



CERTIFICATE OF ANALYSIS

Validated

SDG:	210225-70	Client Reference:	21-05563	Report Number:	589015
Location:	Not Specified	Order Number:	20402	Superseded Report:	

Test Completion Dates

Lab Sample No(s)	23792722	23792724
Customer Sample Ref.	1147391	1147393
AGS Ref.	M1A	M6
Depth	0-80	0-50
Type	Unspecified Liq	Unspecified Liq
PFAS Liquids	03-Mar-2021	03-Mar-2021



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Appendix

General

1. Results are expressed on a dry weight basis (dried at 35°C) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH₄ by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. Sample Deviations

If a sample is classed as deviated then the associated results may be compromised.

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Matrix interference
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to late arrival of instructions or samples
§	Sampled on date not provided

19. Asbestos

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.

Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017)*.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

MINI BOREHOLE RECORD SHEETS

 SUB SURFACE SITE INVESTIGATION SPECIALISTS, GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS 3 Peel Street, Preston, Lancashire, PR2 2QS. Tel: (01772) 561135 Fax: (01772) 204907							Site ARKADY INDUSTRIAL ESTATE, BRISCOE LANE, NEWTON HEATH, GREATER MANCHESTER.		Borehole Number M1
Boring Method MINI PERCUSSIVE		Casing Diameter		Ground Level (mOD) 63.70		Client CASSEL & FLETCHER CONSTRUCTION LIMITED		Job Number 6921C	
		Location AS PLAN		Dates 02/02/2021		Engineer		Sheet 1/1	
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				02/02/2021: DRY	63.57 63.43	(0.13) 0.13 (0.14) 0.27	MADE GROUND: reinforced concrete. MADE GROUND: blue insulation board. at 0.27m : apparent electric cable Complete at 0.27m		
Remarks Cored concrete and hand dug inspection pit from GL to 0.27m to check for services. Descriptions based on Foreman drillers records to 0.27m. M1 abandoned at 0.27m, backfilled with arisings and moved to M1A.							Scale (approx) 1:25	Logged By BSP/SJ	Figure No. 6921C.M1

S S SUB SURFACE SITE INVESTIGATION SPECIALISTS, GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS 3 Peel Street, Preston, Lancashire, PR2 2QS. Tel: (01772) 561135 Fax: (01772) 204907						Site ARKADY INDUSTRIAL ESTATE, BRISCOE LANE, NEWTON HEATH, GREATER MANCHESTER.			Borehole Number M1A	
Boring Method MINI PERCUSSIVE		Casing Diameter		Ground Level (mOD) 63.70		Client CASSEL & FLETCHER CONSTRUCTION LIMITED			Job Number 6921C	
		Location AS PLAN		Dates 02/02/2021		Engineer			Sheet 1/1	
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.50-1.00	B				63.60	(0.10)	MADE GROUND: reinforced concrete.			
						0.10				
					63.45	(0.15)	MADE GROUND: blue insulation board			
						0.25	 at 0.25m : blue membrane			
					63.27	(0.18)	MADE GROUND: concrete.			
1.00-2.00 1.00-2.00	B C			1.00m to 2.00m - 0% recovery		0.43	MADE GROUND: grey slightly sandy fine to coarse gravel sized fragments of stone and brick with low cobble sized fragments of brick.			
						(0.47)				
					62.80	0.90	Soft brown silty CLAY.			
					62.70	(0.10)				
						1.00	Stiff dark brown slightly gravelly silty CLAY. Gravel is subangular to subrounded fine to coarse siltstone, quartz and coal.			
2.00-3.00	C			2.00m to 3.00m - 80% recovery						
										
										
										
										
3.00-4.00	C			3.00m to 4.00m - 10% recovery	60.70	3.00	Soft brown slightly gravelly silty CLAY. Gravel is fine to coarse siltstone.			
										
										
										
										
				02/02/2021:DRY	59.70	4.00	Complete at 4.00m			
Remarks Concrete cored and hand dug inspection pit from GL to 1.00m to check for services. Descriptions based on Foreman drillers records to 0.50m C = Plastic lined core sample Core diameter : 84mm to 2.00m, 74mm to 3.00m and 64mm to 4.00m On completion installed a 50mm dia hdpe slotted gas monitoring standpipe with a gas valve and a gravel surround to 4.00m, a Bentonite seal from 1.00m to 0.20m and a concreted in lockable steel protective cover from 0.20m to GL.								Scale (approx) 1:25	Logged By BSP/SJ	Figure No. 6921C.M01A

S S SUB SURFACE SITE INVESTIGATION SPECIALISTS, GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS 3 Peel Street, Preston, Lancashire, PR2 2QS. Tel: (01772) 561135 Fax: (01772) 204907							Site ARKADY INDUSTRIAL ESTATE, BRISCOE LANE, NEWTON HEATH, GREATER MANCHESTER.		Borehole Number M2	
Boring Method MINI PERCUSSIVE		Casing Diameter		Ground Level (mOD) 63.65		Client CASSEL & FLETCHER CONSTRUCTION LIMITED		Job Number 6921C		
		Location AS PLAN		Dates 01/02/2021		Engineer		Sheet 1/1		
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.50-1.00	B					(0.35)	MADE GROUND: reinforced concrete.			
						63.30 0.35 (0.10)	MADE GROUND: grey gravel sized fragments of stone.			
						63.20 0.45 63.15 0.50	MADE GROUND: concrete.			
1.00-2.00	C			1.00m to 2.00m - 85% recovery		(0.30)	MADE GROUND: dark grey ashy silty sandy fine to coarse gravel sized fragments of stone, brick, slag and concrete with low cobble sized fragments of concrete.			
						62.85 0.80	Stiff dark brown and occasional grey mottled slightly gravelly silty CLAY. Gravel is subangular to subrounded fine to coarse siltstone, quartz, coal and occasional sandstone.			
2.00-3.00	C			2.00m to 3.00m - 93% recovery		(3.20)	 from 2.00m : thinly laminated			
3.00-4.00	C			3.00m to 4.00m - 74% recovery						
				01/02/2021:DRY	59.65	4.00	Complete at 4.00m			
Remarks Cored concrete and hand dug inspection pit from GL to 1.00m to check for services. Descriptions based on Foreman drillers records to 0.50m C = Plastic lined core sample Core diameter : 74mm to 2.00m, 64mm to 3.00m and 54mm to 4.00m On completion backfilled with gravel sized fragments of stone.								Scale (approx) 1:25	Logged By BSP/SJ	
								Figure No. 6921C.M2		

S S SUB SURFACE SITE INVESTIGATION SPECIALISTS, GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS 3 Peel Street, Preston, Lancashire, PR2 2QS. Tel: (01772) 561135 Fax: (01772) 204907							Site ARKADY INDUSTRIAL ESTATE, BRISCOE LANE, NEWTON HEATH, GREATER MANCHESTER.		Borehole Number M3	
Boring Method MINI PERCUSSIVE		Casing Diameter			Ground Level (mOD) 63.80		Client CASSEL & FLETCHER CONSTRUCTION LIMITED		Job Number 6921C	
		Location AS PLAN			Dates 02/02/2021		Engineer		Sheet 1/1	
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.10-0.60	B				63.65	(0.15) 0.15	MADE GROUND: reinforced concrete.			
							Stiff dark brown and occasional grey mottled slightly gravelly silty CLAY. Gravel is subangular to subrounded fine to coarse sandstone, siltstone, quartz and coal.			
1.00-2.00	C			1.00m to 2.00m - 88% recovery			 from 1.00m to 3.30m : thinly laminated			
2.00-3.00	C			2.00m to 3.00m - 82% recovery		(3.85)				
3.00-4.00	C			3.00m to 4.00m - 70% recovery						
				02/02/2021:DRY	59.80	4.00	Complete at 4.00m			
Remarks Cored concrete and hand dug inspection pit from GL to 1.00m to check for services. Descriptions based on foreman driller records to 0.10m and 0.60m to 1.00m C = Plastic lined core sample Core diameter : 74mm to 2.00m, 64mm to 3.00m and 54mm to 4.00m On completion backfilled with gravel sized fragments of stone.								Scale (approx) 1:25	Logged By BSP/SJ	
								Figure No. 6921C.M3		

SUB SURFACE SITE INVESTIGATION SPECIALISTS, GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS 3 Peel Street, Preston, Lancashire, PR2 2QS. Tel: (01772) 561135 Fax: (01772) 204907						Site ARKADY INDUSTRIAL ESTATE, BRISCOE LANE, NEWTON HEATH, GREATER MANCHESTER.		Borehole Number M4	
Boring Method MINI PERCUSSIVE		Casing Diameter		Ground Level (mOD) 63.55		Client CASSEL & FLETCHER CONSTRUCTION LIMITED		Job Number 6921C	
		Location AS PLAN		Dates 01/02/2021		Engineer		Sheet 1/1	
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20-0.50	B				63.40	(0.15)	MADE GROUND: reinforced concrete.		
						0.15	MADE GROUND: brown silty sandy fine to coarse gravel sized fragments of brick, stone, clinker and concrete.		
1.00-2.00	C			1.00m to 2.00m - 100% recovery	62.55	(0.85)			
						1.00			
						(0.20)	MADE GROUND: brown and grey fine to coarse sand. Gravel sized fragments are fine to medium slag.		
						62.35			
2.00-3.00	C			2.00m to 3.00m - 18% recovery	62.20	(0.15)	MADE GROUND: soft dark grey slightly organic slightly gravelly slightly sandy silty clay. Gravel sized fragments are fine to coarse brick and stone (organic odour).		
						1.35			
							Firm becoming stiff dark brown slightly gravelly silty CLAY. Gravel is subangular to subrounded fine to medium siltstone and quartz.		
3.00-4.00	C			3.00m to 4.00m - 30% recovery			 from 2.00m : stiff		
						(2.65)			
							 from 3.00m : thinly laminated		
				01/02/2021: DRY	59.55	4.00	Complete at 4.00m		
Remarks Cored concrete and hand dug inspection pit from GL to 1.00m to check for services. Descriptions based on Foreman drillers records to 0.20m and 0.50m to 1.00m C = Plastic lined core sample Core diameter : 74mm to 2.00m, 64mm to 3.00m and 54mm to 4.00m On completion backfilled with gravel sized fragments of stone.								Scale (approx) 1:25	Logged By BSP/SJ
								Figure No. 6921C.M4	

S S SUB SURFACE SITE INVESTIGATION SPECIALISTS, GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS 3 Peel Street, Preston, Lancashire, PR2 2QS. Tel: (01772) 561135 Fax: (01772) 204907						Site ARKADY INDUSTRIAL ESTATE, BRISCOE LANE, NEWTON HEATH, GREATER MANCHESTER.				Borehole Number M5				
Boring Method MINI PERCUSSIVE		Casing Diameter			Ground Level (mOD) 63.70		Client CASSEL & FLETCHER CONSTRUCTION LIMITED			Job Number 6921C				
										Sheet 1/1				
		Location AS PLAN			Dates 01/02/2021		Engineer							
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr				
0.50-1.00	B			1.00m to 2.00m - 100% recovery	63.32		MADE GROUND: reinforced concrete.							
						(0.38)								
0.38	MADE GROUND: firm brown gravelly slightly sandy silty clay. Gravel sized fragments are fine to coarse brick, slag, stone and concrete.													
(0.62)														
1.00-2.00	C					62.70	1.00	MADE GROUND: orangish brown slightly sandy fine to coarse gravel sized fragments of brick with low cobble sized fragments of brick.						
						62.50	(0.20)							
						62.40	1.20	MADE GROUND: soft orangish brown and grey mottled gravelly sandy silty clay with occasional rootlets. Gravel sized fragments are fine to coarse brick.						
							1.30							
2.00-3.00	C			2.00m to 3.00m - 80% recovery		(0.40)	MADE GROUND: soft grey and black mottled slightly gravelly slightly sandy silty clay with some rootlets. Gravel sized fragments are fine to medium slag. (Organic odour).							
					62.00	1.70								
							Firm becoming stiff thinly laminated dark brown and occasional grey mottled slightly gravelly silty CLAY. Gravel is subangular to subrounded fine to medium siltstone, sandstone, quartz and coal.							
							 from 2.00m : stiff							
3.00-4.00	C			3.00m to 4.00m - 85% recovery				(2.30)						
			01/02/2021:DRY	59.70	4.00	Complete at 4.00m								
Remarks Cored concrete and hand dug inspection pit from GL to 1.00m to check for services. Descriptions based on Foreman drillers records to 0.50m. C = Plastic lined core sample Core diameter : 84mm to 2.00m, 74mm to 3.00m and 64mm to 4.00m On completion installed a 50mm dia hdpe slotted gas monitoring standpipe with a gas valve and a gravel surround to 4.00m, a Bentonite seal from 1.00n to 0.20m and a concreted in lockable steel protective cover from 0.20m to GL.								Scale (approx) 1:25	Logged By BSP/SJ	Figure No. 6921C.M5				

SUB SURFACE SITE INVESTIGATION SPECIALISTS, GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS 3 Peel Street, Preston, Lancashire, PR2 2QS. Tel: (01772) 561135 Fax: (01772) 204907						Site ARKADY INDUSTRIAL ESTATE, BRISCOE LANE, NEWTON HEATH, GREATER MANCHESTER.			Borehole Number M6	
Boring Method MINI PERCUSSIVE		Casing Diameter		Ground Level (mOD) 63.60		Client CASSEL & FLETCHER CONSTRUCTION LIMITED			Job Number 6921C	
		Location AS PLAN		Dates 01/01/2021		Engineer			Sheet 1/1	
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.10-0.50	B				63.55 63.50	0.05	MADE GROUND: bituminous macadam surfacing.			
						0.10	MADE GROUND: red gravel sized fragments of brick.			
0.50-1.00	B				63.10	(0.40)	MADE GROUND: soft brown slightly gravelly slightly sandy silty clay. Gravel sized fragments are fine to coarse brick, stone and concrete.			
						0.50	MADE GROUND: brown silty sandy fine to coarse gravel sized fragments of stone, brick and slag.			
1.00-2.00	C			1.00m to 2.00m - 80% recovery	62.80	(0.30)	Stiff dark brown and occasional black mottled slightly gravelly silty CLAY with low siltstone cobbles. Gravel is subangular to subrounded fine to coarse siltstone and coal. (Organic odour).			
						0.80	Stiff thinly laminated brown slightly gravelly silty CLAY. Gravel is subangular to rounded fine to coarse siltstone, quartz and coal.			
2.00-3.00	C			2.00m to 3.00m - 100% recover	62.30	(0.70)	Soft to firm dark brown slightly gravelly silty CLAY. Gravel is subangular to subrounded fine to coarse siltstone and quartz.			
						2.00	Stiff thinly laminated dark brown slightly gravelly silty CLAY. Gravel is subangular to subrounded fine to coarse quartz, siltstone and coal.			
3.00-4.00	C			3.00m to 4.00m - 90% recovery	61.60	(0.30)	Complete at 4.00m			
						2.30				
				01/02/2021:DRY	59.60	4.00				
Remarks Cored bituminous macadam surfacing and hand dug inspection pit from GL to 1.00m to check for services. Descriptions based on Foreman drillers records to 0.60m C = Plastic lined core sample Core diameter : 74mm to 3.00m and 64mm to 4.00m On completion installed a 50mm dia hdpe slotted gas monitoring standpipe with a gas valve and a gravel surround to 4.00m, a Bentonite seal from 1.00m to 0.20m and a concreted in lockable steel protective cover from 0.20m to GL.								Scale (approx) 1:25	Logged By BSP/SJ	Figure No. 6921C.M6

SUB SURFACE SITE INVESTIGATION SPECIALISTS, GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS 3 Peel Street, Preston, Lancashire, PR2 2QS. Tel: (01772) 561135 Fax: (01772) 204907						Site ARKADY INDUSTRIAL ESTATE, BRISCOE LANE, NEWTON HEATH, GREATER MANCHESTER.		Borehole Number M7	
Boring Method MINI PERCUSSIVE		Casing Diameter		Ground Level (mOD) 63.50		Client CASSEL & FLETCHER CONSTRUCTION LIMITED		Job Number 6921C	
		Location AS PLAN		Dates 02/02/2021		Engineer		Sheet 1/1	
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20-0.40	B					(0.17)	MADE GROUND: reinforced concrete.		
						63.33 0.17	MADE GROUND: pinkish white foam.		
						63.30 0.20	MADE GROUND: grey silty sandy fine to coarse gravel sized fragment of stone, concrete and brick.		
						63.10 0.40	MADE GROUND: concrete.		
1.00-2.00	C			1.00m to 2.00m - 100% recovery		(0.40)			
						62.70 0.80	MADE GROUND: very soft dark grey and black mottled slightly gravelly slightly sandy silty clay with some rootlets. Gravel sized fragments are fine to medium brick and slag (organic odour).		
						62.40 1.10	MADE GROUND: black slightly silty sandy fine to coarse gravel sized fragments of slag.		
						(0.45)			
2.00-3.00	C			2.00m to 3.00m - 75% recovery		61.95 1.55	MADE GROUND: very soft dark grey gravelly slightly sandy silty clay. Gravel sized fragments are fine to coarse slag and stone.		
						61.85 (0.10) 1.65			
						(0.80)	MADE GROUND: very soft grey becoming soft dark brown and black mottled gravelly slightly sandy silty clay. Gravel sized fragments are fine to coarse stone, plastic and concrete (organic odour).		
3.00-4.00	C			3.00m to 4.00m - 40% recovery		61.05 2.45	Stiff dark brown thinly laminated slightly gravelly silty CLAY. Gravel is subangular to subrounded fine to coarse siltstone and coal.		



SUB SURFACE
 SITE INVESTIGATION SPECIALISTS, GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS
 3 Peel Street, Preston, Lancashire, PR2 2QS. Tel: (01772) 561135 Fax: (01772) 204907

Site
 ARKADY INDUSTRIAL ESTATE, BRISCOE LANE,
 NEWTON HEATH, GREATER MANCHESTER.

Borehole Number
M8

Boring Method MINI PERCUSSIVE		Casing Diameter		Ground Level (mOD) 63.50		Client CASSEL & FLETCHER CONSTRUCTION LIMITED		Job Number 6921C	
		Location AS PLAN		Dates 02/02/2021		Engineer		Sheet 1/1	

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				02/02/2021: DRY	63.30	(0.20) 0.20	MADE GROUND: reinforced concrete. at 0.20m : abandoned Complete at 0.20m		

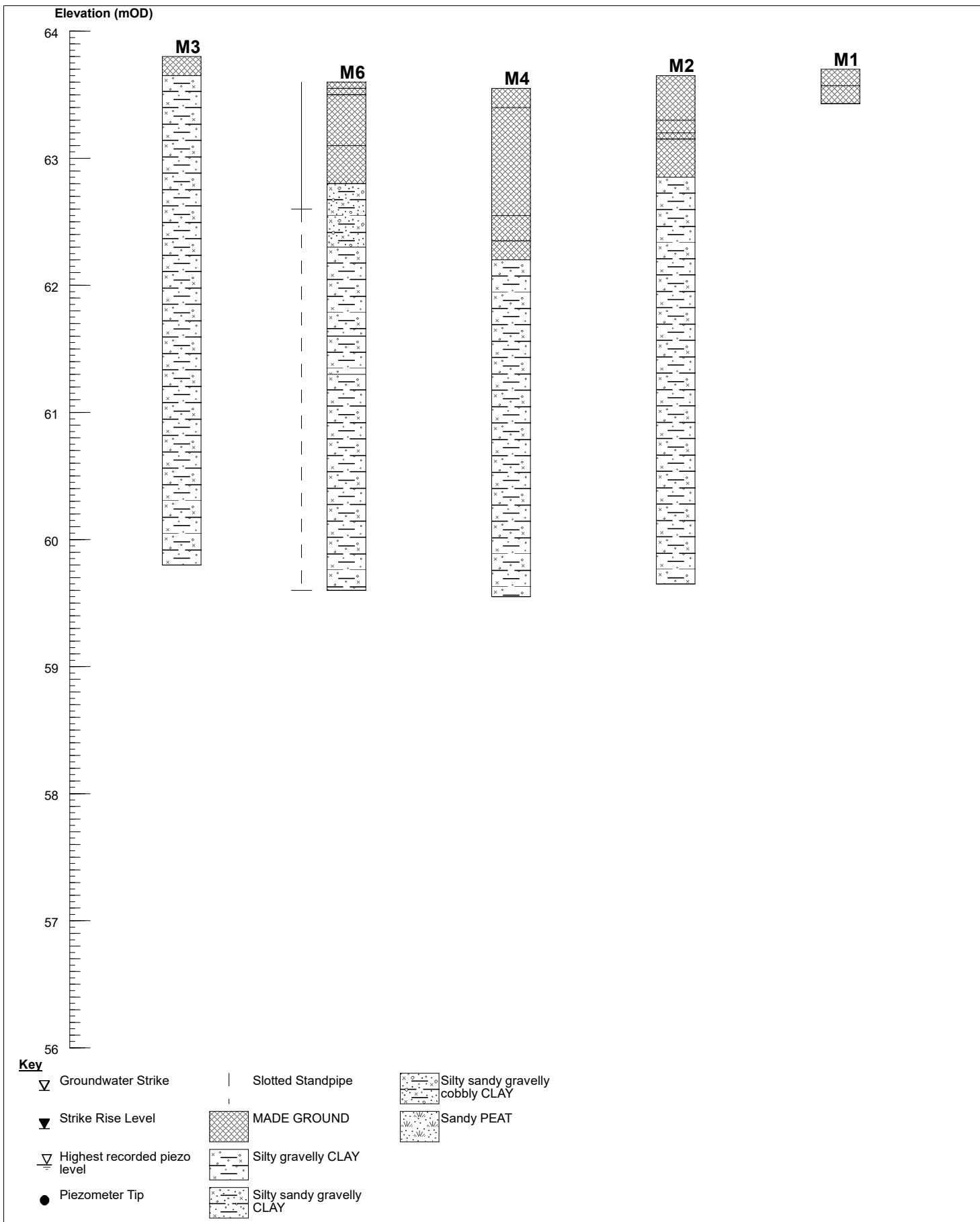
Remarks
 Cored concrete from GL to 0.20m and encountered a second layer of concrete, abandoned and backfilled with arisings.

Scale (approx)
 1:25

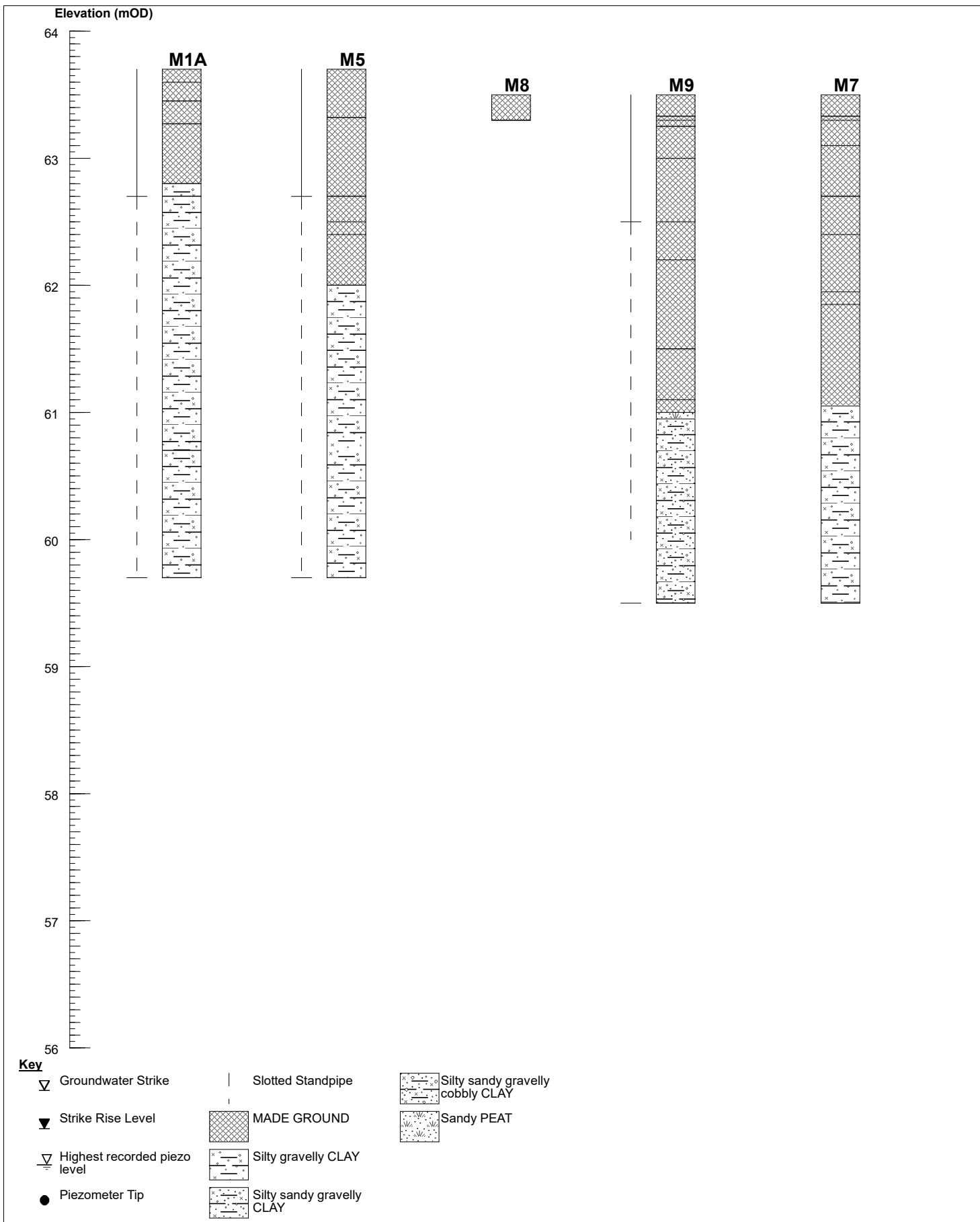
Logged By
 BSP/SJ

Figure No.
 6921C.M8

SUB SURFACE SITE INVESTIGATION SPECIALISTS, GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS 3 Peel Street, Preston, Lancashire, PR2 2QS. Tel: (01772) 561135 Fax: (01772) 204907							Site ARKADY INDUSTRIAL ESTATE, BRISCOE LANE, NEWTON HEATH, GREATER MANCHESTER.				Borehole Number M9	
Boring Method MINI PERCUSSIVE		Casing Diameter			Ground Level (mOD) 63.50		Client CASSEL & FLETCHER CONSTRUCTION LIMITED			Job Number 6921C		
		Location AS PLAN			Dates 02/02/2021		Engineer			Sheet 1/1		
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr		
0.70-1.00	B					(0.17)	MADE GROUND: reinforced concrete.					
						63.33 0.17	MADE GROUND: pinkish white foam.					
						63.30 0.20	MADE GROUND: grey gravel sized fragments of stone.					
						63.25 0.25 (0.25)						
1.00-2.00 1.00-2.00	B C			1.00m to 2.00m - 0% recovery		63.00 0.50	MADE GROUND: concrete.					
						(0.50)	MADE GROUND: soft brown and dark grey mottled gravelly slightly sandy silty clay. Gravel sized fragments are fine to coarse brick, slag and sandstone.					
						62.50 1.00	MADE GROUND: soft grey and black mottled gravelly slightly sandy silty clay. Gravel sized fragments are fine to coarse stone and brick.					
						(0.30)						
2.00-3.00	C			2.00m to 3.00m - 100% recovery		62.20 1.30	MADE GROUND: stiff dark brown slightly gravelly silty clay. Gravel sized fragments are fine to coarse stone and brick.					
						(0.70)						
						61.50 2.00	MADE GROUND: dark grey and black mottled slightly silty sandy gravel sized fragments of slag and brick.					
						(0.40)						
3.00-4.00	C			3.00m to 4.00m = 40% recovery		61.10 2.40 (0.10)	MADE GROUND: firm brown and black mottled slightly sandy silty clay with pockets of black organic material.					
						61.00 2.50						
						60.95 2.55	Soft black slightly sandy fibrous PEAT.					
						(1.45)						
				02/02/2021:DRY	59.50	4.00	Complete at 4.00m					
Remarks Cored concrete and hand dug inspection pit from GL to 1.00m to check for services. Descriptions based on Foreman drillers records to 0.70m C = Plastic lined core sample Core diameter : 84mm to 2.00m, 74mm to 3.00m and 64mm to 4.00m On completion backfilled with gravel to 3.50m and installed a 50mm dia hdpe slotted gas monitoring standpipe with a gas valve and a gravel surround to 3.50m, a Bentonite seal from 1.00m to 0.20m and a concreted in lockable steel protective cover from 0.20m to GL.								Scale (approx) 1:25	Logged By BSP/SJ	Figure No. 6921C.M9		



S SUB SURFACE SITE INVESTIGATION SPECIALISTS, GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS 3 Peel Street, Preston, Lancashire, PR2 2QS. Tel: (01772) 561135 Fax: (01772) 204907		Nominal Section		
Site ARKADY INDUSTRIAL ESTATE, BRISCOE LANE, NEWTON HEATH, GREATER MANCHESTER.		Date Drawn 25/03/2021	Date Checked	Sheet 1/2
Client CASSEL & FLETCHER CONSTRUCTION LIMITED		Drawn By	Checked By	Job Number 6921C
			Scale 1:40[V]	Figure No. 6921C.1



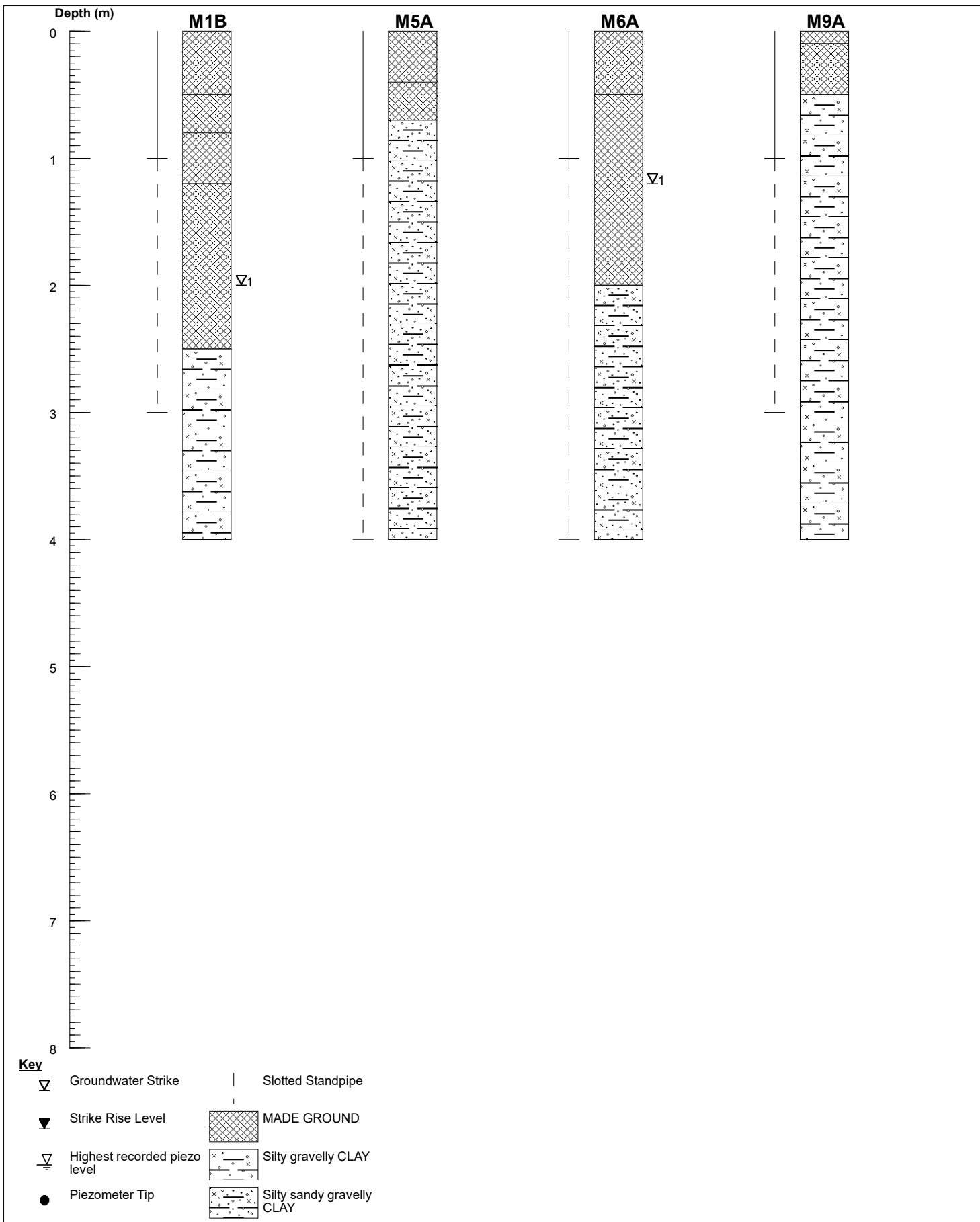
SUB SURFACE SITE INVESTIGATION SPECIALISTS, GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS 3 Peel Street, Preston, Lancashire, PR2 2QS. Tel: (01772) 561135 Fax: (01772) 204907		Nominal Section		
Site ARKADY INDUSTRIAL ESTATE, BRISCOE LANE, NEWTON HEATH, GREATER MANCHESTER.		Date Drawn 25/03/2021	Date Checked	Sheet 2/2
Client CASSEL & FLETCHER CONSTRUCTION LIMITED		Drawn By	Checked By	Job Number 6921C
			Scale 1:40[V]	Figure No. 6921C.1

SUB SURFACE SITE INVESTIGATION SPECIALISTS, GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS 3 Peel Street, Preston, Lancashire, PR2 2QS. Tel: (01772) 561135 Fax: (01772) 204907							Site ARKADY INDUSTRIAL ESTATE, BRISCOE LANE, NEWTON HEATH, GREATER MANCHESTER			Borehole Number M1B	
Boring Method MINI PERCUSSIVE		Casing Diameter		Ground Level (mOD)		Client CASSEL & FLETCHER CONSTRUCTION LIMITED			Job Number 6921E		
		Location AS PLAN		Dates 16/07/2021		Engineer			Sheet 1/1		
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	CC					(0.50)	MADE GROUND: concrete surfacing (driller's description).				
0.50-0.80	B					0.50 (0.30)	MADE GROUND: soft light grey gravelly slightly sandy silty clay. Gravel sized fragments are fine to coarse stone, clinker, glass and tile.				
0.80-1.20	B					0.80 (0.40)	MADE GROUND: soft dark brown gravelly slightly sandy clayey silt with occasional pockets of clay and low cobble sized fragments of stone. Gravel sized fragments are fine to coarse stone, brick and tile. (Topsoil).				
1.20-2.00	C			1.20m to 2.00m - 100% recovery		1.20	MADE GROUND: black ashy slightly clayey silty sandy fine to coarse gravel sized fragments of stone, brick, concrete and coal with occasional pockets of clay. (Hydrocarbon odour).				
2.00-3.00	C			Water Inflow(1) at 2.00m. 2.00m to 3.00m - 80% recovery		(1.30)			Σ1		
3.00-4.00	B					2.50	Stiff dark brown and occasional grey mottled slightly gravelly silty CLAY with occasional rootlets. Gravel is subangular to subrounded fine to coarse siltstone and quartz.				
3.00-4.00	C			3.00m to 4.00m - 0% recovery		(1.50)					
				16/07/2021:		4.00	Complete at 4.00m				
Remarks Hand dug inspection pit from 0.50m to 1.20m to check for services. C = Plastic lined core sample CC = Concrete Core Core diameter : 84mm to 2.00m and 74mm to 3.00m On completion backfilled with arisings and installed a 50mm dia slotted standpipe with a gas valve and a gravel surround to 3.00m, a Bentonite seal from 1.00m to 0.20m and a concreted in lockable steel protective cover from 0.20m to GL.								Scale (approx) 1:25	Logged By PM/SJ	Figure No. 6921E.M1B	

S S SUB SURFACE SITE INVESTIGATION SPECIALISTS, GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS 3 Peel Street, Preston, Lancashire, PR2 2QS. Tel: (01772) 561135 Fax: (01772) 204907							Site ARKADY INDUSTRIAL ESTATE, BRISCOE LANE, NEWTON HEATH, GREATER MANCHESTER			Borehole Number M5A	
Boring Method HAND DUG		Casing Diameter			Ground Level (mOD)		Client CASSEL & FLETCHER CONSTRUCTION LIMITED			Job Number 6921E	
		Location AS PLAN			Dates 16/07/2021		Engineer			Sheet 1/1	
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr	
0.00-0.40	CC					(0.40)	MADE GROUND: concrete surfacing (driller's description).				
0.40-0.70	B					0.40 (0.30)	MADE GROUND: soft to firm brown slightly gravelly slightly sandy silty clay. Gravel sized fragments are fine to coarse brick, tile and stone.				
0.70-1.20	B					0.70	Stiff dark brown and occasional grey mottled slightly gravelly slightly gravelly silty CLAY. Gravel is subangular to subrounded fine to coarse siltstone, coal and quartz.				
1.20-2.00	C			1.20m to 2.00m - 100% recovery							
2.00-3.00	C			2.00m to 3.00m - 90% recovery		(3.30)					
3.00-4.00	C			3.00m to 4.00m - 80% recovery							
				16/07/2021:DRY		4.00	Complete at 4.00m				
Remarks Hand dug inspection pit from 0.40m to 1.20m to check for services. C = Plastic lined core sample CC = Concrete Core Core diameter : 84mm to 2.00m, 74mm to 3.00m and 64mm to 4.00m On completion backfilled with arisings and installed a 50mm dia slotted standpipe with a gas valve and a gravel surround to 4.00m, a Bentonite seal from 1.00m to 0.20m and a concreted in lockable steel protective cover from 0.20m to GL.								Scale (approx) 1:25	Logged By PM/SJ	Figure No. 6921E.M5A	

S S SUB SURFACE SITE INVESTIGATION SPECIALISTS, GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS 3 Peel Street, Preston, Lancashire, PR2 2QS. Tel: (01772) 561135 Fax: (01772) 204907							Site ARKADY INDUSTRIAL ESTATE, BRISCOE LANE, NEWTON HEATH, GREATER MANCHESTER			Borehole Number M6A	
Boring Method MINI PERCUSSIVE		Casing Diameter			Ground Level (mOD)		Client CASSEL & FLETCHER CONSTRUCTION LIMITED			Job Number 6921E	
		Location AS PLAN			Dates 16/07/2021		Engineer			Sheet 1/1	
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	CC					(0.50)	MADE GROUND: concrete surfacing (driller's description).				
0.50-1.20	B					0.50	MADE GROUND: light grey slightly silty clayey fine to coarse gravel sized fragments of stone with low cobble sized fragments of stone.				
1.20-2.00 1.20-2.00	B C			Water Inflow(1) at 1.20m. 1.20m to 2.00m - 0% recovery		(1.50)			Σ1		
2.00-3.00 2.00-3.00	B C			2.00m to 3.00m - 0% recovery		2.00	Firm dark brown and occasional grey mottled slightly gravelly silty CLAY. Gravel is subangular to subrounded fine to coarse siltstone and coal.				
3.00-4.00	C			3.00m to 4.00m - 65% recovery		(2.00)					
				16/07/2021:		4.00	Complete at 4.00m				
Remarks Hand dug inspection pit from 0.50m to 1.20m to check for services. C = Plastic lined core sample CC = Concrete Core Core diameter : 64mm to 4.00m On completion backfilled with arisings and installed a 50mm dia slotted standpipe with a gas valve and a gravel surround to 4.00m, a Bentonite seal from 1.00m to 0.20m and a concreted in lockable steel protective cover from 0.20m to GL.								Scale (approx) 1:25	Logged By PM/SJ	Figure No. 6921E.M6A	

SUB SURFACE SITE INVESTIGATION SPECIALISTS, GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS 3 Peel Street, Preston, Lancashire, PR2 2QS. Tel: (01772) 561135 Fax: (01772) 204907							Site ARKADY INDUSTRIAL ESTATE, BRISCOE LANE, NEWTON HEATH, GREATER MANCHESTER			Borehole Number M9A	
Boring Method MINI PERCUSSIVE		Casing Diameter		Ground Level (mOD)		Client CASSEL & FLETCHER CONSTRUCTION LIMITED			Job Number 6921E		
		Location AS PLAN		Dates 16/07/2021		Engineer			Sheet 1/1		
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr	
0.00-0.10	BC					(0.10)	MADE GROUND: bituminous macadam surfacing (driller's description).				
0.10-0.50	B					(0.40)	MADE GROUND: firm dark brown slightly gravelly slightly sandy silty clay. Gravel sized fragments are fine to coarse brick, stone and tile.				
0.50-1.20	B					0.50	Firm becoming stiff dark brown and occasional grey mottled slightly gravelly silty CLAY with occasional bands of sand. Gravel is subangular to subrounded fine to coarse siltstone, coal and quartz.				
1.20-2.00	C			1.20m to 2.00m - 100% recovery							
2.00-3.00	C			2.00m to 3.00m - 100% recovery		(3.50)					
3.00-4.00	C			3.00m to 4.00m - 100% recovery			 at 3.00m to 4.00m : occasional bands of sand				
				16/07/2021:		4.00	Complete at 4.00m				
Remarks Hand dug inspection pit from 0.10m to 1.20m to check for services. C = Plastic lined core sample BC = Bituminous Macadam Core Core diameter : 82mm to 2.00m, 72mm to 3.00m and 64mm to 4.00m On completion backfilled with arisings and installed a 50mm dia slotted standpipe with a gas valve and a gravel surround to 3.00m, a Bentonite seal from 1.00m to 0.20m and a concreted in lockable steel protective cover from 0.20m to GL. Obstruction at 3.00m blocking deeper pipe installation.								Scale (approx) 1:25	Logged By PM/SJ		
								Figure No. 6921E.M9A			



S SUB SURFACE
 SITE INVESTIGATION SPECIALISTS, GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS
 3 Peel Street, Preston, Lancashire, PR2 2QS. Tel: (01772) 561135 Fax: (01772) 204907

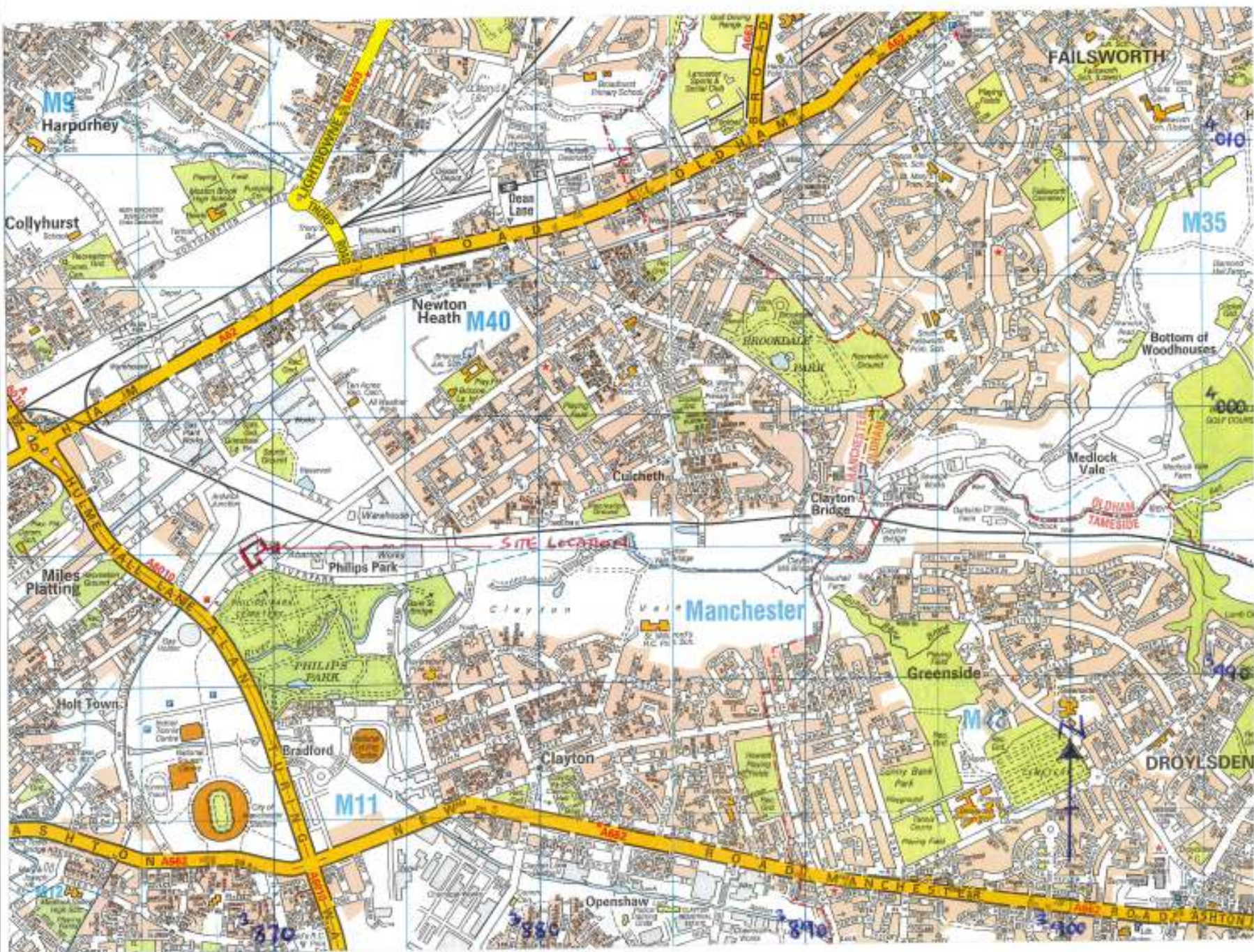
Site
 ARKADY INDUSTRIAL ESTATE, BRISCOE LANE, NEWTON HEATH, GREATER MANCHESTER

Client
 CASSEL & FLETCHER CONSTRUCTION LIMITED

Nominal Section

Date Drawn 06/10/2021	Date Checked	Sheet 1/1	Job Number 6921E
Drawn By	Checked By	Scale 1:40[V]	Figure No. 6921E.1

FIGURES



SUB SURFACE

SITE INVESTIGATION AND SPECIALIST GEOTECHNICAL CONSULTANTS
3 Peel Street, Preston, PR2 2QS. Tel: (01772) 561135. Fax: (01772) 204907

Site Location Plan

ARKADY INDUSTRIAL ESTATE, BRISCOE LANE,
NEWTON HEATH, GREATER MANCHESTER
CASSEL & FLETCHER CONSTRUCTION LIMITED

03-Apr-20

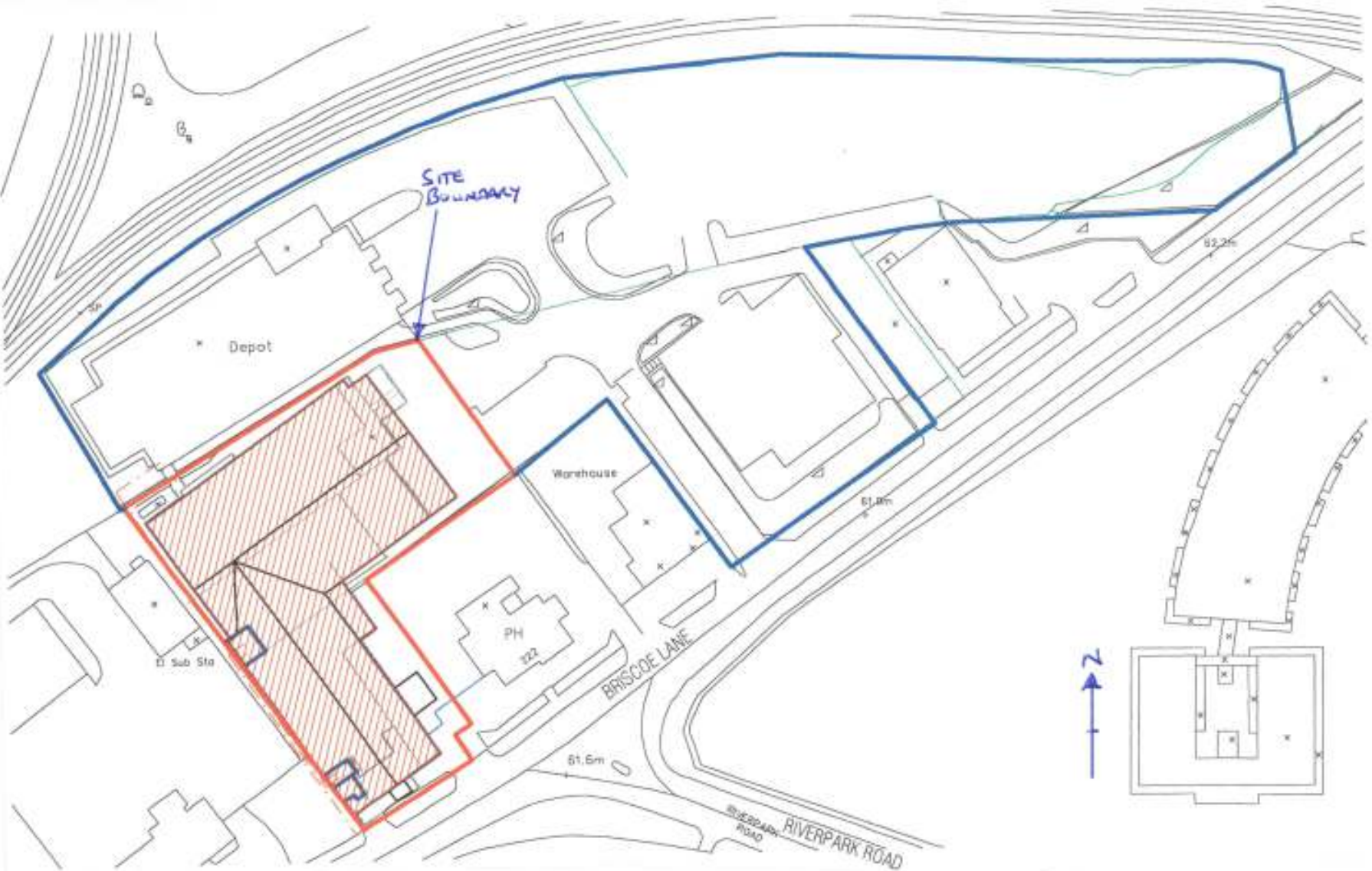
AJP

1 / 1

Scale
1:20,000

6921A

Figure No.
1



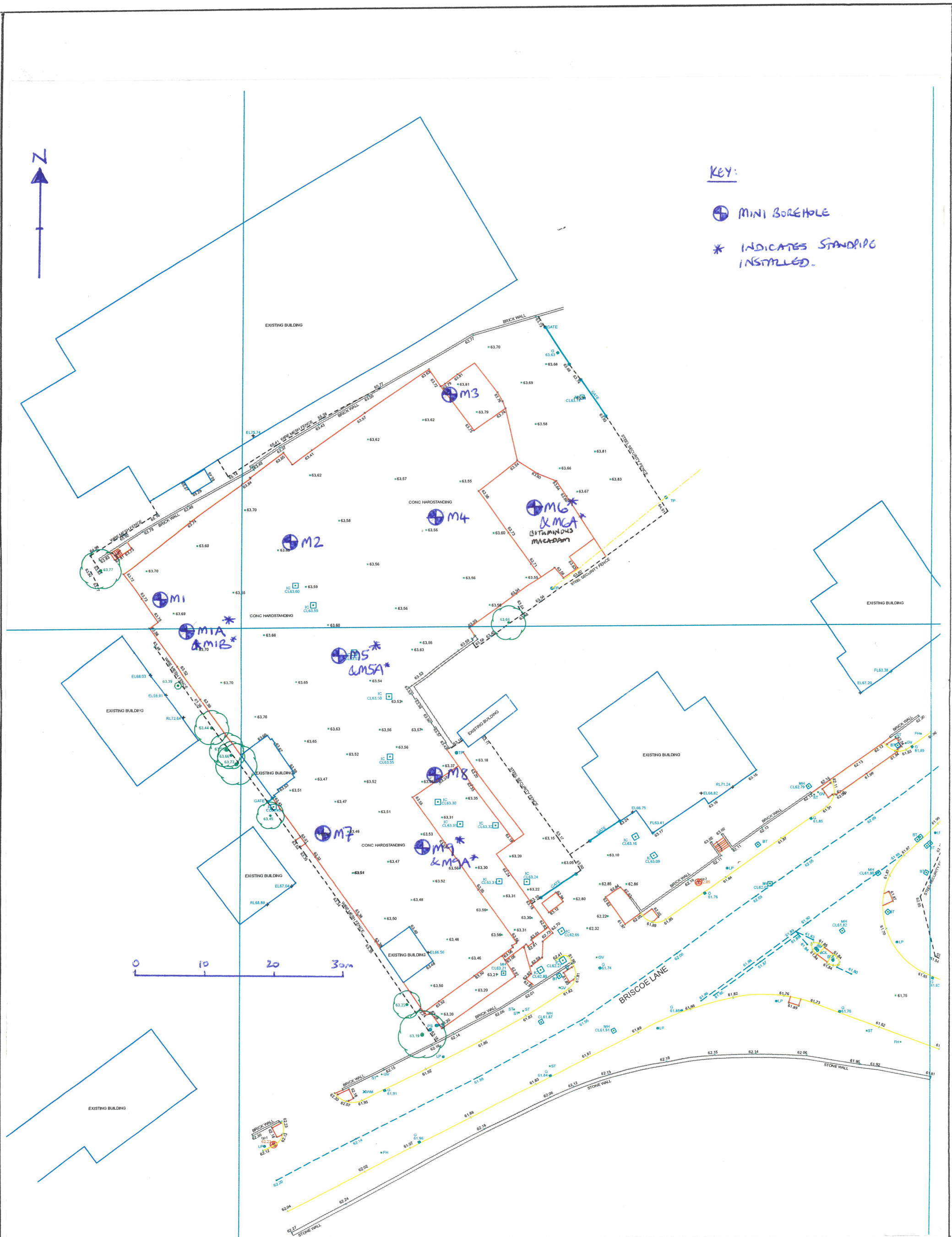
SUB SURFACE

SITE INVESTIGATION AND SPECIALIST GEOTECHNICAL CONSULTANTS
3 Pine Street, Preston, PR2 20S. Tel: (01773) 561135. Fax (01773) 206907

ARKADY INDUSTRIAL ESTATE, BRISCOE LANE,
NEWTON HEATH, GREATER MANCHESTER
CASSEL & FLETCHER CONSTRUCTION LIMITED

Proposed Development Layout Plan

036 Drawn	03-Apr-20	Date Checked	1 / 1	Job No.	6921A
Drawn by	AJP	Checked by	Scale	Figure No.	3
			1:1,250		



 SUB SURFACE SITE INVESTIGATION AND SPECIALIST GEOTECHNICAL CONSULTANTS 3 Peel Street, Preston, PR2 2QS. Tel. (01772) 561135 Fax (01772) 204907	Exploratory Hole Location Plan			
Site ARKADY INDUSTRIAL ESTATE, BRISCOE LANE, NEWTON HEATH, GREATER MANCHESTER	Date Drawn 07-Oct-21	Date Checked	Sheet 1 / 1	Job No. 6921F
Client CASSEL & FLETCHER CONSTRUCTION LIMITED	Drawn By AJP	Checked By	Scale 1:500 (at A3)	Figure No. 5