TEST CERTIFICATE

Determination of TRL Dynamic Cone Penetrometer

Tested in accordance with In TRL Road Note 31 & 8 and IAN 73/06 (2009 amendment)

Stantec UK Limited
Third Floor
White Building
1-4 Cumberland Place
Southampton
SO15 2NP
United Kingdom

Email: Southampton@Stantec.com

Client: Croudace Homes

Client Address: Croudace Homes
Tupwood Lane
Caterham

Postcode: CR3 6XQ

Contact:

Site Name: Land to the north of School Road

Site Address: Arborfield Cross, RH14 4TN

Certificate Number: DCP04

Client Reference:

Job Number: 333801678

Date Received: 13/10/2025

Date Tested: 13/10/2025

Test Results:

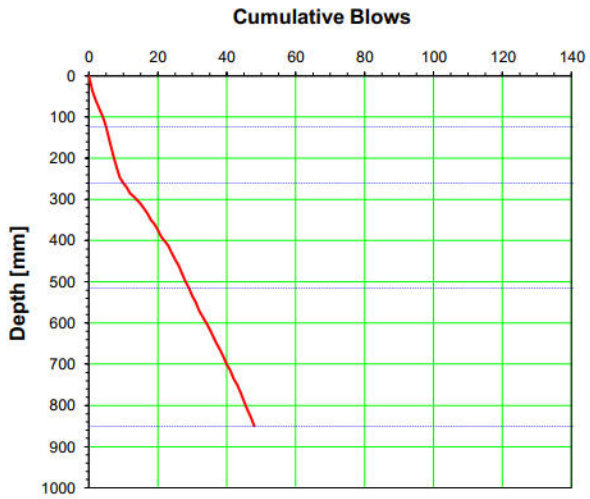
Sample Description:

Sample Number: DCP04

Start Depth [mm]: 60

Test Location: DCP04

Layer	No of Blows	Cumulative Blows	CBR [%]	Layer Thickness [mm]	Total Depth [mm]
Topsoil	5	5	10	124	124
Topsoil	5	10	9	136	260
RTD	19	29	19	255	515
LCF	19	48	15	335	850



Comments: TRL Equation : $Log_{10}(CBR) = 2.480 - 1.057 \times Log_{10}(Strength)$

Approved Signatory: K Barker

Position: Technical Associate

for and behalf of
Stantec UK Limited

Date Reported: 17 October 2025

Form Number: HD-TRL-DCP ver1

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Determination of TRL Dynamic Cone Penetrometer

Tested in accordance with In TRL Road Note 31 & 8 and IAN 73/06 (2009 amendment)

Stantec UK Limited
Third Floor
White Building
1-4 Cumberland Place
Southampton
SO15 2NP
United Kingdom

Email: Southampton@Stantec.com

Client: Croudace Homes

Client Address: Croudace Homes
Tupwood Lane
Caterham

Postcode: CR3 6XQ

Contact:

Site Name: Land to the north of School Road

Site Address: Arborfield Cross, RH41 4TN

Certificate Number: DCP05

Client Reference:

Job Number: 333801678

Date Received: 13/10/2025

Date Tested: 13/10/2025

Test Results:

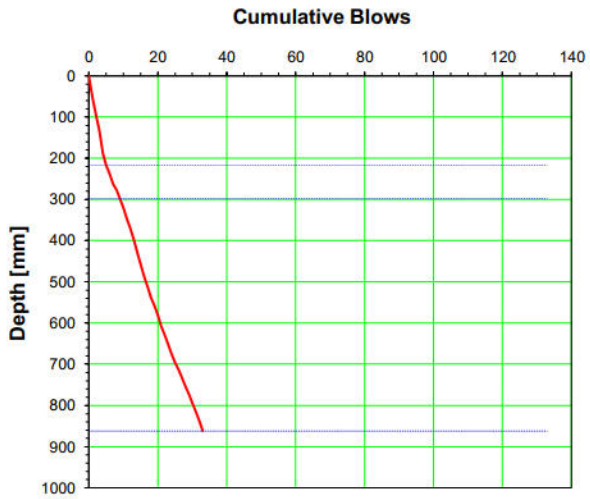
Sample Description:

Sample Number: DCP05

Start Depth [mm]: 52

Test Location: DCP05

Layer	No of Blows	Cumulative Blows	CBR [%]	Layer Thickness [mm]	Total Depth [mm]
Topsoil	4	5	4	217	217
RTD	4	9	13	81	298
RTD	24	33	11	564	862



Comments: TRL Equation : $Log_{10}(CBR) = 2.480 - 1.057 \times Log_{10}(Strength)$

Approved Signatory: K Barker

Position: Technical Associate

for and behalf of
Stantec UK Limited

Date Reported: 17 October 2025

Form Number: HD-TRL-DCP ver1

Appendix D Site Monitoring Data

Ground Gas Monitoring Form

Project Details			
Project Name:	Aborfield Cross	Project Number:	333801775
Visit Details			
Date:	20/10/2025	Weather:	Sunny and cloudy
Time:	08:30	Monitoring Round:	1 of 3
Comments:		Recorded by:	ER
Well Details			
Monitoring point ID:	WS01	Casing Level above GL (m):	0.41
Single or dual gas tap:	Single	Top of Screen (m bgl):	0.59
Pipe Material:		Base of Screen (m bgl):	4.59
Pipe Diameter D (mm):		Top of Screen (m b.casing):	1.00
Hole Diameter R (mm):		Base of Screen (m b.casing):	5.00
Equipment Details			
Gas Analyser Model:	GFM	Instrument Serial Number:	
Calibration Date:	23/10/2026	Span gas check ok:	
PID instrument:		Instrument Serial Number:	
Calibration Date:		Calibration check ok:	
Well conditons:			

Good condition. Gas tap closed

Well measurement readings

Parameter Details - for Not Recorded use "NR" and explain why in Well Conditions. For non-detect use the displayed value.

Time (hh:mm:ss)	Relative BH pressure (hPA/mb)	Borehole flow (litres/hour)	CH4 (%)	CO2 (%)	O2 (%)	CO (ppm)	H2S (ppm)	VOC (ppm)
0:00:00	986	0.00	0.00	0.00	20.70	0.00	0.00	
0:00:30	-	0.00	0.00	0.10	20.50	0.00	0.00	
0:01:00	-	0.00	0.00	0.10	20.50	0.00	0.00	
0:02:00	-	0.00	0.00	0.10	20.50	0.00	0.00	
0:03:00	-	0.00	0.00	0.10	20.50	0.00	0.00	
0:04:00	-	0.00	0.00	0.10	20.20	0.00	0.00	
0:05:00	-	0.00	0.00	0.10	20.20	0.00	0.00	
0:10:00	-	0.00	0.00	0.10	20.20	0.00	0.00	
0:15:00	-	0.00	0.00	0.10	20.20	0.00	0.00	
0:20:00	-	0.00	0.00	0.10	20.20	0.00	0.00	
Steady State		0.00	0.00	0.10	20.50	0.00	0.00	

Ambient readings

Atmospheric pressure (mb):	986.00						
Ambient concentrations:		CH4	CO2	O2	CO	H2S	VOC
		0.00	0.00	20.80	0.00	0.00	

Observations during monitoring

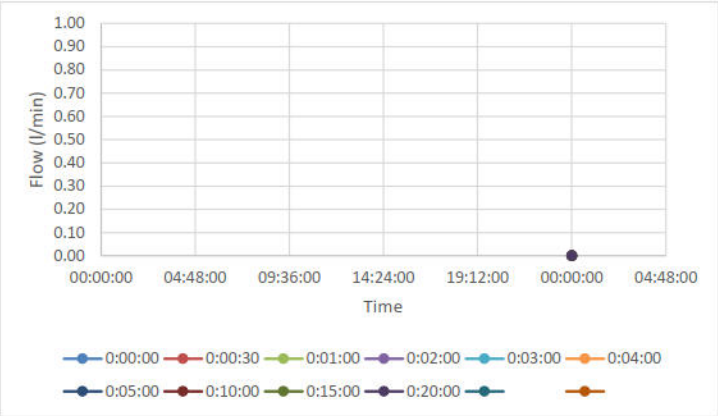
Vapour/Gas Samples (note Sample Ref must include monitoring round as prefix)

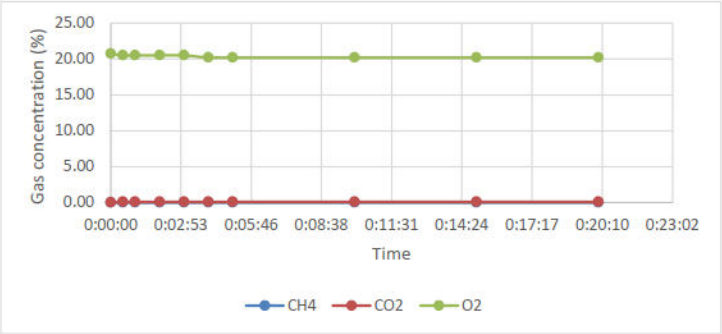
Sample Depth (mbgl):	Sample Ref:	Sample Type:	Container Type:	Sample Size (l):	Starting vacuum:	End vacuum:	Sampling Rate (l/min):
QA/QC Samples							
☐ Duplicate							
☐ Triplicate							

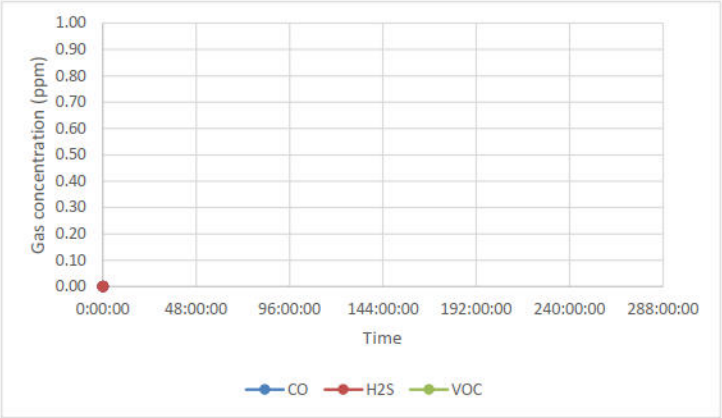
Groundwater Gauging:

Equipment Details:					
Dipmeter type:				Instrument serial number:	
Monitoring Data					
Monitoring Datum				Water Level Depth (m bd):	2.70
NAPL Gauging:	LNAPL	DNAPL		Measured Well Depth (m bd):	5.10
Depth to NAPL (m bd):				Water level depth (m bgl)	2.29
NAPL Thickness (mm):				Well Depth (m bgl):	4.69

Ground Gas Monitoring Form







Ground Gas Monitoring Form

Project Details			
Project Name:	Aborfield Cross	Project Number:	333801775
Visit Details			
Date:	20/10/2025	Weather:	Sunny & cloudy
Time:	09:00	Monitoring Round:	1 of 3
Comments:		Recorded by:	ER
Well Details			
Monitoring point ID:	WS02	Casing Level above GL (m):	0.35
Single or dual gas tap:	Single	Top of Screen (m bgl):	0.65
Pipe Material:		Base of Screen (m bgl):	4.65
Pipe Diameter D (mm):		Top of Screen (m b.casing):	1.00
Hole Diameter R (mm):		Base of Screen (m b.casing):	5.00
Expected headspace air volume:			
Equipment Details			
Gas Analyser Model:	GFM	Instrument Serial Number:	
Calibration Date:	23/10/2026	Span gas check ok:	
PID instrument:		Instrument Serial Number:	
Calibration Date:		Calibration check ok:	
Well conditons:			

Good condition. Gas tap closed

Well measurement readings

Parameter Details - for Not Recorded use "NR" and explain why in Well Conditions. For non-detect use the displayed value.

Time (hh:mm:ss)	Relative BH pressure (hPA/mb)	Borehole flow (litres/hour)	CH4 (%)	CO2 (%)	O2 (%)	CO (ppm)	H2S (ppm)	VOC (ppm)
0:00:00	986	0.00	0.00	0.00	20.80	0.00	0.00	-
0:00:30	-	0.00	0.00	0.10	20.50	0.00	0.00	-
0:01:00	-	0.00	0.00	0.10	20.50	0.00	0.00	-
0:02:00	-	0.00	0.00	0.10	20.50	0.00	0.00	-
0:03:00	-	0.00	0.00	0.10	20.50	0.00	0.00	-
0:04:00	-	0.00	0.00	0.10	20.50	0.00	0.00	-
0:05:00	-	0.00	0.00	0.10	20.50	0.00	0.00	-
0:10:00	-	0.00	0.00	0.10	20.50	0.00	0.00	
0:15:00	-	0.00	0.00	0.10	20.50	0.00	0.00	
0:20:00	-	0.00	0.00	0.10	20.50	0.00	0.00	
	-							
	-							
Steady State		0.00	0.00	0.10	20.50	0.00	0.00	

Ambient readings							
Atmospheric pressure (mb):	986.00						
Ambient concentrations:		CH4	CO2	O2	CO	H2S	VOC
		0.00	0.10	20.80	0.00	0.00	

Observations during monitoring

<<< LEL. Stable after 5 mins

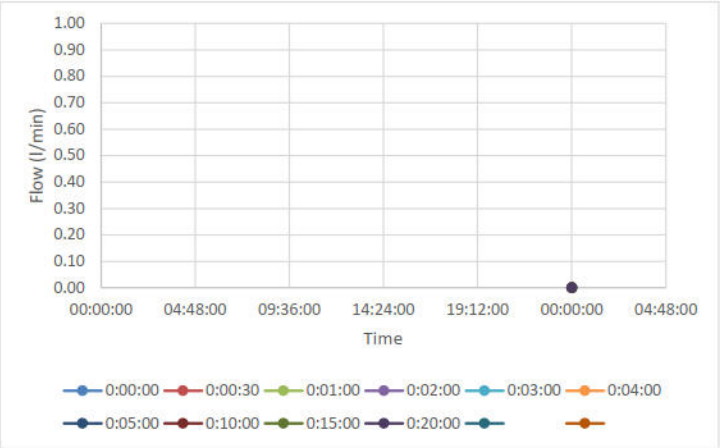
Vapour/Gas Samples (note Sample Ref must include monitoring round as prefix)

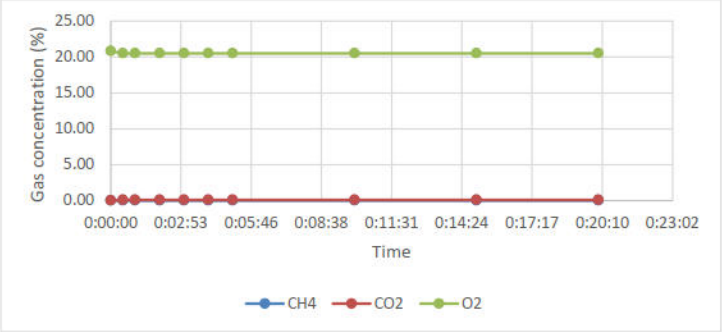
Sample Depth (mbgl):	Sample Ref:	Sample Type:	Container Type:	Sample Size (l):	Starting vacuum:	End vacuum:	Sampling Rate (l/min):
QA/QC Samples							
☐ Duplicate							
☐ Triplicate							

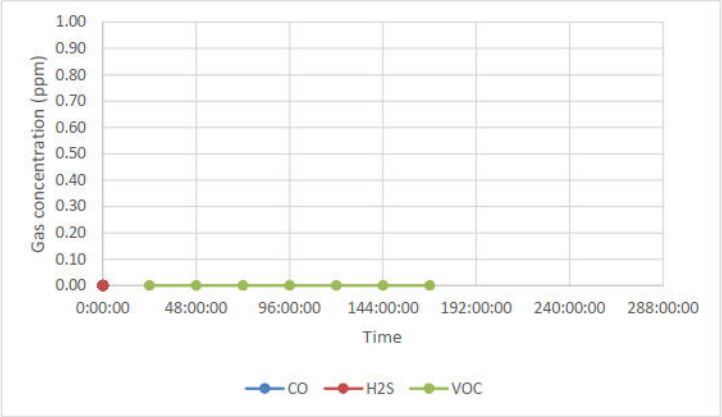
Groundwater Gauging:

Equipment Details:			
Dipmeter type:		Instrument serial number:	
Monitoring Data			
Monitoring Datum		Water Level Depth (m bd):	4.20
NAPL Gauging:	LNAPL / DNAPL	Measured Well Depth (m bd):	5.04
Depth to NAPL (m bd):		Water level depth (m bgl)	3.85
NAPL Thickness (mm):		Well Depth (m bgl):	4.69

Ground Gas Monitoring Form







Ground Gas Monitoring Form

Project Details			
Project Name:	Aborfield Cross	Project Number:	333801775
Visit Details			
Date:	20/10/2025	Weather:	Sunny & Cloudy
Time:	09:30	Monitoring Round:	1 of 3
Comments:		Recorded by:	ER
Well Details			
Monitoring point ID:	WS03	Casing Level above GL (m):	0.36
Single or dual gas tap:	Single	Top of Screen (m bgl):	
Pipe Material:		Base of Screen (m bgl):	
Pipe Diameter D (mm):		Top of Screen (m b.casing):	
Hole Diameter R (mm):		Base of Screen (m b.casing):	
Expected headspace air volume:			
Equipment Details			
Gas Analyser Model:	GFM	Instrument Serial Number:	
Calibration Date:	23/10/2026	Span gas check ok:	
PID instrument:		Instrument Serial Number:	
Calibration Date:		Calibration check ok:	
Well conditons:			

Good condition. Gas tap closed

Well measurement readings

Parameter Details - for Not Recorded use "NR" and explain why in Well Conditions. For non-detect use the displayed value.

Time (hh:mm:ss)	Relative BH pressure (hPA/mb)	Borehole flow (litres/hour)	CH4 (%)	CO2 (%)	O2 (%)	CO (ppm)	H2S (ppm)	VOC (ppm)
0:00:00	932	0.00	0.00	0.10	20.80	0.00	0.00	-
0:00:30	-	0.00	0.00	0.10	20.30	0.00	0.00	-
0:01:00	-	0.00	0.00	0.10	20.30	0.00	0.00	-
0:02:00	-	0.00	0.00	0.10	20.30	0.00	0.00	-
0:03:00	-	0.00	0.00	0.10	20.30	0.00	0.00	-
0:04:00	-	0.00	0.00	0.10	20.30	0.00	0.00	-
0:05:00	-	0.00	0.00	0.10	20.30	0.00	0.00	-
0:10:00	-	0.00	0.00	0.10	20.30	0.00	0.00	
0:15:00	-	0.00	0.00	0.10	20.30	0.00	0.00	
0:20:00	-	0.00	0.00	0.10	20.30	0.00	0.00	
	-							
	-							
Steady State		0.00						

Ambient readings

Atmospheric pressure (mb):	986.00						
Ambient concentrations:	CH4	CO2	O2	CO	H2S	VOC
	0.00	0.10	20.80	0.00	0.00	-

Observations during monitoring

<<< LEL. Stable after 5 mins

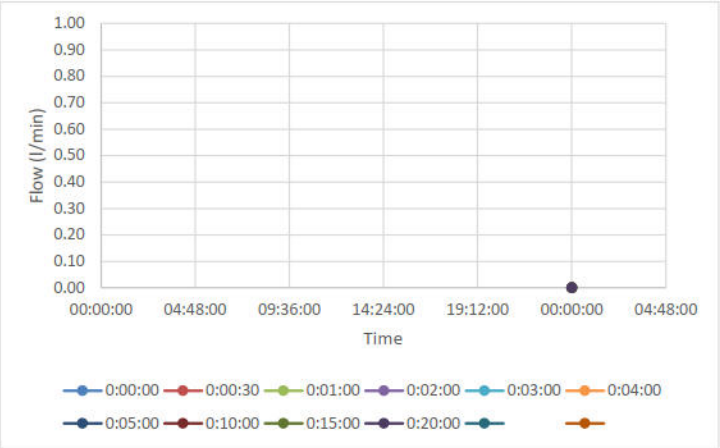
Vapour/Gas Samples (note Sample Ref must include monitoring round as prefix)

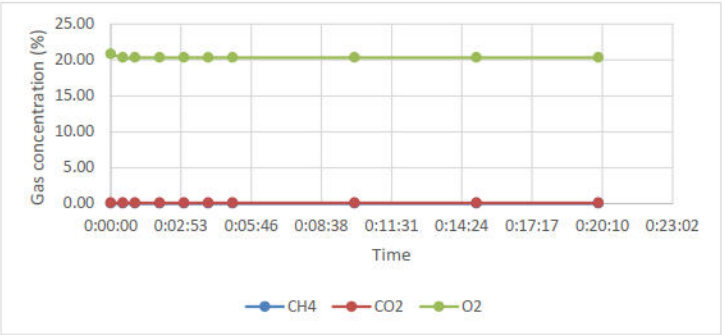
Sample Depth (mbgl):	Sample Ref:	Sample Type:	Container Type:	Sample Size (l):	Starting vacuum:	End vacuum:	Sampling Rate (l/min):
QA/QC Samples							
☐ Duplicate							
☐ Triplicate							

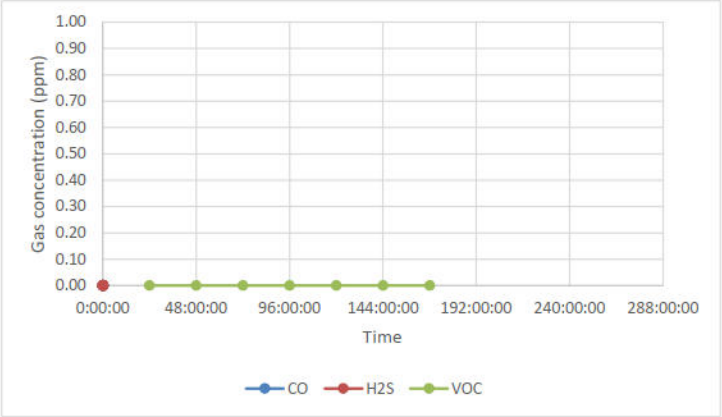
Groundwater Gauging:

Equipment Details:			
Dipmeter type:		Instrument serial number:	
Monitoring Data			
Monitoring Datum		Water Level Depth (m bd):	3.45
NAPL Gauging:	LNAPL / DNAPL	Measured Well Depth (m bd):	5.07
Depth to NAPL (m bd):		Water level depth (m bgl)	3.09
NAPL Thickness (mm):		Well Depth (m bgl):	4.71

Ground Gas Monitoring Form







Ground Gas Monitoring Form

Project Details			
Project Name:	Aborfield Cross	Project Number:	333801775
Visit Details			
Date:	20/10/2025	Weather:	Sunny & cloudy
Time:	10:00	Monitoring Round:	1 of 3
Comments:		Recorded by:	ER
Well Details			
Monitoring point ID:	WS05	Casing Level above GL (m):	0.46
Single or dual gas tap:	Single	Top of Screen (m bgl):	0.55
Pipe Material:		Base of Screen (m bgl):	4.55
Pipe Diameter D (mm):		Top of Screen (m b.casing):	1.00
Hole Diameter R (mm):		Base of Screen (m b.casing):	5.00
Expected headspace air volume:			
Equipment Details			
Gas Analyser Model:	GFM	Instrument Serial Number:	
Calibration Date:	23/10/2025	Span gas check ok:	
PID instrument:		Instrument Serial Number:	
Calibration Date:		Calibration check ok:	
Well conditons:			

Good condition. Gas tap closed

Well measurement readings

Parameter Details - for Not Recorded use "NR" and explain why in Well Conditions. For non-detect use the displayed value.

Time (hh:mm:ss)	Relative BH pressure (hPA/mb)	Borehole flow (litres/hour)	CH4 (%)	CO2 (%)	O2 (%)	CO (ppm)	H2S (ppm)	VOC (ppm)
0:00:00	983	0.00	0.00	0.10	20.80	0.00	0.00	-
0:00:30	-	0.00	0.00	0.10	20.80	0.00	0.00	-
0:01:00	-	0.00	0.00	0.10	20.60	0.00	0.00	-
0:02:00	-	0.00	0.00	0.10	20.40	0.00	0.00	-
0:03:00	-	0.00	0.00	0.10	20.40	0.00	0.00	-
0:04:00	-	0.00	0.00	0.10	20.40	0.00	0.00	-
0:05:00	-	0.00	0.00	0.10	20.50	0.00	0.00	-
0:10:00	-	0.00	0.00	0.10	20.40	0.00	0.00	-
0:15:00	-	0.00	0.00	0.10	20.40	0.00	0.00	-
0:20:00	-	0.00	0.00	0.10	20.40	0.00	0.00	-
	-							-
	-							-
Steady State		0.00	0.00			0.00	0.00	-

Ambient readings

Atmospheric pressure (mb):	997.00						
Ambient concentrations:		CH4	CO2	O2	CO	H2S	VOC
		0.10	0.20	20.80	0.00	0.00	

Observations during monitoring

<<< LEL.

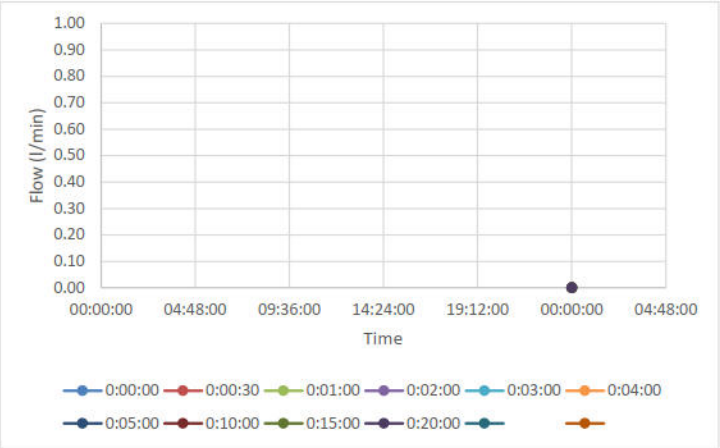
Vapour/Gas Samples (note Sample Ref must include monitoring round as prefix)

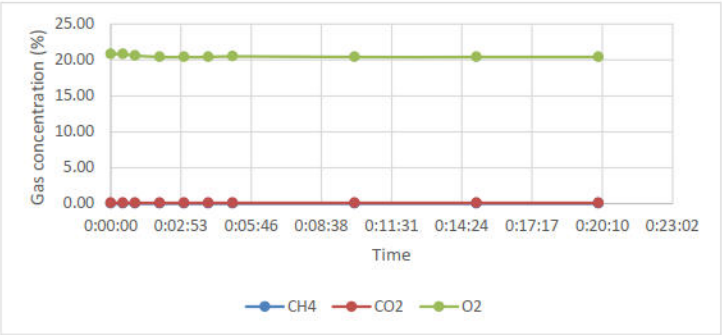
Sample Depth (mbgl):	Sample Ref:	Sample Type:	Container Type:	Sample Size (l):	Starting vacuum:	End vacuum:	Sampling Rate (l/min):
QA/QC Samples							
☐ Duplicate							
☐ Triplicate							

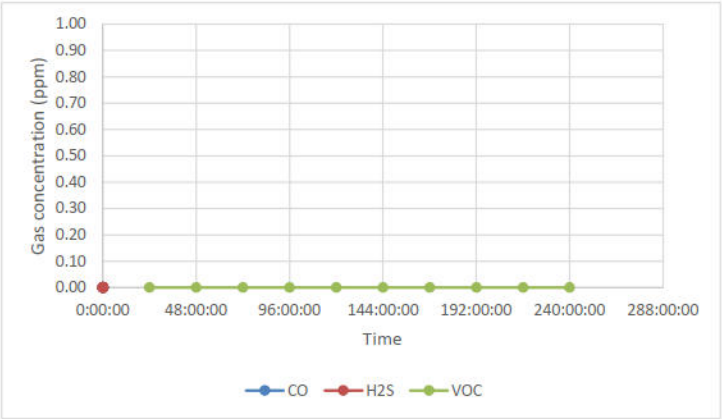
Groundwater Gauging:

Equipment Details:					
Dipmeter type:				Instrument serial number:	
Monitoring Data					
Monitoring Datum				Water Level Depth (m bd):	5.00
NAPL Gauging:	LNAPL	DNAPL		Measured Well Depth (m bd):	5.02
Depth to NAPL (m bd):				Water level depth (m bgl)	4.55
NAPL Thickness (mm):				Well Depth (m bgl):	4.57

Ground Gas Monitoring Form







Ground Gas Monitoring Form

Project Details			
Project Name:	Aborfield Cross	Project Number:	333801775
Visit Details			
Date:	13/11/2025	Weather:	Sunny and cloudy
Time:	10:06	Monitoring Round:	2 of 3
Comments:		Recorded by:	LC
Well Details			
Monitoring point ID:	Ws01	Casing Level above GL (m):	0.41
Single or dual gas tap:	Single	Top of Screen (m bgl):	
Pipe Material:		Base of Screen (m bgl):	
Pipe Diameter D (mm):		Top of Screen (m b.casing):	
Hole Diameter R (mm):		Base of Screen (m b.casing):	
Expected headspace air volume:			
Equipment Details			
Gas Analyser Model:	GFM	Instrument Serial Number:	
Calibration Date:	23/10/2026	Span gas check ok:	
PID instrument:		Instrument Serial Number:	
Calibration Date:		Calibration check ok:	
Well conditons:			

Good condition. Gas tap closed

Well measurement readings

Parameter Details - for Not Recorded use "NR" and explain why in Well Conditions. For non-detect use the displayed value.

Time (hh:mm:ss)	Relative BH pressure (hPA/mb)	Borehole flow (litres/hour)	CH4 (%)	CO2 (%)	O2 (%)	CO (ppm)	H2S (ppm)	VOC (ppm)
0:00:00	0	0.00	0.00	0.00	20.10	0.00	0.00	
0:00:30	-	0.00	0.00	3.80	14.40	0.00	0.00	
0:01:00	-		0.00	4.00	13.90	0.00	0.00	
0:02:00	-		0.00	4.10	13.70	0.00	0.00	
0:03:00	-		0.00	4.10	13.60	0.00	0.00	
0:04:00	-		0.00	4.20	13.50	0.00	0.00	
0:05:00	-		0.00	4.20	13.30	0.00	0.00	
0:06:00	-		0.00	4.30	13.10	0.00	0.00	
0:07:00	-		0.00	4.30	13.10	0.00	0.00	
0:08:00	-		0.00	4.40	13.00	0.00	0.00	
0:09:00	-		0.00	4.40	12.90	0.00	0.00	
0:10:00	-		0.00	4.50	12.90	0.00	0.00	
Steady State		0.00	0.00	4.50	12.80	0.00	0.00	

Ambient readings

Atmospheric pressure (mb):	1000.00						
Ambient concentrations:		CH4	CO2	O2	CO	H2S	VOC
		0.00	20.90	0.00	0.00	0.00	

Observations during monitoring

<<< LEL.

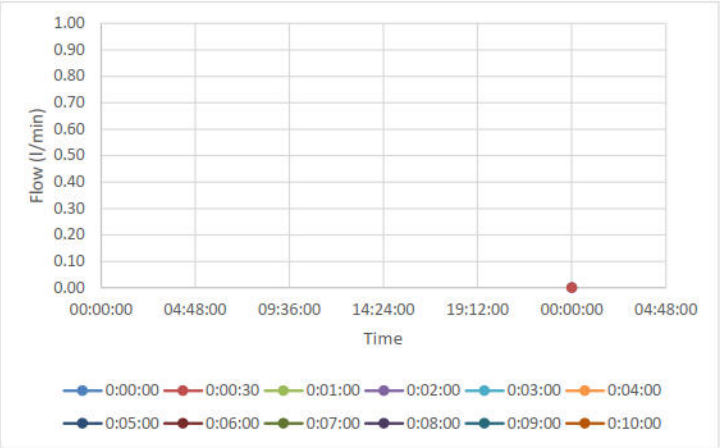
Vapour/Gas Samples (note Sample Ref must include monitoring round as prefix)

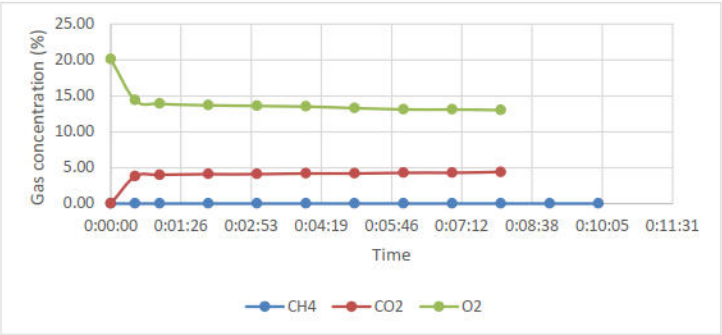
Sample Depth (mbgl):	Sample Ref:	Sample Type:	Container Type:	Sample Size (l):	Starting vacuum:	End vacuum:	Sampling Rate (l/min):
QA/QC Samples							
☐ Duplicate							
☐ Triplicate							

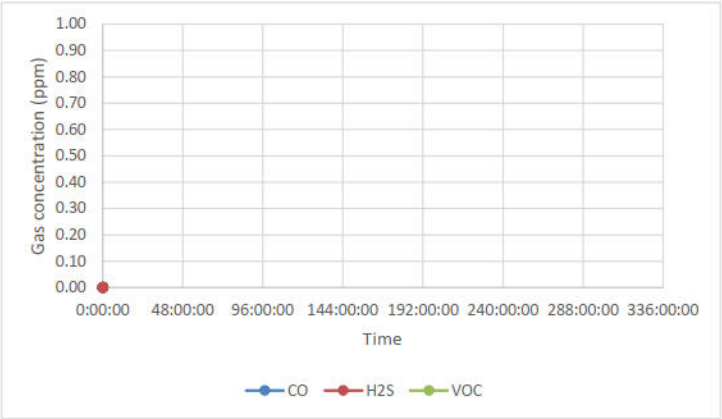
Groundwater Gauging:

Equipment Details:					
Dipmeter type:				Instrument serial number:	
Monitoring Data					
Monitoring Datum				Water Level Depth (m bd):	2.24
NAPL Gauging:	LNAPL	DNAPL		Measured Well Depth (m bd):	5.10
Depth to NAPL (m bd):				Water level depth (m bgl)	1.83
NAPL Thickness (mm):				Well Depth (m bgl):	4.69

Ground Gas Monitoring Form







Ground Gas Monitoring Form

Project Details			
Project Name:	Aborfield Cross	Project Number:	333801775
Visit Details			
Date:	13/11/2025	Weather:	Sunny & cloudy
Time:	09:50	Monitoring Round:	2 of 3
Comments:		Recorded by:	LC
Well Details			
Monitoring point ID:	WS02	Casing Level above GL (m):	0.35
Single or dual gas tap:	Single	Top of Screen (m bgl):	0.65
Pipe Material:		Base of Screen (m bgl):	4.65
Pipe Diameter D (mm):		Top of Screen (m b.casing):	1.00
Hole Diameter R (mm):		Base of Screen (m b.casing):	5.00
Expected headspace air volume:			
Equipment Details			
Gas Analyser Model:	GFM	Instrument Serial Number:	
Calibration Date:	23/10/2026	Span gas check ok:	
PID instrument:		Instrument Serial Number:	
Calibration Date:		Calibration check ok:	

Well conditons:

Good condition. Gas tap closed

Well measurement readings

Parameter Details - for Not Recorded use "NR" and explain why in Well Conditions. For non-detect use the displayed value.

Time (hh:mm:ss)	Relative BH pressure (hPA/mb)	Borehole flow (litres/hour)	CH4 (%)	CO2 (%)	O2 (%)	CO (ppm)	H2S (ppm)	VOC (ppm)
0:00:00	0	0.00	0.00	0.10	20.70	0.00	0.00	-
0:00:30	-	0.00	0.00	1.60	16.80	0.00	0.00	-
0:01:00	-		-0.10	1.70	16.30	0.00	0.00	-
0:02:00	-		-0.10	1.80	16.20	0.00	0.00	-
0:03:00	-		-0.10	1.80	16.10	0.00	0.00	-
0:04:00	-		-0.10	1.80	16.10	0.00	0.00	-
0:05:00	-		-0.10	1.80	16.10	0.00	0.00	-
0:06:00	-							
0:07:00	-							
0:08:00	-							
0:09:00	-							
0:10:00	-							
Steady State		0.00	0.00	1.80	16.10	0.00	0.00	

Ambient readings

Atmospheric pressure (mb):	1002.00						
Ambient concentrations:		CH4	CO2	O2	CO	H2S	VOC
		0.00	21.00	0.00	0.00	0.00	

Observations during monitoring

<<< LEL. Stable after 5 mins

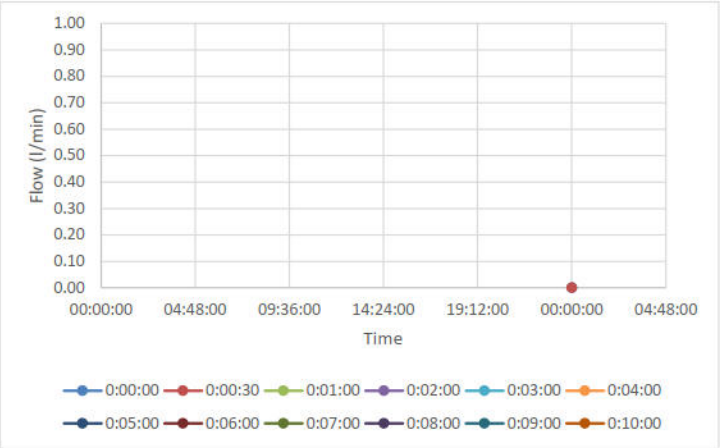
Vapour/Gas Samples (note Sample Ref must include monitoring round as prefix)

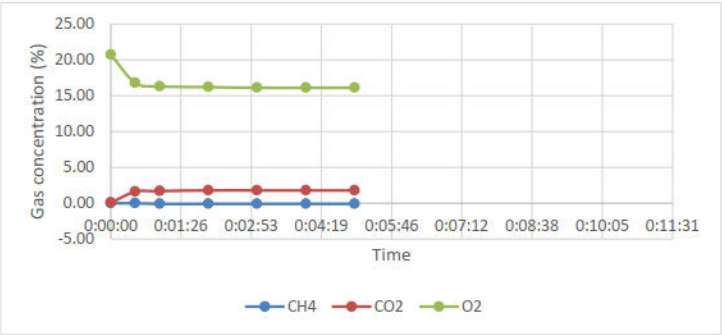
Sample Depth (mbgl):	Sample Ref:	Sample Type:	Container Type:	Sample Size (l):	Starting vacuum:	End vacuum:	Sampling Rate (l/min):
QA/QC Samples							
☐ Duplicate							
☐ Triplicate							

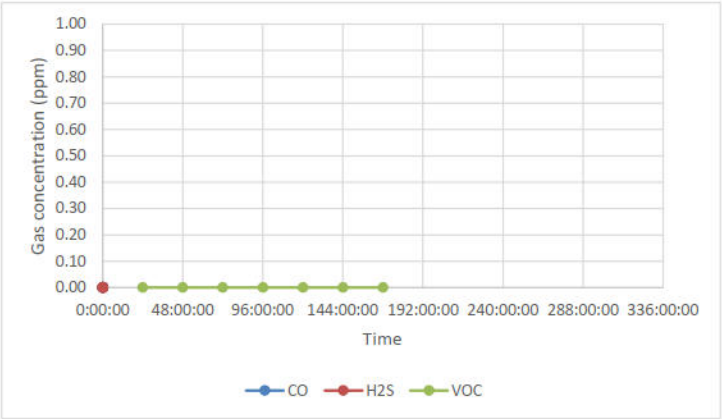
Groundwater Gauging:

Equipment Details:			
Dipmeter type:		Instrument serial number:	
Monitoring Data			
Monitoring Datum		Water Level Depth (m bd):	2.79
NAPL Gauging:	LNAPL / DNAPL	Measured Well Depth (m bd):	5.04
Depth to NAPL (m bd):		Water level depth (m bgl)	2.44
NAPL Thickness (mm):		Well Depth (m bgl):	4.69

Ground Gas Monitoring Form







Ground Gas Monitoring Form

Project Details			
Project Name:	Aborfield Cross	Project Number:	333801775
Visit Details			
Date:	13/11/2025	Weather:	Sunny & Cloudy
Time:	10:45	Monitoring Round:	2 of 3
Comments:		Recorded by:	LC
Well Details			
Monitoring point ID:	WS03	Casing Level above GL (m):	0.36
Single or dual gas tap:	Single	Top of Screen (m bgl):	0.64
Pipe Material:		Base of Screen (m bgl):	4.64
Pipe Diameter D (mm):		Top of Screen (m b.casing):	1.00
Hole Diameter R (mm):		Base of Screen (m b.casing):	5.00
Expected headspace air volume:			
Equipment Details			
Gas Analyser Model:	GFM	Instrument Serial Number:	
Calibration Date:	23/10/2026	Span gas check ok:	
PID instrument:		Instrument Serial Number:	
Calibration Date:		Calibration check ok:	

Well conditons:

Good condition. Gas tap closed

Well measurement readings

Parameter Details - for Not Recorded use "NR" and explain why in Well Conditions. For non-detect use the displayed value.

Time (hh:mm:ss)	Relative BH pressure (hPA/mb)	Borehole flow (litres/hour)	CH4 (%)	CO2 (%)	O2 (%)	CO (ppm)	H2S (ppm)	VOC (ppm)
0:00:00	0	0.00	-0.10	0.10	20.00	0.00	0.00	-
0:00:30	-	0.00	-0.10	2.30	15.20	0.00	0.00	-
0:01:00	-		-0.10	2.40	14.90	0.00	0.00	-
0:02:00	-		-0.10	2.40	14.80	0.00	0.00	-
0:03:00	-		-0.10	2.40	14.70	0.00	0.00	-
0:04:00	-		-0.10	2.40	14.70	0.00	0.00	-
0:05:00	-		-0.10	2.40	14.70	0.00	0.00	-
0:06:00	-							
0:07:00	-							
0:08:00	-							
0:09:00	-							
0:10:00	-							
Steady State		0.00						

Ambient readings

Atmospheric pressure (mb):	1003.00						
Ambient concentrations:		CH4	CO2	O2	CO	H2S	VOC
		-0.10	0.00	20.80	0.00	0.00	-

Observations during monitoring

<<< LEL. Stable after 5 mins

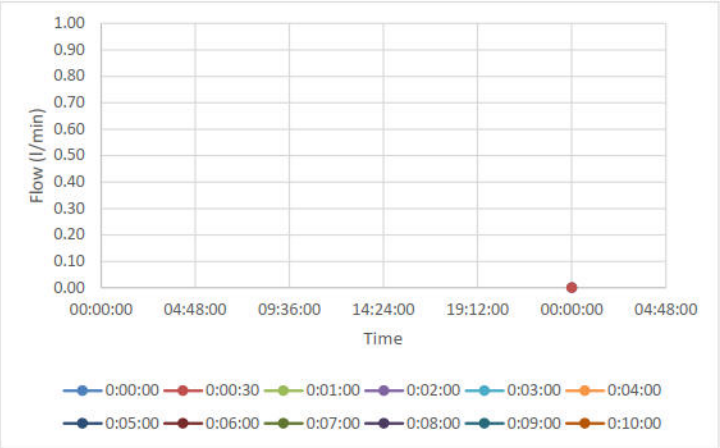
Vapour/Gas Samples (note Sample Ref must include monitoring round as prefix)

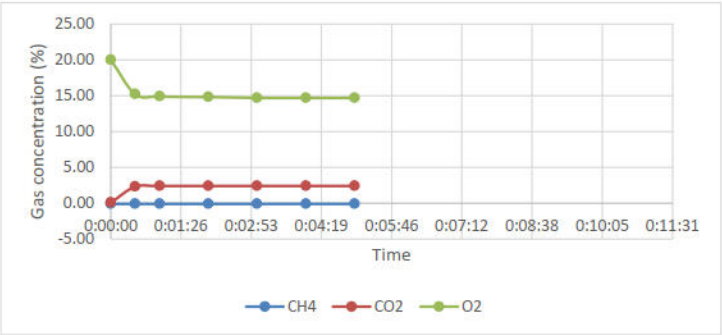
Sample Depth (mbgl):	Sample Ref:	Sample Type:	Container Type:	Sample Size (l):	Starting vacuum:	End vacuum:	Sampling Rate (l/min):
QA/QC Samples							
☐ Duplicate							
☐ Triplicate							

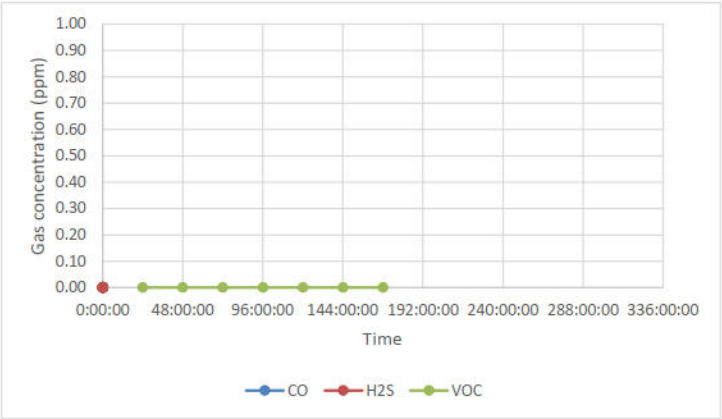
Groundwater Gauging:

Equipment Details:			
Dipmeter type:		Instrument serial number:	
Monitoring Data			
Monitoring Datum		Water Level Depth (m bd):	3.45
NAPL Gauging:	LNAPL / DNAPL	Measured Well Depth (m bd):	5.07
Depth to NAPL (m bd):		Water level depth (m bgl)	3.09
NAPL Thickness (mm):		Well Depth (m bgl):	4.71

Ground Gas Monitoring Form







Ground Gas Monitoring Form

Project Details			
Project Name:	Aborfield Cross	Project Number:	333801775
Visit Details			
Date:	13/11/2025	Weather:	Sunny & cloudy
Time:	10:30	Monitoring Round:	2 of 3
Comments:		Recorded by:	LC
Well Details			
Monitoring point ID:	WS05	Casing Level above GL (m):	0.46
Single or dual gas tap:	Single	Top of Screen (m bgl):	0.55
Pipe Material:		Base of Screen (m bgl):	4.55
Pipe Diameter D (mm):		Top of Screen (m b.casing):	1.00
Hole Diameter R (mm):		Base of Screen (m b.casing):	5.00
Expected headspace air volume:			
Equipment Details			
Gas Analyser Model:	GFM	Instrument Serial Number:	
Calibration Date:	23/10/2025	Span gas check ok:	
PID instrument:		Instrument Serial Number:	
Calibration Date:		Calibration check ok:	
Well conditons:			

Good condition. Gas tap closed

Well measurement readings

Parameter Details - for Not Recorded use "NR" and explain why in Well Conditions. For non-detect use the displayed value.

Time (hh:mm:ss)	Relative BH pressure (hPA/mb)	Borehole flow (litres/hour)	CH4 (%)	CO2 (%)	O2 (%)	CO (ppm)	H2S (ppm)	VOC (ppm)
0:00:00	0	0.00	0.00	0.10	20.70	0.00	0.00	-
0:00:30	-	0.00	0.00	1.70	17.50	0.00	0.00	
0:01:00	-		0.00	1.80	17.30	0.00	0.00	
0:02:00	-		0.00	1.80	17.20	0.00	0.00	
0:03:00	-		0.00	1.80	17.10	0.00	0.00	
0:04:00	-		0.00	1.80	17.00	0.00	0.00	
0:05:00	-		0.00	1.90	17.00	0.00	0.00	
0:06:00	-		-0.10	1.90	16.90	0.00	0.00	
0:07:00	-		-0.10	1.90	16.90	0.00	0.00	
0:08:00	-		-0.10	2.00	16.70	0.00	0.00	
0:09:00	-		-0.10	2.00	16.70	0.00	0.00	
0:10:00	-		-0.10	2.00	16.60	0.00	0.00	
Steady State		0.00	-0.10	2.00	16.60	0.00	0.00	

Ambient readings

Atmospheric pressure (mb):	1001.00						
Ambient concentrations:		CH4	CO2	O2	CO	H2S	VOC
		0.00	0.00	21.00	0.00	0.00	

Observations during monitoring

<<< LEL.

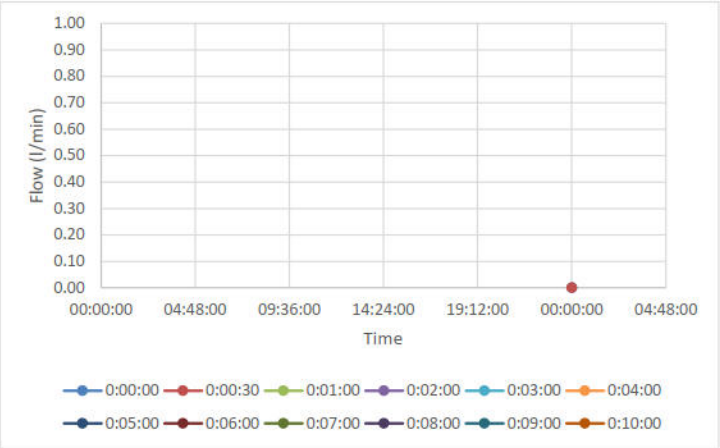
Vapour/Gas Samples (note Sample Ref must include monitoring round as prefix)

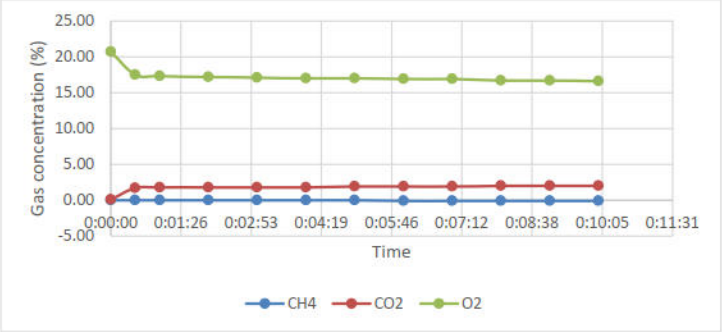
Sample Depth (mbgl):	Sample Ref:	Sample Type:	Container Type:	Sample Size (l):	Starting vacuum:	End vacuum:	Sampling Rate (l/min):
QA/QC Samples							
☐ Duplicate							
☐ Triplicate							

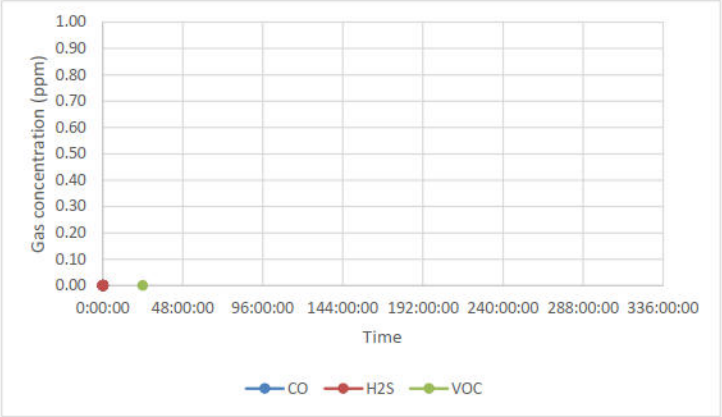
Groundwater Gauging:

Equipment Details:					
Dipmeter type:				Instrument serial number:	
Monitoring Data					
Monitoring Datum				Water Level Depth (m bd):	2.41
NAPL Gauging:	LNAPL	DNAPL		Measured Well Depth (m bd):	5.02
Depth to NAPL (m bd):				Water level depth (m bgl)	1.95
NAPL Thickness (mm):				Well Depth (m bgl):	4.57

Ground Gas Monitoring Form







Stantec

Ground Gas Monitoring Form

Project Details			
Project Name:	Aborfield Cross	Project Number:	333801775
Visit Details			
Date:	26/11/2025	Weather:	Sunny and cloudy
Time:	12:45	Monitoring Round:	3 of 3
Comments:		Recorded by:	ER
Well Details			
Monitoring point ID:	Ws01	Casing Level above GL (m):	0.41
Single or dual gas tap:	Single	Top of Screen (m bgl):	0.59
Pipe Material:		Base of Screen (m bgl):	4.59
Pipe Diameter D (mm):		Top of Screen (m b.casing):	1.00
Hole Diameter R (mm):		Base of Screen (m b.casing):	5.00
Expected headspace air volume:			
Equipment Details			
Gas Analyser Model:	GFM	Instrument Serial Number:	
Calibration Date:	23/10/2026	Span gas check ok:	
PID instrument:		Instrument Serial Number:	
Calibration Date:		Calibration check ok:	

Well conditons:

Good condition. Gas tap closed

Well measurement readings

Parameter Details - for Not Recorded use "NR" and explain why in Well Conditions. For non-detect use the displayed value.

Time (hh:mm:ss)	Relative BH pressure (hPA/mb)	Borehole flow (litres/hour)	CH4 (%)	CO2 (%)	O2 (%)	CO (ppm)	H2S (ppm)	VOC (ppm)
0:00:00	1015	0.00	0.00	0.10	20.00	0.00	0.00	
0:00:30	-	0.00	0.00	4.30	12.50	0.00	0.00	
0:01:00	-	0.00	0.00	4.30	12.30	0.00	0.00	
0:02:00	-	0.00	0.00	4.40	12.30	0.00	0.00	
0:03:00	-	0.00	0.00	4.40	12.30	0.00	0.00	
0:04:00	-	0.00	0.00	4.40	12.30	0.00	0.00	
0:05:00	-	0.00	0.00	4.40	12.30	0.00	0.00	
0:10:00	-	0.00	0.00	4.40	12.30	0.00	0.00	
0:15:00	-	0.00	0.00	4.40	12.30	0.00	0.00	
0:20:00	-	0.00	0.00	4.40	12.30	0.00	0.00	
0:25:00	-	0.00	0.00	4.40	12.30	0.00	0.00	
0:30:00	-	0.00	0.00	4.40	12.30	0.00	0.00	
Steady State		0.00	0.00	4.40	12.30	0.00	0.00	

Ambient readings

Atmospheric pressure (mb):	1016.00						
Ambient concentrations:		CH4	CO2	O2	CO	H2S	VOC
		0.00	20.90	0.00	0.00	0.00	

Observations during monitoring

<<< LEL.

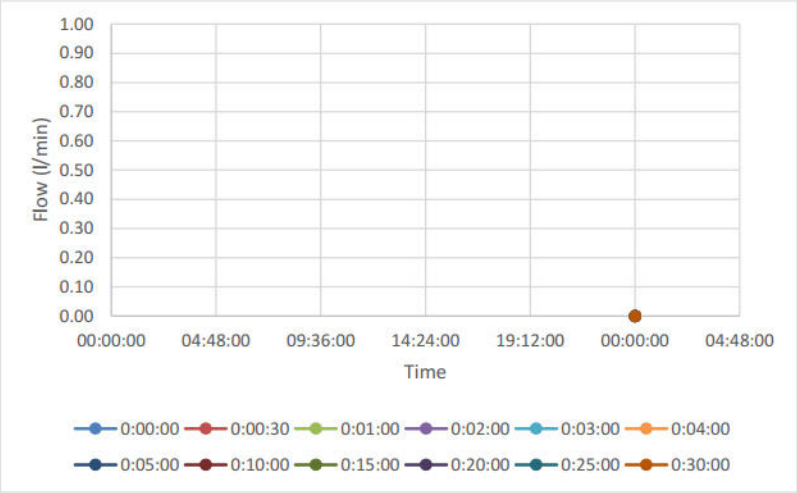
Vapour/Gas Samples (note Sample Ref must include monitoring round as prefix)

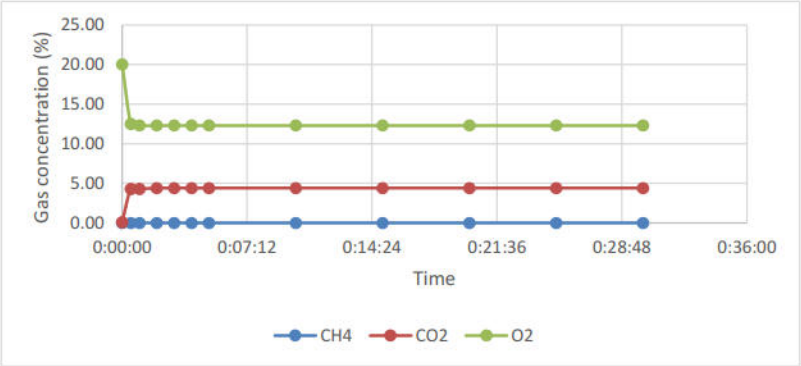
Sample Depth (mbgl):	Sample Ref:	Sample Type:	Container Type:	Sample Size (l):	Starting vacuum:	End vacuum:	Sampling Rate (l/min):
QA/QC Samples							
☐ Duplicate							
☐ Triplicate							

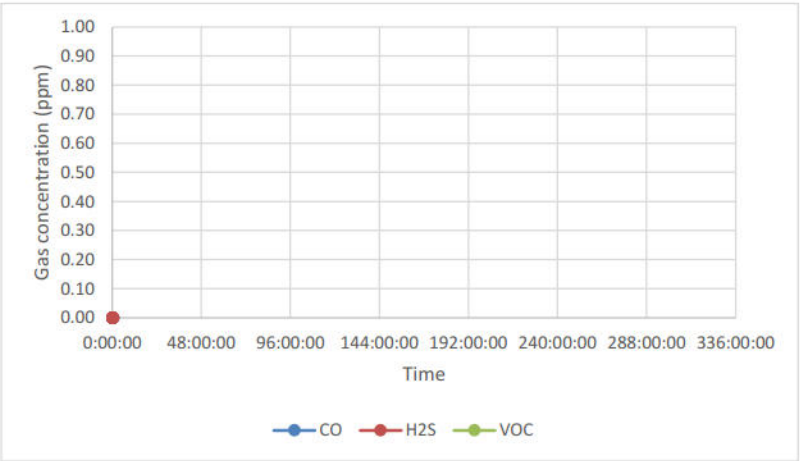
Groundwater Gauging:

Equipment Details:			
Dipmeter type:		Instrument serial number:	
Monitoring Data			
Monitoring Datum		Water Level Depth (m bd):	2.00
NAPL Gauging:	LNAPL / DNAPL	Measured Well Depth (m bd):	5.10
Depth to NAPL (m bd):		Water level depth (m bgl)	1.59
NAPL Thickness (mm):		Well Depth (m bgl):	4.69

Ground Gas Monitoring Form







Stantec

Ground Gas Monitoring Form

Project Details			
Project Name:	Aborfield Cross	Project Number:	333801775
Visit Details			
Date:	26/11/2025	Weather:	Sunny & cloudy
Time:	12:15	Monitoring Round:	3 of 3
Comments:		Recorded by:	ER
Well Details			
Monitoring point ID:	WS02	Casing Level above GL (m):	0.35
Single or dual gas tap:	Single	Top of Screen (m bgl):	0.65
Pipe Material:		Base of Screen (m bgl):	4.65
Pipe Diameter D (mm):		Top of Screen (m b.casing):	1.00
Hole Diameter R (mm):		Base of Screen (m b.casing):	5.00
Expected headspace air volume:			
Equipment Details			
Gas Analyser Model:	GFM	Instrument Serial Number:	
Calibration Date:	23/10/2026	Span gas check ok:	
PID instrument:		Instrument Serial Number:	
Calibration Date:		Calibration check ok:	

Well conditons:

Good condition. Gas tap closed

Well measurement readings

Parameter Details - for Not Recorded use "NR" and explain why in Well Conditions. For non-detect use the displayed value.

Time (hh:mm:ss)	Relative BH pressure (hPA/mb)	Borehole flow (litres/hour)	CH4 (%)	CO2 (%)	O2 (%)	CO (ppm)	H2S (ppm)	VOC (ppm)
0:00:00	1016	0.00	0.00	0.10	20.20	0.00	0.00	-
0:00:30	-	0.00	0.00	1.60	16.80	0.00	0.00	-
0:01:00	-	0.00	0.00	1.60	16.50	0.00	0.00	-
0:02:00	-	0.00	0.00	1.70	16.50	0.00	0.00	-
0:03:00	-	0.00	0.00	1.70	16.50	0.00	0.00	-
0:04:00	-	0.00	0.00	1.70	16.50	0.00	0.00	-
0:05:00	-	0.00	0.00	1.70	16.50	0.00	0.00	-
0:10:00	-	0.00	0.00	1.70	16.50	0.00	0.00	
0:15:00	-	0.00	0.00	1.70	16.50	0.00	0.00	
0:20:00	-	0.00	0.00	1.70	16.50	0.00	0.00	
0:25:00	-	0.00	0.00	1.70	16.50	0.00	0.00	
0:30:00	-	0.00	0.00	1.70	16.50	0.00	0.00	
Steady State		0.00	0.00	1.80	16.10	0.00	0.00	

Ambient readings

Atmospheric pressure (mb):	1002.00						
Ambient concentrations:		CH4	CO2	O2	CO	H2S	VOC
		0.00	21.00	0.00	0.00	0.00	

Observations during monitoring

<<< LEL. Stable after 5 mins

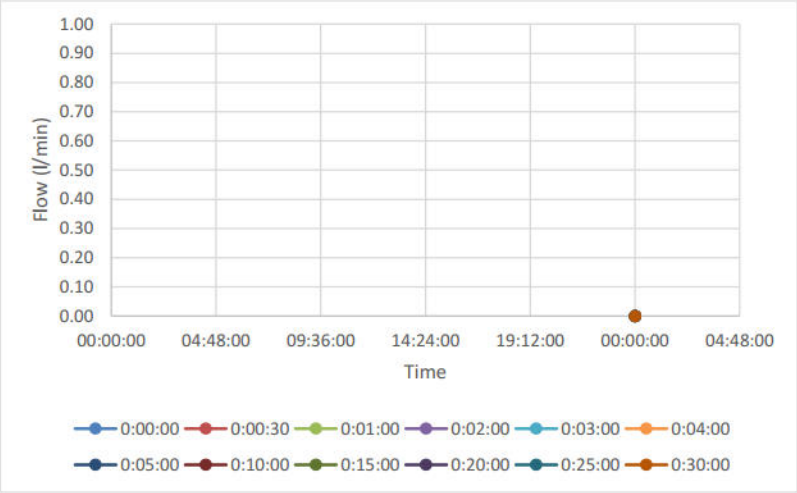
Vapour/Gas Samples (note Sample Ref must include monitoring round as prefix)

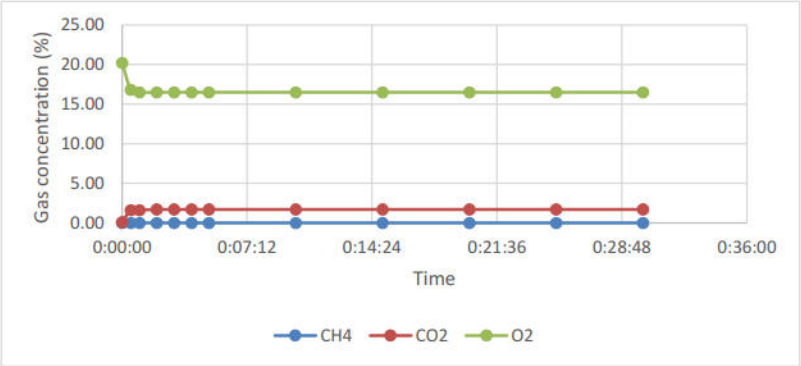
Sample Depth (mbgl):	Sample Ref:	Sample Type:	Container Type:	Sample Size (l):	Starting vacuum:	End vacuum:	Sampling Rate (l/min):
QA/QC Samples							
☐ Duplicate							
☐ Triplicate							

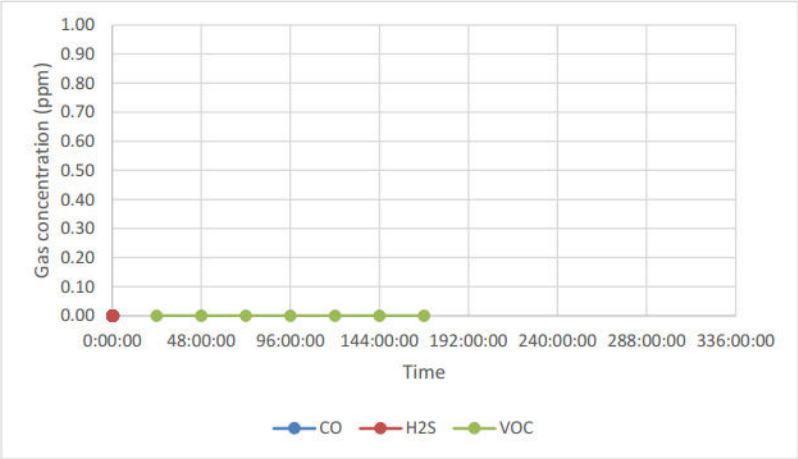
Groundwater Gauging:

Equipment Details:			
Dipmeter type:		Instrument serial number:	
Monitoring Data			
Monitoring Datum		Water Level Depth (m bd):	2.70
NAPL Gauging:	LNAPL / DNAPL	Measured Well Depth (m bd):	5.04
Depth to NAPL (m bd):		Water level depth (m bgl)	2.35
NAPL Thickness (mm):		Well Depth (m bgl):	4.69

Ground Gas Monitoring Form







Stantec

Ground Gas Monitoring Form

Project Details			
Project Name:	Aborfield Cross	Project Number:	333801775
Visit Details			
Date:	26/11/2025	Weather:	Sunny & Cloudy
Time:	10:45	Monitoring Round:	3 of 3
Comments:		Recorded by:	ER
Well Details			
Monitoring point ID:	WS03	Casing Level above GL (m):	0.36
Single or dual gas tap:	Single	Top of Screen (m bgl):	0.64
Pipe Material:		Base of Screen (m bgl):	4.64
Pipe Diameter D (mm):		Top of Screen (m b.casing):	1.00
Hole Diameter R (mm):		Base of Screen (m b.casing):	5.00
Expected headspace air volume:			
Equipment Details			
Gas Analyser Model:	GFM	Instrument Serial Number:	
Calibration Date:	23/10/2026	Span gas check ok:	
PID instrument:		Instrument Serial Number:	
Calibration Date:		Calibration check ok:	

Well conditons:

Good condition. Gas tap closed

Well measurement readings

Parameter Details - for Not Recorded use "NR" and explain why in Well Conditions. For non-detect use the displayed value.

Time (hh:mm:ss)	Relative BH pressure (hPA/mb)	Borehole flow (litres/hour)	CH4 (%)	CO2 (%)	O2 (%)	CO (ppm)	H2S (ppm)	VOC (ppm)
0:00:00	1015	0.00	0.00	0.10	20.20	0.00	0.00	-
0:00:30	-	0.00	0.00	2.30	17.30	0.00	0.00	-
0:01:00	-	0.00	0.00	2.70	15.60	0.00	0.00	-
0:02:00	-	0.00	0.00	2.70	15.50	0.00	0.00	-
0:03:00	-	0.00	0.00	2.70	15.50	0.00	0.00	-
0:04:00	-	0.00	0.00	2.70	15.50	0.00	0.00	-
0:05:00	-	0.00	0.00	2.80	15.40	0.00	0.00	-
0:10:00	-	0.00	0.00	2.70	15.50	0.00	0.00	
0:15:00	-	0.00	0.00	2.70	15.50	0.00	0.00	
0:20:00	-	0.00	0.00	2.70	15.50	0.00	0.00	
0:25:00	-	0.00	0.00	2.70	15.50	0.00	0.00	
0:30:00	-	0.00	0.00	2.70	15.50	0.00	0.00	
Steady State		0.00						

Ambient readings

Atmospheric pressure (mb):	1015.00						
Ambient concentrations:		CH4	CO2	O2	CO	H2S	VOC
		0.00	0.00	20.70	0.00	0.00	-

Observations during monitoring

<<< LEL. Stable after 5 mins

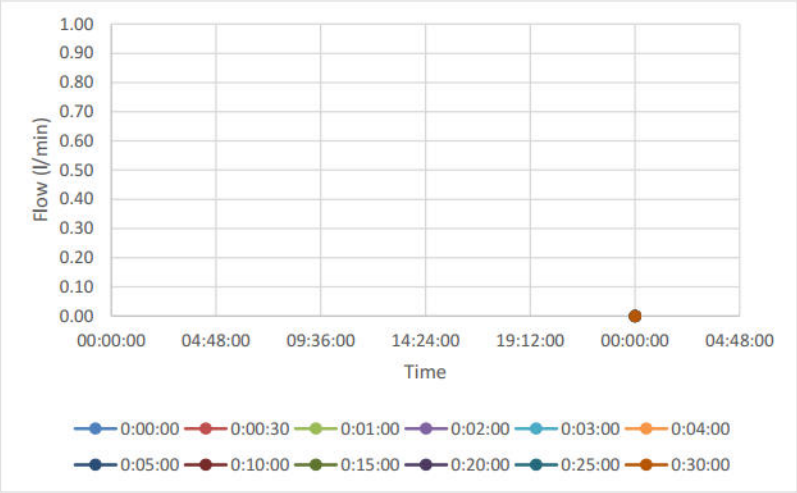
Vapour/Gas Samples (note Sample Ref must include monitoring round as prefix)

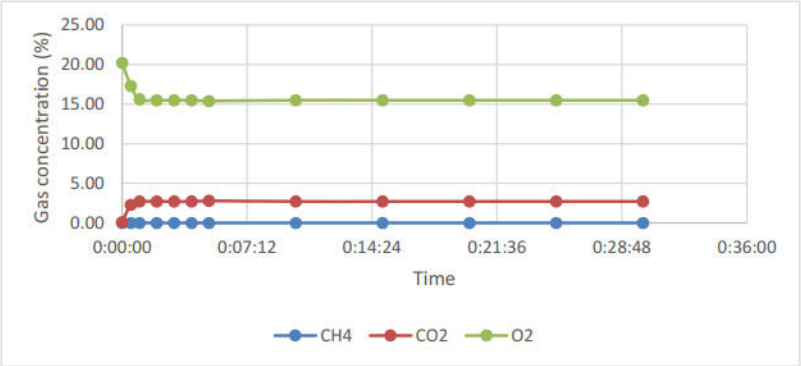
Sample Depth (mbgl):	Sample Ref:	Sample Type:	Container Type:	Sample Size (l):	Starting vacuum:	End vacuum:	Sampling Rate (l/min):
QA/QC Samples							
☐ Duplicate							
☐ Triplicate							

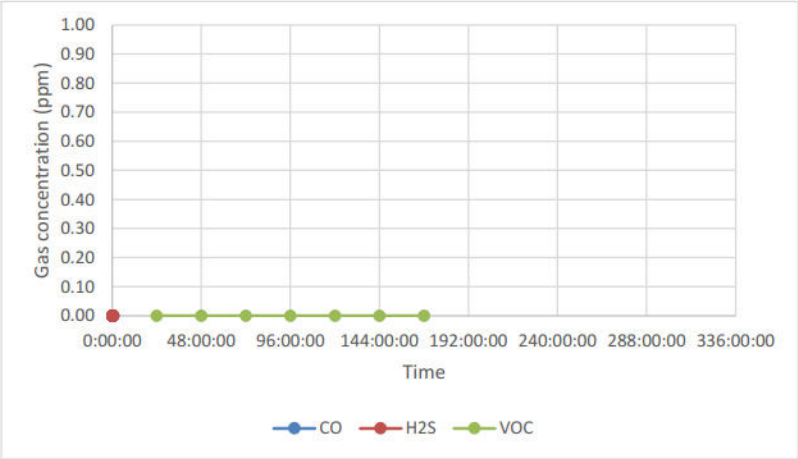
Groundwater Gauging:

Equipment Details:			
Dipmeter type:		Instrument serial number:	
Monitoring Data			
Monitoring Datum		Water Level Depth (m bd):	3.52
NAPL Gauging:	LNAPL / DNAPL	Measured Well Depth (m bd):	5.07
Depth to NAPL (m bd):		Water level depth (m bgl)	3.16
NAPL Thickness (mm):		Well Depth (m bgl):	4.71

Ground Gas Monitoring Form







Stantec

Ground Gas Monitoring Form

Project Details			
Project Name:	Aborfield Cross	Project Number:	333801775
Visit Details			
Date:	26/11/2025	Weather:	Sunny & cloudy
Time:	11:30	Monitoring Round:	3 of 3
Comments:		Recorded by:	ER
Well Details			
Monitoring point ID:	WS05	Casing Level above GL (m):	0.46
Single or dual gas tap:	Single	Top of Screen (m bgl):	0.55
Pipe Material:		Base of Screen (m bgl):	4.55
Pipe Diameter D (mm):		Top of Screen (m b.casing):	1.00
Hole Diameter R (mm):		Base of Screen (m b.casing):	5.00
Expected headspace air volume:			
Equipment Details			
Gas Analyser Model:	GFM	Instrument Serial Number:	
Calibration Date:	23/10/2025	Span gas check ok:	
PID instrument:		Instrument Serial Number:	
Calibration Date:		Calibration check ok:	

Well conditons:

Good condition. Gas tap closed

Well measurement readings

Parameter Details - for Not Recorded use "NR" and explain why in Well Conditions. For non-detect use the displayed value.

Time (hh:mm:ss)	Relative BH pressure (hPA/mb)	Borehole flow (litres/hour)	CH4 (%)	CO2 (%)	O2 (%)	CO (ppm)	H2S (ppm)	VOC (ppm)
0:00:00	1016	0.00	0.00	0.10	19.70	0.00	0.00	-
0:00:30	-	0.00	0.00	1.60	17.20	0.00	0.00	
0:01:00	-	0.00	0.00	1.70	16.80	0.00	0.00	
0:02:00	-	0.00	0.00	1.70	16.70	0.00	0.00	
0:03:00	-	0.00	0.00	1.70	16.70	0.00	0.00	
0:04:00	-	0.00	0.00	1.70	16.60	0.00	0.00	
0:05:00	-	0.00	0.00	1.70	16.60	0.00	0.00	
0:10:00	-	0.00	-0.10	1.70	16.60	0.00	0.00	
0:15:00	-	0.00	-0.10	1.70	16.60	0.00	0.00	
0:20:00	-	0.00	-0.10	1.70	16.60	0.00	0.00	
0:25:00	-	0.00	-0.10	1.70	16.60	0.00	0.00	
0:30:00	-	0.00	-0.10	1.70	16.60	0.00	0.00	
Steady State		0.00	-0.10	1.70	16.60	0.00	0.00	

Ambient readings

Atmospheric pressure (mb):	1015.00						
Ambient concentrations:		CH4	CO2	O2	CO	H2S	VOC
		0.00	0.00	20.70	0.00	0.00	

Observations during monitoring

<<< LEL.

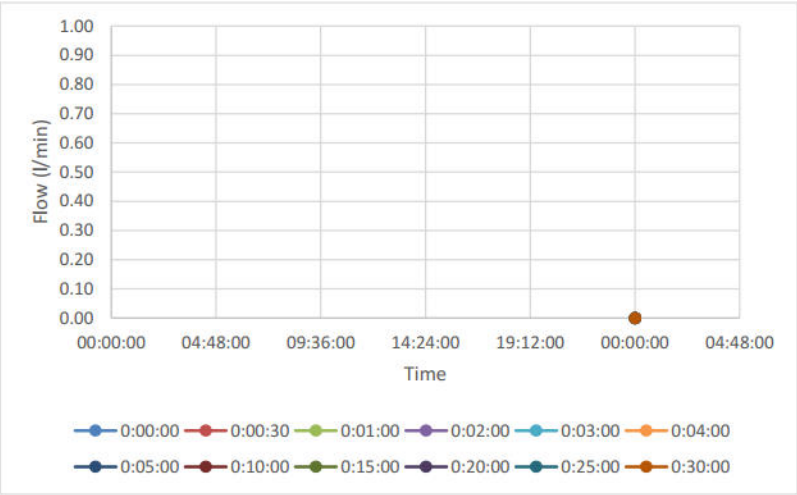
Vapour/Gas Samples (note Sample Ref must include monitoring round as prefix)

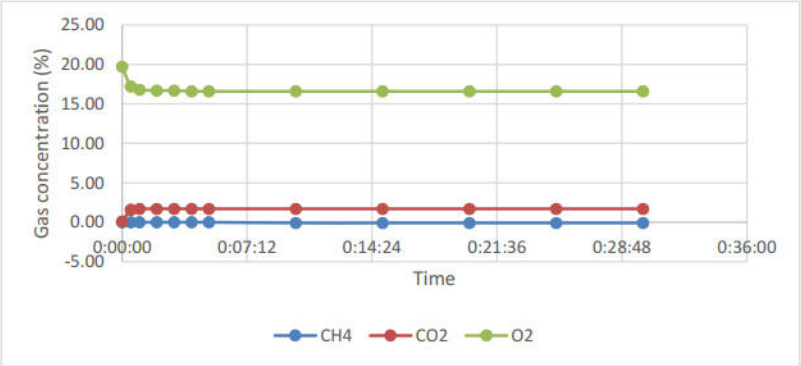
Sample Depth (mbgl):	Sample Ref:	Sample Type:	Container Type:	Sample Size (l):	Starting vacuum:	End vacuum:	Sampling Rate (l/min):
QA/QC Samples							
☐ Duplicate							
☐ Triplicate							

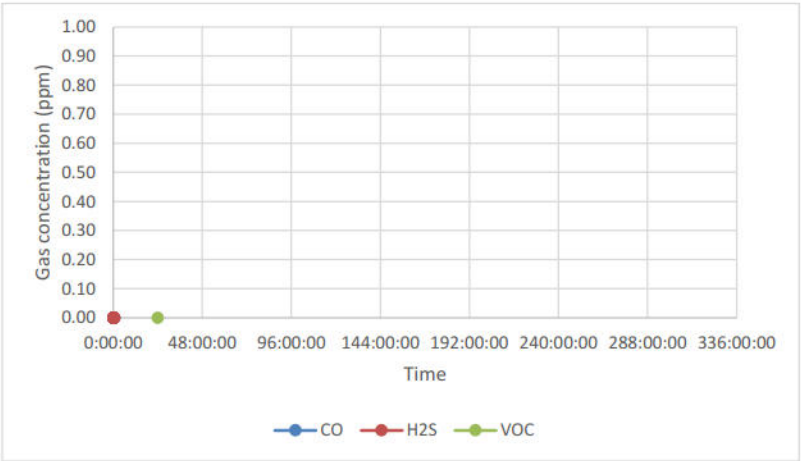
Groundwater Gauging:

Equipment Details:			
Dipmeter type:		Instrument serial number:	
Monitoring Data			
Monitoring Datum		Water Level Depth (m bd):	2.42
NAPL Gauging:	LNAPL / DNAPL	Measured Well Depth (m bd):	5.02
Depth to NAPL (m bd):		Water level depth (m bgl)	1.97
NAPL Thickness (mm):		Well Depth (m bgl):	4.57

Ground Gas Monitoring Form







Appendix E Contamination Test Results

Contamination test results

GAC derivation

Background

Initially, the Stantec GAC were derived following the publishing of soil guideline values (SGV), toxicological (TOX) reports and associated publications by the Environment Agency (EA) in 2009 referenced under Science Report SC050021 (EA, 2009a, b, c, d). The Stantec GAC have then been periodically updated following publication of new information on toxicological, physico-chemical, land use or receptor parameters, namely:

- LQM/CIEH, 2009. LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment, second edition. Nathanial, C. P., McCaffrey, C., Ashmore, M., Cheng, Y., Gillet, A. G., Ogden, R. C. and Scott, D.
- CL:AIRE, 2010. 'The EIC/AGS/CL:AIRE Soil Generic Assessment Criteria for Human Health Risk Assessment'. Environmental Industries Commission, The Association of Geotechnical and Geoenvironmental Specialists and Contaminated Land: Applications in Real Environment.
- CL:AIRE, 2014. 'Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination', Revision 2, DEFRA research project SP1010.
- LQM/CIEH, 2015. 'The LQM/CIEH S4ULs for Human Health Risk Assessment'. Nathanial, C. P., McCaffrey, C., Gillet, A. G., Ogden, R. C. and Nathanial, J. F.
- CL:AIRE, 2021-2024. 'C4SL Phase 2 Technical Reports'.
- CL:AIRE, 2022. C4SL Phase 2 Technical Report for 1,2-dichloroethane.
- CL:AIRE, 2024. C4SL Phase 2 Technical Reports for cis-1,2-dichloroethene, trans-1,2-dichloroethene, naphthalene, PFAS and inorganic mercury.

Land use scenarios

Stantec has derived generic assessment criteria (GAC) for human health based on the six exposure scenarios defined in CL:AIRE (2014) using generic default assumptions from published guidance. GAC for each exposure scenario have been derived for three soil organic matter (SOM) contents, 1%, 2.5% and 6%.

All GAC have been rounded to two significant figures.

Exposure parameters

The exposure parameters used for the Stantec GAC are the default parameters stated in SR3, unless updated in CL:AIRE (2014) where the CL:AIRE (2014) values have been adopted.

Approach to consumption rates

Stantec have adopted the 90th percentile consumption rates from Table 3.4 of CL:AIRE (2014) for all produce types. This is noted to be more conservative than the "top two" approach taken in the derivation of C4SLs.

Approach to plant uptake for GAC omitted in CL:AIRE (2010)

Plant uptake factors were not identified in CL:AIRE (2010) for antimony, barium and molybdenum. Stantec has sourced the required parameter values from ORNL (1984) in order to derive GAC that are inclusive of the homegrown produce exposure pathway.

Chemical and toxicity parameters

The chemical and toxicity parameters have been adopted based on the following documents:

- IRIS, 2016. 'Toxicological Review of Trimethylbenzenes'. Integrated Risk Information System, National Centre for Environmental Assessment, office of Research and Development, U.S. Environmental Protection Agency.
- LQM/CIEH, 2015.
- ORNL, 1984. 'ORNL-5786. A Review and Analysis of Parameters for Assessing Transport of Environmentally released Radionuclides through Agriculture'. Oak Ridge National Laboratory.
- CL:AIRE, 2010.
- RIVM, 2001. RIVM Report 711701 025 'HCV Re-evaluation of human-toxicological maximum-permissible risk levels'. National Institute of Public Health and the Environment.
- LQM/CIEH, 2009.
- EA, 2009a.

Approach to Cyanide GAC

The Stantec GAC for free cyanide have been derived based on ingestion of a bolus of contaminated soil. The GAC are derived for acute exposure of a child (0-6 years old) for all land uses except commercial, where the GAC are derived for acute exposure of an adult (16-65 years old). For the purpose of GQRA, the child value may be adopted for all land use scenarios.

For complex cyanide, the GAC have been derived based on chronic exposure, using the default exposure scenarios but excluding the consumption of homegrown produce, soil attached to homegrown produce, indoor vapour and outdoor vapour pathways. The chronic health criteria value (HCV) for complex cyanide is based on the EA (2009a) HCV for free cyanide and the ratio of toxicity between free and complex cyanide proposed by RIVM (2001).

Approach to Phenol GAC

In accordance with the EA Science Report SC050021 / Phenol SGV, a $GAC_{ing/inh}$ has been derived for ingested and inhaled phenol using the CLEA model, with a GAC_{derm} derived for dermal contact using Equation 5.7 within SR3. The lower of the $GAC_{ing/inh}$ and GAC_{derm} has been adopted as the final GAC.

Approach to PCB GAC

GAC for assessing the non-dioxin-like risk from PCBs have been based on the “Dutch 7”. As the TDI used by the authors of the Dutch guidance is for the sum of the 7 individual congeners, the TDI has been divided by 7 to create a TDI for each congener. The non-dioxin-like risk from PCBs is therefore assessed using a Hazard Index approach as for total petroleum hydrocarbons (TPH).

Sub-surface soil to indoor air correction factors

Reflecting the approach taken by the Environment Agency in the development of revised SGV in 2009 for BTEX, a sub-surface soil to indoor air correction factor of 10 has been applied for petroleum hydrocarbons in order to account for over-prediction of vapour intrusion into building using the Johnson and Ettinger approach.

The correction factor of 10 has been applied to the following petroleum hydrocarbons (it makes negligible difference to less volatile TPH and PAH compounds):

- TPHCWG fractions, namely aliphatic EC>5-44 and aromatic EC>6-44;
- PAHs (acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene), benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenz(a,h,)anthracene, fluoranthene, fluorene, indeno(1,2,3-c,d)pyrene, naphthalene, phenanthrene, pyrene);
- BTEX;
- Isopropylbenzene;
- Propylbenzene;
- 1,2,4- and 1,3,5-trimethylbenzene; and
- Styrene.

Approach to saturation limits

The CLEA model includes a traffic light colour system to highlight when saturated soil conditions have potentially been exceeded for the vapour pathways during calculation of assessment criteria. The colours represent:

- Green: the assessment criteria do not exceed the saturated soil concentration.
- Amber: the assessment criteria exceed the saturated soil concentration but the contribution of the indoor and outdoor vapour pathway to total exposure is less than 10% and will not significantly affect the assessment criteria.
- Red: the assessment criteria exceed the saturated soil concentration and the contribution of the indoor and outdoor vapour pathway to total exposure is greater than 10% and will significantly affect the assessment criteria.

Stantec has not applied any further calculations or assessment in relation to saturation limits during GAC derivation, with the CLEA-modelled GAC being presented as the GAC. Consideration of saturation limits is undertaken during the data assessment stage.

References

CL:AIRE, 2010. 'The EIC/AGS/CL:AIRE Soil Generic Assessment Criteria for Human Health Risk Assessment'. Environmental Industries Commission, The Association of Geotechnical and Geoenvironmental Specialists and Contaminated Land: Applications in Real Environment.

CL:AIRE, 2014. 'Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination', Revision 2, DEFRA research project SP1010.

CL:AIRE, 2021-2024. C4SL Phase 2 Technical Reports for tetrachloroethene, trichloroethene and vinyl chloride.

CL:AIRE, 2022. C4SL Phase 2 Technical Report for 1,2-dichloroethane. Contaminated Land: Applications in Real Environment.

CL:AIRE, 2024. C4SL Phase 2 Technical Reports for cis-1,2-dichloroethene, trans-1,2-dichloroethene, naphthalene, PFAS, and inorganic mercury.

EA, 2009a. 'Science Reports SC050021 – SGV and TOX reports for: benzene, toluene, ethylbenzene, xylene, arsenic, nickel, mercury, selenium, cadmium, inorganic cyanide, phenol, dioxins, furans and dioxin-like PCBs'; 'Supplementary information for the derivation of SGV for: benzene, toluene, ethylbenzene, xylene, arsenic, nickel, mercury, selenium, cadmium, inorganic cyanide, phenol, dioxins, furans and dioxin-like PCBs', and 'Contaminants in soil: updated collation of toxicological data and intake values for humans: benzene, toluene, ethylbenzene, xylene, arsenic, nickel, mercury, selenium, cadmium, inorganic cyanide, phenol, dioxins, furans and dioxin-like PCBs'. Environment Agency.

EA, 2009b. 'Science Report – SC050021/SR2. Human health toxicological assessment of contaminants in soil'. Environment Agency.

EA, 2009c. 'Science Report – SC050021/SR3. Updated technical background to the CLEA model'. Environment Agency.

EA, 2009d. 'Science Report – SC050021/SR4. CLEA Software (version 1.05) Handbook'. Environment Agency.

IRIS, 2016. 'Toxicological Review of Trimethylbenzenes'. Integrated Risk Information System, National Centre for Environmental Assessment, office of Research and Development, U.S. Environmental Protection Agency.

LQM/CIEH, 2009. LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment, second edition. Nathanial, C. P., McCaffrey, C., Ashmore, M., Cheng, Y., Gillet, A. G., Ogden, R. C. and Scott, D.

LQM/CIEH, 2015. 'The LQM/CIEH S4ULs for Human Health Risk Assessment'. Nathanial, C. P., McCaffrey, C., Gillet, A. G., Ogden, R. C. and Nathanial, J. F.

ORNL, 1984. 'ORNL-5786. A Review and Analysis of Parameters for Assessing Transport of Environmentally released Radionuclides through Agriculture'. Oak Ridge National Laboratory.

RIVM, 2001. RIVM Report 711701 025 'HCV Re-evaluation of human-toxicological maximum-permissible risk levels'. National Institute of Public Health and the Environment.

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Analytical Report Number : 25-056272

Project / Site name:	Land North of School Lane, Arborfield	**Samples received on:**	16/10/2025
Your job number:	333801775	**Samples instructed on/ Analysis started on:**	16/10/2025
Your order number:	EPL049995	**Analysis completed by:**	28/10/2025
Report Issue Number:	1	**Report issued on:**	28/10/2025
Samples Analysed:	7 soil samples		

[redacted]

Signed:

Joanna Biolik
Senior 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
air	- once the analysis is complete

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Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

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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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 25-056272
Project / Site name: Land North of School Lane, Arborfield

Lab Sample Number				719144	719145	719146	719147	719148
Sample Reference				WS01	WS02	WS03	WS03	WS04
Sample Number				1	1	1	2	1
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.20	0.30	0.20	0.60	0.30
Date Sampled				13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	9.8	9.9	13	15	13
Total mass of sample received	kg	0.1	NONE	0.3	0.3	0.2	0.2	0.9
Asbestos								
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	-
Asbestos Analyst ID	N/A	N/A	N/A	KJK	OGR	KJK	OGR	-
Analysis completed	N/A	N/A	N/A	23/10/2025	22/10/2025	23/10/2025	22/10/2025	-
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	6.4	7.4	7.1	7.4	-
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	24	48	22	I/S $^{+I/S}$	-
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.0118	0.0238	0.0109	I/S $^{+I/S}$	-
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	11.8	23.8	10.9	I/S $^{+I/S}$	-
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.011	0.018	0.013	0.0035	-
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	-
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	-
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	-
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	-
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	-
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	-
Fluoranthene	mg/kg	0.05	MCERTS	0.24	0.08	0.09	< 0.05	-
Pyrene	mg/kg	0.05	MCERTS	0.22	0.08	0.09	< 0.05	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.2	0.06	0.05	< 0.05	-
Chrysene	mg/kg	0.05	MCERTS	0.2	< 0.05	< 0.05	< 0.05	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.23	0.1	< 0.05	< 0.05	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.2	< 0.05	< 0.05	< 0.05	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.09	< 0.05	< 0.05	< 0.05	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	-
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	1.38	< 0.80	< 0.80	< 0.80	-

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 25-056272
Project / Site name: Land North of School Lane, Arborfield

Lab Sample Number				719144	719145	719146	719147	719148
Sample Reference				WS01	WS02	WS03	WS03	WS04
Sample Number				1	1	1	2	1
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.20	0.30	0.20	0.60	0.30
Date Sampled				13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	6.1	6.2	8.9	14	-
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.42	0.37	0.54	1.2	-
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3	1	0.4	0.6	-
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 (III)	mg/kg	1	NONE	15	17	24	50	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	15	17	24	50	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	14	14	18	18	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	23	15	24	14	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	6.6	6.7	11	28	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	22	26	35	68	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	37	39	48	59	-
Petroleum Hydrocarbons								
TPHCWG - Aliphatic >EC5 - EC6 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	-
TPHCWG - Aliphatic >EC6 - EC8 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	-
TPHCWG - Aliphatic >EC8 - EC10 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	-
TPHCWG - Aliphatic >EC10 - EC12 $_{EH_CU_1D_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-
TPHCWG - Aliphatic >EC12 - EC16 $_{EH_CU_1D_AL}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	-
TPHCWG - Aliphatic >EC16 - EC21 $_{EH_CU_1D_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	-
TPHCWG - Aliphatic >EC16 - EC35 $_{EH_CU_1D_AL}$	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	-
TPHCWG - Aliphatic >EC21 - EC35 $_{EH_CU_1D_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	-
TPHCWG - Aliphatic >EC35 - EC44 $_{EH_CU_1D_AL}$	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	-
TPHCWG - Aliphatic >EC5 - EC35 $_{EH_CU+HS_1D_AL}$	mg/kg	10	NONE	< 10	< 10	< 10	< 10	-
TPHCWG - Aliphatic >EC5 - EC44 $_{EH_CU+HS_1D_AL}$	mg/kg	10	NONE	< 10	< 10	< 10	< 10	-
TPHCWG - Aromatic >EC5 - EC7 $_{HS_1D_AR}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	-
TPHCWG - Aromatic >EC7 - EC8 $_{HS_1D_AR}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	-
TPHCWG - Aromatic >EC8 - EC10 $_{HS_1D_AR}$	mg/kg	0.02	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020	-
TPHCWG - Aromatic >EC10 - EC12 $_{EH_CU_1D_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-
TPHCWG - Aromatic >EC12 - EC16 $_{EH_CU_1D_AR}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	-
TPHCWG - Aromatic >EC16 - EC21 $_{EH_CU_1D_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	-
TPHCWG - Aromatic >EC21 - EC35 $_{EH_CU_1D_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	-
TPHCWG - Aromatic >EC35 - EC44 $_{EH_CU_1D_AR}$	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	-
TPHCWG - Aromatic >EC5 - EC35 $_{EH_CU+HS_1D_AR}$	mg/kg	10	NONE	< 10	< 10	< 10	< 10	-
TPHCWG - Aromatic >EC5 - EC44 $_{EH_CU+HS_1D_AR}$	mg/kg	10	NONE	< 10	< 10	< 10	< 10	-
TPH Total >EC5 - EC44 $_{EH_CU+HS_1D_TOTAL}$	mg/kg	10	NONE	< 10	< 10	< 10	< 10	-

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Analytical Report Number: 25-056272
Project / Site name: Land North of School Lane, Arborfield

Lab Sample Number				719144	719145	719146	719147	719148
Sample Reference				WS01	WS02	WS03	WS03	WS04
Sample Number				1	1	1	2	1
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.20	0.30	0.20	0.60	0.30
Date Sampled				13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
VOCs								
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	-
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	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	-
Pesticides (GC-MS)								
Alpha-BHC (Benzene Hexachloride)	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Alachlor	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Bifenthrin	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Cyhalothrin (Lambda)	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Gamma-BHC (Lindane, gamma HCH)	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Omethoate	µg/kg	10	NONE	< 10	-	< 10	-	< 10
1,2,3-Trichlorobenzene	µg/kg	10	NONE	< 10	-	< 10	-	< 10
1,3,5-Trichlorobenzene	µg/kg	10	NONE	< 10	-	< 10	-	< 10
2,6-Dichlorobenzonitrile	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Dimethylvinphos	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Demeton-O	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Demeton-S	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Endrin Aldehyde	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Endrin Ketone	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Hexachlorobutadiene	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Phosphamidon (Sum)	µg/kg	10	NONE	< 10	-	< 10	-	< 10
1,2,4,5-Tetrachlorobenzene	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Cis-Permethrin	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Endosulfan sulfate	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Etrimfos	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Fenvalerate (Sum)	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Hexachlorobenzene	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Mevinphos, E+Z	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Pentachlorobenzene	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Pirimiphos-ethyl	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Propetamphos	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Tecnazene	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Triadimefon	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Trans-Permethrin	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Aldrin	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Azinphos-methyl	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Beta-BHC	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Cis-Chlordane	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Chlorfenvinphos	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Chlorpyrifos	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Chlorothalonil	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Carbophenothion	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Cyfluthrin (Sum)	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Delta-BHC	µg/kg	10	NONE	< 10	-	< 10	-	< 10

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Analytical Report Number: 25-056272
Project / Site name: Land North of School Lane, Arborfield

Lab Sample Number				719144	719145	719146	719147	719148
Sample Reference				WS01	WS02	WS03	WS03	WS04
Sample Number				1	1	1	2	1
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.20	0.30	0.20	0.60	0.30
Date Sampled				13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Dieldrin	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Deltamethrin	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Heptachlor Exo-epoxide	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Endrin	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Endosulfan I (alpha isomer)	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Endosulfan II (beta isomer)	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Fenthion	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Isodrin	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Methacrifos	µg/kg	10	NONE	< 10	-	< 10	-	< 10
O,p'-DDD	µg/kg	10	NONE	< 10	-	< 10	-	< 10
O,p'-DDE	µg/kg	10	NONE	< 10	-	< 10	-	< 10
O,p'-DDT	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Parathion	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Parathion-methyl	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Pendimethalin	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Phorate	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Phosalone	µg/kg	10	NONE	< 10	-	< 10	-	< 10
P,p'-DDD	µg/kg	10	NONE	< 10	-	< 10	-	< 10
P,p'-DDE	µg/kg	10	NONE	< 10	-	< 10	-	< 10
P,p'-DDT	µg/kg	10	NONE	< 10	-	< 10	-	< 10
P,p'-Methoxychlor	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Propyzamide	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Triazophos	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Trans-Chlordane	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Cypermethrin (Sum)	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Dichlorvos	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Dimethoate	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Diazinon	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Ethion	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Fenitrothion	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Malathion	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Pirimiphos-methyl	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Trifluralin	µg/kg	10	NONE	< 10	-	< 10	-	< 10
Azinphos-ethyl	µg/kg	10	NONE	< 10	-	< 10	-	< 10

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

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Analytical Report Number: 25-056272
Project / Site name: Land North of School Lane, Arborfield

Lab Sample Number				719149	719150
Sample Reference				WS05	WS05
Sample Number				1	2
Water Matrix				N/A	N/A
Depth (m)				0.10	0.50
Date Sampled				13/10/2025	13/10/2025
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	12	7.9
Total mass of sample received	kg	0.1	NONE	0.3	0.2

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	KJK	KJK
Analysis completed	N/A	N/A	N/A	23/10/2025	23/10/2025

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	7.1	8
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	20	16
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.0101	0.00804
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	10.1	8.04
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.017	0.0049

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0

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	0.13	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.23	< 0.05
Pyrene	mg/kg	0.05	MCERTS	0.19	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.11	< 0.05
Chrysene	mg/kg	0.05	MCERTS	0.18	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.13	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.12	< 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	1.08	< 0.80

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Analytical Report Number: 25-056272
Project / Site name: Land North of School Lane, Arborfield

Lab Sample Number				719149	719150
Sample Reference				WS05	WS05
Sample Number				1	2
Water Matrix				N/A	N/A
Depth (m)				0.10	0.50
Date Sampled				13/10/2025	13/10/2025
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	6.2	9.4
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.43	0.89
Boron (water soluble)	mg/kg	0.2	MCERTS	0.9	0.3
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 (III)	mg/kg	1	NONE	18	33
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	18	33
Copper (aqua regia extractable)	mg/kg	1	MCERTS	14	11
Lead (aqua regia extractable)	mg/kg	1	MCERTS	18	8.7
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	8.3	21
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	28	47
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	42	45

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 $_{EH_CU_1D_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 $_{EH_CU_1D_AL}$	mg/kg	2	MCERTS	< 2.0	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 $_{EH_CU_1D_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0
TPHCWG - Aliphatic >EC16 - EC35 $_{EH_CU_1D_AL}$	mg/kg	10	MCERTS	< 10	< 10
TPHCWG - Aliphatic >EC21 - EC35 $_{EH_CU_1D_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0
TPHCWG - Aliphatic >EC35 - EC44 $_{EH_CU_1D_AL}$	mg/kg	8.4	NONE	< 8.4	< 8.4
TPHCWG - Aliphatic >EC5 - EC35 $_{EH_CU+HS_1D_AL}$	mg/kg	10	NONE	< 10	< 10
TPHCWG - Aliphatic >EC5 - EC44 $_{EH_CU+HS_1D_AL}$	mg/kg	10	NONE	< 10	< 10

TPHCWG - Aromatic >EC5 - EC7 $_{HS_1D_AR}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 $_{HS_1D_AR}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 $_{HS_1D_AR}$	mg/kg	0.02	MCERTS	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 $_{EH_CU_1D_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 $_{EH_CU_1D_AR}$	mg/kg	2	MCERTS	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 $_{EH_CU_1D_AR}$	mg/kg	10	MCERTS	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 $_{EH_CU_1D_AR}$	mg/kg	10	MCERTS	< 10	< 10
TPHCWG - Aromatic >EC35 - EC44 $_{EH_CU_1D_AR}$	mg/kg	8.4	NONE	< 8.4	< 8.4
TPHCWG - Aromatic >EC5 - EC35 $_{EH_CU+HS_1D_AR}$	mg/kg	10	NONE	< 10	< 10
TPHCWG - Aromatic >EC5 - EC44 $_{EH_CU+HS_1D_AR}$	mg/kg	10	NONE	< 10	< 10

TPH Total >EC5 - EC44 $_{EH_CU+HS_1D_TOTAL}$	mg/kg	10	NONE	< 10	< 10

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Analytical Report Number: 25-056272
Project / Site name: Land North of School Lane, Arborfield

Lab Sample Number				719149	719150
Sample Reference				WS05	WS05
Sample Number				1	2
Water Matrix				N/A	N/A
Depth (m)				0.10	0.50
Date Sampled				13/10/2025	13/10/2025
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0
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	8	MCERTS	< 8.0	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0

Pesticides (GC-MS)

Alpha-BHC (Benzene Hexachloride)	µg/kg	10	NONE	< 10	-
Alachlor	µg/kg	10	NONE	< 10	-
Bifenthrin	µg/kg	10	NONE	< 10	-
Cyhalothrin (Lambda)	µg/kg	10	NONE	< 10	-
Gamma-BHC (Lindane, gamma HCH)	µg/kg	10	NONE	< 10	-
Omethoate	µg/kg	10	NONE	< 10	-
1,2,3-Trichlorobenzene	µg/kg	10	NONE	< 10	-
1,3,5-Trichlorobenzene	µg/kg	10	NONE	< 10	-
2,6-Dichlorobenzonitrile	µg/kg	10	NONE	< 10	-
Dimethylvinphos	µg/kg	10	NONE	< 10	-
Demeton-O	µg/kg	10	NONE	< 10	-
Demeton-S	µg/kg	10	NONE	< 10	-
Endrin Aldehyde	µg/kg	10	NONE	< 10	-
Endrin Ketone	µg/kg	10	NONE	< 10	-
Hexachlorobutadiene	µg/kg	10	NONE	< 10	-
Phosphamidon (Sum)	µg/kg	10	NONE	< 10	-
1,2,4,5-Tetrachlorobenzene	µg/kg	10	NONE	< 10	-
Cis-Permethrin	µg/kg	10	NONE	< 10	-
Endosulfan sulfate	µg/kg	10	NONE	< 10	-
Etrimfos	µg/kg	10	NONE	< 10	-
Fenvalerate (Sum)	µg/kg	10	NONE	< 10	-
Hexachlorobenzene	µg/kg	10	NONE	< 10	-
Mevinphos, E+Z	µg/kg	10	NONE	< 10	-
Pentachlorobenzene	µg/kg	10	NONE	< 10	-
Pirimiphos-ethyl	µg/kg	10	NONE	< 10	-
Propetamphos	µg/kg	10	NONE	< 10	-
Tecnazene	µg/kg	10	NONE	< 10	-
Triadimefon	µg/kg	10	NONE	< 10	-
Trans-Permethrin	µg/kg	10	NONE	< 10	-
Aldrin	µg/kg	10	NONE	< 10	-
Azinphos-methyl	µg/kg	10	NONE	< 10	-
Beta-BHC	µg/kg	10	NONE	< 10	-
Cis-Chlordane	µg/kg	10	NONE	< 10	-
Chlorfenvinphos	µg/kg	10	NONE	< 10	-
Chlorpyrifos	µg/kg	10	NONE	< 10	-
Chlorothalonil	µg/kg	10	NONE	< 10	-
Carbophenothion	µg/kg	10	NONE	< 10	-
Cyfluthrin (Sum)	µg/kg	10	NONE	< 10	-
Delta-BHC	µg/kg	10	NONE	< 10	-

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Analytical Report Number: 25-056272
Project / Site name: Land North of School Lane, Arborfield

Lab Sample Number				719149	719150
Sample Reference				WS05	WS05
Sample Number				1	2
Water Matrix				N/A	N/A
Depth (m)				0.10	0.50
Date Sampled				13/10/2025	13/10/2025
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		
Dieldrin	µg/kg	10	NONE	< 10	-
Deltamethrin	µg/kg	10	NONE	< 10	-
Heptachlor Exo-epoxide	µg/kg	10	NONE	< 10	-
Endrin	µg/kg	10	NONE	< 10	-
Endosulfan I (alpha isomer)	µg/kg	10	NONE	< 10	-
Endosulfan II (beta isomer)	µg/kg	10	NONE	< 10	-
Fenthion	µg/kg	10	NONE	< 10	-
Isodrin	µg/kg	10	NONE	< 10	-
Methacrifos	µg/kg	10	NONE	< 10	-
O,p'-DDD	µg/kg	10	NONE	< 10	-
O,p'-DDE	µg/kg	10	NONE	< 10	-
O,p'-DDT	µg/kg	10	NONE	< 10	-
Parathion	µg/kg	10	NONE	< 10	-
Parathion-methyl	µg/kg	10	NONE	< 10	-
Pendimethalin	µg/kg	10	NONE	< 10	-
Phorate	µg/kg	10	NONE	< 10	-
Phosalone	µg/kg	10	NONE	< 10	-
P,p'-DDD	µg/kg	10	NONE	< 10	-
P,p'-DDE	µg/kg	10	NONE	< 10	-
P,p'-DDT	µg/kg	10	NONE	< 10	-
P,p'-Methoxychlor	µg/kg	10	NONE	< 10	-
Propyzamide	µg/kg	10	NONE	< 10	-
Triazophos	µg/kg	10	NONE	< 10	-
Trans-Chlordane	µg/kg	10	NONE	< 10	-
Cypermethrin (Sum)	µg/kg	10	NONE	< 10	-
Dichlorvos	µg/kg	10	NONE	< 10	-
Dimethoate	µg/kg	10	NONE	< 10	-
Diazinon	µg/kg	10	NONE	< 10	-
Ethion	µg/kg	10	NONE	< 10	-
Fenitrothion	µg/kg	10	NONE	< 10	-
Malathion	µg/kg	10	NONE	< 10	-
Pirimiphos-methyl	µg/kg	10	NONE	< 10	-
Trifluralin	µg/kg	10	NONE	< 10	-
Azinphos-ethyl	µg/kg	10	NONE	< 10	-

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

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Analytical Report Number : 25-056272
Project / Site name: Land North of School Lane, Arborfield

* 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 *
719144	WS01	1	0.2	Brown loam and sand with vegetation
719145	WS02	1	0.3	Brown loam and sand with gravel and vegetation
719146	WS03	1	0.2	Brown loam and sand with gravel and vegetation
719147	WS03	2	0.6	Brown clay and sand with gravel and vegetation
719148	WS04	1	0.3	Brown loam and clay with vegetation
719149	WS05	1	0.1	Brown loam and sand with gravel and vegetation
719150	WS05	2	0.5	Brown clay and sand with gravel and vegetation

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Analytical Report Number : 25-056272
Project / Site name: Land North of School Lane, Arborfield

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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, 2021	A001B	D	ISO 17025
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
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.	L019B	D	NONE
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	L038B	D	MCERTS
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	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Pesticides by GC-MS/MS	Detemination of Pesticides in soil by GC MS/MS	In-house method	L055B	W	NONE
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
TPH Chromatogram in soil	TPH Chromatogram in soil	In-house method	L064B	D	NONE
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID in soil	Determination of total petroleum hydrocarbons in soil by GC-FID with carbon banding aliphatic and aromatic	In-house method	L076B	D	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil (Summed Bands)	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic (Summed Bands).	Calculation	L076B/L088-PL	D/W	NONE
Chromium III in soil	In-house method by calculation from total Cr and Cr VI	In-house method by calculation	L080-PL/L130B	W	NONE
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
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS

Analytical Report Number : 25-056272
Project / Site name: Land North of School Lane, Arborfield

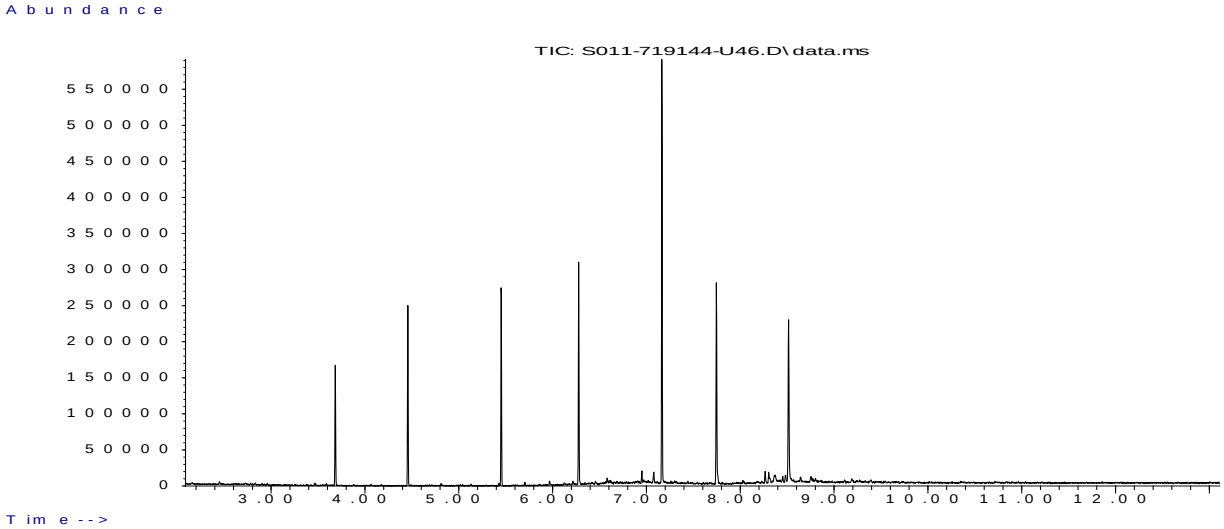
Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)
Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total petroleum hydrocarbons with carbon banding by HS-GC/MS in soil	Determination of total petroleum hydrocarbons in soil by HS-GC/MS with carbon banding aliphatic and aromatic	In-house method	L088-PL	W	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
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	L009B	D	MCERTS
Soil Descriptions	Textural classification	In-house method	L019B	W	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.

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

*I/S- Insufficient sample for analysis.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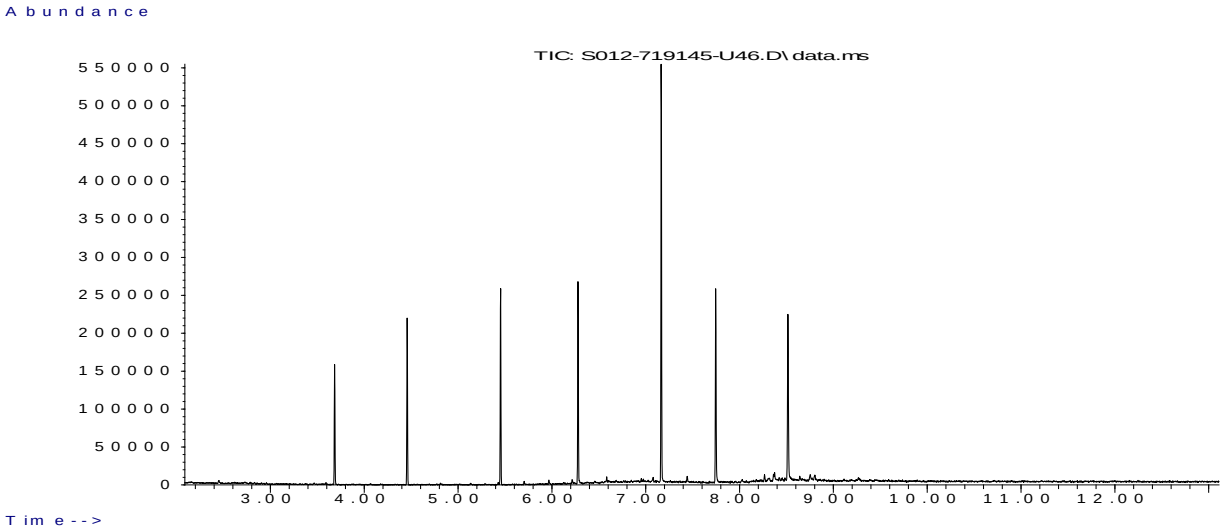
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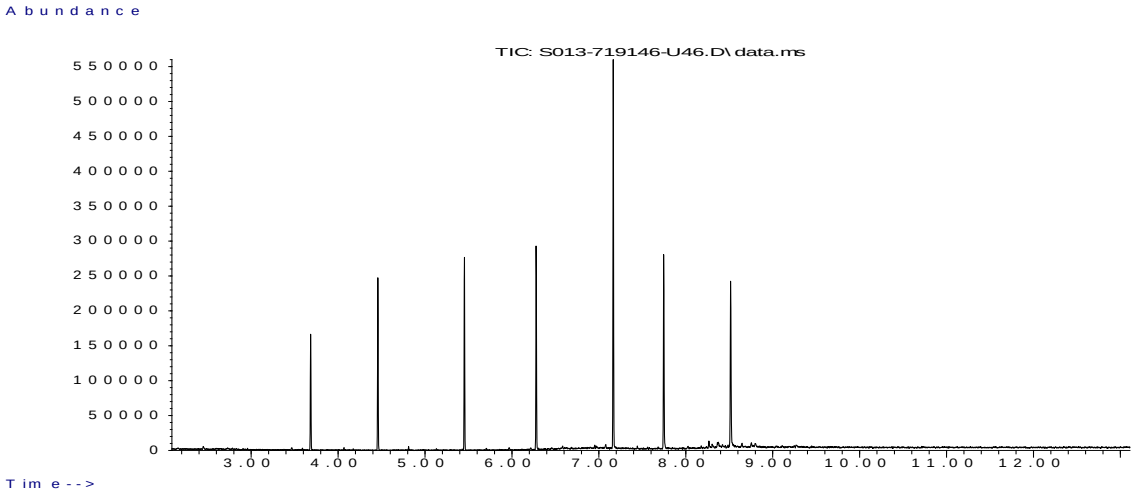
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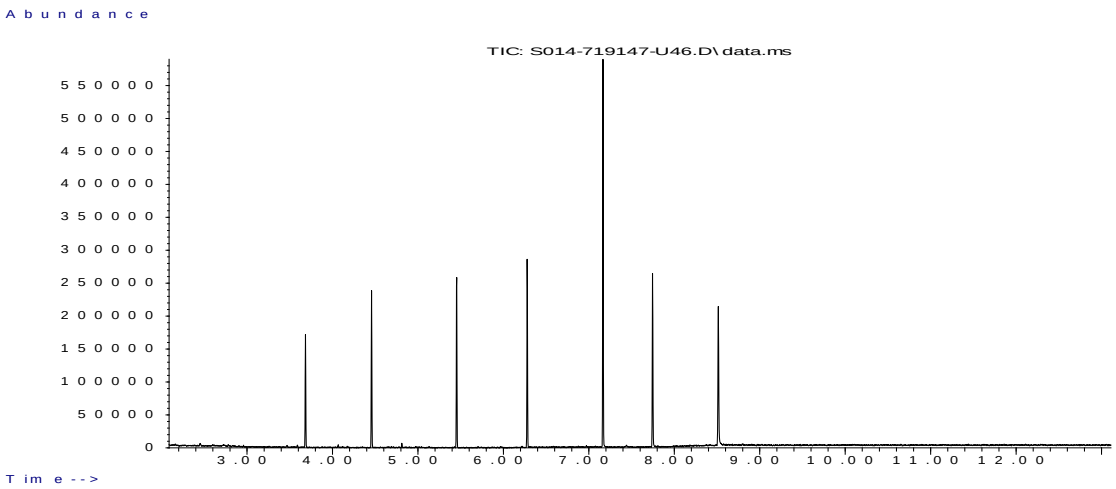
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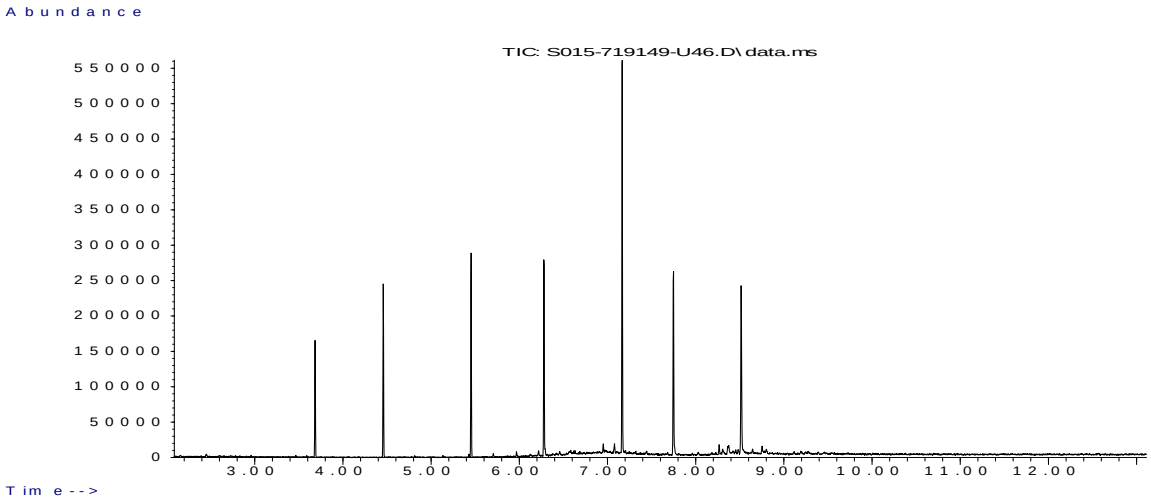
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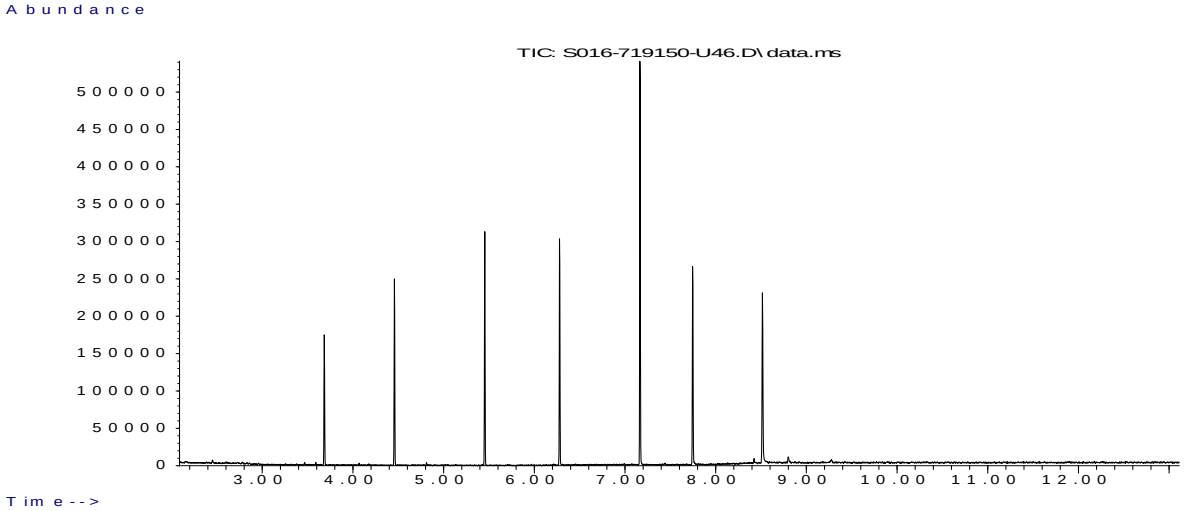
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Analytical Report Number : 25-057714

Project / Site name:	Land North of School Lane, Arborfield Cross	**Samples received on:**	24/10/2025
Your job number:	333801775	**Samples instructed on/ Analysis started on:**	24/10/2025
Your order number:	EPL049995	**Analysis completed by:**	03/11/2025
Report Issue Number:	1	**Report issued on:**	04/11/2025
Samples Analysed:	9 soil samples		

[redacted]

Signed:

Anna Goc
PL Head of Reporting Team
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
air	- once the analysis is complete

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Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

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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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 25-057714
Project / Site name: Land North of School Lane, Arborfield Cross

Lab Sample Number				727344	727345	727346	727347	727348
Sample Reference				TP01	TP01	TP01	TP02	TP04
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.30-0.40	1.30-1.40	2.30-2.40	0.60-0.70	2.60-2.70
Date Sampled				15/10/2025	15/10/2025	15/10/2025	15/10/2025	15/10/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	9.3	16	16	7.4	19
Total mass of sample received	kg	0.1	NONE	0.7	0.7	0.7	0.6	0.6

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	8.1	7.9	8.2	8.2	7.6
Total Sulphate as SO_4	mg/kg	50	MCERTS	250	86	200	320	86
Total Sulphate as SO_4	%	0.005	MCERTS	0.025	0.009	0.02	0.032	0.009
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	32	34	38	44	34
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.0158	0.017	0.0191	0.0217	0.0167
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	15.8	17	19.1	21.7	16.7
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	5.3	6.5	5.5	4.2	6.8
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	2.7	3.2	2.7	2.1	3.4
Total Sulphur	mg/kg	50	MCERTS	200	86	120	160	53
Total Sulphur	%	0.005	MCERTS	0.02	0.009	0.012	0.016	0.005
Ammoniacal Nitrogen as NH_4^+	mg/kg	0.5	MCERTS	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Ammonium as NH_4^+ (10:1 leachate equivalent)	mg/l	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Water Soluble Nitrate (2:1) as NO_3	mg/kg	2	NONE	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Water Soluble Nitrate (2:1) as NO_3 (leachate equivalent)	mg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

Heavy Metals / Metalloids

Magnesium (leachate equivalent)	mg/l	2.5	NONE	5.6	6.5	6.8	4.4	8
Magnesium (water soluble)	mg/kg	5	NONE	11	13	14	8.8	16

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

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Analytical Report Number: 25-057714
Project / Site name: Land North of School Lane, Arborfield Cross

Lab Sample Number				727349	727350	727351	727352
Sample Reference				WS01	WS02	WS03	WS04
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A
Depth (m)				4.00-4.20	2.00	1.00	2.00-2.20
Date Sampled				15/10/2025	15/10/2025	15/10/2025	15/10/2025
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	17	19	11	18
Total mass of sample received	kg	0.1	NONE	0.3	0.6	0.3	0.4

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	8.1	7.9	8.1	6.9
Total Sulphate as SO_4	mg/kg	50	MCERTS	410	470	89	100
Total Sulphate as SO_4	%	0.005	MCERTS	0.041	0.047	0.009	0.01
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	400	350	36	32
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.202	0.177	0.0179	0.016
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	202	177	17.9	16
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	17	100	6.6	17
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	8.6	50	3.3	8.7
Total Sulphur	mg/kg	50	MCERTS	1700	200	68	77
Total Sulphur	%	0.005	MCERTS	0.17	0.02	0.007	0.008
Ammoniacal Nitrogen as NH_4^+	mg/kg	0.5	MCERTS	2	< 0.5	< 0.5	< 0.5
Ammonium as NH_4^+ (10:1 leachate equivalent)	mg/l	0.05	MCERTS	0.13	< 0.05	< 0.05	< 0.05
Water Soluble Nitrate (2:1) as NO_3	mg/kg	2	NONE	< 2.0	< 2.0	< 2.0	< 2.0
Water Soluble Nitrate (2:1) as NO_3 (leachate equivalent)	mg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0

Heavy Metals / Metalloids

Magnesium (leachate equivalent)	mg/l	2.5	NONE	22	22	4.6	150
Magnesium (water soluble)	mg/kg	5	NONE	43	45	9.3	300

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

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Analytical Report Number : 25-057714
Project / Site name: Land North of School Lane, Arborfield Cross

* 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 *
727344	TP01	None Supplied	0.30-0.40	Brown clay and sand with vegetation and gravel
727345	TP01	None Supplied	1.30-1.40	Brown clay and sand
727346	TP01	None Supplied	2.30-2.40	Brown clay
727347	TP02	None Supplied	0.60-0.70	Brown sand with vegetation and chalk
727348	TP04	None Supplied	2.60-2.70	Brown clay and sand
727349	WS01	None Supplied	4.00-4.20	Brown clay with vegetation
727350	WS02	None Supplied	2	Brown clay with gravel and vegetation
727351	WS03	None Supplied	1	Brown clay and sand with vegetation
727352	WS04	None Supplied	2.00-2.20	Brown clay and sand

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Analytical Report Number : 25-057714
Project / Site name: Land North of School Lane, Arborfield Cross

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI 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 (up to 30°C)	In-house method	L019B	W	NONE
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.	L019B	D	NONE
Magnesium, water soluble, in soil	Determination of water soluble magnesium by extraction with water followed by ICP-OES	In-house method based on TRL 447	L038B	D	NONE
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES	In-house method	L038B	D	MCERTS
Water Soluble Nitrate (leachate equivalent)	Determination of nitrate by reaction with sodium salicylate and colorimetry	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08, 2:1 extraction	L078-PL	W	NONE
Nitrate, water soluble, in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08, 2:1 extraction	L078-PL	W	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser	In-house method	L082B	D	MCERTS
Ammonium as NH4 in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	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
Soil Descriptions	Textural classification	In-house method	L019B	W	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.

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report are representative of the samples submitted for analysis.

Human health GAC screening results

Risk parameter:	Default - Human Health - residential with home-grown produce (2.5% SOM)
Client:	Crowfoot Homes
Site:	Arborfield Cross
Job no.:	3E+08
Lab. report no(s).:	25-056273-1

Stantec

Data Filters	
Zone	All
Strata	All
Depth Min (m bgl)	0.1
Depth Max (m bgl)	0.6

Dataset mean SOM% 1.96

Scenario SOM% 2.5

All values in mg/kg unless otherwise stated

CAS No / P Code	Chemical of Potential Concern	Units	LoD	No. Samples	Min. Value	Max. Value	Mean	Median	Standard Deviation	No. Samples >= GAC & > LoD	Soil Saturation Limit @2.5% SOM	GAC	GAC Source	Statistical Assessment?	Central Limit Theorem Statistical Assessment (after CLAIRE 2020) Upper Confidence Limit 80%	95%	99%	Results of Significance Test
	Asbestos																	
P1030	Asbestos Identified	Bool	Y/N	6	-	-	-	-	No. of detects:	0	-	-	-		-	-	-	-
P1009	Asbestos Screen Name	Bool	Y/N	0	-	-	-	-	-		-		-					
12172-67-7	Actinolite detected	Bool	Y/N	0	-	-	-	-	-		-		-					
12172-73-5	Amosite detected	Bool	Y/N	0	-	-	-	-	-		-		-					
17068-78-9	Anthophyllite detected	Bool	Y/N	0	-	-	-	-	-		-		-					
12001-29-5	Chrysotile detected	Bool	Y/N	0	-	-	-	-	-		-		-					
12001-28-4	Crocidolite detected	Bool	Y/N	0	-	-	-	-	-		-		-					
14567-73-8	Tremolite detected	Bool	Y/N	0	-	-	-	-	-		-		-					
P1005	Asbestos Quant. (Stage 2)	%	0.001	0					No. > LOD:		-		-					
P1031	Asbestos Quant. Total	%	0.001	0					No. > LOD:		-		-					
P1026	Asbestos Quant. (Stage 3)	%	0.001	0					No. > LOD:		-		-					
-	Asbestos Quant. Total (Stages 2+3)	%	0.001	0					No. > LOD:		-		-					
P1002	Asbestos Containing Material Types Detected (ACM)	Bool	-	0	-	-	-	-	-		-		-					
	Hydrock Default Suite - VOC / SOM / pH										-							
P1045	VOC (dimensionless)	-	0.001	6	0.004	0.018	0.011	0.012	0.01		-	-	-		-	-	-	-
-	SOM (calculated)	%	0.17214	6	0.66	3.10	1.96	2.07	1.01		-	-	-		-	-	-	-
P1101	pH (lab)	pH Units	0.1	6	6.60	8.00	7.23	7.25	0.52		-	-	-		-	-	-	-
	Hydrock Default Suite - Metals & PAH																	
7440-38-2	Arsenic	mg/kg	1	6	6.10	15.00	8.67	7.55	3.84	0	NR	37	CIEH - CLAIRE 2014	Y	10.32	11.70	13.54	Potentially Suitable for Use
7440-41-7	Beryllium	mg/kg	0.05	6	0.17	1.20	0.64	0.69	0.33	0	NR	1.7	Hydrock Derived	Y	0.84	0.99	1.19	Potentially Suitable for Use
7440-42-8	Boron	mg/kg	0.2	6	0.30	1.80	0.58	0.50	0.41	0	NR	300	Hydrock Derived	Y	0.77	0.90	1.09	Potentially Suitable for Use
7440-43-9	Cadmium	mg/kg	0.2	6	0.20	0.20	0.20	0.20	0.00	0	NR	22	CIEH - CLAIRE 2014	Y	0.20	0.20	0.20	Potentially Suitable for Use
16065-83-1	Chromium (III)	mg/kg	1	6	15.00	90.00	26.17	21.00	31.38	0	NR	890	Hydrock Derived	Y	41.21	55.21	68.19	Potentially Suitable for Use
18540-29-9	Chromium (VI)	mg/kg	1.8	6	1.80	1.80	1.80	1.80	0.00	0	NR	21	CIEH - CLAIRE 2014	Y	1.80	1.80	1.80	Potentially Suitable for Use
7440-47-3	Chromium (Total)	mg/kg	1	6	15.00	90.00	26.17	21.00	31.38		-	-	-	N	-	-	-	-
7440-50-8	Copper	mg/kg	1	6	11.00	18.00	14.83	14.00	2.71	0	NR	2500	Hydrock Derived	Y	16.17	17.68	19.30	Potentially Suitable for Use
7439-92-1	Lead	mg/kg	1	6	8.70	21.00	17.12	16.50	5.79	0	NR	200	CIEH - CLAIRE 2014	Y	20.61	21.70	24.65	Potentially Suitable for Use
7439-97-6	Mercury, inorganic	mg/kg	0.3	6	0.30	0.80	0.40	0.30	0.20	0	NR	200	Hydrock Derived	Y	0.30	0.30	0.30	Potentially Suitable for Use
7440-02-0	Nickel	mg/kg	1	6	8.60	29.00	13.60	9.65	8.87	0	NR	180	Hydrock Derived	Y	18.96	22.91	28.20	Potentially Suitable for Use
7782-49-2	Selenium	mg/kg	1	6	1.00	1.00	1.00	1.00	0.00	0	NR	260	Hydrock Derived	Y	1.00	1.00	1.00	Potentially Suitable for Use
7440-62-2	Vanadium	mg/kg	1	6	21.00	68.00	47.67	51.50	17.26	0	NR	410	Hydrock Derived	Y	58.87	65.75	84.89	Potentially Suitable for Use
7440-66-6	Zinc	mg/kg	1	6	37.00	99.00	65.83	53.50	7.82	0	NR	3900	Hydrock Derived	Y	69.77	83.52	98.80	Potentially Suitable for Use
P1095	Cyanide (free)	mg/kg	1	6	1.00	1.00	1.00	1.00	0.00	0	NR	35	Acute Risk - SoBRA 2020	Y	1.00	1.00	1.00	Potentially Suitable for Use
P1186	Total Phenols (monohydric)	mg/kg	1	6	1.00	1.00	1.00	1.00	0.00	0	28258	210	Hydrock Derived	Y	1.00	1.00	1.00	Potentially Suitable for Use
83-32-9	Acenaphthene	mg/kg	0.05	6	0.05	0.05	0.05	0.05	0.00	0	151	510	Hydrock Derived	Y	0.05	0.05	0.05	Potentially Suitable for Use
208-96-8	Acenaphthylene	mg/kg	0.05	6	0.05	0.05	0.05	0.05	0.00	0	212	410	Hydrock Derived	Y	0.05	0.05	0.05	Potentially Suitable for Use
120-12-7	Anthracene	mg/kg	0.05	6	0.05	0.05	0.05	0.05	0.00	0	2.91	5000	Hydrock Derived	Y	0.05	0.05	0.05	Potentially Suitable for Use
56-55-3	Benzo(a)anthracene	mg/kg	0.05	6	0.05	0.20	0.09	0.05	0.06	0	4.28	12	Hydrock Derived	Y	0.12	0.15	0.19	Potentially Suitable for Use
50-32-8	Benzo(a)pyrene	mg/kg	0.05	6	0.05	0.20	0.09	0.05	0.06	0	2.28	5	CIEH - CLAIRE 2014	Y	0.11	0.14	0.18	Potentially Suitable for Use
205-99-2	Benzo(b)fluoranthene	mg/kg	0.05	6	0.05	0.23	0.10	0.09	0.07	0	1.01	3.3	Hydrock Derived	Y	0.14	0.18	0.22	Potentially Suitable for Use
191-24-2	Benzo(ghi)perylene	mg/kg	0.05	6	0.05	0.05	0.05	0.05	0.00	0	0.01	340	Hydrock Derived	Y	0.05	0.05	0.05	Potentially Suitable for Use
207-08-9	Benzo(k)fluoranthene	mg/kg	0.05	6	0.05	0.12	0.06	0.05	0.03	0	1.72	93	Hydrock Derived	Y	0.08	0.09	0.11	Potentially Suitable for Use
218-01-9	Chrysene	mg/kg	0.05	6	0.05	0.20	0.10	0.05	0.07	0	1.10	22	Hydrock Derived	Y	0.14	0.17	0.22	Potentially Suitable for Use
53-70-3	Dibenz(ah)anthracene	mg/kg	0.05	6	0.05	0.05	0.05	0.05	0.00	0	0.010	0.29	Hydrock Derived	Y	0.05	0.05	0.05	Potentially Suitable for Use
206-44-0	Fluoranthene	mg/kg	0.05	6	0.05	0.24	0.12	0.09	0.09	0	47	840	Hydrock Derived	Y	0.18	0.22	0.27	Potentially Suitable for Use
86-73-7	Fluorene	mg/kg	0.05	6	0.05	0.05	0.05	0.05	0.00	0	77	620	Hydrock Derived	Y	0.05	0.05	0.05	Potentially Suitable for Use
193-39-5	Indeno(123cd)pyrene	mg/kg	0.05	6	0.05	0.09	0.06	0.05	0.02	0	0.15	36	Hydrock Derived	Y	0.07	0.07	0.08	Potentially Suitable for Use
91-20-3	Naphthalene	mg/kg	0.05	6	0.05	0.05	0.05	0.05	0.00	0	163	86	CIEH - CLAIRE 2014	Y	0.05	0.05	0.05	Potentially Suitable for Use
85-01-8	Phenanthrene	mg/kg	0.05	6	0.05	0.14	0.06	0.05	0.03	0	90	220	Hydrock Derived	Y	0.08	0.10	0.12	Potentially Suitable for Use
129-00-0	Pyrene	mg/kg	0.05	6	0.05	0.22	0.11	0.09	0.07	0	5.5	1200	Hydrock Derived	Y	0.16	0.19	0.23	Potentially Suitable for Use
P1102	PAH 16 Total	mg/kg	0.8	6	0.80	1.86	0.91	0.80	0.35		-	-	-	N	-	-	-	-
	TPH Fractions																	
P1007	TPH ab EC05-EC06	mg/kg	0.001	6	0.01	0.01	0.01	0.01	0.000	0	558	74	Hydrock Derived	N	-	-	-	-
P1008	TPH ab >EC06-EC08	mg/kg	0.001	6	0.01	0.01	0.01	0.01	0.000	0	822	248	Hydrock Derived	N	-	-	-	-
P1009	TPH ab >EC08-EC10	mg/kg	0.001	6	0.01	0.01	0.01	0.01	0.000	0	390	65	Hydrock Derived	N	-	-	-	-
P1010	TPH ab >EC10-EC12	mg/kg	1	6	1.00	1.00	1.00	1.00	0.00	0	118	860	Hydrock Derived	N	-	-	-	-
P1011	TPH ab >EC12-EC16	mg/kg	2	6	2.00	2.00	2.00	2.00	0.00	0	54	2000	Hydrock Derived	N	-	-	-	-
-	TPH ab >EC16-EC21	mg/kg	8	6	8.00	8.00	8.00	8.00	0.00		-	-		N	-	-	-	-
-	TPH ab >EC21-EC35	mg/kg	8	6	8.00	8.00	8.00	8.00	0.00		-	-		N	-	-	-	-
P1012	TPH ab >EC16-EC35	mg/kg	10	6	10.00	10.00	10.00	10.00	0.00	0	21	92000	Hydrock Derived	N	-	-	-	-
P1015	TPH ab >EC35-EC44	mg/kg	8.4	6	8.40	8.40	8.40	8.40	0.00	0	21	92000	Hydrock Derived	N	-	-	-	-
-	TPH ab >EC5-EC35	mg/kg	10	6	10.00	10.00	10.00	10.00	0.00			-		N	-	-	-	-
-	TPH ab >EC5-EC44	mg/kg	10	6	10.00	10.00	10.00	10.00	0.00			-		N	-	-	-	-
P1051	TPH aro EC05-EC07	mg/kg	0.001	6	0.01	0.01	0.01	0.01	0.00	0	2265	150	Hydrock Derived	N	-	-	-	-
P1055	TPH aro >EC07-EC08	mg/kg	0.001	6	0.01	0.01	0.01	0.01	0.00	0	1916	800	Hydrock Derived	N	-	-	-	-
P1056	TPH aro >EC08-EC10	mg/kg	0.001	6	0.01	0.01	0.01	0.01	0.00	0	1500	81	Hydrock Derived	N	-	-	-	-
P1057	TPH aro >EC10-EC12	mg/kg	1	6	1.00	1.00	1.00	1.00	0.00	0	898	190	Hydrock Derived	N	-	-	-	-
P1058	TPH aro >EC12-EC16	mg/kg	2	6	2.00	2.00	2.00	2.00	0.00	0	419	840	Hydrock Derived	N	-	-	-	-
P1059	TPH aro >EC16-EC21	mg/kg	10	6	10.00	10.00	10.00	10.00	0.00	0	39	540	Hydrock Derived	N	-	-	-	-
P1060	TPH aro >EC21-EC35	mg/kg	10	6	10.00	10.00	10.00	10.00	0.00	0	12	1900	Hydrock Derived	N	-	-	-	-
P1062	TPH aro >EC35-EC44	mg/kg	8.4	6	8.40	8.40	8.40	8.40	0.00	0	12	1900	Hydrock Derived	N	-	-	-	-
-	TPH aro >EC5-EC35	mg/kg	10	6	10.00	10.00	10.00	10.00	0.00			-		N	-	-	-	-
-	TPH aro >EC5-EC44	mg/kg	10	6	10.00	10.00	10.00	10.00	0.00			-		N	-	-	-	-
-	Total TPH >EC5-EC44	mg/kg	10	0										N				
	VOCs - BTEX & MTBE																	
71-43-2	Benzene	mg/kg	1	6	0.01	0.01	0.01	0.01	0.00	0	2265	0.41	CIEH - CLAIRE 2014	N	-	-	-	-
108-88-3	Toluene	mg/kg	1	6	0.01	0.01	0.01	0.01	0.00	0	1916	390	Hydrock Derived	N	-	-	-	-
100-41-4	Ethylbenzene	mg/kg	1	6	0.01	0.01	0.01	0.01	0.00	0	1216	110	Hydrock Derived	N	-	-	-	-
95-47-6	Xylene, o-	mg/kg	1	6	0.01	0.01	0.01	0.01	0.00	0	1120	190	Hydrock Derived	N	-	-	-	-
-	Xylene, p- (or combined m & p)	mg/kg	1	6	0.01	0.01	0.01	0.01	0.00		-			N	-	-	-	-
1634-04-4	MTBE	mg/kg	1	6	0.01	0.01	0.01	0.01	0.00	0	19076	110	Hydrock Derived	N	-	-	-	-

CAS No / P Code	Chemical of Potential Concern	Date	15/10/2025	15/10/2025	15/10/2025	15/10/2025	15/10/2025	15/10/2025
		Zone						
		Location	WS02	WS03	WS01	WS03	WS05	WS05
		Depth (m bgl)	0.3	0.6	0.2	0.2	0.3	0.5
		Strata	TOP	LC	Tee	TOP	TOP	Alluvium
	Asbestos							
P1030	Asbestos Identified		Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
P1009	Asbestos Screen Name							
12172-67-7	Actinolite detected							
12172-73-5	Amosite detected							
17068-78-9	Anthophyllite detected							
12001-29-5	Chrysotile detected							
12001-28-4	Crocidolite detected							
14567-73-8	Tremolite detected							
P1005	Asbestos Quant. (Stage 2)							
P1031	Asbestos Quant. Total							
P1026	Asbestos Quant. (Stage 3)							
-	Asbestos Quant. Total (Stages 2+3)							
P1002	Asbestos Containing Material Types Detected (ACM)							
	Hydrock Default Suite - VOC / SOM / pH							
P1045	VOC (dimensionless)		0.018	0.0046	0.011	0.013	0.017	0.0039
-	SOM (calculated)		0.1082	0.6834	1.8964	2.2312	1.8408	0.84476
P1101	pH (lab)		7.4	7.6	6.6	7.1	7.3	8
	Hydrock Default Suite - Metals & PAH							
7440-38-2	Arsenic		6.2	16	6.1	8.9	6.2	6.1
7440-41-7	Beryllium		0.87	1.2	0.12	0.54	0.68	0.89
7440-42-8	Boron		1	0.6	0.3	0.4	0.8	0.3
7440-43-9	Cadmium		0.2	<0.2	0.2	0.2	<0.2	<0.2
16065-83-1	Chromium (III)		17	50	15	26	18	88
18540-29-9	Chromium (VI)		<1.8	<1.8	<1.8	<1.8	<1.8	<1.8
7440-47-3	Chromium (Total)		17	50	15	26	18	88
7440-50-8	Copper		14	18	16	18	14	11
7439-92-1	Lead		15	16	26	26	18	8.7
7439-97-6	Mercury, inorganic		<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
7440-02-0	Nickel		6.7	28	6.6	15	8.8	21
7782-49-2	Selenium		<1	<1	<1	<1	<1	<1
7440-62-2	Vanadium		26	69	22	85	28	67
7440-66-6	Zinc		39	59	37	68	62	65
P1095	Cyanide (free)		<1	<1	<1	<1	<1	<1
P1186	Total Phenols (monohydric)		<1	<1	<1	<1	<1	<1
83-32-9	Acenaphthene		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
208-96-8	Acenaphthylene		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
120-12-7	Anthracene		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
56-55-3	Benzo(a)anthracene		0.06	<0.05	0.1	0.05	0.11	<0.05
50-32-8	Benzo(a)pyrene		<0.05	<0.05	0.1	<0.05	<0.05	<0.05
205-99-2	Benzo(b)fluoranthene		0.1	<0.05	0.23	<0.05	0.13	<0.05
191-24-2	Benzo(ghi)perylene		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
207-08-9	Benzo(k)fluoranthene		<0.05	<0.05	<0.05	<0.05	0.12	<0.05
218-01-9	Chrysene		<0.05	<0.05	0.2	<0.05	0.18	<0.05
53-70-3	Dibenz(ah)anthracene		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
206-44-0	Fluoranthene		0.08	<0.05	0.24	0.09	0.23	<0.05
86-73-7	Fluorene		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
193-39-5	Indeno(123cd)pyrene		<0.05	<0.05	0.09	<0.05	<0.05	<0.05
91-20-3	Naphthalene		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
85-01-8	Phenanthrene		<0.05	<0.05	<0.05	<0.05	0.14	<0.05
129-00-0	Pyrene		0.08	<0.05	0.22	0.09	0.19	<0.05
P1102	PAH 16 Total		<0.8	<0.8	1.86	<0.8	1.06	<0.8
	TPH Fractions							
P1007	TPH ab EC05-EC06		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
P1008	TPH ab >EC06-EC08		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
P1009	TPH ab >EC08-EC10		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
P1010	TPH ab >EC10-EC12		<1	<1	<1	<1	<1	<1
P1011	TPH ab >EC12-EC16		<2	<2	<2	<2	<2	<2
-	TPH ab >EC16-EC21		<8	<8	<8	<8	<8	<8
-	TPH ab >EC21-EC35		<8	<8	<8	<8	<8	<8
P1012	TPH ab >EC16-EC35		<10	<10	<10	<10	<10	<10
P1015	TPH ab >EC35-EC44		<8.4	<8.4	<8.4	<8.4	<8.4	<8.4
-	TPH ab >EC5-EC35		<10	<10	<10	<10	<10	<10
-	TPH ab >EC5-EC44		<10	<10	<10	<10	<10	<10
P1051	TPH aro EC05-EC07		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
P1055	TPH aro >EC07-EC08		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
P1056	TPH aro >EC08-EC10		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
P1057	TPH aro >EC10-EC12		<1	<1	<1	<1	<1	<1
P1058	TPH aro >EC12-EC16		<2	<2	<2	<2	<2	<2
P1059	TPH aro >EC16-EC21		<10	<10	<10	<10	<10	<10
P1060	TPH aro >EC21-EC35		<10	<10	<10	<10	<10	<10
P1062	TPH aro >EC35-EC44		<8.4	<8.4	<8.4	<8.4	<8.4	<8.4
-	TPH aro >EC5-EC35		<10	<10	<10	<10	<10	<10
-	TPH aro >EC5-EC44		<10	<10	<10	<10	<10	<10
-	Total TPH >EC5-EC44							
	VOCs - BTEX & MTBE							
71-43-2	Benzene		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
108-88-3	Toluene		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
100-41-4	Ethylbenzene		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
95-47-6	Xylene, o-		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
-	Xylene, p- (or combined m & p)		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
1634-04-4	MTBE		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

Phytotoxic GAC screening results

Assessment of Chemicals of Potential Concern to Plant Life

Risk parameter:	Phytotoxic pH 7
Client:	Croudace Homes
Site:	Arborfield Cross
Job no.:	3.34E+08
Lab. report no(s).:	25-056272-1

Data Filters

Zone	All
Strata	All
Depth Min (m bgl)	0.1
Depth Max (m bgl)	0.6
Dataset mean pH	7.23
Scenario pH	7

All values in mg/kg unless otherwise stated

CAS No / P Code	Chemical of Potential Concern	Units	LoD	No. Samples	Min. Value	Max. Value	Mean	Median	Standard Deviation	No. Samples >= GAC & > LoD	GAC	GAC Source							
													Date	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025	13/10/2025
													Zone						
													Location	WS02	WS03	WS01	WS03	WS05	WS05
													Depth (m bgl)	0.3	0.6	0.2	0.2	0.1	0.5
													Strata	TOP	LC	Top	TOP	TOP	Alluvium
	Hydrock Default Suite - FOC / SOM / pH																		
P1334	pH (su)	pH Units	0.1	6	6.40	8.00	7.23	7.25	0.52		-	-		7.4	7.4	6.4	7.1	7.1	8
	Hydrock Default Suite - Metals & PAH																		
7440-38-2	Arsenic	mg/kg	1	6	6.10	14.00	8.47	7.55	3.08	0	250	MAFF 1998		6.2	14	6.1	8.9	6.2	9.4
7440-42-8	Boron	mg/kg	0.2	6	0.30	1.00	0.58	0.50	0.31	0	5	Nable, et al. 1997		1	0.6	0.3	0.4	0.9	0.3
16065-83-1	Chromium (III)	mg/kg	1	6	15.00	50.00	26.17	21.00	13.38	0	400	MAFF 1998 (Cr(T))		17	50	15	24	18	33
7440-50-8	Copper	mg/kg	1	6	11.00	18.00	14.83	14.00	2.71	0	135	BS3882 2015		14	18	14	18	14	11
7440-02-0	Nickel	mg/kg	1	6	6.60	28.00	13.60	9.65	8.87	0	75	BS3882 2015		6.7	28	6.6	11	8.3	21
7440-66-6	Zinc	mg/kg	1	6	37.00	59.00	45.00	43.50	7.92	0	300	BS3882 2015		39	59	37	48	42	45

Appendix F Geotechnical Risk Register

Geotechnical Hazard Identification – Following Ground Investigation

The preliminary Geotechnical Risk Register following Ground Investigation is set out in Table 12-2.

The probability and impact of a hazard have been judged on a qualitative scale as set out in Table 12-1. The degree of risk (R) is determined by combining tan assessment of the probability (P) of the hazard occurring with an assessment of the impact (I) of the hazard and associated mitigation it will require if it occurs (R = P x I).

Table 12-1: Qualitative assessment of hazards and risks

P = probability		I = impact		R = risk rating (P x I)	
1	Very unlikely	1	Very low	1-4	None/negligible
2	Unlikely	2	Low	5-9	Minor
3	Plausible	3	Medium	10-14	Moderate
4	Likely	4	High	15-19	Substantial
5	Very likely	5	Very high	20-25	Severe

Table 12-2: Preliminary geotechnical risk register

Hazard	Comments	Who is at risk	Consequence	Risk before mitigation			Actions required
				P	I	R	
Uncontrolled Made Ground (variable strength and compressibility).	Made Ground was not encountered during the investigation however this does not eliminate	Residential Dwellings.	Bearing capacity failure, settlement (total and differential).	2	4	8	Where Made Ground is encountered, design foundations to found below Made Ground.
			Floor slab failure.	3	4	12	If significant Made Ground is present, design floor slabs as suspended.

Hazard	Comments	Who is at risk	Consequence	Risk before mitigation			Actions required
	its potential presence on site.	Roads and Pavements.	Settlement (total and differential) of roads and pavements.	2	4	8	Design roads and pavements using suitable geotechnical parameters and increase the sub-base and use geo-grids as appropriate if significant sMade Ground is encountered.
		Construction staff, vehicles and plant operators.	Trafficking of the site in temporary conditions. Overturning of plant during construction.	3	4	12	Where soft spots encountered, over-excavate and replacement with suitable fill. Site inspection and watching brief by Contractor to review working platform frequently and regularly.
Soft / loose ground (low strength and high settlement potential).	The shallow natural soils comprise River Terrace Deposits, which consist of soft clay and loose sand in places.	Residential Dwellings.	Foundation bearing capacity failure, settlement (total and differential).	4	4	16	Design foundations to found below any loose sand and gravel or soft clay. Remove soft spots or deepen foundations as necessary.
			Floor slab failure.	3	4	12	If significant poor ground is encountered, design floor slab as suspended
		Roads and Pavements.	Settlement (total and differential), of roads and pavements.	3	4	12	Design roads and pavements using suitable geotechnical parameters and increase the sub-base and use geo-grids as appropriate. If anticipated settlements are significant, and cannot be mitigated by design, over-excavate and replace soft soils.
		Construction staff, vehicles and plant operators.	Trafficking of the site in temporary conditions. Overturning of plant during construction.	3	4	12	Where soft spots encountered, over-excavate and replace with suitable fill. Design working platform to suit the ground conditions. Outline design of working platform to include geo-grid if necessary. Site inspection and watching brief by Contractor to review working platform frequently and regularly.
Shrinkage / swelling of the clay fraction of soils under the influence of vegetation.	The shallow soils have low to high plasticity and a moderate volume change potential. Buildings in the vicinity of existing trees may be affected	Foundations.	Shrinkage or heave of soils and associated damage to foundations.	4	4	16	Design foundations in accordance with NHBC standards. Deepen foundations due to trees as appropriate.
		Floor slabs.	Floor slab failure.	3	4	12	Design floor slabs in accordance with NHBC standards.

Hazard	Comments	Who is at risk	Consequence	Risk before mitigation			Actions required
Variable lateral and vertical changes in ground conditions	The shallow soils comprise River Terrace Deposits, which vary laterally and vertically between soft clay, loose sand and sandy gravel.	Residential Dwellings.	Foundation bearing capacity failure, settlement (total and differential).	3	4	12	Design foundations to found below any loose sand or soft clay. Inspect the foundation formation for any significant variation in composition of the ground. Locally excavate soft spots or deepen foundations to accommodate variations in ground composition.
			Floor slab failure.	3	4	12	Design floor slab as suspended.
		Roads and Pavements.	Settlement (total and differential), of roads and pavements.	3	4	12	Design roads and pavements using suitable geotechnical parameters and increase the sub-base and use geo-grids as appropriate. If anticipated settlements are significant and cannot be mitigated by design, over-excavate and replace with suitable compacted engineered fill.
		Construction staff, vehicles and plant operators.	Trafficking of the site in temporary conditions. Overturning of plant during construction.	3	4	12	Where soft spots encountered, over-excavate and replace with suitable fill. Design working platform to suit the ground conditions. Outline design of working platform to include geo-grid if necessary. Site inspection and watching brief by Contractor to review working platform frequently and regularly.
Sulphates present in the soils.	The ground investigation has proven that there is the potential for expansive sulphate bearing soils to be present, although currently not recorded in shallow soils.	Attack of buried concrete.	Damage to concrete and reduction in strength.	2	4	8	Classify concrete in accordance with BRE SD1 and design concrete accordingly.
Shallow and potentially variable groundwater.	Monitoring during the ground investigation has recorded shallow groundwater at potentially variable depths.	Construction staff, vehicles and plant operators.	Difficulty with excavation.	3	4	12	Contractor to appoint competent Temporary Works Designer to design temporary works, in accordance with BS 5975:2008+A1:2011. Temporary Works Designer to consider in their analysis the impact of, and requirements for, de-watering of excavations.
			Limit state failure, excessive deformation, trafficking of site plant, inability to place and compact fill.	3	4	12	

Hazard	Comments	Who is at risk	Consequence	Risk before mitigation			Actions required
		Slopes and Retaining walls.	Serviceability issues.	3	3	9	The shallow groundwater is to be taken into account during geotechnical design of the temporary and permanent works.
Running sands and / or loose Made Ground, leading to difficulty with excavation and collapse of side walls.	The ground investigation has indicated that there is a potential for loose soils to be present at the site, particularly in the superficial deposits.	Construction staff, vehicles and plant operators.	Ground failure, instability of plant and machinery.	3	4	12	All completed trial pits were noted to be stable. Foundation options should be reviewed to ensure minimal excavation (e.g. piles).
			Risk of collapse of excavation.	3	4	12	Contractor to appoint competent Temporary Works Designer to design temporary works, in accordance with BS 5975:2008+A1:2011. Temporary Works Design to include recommendations for inspection of excavations. No person entry to unsupported excavations.
Slope stability issues – General Slopes.	The majority of the site gently slopes down to the south, with steeper gradients in the south of the site.	Residential Dwellings.	Serviceability issues.	3	4	12	Safe slope angles and the impact of any cut and fill works should be assessed during design.
		Roads and Pavements.	Serviceability issues.	4	4	16	Safe slope angles and the impact of any cut and fill works should be assessed during design. Access roads into the site should be designed to accommodate the steeper gradients in those areas.
Slope stability issues – retaining walls.	The majority of the site gently slopes down to the south, with steeper gradients in the south of the site. Retaining structures may potentially be required in the south of the site.	Residential Dwellings.	Serviceability issues.	3	4	12	Design of the retaining to be undertaken in accordance with EC7. Adequate drainage to be designed behind the structure, or for water seepage through the face of the wall. Lateral earth pressure parameters to be characterised during investigation and design. Engineered fill requirements to be defined at outline design stage.
		Pavement construction and long-term durability highways and external areas.	Serviceability issues.	3	4	12	
		Gardens.	Serviceability issues.	3	3	9	
Earthworks – Settlement (due to placement of fill on soft / loose ground).	The ground conditions at the site include River Terrace Deposits and London Clay.	Residential Dwellings.	Foundation bearing capacity failure, settlement	3	4	12	Design foundations to found within natural ground.
			Floor slab failure.	3	3	9	Design floor slab as suspended if significant fill placed, in accordance with NHBC guidelines.

Hazard	Comments	Who is at risk	Consequence	Risk before mitigation			Actions required
		Roads and Pavements.	Settlement (total and differential).	3	4	12	Proof roll formation before commencing earthworks. Remove soft spots and replace with appropriate granular fill. Design roads and pavements using suitable geotechnical parameters and increase the sub-base and use geo-grids as appropriate.
		Construction staff, vehicles and plant operators.	Trafficking of the site in temporary conditions. Overturning of plant during construction.	3	4	12	Where soft spots encountered, over-excavate and replace with suitable fill. Design working platform to suit the ground conditions. Outline design of working platform to include geo-grid if necessary. Site inspection and watching brief by Contractor to review working platform frequently and regularly.
Earthworks – poor bearing capacity and / or settlement of new fill.	The ground conditions at the site include River Terrace Deposits and London clay.	Residential Dwellings.	Foundation bearing capacity failure, settlement (total and differential).	3	4	12	Design foundations to found within the River Terrace Deposits/London Clay Formation.
			Floor slab failure.	3	3	9	Design floor slab as suspended if significant fill placed, in accordance with NHBC guidelines.
		Roads and Pavements.	Settlement (total and differential).	3	4	12	Minimum engineering performance to be defined in an Earthworks Specification. Earthworks to be designed in accordance with1) Manual of Contract Documents for Highway Works (MCHW), Volume 1;2) Specification for Highway Works (SHW) Series 600;3) 6031:2009, Code of practice for earthworks; and4) BS 8000-1, workmanship on building sites. Site testing to be undertaken to confirm the works are in accordance with the design. A suitable watching brief and independent verification.
		Construction staff, vehicles and plant operators.	Trafficking of the site in temporary conditions. Overturning of plant during construction.	3	4	12	

Whilst the probability and impact of the hazard occurring can be reduced to a minimum by geotechnical design, the impact cannot be reduced below very low. The risk register will need to be up-dated, as necessary, to reflect design, additional information, data and experience as it is gained through the construction process.

Impacts of the design with regard to health and Safety considerations will need to be included by the designer at design stage.

Appendix G Plausible source-pathway-receptor contaminant linkages

Summary of potential contaminant linkages

Table 12-4: Source-pathway-receptor contaminant linkages lists the plausible contaminant linkages which have been identified. These are considered as potentially unacceptable risks in line with guidelines published in LCRM (2023) where the risk is moderate or above, and additional risk assessment is required to resolve these linkages.

Source – Pathway – Receptor Linkages have been assessed in general accordance with guidance in CIRIA Report C552 (Rudland *et al* 2001) as modified to reflect changes made in Table A4.5 of NHBC/EA R&D66 (2008), to add a 'no linkage' category, to remove the ambiguous term "low/moderate risk", and to adopt "Extremely low risk" for the lowest risk category in order to differentiate it from the other 'very low' categories that are associated with higher probability and/or consequence. (See Table 12-3: Consequence versus probability assessment).

It should be noted that whilst the risk assessment process undertaken in this report may identify potential risks to site demolition and redevelopment workers, consideration of occupational health and safety issues is beyond the scope of this report and need to be considered separately in the Construction Phase Health and Safety Plan.

Table 12-3: Consequence versus probability assessment

		Consequence			
		Severe	**Medium**	**Mild**	**Minor**
Probability	High likelihood	Very high risk	High risk	Moderate risk	Low risk
	Likely	High risk	Moderate risk	Low risk	Low risk
	Low likelihood	Moderate risk	Low risk	Low risk	Very low risk
	Unlikely	Low risk	Very low risk	Very low risk	Extremely low risk
	No linkage	No risk			

Table 12-4: Source-pathway-receptor contaminant linkages

Source	Possible pathway(s)	Receptor	Probability	Consequence	Risk level	Comments
Pesticides and fertilisers associated with arable farming practices (S1).	Soil ingestion, direct dermal contact, soil derived dust inhalation	Site users	Low likelihood	Medium	Low	Pesticides were tested for in four samples taken from site. All were below the limit of detection.
	Inhalation of fugitive dusts	Neighbours	Low	Medium	Low	The risk of significant generation of dust is likely only during site development process and can therefore be controlled using good construction environmental management practices
	Leaching from unsaturated soils	Groundwater	Unlikely	Medium	Very low	Made ground was not encountered during the ground investigation. Groundwater was not encountered during the investigation. Soil leachate and groundwater was not tested during this investigation.
	Surface water run-off	Aquatic ecosystem in adjacent surface water	Unlikely	Medium	Very low	
	Plant root uptake	Landscape planting	Unlikely	Minor	Extremely low	Whilst root uptake is possible in gardens and areas of Public Open Space (POS) the concentrations of pesticides in the samples tested are not elevated with regard to plant growth.
Fuel oils and hydraulic oils related to arable farming practices (S2).	Inhalation of fugitive dust	Site users	Unlikely	Medium	Low	TPH level 2 testing was undertaken which showed there were no contaminants exceeding the GAC.
		Construction workers	Unlikely	Medium	Low	The risk of significant generation of dust is likely only during site development process and can therefore be controlled. Suppression should be included in control measures.
		Neighbours	Unlikely	Medium	Low	

Source	Possible pathway(s)	Receptor	Probability	Consequence	Risk level	Comments
	Direct contact and permeation of water pipes	Water supply pipes	Unlikely	Medium	Low	VOCs and petroleum hydrocarbon concentrations were not detected above the required thresholds. Therefore the SPR linkage is broken.
	Vapour intrusion into buildings	Site users	Unlikely	Medium	Low	VOCs and petroleum hydrocarbon concentrations were not detected above the required thresholds. Therefore the SPR linkage is broken.

Appendix H Climate change considerations for CSM

Table 12-5 summarises the considerations that have been made in relation the possible implications of predicted climate change. These considerations have been made with reference to prevailing guidance on climate change and land contamination (SoBRA (2022), CL:AIRE)2022), Environment Agency (2010)), and climate change information published by the Met Office and the Environment Agency.

Table 12-5: Possible CSM considerations related to climate change

Climate change type	Potential climate change induced effect	Possible considerations on CSM
Increase in frequency and severity of extreme rainfall events	Temporary increasing in groundwater levels	It is possible that future groundwater level rise could be sufficient to impact identified contaminant linkages. The risk of groundwater flooding is increased but is unlikely to result in a groundwater flooding given the current depth to groundwater.
	Increased surface run-off	Site is covered in agricultural land. Surface water run-off will impact drainage network (in terms of volume of water) but is not expected to impact underlying ground conditions.
	Land-based erosion	Unlikely.
	River flooding	Unlikely risk as site is not currently in a flood risk zone.
Increase in frequency and severity of extreme cold and hot weather events	Soil freezing	Could cause failure of surface water drainage network (requiring repair) due to freeze/thaw action but not evident that this would cause a significant change to identified contaminant linkages.
	Soil desiccation/shrinkage	Relatively cohesive nature of superficial deposits and London clay formation suggests a risk from shrinkage-related subsidence.
	Land fires	Not relevant to current nature and location of site.
	Temporary drop in water (GW and/or SW) levels due to increased water abstraction demand	Underlying shallow aquifer does not have any licenced abstractions registered within 1km of the site.
	Temporary drop in water levels (GW and/or SW) due to lower rainfall.	Water levels in the shallow aquifer may fall further in drier summer months. Groundwater has not been tested on site, however this could impact the groundwater in the unlikely occurrence of contamination.
Long-term increase in rainfall	Increase in groundwater levels	No predicted changes in water levels are expected within the London Clay Formation but there is a potential for increased levels in the RTD.

Climate change type	Potential climate change induced effect	Possible considerations on CSM
Long-term decrease in rainfall	Decrease in groundwater levels	See comment above for temporary decrease in groundwater levels above. Whilst it is expected that there will be an increase in winter rainfall it is also expected that there will be a reduction in summer rainfall such that there will be a long-term increase in the expected seasonal fluctuation in shallow groundwater depth.
Long-term change in seasonal temperatures	Change in soil temperature	Worst-case (RCP8.5) prediction for average summer temperatures in 2060-2080 in this area is 6-7 degrees Celsius. Soil temperature at depth below the site (considering the surface cover of buildings and concrete hardstanding) is not expected to rise by this amount and may see a much smaller rise in average temperature as a result of seasonal variation in temperature. A small increase in average soil temperature is not expected to have a significant effect on contaminant fate and transport

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