestos Analyst ID	N/A	N/A	N/A	PDO	N/A	PDO	PDO	N/A

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8	8.2	9.9	12.2	8.7
Organic Matter (automated)	%	0.1	MCERTS	1.1	< 0.1	0.7	< 0.1	0.4
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.0066	< 0.0010	0.0041	< 0.0010	0.0024
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.7	< 0.1	0.4	< 0.1	0.2

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	-	-
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	-	-
Fluorene	mg/kg	0.05	MCERTS	0.08	< 0.05	< 0.05	-	-
Phenanthrene	mg/kg	0.05	MCERTS	1.3	< 0.05	0.32	-	-
Anthracene	mg/kg	0.05	MCERTS	0.27	< 0.05	0.05	-	-
Fluoranthene	mg/kg	0.05	MCERTS	3.1	< 0.05	0.4	-	-
Pyrene	mg/kg	0.05	MCERTS	2.8	< 0.05	0.43	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.6	< 0.05	0.28	-	-
Chrysene	mg/kg	0.05	MCERTS	1.5	< 0.05	0.28	-	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	1.8	< 0.05	0.26	-	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.74	< 0.05	0.1	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.7	< 0.05	0.24	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.89	< 0.05	0.15	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.22	< 0.05	< 0.05	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1	< 0.05	0.17	-	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	16.8	< 0.80	2.68	-	-
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	13	15	14	11	-
Boron (water soluble)	mg/kg	0.2	MCERTS	2	1.4	1	0.4	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	-
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	26	25	23	16	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	110	15	34	11	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	160	13	140	6.8	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.7	< 0.3	< 0.3	< 0.3	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	25	25	18	8.1	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	46	46	41	20	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	110	38	100	19	-

Analytical Report Number: 23-30796
Project / Site name: Ashley House Cannon Factory
Your Order No: 122387

Lab Sample Number	2661711	2661712	2661713	2661714	2661715
Sample Reference	WWS04	WWS04	WWS05	WWS06	WWS06
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.55	2.20	0.30	0.30	1.50
Date Sampled	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

Monoaromatics & Oxygenates

Benzene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	-	< 5.0#	< 5.0#	< 5.0#	< 5.0#
p & m-xylene	µg/kg	5	MCERTS	-	< 5.0#	< 5.0#	< 5.0#	< 5.0#
o-xylene	µg/kg	5	MCERTS	-	< 5.0#	< 5.0#	< 5.0#	< 5.0#
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 5.0	< 5.0	< 5.0	< 5.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 HS 1D AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 HS 1D AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS 1D AL	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 EH CU 1D AL	mg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 EH CU 1D AL	mg/kg	2	MCERTS	-	< 2.0	< 2.0	9.3	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 EH CU 1D AL	mg/kg	8	MCERTS	-	< 8.0	< 8.0	13	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 EH CU 1D AL	mg/kg	8	MCERTS	-	< 8.0	< 8.0	33	< 8.0
TPH-CWG - Aliphatic >EC35 - EC44 EH CU 1D AL	mg/kg	8.4	NONE	-	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35) EH CU+HS 1D AL	mg/kg	10	NONE	-	< 10	< 10	56	< 10
TPH-CWG - Aliphatic (EC5 - EC44) EH CU+HS 1D AL	mg/kg	10	NONE	-	< 10	< 10	61	< 10

TPH-CWG - Aromatic >EC5 - EC7 HS 1D AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 HS 1D AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS 1D AR	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH CU 1D AR	mg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 EH CU 1D AR	mg/kg	2	MCERTS	-	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 EH CU 1D AR	mg/kg	10	MCERTS	-	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 EH CU 1D AR	mg/kg	10	MCERTS	-	< 10	17	< 10	< 10
TPH-CWG - Aromatic >EC35 - EC44 EH CU 1D AR	mg/kg	8.4	NONE	-	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aromatic (EC5 - EC35) EH CU+HS 1D AR	mg/kg	10	NONE	-	< 10	22	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC44) EH CU+HS 1D AR	mg/kg	10	NONE	-	< 10	22	< 10	< 10

VOCs

Chloromethane	µg/kg	5	ISO 17025	-	-	-	-	-
Chloroethane	µg/kg	5	NONE	-	-	-	-	-
Bromomethane	µg/kg	5	ISO 17025	-	-	-	-	-
Vinyl Chloride	µg/kg	5	NONE	-	-	-	-	-
Trichlorofluoromethane	µg/kg	5	NONE	-	-	-	-	-
1,1-Dichloroethene	µg/kg	5	NONE	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	-	-	-	-
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
2,2-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	-	-
Trichloromethane	µg/kg	5	ISO 17025	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	5	NONE	-	-	-	-	-
Benzene	µg/kg	5	MCERTS	-	-	-	-	-
Tetrachloromethane	µg/kg	5	NONE	-	-	-	-	-
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	-	-
Trichloroethene	µg/kg	5	ISO 17025	-	-	-	-	-
Dibromomethane	µg/kg	5	ISO 17025	-	-	-	-	-
Bromodichloromethane	µg/kg	5	ISO 17025	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	-

Analytical Report Number: 23-30796
 Project / Site name: Ashley House Cannon Factory
 Your Order No: 122387

Lab Sample Number				2661711	2661712	2661713	2661714	2661715
Sample Reference				WWS04	WWS04	WWS05	WWS06	WWS06
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.55	2.20	0.30	0.30	1.50
Date Sampled				21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	-
Toluene	µg/kg	5	MCERTS	-	-	-	-	-
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	-	-
Dibromochloromethane	µg/kg	5	ISO 17025	-	-	-	-	-
Tetrachloroethene	µg/kg	5	NONE	-	-	-	-	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	-	-	-	-
Chlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
Ethylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
p & m-Xylene	µg/kg	5	MCERTS	-	-	-	-	-
Styrene	µg/kg	5	ISO 17025	-	-	-	-	-
Tribromomethane	µg/kg	5	NONE	-	-	-	-	-
o-Xylene	µg/kg	5	MCERTS	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
Isopropylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
Bromobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
n-Propylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
2-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-	-	-
4-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
tert-Butylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
sec-Butylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	-	-	-	-
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
Butylbenzene	µg/kg	5	NONE	-	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
Hexachlorobutadiene	µg/kg	5	NONE	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-

SVOCs

Aniline	mg/kg	0.1	NONE	-	-	-	-	-
Phenol	mg/kg	0.2	ISO 17025	-	-	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-	-	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-	-
Isophorone	mg/kg	0.2	MCERTS	-	-	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
Naphthalene	mg/kg	0.05	MCERTS	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-	-

Analytical Report Number: 23-30796
 Project / Site name: Ashley House Cannon Factory
 Your Order No: 122387

Lab Sample Number				2661711	2661712	2661713	2661714	2661715
Sample Reference				WWS04	WWS04	WWS05	WWS06	WWS06
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.55	2.20	0.30	0.30	1.50
Date Sampled				21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	-	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	-	-	-
Acenaphthene	mg/kg	0.05	MCERTS	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	-	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	-	-	-	-
Fluorene	mg/kg	0.05	MCERTS	-	-	-	-	-
Azobenzene	mg/kg	0.3	NONE	-	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
Phenanthrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Anthracene	mg/kg	0.05	MCERTS	-	-	-	-	-
Carbazole	mg/kg	0.3	MCERTS	-	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	-	-	-
Anthraquinone	mg/kg	0.3	NONE	-	-	-	-	-
Fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-	-
Pyrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	-	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	-	-	-
Chrysene	mg/kg	0.05	MCERTS	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 23-30796
Project / Site name: Ashley House Cannon Factory
Your Order No: 122387

Lab Sample Number				2661716	2661717	2661718	2661719	2661720
Sample Reference				WWS06	WWS06	WWS07	WWS07	WWS07
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.50	4.50	1.40	2.10	2.60
Date Sampled				21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	8	10	16	5.9	9.1
Total mass of sample received	kg	0.001	NONE	0.8	0.8	0.8	0.8	0.8

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	-	-	Not-detected	-	-
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	N/A	N/A	PDO	N/A	N/A

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.6	-	7.5	7.1	7.8
Organic Matter (automated)	%	0.1	MCERTS	< 0.1	-	0.3	< 0.1	< 0.1
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	< 0.0010	< 0.0010	0.0016	< 0.0010	< 0.0010
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	< 0.1	-	0.2	< 0.1	< 0.1

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05	-
Acenaphthene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05	-
Fluorene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05	-
Phenanthrene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05	-
Anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05	-
Fluoranthene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05	-
Pyrene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05	-
Chrysene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	-	-	< 0.05	< 0.05	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	-	-	< 0.05	< 0.05	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	-	-	< 0.80	< 0.80	-
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	-	13	-	-
Boron (water soluble)	mg/kg	0.2	MCERTS	-	-	0.7	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	-	< 0.2	-	-
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	-	< 1.8	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	30	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	-	15	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	-	14	-	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	-	< 0.3	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	-	26	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	< 1.0	-	-
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	49	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	-	54	-	-

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Lab Sample Number	2661716	2661717	2661718	2661719	2661720
Sample Reference	WWS06	WWS06	WWS07	WWS07	WWS07
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	3.50	4.50	1.40	2.10	2.60
Date Sampled	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Monoaromatics & Oxygenates					
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0#	< 5.0#
p & m-xylene	µg/kg	5	MCERTS	< 5.0#	< 5.0#
o-xylene	µg/kg	5	MCERTS	< 5.0#	< 5.0#
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 HS 1D AL	mg/kg	0.001	NONE	< 0.001	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 HS 1D AL	mg/kg	0.001	NONE	< 0.001	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS 1D AL	mg/kg	0.001	NONE	< 0.001	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 EH CU 1D AL	mg/kg	1	MCERTS	< 1.0	-	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 EH CU 1D AL	mg/kg	2	MCERTS	< 2.0	-	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 EH CU 1D AL	mg/kg	8	MCERTS	< 8.0	-	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 EH CU 1D AL	mg/kg	8	MCERTS	< 8.0	-	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic > EC35 - EC44 EH CU 1D AL	mg/kg	8.4	NONE	< 8.4	-	< 8.4	< 8.4	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35) EH CU+HS 1D AL	mg/kg	10	NONE	< 10	-	< 10	< 10	< 10
TPH-CWG - Aliphatic (EC5 - EC44) EH CU+HS 1D AL	mg/kg	10	NONE	< 10	-	< 10	< 10	< 10

TPH-CWG - Aromatic >EC5 - EC7 HS 1D AR	mg/kg	0.001	NONE	< 0.001	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 HS 1D AR	mg/kg	0.001	NONE	< 0.001	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS 1D AR	mg/kg	0.001	NONE	< 0.001	-	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH CU 1D AR	mg/kg	1	MCERTS	< 1.0	-	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 EH CU 1D AR	mg/kg	2	MCERTS	< 2.0	-	< 2.0	< 2.0	3.9
TPH-CWG - Aromatic >EC16 - EC21 EH CU 1D AR	mg/kg	10	MCERTS	< 10	-	< 10	< 10	12
TPH-CWG - Aromatic >EC21 - EC35 EH CU 1D AR	mg/kg	10	MCERTS	< 10	-	< 10	< 10	33
TPH-CWG - Aromatic > EC35 - EC44 EH CU 1D AR	mg/kg	8.4	NONE	< 8.4	-	< 8.4	< 8.4	< 8.4
TPH-CWG - Aromatic (EC5 - EC35) EH CU+HS 1D AR	mg/kg	10	NONE	< 10	-	< 10	< 10	49
TPH-CWG - Aromatic (EC5 - EC44) EH CU+HS 1D AR	mg/kg	10	NONE	< 10	-	< 10	< 10	51

VOCs

Chloromethane	µg/kg	5	ISO 17025	-	-	-	-	-
Chloroethane	µg/kg	5	NONE	-	-	-	-	-
Bromomethane	µg/kg	5	ISO 17025	-	-	-	-	-
Vinyl Chloride	µg/kg	5	NONE	-	-	-	-	-
Trichlorofluoromethane	µg/kg	5	NONE	-	-	-	-	-
1,1-Dichloroethene	µg/kg	5	NONE	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	-	-	-	-
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
2,2-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	-	-
Trichloromethane	µg/kg	5	ISO 17025	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	5	NONE	-	-	-	-	-
Benzene	µg/kg	5	MCERTS	-	-	-	-	-
Tetrachloromethane	µg/kg	5	NONE	-	-	-	-	-
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	-	-
Trichloroethene	µg/kg	5	ISO 17025	-	-	-	-	-
Dibromomethane	µg/kg	5	ISO 17025	-	-	-	-	-
Bromodichloromethane	µg/kg	5	ISO 17025	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	-

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Lab Sample Number				2661716	2661717	2661718	2661719	2661720
Sample Reference				WWS06	WWS06	WWS07	WWS07	WWS07
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.50	4.50	1.40	2.10	2.60
Date Sampled				21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	-
Toluene	µg/kg	5	MCERTS	-	-	-	-	-
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	-	-
Dibromochloromethane	µg/kg	5	ISO 17025	-	-	-	-	-
Tetrachloroethene	µg/kg	5	NONE	-	-	-	-	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	-	-	-	-
Chlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
Ethylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
p & m-Xylene	µg/kg	5	MCERTS	-	-	-	-	-
Styrene	µg/kg	5	ISO 17025	-	-	-	-	-
Tribromomethane	µg/kg	5	NONE	-	-	-	-	-
o-Xylene	µg/kg	5	MCERTS	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
Isopropylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
Bromobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
n-Propylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
2-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-	-	-
4-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
tert-Butylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
sec-Butylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	-	-	-	-
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
Butylbenzene	µg/kg	5	NONE	-	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
Hexachlorobutadiene	µg/kg	5	NONE	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-

SVOCs

Aniline	mg/kg	0.1	NONE	-	-	-	-	-
Phenol	mg/kg	0.2	ISO 17025	-	-	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-	-	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-	-
Isophorone	mg/kg	0.2	MCERTS	-	-	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
Naphthalene	mg/kg	0.05	MCERTS	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-	-

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Lab Sample Number				2661716	2661717	2661718	2661719	2661720
Sample Reference				WWS06	WWS06	WWS07	WWS07	WWS07
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.50	4.50	1.40	2.10	2.60
Date Sampled				21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	-	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	-	-	-
Acenaphthene	mg/kg	0.05	MCERTS	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	-	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	-	-	-	-
Fluorene	mg/kg	0.05	MCERTS	-	-	-	-	-
Azobenzene	mg/kg	0.3	NONE	-	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
Phenanthrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Anthracene	mg/kg	0.05	MCERTS	-	-	-	-	-
Carbazole	mg/kg	0.3	MCERTS	-	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	-	-	-
Anthraquinone	mg/kg	0.3	NONE	-	-	-	-	-
Fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-	-
Pyrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	-	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	-	-	-
Chrysene	mg/kg	0.05	MCERTS	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Lab Sample Number				2661721	2661722	2661723	2661724	2661725
Sample Reference				WWS08	WWS08	WWS08	WWS09	WWS09
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	2.00	2.40	0.50	1.50
Date Sampled				21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	12	14	15	15	11
Total mass of sample received	kg	0.001	NONE	0.8	0.8	0.8	0.8	0.8

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Chrysotile & Amosite	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Detected	-	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	< 0.001	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	< 0.001	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	PDO	PDO	N/A	PDO	PDO

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	9.6	8.5	7.9	7.5	7.8
Organic Matter (automated)	%	0.1	MCERTS	0.9	1	1.4	4.3	0.9
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.005	0.006	0.0082	0.025	0.0054
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.5	0.6	0.8	2.5	0.5

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.14	-	-	0.27	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	0.14	-	-	0.34	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.3	-	-	0.13	< 0.05
Fluorene	mg/kg	0.05	MCERTS	0.24	-	-	0.32	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	3.5	-	-	4.3	< 0.05
Anthracene	mg/kg	0.05	MCERTS	2.1	-	-	1.1	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	13	-	-	7.5	< 0.05
Pyrene	mg/kg	0.05	MCERTS	12	-	-	6	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	7.7	-	-	3.4	< 0.05
Chrysene	mg/kg	0.05	MCERTS	7.4	-	-	3.1	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	7.3	-	-	3.3	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	2.3	-	-	1	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	4.8	-	-	2.2	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	2.1	-	-	0.93	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.61	-	-	0.29	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.9	-	-	0.89	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	64.6	-	-	35	< 0.80
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	17	-	-	35	-
Boron (water soluble)	mg/kg	0.2	MCERTS	0.5	-	-	1.3	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	-	-	< 0.2	-
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	-	-	< 1.8	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	20	-	-	23	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	56	-	-	130	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	160	-	-	610	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	-	-	1.7	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	23	-	-	23	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	-	-	< 1.0	-
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	37	-	-	47	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	120	-	-	270	-

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Lab Sample Number	2661721	2661722	2661723	2661724	2661725
Sample Reference	WWS08	WWS08	WWS08	WWS09	WWS09
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	1.00	2.00	2.40	0.50	1.50
Date Sampled	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Monoaromatics & Oxygenates					
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
p & m-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0
o-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 HS 1D AL	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 HS 1D AL	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS 1D AL	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 EH CU 1D AL	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	2.2
TPH-CWG - Aliphatic >EC12 - EC16 EH CU 1D AL	mg/kg	2	MCERTS	< 2.0	< 2.0	4.5	< 2.0	71
TPH-CWG - Aliphatic >EC16 - EC21 EH CU 1D AL	mg/kg	8	MCERTS	< 8.0	< 8.0	13	< 8.0	110
TPH-CWG - Aliphatic >EC21 - EC35 EH CU 1D AL	mg/kg	8	MCERTS	< 8.0	< 8.0	350	< 8.0	330
TPH-CWG - Aliphatic > EC35 - EC44 EH CU 1D AL	mg/kg	8.4	NONE	< 8.4	< 8.4	110	< 8.4	110
TPH-CWG - Aliphatic (EC5 - EC35) EH CU+HS 1D AL	mg/kg	10	NONE	< 10	< 10	370	< 10	520
TPH-CWG - Aliphatic (EC5 - EC44) EH CU+HS 1D AL	mg/kg	10	NONE	< 10	< 10	490	< 10	620

TPH-CWG - Aromatic >EC5 - EC7 HS 1D AR	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 HS 1D AR	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS 1D AR	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH CU 1D AR	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 EH CU 1D AR	mg/kg	2	MCERTS	6.1	< 2.0	7.7	< 2.0	39
TPH-CWG - Aromatic >EC16 - EC21 EH CU 1D AR	mg/kg	10	MCERTS	48	< 10	16	19	120
TPH-CWG - Aromatic >EC21 - EC35 EH CU 1D AR	mg/kg	10	MCERTS	100	< 10	180	43	300
TPH-CWG - Aromatic > EC35 - EC44 EH CU 1D AR	mg/kg	8.4	NONE	< 8.4	< 8.4	44	< 8.4	72
TPH-CWG - Aromatic (EC5 - EC35) EH CU+HS 1D AR	mg/kg	10	NONE	150	< 10	200	62	460
TPH-CWG - Aromatic (EC5 - EC44) EH CU+HS 1D AR	mg/kg	10	NONE	160	< 10	250	65	530

VOCs

Chloromethane	µg/kg	5	ISO 17025	-	-	-	-	-
Chloroethane	µg/kg	5	NONE	-	-	-	-	-
Bromomethane	µg/kg	5	ISO 17025	-	-	-	-	-
Vinyl Chloride	µg/kg	5	NONE	-	-	-	-	-
Trichlorofluoromethane	µg/kg	5	NONE	-	-	-	-	-
1,1-Dichloroethene	µg/kg	5	NONE	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	-	-	-	-
1,1-Dichloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
2,2-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	-	-
Trichloromethane	µg/kg	5	ISO 17025	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
1,2-Dichloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	5	NONE	-	-	-	-	-
Benzene	µg/kg	5	MCERTS	-	-	-	-	-
Tetrachloromethane	µg/kg	5	NONE	-	-	-	-	-
1,2-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	-	-
Trichloroethene	µg/kg	5	ISO 17025	-	-	-	-	-
Dibromomethane	µg/kg	5	ISO 17025	-	-	-	-	-
Bromodichloromethane	µg/kg	5	ISO 17025	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	-

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Lab Sample Number				2661721	2661722	2661723	2661724	2661725
Sample Reference				WWS08	WWS08	WWS08	WWS09	WWS09
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	2.00	2.40	0.50	1.50
Date Sampled				21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	-	-	-	-	-
Toluene	µg/kg	5	MCERTS	-	-	-	-	-
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	-	-	-	-	-
Dibromochloromethane	µg/kg	5	ISO 17025	-	-	-	-	-
Tetrachloroethene	µg/kg	5	NONE	-	-	-	-	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	-	-	-	-	-
Chlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
Ethylbenzene	µg/kg	5	MCERTS	-	-	-	-	-
p & m-Xylene	µg/kg	5	MCERTS	-	-	-	-	-
Styrene	µg/kg	5	ISO 17025	-	-	-	-	-
Tribromomethane	µg/kg	5	NONE	-	-	-	-	-
o-Xylene	µg/kg	5	MCERTS	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	ISO 17025	-	-	-	-	-
Isopropylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
Bromobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
n-Propylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
2-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-	-	-
4-Chlorotoluene	µg/kg	5	ISO 17025	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
tert-Butylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
sec-Butylbenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
p-Isopropyltoluene	µg/kg	5	ISO 17025	-	-	-	-	-
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
Butylbenzene	µg/kg	5	NONE	-	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-
Hexachlorobutadiene	µg/kg	5	NONE	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	-	-	-	-	-

SVOCs

Aniline	mg/kg	0.1	NONE	-	-	-	-	-
Phenol	mg/kg	0.2	ISO 17025	-	-	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-	-	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-	-
Isophorone	mg/kg	0.2	MCERTS	-	-	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
Naphthalene	mg/kg	0.05	MCERTS	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-	-

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Lab Sample Number				2661721	2661722	2661723	2661724	2661725
Sample Reference				WWS08	WWS08	WWS08	WWS09	WWS09
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	2.00	2.40	0.50	1.50
Date Sampled				21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	-	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	-	-	-
Acenaphthene	mg/kg	0.05	MCERTS	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	-	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	-	-	-	-
Fluorene	mg/kg	0.05	MCERTS	-	-	-	-	-
Azobenzene	mg/kg	0.3	NONE	-	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
Phenanthrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Anthracene	mg/kg	0.05	MCERTS	-	-	-	-	-
Carbazole	mg/kg	0.3	MCERTS	-	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	-	-	-
Anthraquinone	mg/kg	0.3	NONE	-	-	-	-	-
Fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-	-
Pyrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	-	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	-	-	-
Chrysene	mg/kg	0.05	MCERTS	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Lab Sample Number	2661726			2661727	
Sample Reference	VWS09			VWS09	
Sample Number	None Supplied			None Supplied	
Depth (m)	2.10			3.00	
Date Sampled	21/04/2023			21/04/2023	
Time Taken	None Supplied			None Supplied	
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	13	17
Total mass of sample received	kg	0.001	NONE	0.8	0.8

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-
Asbestos in Soil	Type	N/A	ISO 17025	-	-
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-
Asbestos Analyst ID	N/A	N/A	N/A	N/A	N/A

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7	6.1
Organic Matter (automated)	%	0.1	MCERTS	0.9	0.4
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.0055	0.002
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.5	0.2

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	-	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	-	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	-	< 0.05
Fluorene	mg/kg	0.05	MCERTS	-	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	-	< 0.05
Anthracene	mg/kg	0.05	MCERTS	-	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	-	< 0.05
Pyrene	mg/kg	0.05	MCERTS	-	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	< 0.05
Chrysene	mg/kg	0.05	MCERTS	-	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	-	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	-	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	-	< 0.80
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	-
Boron (water soluble)	mg/kg	0.2	MCERTS	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	-
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	-
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	-

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Lab Sample Number	2661726	2661727
Sample Reference	WWS09	WWS09
Sample Number	None Supplied	None Supplied
Depth (m)	2.10	3.00
Date Sampled	21/04/2023	21/04/2023
Time Taken	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection
Monoaromatics & Oxygenates		
Benzene	µg/kg	5
Toluene	µg/kg	5
Ethylbenzene	µg/kg	5
p & m-xylene	µg/kg	5
o-xylene	µg/kg	5
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 HS 1D AL	mg/kg	0.001	NONE	-	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 HS 1D AL	mg/kg	0.001	NONE	-	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS 1D AL	mg/kg	0.001	NONE	-	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 EH CU 1D AL	mg/kg	1	MCERTS	-	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 EH CU 1D AL	mg/kg	2	MCERTS	-	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 EH CU 1D AL	mg/kg	8	MCERTS	-	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 EH CU 1D AL	mg/kg	8	MCERTS	-	< 8.0
TPH-CWG - Aliphatic > EC35 - EC44 EH CU 1D AL	mg/kg	8.4	NONE	-	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35) EH CU+HS 1D AL	mg/kg	10	NONE	-	< 10
TPH-CWG - Aliphatic (EC5 - EC44) EH CU+HS 1D AL	mg/kg	10	NONE	-	< 10

TPH-CWG - Aromatic >EC5 - EC7 HS 1D AR	mg/kg	0.001	NONE	-	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 HS 1D AR	mg/kg	0.001	NONE	-	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS 1D AR	mg/kg	0.001	NONE	-	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH CU 1D AR	mg/kg	1	MCERTS	-	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 EH CU 1D AR	mg/kg	2	MCERTS	-	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 EH CU 1D AR	mg/kg	10	MCERTS	-	< 10
TPH-CWG - Aromatic >EC21 - EC35 EH CU 1D AR	mg/kg	10	MCERTS	-	< 10
TPH-CWG - Aromatic > EC35 - EC44 EH CU 1D AR	mg/kg	8.4	NONE	-	< 8.4
TPH-CWG - Aromatic (EC5 - EC35) EH CU+HS 1D AR	mg/kg	10	NONE	-	< 10
TPH-CWG - Aromatic (EC5 - EC44) EH CU+HS 1D AR	mg/kg	10	NONE	-	< 10

VOCs

Chloromethane	µg/kg	5	ISO 17025	< 5.0	-
Chloroethane	µg/kg	5	NONE	< 5.0	-
Bromomethane	µg/kg	5	ISO 17025	< 5.0	-
Vinyl Chloride	µg/kg	5	NONE	< 5.0	-
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0	-
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0	-
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	-
1,1-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	-
2,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	-
Trichloromethane	µg/kg	5	ISO 17025	< 5.0	-
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	-
1,2-Dichloroethane	µg/kg	5	ISO 17025	< 5.0	-
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0	-
Trans-1,2-dichloroethene	µg/kg	5	NONE	< 5.0	-
Benzene	µg/kg	5	MCERTS	< 5.0	-
Tetrachloromethane	µg/kg	5	NONE	< 5.0	-
1,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	-
Trichloroethene	µg/kg	5	ISO 17025	< 5.0	-
Dibromomethane	µg/kg	5	ISO 17025	< 5.0	-
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0	-
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	-

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Lab Sample Number				2661726	2661727
Sample Reference				VWS09	VWS09
Sample Number				None Supplied	None Supplied
Depth (m)				2.10	3.00
Date Sampled				21/04/2023	21/04/2023
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0	-
Toluene	µg/kg	5	MCERTS	< 5.0	-
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0	-
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0	-
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0	-
Tetrachloroethene	µg/kg	5	NONE	< 5.0	-
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0	-
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0	-
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	-
p & m-Xylene	µg/kg	5	MCERTS	< 5.0	-
Styrene	µg/kg	5	ISO 17025	< 5.0	-
Tribromomethane	µg/kg	5	NONE	< 5.0	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	-
1,1,2,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0	-
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0	-
Bromobenzene	µg/kg	5	ISO 17025	< 5.0	-
n-Propylbenzene	µg/kg	5	ISO 17025	< 5.0	-
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	-
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0	-
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	-
tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	-
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0	-
sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0	-
1,3-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	-
p-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0	-
1,2-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	-
1,4-Dichlorobenzene	µg/kg	5	ISO 17025	< 5.0	-
Butylbenzene	µg/kg	5	NONE	< 5.0	-
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0	-
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	-
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0	-
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0	-

SVOCs

Aniline	mg/kg	0.1	NONE	< 0.1	-
Phenol	mg/kg	0.2	ISO 17025	< 0.2	-
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	-
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	-
Hexachloroethane	mg/kg	0.05	ISO 17025	< 0.05	-
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	-
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	-
Isophorone	mg/kg	0.2	MCERTS	< 0.2	-
2-Nitrophenol	mg/kg	0.3	NONE	< 0.3	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	-
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	-
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	-

Analytical Report Number: 23-30796
 Project / Site name: Ashley House Cannon Factory
 Your Order No: 122387

Lab Sample Number				2661726	2661727
Sample Reference				WWS09	WWS09
Sample Number				None Supplied	None Supplied
Depth (m)				2.10	3.00
Date Sampled				21/04/2023	21/04/2023
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	< 0.1	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	< 0.2	-
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	-
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	< 0.1	-
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	-
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	< 0.2	-
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	< 0.3	-
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	-
4-Nitroaniline	mg/kg	0.2	NONE	< 0.2	-
Fluorene	mg/kg	0.05	MCERTS	< 0.05	-
Azobenzene	mg/kg	0.3	NONE	< 0.3	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	-
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	-
Anthracene	mg/kg	0.05	MCERTS	< 0.05	-
Carbazole	mg/kg	0.3	MCERTS	< 0.3	-
Dibutyl phthalate	mg/kg	0.2	NONE	< 0.2	-
Anthraquinone	mg/kg	0.3	NONE	< 0.3	-
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	-
Pyrene	mg/kg	0.05	MCERTS	< 0.05	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	< 0.3	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	-
Chrysene	mg/kg	0.05	MCERTS	< 0.05	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 23-30796
 Project / Site name: Ashley House Cannon Factory
 Your Order No: 122387

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006-PL based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
2661713	WWS05	0.30	129	Loose Fibres	Amosite	< 0.001	< 0.001
2661722	WWS08	2.00	141	Loose Fibres	Chrysotile & Amosite	< 0.001	< 0.001

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

Analytical Report Number : 23-30796

Project / Site name: Ashley House Cannon Factory

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2661711	WWS04	None Supplied	0.55	Brown clay and sand with gravel.
2661712	WWS04	None Supplied	2.2	Brown clay with gravel.
2661713	WWS05	None Supplied	0.3	Brown sand with gravel.
2661714	WWS06	None Supplied	0.3	Brown sand with gravel.
2661715	WWS06	None Supplied	1.5	Brown clay and sand with gravel.
2661716	WWS06	None Supplied	3.5	Brown sand with gravel.
2661717	WWS06	None Supplied	4.5	Brown sand with gravel.
2661718	WWS07	None Supplied	1.4	Brown clay and sand with gravel.
2661719	WWS07	None Supplied	2.1	Brown sand with gravel.
2661720	WWS07	None Supplied	2.6	Brown sand with gravel.
2661721	WWS08	None Supplied	1	Brown clay and sand with gravel.
2661722	WWS08	None Supplied	2	Brown clay and sand with gravel.
2661723	WWS08	None Supplied	2.4	Brown clay with gravel.
2661724	WWS09	None Supplied	0.5	Brown loam and clay with gravel and vegetation.
2661725	WWS09	None Supplied	1.5	Brown clay and sand with gravel.
2661726	WWS09	None Supplied	2.1	Brown clay and loam with gravel and vegetation.
2661727	WWS09	None Supplied	3	Brown clay and sand with gravel.

Analytical Report Number : 23-30796
Project / Site name: Ashley House Cannon Factory

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 °C)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	NONE
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Fraction Organic Carbon FOC Automated	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method	L009	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS

Analytical Report Number : 23-30796
Project / Site name: Ashley House Cannon Factory

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
-	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

#Data reported unaccredited due to quality control parameter failure associated with this result; other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and therefore may be compromised.

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Analytical Report Number : 23-30799

Replaces Analytical Report Number: 23-30799, issue no. 1

Additional analysis undertaken.

Product ID added for samples 2661734 and 2661736 as per client's request

The report has been updated to the current Schedule of Accreditation issue No: 113 Issue date: 09 May 2023

Project / Site name: Ashley House, Cannon Factory **Samples received on:** 26/04/2023

Your job number: WIE16248 **Samples instructed on / Analysis started on:** 26/04/2023

Your order number: 122387 **Analysis completed by:** 12/05/2023

Report Issue Number: 2 **Report issued on:** 13/05/2023

Samples Analysed: 5 soil samples



Signed: _____

Elżbieta Suchy
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 23-30799
Project / Site name: Ashley House, Cannon Factory
Your Order No: 122387

Lab Sample Number				2661732	2661733	2661734	2661735	2661736
Sample Reference				WWS10	WWS10	WWS10	WWS10	WWS11
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	1.60	2.20	3.80	3.00
Date Sampled				24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	14	12	6.3	6.9	6.2
Total mass of sample received	kg	0.001	NONE	0.8	0.8	0.8	0.8	0.8

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	LFT	N/A	N/A	N/A	N/A

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	9.2	6.9	8	8.3	7.6
Organic Matter (automated)	%	0.1	MCERTS	1.5	1.6	3.6	2.2	6.1
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.0088	0.009	0.021	0.013	0.036
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.9	0.9	2.1	1.3	3.6

Speciated PAHs

Naphthalene	mg/kg	0.05	NONE	-	-	< 0.05	-	< 0.05
Acenaphthylene	mg/kg	0.05	NONE	-	-	< 0.05	-	< 0.05
Acenaphthene	mg/kg	0.05	NONE	-	-	< 0.05	-	0.12
Fluorene	mg/kg	0.05	NONE	-	-	< 0.05	-	< 0.05
Phenanthrene	mg/kg	0.05	NONE	-	-	< 0.05	-	2.6
Anthracene	mg/kg	0.05	NONE	-	-	< 0.05	-	< 0.05
Fluoranthene	mg/kg	0.05	NONE	-	-	0.43	-	< 0.05
Pyrene	mg/kg	0.05	NONE	-	-	0.75	-	< 0.05
Benzo(a)anthracene	mg/kg	0.05	NONE	-	-	< 0.05	-	< 0.05
Chrysene	mg/kg	0.05	NONE	-	-	< 0.05	-	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	NONE	-	-	< 0.05	-	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	NONE	-	-	< 0.05	-	< 0.05
Benzo(a)pyrene	mg/kg	0.05	NONE	-	-	< 0.05	-	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	-	-	< 0.05	-	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	-	-	< 0.05	-	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	NONE	-	-	< 0.05	-	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	-	-	1.18	-	2.76
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	15	-	-	-	-
Boron (water soluble)	mg/kg	0.2	MCERTS	1.3	-	-	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	-	-	-	-
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	-	-	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	23	-	-	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	310	-	-	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	170	-	-	-	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	-	-	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	19	-	-	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	-	-	-	-
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	42	-	-	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	93	-	-	-	-

Analytical Report Number: 23-30799
 Project / Site name: Ashley House, Cannon Factory
 Your Order No: 122387

Lab Sample Number	2661732	2661733	2661734	2661735	2661736
Sample Reference	WWS10	WWS10	WWS10	WWS10	WWS11
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.30	1.60	2.20	3.80	3.00
Date Sampled	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

Monoaromatics & Oxygenates

Benzene	µg/kg	5	NONE	-	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	NONE	-	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	NONE	-	< 5.0	< 5.0	< 5.0	< 5.0
p & m-xylene	µg/kg	5	NONE	-	< 5.0	< 5.0	< 5.0	9.3
o-xylene	µg/kg	5	NONE	-	< 5.0	< 5.0	< 5.0	16
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	-	< 5.0	< 5.0	< 5.0	< 5.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 _{HS 1D AL}	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 _{HS 1D AL}	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 _{HS 1D AL}	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001	0.43
TPH-CWG - Aliphatic >EC10 - EC12 _{EH CU 1D AL}	mg/kg	1	NONE	-	< 1.0	3.9	2.9	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 _{EH CU 1D AL}	mg/kg	2	NONE	-	3.3	46	24	29
TPH-CWG - Aliphatic >EC16 - EC21 _{EH CU 1D AL}	mg/kg	8	NONE	-	81	720	440	790
TPH-CWG - Aliphatic >EC21 - EC35 _{EH CU 1D AL}	mg/kg	8	NONE	-	510	4400	2300	3700
TPH-CWG - Aliphatic > EC35 - EC44 _{EH CU 1D AL}	mg/kg	8.4	NONE	-	140	990	580	1200
TPH-CWG - Aliphatic (EC5 - EC35) _{EH CU+HS 1D AL}	mg/kg	10	NONE	-	590	5100	2700	4500
TPH-CWG - Aliphatic (EC5 - EC44) _{EH CU+HS 1D AL}	mg/kg	10	NONE	-	730	6100	3300	5700

TPH-CWG - Aromatic >EC5 - EC7 _{HS 1D AR}	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 _{HS 1D AR}	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 _{HS 1D AR}	mg/kg	0.001	NONE	-	< 0.001	< 0.001	< 0.001	0.05
TPH-CWG - Aromatic >EC10 - EC12 _{EH CU 1D AR}	mg/kg	1	NONE	-	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 _{EH CU 1D AR}	mg/kg	2	NONE	-	< 2.0	19	14	20
TPH-CWG - Aromatic >EC16 - EC21 _{EH CU 1D AR}	mg/kg	10	NONE	-	73	570	370	570
TPH-CWG - Aromatic >EC21 - EC35 _{EH CU 1D AR}	mg/kg	10	NONE	-	460	2800	1600	2600
TPH-CWG - Aromatic > EC35 - EC44 _{EH CU 1D AR}	mg/kg	8.4	NONE	-	94	730	470	860
TPH-CWG - Aromatic (EC5 - EC35) _{EH CU+HS 1D AR}	mg/kg	10	NONE	-	530	3400	2000	3200
TPH-CWG - Aromatic (EC5 - EC44) _{EH CU+HS 1D AR}	mg/kg	10	NONE	-	620	4100	2500	4100

Miscellaneous Organics

Product ID		N/A	NONE	-	-	See Appendix	-	See Appendix
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 23-30799

Project / Site name: Ashley House, Cannon Factory

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2661732	WWS10	None Supplied	0.3	Brown sand with gravel.
2661733	WWS10	None Supplied	1.6	Brown clay with gravel.
2661734	WWS10	None Supplied	2.2	Brown sand with gravel.
2661735	WWS10	None Supplied	3.8	Brown sand with gravel.
2661736	WWS11	None Supplied	3	Brown sand with gravel.

Analytical Report Number : 23-30799

Project / Site name: Ashley House, Cannon Factory

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	NONE
Product ID in soil	Determination of product ID by interpretation against standard chromatograms - Soil.	In-house method	L064-PL/UK	W	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	NONE
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	NONE
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Fraction Organic Carbon FOC Automated	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method	L009	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS

Analytical Report Number : 23-30799

Project / Site name: Ashley House, Cannon Factory

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Sample Deviation Report



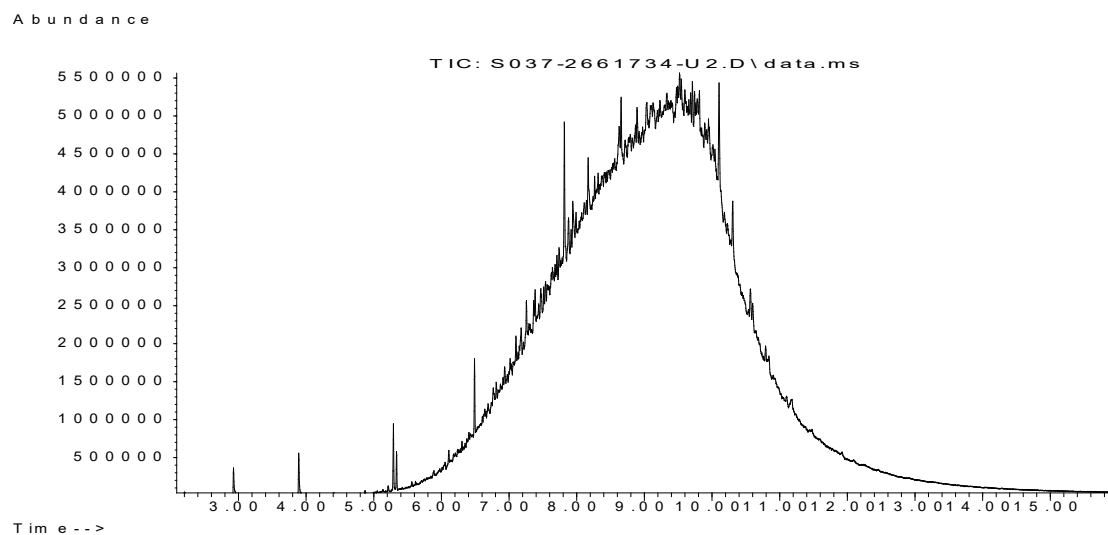
Analytical Report Number : 23-30799

Project / Site name: Ashley House, Cannon Factory

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis. Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
WWS10	None Supplied	S	2661733	b	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	b
WWS10	None Supplied	S	2661733	b	TPHCWG (Soil)	L088/76-PL	b



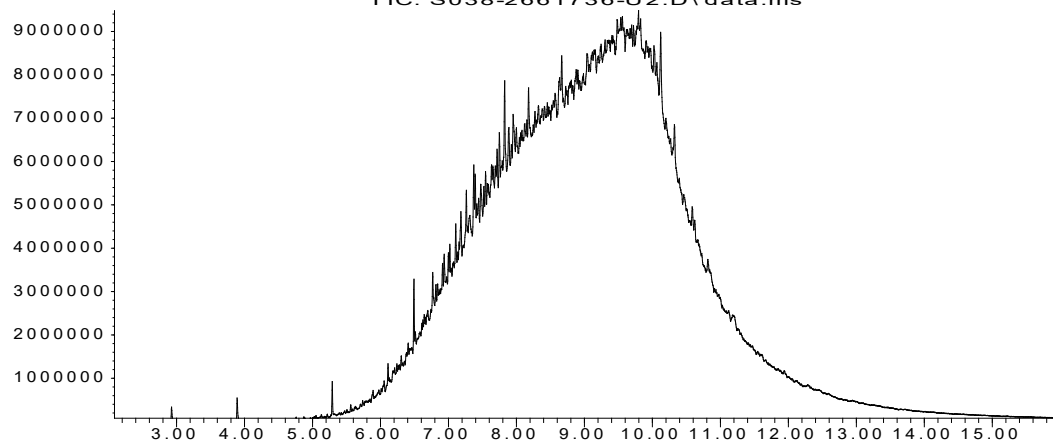
The total ion count (TIC trace) shows a carbon range from C16 to C21.

The sample TIC trace is complex, showing aliphatic product sources.

The trace does not match the standard product profiles but is suggestive of Lube oil

Abundance

TIC: S038-2661736-U2.D\data.ms



Time-->

The total ion count (TIC trace) shows a carbon range from C12 to C21.

The sample TIC trace is complex, showing aliphatic product sources.

The trace does not match the standard product profiles but is suggestive of Lube oil



Jon Coates
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Analytical Report Number : 23-30803

Project / Site name:	Ashley House Cannon Factory	Samples received on:	26/04/2023
Your job number:	WIE16248	Samples instructed on / Analysis started on:	26/04/2023
Your order number:	122387	Analysis completed by:	05/05/2023
Report Issue Number:	1	Report issued on:	05/05/2023
Samples Analysed:	5 soil samples		

Izabela Wójcik
Signed: _____
Izabela Wójcik
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 23-30803
Project / Site name: Ashley House Cannon Factory
Your Order No: 122387

Lab Sample Number	2661746				2661747	2661748	2661749	2661750
Sample Reference	WTP07				WTP07	WTP10	WTP11	WTP11
Sample Number	None Supplied				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	1.00				2.00	0.50	0.50	1.60
Date Sampled	24/04/2023				24/04/2023	24/04/2023	24/04/2023	24/04/2023
Time Taken	None Supplied				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	19	17	12	19	12
Total mass of sample received	kg	0.001	NONE	0.8	0.8	0.8	0.8	0.8

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	Chrysotile & Amosite Detected	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Detected	Not-detected	-
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	< 0.001	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	< 0.001	-	-
Asbestos Analyst ID	N/A	N/A	N/A	SPU	SPU	SPU	SPU	N/A

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.7	8	11.6	7.3	7.9
Organic Matter (automated)	%	0.1	MCERTS	2.5	0.5	0.9	1.8	0.5
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.015	0.0027	0.0054	0.01	0.0031
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1.5	0.3	0.5	1	0.3

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	4	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	0.65	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	4.3	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	3.4	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	25	< 0.05	0.6	0.27	< 0.05
Anthracene	mg/kg	0.05	MCERTS	6.3	< 0.05	0.15	0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	24	< 0.05	1.5	0.77	< 0.05
Pyrene	mg/kg	0.05	MCERTS	19	< 0.05	1.4	0.72	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	8.6	< 0.05	0.82	0.33	< 0.05
Chrysene	mg/kg	0.05	MCERTS	8.3	< 0.05	0.88	0.41	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	7.3	< 0.05	0.97	0.43	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	2.9	< 0.05	0.38	0.15	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	5	< 0.05	0.7	0.24	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	2.2	< 0.05	0.32	0.12	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.68	< 0.05	0.1	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	2.1	< 0.05	0.4	0.13	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	124	< 0.80	8.2	3.62	< 0.80
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	-	18	19	-
Boron (water soluble)	mg/kg	0.2	MCERTS	-	-	0.6	0.5	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	-
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	-	< 1.8	U/S##	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	26	240	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	-	85	71	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	-	340	1300	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	-	< 0.3	2.3	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	-	18	8.1	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	35	30	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	-	270	170	-

Analytical Report Number: 23-30803
 Project / Site name: Ashley House Cannon Factory
 Your Order No: 122387

Lab Sample Number	2661746	2661747	2661748	2661749	2661750
Sample Reference	WTP07	WTP07	WTP10	WTP11	WTP11
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	1.00	2.00	0.50	0.50	1.60
Date Sampled	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

Monoaromatics & Oxygenates

Benzene#	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene#	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
o-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 _{HS 1D AL}	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 _{HS 1D AL}	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 _{HS 1D AL}	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 _{EH CU 1D AL}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 _{EH CU 1D AL}	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 _{EH CU 1D AL}	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 _{EH CU 1D AL}	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic > EC35 - EC44 _{EH CU 1D AL}	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35) _{EH CU+HS 1D AL}	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (EC5 - EC44) _{EH CU+HS 1D AL}	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10

TPH-CWG - Aromatic >EC5 - EC7 _{HS 1D AR}	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 _{HS 1D AR}	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 _{HS 1D AR}	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 _{EH CU 1D AR}	mg/kg	1	MCERTS	4	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 _{EH CU 1D AR}	mg/kg	2	MCERTS	19	< 2.0	6.1	2.5	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 _{EH CU 1D AR}	mg/kg	10	MCERTS	53	< 10	19	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 _{EH CU 1D AR}	mg/kg	10	MCERTS	64	< 10	66	12	< 10
TPH-CWG - Aromatic > EC35 - EC44 _{EH CU 1D AR}	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4
TPH-CWG - Aromatic (EC5 - EC35) _{EH CU+HS 1D AR}	mg/kg	10	NONE	140	< 10	92	21	< 10
TPH-CWG - Aromatic (EC5 - EC44) _{EH CU+HS 1D AR}	mg/kg	10	NONE	150	< 10	98	21	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



Analytical Report Number: 23-30803
Project / Site name: Ashley House Cannon Factory
Your Order No: 122387

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006-PL based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
2661748	WTP10	0.50	144	Loose Fibres	Chrysotile & Amosite	< 0.001	< 0.001

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

Analytical Report Number : 23-30803

Project / Site name: Ashley House Cannon Factory

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2661746	WTP07	None Supplied	1	Brown clay and sand with gravel.
2661747	WTP07	None Supplied	2	Brown clay and sand with gravel.
2661748	WTP10	None Supplied	0.5	Brown sand with gravel and brick.
2661749	WTP11	None Supplied	0.5	Brown clay and sand with gravel.
2661750	WTP11	None Supplied	1.6	Brown clay and sand with gravel.

Analytical Report Number : 23-30803

Project / Site name: Ashley House Cannon Factory

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	NONE
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Fraction Organic Carbon FOC Automated	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method	L009	D	MCERTS

Analytical Report Number : 23-30803

Project / Site name: Ashley House Cannon Factory

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
-	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

- Data reported unaccredited due to quality control parameter failure associated with this result; other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.

U/S - Unsuitable for analysis due to high colour intensity.



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Analytical Report Number : 23-31932

Project / Site name: Ashley House Cannon Factory

Samples received on: 03/05/2023

Your job number: WIE16248

Samples instructed on /
Analysis started on: 03/05/2023

Your order number: 122387

Analysis completed by: 11/05/2023

Report Issue Number: 1

Report issued on: 11/05/2023

Samples Analysed: 1 soil sample

Signed: _____

Joanna Wawrzeczko
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.



Analytical Report Number: 23-31932
Project / Site name: Ashley House Cannon Factory
Your Order No: 122387

Lab Sample Number	2668681			
Sample Reference	WTP05			
Sample Number	None Supplied			
Depth (m)	1.00			
Date Sampled	21/04/2023			
Time Taken	None Supplied			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Stone Content	%	0.1	NONE	44
Moisture Content	%	0.01	NONE	13
Total mass of sample received	kg	0.001	NONE	0.8

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Amosite
Asbestos in Soil	Type	N/A	ISO 17025	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	< 0.001
Asbestos Quantification Total	%	0.001	ISO 17025	< 0.001
Asbestos Analyst ID	N/A	N/A	N/A	EC

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.5
Organic Matter (automated)	%	0.1	MCERTS	2.5

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	26
Boron (water soluble)	mg/kg	0.2	MCERTS	0.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	24
Copper (aqua regia extractable)	mg/kg	1	MCERTS	620
Lead (aqua regia extractable)	mg/kg	1	MCERTS	150
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	43
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	46
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	290

Monoaromatics & Oxygenates

Benzene	µg/kg	5	NONE	< 5.0
Toluene	µg/kg	5	NONE	< 5.0
Ethylbenzene	µg/kg	5	NONE	< 5.0
p & m-xylene	µg/kg	5	NONE	< 5.0
o-xylene	µg/kg	5	NONE	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0



Analytical Report Number: 23-31932
Project / Site name: Ashley House Cannon Factory
Your Order No: 122387

Lab Sample Number	2668681			
Sample Reference	WTP05			
Sample Number	None Supplied			
Depth (m)	1.00			
Date Sampled	21/04/2023			
Time Taken	None Supplied			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 _{HS 1D AL}	mg/kg	0.001	NONE	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 _{HS 1D AL}	mg/kg	0.001	NONE	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 _{HS 1D AL}	mg/kg	0.001	NONE	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 _{EH CU 1D AL}	mg/kg	1	NONE	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 _{EH CU 1D AL}	mg/kg	2	NONE	3
TPH-CWG - Aliphatic >EC16 - EC21 _{EH CU 1D AL}	mg/kg	8	NONE	14
TPH-CWG - Aliphatic >EC21 - EC35 _{EH CU 1D AL}	mg/kg	8	NONE	56
TPH-CWG - Aliphatic > EC35 - EC44 _{EH CU 1D AL}	mg/kg	8.4	NONE	16
TPH-CWG - Aliphatic (EC5 - EC35) _{EH CU+HS 1D AL}	mg/kg	10	NONE	72
TPH-CWG - Aliphatic (EC5 - EC44) _{EH CU+HS 1D AL}	mg/kg	10	NONE	88

TPH-CWG - Aromatic >EC5 - EC7 _{HS 1D AR}	mg/kg	0.001	NONE	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 _{HS 1D AR}	mg/kg	0.001	NONE	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 _{HS 1D AR}	mg/kg	0.001	NONE	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 _{EH CU 1D AR}	mg/kg	1	NONE	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 _{EH CU 1D AR}	mg/kg	2	NONE	17
TPH-CWG - Aromatic >EC16 - EC21 _{EH CU 1D AR}	mg/kg	10	NONE	79
TPH-CWG - Aromatic >EC21 - EC35 _{EH CU 1D AR}	mg/kg	10	NONE	100
TPH-CWG - Aromatic > EC35 - EC44 _{EH CU 1D AR}	mg/kg	8.4	NONE	< 8.4
TPH-CWG - Aromatic (EC5 - EC35) _{EH CU+HS 1D AR}	mg/kg	10	NONE	200
TPH-CWG - Aromatic (EC5 - EC44) _{EH CU+HS 1D AR}	mg/kg	10	NONE	210

VOCs

Chloromethane	µg/kg	5	NONE	< 5.0##
Chloroethane	µg/kg	5	NONE	< 5.0
Bromomethane	µg/kg	5	NONE	< 5.0##
Vinyl Chloride	µg/kg	5	NONE	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0
1,1-Dichloroethene	µg/kg	5	NONE	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	NONE	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0
1,1-Dichloroethane	µg/kg	5	NONE	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0
Trichloromethane	µg/kg	5	NONE	< 5.0
1,1,1-Trichloroethane	µg/kg	5	NONE	< 5.0##
1,2-Dichloroethane	µg/kg	5	NONE	< 5.0
1,1-Dichloropropene	µg/kg	5	NONE	< 5.0##
Trans-1,2-dichloroethene	µg/kg	5	NONE	< 5.0
Benzene	µg/kg	5	NONE	< 5.0
Tetrachloromethane	µg/kg	5	NONE	< 5.0
1,2-Dichloropropane	µg/kg	5	NONE	< 5.0
Trichloroethene	µg/kg	5	NONE	< 5.0##
Dibromomethane	µg/kg	5	NONE	< 5.0
Bromodichloromethane	µg/kg	5	NONE	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	NONE	< 5.0##
Trans-1,3-dichloropropene	µg/kg	5	NONE	< 5.0
Toluene	µg/kg	5	NONE	< 5.0
1,1,2-Trichloroethane	µg/kg	5	NONE	< 5.0
1,3-Dichloropropane	µg/kg	5	NONE	< 5.0
Dibromochloromethane	µg/kg	5	NONE	< 5.0
Tetrachloroethene	µg/kg	5	NONE	< 5.0##



Analytical Report Number: 23-31932
Project / Site name: Ashley House Cannon Factory
Your Order No: 122387

Lab Sample Number				2668681
Sample Reference				WTP05
Sample Number				None Supplied
Depth (m)				1.00
Date Sampled				21/04/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
1,2-Dibromoethane	µg/kg	5	NONE	< 5.0
Chlorobenzene	µg/kg	5	NONE	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0
Ethylbenzene	µg/kg	5	NONE	< 5.0
p & m-Xylene	µg/kg	5	NONE	< 5.0
Styrene	µg/kg	5	NONE	< 5.0
Tribromomethane	µg/kg	5	NONE	< 5.0
o-Xylene	µg/kg	5	NONE	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0
Isopropylbenzene	µg/kg	5	NONE	< 5.0##
Bromobenzene	µg/kg	5	NONE	< 5.0
n-Propylbenzene	µg/kg	5	NONE	< 5.0
2-Chlorotoluene	µg/kg	5	NONE	< 5.0##
4-Chlorotoluene	µg/kg	5	NONE	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	NONE	< 5.0
tert-Butylbenzene	µg/kg	5	NONE	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	NONE	< 5.0
sec-Butylbenzene	µg/kg	5	NONE	< 5.0##
1,3-Dichlorobenzene	µg/kg	5	NONE	< 5.0
p-Isopropyltoluene	µg/kg	5	NONE	< 5.0
1,2-Dichlorobenzene	µg/kg	5	NONE	< 5.0
1,4-Dichlorobenzene	µg/kg	5	NONE	< 5.0##
Butylbenzene	µg/kg	5	NONE	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	NONE	< 5.0##
1,2,4-Trichlorobenzene	µg/kg	5	NONE	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	NONE	< 5.0

SVOCs

Aniline	mg/kg	0.1	NONE	< 0.1
Phenol	mg/kg	0.2	NONE	< 0.2
2-Chlorophenol	mg/kg	0.1	NONE	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	NONE	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	NONE	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	NONE	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	NONE	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	NONE	< 0.1
2-Methylphenol	mg/kg	0.3	NONE	< 0.3
Hexachloroethane	mg/kg	0.05	NONE	< 0.05
Nitrobenzene	mg/kg	0.3	NONE	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0.2
Isophorone	mg/kg	0.2	NONE	< 0.2
2-Nitrophenol	mg/kg	0.3	NONE	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	NONE	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	NONE	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	NONE	< 0.3
Naphthalene	mg/kg	0.05	NONE	0.51
2,4-Dichlorophenol	mg/kg	0.3	NONE	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1
Hexachlorobutadiene	mg/kg	0.1	NONE	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	< 0.2



Analytical Report Number: 23-31932
Project / Site name: Ashley House Cannon Factory
Your Order No: 122387

Lab Sample Number				2668681
Sample Reference				WTP05
Sample Number				None Supplied
Depth (m)				1.00
Date Sampled				21/04/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
2-Methylnaphthalene	mg/kg	0.1	NONE	0.5
2-Chloronaphthalene	mg/kg	0.1	NONE	< 0.1
Dimethylphthalate	mg/kg	0.1	NONE	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	NONE	< 0.1
Acenaphthylene	mg/kg	0.05	NONE	< 0.05
Acenaphthene	mg/kg	0.05	NONE	3
2,4-Dinitrotoluene	mg/kg	0.2	NONE	< 0.2
Dibenzofuran	mg/kg	0.2	NONE	1.1
4-Chlorophenyl phenyl ether	mg/kg	0.3	NONE	< 0.3
Diethyl phthalate	mg/kg	0.2	NONE	< 0.2
4-Nitroaniline	mg/kg	0.2	NONE	< 0.2
Fluorene	mg/kg	0.05	NONE	2.1
Azobenzene	mg/kg	0.3	NONE	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	NONE	< 0.2
Hexachlorobenzene	mg/kg	0.3	NONE	< 0.3
Phenanthrene	mg/kg	0.05	NONE	20
Anthracene	mg/kg	0.05	NONE	6.2
Carbazole	mg/kg	0.3	NONE	1.1
Dibutyl phthalate	mg/kg	0.2	NONE	< 0.2
Anthraquinone	mg/kg	0.3	NONE	< 0.3
Fluoranthene	mg/kg	0.05	NONE	30
Pyrene	mg/kg	0.05	NONE	25
Butyl benzyl phthalate	mg/kg	0.3	NONE	< 0.3
Benzo(a)anthracene	mg/kg	0.05	NONE	13
Chrysene	mg/kg	0.05	NONE	11
Benzo(b)fluoranthene	mg/kg	0.05	NONE	11
Benzo(k)fluoranthene	mg/kg	0.05	NONE	6.2
Benzo(a)pyrene	mg/kg	0.05	NONE	11
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	5.5
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	0.89
Benzo(ghi)perylene	mg/kg	0.05	NONE	5.8

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



Analytical Report Number: 23-31932
Project / Site name: Ashley House Cannon Factory
Your Order No: 122387

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006-PL based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
2668681	WTP05	1.00	131	Loose Fibres	Amosite	< 0.001	< 0.001

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.



Analytical Report Number : 23-31932
Project / Site name: Ashley House Cannon Factory

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2668681	WTP05	None Supplied	1	Brown clay and sand with gravel and stones.

Analytical Report Number : 23-31932
Project / Site name: Ashley House Cannon Factory

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	NONE
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	NONE
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	NONE
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS



Analytical Report Number : 23-31932
Project / Site name: Ashley House Cannon Factory

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
-	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

- Quality control parameter has a high recovery (outside of limit); however the associated result is below the reporting limit, other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.



4041

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Analytical Report Number : 23-31744

Replaces Analytical Report Number: 23-31744, issue no. 1

Additional analysis undertaken.

Product ID added for 2667590, 2667591 samples as per client's request

Project / Site name:	Ashley House - Cannon Factory	Samples received on:	03/05/2023
Your job number:	WIE16246	Samples instructed on/ Analysis started on:	03/05/2023
Your order number:	122387	Analysis completed by:	17/05/2023
Report Issue Number:	2	Report issued on:	19/05/2023
Samples Analysed:	10 water samples		

Signed: _____

Elżbieta Suchy
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.



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Analytical Report Number: 23-31744

Project / Site name: Ashley House - Cannon Factory

Your Order No: 122387

Lab Sample Number				2667583	2667584	2667585	2667586
Sample Reference				BH102S	VWS06	BH04	BH101S
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.53	2.56	2.59	2.53
Date Sampled				02/05/2023	02/05/2023	02/05/2023	02/05/2023
Time Taken				1055	1115	1019	1208
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				

General Inorganics

pH (L005B)	pH Units	N/A	ISO 17025	7.3	7.5	7.1	7.1
Sulphate as SO ₄	mg/l	0.045	ISO 17025	161	240	89.2	292
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025	81	350	59	67
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	4.13	7.99	3.21	3.24
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	4.5	10	4.8	3.29
Total Inorganic Carbon (TIC)	mg/l	0.1	NONE	46.6	121	96.7	84.6
Nitrate as N	mg/l	0.01	ISO 17025	14.8	0.26	0.09	5.21
Nitrate as NO ₃	mg/l	0.05	ISO 17025	65.7	1.15	0.4	23.1
Nitrite as N	µg/l	1	ISO 17025	16	220	1.2	9.4
Nitrite as NO ₂	µg/l	5	ISO 17025	54	730	< 5.0	31

Hardness - Total	mgCaCO ₃ /l	1	ISO 17025	447	248	429	566
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Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	1.83	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	0.2	< 0.01	0.13	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	0.47	< 0.01	0.32	< 0.01
Fluorene	µg/l	0.01	ISO 17025	0.29	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	0.38	0.85	0.15	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	0.23	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	1.11	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	0.25	1.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	0.48	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	0.44	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	0.51	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	0.2	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	0.35	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	1.59	5.18	2.43	< 0.16
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Analytical Report Number: 23-31744

Project / Site name: Ashley House - Cannon Factory

Your Order No: 122387

Lab Sample Number				2667583	2667584	2667585	2667586
Sample Reference				BH102S	VWS06	BH04	BH101S
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.53	2.56	2.59	2.53
Date Sampled				02/05/2023	02/05/2023	02/05/2023	02/05/2023
Time Taken				1055	1115	1019	1208
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				

Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	1	ISO 17025	-	-	-	-
Cadmium (dissolved)	µg/l	0.08	ISO 17025	-	-	-	-
Calcium (dissolved)	mg/l	0.012	ISO 17025	160	89	150	200
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	-	-	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	-	-	-	-
Copper (dissolved)	µg/l	0.7	ISO 17025	-	-	-	-
Iron (dissolved)	mg/l	0.004	ISO 17025	0.013	0.067	0.82	0.015
Fe2+	mg/l	0.2	NONE	< 0.20	< 0.20	0.82	< 0.20
Fe3+	mg/l	0.2	NONE	< 0.20	< 0.20	< 0.20	< 0.20
Lead (dissolved)	µg/l	1	ISO 17025	-	-	-	-
Magnesium (dissolved)	mg/l	0.005	ISO 17025	10	6.4	12	16
Manganese (dissolved)	µg/l	0.06	ISO 17025	-	-	-	-
Mn (II)	mg/l	0.02	NONE	0.14	1.89	0.26	0.21
Mn (IV)	mg/l	0.02	NONE	< 0.02	0.77	< 0.02	< 0.02
Mercury (dissolved)	µg/l	0.5	ISO 17025	-	-	-	-
Nickel (dissolved)	µg/l	0.3	ISO 17025	-	-	-	-
Selenium (dissolved)	µg/l	4	ISO 17025	-	-	-	-
Zinc (dissolved)	µg/l	0.4	ISO 17025	-	-	-	-

Chromium (total)	µg/l	0.2	ISO 17025	0.2	-	-	0.6
Chromium (total)	µg/l	0.4	ISO 17025	-	-	-	-
Manganese (total)	µg/l	0.05	ISO 17025	200	-	-	630

Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.68	-	-	0.31
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.03	-	-	0.05
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	-	-	0.6
Copper (dissolved)	µg/l	0.5	ISO 17025	4	-	-	5.4
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	-	-	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	120	-	-	210
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	-	-	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	6.8	-	-	7
Selenium (dissolved)	µg/l	0.6	ISO 17025	1.1	-	-	6.3
Zinc (dissolved)	µg/l	0.5	ISO 17025	9.6	-	-	11

Monoaromatics & Oxygenates

Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	8.9	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	8.2	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0



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Analytical Report Number: 23-31744

Project / Site name: Ashley House - Cannon Factory

Your Order No: 122387

Lab Sample Number	2667583	2667584	2667585	2667586
Sample Reference	BH102S	VWS06	BH04	BH101S
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	2.53	2.56	2.59	2.53
Date Sampled	02/05/2023	02/05/2023	02/05/2023	02/05/2023
Time Taken	1055	1115	1019	1208
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6 _{HS 1D AL}	µg/l	1	ISO 17025	< 1.0	< 1.0	130	< 1.0
TPH-CWG - Aliphatic >C6 - C8 _{HS 1D AL}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 _{HS 1D AL}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 _{EH 1D AL MS}	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 _{EH 1D AL MS}	µg/l	10	NONE	< 10	48	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 _{EH 1D AL MS}	µg/l	10	NONE	< 10	560	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 _{EH 1D AL MS}	µg/l	10	NONE	< 10	3100	< 10	< 10
TPH-CWG - Aliphatic >C35 - C44 _{EH 1D AL MS}	µg/l	10	NONE	< 10	230	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) _{HS+EH 1D AL MS}	µg/l	10	NONE	< 10	3700	130	< 10
TPH-CWG - Aliphatic (C5 - C44) _{HS+EH 1D AL MS}	µg/l	10	NONE	< 10	4000	130	< 10

TPH-CWG - Aromatic >C5 - C7 _{HS 1D AR}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 _{HS 1D AR}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 _{HS 1D AR}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 _{EH 1D AR MS}	µg/l	10	NONE	< 10	< 10	120	< 10
TPH-CWG - Aromatic >C12 - C16 _{EH 1D AR MS}	µg/l	10	NONE	< 10	< 10	20	< 10
TPH-CWG - Aromatic >C16 - C21 _{EH 1D AR MS}	µg/l	10	NONE	< 10	< 10	20	< 10
TPH-CWG - Aromatic >C21 - C35 _{EH 1D AR MS}	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C35 - C44 _{EH 1D AR MS}	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) _{HS+EH 1D AR MS}	µg/l	10	NONE	< 10	< 10	160	< 10
TPH-CWG - Aromatic (C5 - C44) _{HS+EH 1D AR MS}	µg/l	10	NONE	< 10	< 10	160	< 10

VOCs

Chloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Chloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Bromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Vinyl Chloride	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0
Trichlorofluoromethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0#	< 3.0
Cis-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
2,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Trichloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,1,1-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Trans-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	8.9	< 3.0
Tetrachloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0#	< 3.0
1,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Trichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Dibromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Bromodichloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Cis-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0#	< 3.0
Trans-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,3-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Dibromochloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0



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Analytical Report Number: 23-31744

Project / Site name: Ashley House - Cannon Factory

Your Order No: 122387

Lab Sample Number				2667583	2667584	2667585	2667586
Sample Reference				BH102S	VWS06	BH04	BH101S
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.53	2.56	2.59	2.53
Date Sampled				02/05/2023	02/05/2023	02/05/2023	02/05/2023
Time Taken				1055	1115	1019	1208
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				
Tetrachloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dibromoethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Chlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,1,1,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
p & m-Xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	8.2	< 3.0
Styrene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Tribromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
o-Xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Isopropylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Bromobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
n-Propylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
2-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
4-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,3,5-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
tert-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,2,4-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	7.8	< 3.0
sec-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,3-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
p-Isopropyltoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,4-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dibromo-3-chloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,2,4-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Hexachlorobutadiene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0#	< 3.0
1,2,3-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0

Miscellaneous Organics

Product ID		N/A	NONE	-	-	-	-
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



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Analytical Report Number: 23-31744

Project / Site name: Ashley House - Cannon Factory

Your Order No: 122387

Lab Sample Number				2667587	2667588	2667589	2667590
Sample Reference				WS109	BH103	BH02	WWS02
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.60	2.52	2.43	2.64
Date Sampled				02/05/2023	02/05/2023	02/05/2023	02/05/2023
Time Taken				1002	1255	1416	1446
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				

General Inorganics

pH (L005B)	pH Units	N/A	ISO 17025	7	7.2	6.9	U/S*
Sulphate as SO ₄	mg/l	0.045	ISO 17025	146	146	54.7	83.2
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	11
Chloride	mg/l	0.15	ISO 17025	52	45	67	34
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	2.89	2	14.3	34.7
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	4.18	2.01	14.5	96.2
Total Inorganic Carbon (TIC)	mg/l	0.1	NONE	95.1	83.8	92	70
Nitrate as N	mg/l	0.01	ISO 17025	0.35	5.05	0.1	0.15
Nitrate as NO ₃	mg/l	0.05	ISO 17025	1.55	22.4	0.45	0.65
Nitrite as N	µg/l	1	ISO 17025	< 1.0	< 1.0	200	1.7
Nitrite as NO ₂	µg/l	5	ISO 17025	< 5.0	< 5.0	650	5.7

Hardness - Total	mgCaCO ₃ /l	1	ISO 17025	486	452	330	249
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Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.64	U/S*
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	U/S*
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.69	U/S*
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.62	U/S*
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	1.14	U/S*
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.28	U/S*
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.24	U/S*
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	0.25	U/S*
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	U/S*
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	U/S*
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	U/S*
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	U/S*
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	U/S*
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	U/S*
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	U/S*
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	U/S*

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	3.86	U/S*
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Analytical Report Number: 23-31744

Project / Site name: Ashley House - Cannon Factory

Your Order No: 122387

Lab Sample Number		2667587	2667588	2667589	2667590
Sample Reference		WS109	BH103	BH02	WWS02
Sample Number		None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)		2.60	2.52	2.43	2.64
Date Sampled		02/05/2023	02/05/2023	02/05/2023	02/05/2023
Time Taken		1002	1255	1416	1446
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	1	ISO 17025	-	-	-	6
Cadmium (dissolved)	µg/l	0.08	ISO 17025	-	-	-	< 0.08
Calcium (dissolved)	mg/l	0.012	ISO 17025	180	160	110	89
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	-	-	-	< 0.4
Copper (dissolved)	µg/l	0.7	ISO 17025	-	-	-	1.7
Iron (dissolved)	mg/l	0.004	ISO 17025	0.039	0.021	0.16	0.33
Fe2+	mg/l	0.2	NONE	< 0.20	< 0.20	< 0.20	0.33
Fe3+	mg/l	0.2	NONE	< 0.20	< 0.20	< 0.20	< 0.20
Lead (dissolved)	µg/l	1	ISO 17025	-	-	-	< 1.0
Magnesium (dissolved)	mg/l	0.005	ISO 17025	11	11	12	6.8
Manganese (dissolved)	µg/l	0.06	ISO 17025	-	-	-	8300
Mn (II)	mg/l	0.02	NONE	0.8	0.06	2.71	6.34
Mn (IV)	mg/l	0.02	NONE	0.04	< 0.02	0.05	1.12
Mercury (dissolved)	µg/l	0.5	ISO 17025	-	-	-	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	-	-	-	8.3
Selenium (dissolved)	µg/l	4	ISO 17025	-	-	-	< 4.0
Zinc (dissolved)	µg/l	0.4	ISO 17025	-	-	-	5.1

Chromium (total)	µg/l	0.2	ISO 17025	5.9	0.6	1.4	-
Chromium (total)	µg/l	0.4	ISO 17025	-	-	-	114
Manganese (total)	µg/l	0.05	ISO 17025	630	400	3400	69000

Arsenic (dissolved)	µg/l	0.15	ISO 17025	11.4	0.38	1.51	-
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	0.03	0.03	-
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	0.4	< 0.2	-
Copper (dissolved)	µg/l	0.5	ISO 17025	7.9	4.4	4.5	-
Lead (dissolved)	µg/l	0.2	ISO 17025	0.2	< 0.2	< 0.2	-
Manganese (dissolved)	µg/l	0.05	ISO 17025	530	51	2500	-
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	-
Nickel (dissolved)	µg/l	0.5	ISO 17025	7.9	2.8	6.5	-
Selenium (dissolved)	µg/l	0.6	ISO 17025	< 0.6	7	< 0.6	-
Zinc (dissolved)	µg/l	0.5	ISO 17025	5.2	10	12	-

Monoaromatics & Oxygenates

Benzene	µg/l	3	ISO 17025	6.5	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0



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Analytical Report Number: 23-31744

Project / Site name: Ashley House - Cannon Factory

Your Order No: 122387

Lab Sample Number	2667587	2667588	2667589	2667590
Sample Reference	WS109	BH103	BH02	WWS02
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	2.60	2.52	2.43	2.64
Date Sampled	02/05/2023	02/05/2023	02/05/2023	02/05/2023
Time Taken	1002	1255	1416	1446
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6 _{HS 1D AL}	µg/l	1	ISO 17025	26	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 _{HS 1D AL}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 _{HS 1D AL}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 _{EH 1D AL MS}	µg/l	10	NONE	< 10	< 10	< 10	U/S*
TPH-CWG - Aliphatic >C12 - C16 _{EH 1D AL MS}	µg/l	10	NONE	< 10	< 10	< 10	U/S*
TPH-CWG - Aliphatic >C16 - C21 _{EH 1D AL MS}	µg/l	10	NONE	< 10	< 10	< 10	U/S*
TPH-CWG - Aliphatic >C21 - C35 _{EH 1D AL MS}	µg/l	10	NONE	< 10	< 10	< 10	U/S*
TPH-CWG - Aliphatic >C35 - C44 _{EH 1D AL MS}	µg/l	10	NONE	< 10	< 10	< 10	U/S*
TPH-CWG - Aliphatic (C5 - C35) _{HS+EH 1D AL MS}	µg/l	10	NONE	26	< 10	< 10	U/S*
TPH-CWG - Aliphatic (C5 - C44) _{HS+EH 1D AL MS}	µg/l	10	NONE	26	< 10	< 10	U/S*

TPH-CWG - Aromatic >C5 - C7 _{HS 1D AR}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 _{HS 1D AR}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 _{HS 1D AR}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 _{EH 1D AR MS}	µg/l	10	NONE	< 10	< 10	< 10	U/S*
TPH-CWG - Aromatic >C12 - C16 _{EH 1D AR MS}	µg/l	10	NONE	< 10	< 10	< 10	U/S*
TPH-CWG - Aromatic >C16 - C21 _{EH 1D AR MS}	µg/l	10	NONE	< 10	< 10	< 10	U/S*
TPH-CWG - Aromatic >C21 - C35 _{EH 1D AR MS}	µg/l	10	NONE	< 10	< 10	< 10	U/S*
TPH-CWG - Aromatic >C35 - C44 _{EH 1D AR MS}	µg/l	10	NONE	< 10	< 10	< 10	U/S*
TPH-CWG - Aromatic (C5 - C35) _{HS+EH 1D AR MS}	µg/l	10	NONE	< 10	< 10	< 10	U/S*
TPH-CWG - Aromatic (C5 - C44) _{HS+EH 1D AR MS}	µg/l	10	NONE	< 10	< 10	< 10	U/S*

VOCs

Chloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Chloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Bromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Vinyl Chloride	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0
Trichlorofluoromethane	µg/l	3	NONE	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	3	ISO 17025	< 3.0#	< 3.0	< 3.0#	< 3.0#
Cis-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
2,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Trichloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,1,1-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,1-Dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Trans-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Benzene	µg/l	3	ISO 17025	6.5	< 3.0	< 3.0	< 3.0
Tetrachloromethane	µg/l	3	ISO 17025	< 3.0#	< 3.0	< 3.0#	< 3.0#
1,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Trichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Dibromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Bromodichloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Cis-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0#	< 3.0	< 3.0#	< 3.0#
Trans-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,3-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Dibromochloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0



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Analytical Report Number: 23-31744

Project / Site name: Ashley House - Cannon Factory

Your Order No: 122387

Lab Sample Number				2667587	2667588	2667589	2667590
Sample Reference				WS109	BH103	BH02	WWS02
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.60	2.52	2.43	2.64
Date Sampled				02/05/2023	02/05/2023	02/05/2023	02/05/2023
Time Taken				1002	1255	1416	1446
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				
Tetrachloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dibromoethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Chlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,1,1,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
p & m-Xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Styrene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Tribromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
o-Xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,1,2,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Isopropylbenzene	µg/l	3	ISO 17025	3.6	< 3.0	< 3.0	< 3.0
Bromobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
n-Propylbenzene	µg/l	3	ISO 17025	4.2	< 3.0	< 3.0	< 3.0
2-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
4-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,3,5-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
tert-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,2,4-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
sec-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,3-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
p-Isopropyltoluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,4-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,2-Dibromo-3-chloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
1,2,4-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Hexachlorobutadiene	µg/l	3	ISO 17025	< 3.0#	< 3.0	< 3.0#	< 3.0#
1,2,3-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0

Miscellaneous Organics

Product ID		N/A	NONE	-	-	-	See Appendix
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



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Analytical Report Number: 23-31744

Project / Site name: Ashley House - Cannon Factory

Your Order No: 122387

Lab Sample Number	2667591			2667592
Sample Reference	WWS10			Pymmes Brook
Sample Number	None Supplied			None Supplied
Depth (m)	2.55			None Supplied
Date Sampled	02/05/2023			02/05/2023
Time Taken	1513			1347
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	

General Inorganics

pH (L005B)	pH Units	N/A	ISO 17025	U/S*	7.4
Sulphate as SO ₄	mg/l	0.045	ISO 17025	174	-
Sulphide	µg/l	5	NONE	4200	-
Chloride	mg/l	0.15	ISO 17025	24	-
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	159	9.83
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	262	-
Total Inorganic Carbon (TIC)	mg/l	0.1	NONE	97.1	-
Nitrate as N	mg/l	0.01	ISO 17025	0.14	-
Nitrate as NO ₃	mg/l	0.05	ISO 17025	0.6	-
Nitrite as N	µg/l	1	ISO 17025	< 1.0	-
Nitrite as NO ₂	µg/l	5	ISO 17025	< 5.0	-

Hardness - Total	mgCaCO ₃ /l	1	ISO 17025	534	363
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Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	U/S*	-
Acenaphthylene	µg/l	0.01	ISO 17025	U/S*	-
Acenaphthene	µg/l	0.01	ISO 17025	U/S*	-
Fluorene	µg/l	0.01	ISO 17025	U/S*	-
Phenanthrene	µg/l	0.01	ISO 17025	U/S*	-
Anthracene	µg/l	0.01	ISO 17025	U/S*	-
Fluoranthene	µg/l	0.01	ISO 17025	U/S*	-
Pyrene	µg/l	0.01	ISO 17025	U/S*	-
Benzo(a)anthracene	µg/l	0.01	ISO 17025	U/S*	-
Chrysene	µg/l	0.01	ISO 17025	U/S*	-
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	U/S*	-
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	U/S*	-
Benzo(a)pyrene	µg/l	0.01	ISO 17025	U/S*	-
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	U/S*	-
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	U/S*	-
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	U/S*	-

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	U/S*	-
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Analytical Report Number: 23-31744

Project / Site name: Ashley House - Cannon Factory

Your Order No: 122387

Lab Sample Number	2667591			2667592
Sample Reference	WWS10			Pymmes Brook
Sample Number	None Supplied			None Supplied
Depth (m)	2.55			None Supplied
Date Sampled	02/05/2023			02/05/2023
Time Taken	1513			1347
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	

Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	1	ISO 17025	8.8	-
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	-
Calcium (dissolved)	mg/l	0.012	ISO 17025	200	130
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	8.5	-
Copper (dissolved)	µg/l	0.7	ISO 17025	16	-
Iron (dissolved)	mg/l	0.004	ISO 17025	0.92	-
Fe2+	mg/l	0.2	NONE	0.92	-
Fe3+	mg/l	0.2	NONE	< 0.20	-
Lead (dissolved)	µg/l	1	ISO 17025	16	-
Magnesium (dissolved)	mg/l	0.005	ISO 17025	11	11
Manganese (dissolved)	µg/l	0.06	ISO 17025	3600	-
Mn (II)	mg/l	0.02	NONE	2.17	-
Mn (IV)	mg/l	0.02	NONE	1.34	-
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	-
Nickel (dissolved)	µg/l	0.3	ISO 17025	17	-
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	-
Zinc (dissolved)	µg/l	0.4	ISO 17025	19	-

Chromium (total)	µg/l	0.2	ISO 17025	-	0.3
Chromium (total)	µg/l	0.4	ISO 17025	970	-
Manganese (total)	µg/l	0.05	ISO 17025	240000	30

Arsenic (dissolved)	µg/l	0.15	ISO 17025	-	1.14
Cadmium (dissolved)	µg/l	0.02	ISO 17025	-	0.03
Chromium (dissolved)	µg/l	0.2	ISO 17025	-	0.3
Copper (dissolved)	µg/l	0.5	ISO 17025	-	7.5
Lead (dissolved)	µg/l	0.2	ISO 17025	-	0.3
Manganese (dissolved)	µg/l	0.05	ISO 17025	-	14
Mercury (dissolved)	µg/l	0.05	ISO 17025	-	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	-	5.5
Selenium (dissolved)	µg/l	0.6	ISO 17025	-	1.2
Zinc (dissolved)	µg/l	0.5	ISO 17025	-	22

Monoaromatics & Oxygenates

Benzene	µg/l	3	ISO 17025	< 3.0	-
Toluene	µg/l	3	ISO 17025	< 3.0	-
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	-
p & m-xylene	µg/l	3	ISO 17025	< 3.0	-
o-xylene	µg/l	3	ISO 17025	< 3.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	-



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Analytical Report Number: 23-31744

Project / Site name: Ashley House - Cannon Factory

Your Order No: 122387

Lab Sample Number	2667591	2667592
Sample Reference	WWS10	Pymmes Brook
Sample Number	None Supplied	None Supplied
Depth (m)	2.55	None Supplied
Date Sampled	02/05/2023	02/05/2023
Time Taken	1513	1347
Analytical Parameter (Water Analysis)	Units	Limit of detection
		Accreditation Status

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6 _{HS 1D AL}	µg/l	1	ISO 17025	< 1.0	-
TPH-CWG - Aliphatic >C6 - C8 _{HS 1D AL}	µg/l	1	ISO 17025	< 1.0	-
TPH-CWG - Aliphatic >C8 - C10 _{HS 1D AL}	µg/l	1	ISO 17025	< 1.0	-
TPH-CWG - Aliphatic >C10 - C12 _{EH 1D AL MS}	µg/l	10	NONE	U/S*	-
TPH-CWG - Aliphatic >C12 - C16 _{EH 1D AL MS}	µg/l	10	NONE	U/S*	-
TPH-CWG - Aliphatic >C16 - C21 _{EH 1D AL MS}	µg/l	10	NONE	U/S*	-
TPH-CWG - Aliphatic >C21 - C35 _{EH 1D AL MS}	µg/l	10	NONE	U/S*	-
TPH-CWG - Aliphatic >C35 - C44 _{EH 1D AL MS}	µg/l	10	NONE	U/S*	-
TPH-CWG - Aliphatic (C5 - C35) _{HS+EH 1D AL MS}	µg/l	10	NONE	U/S*	-
TPH-CWG - Aliphatic (C5 - C44) _{HS+EH 1D AL MS}	µg/l	10	NONE	U/S*	-

TPH-CWG - Aromatic >C5 - C7 _{HS 1D AR}	µg/l	1	ISO 17025	< 1.0	-
TPH-CWG - Aromatic >C7 - C8 _{HS 1D AR}	µg/l	1	ISO 17025	< 1.0	-
TPH-CWG - Aromatic >C8 - C10 _{HS 1D AR}	µg/l	1	ISO 17025	< 1.0	-
TPH-CWG - Aromatic >C10 - C12 _{EH 1D AR MS}	µg/l	10	NONE	U/S*	-
TPH-CWG - Aromatic >C12 - C16 _{EH 1D AR MS}	µg/l	10	NONE	U/S*	-
TPH-CWG - Aromatic >C16 - C21 _{EH 1D AR MS}	µg/l	10	NONE	U/S*	-
TPH-CWG - Aromatic >C21 - C35 _{EH 1D AR MS}	µg/l	10	NONE	U/S*	-
TPH-CWG - Aromatic >C35 - C44 _{EH 1D AR MS}	µg/l	10	NONE	U/S*	-
TPH-CWG - Aromatic (C5 - C35) _{HS+EH 1D AR MS}	µg/l	10	NONE	U/S*	-
TPH-CWG - Aromatic (C5 - C44) _{HS+EH 1D AR MS}	µg/l	10	NONE	U/S*	-

VOCs

Chloromethane	µg/l	3	ISO 17025	< 3.0	-
Chloroethane	µg/l	3	ISO 17025	< 3.0	-
Bromomethane	µg/l	3	ISO 17025	< 3.0	-
Vinyl Chloride	µg/l	3	NONE	< 3.0	-
Trichlorofluoromethane	µg/l	3	NONE	< 3.0	-
1,1-Dichloroethene	µg/l	3	ISO 17025	< 3.0	-
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	3	ISO 17025	< 3.0#	-
Cis-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	-
1,1-Dichloroethane	µg/l	3	ISO 17025	< 3.0	-
2,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0	-
Trichloromethane	µg/l	3	ISO 17025	< 3.0	-
1,1,1-Trichloroethane	µg/l	3	ISO 17025	< 3.0	-
1,2-Dichloroethane	µg/l	3	ISO 17025	< 3.0	-
1,1-Dichloropropene	µg/l	3	ISO 17025	< 3.0	-
Trans-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0	-
Benzene	µg/l	3	ISO 17025	< 3.0	-
Tetrachloromethane	µg/l	3	ISO 17025	< 3.0#	-
1,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0	-
Trichloroethene	µg/l	3	ISO 17025	< 3.0	-
Dibromomethane	µg/l	3	ISO 17025	< 3.0	-
Bromodichloromethane	µg/l	3	ISO 17025	< 3.0	-
Cis-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0#	-
Trans-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	-
Toluene	µg/l	3	ISO 17025	< 3.0	-
1,1,2-Trichloroethane	µg/l	3	ISO 17025	< 3.0	-
1,3-Dichloropropane	µg/l	3	ISO 17025	< 3.0	-
Dibromochloromethane	µg/l	3	ISO 17025	< 3.0	-



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Analytical Report Number: 23-31744

Project / Site name: Ashley House - Cannon Factory

Your Order No: 122387

Lab Sample Number				2667591	2667592
Sample Reference				WWS10	Pymmes Brook
Sample Number				None Supplied	None Supplied
Depth (m)				2.55	None Supplied
Date Sampled				02/05/2023	02/05/2023
Time Taken				1513	1347
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		
Tetrachloroethene	µg/l	3	ISO 17025	< 3.0	-
1,2-Dibromoethane	µg/l	3	ISO 17025	< 3.0	-
Chlorobenzene	µg/l	3	ISO 17025	< 3.0	-
1,1,1,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0	-
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	-
p & m-Xylene	µg/l	3	ISO 17025	< 3.0	-
Styrene	µg/l	3	ISO 17025	< 3.0	-
Tribromomethane	µg/l	3	ISO 17025	< 3.0	-
o-Xylene	µg/l	3	ISO 17025	< 3.0	-
1,1,2,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0	-
Isopropylbenzene	µg/l	3	ISO 17025	< 3.0	-
Bromobenzene	µg/l	3	ISO 17025	< 3.0	-
n-Propylbenzene	µg/l	3	ISO 17025	< 3.0	-
2-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	-
4-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	-
1,3,5-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	-
tert-Butylbenzene	µg/l	3	ISO 17025	< 3.0	-
1,2,4-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	-
sec-Butylbenzene	µg/l	3	ISO 17025	< 3.0	-
1,3-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	-
p-Isopropyltoluene	µg/l	3	ISO 17025	< 3.0	-
1,2-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	-
1,4-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	-
Butylbenzene	µg/l	3	ISO 17025	< 3.0	-
1,2-Dibromo-3-chloropropane	µg/l	3	ISO 17025	< 3.0	-
1,2,4-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0	-
Hexachlorobutadiene	µg/l	3	ISO 17025	< 3.0#	-
1,2,3-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0	-

Miscellaneous Organics

Product ID		N/A	NONE	See Appendix	-
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



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Analytical Report Number : 23-31744

Project / Site name: Ashley House - Cannon Factory

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-OES (total)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW (Al, Fe, Cu, Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in water by ICP-MS (total)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Iron (II) and Iron (III) in water	Determination of Iron II and Iron III in water by coloration with phenanthroline and calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L079-PL	W	NONE
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry).Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
Sulphate in water	Determination of sulphate in water after filtration by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	ISO 17025
Total organic carbon in water	Determination of dissolved organic carbon in water by TOC/DOC NDIR analyser. Accredited matrices: SW PW GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025



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Analytical Report Number : 23-31744

Project / Site name: Ashley House - Cannon Factory

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L078-PL	W	ISO 17025
Product ID	Determination of product ID by interpretation against standard chromatograms - Water.	In-house method	L070-PL/UK	W	NONE
Total inorganic carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
Manganese II and IV in Water	Analysis of manganese compounds by periodate oxidation method.	In house method and calculation based on standard methods for the examination of water and waste water.	L090-PL	W	NONE
TPH in (Water)	Determination of TPH bands by HS-GC-MS/GC-MS	In-house method, TPH with carbon banding.	L088/70-PL	W	NONE
Chloride in water	Determination of Chloride (diissolved) colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260. Accredited matrices: SW, PW, GW.	L082-PL	W	ISO 17025

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted



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Analytical Report Number : 23-31744

Project / Site name: Ashley House - Cannon Factory

Water matrix abbreviations:

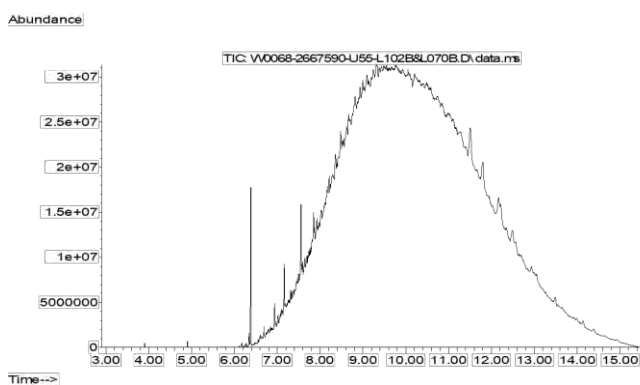
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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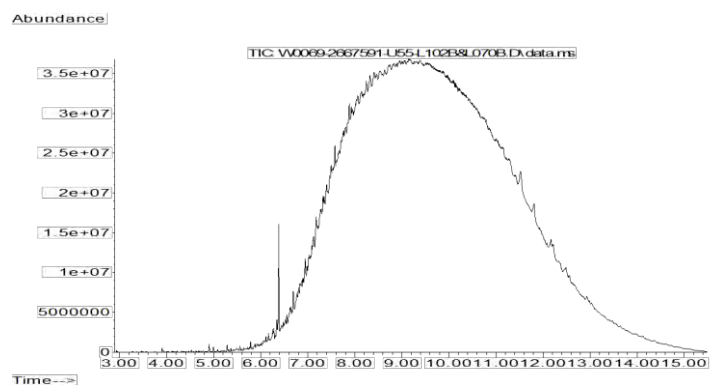
- Operator - understore to separate acronyms (exception for +)
+ Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

*Analysis could not be completed due to sample matrix.

#Data reported unaccredited due to quality control parameter failure associated with this result; other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and therefore may be compromised.



The total ion count (TIC trace) shows a carbon range from C16 to greater than C40
The sample TIC trace is complex, showing aromatic and aliphatic product sources.
The trace does not match the standard product profiles but is suggestive of lube oil.



The total ion count (TIC trace) shows a carbon range from C16 to greater than C40
The sample TIC trace is complex, showing aromatic and aliphatic product sources.
The trace does not match the standard product profiles but is suggestive of lube oil.



4041

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e: reception@i2analytical.com

Analytical Report Number : 23-34220

Project / Site name:	Ashley House Cannon Factory	Samples received on:	17/05/2023
Your job number:	WIE16248	Samples instructed on/ Analysis started on:	17/05/2023
Your order number:	122387	Analysis completed by:	24/05/2023
Report Issue Number:	1	Report issued on:	24/05/2023
Samples Analysed:	5 water samples		

Signed: _____

Adam Fenwick
Technical Reviewer
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.



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Analytical Report Number: 23-34220

Project / Site name: Ashley House Cannon Factory

Your Order No: 122387

Lab Sample Number	2681944	2681945	2681946	2681947
Sample Reference	WWS08	BH01	WWS02	WWS10
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	2.51	2.32	2.62	2.58
Date Sampled	16/05/2023	16/05/2023	16/05/2023	16/05/2023
Time Taken	1007	1120	1142	1204
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	

General Inorganics

pH (L005B)	pH Units	N/A	ISO 17025	7.5	7	7.1	7.1
Sulphate as SO ₄	µg/l	45	ISO 17025	390000	40400	-	-
Sulphate as SO ₄	mg/l	0.045	ISO 17025	390	40.4	-	-
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	-	-
Chloride	mg/l	0.15	ISO 17025	43	15	-	-
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	7.3	1.76	39.5	U/S
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	7.35	1.86	-	-
Total Inorganic Carbon (TIC)	mg/l	0.1	NONE	121	38.8	-	-
Nitrate as N	mg/l	0.01	ISO 17025	0.58	4.99	-	-
Nitrate as NO ₃	mg/l	0.05	ISO 17025	2.55	22.1	-	-
Nitrite as N	µg/l	1	ISO 17025	11	6.3	-	-
Nitrite as NO ₂	µg/l	5	ISO 17025	35	21	-	-

Hardness - Total	mgCaCO ₃ /l	1	ISO 17025	662	191	274	474
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Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16
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Heavy Metals / Metalloids

Calcium (dissolved)	mg/l	0.012	ISO 17025	240	71	97	170
Chromium (hexavalent)	µg/l	5	ISO 17025	-	< 5.0	-	-
Iron (dissolved)	mg/l	0.004	ISO 17025	0.036	0.024	-	-
Fe2+	mg/l	0.2	NONE	< 0.20	< 0.20	-	-
Fe3+	mg/l	0.2	NONE	< 0.20	< 0.20	-	-
Magnesium (dissolved)	mg/l	0.005	ISO 17025	14	3.4	7.6	10
Mn (II)	mg/l	0.02	NONE	0.66	0.03	-	-
Mn (IV)	mg/l	0.02	NONE	0.54	< 0.02	-	-

Lead (total)	µg/l	0.2	ISO 17025	-	< 0.2	-	-
Manganese (total)	µg/l	0.05	ISO 17025	-	610	-	-
Mercury (total)	µg/l	0.05	ISO 17025	-	< 0.05	-	-
Nickel (total)	µg/l	0.5	ISO 17025	-	14	-	-
Selenium (total)	µg/l	0.6	ISO 17025	-	1.2	-	-



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Analytical Report Number: 23-34220

Project / Site name: Ashley House Cannon Factory

Your Order No: 122387

Lab Sample Number				2681944	2681945	2681946	2681947
Sample Reference				WWS08	BH01	WWS02	WWS10
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.51	2.32	2.62	2.58
Date Sampled				16/05/2023	16/05/2023	16/05/2023	16/05/2023
Time Taken				1007	1120	1142	1204
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				
Zinc (total)	µg/l	0.5	ISO 17025	-	2.4	-	-

Arsenic (dissolved)	µg/l	0.15	ISO 17025	-	0.43	-	-
Cadmium (dissolved)	µg/l	0.02	ISO 17025	-	< 0.02	-	-
Chromium (dissolved)	µg/l	0.2	ISO 17025	-	0.3	-	-
Copper (dissolved)	µg/l	0.5	ISO 17025	-	1.6	-	-
Lead (dissolved)	µg/l	0.2	ISO 17025	-	< 0.2	-	-
Manganese (dissolved)	µg/l	0.05	ISO 17025	-	3.4	-	-
Mercury (dissolved)	µg/l	0.05	ISO 17025	-	< 0.05	-	-
Nickel (dissolved)	µg/l	0.5	ISO 17025	-	1.6	-	-
Selenium (dissolved)	µg/l	0.6	ISO 17025	-	1.1	-	-
Zinc (dissolved)	µg/l	0.5	ISO 17025	-	2.1	-	-

Copper (total)	µg/l	0.5	ISO 17025	-	7.9	-	-
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Monoaromatics & Oxygenates

Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6## _{HS 1D_AL}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8## _{HS 1D_AL}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10## _{HS 1D_AL}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 _{EH 1D_AL_MS}	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 _{EH 1D_AL_MS}	µg/l	10	NONE	< 10	< 10	< 10	1300
TPH-CWG - Aliphatic >C16 - C21 _{EH 1D_AL_MS}	µg/l	10	NONE	< 10	< 10	3800	38000
TPH-CWG - Aliphatic >C21 - C35 _{EH 1D_AL_MS}	µg/l	10	NONE	< 10	< 10	20000	120000
TPH-CWG - Aliphatic >C35 - C44 _{EH 1D_AL_MS}	µg/l	10	NONE	< 10	< 10	340	370
TPH-CWG - Aliphatic (C5 - C35) _{HS+EH 1D_AL_MS}	µg/l	10	NONE	< 10	< 10	24000	160000
TPH-CWG - Aliphatic (C5 - C44) _{HS+EH 1D_AL_MS}	µg/l	10	NONE	< 10	< 10	25000	160000

TPH-CWG - Aromatic >C5 - C7 _{HS 1D_AR}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 _{HS 1D_AR}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 _{HS 1D_AR}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 _{EH 1D_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 _{EH 1D_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 _{EH 1D_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 _{EH 1D_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C35 - C44 _{EH 1D_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) _{HS+EH 1D_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C44) _{HS+EH 1D_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10	< 10

VOCs

Chloromethane##	µg/l	3	ISO 17025	-	< 3.0	-	-
Chloroethane	µg/l	3	ISO 17025	-	< 3.0	-	-
Bromomethane	µg/l	3	ISO 17025	-	< 3.0	-	-
Vinyl Chloride	µg/l	3	NONE	-	< 3.0	-	-
Trichlorofluoromethane	µg/l	3	NONE	-	< 3.0	-	-
1,1-Dichloroethene##	µg/l	3	ISO 17025	-	< 3.0	-	-
1,1,2-Trichloro-1,2,2-trifluoroethane##	µg/l	3	ISO 17025	-	< 3.0	-	-



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Analytical Report Number: 23-34220

Project / Site name: Ashley House Cannon Factory

Your Order No: 122387

Lab Sample Number				2681944	2681945	2681946	2681947
Sample Reference				WWS08	BH01	WWS02	WWS10
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.51	2.32	2.62	2.58
Date Sampled				16/05/2023	16/05/2023	16/05/2023	16/05/2023
Time Taken				1007	1120	1142	1204
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				
Cis-1,2-dichloroethene	µg/l	3	ISO 17025	-	< 3.0	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	-	< 3.0	-	-
1,1-Dichloroethane	µg/l	3	ISO 17025	-	< 3.0	-	-
2,2-Dichloropropane	µg/l	3	ISO 17025	-	< 3.0	-	-
Trichloromethane	µg/l	3	ISO 17025	-	< 3.0	-	-
1,1,1-Trichloroethane##	µg/l	3	ISO 17025	-	< 3.0	-	-
1,2-Dichloroethane	µg/l	3	ISO 17025	-	< 3.0	-	-
1,1-Dichloropropene	µg/l	3	ISO 17025	-	< 3.0	-	-
Trans-1,2-dichloroethene	µg/l	3	ISO 17025	-	< 3.0	-	-
Benzene	µg/l	3	ISO 17025	-	< 3.0	-	-
Tetrachloromethane##	µg/l	3	ISO 17025	-	< 3.0	-	-
1,2-Dichloropropane	µg/l	3	ISO 17025	-	< 3.0	-	-
Trichloroethene	µg/l	3	ISO 17025	-	< 3.0	-	-
Dibromomethane	µg/l	3	ISO 17025	-	< 3.0	-	-
Bromodichloromethane	µg/l	3	ISO 17025	-	< 3.0	-	-
Cis-1,3-dichloropropene	µg/l	3	ISO 17025	-	< 3.0	-	-
Trans-1,3-dichloropropene	µg/l	3	ISO 17025	-	< 3.0	-	-
Toluene	µg/l	3	ISO 17025	-	< 3.0	-	-
1,1,2-Trichloroethane	µg/l	3	ISO 17025	-	< 3.0	-	-
1,3-Dichloropropane	µg/l	3	ISO 17025	-	< 3.0	-	-
Dibromochloromethane	µg/l	3	ISO 17025	-	< 3.0	-	-
Tetrachloroethene	µg/l	3	ISO 17025	-	< 3.0	-	-
1,2-Dibromoethane	µg/l	3	ISO 17025	-	< 3.0	-	-
Chlorobenzene	µg/l	3	ISO 17025	-	< 3.0	-	-
1,1,1,2-Tetrachloroethane	µg/l	3	ISO 17025	-	< 3.0	-	-
Ethylbenzene	µg/l	3	ISO 17025	-	< 3.0	-	-
p & m-Xylene	µg/l	3	ISO 17025	-	< 3.0	-	-
Styrene	µg/l	3	ISO 17025	-	< 3.0	-	-
Tribromomethane	µg/l	3	ISO 17025	-	< 3.0	-	-
o-Xylene	µg/l	3	ISO 17025	-	< 3.0	-	-
1,1,2,2-Tetrachloroethane	µg/l	3	ISO 17025	-	< 3.0	-	-
Isopropylbenzene	µg/l	3	ISO 17025	-	< 3.0	-	-
Bromobenzene	µg/l	3	ISO 17025	-	< 3.0	-	-
n-Propylbenzene	µg/l	3	ISO 17025	-	< 3.0	-	-
2-Chlorotoluene	µg/l	3	ISO 17025	-	< 3.0	-	-
4-Chlorotoluene	µg/l	3	ISO 17025	-	< 3.0	-	-
1,3,5-Trimethylbenzene	µg/l	3	ISO 17025	-	< 3.0	-	-
tert-Butylbenzene	µg/l	3	ISO 17025	-	< 3.0	-	-
1,2,4-Trimethylbenzene	µg/l	3	ISO 17025	-	< 3.0	-	-
sec-Butylbenzene	µg/l	3	ISO 17025	-	< 3.0	-	-
1,3-Dichlorobenzene	µg/l	3	ISO 17025	-	< 3.0	-	-
p-Isopropyltoluene	µg/l	3	ISO 17025	-	< 3.0	-	-
1,2-Dichlorobenzene	µg/l	3	ISO 17025	-	< 3.0	-	-
1,4-Dichlorobenzene	µg/l	3	ISO 17025	-	< 3.0	-	-
Butylbenzene	µg/l	3	ISO 17025	-	< 3.0	-	-
1,2-Dibromo-3-chloropropane	µg/l	3	ISO 17025	-	< 3.0	-	-
1,2,4-Trichlorobenzene	µg/l	3	ISO 17025	-	< 3.0	-	-
Hexachlorobutadiene##	µg/l	3	ISO 17025	-	< 3.0	-	-
1,2,3-Trichlorobenzene	µg/l	3	ISO 17025	-	< 3.0	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



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Analytical Report Number: 23-34220

Project / Site name: Ashley House Cannon Factory

Your Order No: 122387

Lab Sample Number	2681948			
Sample Reference	WWS06			
Sample Number	None Supplied			
Depth (m)	2.53			
Date Sampled	16/05/2023			
Time Taken	1039			
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	

General Inorganics

pH (L005B)	pH Units	N/A	ISO 17025	7.1
Sulphate as SO ₄	µg/l	45	ISO 17025	-
Sulphate as SO ₄	mg/l	0.045	ISO 17025	-
Sulphide	µg/l	5	NONE	-
Chloride	mg/l	0.15	ISO 17025	-
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	3.45
Total Organic Carbon (TOC)	mg/l	0.1	ISO 17025	-
Total Inorganic Carbon (TIC)	mg/l	0.1	NONE	-
Nitrate as N	mg/l	0.01	ISO 17025	-
Nitrate as NO ₃	mg/l	0.05	ISO 17025	-
Nitrite as N	µg/l	1	ISO 17025	-
Nitrite as NO ₂	µg/l	5	ISO 17025	-

Hardness - Total	mgCaCO ₃ /l	1	ISO 17025	314
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Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16
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Heavy Metals / Metalloids

Calcium (dissolved)	mg/l	0.012	ISO 17025	120
Chromium (hexavalent)	µg/l	5	ISO 17025	-
Iron (dissolved)	mg/l	0.004	ISO 17025	-
Fe ²⁺	mg/l	0.2	NONE	-
Fe ³⁺	mg/l	0.2	NONE	-
Magnesium (dissolved)	mg/l	0.005	ISO 17025	5.9
Mn (II)	mg/l	0.02	NONE	-
Mn (IV)	mg/l	0.02	NONE	-

Lead (total)	µg/l	0.2	ISO 17025	-
Manganese (total)	µg/l	0.05	ISO 17025	-
Mercury (total)	µg/l	0.05	ISO 17025	-
Nickel (total)	µg/l	0.5	ISO 17025	-
Selenium (total)	µg/l	0.6	ISO 17025	-



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Analytical Report Number: 23-34220

Project / Site name: Ashley House Cannon Factory

Your Order No: 122387

Lab Sample Number	2681948			
Sample Reference	WWS06			
Sample Number	None Supplied			
Depth (m)	2.53			
Date Sampled	16/05/2023			
Time Taken	1039			
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	
Zinc (total)	µg/l	0.5	ISO 17025	-

Arsenic (dissolved)	µg/l	0.15	ISO 17025	-
Cadmium (dissolved)	µg/l	0.02	ISO 17025	-
Chromium (dissolved)	µg/l	0.2	ISO 17025	-
Copper (dissolved)	µg/l	0.5	ISO 17025	-
Lead (dissolved)	µg/l	0.2	ISO 17025	-
Manganese (dissolved)	µg/l	0.05	ISO 17025	-
Mercury (dissolved)	µg/l	0.05	ISO 17025	-
Nickel (dissolved)	µg/l	0.5	ISO 17025	-
Selenium (dissolved)	µg/l	0.6	ISO 17025	-
Zinc (dissolved)	µg/l	0.5	ISO 17025	-

Copper (total)	µg/l	0.5	ISO 17025	-
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Monoaromatics & Oxygenates

Benzene	µg/l	3	ISO 17025	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6## _{HS 1D AL}	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aliphatic >C6 - C8## _{HS 1D AL}	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aliphatic >C8 - C10## _{HS 1D AL}	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aliphatic >C10 - C12 _{EH 1D AL MS}	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C12 - C16 _{EH 1D AL MS}	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C16 - C21 _{EH 1D AL MS}	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C21 - C35 _{EH 1D AL MS}	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C35 - C44 _{EH 1D AL MS}	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic (C5 - C35) _{HS+EH 1D AL MS}	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic (C5 - C44) _{HS+EH 1D AL MS}	µg/l	10	NONE	< 10

TPH-CWG - Aromatic >C5 - C7 _{HS 1D AR}	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C7 - C8 _{HS 1D AR}	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C8 - C10 _{HS 1D AR}	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C10 - C12 _{EH 1D AR MS}	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C12 - C16 _{EH 1D AR MS}	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C16 - C21 _{EH 1D AR MS}	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C21 - C35 _{EH 1D AR MS}	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C35 - C44 _{EH 1D AR MS}	µg/l	10	NONE	< 10
TPH-CWG - Aromatic (C5 - C35) _{HS+EH 1D AR MS}	µg/l	10	NONE	< 10
TPH-CWG - Aromatic (C5 - C44) _{HS+EH 1D AR MS}	µg/l	10	NONE	< 10

VOCs

Chloromethane##	µg/l	3	ISO 17025	-
Chloroethane	µg/l	3	ISO 17025	-
Bromomethane	µg/l	3	ISO 17025	-
Vinyl Chloride	µg/l	3	NONE	-
Trichlorofluoromethane	µg/l	3	NONE	-
1,1-Dichloroethene##	µg/l	3	ISO 17025	-
1,1,2-Trichloro-1,2,2-trifluoroethane##	µg/l	3	ISO 17025	-



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Analytical Report Number: 23-34220

Project / Site name: Ashley House Cannon Factory

Your Order No: 122387

Lab Sample Number				2681948
Sample Reference				WWS06
Sample Number				None Supplied
Depth (m)				2.53
Date Sampled				16/05/2023
Time Taken				1039
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	
Cis-1,2-dichloroethene	µg/l	3	ISO 17025	-
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	-
1,1-Dichloroethane	µg/l	3	ISO 17025	-
2,2-Dichloropropane	µg/l	3	ISO 17025	-
Trichloromethane	µg/l	3	ISO 17025	-
1,1,1-Trichloroethane##	µg/l	3	ISO 17025	-
1,2-Dichloroethane	µg/l	3	ISO 17025	-
1,1-Dichloropropene	µg/l	3	ISO 17025	-
Trans-1,2-dichloroethene	µg/l	3	ISO 17025	-
Benzene	µg/l	3	ISO 17025	-
Tetrachloromethane##	µg/l	3	ISO 17025	-
1,2-Dichloropropane	µg/l	3	ISO 17025	-
Trichloroethene	µg/l	3	ISO 17025	-
Dibromomethane	µg/l	3	ISO 17025	-
Bromodichloromethane	µg/l	3	ISO 17025	-
Cis-1,3-dichloropropene	µg/l	3	ISO 17025	-
Trans-1,3-dichloropropene	µg/l	3	ISO 17025	-
Toluene	µg/l	3	ISO 17025	-
1,1,2-Trichloroethane	µg/l	3	ISO 17025	-
1,3-Dichloropropane	µg/l	3	ISO 17025	-
Dibromochloromethane	µg/l	3	ISO 17025	-
Tetrachloroethene	µg/l	3	ISO 17025	-
1,2-Dibromoethane	µg/l	3	ISO 17025	-
Chlorobenzene	µg/l	3	ISO 17025	-
1,1,1,2-Tetrachloroethane	µg/l	3	ISO 17025	-
Ethylbenzene	µg/l	3	ISO 17025	-
p & m-Xylene	µg/l	3	ISO 17025	-
Styrene	µg/l	3	ISO 17025	-
Tri bromomethane	µg/l	3	ISO 17025	-
o-Xylene	µg/l	3	ISO 17025	-
1,1,2,2-Tetrachloroethane	µg/l	3	ISO 17025	-
Isopropylbenzene	µg/l	3	ISO 17025	-
Bromobenzene	µg/l	3	ISO 17025	-
n-Propylbenzene	µg/l	3	ISO 17025	-
2-Chlorotoluene	µg/l	3	ISO 17025	-
4-Chlorotoluene	µg/l	3	ISO 17025	-
1,3,5-Trimethylbenzene	µg/l	3	ISO 17025	-
tert-Butylbenzene	µg/l	3	ISO 17025	-
1,2,4-Trimethylbenzene	µg/l	3	ISO 17025	-
sec-Butylbenzene	µg/l	3	ISO 17025	-
1,3-Dichlorobenzene	µg/l	3	ISO 17025	-
p-Isopropyltoluene	µg/l	3	ISO 17025	-
1,2-Dichlorobenzene	µg/l	3	ISO 17025	-
1,4-Dichlorobenzene	µg/l	3	ISO 17025	-
Butylbenzene	µg/l	3	ISO 17025	-
1,2-Dibromo-3-chloropropane	µg/l	3	ISO 17025	-
1,2,4-Trichlorobenzene	µg/l	3	ISO 17025	-
Hexachlorobutadiene##	µg/l	3	ISO 17025	-
1,2,3-Trichlorobenzene	µg/l	3	ISO 17025	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



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Analytical Report Number : 23-34220

Project / Site name: Ashley House Cannon Factory

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-MS (total)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Iron (II) and Iron (III) in water	Determination of Iron II and Iron III in water by coloration with phenanthroline and calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L079-PL	W	NONE
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry).Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L1028-PL	W	ISO 17025
pH at 20oC in water	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L005-PL	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
Sulphate in water	Determination of sulphate in water after filtration by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	ISO 17025
Total organic carbon in water	Determination of dissolved organic carbon in water by TOC/DOC NDIR analyser. Accredited matrices: SW PW GW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L0738-PL	W	ISO 17025
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L0738-PL	W	ISO 17025



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Analytical Report Number : 23-34220

Project / Site name: Ashley House Cannon Factory

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by discrete analyser (colorimetry). Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L078-PL	W	ISO 17025
Total inorganic carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE
Manganese II and IV in Water	Analysis of manganese compounds by periodate oxidation method.	In house method and calculation based on standard methods for the examination of water and waste water.	L090-PL	W	NONE
TPH in (Water)	Determination of TPH bands by HS-GC-MS/GC-MS	In-house method, TPH with carbon banding.	L088/70-PL	W	NONE
Chloride in water	Determination of Chloride (dissolved) colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260. Accredited matrices: SW, PW, GW.	L082-PL	W	ISO 17025

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
-	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

- Quality control parameter has a high recovery (outside of limit); however the associated result is below the reporting limit, other checks applied prior to report data have been accepted. The result should be considered as being deviating and may be compromised.



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Appendix E Controlled Waters Detailed Quantitative Risk Assessment Data

- I. Derivation of Site Specific Remediation Target Values – Cannon Factory**
- II. Parameter Calculations – Cannon Factory**
- III. Remedial Target Worksheets – Cannon Factory**
- IV. Derivation of Site Specific Remediation Target Values – Ashley House**
- V. Parameter Calculations – Ashley House**
- VI. Remedial Target Worksheets – Ashley House**

I. Derivation of Site Specific Remediation Target Values - Cannon Factory

1. Derivation of Site Specific Remediation Target Values – Cannon Factory

Elevated concentrations of hydrocarbons were recorded in the groundwater at the Site. Lines of Evidence indicate the source of this contamination is likely to be from off-site. However, to confirm the concentrations recorded at the Site pose a low risk to the surrounding controlled waters environment, the following risk assessment has been completed. The following section outlines the methodology used together with justification of the input parameters.

1.1 Remedial Targets Methodology

Assessment of the potential risk to controlled water receptors from the identified contaminants of concern has been progressed using the EA Remedial Targets Methodology (RTM). The EA RTM model is a one-dimensional fate and transport single porosity model, which assess contaminant and groundwater migration in the intergranular flow pathway. Contaminants are present in the groundwater, the Level 3 groundwater assessment has therefore been used to model contaminant fate and transport on-site.

Conservatism

The RTM model is a deterministic model which attempts to replicate ground conditions from Site specific and literature information in order to conclude the possible risks to receptors, and generate criteria at which an impact at the receptor is absent. Due to the complexities of ground conditions and contaminant fate and transport in the environment any model is inevitably a very simplified assessment which may not consider various factors and is likely to provide an overly conservative assessment even with Site specific values. Examples of conservatism built into the model and the outputs are included below;

- The RTM Model assumes below ground obstructions are absent and a linear groundwater and contaminant flow path comprising a homogeneous material is present between the source and receptor. However, the aquifer is not located within a heterogeneous material and several below ground obstructions are present in the local area including basements, likely to be distorting groundwater flow. Groundwater and contaminant flow are likely to be less than modelled with increased attenuation of contaminants along the flow path expected.
- An assumption has been made on the plume extending through the whole groundwater body, no allowance has been made for vertical contaminant concentration in the groundwater body. Utilisation of a plume through the entire groundwater body retains conservatism within the model.
- The RTM assessment models the soil transport pathway through predicting the proportion of a contaminant that will enter the dissolved phase within the soil. The dissolved component is then assumed as mixing with and becoming diluted by the underlying groundwater. The dilution is calculated from the ratio of infiltrating rainwater and groundwater flux. The RTM model does not however account for any potential attenuation as the leaching contaminant percolates through the vadose zone.
- The initial concentrations used are set at the maximum recorded groundwater concentrations, the maximum groundwater concentrations are assumed to originate from the closest monitoring well to the Site boundary. The use of the maximum concentration also assumes that concentration is present across the entire Site whereas in reality the maximum concentration is limited in its extent.
- No application of vertical transport retardation in the unsaturated zone including volatilisation of contaminants.

1.2 Physical and Chemical Input Parameters

Table 1 presents the physical and chemical input parameters and associated references used within the RTM worksheets.

Table 1: Controlled Waters Risk Assessment Input Parameters

Parameter	Value	Unit	Information Source
Level 1			
Water Filled Porosity	0.24	Fraction	The water bearing strata at the site is generally described as comprising very gravelly sand to very sandy gravel representing the Kempton Park Gravel Member. A Particle Size Distribution (PSD) test undertaken by Socotec indicated the gravel fraction to range from 83% to 92%. The standard default values for a sandy soil as specified in EA Science Report SCO50021/SR3 are used.
Air Filled Porosity	0.30	Fraction	The water bearing strata at the site is generally described as comprising very gravelly sand to very sandy gravel representing the Kempton Park Gravel Member. A Particle Size Distribution (PSD) test undertaken by Socotec indicated the gravel fraction to range from 83% to 92%. The standard default values for a sandy soil as specified in EA Science Report SCO50021/SR3 are used.
Bulk Density of Soil Zone Material	1.18	g/cm ³	The water bearing strata at the site is generally described as comprising very gravelly sand to very sandy gravel representing the Kempton Park Gravel Member. A Particle Size Distribution (PSD) test undertaken by Socotec indicated the gravel fraction to range from 83% to 92%. The standard default values for a sandy soil as specified in EA Science Report SCO50021/SR3 are used.
Fraction of Organic Carbon in the Soil	0.012	Fraction	An average value has been selected based on the TOC values recorded within the Sand and Gravel site soils, refer to Appendix E sub-section II.
Level 2			
Infiltration	4.33x10 ⁻⁶	m/day	Based on a total annual rainfall between 2000 and 2022 of 631.9mm/year (Annual Rainfall for Heathrow). Based on the proposed landscaping parameters drawing (ref: 449-102 Rev 02 included in Appendix A) 95% of the site is proposed to be hardstanding, therefore a 5% of the rainfall is assumed to fall on permeable ground. Of the 5% falling on permeable ground the effective rainfall is calculated as 5% of annual rainfall entering the groundwater.
Length of contaminant source in direction of groundwater flow	50.57	m	Elevated concentrations of heavy chained hydrocarbons were recorded in soil samples from WWS02, WWS10, WWS11 and WTP03 within the sand and gravel band representing Kempton Park Gravels with TPH trace suggestive of Lube oil. However, water samples from WWS02 and WWS10 could not be analysed due to high content of silt. The only water sample obtained from BH02, situated c. 15m

Parameter	Value	Unit	Information Source
			downgradient of WWS10, recorded TPH concentrations below the laboratory limits of detection. The distance between exploratory hole locations is approximately 50.57m therefore this is taken as a dimension of the hotspot. This is considered to be an overestimation of a potential hotspot, however, to provide a conservative assessment, this value has been adopted.
Saturated aquifer thickness	3.1	m	Thickness of the Secondary A aquifer, comprising the Kempton Park Gravels, is taken from the borehole observations as the depth of strike to the low permeability layer.
Hydraulic gradient of water table	0.0069	-	Calculated as an average hydraulic gradient from on-site groundwater levels from the first monitoring round considered to be most representative of groundwater levels across the monitoring period. Refer to Appendix E sub-section II for calculations.
Hydraulic conductivity of aquifer in which dilution occurs	0.0101	m/d	Representative of the Secondary A Aquifer, comprising the Kempton Park Gravels. Based on average of site specific Falling Head Tests. Refer to Appendix E sub-section II for calculations.
Width of contaminant perpendicular to groundwater flow	25	m	No specific hotspots of contamination were recorded at the Site, however, the distance between exploratory hole locations is approximately 25m therefore this is taken as a dimension of the hotspot.
Level 3 – soil			
Distance to compliance point	50m	m	The default 50 metres compliance point is used in the model for Hazardous Substances.
Bulk Density	1.18	g/cm ²	The Kempton Park Gravels at the site are heterogeneous but are generally described as sand and gravel. The standard default values for a sand as specified in EA Science Report SCO50021/SR3 are used.
Fraction of Organic Carbon in the Aquifer	0.012	fraction	An average value has been selected based on the TOC values recorded within the superficial site soils (Kempton Park Gravels), refer to Appendix E sub-section II.
Level 3 – Groundwater			
Effective Porosity	0.2	%	Adjusted value given Domenico et al identify a total porosity for sand/gravel between 24% and 53%.
Bulk Density of Aquifer	1.18	g/m ²	The Kempton Park Gravels at the site are heterogeneous but are generally described as sand and gravel. The standard default values for a sand as specified in EA Science Report SCO50021/SR3 are used.
Plume thickness	3.1	m	Entire width of saturated aquifer.
Dispersivity	1 dimension User defined	-	Dispersivity in one direction has been used simulating a source at the top of the groundwater body. Xu and Eckstein has been used with the vertical dispersion altered to a low number to ensure the plume thickness does not exceed the physical limits of the aquifer. This is as advised in the 2006 EA RTM User Manual.

Parameter	Value	Unit	Information Source
Initial contaminant concentration in groundwater at plume core.	0.00028 (fluoranthene)	mg/l	Taken as the maximum contaminant concentration recorded in groundwater over the course of the groundwater monitoring.
	<0.000001 (benzo(b)fluoranthene)		
	<0.000001 (Benzo(k)fluoranthene)		
	<0.001 (Arom >C05-C06 (Benzene))		
	<0.001 (Arom >C08-C10 (xylenes))		
	<0.001 (Arom >C10-C12)		
	<0.001 (Arom >C12-C16)		
	0.00024 (Arom >C16- C21(anthracene))		
	<0.000001 (Arom >C21-C35 (benzo[a]pyrene))		
	<0.001 (Ali >C5- C6)		
	1.3 (Ali >C12 – C16)		
	38 (Ali >C16-C21)		
	120 (Ali >C21- C35)		
	0.37 (Ali >C35- C44)		

1.2.1 Hydraulic Gradient

Groundwater monitoring on a Site wide basis has been undertaken by Waterman on two occasions on 3rd and 16th of May 2023, within which groundwater levels have generally remained consistent between monitoring rounds. The groundwater levels recorded are presented in Appendix E sub-section II, with the first round of groundwater level readings used to calculate the hydraulic gradient.

The hydraulic gradient of the site was calculated based on groundwater levels recorded in the Kempton Park Gravels. Known distances between boreholes and changes in piezometric surface were calculated to derive hydraulic gradients. Analysis of the range of values indicates a small variation across the site.

The range in values was calculated between 0.0032 and 0.014, which is considered to be indicative of the heterogeneous nature of the Kempton Park Gravels, comprising varying sand and gravel content. To decide on a representative value to be used within this risk assessment, basic statistics were calculated including the mean and median value. The mean was derived as 0.0069, with a standard deviation of 0.005, alternatively the median was calculated, which was 0.0051. To provide a representative value,

0.0069 has been used within this risk assessment. Appendix E sub-section II presents the derived input parameters used in the Controlled Waters Risk Assessment.

The inferred groundwater direction plan (Figure Ref WIE16248-100_GIS_GQRA_6A, Appendix A) indicates the movement of groundwater is generally to the west.

1.2.2 Hydraulic Conductivity

Two falling head tests were undertaken as part of the Waterman Ground Investigation in 2023. The falling head test was completed in the Kempton Park Gravel (shallow groundwater body) and the results summarised in Table 2.

Table 2: Hydraulic conductivity test results

Borehole ID	Depth of falling head test (m bgl)	Strata	Hydraulic Conductivity (k) m/s
WWS03	2.0-3.0	Made Ground to 1.0mbgl (reinforced concrete underlain by granular Mad Ground). Clay to 1.8mbgl (soft orange brown very sandy gravelly Clay. Gravel is angular to subrounded fine to coarse of flint and quartzite.) Kempton Park Gravel to 3.0mbgl (orange, brown clayey gravelly fine to medium SAND. Gravel is angular to subrounded fine to coarse of flint and quartzite.)	1.8×10^{-07}
WWS11	2.5-3.5	Made Ground to 1.3mbgl (reinforced concrete underlain by granular Mad Ground). Silt to 2.3mbgl (Soft orange brown sandy gravelly fine to medium SILT.) Kempton Park Gravel to 3.5mbgl (Brown sandy angular to subrounded fine to coarse GRAVEL of flint and quartzite. Sand is fine to medium)	5.32×10^{-08}

One falling head test was also completed on the adjacent Ashley House site. Although this is a different site, it is underlain by the Kempton Park Member, and is located approximately 85m to the southwest of the Cannon Factory Site. The results of the falling head tests for Ashley House are summarised in Table 3 below.

Table 3: Hydraulic conductivity test results (Ashley House)

Borehole ID	Depth of falling head test (m bgl)	Strata	Hydraulic Conductivity (k) m/s
WWS04	2.5-3.5	Made Ground to 1.3mbgl (variable Made Ground consisting of coarse gravel and fine to coarse sand). Silt to 2.1mbgl (soft brown clayey sandy Silt. Sand is fine to medium.) Kempton Park Gravel to 3.5mbgl (brown sandy angular to subrounded fine to coarse GRAVEL of flint and quartzite. Sand is fine to coarse.)	1.32×10^{-06}

The variability of the values between 1.32×10^{-06} and 5.32×10^{-08} m/s indicates a variable permeability within the Kempton Park Gravel.

The relevance of this value measured can be compared to literature values.

Domenico and Schwartz 1990 provide literature values for gravel between 3×10^{-4} and 3×10^{-2} m/s and for coarse sand between 9×10^{-7} and 6×10^{-3} m/s.

Freeze and Cherry, 1979, provides literature values for gravel between 1×10^{-3} and 1.0 m/s, with a sandy gravel given as between 1×10^{-3} m/s and 1×10^{-2} m/s. The Kempton Park Gravels are generally described as between gravelly sand and a sandy gravel, which would indicate 1×10^{-2} m/s and 1×10^{-3} m/s, might be relevant literature values.

Falling head tests were not previously undertaken for the Site as part of the 2015 RSK and 2019 Socotec ground investigations.

Measured hydraulic conductivity from the ground investigation works indicates the site derived values are much lower than those expected from the literature values. This could be due the compaction of the strata and variable sand and gravel content. To ensure the assessment remains site specific the site derived hydraulic conductivity will be applied.

It is therefore considered that the hydraulic conductivity recorded on the Site is representative and will be applied.

1.2.3 Saturated Aquifer Thickness

Two rounds of groundwater monitoring have been completed following the completion of ground investigations. The results of the groundwater monitoring of the shallow aquifer have been tabulated and included in Appendix E sub-section II.

The saturated aquifer thickness of 3.1m is utilised in the assessment. The value is extrapolated from the recorded groundwater strikes and depth of low permeability London Clay as an average thickness.

1.2.4 Infiltration

Hard Cover and Soft landscaping

Soft landscaping is proposed as part of the development, bordering western and most of the northern Site boundaries. It is estimated that soft landscaping will cover approximately 5% of the proposed development. As a result the ground cover will remain open and the volume of infiltration through these areas will be much higher than the surrounding Development areas.

Based on this type of land-use and ground conditions across the site (sand and clay matrix in Made Ground, sandy gravelly superficial deposits), the effective infiltration, i.e. the percentage of rainfall that reaches the water table following losses from surface run-off, root zone recharge and plant uptake, should be calculated. This calculation is complex, however it is generally estimated that effective precipitation (i.e. that available to plants etc) is approximately half of total rainfall. Taking into account additional losses to run-off it is estimated that 5.0% of precipitation will end up as deep percolation to the underlying groundwater. It should also be noted that this is likely to be far less in the dry summer months as the ground surface is harder and the soils are drier, leading to a greater loss to surface run off and plant uptake. However, in the winter this is likely to be higher due to saturated soils and softer ground surface.

1.2.5 Contaminant Values

As discussed in the report text, indicative concentrations of key contaminants were tested for as part of the laboratory testing and the ground conditions were considered to be favourable to degradation.

Degradation in the dissolved phase only will be run for the contaminants of concern given the absence of sorption being a primary attenuation factor for them.

Half life values and partition coefficients for the contaminants of concern are included in Table below;

Table 4: Contaminant Values

Contaminant	Half life (days)	Koc (l/kg)	Henry's Law Constant (dimensionless)	Target Concentration mg/l (Source)
Aromatic >C05-C06 (Benzene)	750	68	0.116	0.01 (EQS)
Aromatic >C08-C10 (xylenes)	360	1590	0.112 (m-xylene)	0.03 (EQS)
Aromatic >EC10-EC12	204	2510	7.22×10^{-2}	0.09 (WHO)
Aromatic >EC12-EC16	920	5010	1.26×10^{-2}	0.09 (WHO)
Aromatic >EC16-EC21 (anthracene)	920	5.62×10^3	1.81×10^{-4}	0.0001 mg/l (EQS)
Aromatic >EC16-EC21	4000	1.58×10^4	6.95×10^{-4}	0.09 (WHO DWS)
Aromatic >EC21-EC35 (benzo[a]pyrene)	1060	1.29×10^5	1.76×10^{-6}	0.00000017 (EQS)
Aromatic >EC21-EC35	4000	1.26×10^5	2.48×10^{-5}	0.09 (WHO DWS)
Aliphatic >C5-C6	10000	794	21	15 (WHO)
Aliphatic >C12-C16	10000	5.01×10^6	171	0.3 (WHO)
Aliphatic >C16-C21	10000	6.31×10^8	1.07×10^3	0.3 (WHO)
Aliphatic >C21-C35*	10000	6.31×10^8	1.07×10^3	0.3 (WHO)
Aliphatic >C35-C44 *	10000	6.31×10^8	1.07×10^3	0.3 (WHO)

* There are no contaminant values derived for Aliphatic C21-C35 and C35-C44 bands due to their low mobility, however, for the conservative approach we have applied values for lighter chain Aliphatic band (C16-C21) to derive the RTV.

1.2.6 Distance to Compliance Point

The contaminants of concern are hazardous groundwater contaminants, a default compliance point of 50m will be used in the assessment, consistent with EA guidance.

It is noted the key surface water receptor at the Site is the Pymmes Brook, measured as a direct distance from the nearest point along the site boundary to be 360m east of the Site from the eastern site boundary.

This is unlikely to be the distance the groundwater travels as the groundwater is inferred to be moving in a western direction.

The use of 50m as the compliance point builds in substantial conservatism in the assessment.

1.2.7 Sensitivity Analysis

As the model is dependent on a number of assumptions it was considered prudent to run a sensitivity analysis to test whether altering the input values for key parameters would have an effect on the values derived.

A sensitivity analysis was performed during the development of the target values which involved varying one input parameter at a time between reasonable minimum and maximum values and evaluating the effect this had on the target concentrations.

Distance to the compliance point, hydraulic conductivity, hydraulic gradient, degradation rates and time variant have been indicated as values of high sensitivity. However, the value set for distance to