

Watson Construction Ltd
Spark Studio
208-210 Great Clowes Street
Salford
M7 2ZS



21st May 2024
LKC 22 1031-SUD-R0

RE: LAND AT LEVENSHULME ROAD, GORTON

1. Introduction

LK Consult Ltd (LKC) has carried out the following ground investigation report on the development site at Levenshulme Road, Gorton:

- Phase 2 Geo-Environmental Investigation, Risk Assessment and Remediation Strategy ref. LKC 22 01031-B1-R1, dated July 2023.

LKC are also aware of the following report pertaining to surface water drainage by CCS Consulting:

- Surface Water Management Report ref. 23-2405, Rev B, dated May 2023.

The CCS report considers that soakaways are not feasible due to the published BGS data (geological mapping and nearby boreholes) which show clay based soils.

The LLFA have provided the following comment to Watson Construction Ltd on the Surface Water Management Report:

*Progression through the drainage hierarchy shall be evidence based and supported by site investigation. Results of ground investigation carried out under Building Research Establishment Digest 365. Site investigations should be undertaken in locations and at proposed depths of the proposed infiltration devices. Proposal of the attenuation that is achieving half emptying time within 24 hours. If no ground investigations are possible or infiltration is not feasible on site, evidence of alternative surface water disposal routes (as follows) is required. – As previously highlighted, a **minimum site-specific ground investigation must be provided**. Localised BGS Bore Hole logs are insufficient.*

The aim of this letter is to summarise the available ground investigation information to demonstrate that soakaways are not feasible at the site.

2. Ground Conditions

A sampling location plan and soil profile logs from the LKC investigation are provided in Appendix A.

- » Geotechnical
- » Contaminated Land
- » SuDS & Flood Risk
- » Project Management
- » Land Remediation
- » Land Drilling
- » Japanese Knotweed 1
- » Air Tightness Testing

Made Ground was recorded in the majority of boreholes to depths of 0.05-0.90mbgl. The Made Ground comprised horizons of gravel, sand, silt, clay with anthropogenic material including ash, brick, plastic, ash, metal, tarmacadam, concrete, ceramic and glass.

The made ground recorded in TP104 and WS102 in the former pond area extended down to a maximum depth of 2.5mbgl and comprised horizons of silts, gravels and clays with anthropogenic material including brick, coal, ash, glass and plastic in the upper layer of made ground.

Natural strata comprised horizons of firm to very stiff gravelly sandy clay in all locations.

6no. return visits for gas and groundwater level monitoring were carried out and the monitoring results are provided in Appendix B. Groundwater levels in the window sample boreholes (response zones in the upper 5m) were shallow – less than 1mbgl.

3. Conclusions

The ground investigation demonstrates clay glacial drift to >15.05mbgl. In our opinion this would not be conducive to soakaways and consequently and formal percolation testing to BRE365 or any other methodology is unlikely to be successful.

Groundwater monitoring in the window sample boreholes showed groundwater levels at less than 1mbgl. This shows that surface water does not soak away into the ground. In addition, if these measured levels are representative of site perched groundwater, then there is insufficient depth to install a soakaway as groundwater levels would be above the invert level.

On this basis LKC consider that soakaways are not feasible for surface water disposal at the site.

COLIN CROMPTON

DIRECTOR

ENCLOSED:

APPENDIX A: PROFILE LOGS

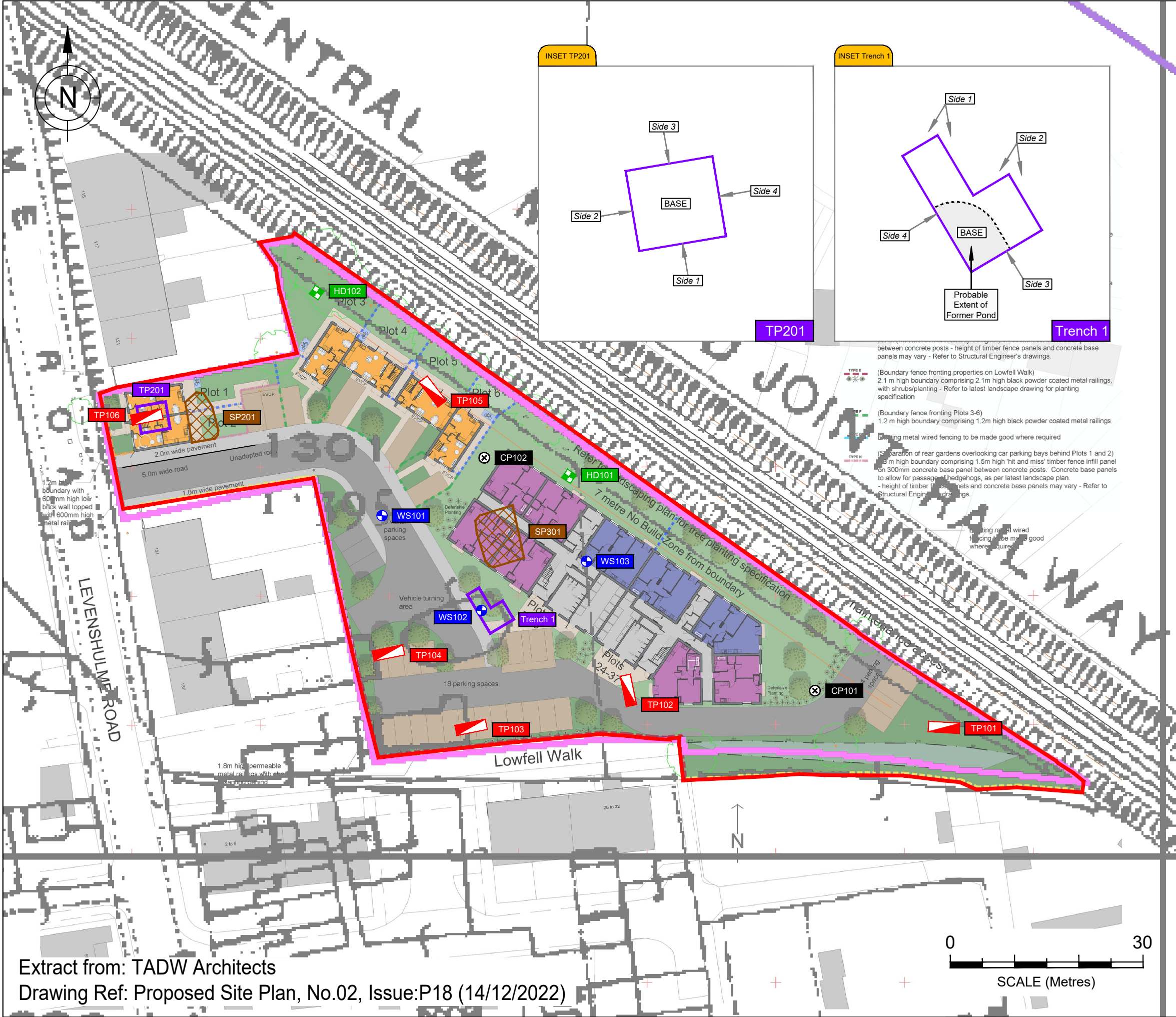
APPENDIX B: GAS AND GRONDWATER MONITORING RESULTS

DISCLAIMER

This report has been prepared by LK Consult Ltd (LKC) who have exercised such professional skill, care and diligence as may reasonably be expected of a properly qualified and competent consultant, experienced in preparing reports of a similar scope. However, to the extent that the report is based or relies upon information contained in records, reports or other materials provided to LKC, which have not been independently produced or verified, LKC gives no warranty, representation, or assurance as to the accuracy or completeness of such information. This report is prepared solely for the benefit of the client named above. It may not be relied upon by or submitted to a third party for their reliance for the purposes of valuation, mortgage, insurance, and regulatory approval until all invoices have been settled in full.

Those using this information in subsequent assessments or evaluations do so at their own risk. .

Appendix A – Profile Logs



KEY

- Site Boundary
- Window Sample Borehole (WS)
- Trial Pit (TP)
- Hand Dug Trial Pit (HD)
- Cable Percussive Borehole (CP)
- Delineation Excavation Areas
- Stockpile (SP)

between concrete posts - height of timber fence panels and concrete base panels may vary - Refer to Structural Engineer's drawings.

(Boundary fence fronting properties on Lowfell Walk)
2.1 m high boundary comprising 2.1m high black powder coated metal railings, with shrubs/planting - Refer to latest landscape drawing for planting specification

(Boundary fence fronting Plots 3-6)
1.2 m high boundary comprising 1.2m high black powder coated metal railings

Existing metal wired fencing to be made good where required

(Separation of rear gardens overlooking car parking bays behind Plots 1 and 2)
1.8 m high boundary comprising 1.5m high 'hit and miss' timber fence infill panel on 300mm concrete base panel between concrete posts. Concrete base panels to allow for passage of hedgehogs, as per latest landscape plan.
- height of timber fence panels and concrete base panels may vary - Refer to Structural Engineer's drawings.

Existing metal wired fencing to be made good where required

Sampling Locations and features annotated by LK Consult Ltd are approximate and are based upon observed measurements unless otherwise stated. Do not scale from this drawing and work from marked dimensions only. All dimensions and features should be confirmed on site by the Contractor. Where this drawing includes information provided to LK Consult Ltd by others, LK Consult Ltd gives no warranty, representation or assurance as to the accuracy of such information.

Client:

Watson Construction Ltd

Site:

Levenshulme Road, Gorton

Title:

Sampling Location Plan (OS1933 Historical Overlay)

Job No.:	Scale (See Scale Bar):	Figure:	Revision:
LKC 22 1031	See Scale Bar	3	D
Drawn By:	Checked By:	Drawn:	
AC	RP	Jul 2023	

Extract from: TADW Architects
Drawing Ref: Proposed Site Plan, No.02, Issue:P18 (14/12/2022)

**LK CONSULT LTD**Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS
Tel: 0161 763 7200 web: www.thelkgroup.com**Site**

Levenshulme Road, Gorton

Borehole Number**CP101****Boring Method**

Cable Percussion

Casing Diameter**Ground Level (mOD)**

68.00

Client

Watson Construction Ltd

Job Number

LKC 22 1031

Location (Observed measurements)

388766 E 395425 N

Dates

13/10/2022

Engineer

LKC

Sheet

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Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.20	D					(0.50)	MADE GROUND: Dark brown slightly gravelly sandy SILT with occasional ash, rare brick and glass fragments. Sand fine to coarse. Gravel fine to coarse subangular to subrounded of coal and mudstone.			
0.70	D				67.50 67.30	0.50 (0.20) 0.70	MADE GROUND: Firm consistency light brown with grey mottling slightly sandy slightly gravelly CLAY with occasional brick fragments. Sand fine to coarse. Gravel fine to coarse and sub-angular to sub-rounded.			
1.20-1.65 1.20-1.65	SPT N=17 D			2,2/4,4,4,5			Stiff consistency brown slightly gravelly slightly sandy CLAY with occasional coal fragments. Sand fine to coarse. Gravel fine to coarse and sub-angular to sub-rounded			
1.70-2.00	B									
2.20-2.65 2.20-2.65	SPT N=18 D			3,4/4,4,5,5						
3.30-3.75	U									
3.80	D									
4.00-4.30	B									
4.30-4.75 4.30-4.75	SPT N=23 D			4,5/5,5,6,7						
5.40-5.85 5.40-5.85	SPT N=20 D			3,4/5,5,5,5						
7.00-7.45 7.00-7.45	SPT N=22 D			5,5/5,5,6,6						
						(14.35)				

Remarks**Scale (approx)**

1:40

Logged By

LD

Figure No.

LKC 22 1031.CP101

**LK CONSULT LTD**Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS
Tel: 0161 763 7200 web: www.thelkgroup.com**Site**

Levenshulme Road, Gorton

**Borehole
Number****CP101****Boring Method**

Cable Percussion

Casing Diameter**Ground Level (mOD)**

68.00

Client

Watson Construction Ltd

**Job
Number**

LKC 22 1031

Location (Observed measurements)

388766 E 395425 N

Dates

13/10/2022

Engineer

LKC

Sheet

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Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
8.50-8.95 8.50-8.95	SPT N=22 D			4,4/5,5,6,6						
10.00-10.45	U									
10.50 10.70-11.00	D B									
11.50-11.95 11.50-11.75	SPT N=23 D			5,5/5,6,6,6						
13.10-13.55 13.10-13.55	SPT N=23 D			5,5/6,5,6,6						
14.60-15.05 14.60-15.05	SPT N=26 D			5,6/6,6,7,7						
					52.95	15.05	Complete at 15.05m			
Remarks								Scale (approx) 1:40	Logged By LD	Figure No. LKC 22 1031.CP101

Boring Method

Cable Percussion

Casing Diameter
Ground Level (mOD)

68.00

Client

Watson Construction Ltd

Job Number

LKC 22 1031

Location (Observed measurements)

388699 E 395466 N

Dates

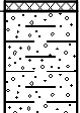
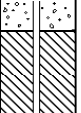
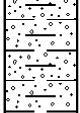
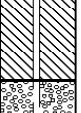
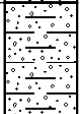
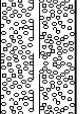
17/10/2022

Engineer

LKC

Sheet

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Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.00-0.50 0.00-0.50 0.22	D ES D				67.95	0.05	MADE GROUND: Dark brown very gravelly very sandy SILT with frequent rootlets, occasional coal, ash, brick fragments, rare glass and plastic. Sand fine to coarse. Gravel fine to coarse and sub-angular to sub-rounded comprising sandstone.			
1.00	D					(1.55)	Stiff to very stiff consistency light brown with grey mottling gravelly slightly sandy CLAY with occasional coal fragments. Sand fine to coarse. Gravel fine to coarse and sub-angular to sub-rounded comprising mudstone.			
1.20-1.65 1.20-1.65	SPT N=6 D			1,1/1,1,1,3						
1.60-2.00 1.60 1.60-2.00 1.70-2.00	D PP 152kPa ES B			147, 172, 147, 147, 147/Av. 152.00	66.40	1.60	Stiff consistency slightly gravelly slightly sandy CLAY with occasional coal fragments. Sand fine to coarse. Gravel Sub-angular to sub-rounded comprising mudstone. Very high strength at 1.6mbgl.			
2.20-2.65 2.20-2.65	SPT N=15 D			3,3/3,3,4,5						
2.70-3.00	D									
3.20-3.65 3.20-3.65	SPT N=26 D			4,5/6,6,7,7						
4.30-4.75	U									
4.80	D									
5.40-5.85 5.40-5.85	SPT N=23 D			5,5/5,5,6,7						
7.00-7.45 7.00-7.45	SPT N=22 D			4,5/5,5,6,6						

Remarks
Scale (approx)

1:40

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LD

Figure No.

LKC 22 1031.CP102



LK CONSULT LTD

Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS
Tel: 0161 763 7200 web: www.thelkgroup.com

Site
Levenshulme Road, Gorton

Borehole Number
CP102

Boring Method Cable Percussion	Casing Diameter		Ground Level (mOD) 68.00	Client Watson Construction Ltd	Job Number LKC 22 1031
	Location (Observed measurements) 388699 E 395466 N		Dates 17/10/2022	Engineer LKC	Sheet 2/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
8.50-8.95	U					(13.55)				
9.00	D									
9.50-9.80	B									
10.10-10.55 10.10-0.55	SPT N=22 D			4,4/5,5,6,6						
11.70-12.15 11.70-12.05 12.00-12.30	SPT N=24 D B			5,5/5,6,6,7						
13.20-13.65 13.20-13.65	SPT N=23 D			5,6/6,6,5,6						
14.70-15.15 14.70-15.15	SPT N=25 D			5,6/6,7,6,6						
					52.85	15.15	Complete at 15.15m			

Remarks	Scale (approx) 1:40	Logged By LD
	Figure No. LKC 22 1031.CP102	

Excavation Method

Hand Excavated Trial Pit

Dimensions

0.2 x 0.2 x 1.0m

Ground Level (mOD)

68.00

Client

Watson Construction Ltd

**Job
Number**
LKC 22 1031

Location (Observed measurements)

388712 E 395460 N

Dates

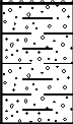
13/10/2022

Engineer

LKC

Sheet

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Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-0.60 0.00-0.60 0.00-1.00	D ES PID 0.1ppm D				(0.60)	MADE GROUND: Dark brown very gravelly very sandy SILT with frequent rootlets, coal and ash, occasional clinker, brick fragments, rare glass and plastic. Sand fine to coarse. Gravel fine to coarse and angular to sub-angular comprising of mudstone and sandstone.		
0.60-1.00	ES PID 0.1ppm			67.40	0.60 (0.40)	Stiff consistency light brown slightly gravelly slightly sandy CLAY with occasional coal fragments. Sand fine to coarse. Gravel fine to coarse and angular to sub-rounded comprising mudstone.		
				67.00	1.00	Complete at 1.00m		


Remarks

No hand tests conducted due to insufficient samples.

Scale (approx)

1:25

Logged By

LD

Figure No.

LKC 22 1031.HD101

Excavation Method

Hand Excavated Trial Pit

Dimensions

0.2 x 0.2 x 1.0m

Ground Level (mOD)

67.00

Client

Watson Construction Ltd

**Job
Number**

LKC 22 1031

Location (Observed measurements)

388671 E 395485 N

Dates

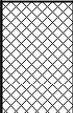
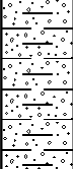
13/10/2022

Engineer

LKC

Sheet

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Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-0.40 0.00-0.40	D ES PID 0.1ppm				(0.40)	MADE GROUND: Dark brown very gravelly very sandy SILT with frequent rootlets, occasional glass, coal, ash, rare plastic. Sand fine to coarse. Gravel fine to coarse and angular to sub-angular comprising sandstone.		
0.40-1.00 0.40-1.00	D ES PID 0.1ppm			66.60	0.40 (0.60)	Stiff consistency light brown slightly gravelly sandy CLAY with occasional coal fragments. Sand fine to coarse. Gravel fine to medium and angular to sub-rounded.		
				66.00	1.00	Complete at 1.00m		


Remarks

No hand tests were conducted due to insufficient samples.

Scale (approx)

1:25

Logged By

LD

Figure No.

LKC 22 1031.HD102

Excavation Method

Slow scrape to 1.20mbgl by JCB 3CX.

Dimensions

1.90m x 1.60m x 1.85m

Ground Level (mOD)

68.00

Client

Watson Construction Ltd

**Job
Number**

LKC 22 1031

Location (Observed measurements)

388768 E 395424 N

Dates

12/10/2022

Engineer

LKC

Sheet

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Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-0.30 0.00-0.30	D ES 13.1ppm				(0.30)	MADE GROUND: Dark brown slightly gravelly slightly sandy SILT with frequent rootlets occasional whole brick, brick fragments, coal and ash, rare plastic and metal. Sand fine to coarse. Gravel fine to coarse and angular to sub angular comprising mudstone.		
0.30 0.30-1.00 0.30-1.00	SV 48.67kPa D ES 4.9ppm		40, 50, 56/Av. 48.67	67.70	0.30	Firm to stiff consistency medium to high strength orange to light brown with grey mottling slightly gravelly sandy CLAY with occasional rootlets and coal. Sand fine to coarse. Gravel fine to medium and gravel sub-angular to sub-rounded comprising mudstone and coal.		
1.00	SV 114kPa		112, 120, 110/Av. 114.00		(1.55)	Changes from stiff to very stiff consistency from 1.10mbgl and rootlets no longer present.		
1.50-1.85	D 3.9ppm			66.15	1.85	Complete at 1.85m		


Remarks

Trial Pit stable and dry.

Scale (approx)

1:25

Logged By

LD

Figure No.

LKC 22 1031.TP101

Excavation Method

Slow scrape to 1.20mbgl by JCB 3CX.

Dimensions

1.80m x 0.60m x 1.75m

Ground Level (mOD)

68.00

Client

Watson Construction Ltd

**Job
Number**

LKC 22 1031

Location (Observed measurements)

388727 E 395427 N

Dates

12/10/2022

Engineer

LKC

Sheet

1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-0.30 0.00-0.30	D ES 7.6ppm				(0.30)	MADE GROUND: Dark brown to black gravelly sandy SILT with frequent rootlets, occasional coal, ash, clinker, brick fragments, whole brick and rare plastic. Sand fine to coarse. Gravel fine to coarse and angular to subangular comprising sandstone and mudstone.		
0.30 0.30-0.50 0.30-0.50 0.50 0.50-1.00 0.50-1.00	SV 94.67kPa D ES 3.7ppm SV 96.67kPa D ES 4.7ppm		92, 96, 96/Av. 94.67 92, 98, 100/Av. 96.67	67.70 67.50	0.30 (0.20) 0.50	MADE GROUND: Stiff consistency high strength light brown gravelly sandy CLAY with frequent rootlets, occasional brick fragments and coal, rare plastic and metal. Sand fine to coarse. Gravel fine to medium and sub-angular to sub-rounded comprising mudstone. Stiff to very stiff consistency high strength light brown with grey mottling slightly gravelly slightly sandy CLAY with occasional coal fragments. Sand fine to coarse. Gravel fine to medium and sub-angular to sub-rounded comprising mudstone.		
1.00 1.00-1.75	SV 105.33kPa D 3.1ppm		108, 106, 102/Av. 105.33		(1.25)	Clay becomes friable from 1.20mbgl.		
				66.25	1.75	Complete at 1.75m		


Remarks

Trial Pit stable and dry.

Scale (approx)

1:25

Logged By

LD

Figure No.

LKC 22 1031.TP102

Excavation Method

Slow scrape to 1.20mbgl by JCB 3CX.

Dimensions

1.90m x 0.60m x 2.00m

Ground Level (mOD)
Client

Watson Construction Ltd

**Job
Number**
LKC 22 1031

Location (Observed measurements)

388696 E 395427 N

Dates

12/10/2022

Engineer

LKC

Sheet

1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-0.90 0.00-0.90	D ES 2.3ppm					MADE GROUND: Dark brown very gravelly sandy SILT with frequent rootlets, occasional timber, tarmacadam, ceramic, coal, ash, clinker, rare plastic and metal. Sand fine to coarse. Gravel fine coarse and subangular to subrounded comprising sandstone.		
0.90 0.90-1.50 0.90-1.50	SV 96.67kPa D ES 2.3ppm		100, 96, 94/Av. 96.67		0.90	Stiff consistency high strength light brown with grey mottling slightly gravelly slightly sandy CLAY with occasional coal. Sand fine to coarse. Gravel fine to medium and subangular to subrounded comprising mudstone.		
1.50 1.50-2.00	SV 100.67kPa D 1.3ppm		100, 102, 100/Av. 100.67		(1.10) 2.00	Clay becomes dark brown from 1.50mbgl. Complete at 2.00m		


Remarks

Trial Pit dry and stable.

Scale (approx)

1:25

Logged By

LD

Figure No.

LKC 22 1031.TP103

Excavation Method

Slow scrape to 1.20mbgl by JCB 3CX.

Dimensions

1.80m x 0.60m x 2.80m

Ground Level (mOD)

68.00

Client

Watson Construction Ltd

**Job
Number**

LKC 22 1031

Location (Observed measurements)

388685 E 395435 N

Dates

12/10/2022

Engineer

LKC

Sheet

1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-0.45 0.00-0.45	D ES 0.8ppm				(0.45)	MADE GROUND: Dark brown very gravelly very sandy SILT with frequent rootlets, occasional glass, brick fragments, whole brick, concrete, coal, ash, clinker, rare plastic and metal. Sand fine to coarse. Gravel fine to coarse and angular to subrounded comprising sandstone and mudstone.		
0.45 0.45-1.30 0.45-1.30	SV 87.33kPa D ES 0.7ppm		88, 82, 92/Av. 87.33	67.55	0.45 (0.85)	MADE GROUND: Stiff consistency high strength dark brown with grey mottling slightly gravelly CLAY with lenses of organic silt with occasional coal. Sand fine to coarse. Gravel fine to coarse and subangular to subrounded comprising mudstone.		
1.30-2.30 1.30-2.30	D ES 1.0ppm			66.70	1.30 (1.00)	MADE GROUND: Black very sandy very silty GRAVEL with occasional brick fragments and rare timber. Sand fine to coarse. Gravel fine to coarse and angular to subangular comprising sandstone and mudstone.		
2.30-2.80 2.30 2.30-2.80	D SV 126kPa ES 0.6ppm		Water strike(1) at 2.30m. 120, 130, 128/Av. 126.00	65.70	2.30 (0.50)	Very stiff consistency high strength light brown slightly gravelly slightly sandy CLAY with occasional coal fragments. Sand fine to coarse. Gravel fine to medium and subangular to subrounded comprising mudstone.		▽1
				65.20	2.80	Complete at 2.80m		


Remarks

Water strike at 2.3mbgl
Trial Pit stable.

Scale (approx)

1:25

Logged By

LD

Figure No.

LKC 22 1031.TP104

Excavation Method

Slow scrape to 1.20mbgl by JCB 3CX.

Dimensions

1.90m x 0.60m x 2.00m

Ground Level (mOD)
Client

Watson Construction Ltd

**Job
Number**
LKC 22 1031

Location (Observed measurements)

388691 E 395470 N

Dates

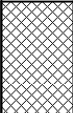
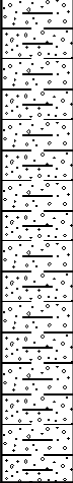
12/10/2022

Engineer

LKC

Sheet

1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-0.40 0.00-0.40	D ES 0.6ppm				(0.40)	MADE GROUND: Dark brown gravelly sandy SILT with frequent rootlets, occasional brick fragments, whole brick, coal and ash, rare ceramic and glass. Sand fine to coarse. Gravel fine to coarse and angular to sub-angular comprising sandstone and mudstone.		
0.40 0.40-1.40 0.40-1.40	SV 73.33kPa D ES 0.6ppm		70, 78, 72/Av. 73.33		0.40	Stiff to very stiff consistency medium to high strength light brown with grey mottling slightly gravelly slightly sandy CLAY with occasional coal fragments. Sand fine to coarse. Gravel fine to medium and sub-angular to sub-rounded comprising mudstone.		
1.40 1.40-2.00	SV 92.67kPa D 0.3ppm		92, 90, 96/Av. 92.67		(1.60)			
					2.00	Complete at 2.00m		


Remarks

Trial Pit stable and dry.

Scale (approx)

1:25

Logged By

LD

Figure No.

LKC 22 1031.TP105

Excavation Method

Slow scrape to 0.5mbgl by
JCB 3CX

Dimensions

1.85m x 0.60m x 0.50m

Ground Level (mOD)

68.00

Client

Watson Construction Ltd

**Job
Number**

LKC 22 1031

Location (Observed measurements)

388642 E 395470 N

Dates

12/10/2022

Engineer

LKC

Sheet

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Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-0.30 0.00-0.30	D ES 0.6ppm				(0.30)	MADE GROUND: Dark brown very sandy GRAVEL with frequent rootlets, brick and brick fragments and concrete, occasional plastic, metal, coal, ash and clinker, rare cloth and glass. Sand fine to coarse. Gravel fine to coarse and angular to sub-angular comprising sandstone and mudstone. MADE GROUND: Dark brown to black very gravelly very sandy silty CLAY with occasional sheet metal, coal, rare plastic and ceramic. Sand fine to coarse. Gravel fine to coarse and angular to sub-rounded. Mild hydrocarbon odour noted. Terminated at 0.50m		
0.30-0.50	D			67.70	0.30			
0.30-0.50	ES 1.3ppm			67.50	(0.20) 0.50			


Remarks

Trial Pit stable.
Water strike at 0.50mbgl.
Mild hydrocarbon odour noted at 0.30-0.50mbgl.
Trial Pit terminated due to sheet metal and water preventing excavation.

Scale (approx)

1:40

Logged By

LD

Figure No.

LKC 22 1031.TP106

Excavation Method

Hand excavated to 1.2mbgl

Dimensions
Location (Observed measurements)
388684 E 395456 N

Ground Level (mOD)

68.00

Dates

13/10/2022

Client

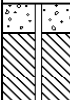
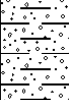
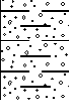
Watson Construction Ltd

Engineer

LKC

Job
Number
LKC 22 1031

Sheet
1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.00-0.50 0.00-0.50	D ES PID 0.1ppm				(0.50)	MADE GROUND: Light brown gravelly sandy silty CLAY with frequent rootlets, occasional coal, brick fragments, rare glass. Sand fine to coarse. Gravel fine to coarse and Angular to sub-angular comprising mudstone .			
0.50-1.00 0.50-1.00	D ES PID 0.0ppm			67.50	0.50	Firm consistency medium strength light brown with grey mottling slightly gravelly slightly sandy CLAY with occasional coal fragments. Sand fine to coarse. Gravel fine to coarse and angular to sub-rounded.			
1.20-1.65	SPT N=0		1,0/0,0,0,0						
2.00 2.00-2.45	PP 49.1kPa SPT N=13		49.1, 49.1, 49.1, 49.1, 49.1/Av. 49.10 2,3/2,3,4,4		(2.95)	Clay turns to very stiff consistency from 2.00mbgl.			
3.00 3.00-3.45	PP 142.23kPa SPT N=22		147.15, 123, 159, 147, 135/Av. 142.23 3,4/4,5,7,6	64.55	3.45	Window sample terminated at 3.45mbgl as unable to retrieve sample. Complete at 3.45m			

Remarks
Scale
(approx)
1:40

Logged
By
LD

Figure No.
LKC 22 1031.WS101

Excavation Method

Hand excavated to 1.2mbgl

Dimensions
Location (Observed measurements)
388696 E 395438 N

Ground Level (mOD)

68.00

Dates

13/10/2022

Client

Watson Construction Ltd

Engineer

LK

Job
Number
LKC 22 1031

Sheet
1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.00-1.00 0.00-1.00	D ES PID 0.2ppm				(1.20)	MADE GROUND: Dark brown very gravelly very sandy SILT with frequent brick fragments, occasional coal, ash, rare glass, plastic. Sand fine to coarse. Gravel fine to coarse and angular to sub-angular comprising sandstone and mudstone.			
1.20-1.65 1.20-1.60	SPT N=5 D		1,0/1,2,1,1	66.80	1.20 (0.40)	MADE GROUND: Soft consistency organic black slightly gravelly slightly sandy SILT. Sand fine to coarse. Gravel fine to medium and sub-angular to sub-rounded comprising mudstone.			
1.60-1.80 1.60-1.80 1.80-2.50 1.80-2.50	D ES PID 0.1ppm D ES PID 0.0ppm		24.5, 24.5, 49.1, 24.5, 49.1/Av. 34.34 2,3/1,2,1,2	66.40 66.20	1.60 (0.20) 1.80	MADE GROUND: Black sandy very silty GRAVEL. Sand fine to coarse. Gravel fine to coarse and angular to sub-angular.			
2.00 2.00-2.45	PP 34.34kPa SPT N=6			65.50	(0.70) 2.50	MADE GROUND: Soft consistency low strength dark brown slightly gravelly slightly sandy silty CLAY with occasional coal fragments. Sand fine to coarse. Gravel fine to coarse and sub-angular to sub-rounded comprising mudstone.			
3.00 3.00-3.45	PP 196kPa SPT N=22		Fast(1) at 3.00m. 196, 196, 196, 196, 196/Av. 196.00 3,6/6,5,6,5			Very stiff consistency high strength light brown with grey mottling slightly gravelly slightly sandy CLAY with rare coal fragments. Sand fine to coarse. Gravel fine to medium and sub-angular to sub-rounded comprising mudstone. Clay turns very stiff at 2.50mbgl. Clay turns soft at 3.00mbgl.			
4.00-4.45	SPT N=27		6,5/6,6,7,8		(2.95)				
4.50-5.00	D PID 0.0ppm								
5.00 5.00-5.45	PP 198.6kPa SPT N=21		184, 196, 196, 221, 196/Av. 198.60 4,3/6,4,6,5	62.55	5.45	Complete at 5.45m			

Remarks
Scale
(approx)
1:40

Logged
By
LD

Figure No.
LKC 22 1031.WS102

Excavation Method

Hand excavated to 1.2mbgl

Dimensions
Location (Observed measurements)
388725 E 395446 N

Ground Level (mOD)

68.00

Dates

13/10/2022

Client

Watson Construction Ltd

Engineer

LKC

Job
Number

LKC 22 1031

Sheet
1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.00-0.50 0.00-0.50	D ES PID 0.0ppm				(0.50)	MADE GROUND: Dark brown gravelly sandy SILT with frequent rootlets occasional coal, ash, brick fragments, rare metal and glass. Sand fine to coarse. Gravel fine to coarse and sub-angular to sub-rounded comprising sandstone and mudstone.			
0.50-1.00 0.50-1.00	D ES PID 0.0ppm			67.50	0.50	Stiff consistency high strength light brown slightly gravelly slightly sandy CLAY with occasional coal fragments. Sand fine to coarse. Gravel fine to coarse and sub-angular to sub-rounded comprising mudstone.			
1.20-1.65	SPT N=11		2,2/3,2,3,3						
2.00 2.00-2.45	PP 147.2kPa SPT N=18		147, 147, 147, 172, 123/Av. 147.20 2,3/5,4,4,5						
2.50-3.00	D								
3.00 3.00-3.45	PP 188.8kPa SPT N=5		172, 196, 184, 196, 196/Av. 188.80 2,2/0,1,2,2		(4.95)	Clay turns very stiff at 3.00mbgl.			
4.00 4.00-4.45	PP 201kPa SPT N=16		196, 221, 196, 196, 196/Av. 201.00 3,2/3,4,4,5			Clay turns dark brown at 4.00mbgl.			
4.50-5.00	D								
5.00-5.45	SPT N=14		3,3/3,4,3,4						
				62.55	5.45	Complete at 5.45m			

Remarks
Scale
(approx)

1:40

Logged
By

LD

Figure No.

LKC 22 1031.WS103

Appendix B – Gas and Groundwater Monitoring Results



Equipment ¹		
Instrument	Serial Number	Comments
Gas Analyser GA5000	G507783	Serviced, calibrated, gas checked.
HydroTechnik	HT-04	Operating normally.
Pho-Check Tiger	T-106802	Serviced, calibrated.

[illegible]

ABBREVIATIONS	
ND	Not detected
NR	Not recorded
UR	Unable to record
OS	Off recordable scale
N/A	Not applicable
ppm	Parts per million
mb	Millibars
l/hr	Litres per hour
mbgl	Metres below ground level
LEL	Lower explosive limit in air

NOTES
All monitoring is carried out in line with LK Consult Ltd procedures, with reference to CIRIA C665.
¹ Equipment is serviced and checked as recommended by the manufacturer. Refer to calibration records and service certificates.
² CH4 is explosive between the range of 5-15%v/v. 100% lower explosive limit is equal to 5%v/v CH4.
³ Flow readings are based on a 1 minute average value where flow is detected (equipment range of +/- 12 ltr/hr).



Equipment ¹		
Instrument	Serial Number	Comments
Gas Analyser GA5000	G502417	Serviced, calibrated, gas checked.
HydroTechnik	HT-04	Operating normally.
-	-	Serviced, calibrated.

[illegible]

ABBREVIATIONS	
ND	Not detected
NR	Not recorded
UR	Unable to record
OS	Off recordable scale
N/A	Not applicable
ppm	Parts per million
mb	Millibars
l/hr	Litres per hour
mbgl	Metres below ground level
LEL	Lower explosive limit in air

NOTES
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³ Flow readings are based on a 1 minute average value where flow is detected (equipment range of +/- 12 ltr/hr).



Equipment ¹		
Instrument	Serial Number	Comments
Gas Analyser GA5000	G507783	Serviced, calibrated, gas checked.
potech Oil-in-Water Interface Me	81454-14	Operating normally.
-	-	Serviced, calibrated.

Atmospheric / Ground Conditions	
Atmospheric pressure trend onsite	Rising
Atmospheric pressure (prev 24hrs)	Rising
Weather Conditions	Overcast, Dry, Slight breeze
Ground Conditions	Wet, Boggy

[illegible]

ABBREVIATIONS	
ND	Not detected
NR	Not recorded
UR	Unable to record
OS	Off recordable scale
N/A	Not applicable
ppm	Parts per million
mb	Millibars
l/hr	Litres per hour
mbgl	Metres below ground level
LEL	Lower explosive limit in air

NOTES
All monitoring is carried out in line with LK Consult Ltd procedures, with reference to CIRIA C665.
¹ Equipment is serviced and checked as recommended by the manufacturer. Refer to calibration records and service certificates.
² CH4 is explosive between the range of 5-15%v/v. 100% lower explosive limit is equal to 5%v/v CH4.
³ Flow readings are based on a 1 minute average value where flow is detected (equipment range of +/- 12 ltr/hr).



Site	Levenshulme Road, Gorton
Job Number	LKC 22 1031
Date	14/12/2022
Engineer	RW
Visit	4 of 6

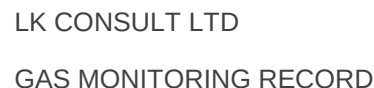
Equipment ¹		
Instrument	Serial Number	Comments
Gas Analyser GA5000	G507783	Serviced, calibrated, gas checked.
HydroTechnik	HT-01	Operating normally.

Atmospheric / Ground Conditions	
Atmospheric pressure trend onsite	Rising
Atmospheric pressure (prev 24hrs)	Falling
Weather Conditions	Sunny, still, cold
Ground Conditions	Frosty

[illegible]

ABBREVIATIONS	
ND	Not detected
NR	Not recorded
UR	Unable to record
OS	Off recordable scale
N/A	Not applicable
ppm	Parts per million
mb	Millibars
l/hr	Litres per hour
mbgl	Metres below ground level
LEL	Lower explosive limit in air

NOTES	
All monitoring is carried out in line with LK Consult Ltd procedures, with reference to CIRIA C665.	
¹ Equipment is serviced and checked as recommended by the manufacturer. Refer to calibration records and service certificates.	
² CH4 is explosive between the range of 5-15%v/v. 100% lower explosive limit is equal to 5%v/v CH4.	
³ Flow readings are based on a 1 minute average value where flow is detected (equipment range of +/- 12 ltr/hr).	



Equipment ¹		
Instrument	Serial Number	Comments
Gas Analyser GA5000	G502417	Serviced, calibrated, gas checked.
HydroTechnik	HT-04	Operating normally.
-	-	Serviced, calibrated.

[illegible]

ABBREVIATIONS	
ND	Not detected
NR	Not recorded
UR	Unable to record
OS	Off recordable scale
N/A	Not applicable
ppm	Parts per million
mb	Millibars
l/hr	Litres per hour
mbgl	Metres below ground level
LEL	Lower explosive limit in air

NOTES
All monitoring is carried out in line with LK Consult Ltd procedures, with reference to CIRIA C665.
¹ Equipment is serviced and checked as recommended by the manufacturer. Refer to calibration records and service certificates.
² CH4 is explosive between the range of 5-15%v/v. 100% lower explosive limit is equal to 5%v/v CH4.
³ Flow readings are based on a 1 minute average value where flow is detected (equipment range of +/- 12 ltr/hr).



Site	Levenshulme Road, Gorton
Job Number	LKC 22 1031
Date	26/01/2023
Engineer	LD
Visit	6 of 6

Equipment ¹		
Instrument	Serial Number	Comments
Gas Analyser GA5000	G502417	Serviced, calibrated, gas checked.
HydroTechnik	HT-03	Operating normally.
-		Serviced, calibrated.

Atmospheric / Ground Conditions	
Atmospheric pressure trend onsite	Steady
Atmospheric pressure (prev 24hrs)	Steady
Weather Conditions	Raining, slight breeze, mild
Ground Conditions	Damp

[illegible]

ABBREVIATIONS	
ND	Not detected
NR	Not recorded
UR	Unable to record
OS	Off recordable scale
N/A	Not applicable
ppm	Parts per million
mb	Millibars
l/hr	Litres per hour
mbgl	Metres below ground level
LEL	Lower explosive limit in air
P	Peak reading
S	Steady reading

NOTES	
All monitoring is carried out in line with LK Consult Ltd procedures, with reference to CIRIA C665.	
¹ Equipment is serviced and checked as recommended by the manufacturer. Refer to calibration records and service certificates.	
² CH4 is explosive between the range of 5-15%/v. 100% lower explosive limit is equal to 5%/v CH4.	
³ Flow readings are based on a 1 minute average value where flow is detected (equipment range of +/- 12 ltr/hr).	

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