

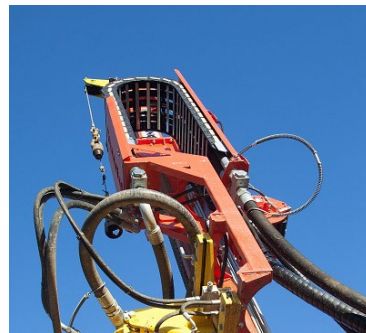


REPORT NO: D10595

**COAL MINING INVESTIGATION FOR LAND AT
OAKS LANE BUSINESS PARK, BARNSELEY**

PREPARED FOR:

METKA-EGN LIMITED



● FOUNDATION HOUSE ● ST. JOHN'S ROAD ● MEADOWFIELD ● DURHAM ● DH7 8TZ

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Contract No.	D10595
Job Name	Oaks Lane Business Park, Barnsley

REPORT REVISIONS

Revision No.	Issue Date	Details
D10595_01_00	08.02.2022	Coal Mining Investigation – Draft issue
D10595_01_01	08.02.2022	Final Issue
D10595_01_2	14.02.2022	Updated to include Mitigation Recommendations

VERIFICATION

Revision No.	Issue Date		Written By	Checked By	Verified By
D10595_01_02	14.02.2022	Initials	SG	KJ	KJ
		Signature	<i>SG</i>	<i>Kane J. J.</i>	<i>Kane J. J.</i>

OAKS LANE BUSINESS PARK, STAIRFOOT – EXECUTIVE SUMMARY

SUMMARY OF GEOTECHNICAL ISSUES

Issue	Remarks
Grid Reference	436638, 406109
Proposed Development	It is proposed to develop the existing site with an electricity storage unit comprising battery containers, transformers and a distribution network operator (DNO) compound.
Former Uses	Car park.
Present Uses	Currently under development.
Made Ground	Up to 22.50m in the area of the recorded shaft and at depths of between 3.50m and >15m bgl across the site.
Natural Ground	Firm clays overlying Oaks Rock sandstone at depths of between 1.90m and 13.20m bgl.
Mining & Quarrying	No evidence of shallow mine workings encountered. Recorded mine entry 436406-005 has been located with a diameter of 2.5m and a 16.5m diameter "no build zone" applied.
Groundwater & Excavations	Groundwater was not encountered during this investigation. During the previous investigation groundwater was recorded in a single borehole at depths of between 4.54m to 4.55m bgl. A metal obstruction was encountered in P10 at 5.00m bgl and the borehole was terminated. During the previous investigation a metal obstruction was encountered in RO5 at 6.30m bgl and the borehole was terminated. It is possible that buried obstructions lie undetected elsewhere on site.
Mitigation Recommendations	- No vehicular or pedestrian access will be allowed within the "no build zone". All operatives entering the site will be briefed as part of the health and safety plan on the location of the mine entry on site. - The "no build zone" will be demarcated using elevated curbing to prevent vehicular access. - The macadam hardstand surface will remain uncovered to allow for visual inspections to be undertaken annually and detailed within the management health and safety file. - Topographical readings will be undertaken annually to record potential surface changes within the "no build zone" and recorded within the management health and safety file. Should any significant surface changes or cracking appear the CA and a suitably qualified geotechnical engineer should be contacted for further advice.

The executive summary is intended as a synopsis only. Further detail and limitations of the assessment is provided within the main body of the Report

CONTENTS

1	INTRODUCTION.....	1
1.1	SCOPE OF INVESTIGATION.....	1
2	SITE RECONNAISSANCE.....	1
2.1	GENERAL.....	1
2.2	TOPOGRAPHY AND SITE FEATURES.....	1
3	GEOLOGICAL SETTING.....	1
3.1	INFORMATION SOURCES.....	1
3.2	GEOLOGY.....	2
3.3	MINING.....	2
4	PREVIOUS INVESTIGATION.....	2
5	SITE WORKS AND LABORATORY TESTING.....	3
5.1	SUMMARY OF INVESTIGATION.....	3
5.2	GEOTECHNICAL TESTING.....	3
6	GROUND CONDITIONS & MATERIAL PROPERTIES.....	4
6.1	GENERAL.....	4
6.2	TOPSOIL.....	4
6.3	MADE GROUND.....	4
6.4	BURIED OBSTRUCTIONS.....	4
6.5	NATURAL SOILS.....	4
6.6	ROCK HEAD.....	4
6.7	GROUNDWATER.....	4
6.8	HYDROCARBON CONTAMINATION.....	5
7	MINING.....	5
7.1	SCOPE OF MINING INVESTIGATION.....	5
7.2	RESULTS.....	5
8	CONCLUSIONS.....	6
8.1	INTRODUCTION.....	6
8.2	MINING.....	6
9	MITIGATION RECOMMENDATIONS.....	7
9.1	PROPOSED MITIGATION MEASURES.....	7

LIST OF APPENDICES**APPENDIX A - Drawings****Drawing Number Drawing Title**

D10595_01_00 Site Location Plan

D10595_02_00 Exploratory Hole Plan

UK-STF 198-11 (R10) Development Layout including development "no build zone"

APPENDIX B - Core Photographs**APPENDIX C - Exploratory Hole Records****APPENDIX D - Geotechnical Testing Results****APPENDIX E - Dunelm Conditions of Offer, Notes on Limitations & Basis for Contract**

1 INTRODUCTION

1.1 SCOPE OF INVESTIGATION

Dunelm Geotechnical and Environmental Limited (Dunelm) carried out a Geoenvironmental Appraisal of land at Oaks Lanes Business Park, Barnsley for Metka-EGN Limited.

It is proposed to develop the existing site with an electricity storage unit comprising battery containers, transformers and a distribution network operator (DNO) compound, however, the existing macadam hardstanding will remain as part of the development works.

Dunelm have previously produced a coal mining risk assessment for the area of the site designated as the DNO, Report Ref: D10595A_01_00, dated 25th January 2022. Reference should be made to this report for details of the site's coal mining risk. In addition, a Geoenvironmental Investigation was undertaken by Earth Environmental & Geotechnical, Report Ref: A3520/21/SI dated May 2021, details of this report are discussed in Section 4.

The Coal Authority (CA) issued a letter dated 19th November 2021 in response to planning application reference number 2021/1228, the CA stated that the information submitted did not satisfactorily address the risks posed by mine shaft 436406-005 and the potential risk posed to the development by past shallow coal mining activity.

The objectives of this exploratory phase of investigation were as follows:

- To determine whether past shallow coal mining may have had an influence on the site.
- To determine the location of mine shaft 436406-005 on site.

Conditions of offer and notes on limitations relevant to all Dunelm geoenvironmental investigations are described in Appendix E and should be read in conjunction with this report.

2 SITE RECONNAISSANCE

2.1 GENERAL

The centre of the site is located at OS Grid Ref. 436638, 406109. The site is situated approximately 1.1km northwest of Stairfoot, Barnsley. The site location is shown in Drawing Number D10595_01_00 in Appendix A to this report.

2.2 TOPOGRAPHY AND SITE FEATURES

The site is a relatively flat approximately rectangular parcel of land, formally used for car parking within the Oaks Lane Business Park.

The site is covered in macadam hardstanding and construction works are currently ongoing.

The site boundaries currently comprise commercial units located to the north and west of the site, with access to the site via Oaks Lane road to the south of the site. Several mature trees are present on the eastern and southern boundary of the site.

Overhead high voltage electrical cables traverse northeast to southwest within the eastern area of the site.

3 GEOLOGICAL SETTING

3.1 INFORMATION SOURCES

The geological setting of the site was determined through reference to the following:

- British Geological Survey (BGS) 1: 50,000 scale sheet No 87 Barnsley
- British Geological Survey (BGS) 1: 10,000 scale sheet SE 30 NE
- BGS Historical borehole record SE30NE8 (Barnsley Main Colliery)
- Coal Mining Report from David Bellis Associates (based on data obtained from the Coal Authority)
- GeoEnvironmental Investigation for Stairfoot, Barnsley produced by Earth Environmental and Geotechnical dated May 2021 (Report ref A3520/21/SI)

3.2 GEOLOGY

No drift deposits were shown on the geological plan, however, made ground is recorded on the geological plan.

The solid geology underlying the site comprises the Oaks Rock sandstone of the Middle Coal Measures strata of the Upper Carboniferous Period. The Oaks rock has a recorded thickness up to 56m.

The closest seam shown to the site on the geological plans is the Newhill seam which is located to the northwest of the site and dips to the southeast beneath the site. The Newhill seam is shown as a discontinuous seam and has a thickness ranging from 0.0m to 3.0m. In view of the distance of the seam from the site and using the vertical section on the 1:10,000 geological plan this seam is considered to lie at depths of around 70m bgl.

3.3 MINING

The mining report indicates that the site is underlain by known workings in eight seams, the shallowest being the Abdy or Winter seam at a depth of 151m bgl with a recorded thickness of 1.68m.

Based on the mining report and the geological plans of the area, the Newhill seam is considered to be the shallowest seam beneath the site. This seam is estimated to lie at depths of around 70m bgl.

No further seams are shown in the vicinity of the site and there are no recorded workings within 150m from ground level.

The CA has designated the mine shaft on site as 436406-005 (grid reference 436628, 406089), the shaft has an assumed diameter of 2.5m with a departure distance of 5m. The CA have no recorded treatment for the shaft.

4 PREVIOUS INVESTIGATION

Dunelm have examined the following reports:

Earth Environmental & Geotechnical Ltd (EEG), Phase II Geoenviromental Investigation Stairfoot, Barnsley (A3520/21/SI), dated 13th May 2021 on behalf of Noriker Power Ltd. It is understood that EEG have undertaken two Phase 1 Geoenviromental Desk Studies A3520/20, dated June 2020 and A3891/21, dated February 2021, Dunelm did not have access to these reports, however, they are summarised within report A3520/21/SI.

A summary of the works undertaken is shown in the Table below together with the main findings.

Item	Scope of works	Main findings
Review of desk study information	Historical plans	Significant points: The site was historically used for the storage of colliery spoil, with a road present in the south of the site.
Window sample boreholes	Total number: Five (WS01 to WS05) Depths: 2.00m to 5.00m bgl.	Made ground: Macadam hardstanding from ground level to 0.07m to 0.10m bgl. Granular made ground from 0.07m to >5.00m bgl. Natural ground: Suspected sandstone rockhead between 1.90 to

		2.00m bgl.
Rotary openhole boreholes	Total number: Six (RO1 to RO6) Depths: 6.30m to 22.5m bgl	Made ground: Granular made ground between ground level to >22.50m bgl. Natural ground: Sandstone rockhead at depths of between 7.20m to 8.40m bgl.
Monitoring wells	Number: 5 In WS01 to WS05	Response zones in: Made ground.
Groundwater	Fieldworks and monitoring	Groundwater was encountered in WS05 at 4.00m bgl. Post fieldwork groundwater levels were recorded at between 4.54m to 4.55m bgl in WS05.
Gas Monitoring	Monitoring period: Only 2 visits recorded within the report. Atmospheric pressure range: 1018mb to 1021mb.	Max. CO ₂ value: 5.3% Max. methane value: No methane recorded. Max gas flow: No gas flows recorded.
Geotechnical testing	PH and Water-soluble sulphate	The water-soluble sulphate content of four Made Ground samples ranged from 300 - 430mg/l SO ₄ , with a pH value of 6.9 - 7.2.
Chemical testing	Metals Suite Total petroleum hydrocarbons MTBE Polycyclic aromatic hydrocarbons Phenols	Five samples of made ground were tested. Of those samples tested no contaminants exceeded the assessment criteria relevant to a commercial end use.

The EEG report concluded:

- **Soil contamination** - the site was moderate risk which could be managed utilising appropriate PPE and site health plans, no remedial action was considered necessary.
- **Hazardous Gas** – the risk is negligible to very low and protection against the ingress of ground gas will not be required, however, it should be noted this was based on only 2 monitoring visits.
- **Buried Water Services** – standard materials should be acceptable for new pipes
- **Coal Mining Regime** – Depending on the final site layout it may be necessary to treat the mine shaft. Alternatively, it could be possible to incorporate a building structure standoff from the mineshaft. The standoff should be approximately 15m in diameter and is dependant on the depth to rockhead.

5 SITE WORKS AND LABORATORY TESTING

5.1 SUMMARY OF INVESTIGATION

The exploratory holes listed below were advanced between 11th to 18th January 2022. Records for each of the exploratory holes noted are included in Appendix C and the locations are shown on Drawing Number D10595_02_00 in Appendix A.

- Rotary probeholes P01 to P12
- Rotary openhole boreholes RBH01, RBH02, RBH03, RBH04, RBH07, RBH08 (coring undertaken in RHB01 and RBH02)

5.2 GEOTECHNICAL TESTING

Samples of natural rock were delivered to a geotechnical laboratory with a schedule of testing drawn up by Dunelm. The geotechnical laboratory test results are presented in Appendix D to this report. Material

properties assessed using the results are considered further in the following Section.

6 GROUND CONDITIONS & MATERIAL PROPERTIES

6.1 GENERAL

Strata encountered were generally similar beneath all parts of the site. Ground conditions are described in the following sections.

6.2 TOPSOIL

Topsoil was not encountered during this investigation.

6.3 MADE GROUND

Macadam hardstanding is present across the site with a recorded thickness of 0.10m, underlain by a granular made ground to depths of between 3.5m to >15.0m bgl. The previous investigated recorded made ground to a depth of at least 22.50m bgl in the vicinity of the recorded mine shaft.

6.4 BURIED OBSTRUCTIONS

A metal obstruction was encountered in P10 at 5.00m bgl and the borehole was terminated. During the previous investigation a metal obstruction was encountered in RO5 at 6.30m bgl and the borehole was terminated.

It is possible that buried obstructions lie undetected elsewhere on site.

6.5 NATURAL SOILS

Natural cohesive soils were encountered in RBH01 at depths of between 3.50m to 8.00m bgl and in RBH02 at depths of between 11.0m to 13.20m bgl.

6.6 ROCK HEAD

Sandstone and mudstone rock was encountered in both the probeholes and rotary boreholes at depths of between 3.50m and 13.20m bgl across the site. The previous investigation encountered suspected sandstone rockhead between 1.90m and 2.00m bgl within the window sample boreholes and between 7.20m bgl and 8.40m bgl in the rotary boreholes.

Point load strength index, $I_{s(50)}$ were undertaken from 14 samples of sandstone. These results can be converted to equivalent uniaxial compressive strengths by multiplying the $I_{s(50)}$ value by a factor of 24 for the sandstone. The results are present below:

Stratum	$I_{s(50)}$ (MPa) Lowest	$I_{s(50)}$ (MPa) Highest	$I_{s(50)}$ (MPa) Average	Average Uniaxial Compressive Strength (MPa)
Bedrock (Sandstone)	0.09	0.26	0.18	4.25

The laboratory results confirm that the sandstone would be classified as very weak rock based on the values published in BS5930-2015+A1 - 2020. The values are consistent with published values for Carboniferous Middle Coal Measures.

6.7 GROUNDWATER

Groundwater was not encountered during this investigation. During the previous investigation groundwater was recorded in a single borehole at depths of between 4.54m to 4.55m bgl.

6.8 HYDROCARBON CONTAMINATION

No visual or olfactory evidence of hydrocarbon contamination was noted during the investigation.

7 MINING

7.1 SCOPE OF MINING INVESTIGATION

The mining report indicates that the site is underlain by known workings in eight seams, the shallowest being the Abdy or Winter seam at a depth of 151m bgl. The mining report indicates there are possible ancient shallow coal mining workings within the likely zone of influence. In addition, the CA advised that additional investigation should be undertaken to definitively prove the shallow coal mining situation. Therefore, six rotary boreholes were advanced at the site.

The mining report indicates that there is a recorded mine entry 436406-005 recorded on site with an assumed diameter of 2.5m and a departure distance of 5m. The EEG report concluded that either treatment or a 15m standoff would be adequate to mitigate the risk of the mine entry depending upon the development layout, however, it was recommended that further works be undertaken to further delineate the location of the mineshaft in context of the development layout. Therefore, twelve rotary probeholes were advanced to delineate the mine entry.

The results of the mining investigation are discussed below.

7.2 RESULTS

The strata encountered in the rotary probeholes in the area of the recorded mine entry are shown in the table below.

PH	Depth to Rockhead (m)	Borehole Depth (m)	Remarks
P01	-	15.00	Probehole located within the shaft
P02	12.00	14.00	Probehole located on the eastern face of the shaft.
P03	-	15.00	Probehole located within the shaft.
P04	-	15.00	Probehole located within the shaft.
P05	4.50	6.00	Probehole located on the western face of the shaft.
P06	-	9.00	Probehole located within the shaft.
P07	7.00	13.5	Probehole located on the southern face of the shaft.
P08	-	9.00	Probehole located within the shaft.
P09	-	9.00	Probehole located within the shaft.
P10	-	5.00	Metal obstruction at 5.00m bgl, borehole terminated.
P11	9.00	11.00	Probehole located on the northern face of the shaft.
P12	4.00	12.00	Probehole located to the north of the shaft.

The rotary probeholes were undertaken at half meter centres from the CA's recorded shaft location. The twelve probeholes have satisfactorily located the northern, southern, eastern and western boundaries of the shaft with the approximate centre point located in the vicinity of P08 (grid reference 436628.300, 406086.4). The shaft diameter was recorded to be 2.5m, and within 5m departure distance as recorded by the CA. No evidence of a cap, stabilisation or treatment were evident during the probing. The mine entry was backfilled with granular made ground. Given the findings of the mine shaft probing the client has reconfigured the development layout. The updated development layout excludes any development in the area of the mine shaft taking into consideration the depth of rockhead and the diameter of the shaft. A "no build zone" with a diameter of 16.5m this has been calculated using depth to rock head of 7m and 45degree angle. The "no build zone" is illustrated on METKA-EGN Ltd Drawing No. UK-STF 198-11 Revision R10 presented in Appendix A.

Borehole Reference	Depth to Rockhead /m	Depth to Coal /m	Thickness of Coal /mm	Depth of Borehole (m)	Remarks
RBH01	8.00	-	-	30	No coal seam encountered.
RBH02	13.20	-	-	18	No coal seam encountered.
RBH03	9.50	-	-	32	No coal seam encountered.
RBH04	4.50	-	-	30	No coal seam encountered.
RBH07	8.50	-	-	30	No coal seam encountered.
RBH08	6.30	-	-	30	No coal seam encountered.

Six rotary boreholes were advanced across the site to establish if possible shallow coal mine workings are present beneath site. Rotary coring was undertaken within RBH01 between 10.20m and 15.20m and in RBH02 between 13.70m and 17.00m bgl. The coring confirmed the Oaks Rock sandstone to be variable strength and highly fractured which created loss of water flush during the drilling. Geotechnical point load testing confirmed the Oaks Rock sandstone to be very weak.

No coal seams were encountered during the drilling. Based on the mining report and the geological plans of the area, the Newhill seam is considered to be the shallowest seam beneath the site. This seam is estimated to lie at depths of around 70m bgl.

The implications of the above findings are discussed in Section 8 of this report.

8 CONCLUSIONS

8.1 INTRODUCTION

It is proposed to develop the existing site with an electricity storage unit comprising battery containers, transformers and a distribution network operator (DNO) compound.

Ground conditions encountered during this investigation comprised made ground at depths of between 3.50m and >15m bgl, in the area of the shaft, with rockhead generally at a depth of <9m bgl. The underlying natural ground consisted of clay to depths of between 8.00m and 13.20m bgl, where encountered.

Oaks Rock sandstone was encountered at depths of across the site at depths of between 3.50m and 13.20m bgl. The previous investigation encountered suspected sandstone rockhead between 1.90m and 2.00m bgl within the window sample boreholes and between 7.20m bgl and 8.40m bgl in the rotary boreholes.

8.2 MINING

Five rotary boreholes were drilled to at least 30m bgl, no evidence has been found to indicate that the site is underlain by coal workings at shallow depth. Based on the mining report and the geological plans of the area, the Newhill seam is considered to be the shallowest seam beneath the site. This seam is estimated to lie at depths of around 70m bgl.

Mine entry 436406-005 has been located during this investigation with a recorded diameter of 2.5m, in line with current guidance, it is recommended that no construction take place over the mine shaft. The foundations of new structures should be taken below a line drawn at 45° from the intersection of a shaft with rockhead. Taking into consideration the depth of rockhead (~7m) and the diameter of the shaft a “no build zone” with a diameter of 16.5m has been determined and development layout reconfigured. The “no build zone” has taken into consideration that the development will require limited manned maintenance and has no public access, however, approval from the Coal Authority and regulatory authorities will be required.

9 MITIGATION RECOMMENDATIONS

9.1 PROPOSED MITIGATION MEASURES

The proposed development has been reconfigured determined on the location of the recorded mine entry 436406-005 and a “no build zone” been implemented. The depth of mine entry is not known but considered to be more than 500m bgl based on the treated mine entries in the vicinity of the site. The site was formally used as a car park and the surface comprises a macadam hard standing. As part of the development works the site surface will remain unchanged, however, the following mitigation measures should be undertaken to monitor the shaft location within the development:

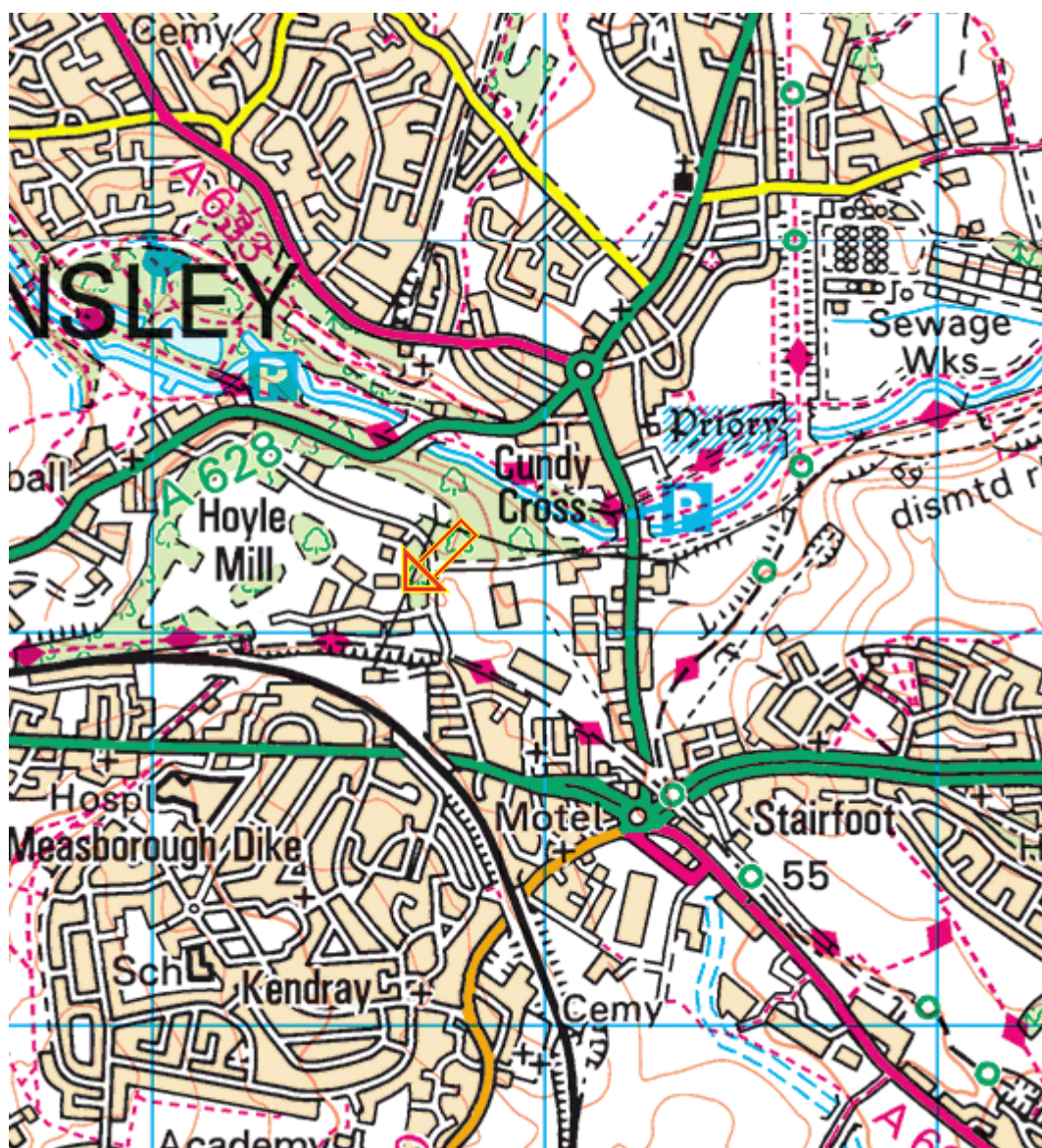
- No vehicular or pedestrian access will be allowed within the “no build zone”. All operatives entering the site will be briefed as part of the health and safety plan on the location of the mine entry on site.
- The “no build zone” will be demarcated using elevated curbing to prevent vehicular access.
- The macadam hardstand surface will remain uncovered to allow for visual inspections to be undertaken annually and detailed within the management health and safety file.
- Topographical readings will be undertaken annually to record potential surface changes within the “no build zone” and recorded within the management health and safety file.

Should any significant surface changes or cracking appear the CA and a suitability qualified geotechnical engineer should be contacted for further advice.

Appendix A

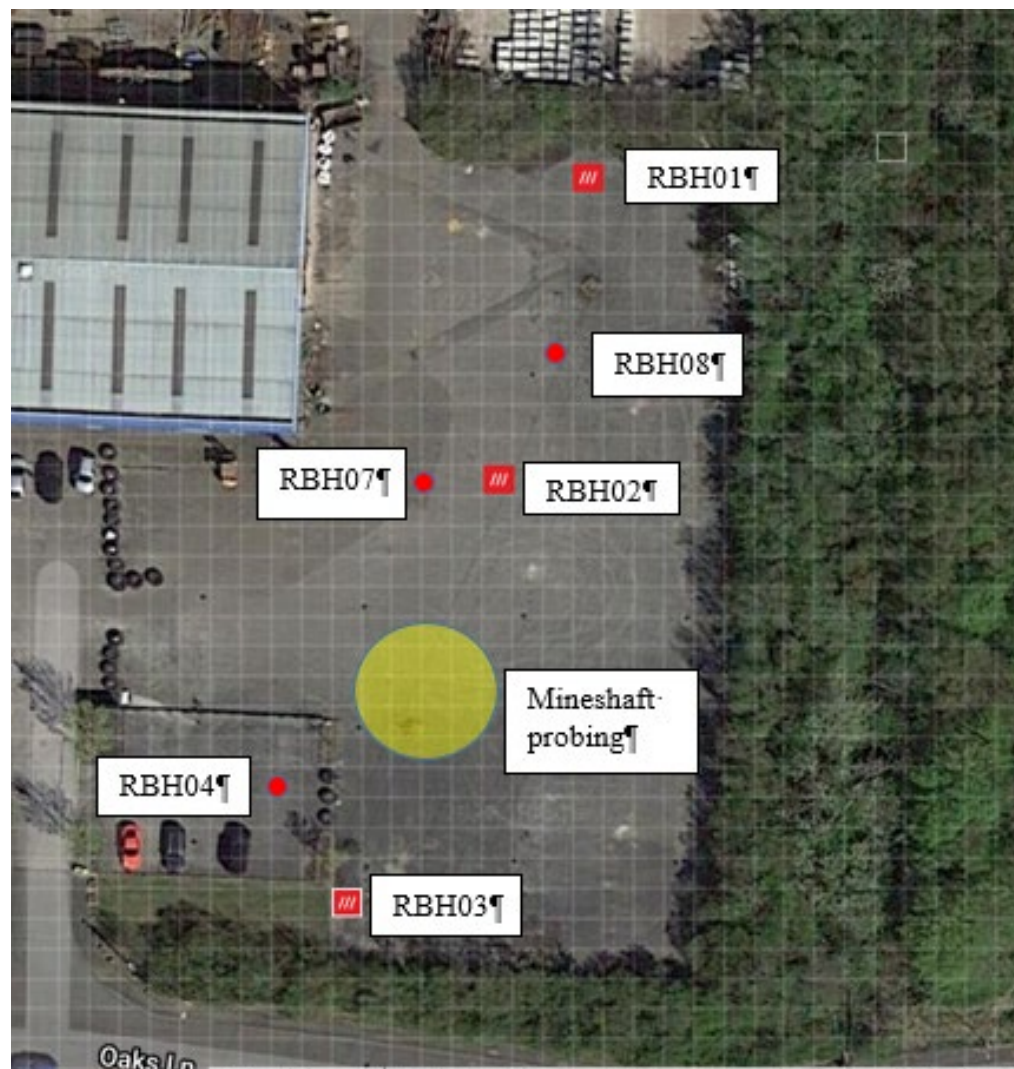
Drawings





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	Contract: Oaks Lane Business Park, Barnsley			Contract No: D10595
	Client: METKA-EGN LTD			
TEL: 0191 378 3151	Drawing Title: Site Location Plan			
Drawing & Revision No: DUN_D10595_01_00	Date: February 2022	Scale: NTS	Status: Final	Drawn by: SG



	Contract: Oaks Lane Business Park, Barnsley	Contract No.:D10595	
TEL: 0191 378 3151	Drawing Title: Exploratory Hole Location Plan		Client: METKA_EGN LTD
Drawing & Revision No: DUN_D10595_02_00	Date: February 2022	Scale: NTS	Drawn by: SG

Appendix B
Core Photographs



Photographs



Photographs



Appendix C
Exploratory Hole Records



INFORMATION GENERALLY RELATING TO ALL EXPLORATORY HOLE RECORDS

GENERAL

Borehole/Trial Pit No

The exploratory hole identity number used throughout the report.

Site

The ground investigation project name.

Client

Client's name responsible for funding the ground investigation project.

Ground Level and Location

The precise ground level in meters above Ordnance Datum at the exploratory hole location from which the reduced level for each stratigraphic boundary is calculated. The exploratory hole position is given as either national grid-coordinates or local grid as specified.

ABBREVIATIONS

Samples

B	Bulk disturbed sample generally representative of the soil type for cohesive and fine granular soils.
BRE	Sample taken for electrochemical testing
C	Core soil samples
CEF	CEFAS Sample
D	Small disturbed tub sample normally taken at intermediate depth between other sampling or testing operations. The sample is stored in an airtight container.
ES	Sample of potentially contaminated materials.
P	Piston Sample
PF	An attempted but failed piston sample
U	100mm diameter undisturbed thick-walled sample (OS-TK/W)
UT	100mm diameter undisturbed thin walled sample (OS-T/W)
UF/UTF	An attempted but failed 100mm undisturbed sample.
W	Water sample.
EW	Water sample for contamination testing

In-situ Testing

CBR	California Bearing Ratio mould sample or test.
SPT	Standard Penetration Test (SPT) using the split barrel sampler (S) or solid cone (C). The corresponding 'N' value is given in the test result column.
SWPen	Self-Weight Penetration
PID	On Site Volatile Headspace Testing by Photo Ionisation Detector
pp	Pocket Penetrometer, report unit: kPa
HVP	Hand Shear Vane test

Rock Quality and Core Recovery

TCR	Total core recovery - The length of the recovered core expressed as a percentage of the length of core run.
SCR	Solid Core Recovery - The sum length of all core pieces (measured along the centre of the core), expressed as a percentage of the length of core run.
RQD	Rock Quality Designation- The sum length of all core pieces that are 100mm or longer (measured along the centre of the core), expressed as a percentage of the length of core run.
FI	Fracture Index- The number of fractures per 1000mm length of solid core.
NI	Non-intact- The material recovered in a non-intact state.
NR	No recovery from the core run.
AZCL	Assessed Zone of Core Loss.

Cobble Content

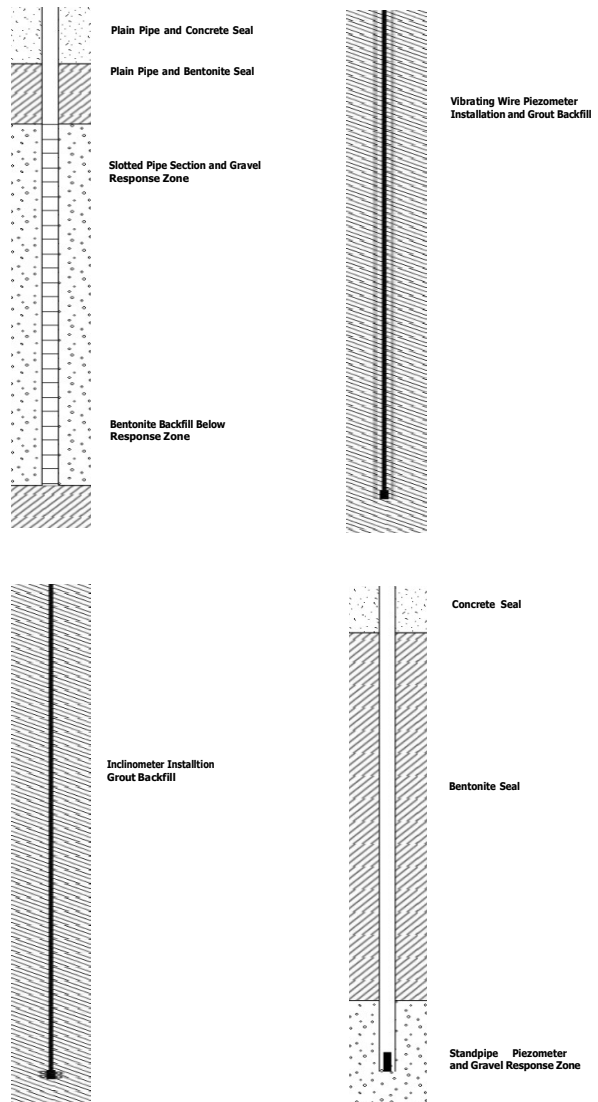
Low <10%, medium 10 – 20%, high >20%

Exploratory Hole Log Legend

BOREHOLE LEGEND:

TOPSOIL	
MADE GROUND	
SILT	
CLAY	
SAND	
GRAVEL	
PEAT	
MUDSTONE	
SILTSTONE	
SANDSTONE	
LIMESTONE	
COAL	
CHALK	
BENTONITE	
GROUT	
ARISINGS	
COBBLES and BOULDERS	

Monitoring Installation Legend:

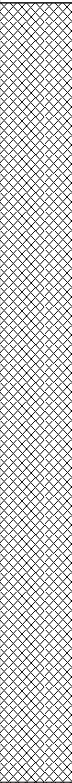


NB Where strata consists of material of more than one soil or rock type the legends are appropriately combined.



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				BOREHOLE RECORD										Borehole P01					
Contract No: D10595					Site: Oaks Lane Business Park, Barnsley										GL (m AOD) 67.32 Easting: 436628.80 Scale 1:50 Northing: 406085.90				
Client: METKA_EGN LIMITED										Driller: DC		Logged By: DC		Sheet 1 of 2					
Method: Rotary Open Hole										Checked By: SG		Dates: 06/01/2022							
SAMPLE DETAILS										(Casing) Groundwater		STRATA RECORD Description				Depth (m)	Level (m AOD)	Legend	Well/ Backfill
Type	Depth From-To (m)	N (cu)	TCR %	SCR %	RQD %	FI													
								0.00 - 6.00 100 % Water	MADE GROUND. (Drillers Description).										
							1												
							2												
							3												
							4												
							5												
							6	6.00 - 15.00 0 % Water											
							7												
							8												
							9												
									Continued on next sheet										
Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks							
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)	1. Hand dug inspection pit to 1.20m. 2. No groundwater encountered.							
										125	15.00								
Log last updated 08/02/2022																			

				BOREHOLE RECORD										Borehole P01					
Contract No: D10595						Site: Oaks Lane Business Park, Barnsley										GL (m AOD) 67.32 Easting: 436628.80 Scale 1:50 Northing: 406085.90			
Client: METKA_EGN LIMITED										Driller: DC		Logged By: DC		Sheet 2 of 2					
Method: Rotary Open Hole										Checked By: SG		Dates: 06/01/2022							
SAMPLE DETAILS								(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill						
Type	Depth From-To (m)	N (cu)	TCR %	SCR %	RQD %	FI													
							10	MADE GROUND. (Drillers Description).											
							11												
							12												
							13												
							14												
							1506/01/2022 1700 (0.00) Dry												
							16												
							17												
							18												
							19												
								End of Borehole at 15.00 m	15.00	52.32									
Ground Water (m)								Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks				
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)								
										125	15.00								
Log last updated 08/02/2022															1. Hand dug inspection pit to 1.20m. 2. No groundwater encountered.				

				BOREHOLE RECORD										Borehole P02					
Contract No: D10595						Site: Oaks Lane Business Park, Barnsley										GL (m AOD) 67.31 Easting: 436629.32 Scale 1:50 Northing: 406086.00			
Client: METKA_EGN LIMITED										Driller: DC		Logged By: DC		Sheet 1 of 2					
Method: Rotary Open Hole										Checked By: SG		Dates: 06/01/2022							
SAMPLE DETAILS								(Casing) Groundwater		STRATA RECORD Description						Depth (m)	Level (m AOD)	Legend	Well/ Backfill
Type	Depth From-To (m)	N (cu)	TCR %	SCR %	RQD %	FI													
								0.00 - 6.00 100 % Water	MADE GROUND. (Drillers Description).										
							1												
							2												
							3												
							4												
							5												
							6	6.00 - 14.00 0 % Water											
							7												
							8												
							9												
										Continued on next sheet									
Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks							
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)	1. Hand dug inspection pit to 1.20m. 2. No groundwater encountered.							
										125	14.00								
Log last updated 08/02/2022																			

				BOREHOLE RECORD										Borehole P02					
Contract No: D10595						Site: Oaks Lane Business Park, Barnsley										GL (m AOD) 67.31 Easting: 436629.32 Scale 1:50 Northing: 406086.00			
Client: METKA_EGN LIMITED										Driller: DC		Logged By: DC		Sheet 2 of 2					
Method: Rotary Open Hole										Checked By: SG		Dates: 06/01/2022							
SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill							
Type	Depth From-To (m)	N (cu)	TCR %	SCR %	RQD %	FI													
							10	MADE GROUND. (Drillers Description).											
							11												
							12	Solid drilling. (Drillers Description).	12.00	55.31									
							13		(2.00)										
							1406/01/2022 1700 (0.00) Dry	End of Borehole at 14.00 m	14.00	53.31									
							15												
							16												
							17												
							18												
							19												
Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks							
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)								
										125	14.00	1. Hand dug inspection pit to 1.20m. 2. No groundwater encountered.							
Log last updated 08/02/2022																			

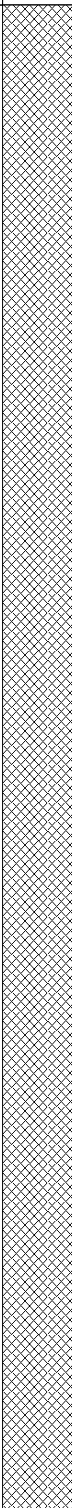
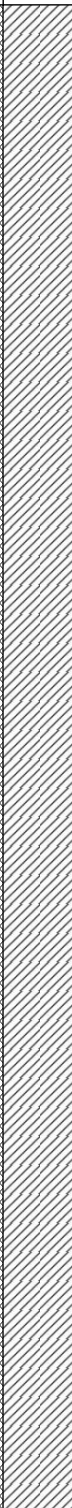


Borehole P03

GL (m AOD)	Scale 1:50
67.35	
Easting:	Northing:
436627.90	406086.00

Sheet 1 of 2

Dates:	06/01/2022
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SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill
Type	Depth From-To (m)	N (cu)	TCR %	SCR %	RQD %	FI						
							0.00 - 4.00 100 % Water	MADE GROUND. (Drillers Description).				
						1						
						2						
						3						
						4	4.00 - 15.00 0 % Water					
						5						
						6						
						7						
						8						
						9						
								Continued on next sheet				

Continued on next sheet.

Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)	
										125	15.00	
Log last updated 08/02/2022												



**Borehole
P03**

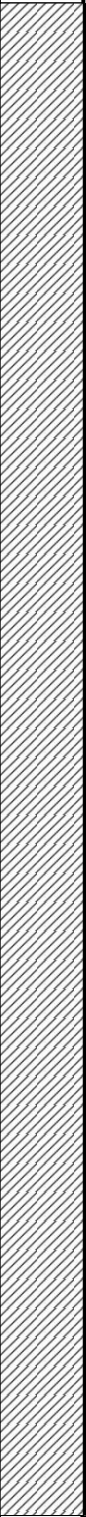
GL (m AOD)	Scale 1:50
67.35	
Easting:	Northing:
436627.90	406086.00

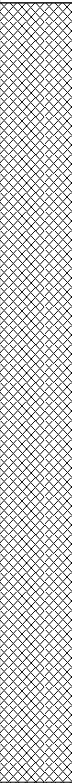
Sheet 2 of 2

Dates:	06/01/2022
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[illegible]

Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)	
										125	15.00	1. Hand dug inspection pit to 1.20m. 2. No groundwater encountered.
Log last updated 08/02/2022												

				BOREHOLE RECORD										Borehole P04					
Contract No: D10595						Site: Oaks Lane Business Park, Barnsley										GL (m AOD) 67.36 Easting: 436627.42 Scale 1:50 Northing: 406086.00			
Client: METKA_EGN LIMITED										Driller: DC		Logged By: DC		Sheet 1 of 2					
Method: Rotary Open Hole										Checked By: SG		Dates: 06/01/2022							
SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description						Depth (m)	Level (m AOD)	Legend	Well/ Backfill		
Type	Depth From-To (m)	N (cu)	TCR %	SCR %	RQD %	FI													
							0.00 - 4.00 100 % Water	MADE GROUND. (Drillers Description).											
							1												
							2												
							3												
							4							4.00 - 15.00 0 % Water					
							5												
							6												
							7												
							8												
							9												
								Continued on next sheet											
Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks							
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)	1. Hand dug inspection pit to 1.20m. 2. No groundwater encountered.							
										125	15.00								
Log last updated 08/02/2022																			

				BOREHOLE RECORD								Borehole P04					
Contract No: D10595				Site: Oaks Lane Business Park, Barnsley								GL (m AOD) 67.36 Easting: 436627.42 Scale 1:50 Northing: 406086.00					
Client: METKA_EGN LIMITED								Driller: DC		Logged By: DC		Sheet 2 of 2					
Method: Rotary Open Hole								Checked By: SG		Dates: 06/01/2022							
SAMPLE DETAILS								(Casing) Groundwater	STRATA RECORD Description				Depth (m)	Level (m AOD)	Legend	Well/ Backfill	
Type	Depth From-To (m)	N (cu)	TCR %	SCR %	RQD %	FI											
							10	MADE GROUND. (Drillers Description).									
							11										
							12										
							13										
							14										
							1506/01/2022 1700 (0.00) Dry	End of Borehole at 15.00 m				15.00	52.36				
							16										
							17										
							18										
							19										
Ground Water (m)								Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks		
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)						
										125	15.00						
Log last updated 08/02/2022																	



**Borehole
P05**

GL (m AOD)	Scale 1:50
67.38	
Easting:	Northing:
436626.88	406086.00

Sheet 1 of 1

Dates:	07/01/2022
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SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill
Type	Depth From-To (m)	N (cu)	TCR %	SCR %	RQD %	FI						
							0.00 - 4.50 100 % Water	MADE GROUND. (Drillers Description).	<			

Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)	
										125	6.00	1. Hand dug inspection pit to 1.20m. 2. No groundwater encountered.
Log last updated 08/02/2022												

				BOREHOLE RECORD										Borehole P06																							
Contract No: D10595					Site: Oaks Lane Business Park, Barnsley										GL (m AOD) 67.35 Easting: 436628.10 Scale 1:50 Northing: 406085.44																						
Client: METKA_EGN LIMITED										Driller: DC		Logged By: DC		Sheet 1 of 1																							
Method: Rotary Open Hole										Checked By: SG		Dates: 07/01/2022																									
SAMPLE DETAILS										STRATA RECORD										Depth				Level		Legend		Well/Backfill									
Type		Depth From-To (m)		N (cu)		TCR %		SCR %		RQD %		FI		(Casing) Groundwater		Description										Depth (m)		Level (m AOD)									
														0.00 - 5.40 100 % Water		MADE GROUND. (Drillers Description).																					
														1																							
														2																							
														3												(5.40)											
														4																							
														5																							
														5.40 - 9.00 0 % Water		Solid drilling. (Drillers Description).										5.40		61.95									
														6												(0.80)											
														7		MADE GROUND. (Drillers Description).										6.20		61.15									
														8												(2.80)											
														9		07/01/2022 1700 (0.00) Dry										9.00		58.35									
Ground Water (m)					Chiselling / Hard Strata					Casing Depths					Hole Diameter					General Remarks																	
Depth Struck (m)		Casing Depth (m)		Water Level		Minutes		Water sealed (m)		From (m)		To (m)		Time (hr)		Diameter (mm)		Depth (m)		Diameter (mm)		Depth (m)		1. Hand dug inspection pit to 1.20m. 2. No groundwater encountered.													
																				125		9.00															
Log last updated 08/02/2022																																					

				BOREHOLE RECORD										Borehole P07					
Contract No: D10595						Site: Oaks Lane Business Park, Barnsley										GL (m AOD) 67.38 Easting: 436628.14 Scale 1:50 Northing: 406084.90			
Client: METKA_EGN LIMITED										Driller: DC		Logged By: DC		Sheet 1 of 2					
Method: Rotary Open Hole										Checked By: SG		Dates: 07/01/2022							
SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill							
Type	Depth From-To (m)	N (cu)	TCR %	SCR %	RQD %	FI													
							0.00 - 7.00 100 % Water	MADE GROUND. (Drillers Description).											
							1												
							2												
							3												
							4												
							5												
							6												
							7	7.00 - 13.50 0 % Water	Fractured rock. (Drillers Description).	7.00	60.38								
							8												
							9												
Continued on next sheet																			
Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks							
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)								
										125	13.50								
Log last updated 08/02/2022												1. Hand dug inspection pit to 1.20m. 2. No groundwater encountered.							

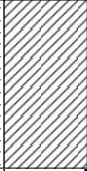
				BOREHOLE RECORD										Borehole P07					
Contract No: D10595						Site: Oaks Lane Business Park, Barnsley										GL (m AOD) 67.38 Easting: 436628.14 Scale 1:50 Northing: 406084.90			
Client: METKA_EGN LIMITED										Driller: DC		Logged By: DC		Sheet 2 of 2					
Method: Rotary Open Hole										Checked By: SG		Dates: 07/01/2022							
SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description				Depth (m)	Level (m AOD)	Legend	Well/ Backfill				
Type	Depth From-To (m)	N (cu)	TCR %	SCR %	RQD %	FI													
							10	Fractured rock. (Drillers Description).											
							11												
							11.50	Solid drilling. (Drillers Description).				55.88							
							12												
							12					(2.00)							
							13												
							07/01/2022 1700 (0.00) Dry	End of Borehole at 13.50 m				13.50	53.88						
							14												
							15												
							16												
							17												
							18												
							19												
Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks							
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)	1. Hand dug inspection pit to 1.20m. 2. No groundwater encountered.							
										125	13.50								
Log last updated 08/02/2022																			

				BOREHOLE RECORD								Borehole P08			
Contract No: D10595				Site: Oaks Lane Business Park, Barnsley								GL (m AOD) 67.33 Easting: 436628.30 Scale 1:50 Northing: 406086.40			
Client: METKA_EGN LIMITED								Driller: DC		Logged By: DC		Sheet 1 of 1			
Method: Rotary Open Hole								Checked By: SG		Dates: 07/01/2022					
SAMPLE DETAILS								(Casing) Groundwater		STRATA RECORD Description		Depth (m)	Level (m AOD)	Legend	Well/ Backfill
Type	Depth From-To (m)	N (cu)	TCR %	SCR %	RQD %	FI									
								0.00 - 9.00 100 % Water	MADE GROUND. (Drillers Description).						
								1							
								2							
								3							
								4							
								5							
								6							
								7							
								8							
								9	07/01/2022 1700 (0.00) Dry	End of Borehole at 9.00 m	9.00	58.33			
Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks			
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)	1. Hand dug inspection pit to 1.20m. 2. No groundwater encountered.			
										125	9.00				
Log last updated 08/02/2022															

				BOREHOLE RECORD										Borehole P09							
Contract No: D10595					Site: Oaks Lane Business Park, Barnsley										GL (m AOD) 67.36 Easting: 436628.40 Scale 1:50 Northing: 406086.86						
Client: METKA_EGN LIMITED										Driller: DC		Logged By: DC		Sheet 1 of 1							
Method: Rotary Open Hole										Checked By: SG		Dates: 07/01/2022									
SAMPLE DETAILS										(Casing) Groundwater		STRATA RECORD Description				Depth (m)	Level (m AOD)	Legend	Well/ Backfill		
Type	Depth From-To (m)	N (cu)	TCR %	SCR %	RQD %	FI															
								0.00 - 9.00 100 % Water	MADE GROUND. (Drillers Description).												
								1													
								2													
								3													
								4													
								5													
								6													
								7													
								8													
								9	07/01/2022 1700 (0.00) Dry	End of Borehole at 9.00 m				9.00	58.36						
Ground Water (m)										Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks 1. Hand dug inspection pit to 1.20m. 2. No groundwater encountered.				
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)										
										125	9.00										
Log last updated 08/02/2022																					

				BOREHOLE RECORD										Borehole P10					
Contract No: D10595						Site: Oaks Lane Business Park, Barnsley										GL (m AOD) 67.36 Easting: 436628.38 Scale 1:50 Northing: 406087.40			
Client: METKA_EGN LIMITED										Driller: DC		Logged By: DC		Sheet 1 of 1					
Method: Rotary Open Hole										Checked By: SG		Dates: 07/01/2022							
SAMPLE DETAILS										(Casing) Groundwater		STRATA RECORD Description				Depth (m)	Level (m AOD)	Legend	Well/ Backfill
Type	Depth From-To (m)	N (cu)	TCR %	SCR %	RQD %	FI													
							0.00 - 5.00 100 % Water	MADE GROUND. (Drillers Description).											
							1												
							2												
							3												
							4												
							5	07/01/2022 1700 (0.00) Dry	End of Borehole at 5.00 m				5.00	62.36					
							6												
							7												
							8												
							9												
Ground Water (m)										Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks		
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)								
										125	5.00								
Log last updated 08/02/2022																			

				BOREHOLE RECORD										Borehole P11															
Contract No: D10595					Site: Oaks Lane Business Park, Barnsley										GL (m AOD) 67.36 Easting: 436628.40 Scale 1:50 Northing: 406087.90														
Client: METKA_EGN LIMITED										Driller: DC		Logged By: DC		Sheet 1 of 2															
Method: Rotary Open Hole										Checked By: SG		Dates: 07/01/2022																	
SAMPLE DETAILS										STRATA RECORD										Depth (m)				Level (m AOD)		Legend		Well/Backfill	
Type	Depth From-To (m)		N (cu)		TCR %	SCR %	RQD %	FI	(Casing) Groundwater	Description																			
									0.00 - 9.00 100 % Water	MADE GROUND. (Drillers Description).																			
									1																				
									2																				
									3																				
									4																				
									5																				
									6																				
									7																				
									8																				
									9																				
									9.00 - 11.00 0 % Water	Fractured rock. (Drillers Description).										9.00	58.36								
										Continued on next sheet																			
Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks																	
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)	1. Hand dug inspection pit to 1.20m. 2. No groundwater encountered.																	
										125	11.00																		
Log last updated 08/02/2022																													

				BOREHOLE RECORD										Borehole P11					
Contract No: D10595					Site: Oaks Lane Business Park, Barnsley										GL (m AOD) 67.36 Easting: 436628.40 Scale 1:50 Northing: 406087.90				
Client: METKA_EGN LIMITED										Driller: DC		Logged By: DC		Sheet 2 of 2					
Method: Rotary Open Hole										Checked By: SG		Dates: 07/01/2022							
SAMPLE DETAILS										(Casing) Groundwater		STRATA RECORD Description				Depth (m)	Level (m AOD)	Legend	Well/ Backfill
Type	Depth From-To (m)	N (cu)	TCR %	SCR %	RQD %	FI													
							10	Fractured rock. (Drillers Description).				(2.00)							
							1107/01/2022 1700 (0.00) Dry	End of Borehole at 11.00 m				11.00	56.36						
							12												
							13												
							14												
							15												
							16												
							17												
							18												
							19												
Ground Water (m)										Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks		
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)								
										125	11.00								
Log last updated 08/02/2022																			

				BOREHOLE RECORD										Borehole P12																			
Contract No: D10595						Site: Oaks Lane Business Park, Barnsley										GL (m AOD) 67.35 Easting: 436628.40 Scale 1:50 Northing: 406088.36																	
Client: METKA_EGN LIMITED										Driller: DC		Logged By: DC		Sheet 1 of 2																			
Method: Rotary Open Hole										Checked By: SG		Dates: 07/01/2022																					
SAMPLE DETAILS										STRATA RECORD										Depth				Level		Legend		Well/Backfill					
Type		Depth From-To (m)		N (cu)		TCR %		SCR %		RQD %		FI		(Casing) Groundwater		Description										Depth (m)		Level (m AOD)					
														0.00 - 4.00 100 % Water		MADE GROUND. (Drillers Description).																	
														1																			
														2												(4.00)							
														3																			
														4		4.00 - 12.00 0 % Water Solid drilling. (Drillers Description).										4.00		63.35					
														5												(1.50)							
														6		Fractured rock. (Drillers Description).										5.50		61.85					
														7		Solid drilling. (Drillers Description).										6.50		60.85					
														8												(2.00)							
														9		Fractured rock. (Drillers Description).										8.50		58.85					
														9		Solid drilling. (Drillers Description).										9.00		58.35					
										Continued on next sheet																							
Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks																					
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)	1. Hand dug inspection pit to 1.20m. 2. No groundwater encountered.																					
										125	12.00																						
Log last updated 08/02/2022																																	



**Borehole
P12**

GL (m AOD)	Scale 1:50
67.35	
Easting:	Northing:
436628.40	406088.36

Sheet 2 of 2

Dates:	07/01/2022
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SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill
Type	Depth From-To (m)	N (cu)	TCR %	SCR %	RQD %	FI						
							10	Solid drilling. (Drillers Description).	(3.00)			
							11					
							1207/01/2022 1700 (0.00) Dry	End of Borehole at 12.00 m	12.00	55.35		
							13					
							14					
							15					
							16					
							17					
							18					
							19					

Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)	
										125	12.00	1. Hand dug inspection pit to 1.20m. 2. No groundwater encountered.
Log last updated 08/02/2022												

				BOREHOLE RECORD										Borehole RBH01															
Contract No: D10595					Site: Oaks Lane Business Park, Barnsley										GL (m AOD) 69.30 Easting: 436639.90 Scale 1:50 Northing: 406141.15														
Client: METKA_EGN LIMITED										Driller: DC		Logged By: DC		Sheet 1 of 3															
Method: Rotary Open Hole with Rotary Core Follow On										Checked By: SG		Dates: 13/01/2022																	
SAMPLE DETAILS										STRATA RECORD										Depth (m)				Level (m AOD)		Legend		Well/ Backfill	
Type	Depth From-To (m)		N (cu)	TCR %	SCR %	RQD %	FI	(Casing) Groundwater		Description																			
								0.00 - 15.20 100 % Water		MADE GROUND: Colliery waste. (Drillers Description).																			
								1																					
								2												(3.50)									
								3																					
								4		Sandy CLAY. (Drillers Description).										3.50		65.80							
								5																					
								6																					
								7																					
								8		Yellow SANDSTONE. (Drillers Description).										8.00		61.30							
								9																					
								10																					
										Continued on next sheet																			
Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		Coring Diameter																	
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)																
								139	9.00	139	30.00	139.00	15.20																
Log last updated 08/02/2022																													



**Borehole
RBH01**

GL (m AOD)	Scale 1:50
69.30	
Easting:	Northing:
436639.90	406141.15

Sheet 2 of 3

Dates:	13/01/2022
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SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill
Type	Depth From-To (m)	N (cu)	TCR %	SCR %	RQD %	FI						
	10.20 - 12.20		84	69	21	AZC L	Yellow SANDSTONE. (Drillers Description).	10.20	59.10			
	NI					Assumed Zone of Core Loss	(0.22)					
	11					Medium strong brown medium to coarse grained micaceous SANDSTONE. Partially weathered. Fractures subhorizontal, closely spaced, undulating and rough with dark brown discolouration penetrating upto 5mm around fracture surfaces. 10.42-10.82m: Recovered as coarse gravel size fragments.	10.42	58.88				
							8					
								12				
	13		AZC L	12.90-13.01m: Recovered as coarse gravel size fragments.	(4.78)							
			0									
			NI									
			14			83	79	56	10	Solid drilling (Drillers Description).	15.20	54.10
	15			Fractured rock. (Drillers Description).	(0.60)							
					16						15.80	53.50
											17	
												18
	19			(4.10)								
			20		Solid drilling. (Drillers Description).	19.90	49.40					

Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		Coring Diameter	
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)
								139	9.00	139	30.00	139.00	15.20
Log last updated 08/02/2022													



**Borehole
RBH01**

GL (m AOD)	Scale 1:50
69.30	
Easting:	Northing:
436639.90	406141.15

Sheet 3 of 3

Dates:	13/01/2022
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SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill
Type	Depth From-To (m)	N (cu)	TCR %	SCR %	RQD %	FI						
								Solid drilling. (Drillers Description).				
							21					
							22					
							23					
							24					
							25		(10.10)			
							26					
							27					
							28					
							29					
							30	End of Borehole at 30.00 m	30.00	39.30		

Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		Coring Diameter	
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)
								139	9.00	139	30.00	139.00	15.20
Log last updated 08/02/2022													



**Borehole
RBH02**

GL (m AOD)	Scale 1:50
69.53	
Easting:	Northing:
436632.30	406111.76

Sheet 1 of 2

Dates:	11/01/2022
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SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill
Type	Depth From-To (m)	N (cu)	TCR %	SCR %	RQD %	FI						
							0.00 - 15.00 100 % Water	MADE GROUND: Compact colliery waste. (Drillers Description).				
							1					
							2					
							3		(5.30)			
							4					
							5					
							6	MADE GROUND. (Drillers Description).	5.30	64.23		
							7					
							8		(5.70)			
							9					
							10					

Continued on next sheet

Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		Coring Diameter	
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)
								139	13.50	139	18.00		
Log last updated 08/02/2022													



**Borehole
RBH02**

Site: Oaks Lane Business Park, Barnsley

GL (m AOD)	Scale 1:50
69.53	
Easting:	Northing:
436632.30	406111.76

Driller: DC

Logged By: DC

Sheet 2 of 2

Checked By: SG

Dates:	11/01/2022
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SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill	
Type	Depth From-To (m)	N (cu)	TCR %	SCR %	RQD %	FI							
	13.70 - 15.60						11	MADE GROUND. (Drillers Description).		58.53			
							12	Natural CLAY. (Drillers Description).	11.00				
							13		(2.20)				
							14	Yellow SANDSTONE. (Drillers Description).	13.20				
	15.60 - 17.00							15	Strong light brown medium to coarse grained micaceous SANDSTONE. Partially weathered. Fractures are subhorizontal, medium spaced, planar and rough with dark brown staining on fracture surface.	13.70	55.83		
								16	Very weak light brown medium to coarse grained SANDSTONE. Destructured. AZCL	14.84 (0.16) 15.00	54.69 54.53		
								17	Fractured rock. (Drillers Description).	15.60	53.93		
								18	Solid drilling. (Drillers Description).	17.00	52.53		
								18	End of Borehole at 18.00 m	18.00	51.53		
								19					
								20					

Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		Coring Diameter	
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)
								139	13.50	139	18.00		
Log last updated 08/02/2022													



**Borehole
RBH03**

GL (m AOD)	Scale 1:50
69.42	
Easting:	Northing:
436614.90	406067.00

Sheet 1 of 4

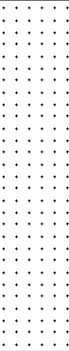
Dates:	12/01/2022
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SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill
Type	Depth From-To (m)	N (cu)	TCR %	SCR %	RQD %	FI						
								MADE GROUND: Colliery waste. (Drillers Description).				
							1					
							2					
							3					
							4					
							5		(9.50)			
							6					
							7					
							8					
							9					
								Yellow SANDSTONE. (Drillers Description).	9.50	59.92		
								Continued on next sheet				

Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)	
								131	13.50	131	32.00	1. Hand dug inspection pit to 1.20m. 2. No groundwater encountered. 3. Coring attempted at 11.9m to 14.0m sandstone highly weathered, no recovery.
Log last updated 08/02/2022												

				BOREHOLE RECORD										Borehole RBH03					
Contract No: D10595						Site: Oaks Lane Business Park, Barnsley										GL (m AOD) 69.42 Easting: 436614.90 Scale 1:50 Northing: 406067.00			
Client: METKA_EGN LIMITED										Driller: DC		Logged By: DC		Sheet 2 of 4					
Method: Rotary Open Hole										Checked By: SG		Dates: 12/01/2022							
SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill							
Type	Depth From-To (m)	N (cu)	TCR %	SCR %	RQD %	FI													
							10	Yellow SANDSTONE. (Drillers Description).											
							11		(2.40)										
							12	Yellow SANDSTONE. (Drillers Description).	11.90	57.52									
							13		(2.10)										
							14	Yellow SANDSTONE. (Drillers Description).	14.00	55.42									
							15		(1.00)										
							16	Yellow SANDSTONE. (Drillers Description).	15.00	54.42									
							17		(2.00)										
							18	Yellow SANDSTONE. (Drillers Description).	17.00	52.42									
							19		(2.00)										
							19.00 - 32.00 0 % Water	Grey with thin yellow band of SANDSTONE. (Drillers Description).	19.00	50.42									
Continued on next sheet																			
Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks							
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)								
								131	13.50	131	32.00								
Log last updated 08/02/2022																			

				BOREHOLE RECORD										Borehole RBH03				
Contract No: D10595					Site: Oaks Lane Business Park, Barnsley										GL (m AOD) 69.42 Easting: 436614.90 Scale 1:50 Northing: 406067.00			
Client: METKA_EGN LIMITED										Driller: DC		Logged By: DC		Sheet 3 of 4				
Method: Rotary Open Hole										Checked By: SG		Dates: 12/01/2022						
SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill						
Type	Depth From-To (m)	N (cu)	TCR %	SCR %	RQD %	FI												
							20	Grey with thin yellow band of SANDSTONE. (Drillers Description).										
							21											
							22											
							23											
							24											
							25											
							26											
							27											
							28											
							29											
									(13.00)									
Continued on next sheet																		
Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks						
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)							
								131	13.50	131	32.00							
Log last updated 08/02/2022													1. Hand dug inspection pit to 1.20m. 2. No groundwater encountered. 3. Coring attempted at 11.9m to 14.0m sandstone highly weathered, no recovery.					

				BOREHOLE RECORD										Borehole RBH03					
Contract No: D10595					Site: Oaks Lane Business Park, Barnsley										GL (m AOD) 69.42 Easting: 436614.90 Scale 1:50 Northing: 406067.00				
Client: METKA_EGN LIMITED										Driller: DC		Logged By: DC		Sheet 4 of 4					
Method: Rotary Open Hole										Checked By: SG		Dates: 12/01/2022							
SAMPLE DETAILS										(Casing) Groundwater		STRATA RECORD Description				Depth (m)	Level (m AOD)	Legend	Well/ Backfill
Type	Depth From-To (m)	N (cu)	TCR %	SCR %	RQD %	FI													
							30	Grey with thin yellow band of SANDSTONE. (Drillers Description).											
							31												
							3212/01/2022 1700 (13.50) Dry	End of Borehole at 32.00 m				32.00	37.42						
							33												
							34												
							35												
							36												
							37												
							38												
							39												
Ground Water (m)										Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks		
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)								
								131	13.50	131	32.00								
Log last updated 08/02/2022																			

				BOREHOLE RECORD										Borehole RBH04				
Contract No: D10595					Site: Oaks Lane Business Park, Barnsley										GL (m AOD) 69.71 Easting: 436604.00 Scale 1:50 Northing: 406077.50			
Client: METKA_EGN LIMITED										Driller: DC		Logged By: DC		Sheet 1 of 4				
Method: Rotary Open Hole										Checked By: SG		Dates: 18/01/2022						
SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill						
Type	Depth From-To (m)	N (cu)	TCR %	SCR %	RQD %	FI												
							0.00 - 8.80 100 % Water	MADE GROUND: Colliery waste. (Drillers Description).										
							1											
							2		(4.30)									
							3											
							4											
							5	Brown MUDSTONE. (Drillers Description).	4.30	65.41								
							6											
							7		(4.50)									
							8											
							9	8.80 - 9.40 50 % Water	8.80	60.91								
									(0.60)									
								9.40 - 30.00 100 % Water	9.40	60.31								
Continued on next sheet																		
Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks						
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)	1. Hand dug inspection pit to 1.20m. 2. No groundwater encountered.						
								125	10.50	125	30.00							
Log last updated 08/02/2022																		

				BOREHOLE RECORD										Borehole RBH04				
Contract No: D10595					Site: Oaks Lane Business Park, Barnsley										GL (m AOD) 69.71 Easting: 436604.00 Scale 1:50 Northing: 406077.50			
Client: METKA_EGN LIMITED										Driller: DC		Logged By: DC		Sheet 2 of 4				
Method: Rotary Open Hole										Checked By: SG		Dates: 18/01/2022						
SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill						
Type	Depth From-To (m)	N (cu)	TCR %	SCR %	RQD %	FI												
							10	Yellow SANDSTONE. (Drillers Description).										
							11											
							12											
							13											
							14											
							15											
							16											
							17											
							18											
							19											
									(20.60)									
Continued on next sheet																		
Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks						
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)							
								125	10.50	125	30.00							
Log last updated 08/02/2022													1. Hand dug inspection pit to 1.20m. 2. No groundwater encountered.					

				BOREHOLE RECORD										Borehole RBH04				
Contract No: D10595					Site: Oaks Lane Business Park, Barnsley										GL (m AOD) 69.71 Easting: 436604.00 Scale 1:50 Northing: 406077.50			
Client: METKA_EGN LIMITED										Driller: DC		Logged By: DC		Sheet 3 of 4				
Method: Rotary Open Hole										Checked By: SG		Dates: 18/01/2022						
SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill						
Type	Depth From-To (m)	N (cu)	TCR %	SCR %	RQD %	FI												
							20	Yellow SANDSTONE. (Drillers Description).										
							21											
							22											
							23											
							24											
							25											
							26											
							27											
							28											
							29											
Continued on next sheet																		
Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks						
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)							
								125	10.50	125	30.00							
Log last updated 08/02/2022													1. Hand dug inspection pit to 1.20m. 2. No groundwater encountered.					



**Borehole
RBH04**

GL (m AOD)	Scale 1:50
69.71	
Easting:	Northing:
436604.00	406077.50

Sheet 4 of 4

Dates:	18/01/2022
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[illegible]

Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)	
								125	10.50	125	30.00	
Log last updated 08/02/2022												



**Borehole
RBH07**

GL (m AOD)	Scale 1:50
69.75	
Easting:	Northing:
436623 40	406111 91

Sheet 1 of 4

Dates:	17/01/2022
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SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill
Type	Depth From-To (m)	N (cu)	TCR %	SCR %	RQD %	FI						
							0.00 - 13.90 100 % Water	MADE GROUND: Colliery waste and brick. (Drillers Description).				
							1					
							2					
							3					
							4		(8.50)			
							5					
							6					
							7					
							8					
							9	Dark brown MUDSTONE. (Drillers Description).	8.50 (0.50)	61.25		
								Fractured rock. (Drillers Description).	9.00 (0.50)	60.75		
								Yellow SANDSTONE. (Drillers Description).	9.50	60.25		
								Continued on next sheet				

Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)	
								125	15.00	125	30.00	1. Hand dug inspection pit to 1.20m. 2. No groundwater encountered.
Log last updated 08/02/2022												

				BOREHOLE RECORD										Borehole RBH07				
Contract No: D10595					Site: Oaks Lane Business Park, Barnsley										GL (m AOD) 69.75 Easting: 436623.40 Scale 1:50 Northing: 406111.91			
Client: METKA_EGN LIMITED										Driller: DC		Logged By: DC		Sheet 2 of 4				
Method: Rotary Open Hole										Checked By: SG		Dates: 17/01/2022						
SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill						
Type	Depth From-To (m)	N (cu)	TCR %	SCR %	RQD %	FI												
							10	Yellow SANDSTONE. (Drillers Description).										
							11		(3.80)									
							12											
							13											
							13.30	Fractured rock. (Drillers Description).	56.45									
							13.90	Solid drilling. (Drillers Description).	55.85									
							14											
							15		(1.90)									
							16	Fractured rock. (Drillers Description).	53.95									
							17		(1.20)									
							17.00	Solid drilling. (Drillers Description).	52.75									
							18		(2.00)									
							19	Fractured rock. (Drillers Description).	50.75									
							19.50	Solid drilling. (Drillers Description).	50.25									
Continued on next sheet																		
Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks						
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)							
								125	15.00	125	30.00							
Log last updated 08/02/2022																		

				BOREHOLE RECORD										Borehole RBH07				
Contract No: D10595					Site: Oaks Lane Business Park, Barnsley										GL (m AOD) 69.75 Easting: 436623.40 Scale 1:50 Northing: 406111.91			
Client: METKA_EGN LIMITED										Driller: DC		Logged By: DC		Sheet 3 of 4				
Method: Rotary Open Hole										Checked By: SG		Dates: 17/01/2022						
SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill						
Type	Depth From-To (m)	N (cu)	TCR %	SCR %	RQD %	FI												
							20	Solid drilling. (Drillers Description).										
							21											
							22											
							23											
							24											
							25											
							26											
							27											
							28											
							29											
Continued on next sheet																		
Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks						
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)							
								125	15.00	125	30.00							
Log last updated 08/02/2022												1. Hand dug inspection pit to 1.20m. 2. No groundwater encountered.						

				BOREHOLE RECORD										Borehole RBH07					
Contract No: D10595						Site: Oaks Lane Business Park, Barnsley										GL (m AOD) 69.75 Easting: 436623.40 Scale 1:50 Northing: 406111.91			
Client: METKA_EGN LIMITED										Driller: DC		Logged By: DC		Sheet 4 of 4					
Method: Rotary Open Hole										Checked By: SG		Dates: 17/01/2022							
SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description				Depth (m)	Level (m AOD)	Legend	Well/ Backfill				
Type	Depth From-To (m)	N (cu)	TCR %	SCR %	RQD %	FI													
							3017/01/2022 1700 (15.00) Dry	Solid drilling. (Drillers Description). End of Borehole at 30.00 m				30.00	39.75						
							31												
							32												
							33												
							34												
							35												
							36												
							37												
							38												
							39												
Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks							
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)	1. Hand dug inspection pit to 1.20m. 2. No groundwater encountered.							
								125	15.00	125	30.00								
Log last updated 08/02/2022																			

				BOREHOLE RECORD										Borehole RBH08																			
Contract No: D10595					Site: Oaks Lane Business Park, Barnsley										GL (m AOD) 69.47 Easting: 436636.10 Scale 1:50 Northing: 406123.23																		
Client: METKA_EGN LIMITED										Driller: DC		Logged By: DC		Sheet 1 of 4																			
Method: Rotary Open Hole										Checked By: SG		Dates: 17/01/2022 - 18/01/2022																					
SAMPLE DETAILS										STRATA RECORD										Depth				Level		Legend		Well/Backfill					
Type		Depth From-To (m)		N (cu)		TCR %		SCR %		RQD %		FI		(Casing) Groundwater		Description										Depth (m)		Level (m AOD)					
														0.00 - 15.40 100 % Water		MADE GROUND: Colliery waste and brick. (Drillers Description).																	
														1																			
														2																			
														3												(6.30)							
														4																			
														5																			
														6																			
														7		Dark brown MUDSTONE. (Drillers Description).										6.30		63.17					
														8												(1.00)							
														9		Dark grey MUDSTONE. (Drillers Description).										7.30		62.17					
														10												(1.20)							
														11		Red brown MUDSTONE. (Drillers Description).										8.50		60.97					
														12												(0.70)							
														13		Yellow SANDSTONE. (Drillers Description).										9.20		60.27					
														14																			
														15																			
														16																			
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				BOREHOLE RECORD										Borehole RBH08				
Contract No: D10595					Site: Oaks Lane Business Park, Barnsley										GL (m AOD) 69.47 Easting: 436636.10 Scale 1:50 Northing: 406123.23			
Client: METKA_EGN LIMITED										Driller: DC		Logged By: DC		Sheet 2 of 4				
Method: Rotary Open Hole										Checked By: SG		Dates: 17/01/2022 - 18/01/2022						
SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill						
Type	Depth From-To (m)	N (cu)	TCR %	SCR %	RQD %	FI												
							10	Yellow SANDSTONE. (Drillers Description).										
							11											
							12		(5.80)									
							13											
							14											
							15											
							1517/01/2022 1700 (6.00) Dry	Yellow SANDSTONE. (Drillers Description).	15.00	54.47								
							18/01/2022 0800 (6.00) Dry		(0.40)									
								Fractured rock. (Drillers Description).	15.40	54.07								
							15.60 - 30.00 0 % Water	Solid drilling, very hard. (Drillers Description).	(0.20) 15.60	53.87								
							16		(1.60)									
							17											
								Solid drilling, soft. (Drillers Description).	17.20	52.27								
									(0.50)									
								Solid drilling, hard. (Drillers Description).	17.70	51.77								
							18											
							19											
Continued on next sheet																		
Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks						
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)							
								125	6.00	125	30.00							
Log last updated 08/02/2022												1. Hand dug inspection pit to 1.20m. 2. No groundwater encountered.						

				BOREHOLE RECORD										Borehole RBH08				
Contract No: D10595					Site: Oaks Lane Business Park, Barnsley										GL (m AOD) 69.47 Easting: 436636.10 Scale 1:50 Northing: 406123.23			
Client: METKA_EGN LIMITED										Driller: DC		Logged By: DC		Sheet 3 of 4				
Method: Rotary Open Hole										Checked By: SG		Dates: 17/01/2022 - 18/01/2022						
SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill						
Type	Depth From-To (m)	N (cu)	TCR %	SCR %	RQD %	FI												
							20	Solid drilling, hard. (Drillers Description).										
							21											
							22											
							23											
							24											
							25											
							26											
							27											
							28											
							29											
Continued on next sheet																		
Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks						
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)							
								125	6.00	125	30.00							
Log last updated 08/02/2022													1. Hand dug inspection pit to 1.20m. 2. No groundwater encountered.					

				BOREHOLE RECORD										Borehole RBH08					
Contract No: D10595						Site: Oaks Lane Business Park, Barnsley										GL (m AOD) 69.47 Easting: 436636.10 Scale 1:50 Northing: 406123.23			
Client: METKA_EGN LIMITED										Driller: DC		Logged By: DC		Sheet 4 of 4					
Method: Rotary Open Hole										Checked By: SG		Dates: 17/01/2022 - 18/01/2022							
SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description				Depth (m)	Level (m AOD)	Legend	Well/ Backfill				
Type	Depth From-To (m)	N (cu)	TCR %	SCR %	RQD %	FI													
							3018/01/2022 1700 (6.00) Dry	Solid drilling, hard. (Drillers Description). End of Borehole at 30.00 m				30.00	39.47						
							31												
							32												
							33												
							34												
							35												
							36												
							37												
							38												
							39												
Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks							
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)	1. Hand dug inspection pit to 1.20m. 2. No groundwater encountered.							
								125	6.00	125	30.00								
Log last updated 08/02/2022																			

Appendix D
Geotechnical Testing Results



Summary of Rock Point Load Tests



Site name	Job number
Stairfoot Mining Investigation	D10595

Hole	Sample			Specimen		Rock type and test condition	Test Type		Failure validity	Dimensions			I _s MPa	I _{s(50)} MPa	Remarks
	Depth m	Ref	Type	Depth m	Ref		Type	Dir.		W mm	D mm	D' mm			
RBH01	13.02	22-0517	C		1	Sandstone	D	L	Valid	160	85		0.17	0.22	
RBH01	13.02	22-0517	C		2	Sandstone	A	P	Valid	70	85		0.20	0.26	
RBH01	14.07	22-0518	C		1	Sandstone	D	L	Valid	185	85		0.17	0.22	
RBH01	14.07	22-0518	C		2	Sandstone	A	P	Valid	90	85		0.10	0.14	
RBH01	15.09	22-0519	C		2	Sandstone	A	P	Valid	60	85		0.19	0.24	
RBH01	15.09	22-0519	C		1	Sandstone	D	L	Valid	115	85		0.17	0.22	
RBH01	10.92	22-0520	C		1	Sandstone	D	L	Valid	90	85		0.09	0.11	
RBH01	10.92	22-0520	C		2	Sandstone	A	P	Valid	45	85		0.13	0.15	
RBH01	11.90	22-0521	C		1	Sandstone	D	L	Valid	300	85		0.14	0.18	
RBH01	11.90	22-0521	C		2	Sandstone	A	P	Valid	80	85		0.12	0.15	
RBH02	13.70	22-0522	C		1	Sandstone	D	L	Valid	170	85		0.10	0.13	
RBH02	13.70	22-0522	C		2	Sandstone	A	P	Valid	85	85		0.07	0.09	
RBH02	14.30	22-0523	C		1	Sandstone	D	L	Valid	195	85		0.14	0.18	
RBH02	14.30	22-0523	C		2	Sandstone	A	P	Valid	80	85		0.15	0.19	

Test **not** currently within the scope of Dunelm Testing's UKAS accreditation schedule

Column	Key	Description
Test Type	A	Axial
	B	Block
	D	Diametral
	I	Irregular lump
Test Direction	L	Parallel to planes of weakness
	P	Perpendicular to planes of weakness
	U	Unknown
Dimensions	W	Width
	D	Platen separation at start of test
	D'	Platen separation at sample failure
	I _s	Point Load Index
	I _{s(50)}	Corrected Point Load Index to equivalent 50 mm diameter

Approved by	
Approval date	04/02/2022 15:43
Date report generated	04/02/2022 15:43
Report Number	D10595/1

Appendix E

Dunelm Conditions of Offer, Notes on Limitations & Basis for Contract



Dunelm Conditions of Offer, Notes on Limitations & Basis for Contract

These conditions accompany our tender and supercede any previous conditions issued. The firm will prepare a report solely for the use of the Client (the party invoiced) and its agent(s). No reliance should be placed on the contents of this report, in whole or in part by 3rd parties. The report, its content and format and associated data are copyright, and the property of the firm. Photocopying of part or all of the contents, transfer or reproduction of any kind is forbidden without written permission from the firm. A charge may be levied against such approval, the same to be made at the discretion of the firm.

Site investigation is a process of sampling. The scope and size of an investigation may be considered proportional to levels of confidence regarding the ground and groundwater conditions. The exploratory holes undertaken investigate only a small volume of the ground in relation to the overall size of the site, and can only provide a general indication of site conditions. The opinions provided and recommendations given in this report are based on the ground conditions as encountered within each of the exploratory holes. There may be different ground conditions elsewhere on the site which have not been identified by this investigation and which therefore have not been taken into account in this report. Reports are generally subject to the comments of the local authority and Environment Agency. The comments made on groundwater conditions are based on observations made at the time that site work was carried out. It should be noted that mobile contamination, soil gas levels and groundwater levels may vary owing to seasonal, tidal and/or weather related effects. Unrecorded ancient mining may occur anywhere where seams that have been worked and influence the rock and soil above. Dissolution cavities can occur where gypsum or chalk is present. Rotary drilling is the recommended technique to prove the integrity of the rock.

Where the scope of the investigation is limited via access to information, time constraints, equipment limitations, testing, interpretation or by the client or his agents budgetary constraints, elements not set out in the proposal and excluded from the report are deemed to be omitted from the scope of the investigation.

The firm cannot be held liable and do not warrant, or otherwise guarantee the validity of information provided by third parties and subsequently used in our reports. The firm are not responsible for the action negligent or otherwise of subcontractors or third parties.

Desk studies are generally prepared in accordance with RICS guidelines. Environmental site investigations are generally undertaken as 'exploratory investigations' in accordance with the definitions provided in paragraph 5.2.7 of BS 10175:2011 +A2:2017 in order to confirm the conceptual assumptions, and in accordance with BS5930:2015+A1:2020. You are advised to familiarize yourself with the typical scope of such an investigation. No pumping of water will be undertaken unless a licence or facilities/equipment have been arranged by others.

Where the type, number or/and depth of exploratory hole is specified by others, the firm cannot and will not be responsible for any subsequent shortfall or inadequacy in data, and any consequent shortfall in interpretation of environmental and geotechnical aspects which may be required at a later date in order to facilitate the design of permanent or temporary works.

All information acquired by the firm in the course of investigation is the property of the firm, and, only also becomes the joint property of the Client only on the complete settlement of all invoices relating to the project. The firm reserves the right to use the information in commercial tendering and marketing, unless the Client expressly wishes otherwise in writing. The quoted rates do not include VAT, we will invoice on an interim basis (on completion of fieldwork, on completion of report and on completion of gas monitoring (if applicable)) and payment terms are 30 days from dispatch of invoice from our offices. Quotes are subject to a site visit.

We have allowed for 1 mobilisation and normal working hours unless otherwise stated. The scope of the investigation may be reviewed following the desk study and/or fieldwork and additional costs maybe required if ground conditions dictate. We have not allowed for acquiring buried utility/services information and cannot be responsible for damage to underground services or pipes not shown to us or not clearly shown on plans. Costs incurred will be passed on to you, and in commissioning the firm, you understand and accept that you/your agent have a contractual relationship with the firm & you accept this. Our rates assume unobstructed, reasonably level and firm access to the exploratory positions and adequate clear working areas and headroom. We have priced on the basis that you or your client have the necessary permissions, wayleaves and approvals to access land. All boreholes and pits are backfilled with arisings except where gas monitoring pipes are installed with stopcock covers. Dunelm are not responsible for any uneven surfaces as a result of siteworks and rutting and backfilled excavations may require re-levelling and/or making good by others after fieldwork is complete. Dunelm have not allowed for subsequent reinstatement as a result of settlement. Should artesian water be encountered the cost of dealing with this would be charged at dayworks plus supervision with any temporary works/materials at cost plus 20%. Should access to the site be restricted for reasons beyond our control such as soft or boggy ground then there may be the requirement for hiring in plant such as a tractor or tracked dumper, the cost of this would be charged at cost plus 20%. Should the site fall into a BDA Red Classification and further protection measures be required, this would be charged at cost plus 20%. The rates we have supplied for geotechnical laboratory testing are for sample recovered from BDA Green and Yellow classified sites. If the site is deemed to be Red we can supply uplifted testing rates on request. No price has been provided or requested for a return visit to remove pipework and covers. No price has been provided or requested for a return visit to remove pipework and covers. Hourly rates apply to consultancy only and do not include expenses unless otherwise shown. If warranties are required, legal costs incurred will be passed on to you assuming the firm agree to complete such warranties, modified or otherwise and you understand and agree to pay all costs.the, firm agree to complete such warranties, modified or otherwise and you understand and agree to pay all costs.

We reserve the right to pursue full payment of the invoice prior to release of any information including reports. We advise you/your client that we may elect to pursue our statutory rights under late payment legislation and will apply 8% to the base rate for unreasonably late payments. We will also apply the right to claim any associated legal costs incurred with recovery of late payments. The firm is exempt from the CIS Scheme. The firm offer to undertake work only in strict accordance with conditions covered by our current insurances, which are available for inspection. The company are not responsible for acts, negligent or otherwise of subcontractors and as a matter of policy cannot indemnify any other parties. Professional indemnity Insurance is limited to ten times the invoice net total except where stated otherwise by the firm, and we give notice that consequential loss as a direct or indirect result of the firms activities or omission of the same are excluded.

Where the works require a Coal Authority Permit (hereafter referred to as 'the Permit'), we will apply for the Permit in the name of the employer, who, upon accepting the quotation, is deemed to have accepted the Terms and Conditions in respect of the Permit.