008/4511/AG/cc

20th October 2022

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Mr O Bottomley
Yorkshire Country Properties
Suite 3
39 Huddersfield Road
Holmfirth
HD9 3JH

Dear Oliver,

Denby Lane, Grange Moor - preliminary findings

Further to completion of the recent fieldwork at the above site please find enclosed a summary of our preliminary findings.

Key findings to date are:

To date, the following significant ground-related abnormals have been identified:

- Deep made ground (typically Colliery Spoil) has been identified to depths of >3.5m in the west of site.
- A strong hydrocarbon odour was noted in TP11 between 1.2m and 1.9m depth. Samples of made ground have been forwarded to the laboratory for chemical testing.
- Workings within the 2nd Brown Metal coal seam have been encountered in 5 of 10 probeholes (excluding shallow probeholes drilled to install gas monitoring wells). These workings were encountered to between 10.0m to 11.5m depths, with a thickness between 0.5m and 1.6m. A programme of drilling and grouting will be required where there is not enough competent cover above the workings.
- 3 mine entries have been located in the west of site using an excavator, shaft coordinates are included on the attached logs. Shaft 422416-029 was found to be capped with a 3.0m x 3.0m x 0.1m concrete pad. Shafts 42216-004 & 005 were uncapped, however, were backfilled with Ash & Clinker. The shaft depths should be confirmed by drilling a rotary probehole to their base.
- Buried obstructions, in particular relict foundations were encountered in the vicinity of former Square Colliery buildings (TP11). Further obstructions within this area should be anticipated.
- The eastern field lies c.2m lower than the western field. A site regrade is likely to be required to create a level development platform across the site.
- The site may be affected by sources of hazardous gas due to the presence of shallow mineworkings, the on-site backfilled quarry, on-site deep made ground and off-site backfilled opencast quarry. Consequently, gas monitoring wells have been installed in 6 boreholes and will be monitored on 9 occasions over a 6-month period. A hazardous gas risk assessment will be issued upon completion of monitoring in May 2023.

Laboratory analysis is now underway, and we expect to issue our final Geoenvironmental Appraisal Report by mid-November 2022.

Should you require any further information, please contact the undersigned.

Yours sincerely

Adam Gombocz
Director
for and on behalf of
LITHOS CONSULTING LIMITED

enc

Preliminary Summary of Geoenvironmental Issues
Drawing 4511/6 – Exploratory Hole Location Plan
Exploratory Hole Records

These findings may be revised in the light of laboratory testing, and during the more rigorous review of field data that will be undertaken prior to issue of our comprehensive report.

Proposed development

We understand that your proposed development will include traditional 2 & 3 storey domestic dwellings, with associated gardens and adoptable roads and sewers, but to date no layout has been made available.

Preliminary investigation

Issue	Remarks
The site	8km east of Huddersfield town centre 1.2 ha (3.2 acres) The site currently comprises two parcels of land, divided in the centre by a public footpath and c.1-2m high retaining wall. The eastern parcel of land comprises a cropped grass field; the western parcel of land comprises overgrown scrubland that has recently been cleared.
Former uses	The eastern field appears to have remained largely undeveloped, with the exception of a sewage works operating in the centre of the field between c.1960's and 1999. The western parcel of land contained a sandstone quarry in the 1850's. By 1893 'Square Colliery' was present, which appears to have closed by c.1919.
Environmental setting	Drift soils – None recorded. Solid (bedrock) – Birstall Rock (Pennine Lower Coal Measures). Shallowest coal seam – 2nd Brown Metal (Low Fenton Coal) at c.5-7m depth. The site lies within a Coal Authority Development High Risk Area. Bedrock is a Secondary A Aquifer, but the site is not located within a groundwater Source Protection Zone. There are no known landfills within 250m, however, there is a backfilled quarry on site, and a backfilled former opencast quarry directly east. The site lies within an area where 1-3% homes are estimated to be above the radon action level.

Ground investigation.

Fieldwork was supervised by Lithos on the 10th – 13th October 2022 and comprised the exploratory holes listed below.

Technique	Exploratory holes	Final depth(s)	Remarks
Trial pitting (machine dug)	TPs 01 to 23	0.5m to 3.5m	TP19 extended to locate the quarry highwall.
Shaft search	422416-029, 005, 004	0.6m to 1.5m	All three shafts encountered.
Rotary openhole probeholes	PHs 01 to 10, 01A, 05A, 07A & 08A	6.0m to 30.0m	Monitoring wells installed in 6 holes.

Fieldwork findings are summarised below.

Issue	Remarks
Access restrictions	None.
Made ground	Encountered in 20 of 25 pits and 8 of 14 probeholes. Average thickness of 2.5m, max of 6.1m. Predominantly comprised a dark grey gravelly Ash. Gravel was angular sub angular fine to coarse of mudstone, coal, clinker and occasional burnt shale (Colliery Spoil).
Natural ground	Topsoil (typically 300mm in thickness) was encountered in 8 trial pits, predominantly in the eastern field, over a firm light orangish brown mottled grey slightly sandy slightly gravelly Clay (Cohesive Residual Soil). Granular Residual Soils were encountered in 6 trial pits to depths of between 1.6m and 3.1m and typically comprised a light brown sandy angular to subangular fine to coarse Gravel of sandstone. Bedrock was encountered within 5 trial pits in the east of site from depths of between 0.9m and 2.6m. Within the probeholes, bedrock was encountered from depths of between 1.0m and 6.10m (average depth to top of bedrock of 2.9m).

Issue	Remarks
Mining	Workings within the 2nd Brown Metal coal seam have been encountered in 5 of 10 probeholes (excluding shallow probeholes drilled to install gas monitoring wells). These workings were encountered to between 10.0m to 11.5m depths, with a thickness between 0.5m and 1.6m. A programme of drilling and grouting will be required where there is not enough competent cover above the workings.
Contamination	Olfactory evidence of hydrocarbon contamination was encountered between 1.2m and 1.9m depth in TP11. Samples of topsoil and made ground topsoil have been forwarded to the laboratory for analysis to determine its suitability for re-use
Preparatory &\or Remediation	General clearance of the western parcel to remove tipped waste (i.e. children's toys, plastic, wood, metal). Topsoil strip and stockpile (with segregation of topsoil and made ground topsoil). Site regrade to provide a level development platform between the eastern and western parcel of land, which may include turnover and compaction of the colliery spoil. Drilling and grouting of shallow mineworkings in the western parcel of land and the south of the eastern field.
Foundations	It is likely that all plots in the east of site can be founded on traditional strip and trench fill foundations at a minimum depth of 900mm; founding stratum will be Cohesive or Granular Residual Soils. Where shallow mineworkings are present in this area, foundations will need to be reinforced. In the west of site, given the thickness of made ground, the majority of plots will likely require piled foundations. Due to the presence of underground workings within the 2nd Brown Metal Coal Seam at shallow depth, piled foundations will need to be taken through the grouted workings to competent bedrock below. Where made ground is <2.5m thick in the west of site, reinforced strip foundations should be suitable. Subject to any earthworks that are undertaken and appropriately validated, heavily reinforced strips / rafts may be a viable option in the west of the site, founding on engineered fill.
Groundwater & excavations	Groundwater was encountered in TP06 at 3.1m depth. Shallow excavations should remain stable during the construction phase in the short term, however, deeper excavations within the colliery spoil are likely to be unstable.
Drainage	Soakaway testing was carried out within 4 trial pits. Soakaway tests did not drain to 75% empty and therefore soakaways will not provide a suitable drainage solution for the discharge of surface water run-off.
Development constraints	Three recorded mine entries have been located in the western parcel of land. No development should take place over these mine entries. Foundations for plots within the vicinity of the mine entries will need to extend below a line drawn up at 45° from where the shaft cap meets rockhead. If any highways cross the mine entries, or are within the zone of influence, treatment options should be discussed with the adopting authority at an early stage. In addition, the warranty provider and the Coal Authority will need to be consulted regarding treatment proposals. Whilst no evidence of workings have been encountered in the north of the eastern field, the possibility of bell pits cannot be entirely discounted. Shallow natural ground should therefore be inspected for evidence of bell pits following a topsoil strip within this area. Given the difference in site levels between the eastern and western field, the site is likely to require regrading. This will require the preparation of a Materials Management Plan (MMP). Shallow mineworkings have been encountered across the western field and the southern part of the eastern field. These will require remediation via drilling and grouting. The underground sewer, drainage and electric utilities will require easement/diversion. Due to the presence of deep made ground across the western parcel of land, the quarry highwall was only located in the far west of site (TP19). Consequently, further investigation will be required to locate the highwalls (likely rotary probing) and investigate the properties of backfilled ground (likely cable percussion drilling).

Further works required as a result of initial site investigation:

- Cable percussion boreholes within the footprint of the quarry to determine the full extent of backfill and assess the nature and composition of backfilled materials.
- Rotary probe holes to determine the location of quarry highwalls and rotary cored boreholes to inform pile design (if required by the piling contractor and warranty provider).
- Drilling of the three mine entries to confirm their location, depth and details of backfill, which would be best done as part of the drilling and grouting works.
- Drilling and grouting of the workings encountered across the western field and southern area of the eastern field.

- Production of a Materials Management Plan to enable site regrade works to be undertaken.

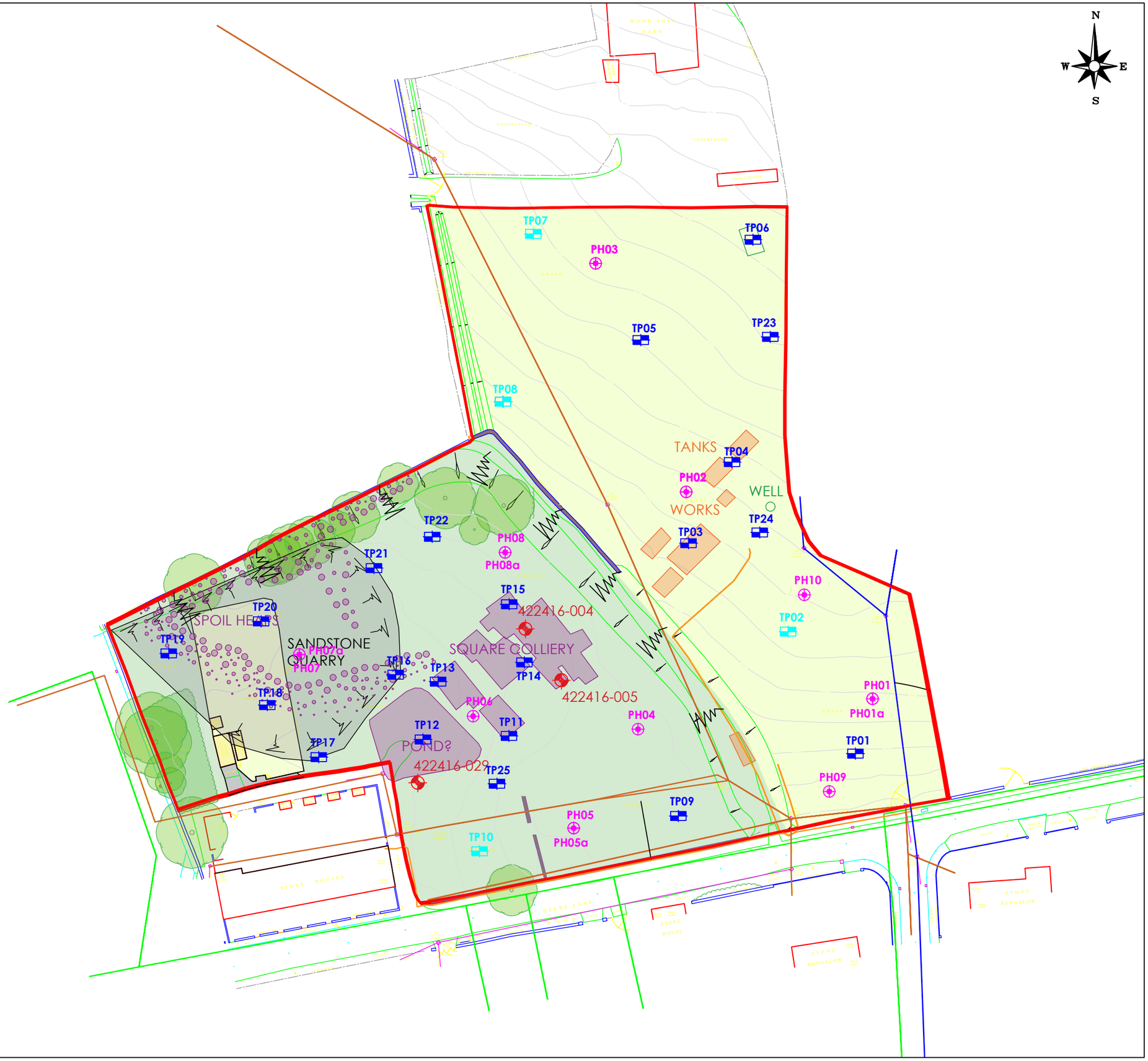
Ground Conditions Summary Table – Trial Pitting

Hole ID	Depth to Base of												Depth to Coal Measures Bedrock	Remarks
	Final depth	Depth to Base of Made Ground	Made Ground						Natural Soils					
			Made Ground Topsoil	Granular Made Ground	Demolition Rubble	Colliery Spoil	Reworked Natural Ground	Relict Topsoil	Topsoil	Cohesive Residual Soil	Granular Residual Soil	Coal (2nd Brown Metal)		
TP01	3.10	0.3	0.3	-	-	-	-	-	-	2.4	3.1	-	-	-
TP02	2.3	0.3	0.3	-	-	-	-	-	-	0.9	-	-	0.9	-
TP03	2.1	0.8	0.3	0.8	-	-	-	-	-	1.6	-	-	1.6	From 1.8m, becoming difficult to excavate.
TP04	3.0	0.7	0.3	0.7	-	-	-	-	-	1.20	-	-	1.2	-
TP05	2.80	-	-	-	-	-	-	-	0.2	1.9	-	2.2	2.2	-
TP06	3.1	-	-	-	-	-	-	-	0.3	1.9	-	2.6	2.6	-
TP07	2.6	-	-	-	-	-	-	-	0.3	1.6	2.6	-	-	-
TP08	2.2	-	-	-	-	-	-	-	0.3	2.2	-	-	-	Cohesive residual soil feels soft, likely due to high sand content.
TP09	3.1	3.1	0.3	-	-	3.1	-	-	-	-	-	-	-	From 3.1m, difficult to excavate further.
TP10	2.3	-	-	-	-	-	-	-	0.4	-	2.3	-	-	-
TP11	2.5	1.9	-	1.2	1.9	-	-	-	-	-	2.5	-	-	Between 1.4m and 1.9m, brick wall in western face of pit. Strong hydrocarbon odour between 1.2m and 1.9m depth.
TP12	3.1	2.1	0.4	-	-	2.1	-	2.4	-	3.1	-	-	-	At 3.1m, scraping on possible bedrock.
TP13	3.5	3.5	0.2	-	-	3.5	-	-	-	-	-	-	-	-
TP14	3.0	2.1	0.3	-	-	2.1	-	-	-	-	3.0	-	-	Difficult to excavate beyond 3.0m.
TP15	3.1	3.1	0.3	-	-	1.0, 3.1	1.9	-	-	-	-	-	-	-
TP16	2.6	2.6	0.3	-	-	2.0, 2.6	2.4	-	-	-	-	-	-	Between 0.3m and 2.0m, spalling of trial pit walls.
TP17	2.9	2.9	0.3	-	-	0.9	2.9?	-	-	-	-	-	-	-
TP18	3.2	3.2	0.4	-	-	-	3.2	-	-	-	-	-	-	From 3.2m, difficult to excavate further.

Hole ID	Depth to Base of												Depth to Coal Measures Bedrock	Remarks
	Final depth	Depth to Base of Made Ground	Made Ground						Natural Soils					
			Made Ground Topsoil	Granular Made Ground	Demolition Rubble	Colliery Spoil	Reworked Natural Ground	Relict Topsoil	Topsoil	Cohesive Residual Soil	Granular Residual Soil	Coal (2nd Brown Metal)		
TP19	1.6	0.3	0.3	-	-	-	-	-	-	-	1.6	-	-	At 1.6m, refusal on bedrock.
TP20	3.3	3.3	0.2	-	-	-	3.3	-	-	-	-	-	-	-
TP21	3.2	3.2	0.2	-	-	3.2	-	-	-	-	-	-	-	-
TP22	2.9	2.9	0.3	-	-	2.9	-	-	-	-	-	-	-	-
TP23	1.0	-	-	-	-	-	-	-	0.5	1.0	-	-	-	At 0.8m, black plastic pipe running N-S in east of pit. Shallow trial pit to determine the adjacent quarry extent.
TP24	0.5	-	-	-	-	-	-	-	0.3	0.5	-	-	-	Shallow trial pit to locate the well shown on historical plans.
TP25	0.5	-	-	-	-	-	-	-	0.3	0.5	-	-	-	Shallow trial pit to determine the extent of made ground.
422416-029 search	0.6	0.6	-	-	-	0.6	-	-	-	-	-	-	-	At 0.4m, concrete square pad 3.0m x 3.0m x 0.1m encountered. Suspected shaft/well cap.
422416-005 search	1.0	0.8	0.2	-	-	0.8	-	-	-	-	-	-	-	At 0.8m, double brick lined, circular mine entry encountered. C.2.6m in diameter. Backfilled with Colliery Spoil.
422416-004 search	1.5	1.5	0.2	-	-	1.5	-	-	-	-	-	-	-	At 0.8m, square sandstone brick lined mine entry encountered. 4.0m x 2.4m in size. Backfilled with colliery spoil.

Summary of Ground Conditions – Rotary Probeholes

Hole ID	Final depth	Depth to base of Overburden (mbgl)		Depth to Rock (mbgl)	2nd Brown Metal				Remarks
		Made Ground	Residual Soils		Depth to base of Solid Coal (mbgl)	Thickness (m)	Depth to base of workings (mbgl)	Thickness (m)	
PH01	12.00	-	1.8	1.8	8.8	0.7	-	-	-
PH01A	6.0	-	1.8	1.8	-	-	-	-	Monitoring well installed.
PH02	10.0	-	1.0	1.0	4.1, 6.9	0.1, 0.5	-	-	Monitoring well installed.
PH03	9.0	-	3.1	3.1	3.8	0.7	-	-	Monitoring well installed.
PH04	15.30	3.7	-	3.7	-	-	10.4	0.5	Flush lost 0.7m above soft ground (workings).
PH05	13.0	2.0	-	2.0	-	-	10.0	0.7	Loss of flush & soft drilling between 9.3m and 10.0m depth.
PH05A	6.0	2.0	-	2.0	-	-	-	-	Monitoring well installed.
PH06	15.0	4.2	-	4.2	10.6	0.9	-	-	-
PH07	15.3	6.1	-	6.1	-	-	11.5	1.6	-
PH07A	6.0	6.0	-	-	-	-	-	-	Monitoring well installed.
PH08	30.0	3.0	-	3.0	-	-	11.0	1.0	-
PH08A	6.0	3.0	-	3.0	-	-	-	-	Monitoring well installed.
PH09	13.5	-	3.5	-	-	-	10.5	0.9	-
PH10	11.8	-	3.0	3.0	7.7	0.7	-	-	-



NOTES

- TRIAL PIT LOCATION
- SOAKAWAY PIT LOCATION
- PROBEHOLE LOCATION
- MINE ENTRY LOCATION
- GRASS & OVERGROWN AREAS
- CROPPED FIELD
- LINE OF ELECTRICITY UTILITY
- LINE OF GAS UTILITIY
- LINE OF DRAINAGE UTILITY
- LINE OF SEWER UTILITY

NOTE THAT UTILITY LOCATIONS SHOULD NOT BE RELIED UPON FOR CONSTRUCTION PURPOSES, NOR SHOULD IT BE ASSUMED THAT ALL UTILITIES BENEATH THE SITE ARE SHOWN ON THIS PLAN. THERE MAY BE UTILITIES UNKNOWN TO LITHOS. THIS DRAWING IS NOT AN ALTERNATIVE TO VISUAL INSPECTION, USE OF A CAT DETECTION TOOL AND CAREFUL EXCAVATION.

- APPROXIMATE SITE BOUNDARY

EXPLORATORY HOLE LOCATIONS HAVE BEEN SURVEYED IN (COORDINATES & GROUND LEVEL) ON COMPLETION

REV.	DESCRIPTION	DATE

LITHOS CONSULTING

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Tel 01937 545330

CLIENT

YORKSHIRE COUNTRY PROPERTIES

JOB TITLE

DENBY LANE, GRANGE MOOR

DRAWING TITLE

EXPLORATORY HOLE LOCATIONS

DRAWN	DATE	STATUS
CC	17 10 2022	FOR COMMENT ☐
CHECKED	DATE	FOR APPROVAL ☐
AG	17 10 2022	DRAFT ☐
		FINAL ☑

SCALE	SHEET	DRAWING NO.	REVISION
1:750	A3	4511/6	

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Trial Pit Log

Trialpit No **TP01**

Sheet 1 of 1

Project Name:	Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422400.33 - 416191.70 Level: 214.05
Location:	Grange Moor	Dimensions (m): Depth 3.10	2.4 × 0.6
Client:	Yorkshire Country Properties		

Date 12/10/2022

Scale 1:25

Logged CC

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	J&T		0.30	213.75		MADE GROUND: Dark brown slightly gravelly SAND with occasional rootlets. Gravel is angular to subrounded fine to coarse of mixed lithologies including sandstone, mudstone, coal and rare brick. (MADE GROUND TOPSOIL)
			HVP=50	0.90	213.15		Firm light orangish brown slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine to medium of sandstone, mudstone and coal. (COHESIVE RESIDUAL SOIL)
	1.00	D		1.40	212.65		Firm dark grey sandy CLAY. (COHESIVE RESIDUAL SOIL)
				2.40	211.65		Firm light orangish brown sandy slightly gravelly CLAY. Gravel is angular to subangular fine to coarse of mixed lithologies. (COHESIVE RESIDUAL SOIL)
				3.10	210.95		Light grey clayey angular to subangular fine to coarse GRAVEL of sandstone. (GRANULAR RESIDUAL SOIL)
							End of pit at 3.10 m

1 2 3 4 5

Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

Stability: 1. The sides of the trial pit remained stable during excavation.

AGS

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Trial Pit Log

Trialpit No
TP02
Sheet 1 of 1

Project Name: Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422387.10 - 416215.52 Level: 212.20	Date 11/10/2022
Location: Grange Moor		Dimensions (m): 2.1 × 0.6, Depth 2.30	Scale 1:25
Client: Yorkshire Country Properties			Logged CC

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20 0.20	D J&T		0.30	211.90		MADE GROUND: Dark brown slightly gravelly SAND with occasional rootlets. Gravel is angular to subangular fine to medium of predominantly sandstone. (TOPSOIL)
	0.60	D	HVP=60	0.90	211.30		Firm light orangish brown mottled grey sandy slightly gravelly CLAY. Gravel is fine to medium of sandstone and mudstone. (COHESIVE RESIDUAL SOIL)
				1.80	210.40		Weak organgish brown fine grained SANDSTONE. Recovered as slightly sandy angular to subangular fine to coarse gravel with a low cobble content. (BIRSTALL ROCK)
				2.30	209.90		Medium strong light brown SANDSTONE. Recovered as slightly clayey angular to subangular fine to coarse gravel with a low cobble content. (BIRSTALL ROCK)
							End of pit at 2.30 m

1 2 3 4 5

Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

Stability: 1. The sides of the trial pit remained stable during excavation.

AGS

SOIL INFILTRATION RATE IN ACCORDANCE WITH BRE DIGEST 365: 1991

Client:	Yorkshire Country Properties
Engineer	Dan Platford
Job Name:	Denby lane, Grange Moor
Job No.:	4511

Date:	**11 10 2022**
Trial Pit No.	**TP02**
Test No.	**1**

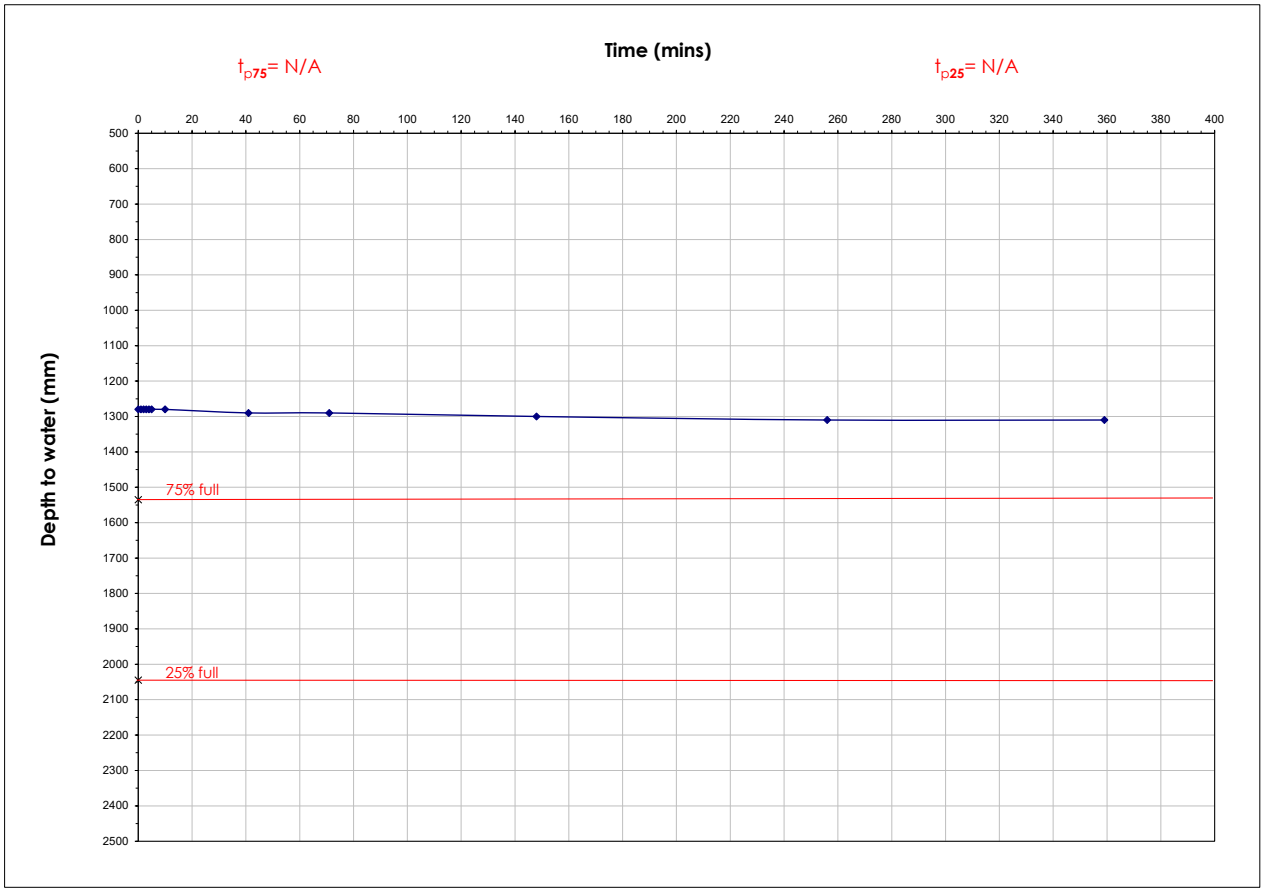
Time	Elapsed Time	Depth to water from ground level	
	(min)	(m)	(mm)
08:49	0	1.28	1280
08:50	1	1.28	1280
08:51	2	1.28	1280
08:52	3	1.28	1280
08:53	4	1.28	1280
08:54	5	1.28	1280
08:59	10	1.28	1280
09:30	41	1.29	1290
10:00	71	1.29	1290
11:17	148	1.30	1300
13:05	256	1.31	1310
14:48	359	1.31	1310

SOAKAWAY TRIAL PIT			
Dimensions		**(m)**	**(mm)**
Length	=	2.10	2100
Width	=	0.60	600
Depth	=	2.30	2300

Effective Depth (% full)		**(mm)**	**(m)**
0.25	=	2045	2.05
0.50	=	1790	1.79
0.75	=	1535	1.54

Depth at start of test (mm)	=	1280
Depth at end of test (mm)	=	1310
Base area of pit	=	1.26
a_{p50} - 50% internal surface area inc. base	=	4.014
V_{p75-25} - Volume 75 - 25%	=	0.6426

Read from the graph:		
$t_{p\,75}$ (min)	=	N/A
$t_{p\,25}$ (min)	=	N/A



Test did not attain 25% Effective depth. Unable to calculate soil infiltration rate

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Trial Pit Log

Trialpit No
TP03
Sheet 1 of 1

Project Name:	Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422367.68 - 416232.72 Level: 212.15	Date 12/10/2022
Location:	Grange Moor	Dimensions (m): Depth 2.10	2.6 × 0.6	Scale 1:25
Client:	Yorkshire Country Properties			Logged CC

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	J&T		0.30	211.85		MADE GROUND: Dark brown slightly gravelly SAND with occasional rootlets. Gravel is subangular to subrounded fine to medium of mixed lithologies including sandstone and mudstone with rare brick. (MADE GROUND TOPSOIL)
	0.60	J&T		0.80	211.35		MADE GROUND: Dark grey slightly gravelly SAND. Gravel is angular to subangular fine to coarse of mixed lithologies including sandstone, mudstone and brick. (GRANULAR MADE GROUND)
	1.20	D	HVP=60	1.60	210.55		Firm light orangish brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to medium of sandstone and mudstone. (COHESIVE RESIDUAL SOIL)
				2.10	210.05		Medium strong light brown SANDSTONE. Recovered as slightly sandy angular tabular fine to coarse gravel. (BIRSTALL ROCK) *From 1.8m, becoming difficult to excavate.* End of pit at 2.10 m

1 2 3 4 5

Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

Stability: 1. The sides of the trial pit remained stable during excavation.

AGS

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Trial Pit Log

Trialpit No **TP04**

Sheet 1 of 1

Project Name:	Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422376.21 - 416248.50 Level: 211.15	Date 11/10/2022
Location:	Grange Moor	Dimensions (m): Depth 3.00	2.6 × 0.6	Scale 1:25
Client:	Yorkshire Country Properties			Logged CC

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	J&T		0.30	210.85		MADE GROUND: Dark brown gravelly slightly clayey SAND with occasional rootlets. Gravel is subangular to subrounded fine to medium of sandstone and mudstone. (MADE GROUND TOPSOIL)
	0.50	J&T		0.70	210.45		MADE GROUND: Dark brown slightly gravelly SAND. Gravel is angular to subrounded fine to coarse of mixed lithologies including sandstone, mudstone, coal and rare brick. (GRANULAR MADE GROUND)
	0.80	D	HVP=50	1.20	209.95		Firm light orangish brown mottled grey sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to medium of sandstone and mudstone. (COHESIVE RESIDUAL SOIL)
				3.00	208.15		Light brown clayey angular to subangular fine to coarse GRAVEL of sandstone and sandstone lithorelicts. (GRANULAR RESIDUAL SOIL) End of pit at 3.00 m

1 2 3 4 5

Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

Stability: 1. The sides of the trial pit remained stable during excavation.

AGS

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Trial Pit Log

Trialpit No **TP05**

Sheet 1 of 1

Project Name:	Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422358.49 - 416272.31 Level: 210.45
Location:	Grange Moor	Dimensions (m): Depth 2.80	2.4 × 0.6
Client:	Yorkshire Country Properties		

Date 11/10/2022

Scale 1:25

Logged CC

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	J&T		0.20	210.25		Dark brown slightly gravelly slightly clayey SAND with occasional rootlets. Gravel is angular to subangular fine to medium of sandstone and mudstone. (TOPSOIL)
							Firm light orangish brown mottled gray sandy slightly gravelly CLAY. Gravel is angular to subangular fine to coarse of sandstone. (COHESIVE RESIDUAL SOIL)
			HVP=70				
	0.80	D					
				1.50	208.95		Stiff dark grey gravelly CLAY. Gravel is angular to sub angular fine to medium of mudstone. (COHESIVE RESIDUAL SOIL)
			HVP=90				
				1.90	208.55		Black COAL. Recovered as angular tabular fine to coarse gravel. (1st BROWN METAL)
				2.20	208.25		Light greyish brown slightly sandy angular tabular fine to coarse GRAVEL of mudstone lithorelicts. (COAL MEASURES)
				2.80	207.65		End of pit at 2.80 m

1 2 3 4 5

Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

Stability: 1. The sides of the trial pit remained stable during excavation.

AGS

LITHOS CONSULTING

Trial Pit Log

Trialpit No **TP06**

Sheet 1 of 1

Project Name:	Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422380.30 - 416291.81 Level: 208.95
Location:	Grange Moor	Dimensions (m): 2.4 × 0.6, Depth 3.10	Scale 1:25
Client:	Yorkshire Country Properties		Logged CC
			Date 11/10/2022

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	J&T		0.30	208.65		Dark brown slightly gravelly slightly clayey SAND with occasional rootlets. Gravel is angular to subangular fine to medium of mixed lithologies. (TOPSOIL)
	0.90	D	HVP=60				Firm light orangish brown mottled grey sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to medium of sandstone, mudstone and coal. (COHESIVE RESIDUAL SOIL)
	2.20	T		1.90	207.05		Black COAL. Recovered as angular tabular fine to coarse gravel. (1st BROWN METAL)
▼				2.60	206.35		Light greyish brown angular to subangular fine to coarse GRAVEL of mudstone. (COAL MEASURES)
				3.10	205.85		*At 3.1m, groundwater seepage.* End of pit at 3.10 m

Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

Stability: 1. The sides of the trial pit remained stable during excavation.

AGS

LITHOS CONSULTING

Trial Pit Log

Trialpit No **TP07** Sheet 1 of 1

Project Name:	Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422337.45 - 416292.92 Level: 210.15	Date 11/10/2022
Location:	Grange Moor	Dimensions (m): Depth 2.60	2.7 × 0.6	Scale 1:25
Client:	Yorkshire Country Properties			Logged CC

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20 0.20	B J&T		0.30	209.85		Dark brown slightly gravelly SAND with frequent rootlets. Gravel is angular to subrounded firm to medium of sandstone and mudstone. (TOPSOIL)
			HVP=70				Firm light orangish brown mottled grey sandy slightly gravelly CLAY. Gravel is subangular to subrounded of sandstone and mudstone. (COHESIVE RESIDUAL SOIL)
	0.70	D		1.60	208.55		Light grey clayey angular to subangular fine to coarse GRAVEL of mudstone and sandstone lithorelicts. (GRANULAR RESIDUAL SOIL)
				2.60	207.55		End of pit at 2.60 m

1 2 3 4 5

Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

Stability: 1. The sides of the trial pit remained stable during excavation.

AGS

SOIL INFILTRATION RATE IN ACCORDANCE WITH BRE DIGEST 365: 1991

Client:	Yorkshire Country Properties
Engineer	Dan Platford
Job Name:	Denby lane, Grange Moor
Job No.:	4511

Date:	**11 10 2022**
Trial Pit No.	**TP07**
Test No.	**1**

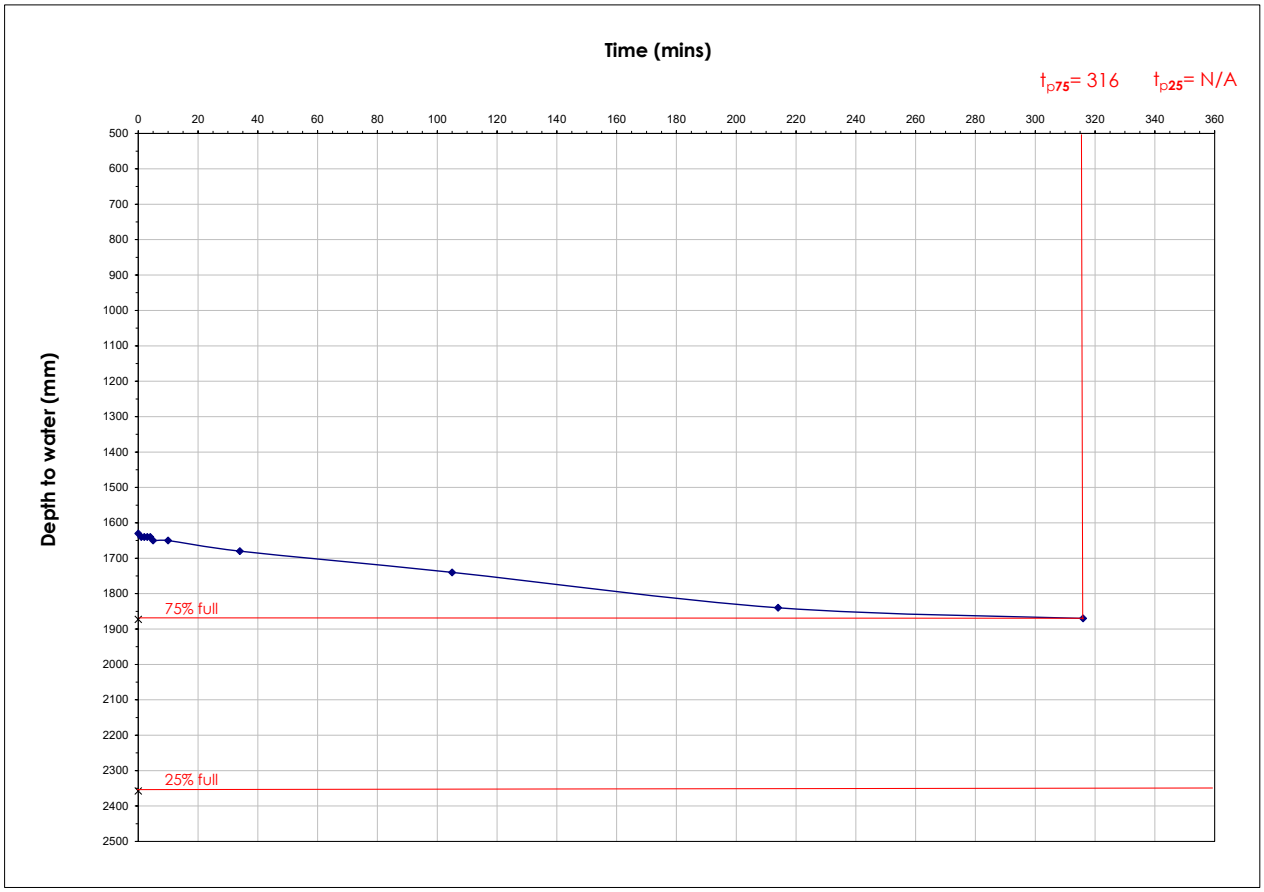
Time	Elapsed Time	Depth to water from ground level	
	(min)	(m)	(mm)
09:35	0	1.63	1630
09:36	1	1.64	1640
09:37	2	1.64	1640
09:38	3	1.64	1640
09:39	4	1.64	1640
09:40	5	1.65	1650
09:45	10	1.65	1650
10:09	34	1.68	1680
11:20	105	1.74	1740
13:09	214	1.84	1840
14:51	316	1.87	1870

SOAKAWAY TRIAL PIT			
Dimensions		**(m)**	**(mm)**
Length	=	2.80	2800
Width	=	0.60	600
Depth	=	2.60	2600

Effective Depth (% full)		**(mm)**	**(m)**
0.25	=	2357.5	2.36
0.50	=	2115	2.12
0.75	=	1872.5	1.87

Depth at start of test (mm)	=	1630
Depth at end of test (mm)	=	1870
Base area of pit	=	1.68
a_{p50} - 50% internal surface area inc. base	=	4.978
V_{p75-25} - Volume 75 - 25%	=	0.8148

Read from the graph:		
$t_{p\,75}$ (min)	=	316
$t_{p\,25}$ (min)	=	N/A



Test did not attain 25% Effective depth. Unable to calculate soil infiltration rate

LITHOS CONSULTING

Trial Pit Log

Trialpit No
TP08
Sheet 1 of 1

Project Name: Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422331.60 - 416260.19 Level: 212.15	Date 11/10/2022
Location: Grange Moor		Dimensions (m): 2.2 × 0.6, Depth 2.20	Scale 1:25
Client: Yorkshire Country Properties			Logged CC

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20 0.20	B J&T		0.30	211.85		Dark brown slightly gravelly slightly sandy CLAY with occasional rootlets. Gravel is subangular to subrounded fine to medium of mixed lithologies. (TOPSOIL)
	0.70	D	HVP=45	1.10	211.05		Firm sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to medium of sandstone and mudstone. (COHESIVE RESIDUAL SOIL)
				1.40	210.75		Soft orangish brown very sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse of sandstone. (COHESIVE RESIDUAL SOIL) *Clay is likely firm but feels soft due to high sand content. Unable to obtain hand vane reading.*
			HVP=90	2.20	209.95		Stiff dark grey slight sandy CLAY. (COHESIVE RESIDUAL SOIL) End of pit at 2.20 m

Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

Stability: 1. The sides of the trial pit remained stable during excavation.

AGS

SOIL INFILTRATION RATE IN ACCORDANCE WITH BRE DIGEST 365: 1991

Client:	Yorkshire Country Properties
Engineer	Dan Platford
Job Name:	Denby lane, Grange Moor
Job No.:	4511

Date:	**11 10 2022**
Trial Pit No.	**TP08**
Test No.	**1**

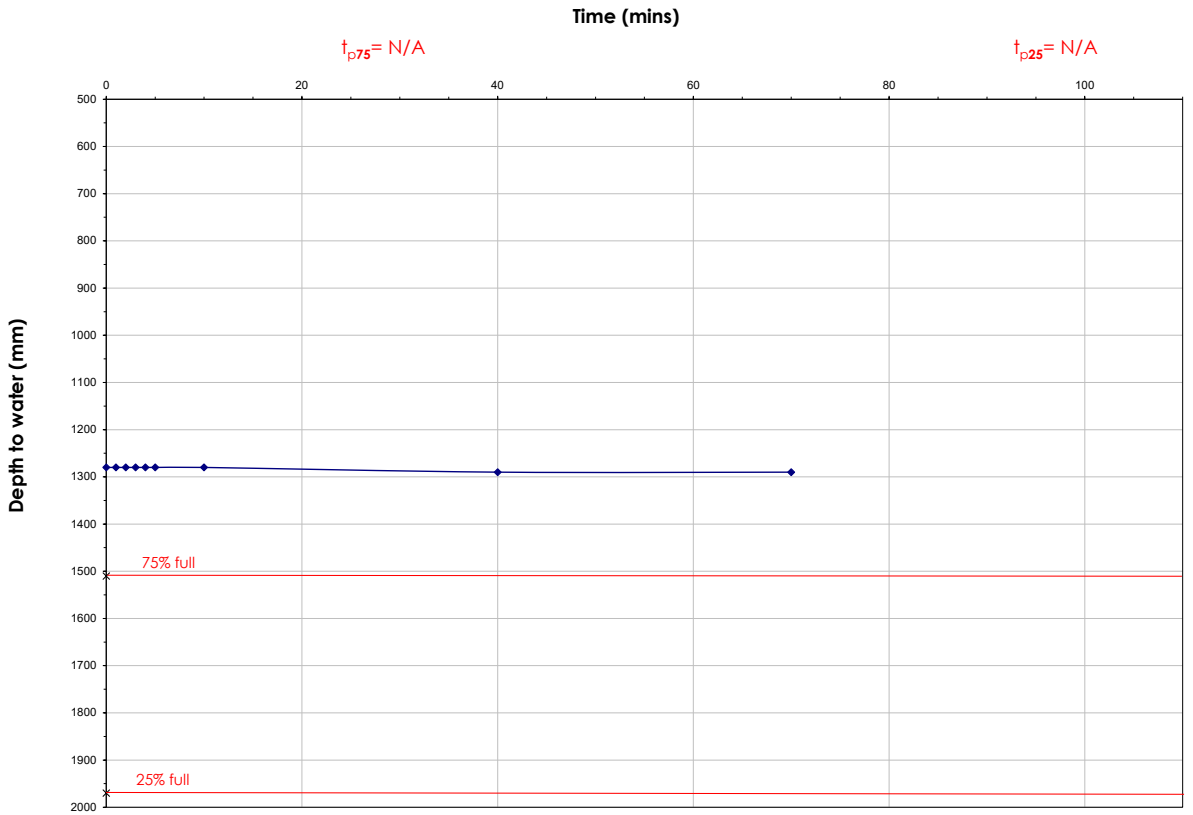
Time	Elapsed Time	Depth to water from ground level	
	(min)	(m)	(mm)
13:48	0	1.28	1280
13:49	1	1.28	1280
13:50	2	1.28	1280
13:51	3	1.28	1280
13:52	4	1.28	1280
13:53	5	1.28	1280
13:58	10	1.28	1280
14:28	40	1.29	1290
14:58	70	1.29	1290

SOAKAWAY TRIAL PIT			
Dimensions		**(m)**	**(mm)**
Length	=	2.20	2200
Width	=	0.60	600
Depth	=	2.20	2200

Effective Depth (% full)		**(mm)**	**(m)**
0.25	=	1970	1.97
0.50	=	1740	1.74
0.75	=	1510	1.51

Depth at start of test (mm)	=	1280
Depth at end of test (mm)	=	1290
Base area of pit	=	1.32
a_{p50} - 50% internal surface area inc. base	=	3.896
V_{p75-25} - Volume 75 - 25%	=	0.6072

Read from the graph:		
$t_{p\,75}$ (min)	=	N/A
$t_{p\,25}$ (min)	=	N/A



Test did not attain 25% Effective depth. Unable to calculate soil infiltration rate

LITHOS CONSULTING

Trial Pit Log

Trialpit No **TP09**

Sheet 1 of 1

Project Name: Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422365.80 - 416179.62 Level: 216.25	Date 10/10/2022
Location: Grange Moor		Dimensions (m): Depth 3.10, 2.5 × 0.6	Scale 1:25
Client: Yorkshire Country Properties			Logged CC

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	J&T		0.30	215.95		MADE GROUND: Dark brownish grey gravelly SAND with frequent rootlets. Gravel is angular to subrounded fine to coarse of predominantly coal and clinker. (MADE GROUND TOPSOIL)
	0.80	J&T					MADE GROUND: Dark grey gravelly ASH. Gravel is angular to subangular fine to medium of coal and clinker. (COLLIERY SPOIL)
				1.60	214.65		MADE GROUND: Dark grey sandy ashy angular to subangular fine to coarse GRAVEL of mudstone coal and clinker. (COLLIERY SPOIL)
				2.10	214.15		MADE GROUND: Light orangish brown clayey slightly sandy angular to subangular fine to coarse GRAVEL of sandstone with a low cobble content. Cobbles are angular of sandstone. (COLLIERY SPOIL)
	2.50	D					
	2.80	B					
							From 3.1m, difficult to excavate further.
				3.10	213.15		End of pit at 3.10 m

1 2 3 4 5

Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

Stability: 1. The sides of the trial pit remained stable during excavation.

AGS

LITHOS CONSULTING

Trial Pit Log

Trialpit No **TP10**

Sheet 1 of 1

Project Name:	Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422327.01 - 416172.02 Level: 216.55
Location:	Grange Moor	Dimensions (m): Depth 2.30	2.9 × 0.6
Client:	Yorkshire Country Properties		

Date 11/10/2022

Scale 1:25

Logged CC

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.30	J&T		0.40	216.15		Dark brown slightly clayey slightly gravelly SAND with occasional rootlets. Gravel is angular to subangular fine to medium of sandstone, mudstone and coal. (TOPSOIL)
							Light brown sandy angular to subangular fine to coarse GRAVEL of sandstone with a high cobble content. Cobbles are angular of sandstone. (GRANULAR RESIDUAL SOIL)
				2.30	214.25		End of pit at 2.30 m

1 2 3 4 5

Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

Stability: 1. The sides of the trial pit remained stable during excavation.

AGS

SOIL INFILTRATION RATE IN ACCORDANCE WITH BRE DIGEST 365: 1991

Client:	Yorkshire Country Properties
Engineer	Dan Platford
Job Name:	Denby lane, Grange Moor
Job No.:	4511

Date:	**11 10 2022**
Trial Pit No.	**TP10**
Test No.	**1**

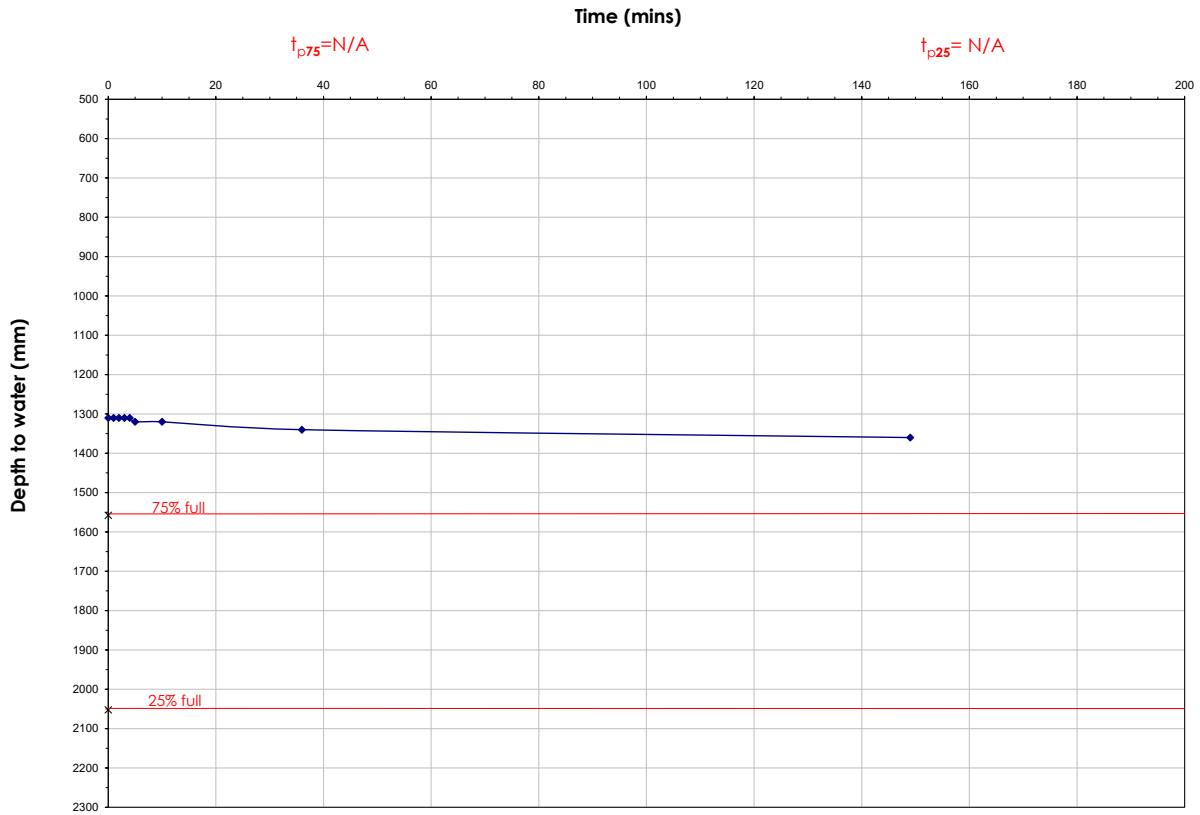
Time	Elapsed Time	Depth to water from ground level	
	(min)	(m)	(mm)
12:26	0	1.31	1310
12:27	1	1.31	1310
12:28	2	1.31	1310
12:29	3	1.31	1310
12:30	4	1.31	1310
12:31	5	1.32	1320
12:36	10	1.32	1320
13:02	36	1.34	1340
14:55	149	1.36	1360

SOAKAWAY TRIAL PIT			
Dimensions		**(m)**	**(mm)**
Length	=	2.90	2900
Width	=	0.60	600
Depth	=	2.30	2300

Effective Depth (% full)		**(mm)**	**(m)**
0.25	=	2052.5	2.05
0.50	=	1805	1.81
0.75	=	1557.5	1.56

Depth at start of test (mm)	=	1310
Depth at end of test (mm)	=	1360
Base area of pit	=	1.74
a_{p50} - 50% internal surface area inc. base	=	5.205
V_{p75-25} - Volume 75 - 25%	=	0.8613

Read from the graph:		
$t_{p\,75}$ (min)	=	N/A
$t_{p\,25}$ (min)	=	N/A



Test did not attain 25% Effective depth. Unable to calculate soil infiltration rate

LITHOS CONSULTING

Trial Pit Log

Trialpit No **TP11**

Sheet 1 of 1

Project Name:	Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422332.81 - 416195.20 Level: 216.80
Location:	Grange Moor	Dimensions (m): Depth 2.50	2.3 × 0.6
Client:	Yorkshire Country Properties		

Date 10/10/2022

Scale 1:25

Logged CC

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.60	J&T					MADE GROUND: Light grey gravelly slightly clayey SAND. Gravel is angular to subrounded fine to coarse of mixed lithologies including brick, mudstone, sandstone and coal. (GRANULAR MADE GROUND)
				1.20	215.60		
	1.40	J,K&T					MADE GROUND: Light grey sandy angular to subangular GRAVEL of concrete, coal, glass and wood. Frequent full and half bricks. Occasional cobbles of brick walls up to 30cm in size. (DEMOLITION RUBBLE) *Between 1.2m and 1.9m depth, strong hydrocarbon odour.* *Between 1.4m and 1.9m, brick wall in western face of pit*
				1.90	214.90		
	2.20	D					Light brown sandy, gravelly angular to subangular COBBLES of sandstone. Gravel is angular to subangular fine to coarse of sandstone. (GRANULAR RESIDUAL SOIL) *At 2.5m, difficult to excavate further.*
				2.50	214.30		End of pit at 2.50 m

1 2 3 4 5

Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

Stability: 1. The sides of the trial pit remained stable during excavation.

AGS

LITHOS CONSULTING

Trial Pit Log

Trialpit No **TP12**

Sheet 1 of 1

Project Name:	Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422316.01 - 416194.50 Level: 217.65
Location:	Grange Moor	Dimensions (m): Depth 3.10	2.7 × 0.6
Client:	Yorkshire Country Properties		

Date 10/10/2022

Scale 1:25

Logged CC

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.30	J&T		0.40	217.25		MADE GROUND: Dark grey ashy slightly gravelly SAND with frequent rootlets. Gravel is angular to subangular fine to coarse of mixed lithologies including coal, clinker and sandstone. (MADE GROUND TOPSOIL)
	0.80	J&T					MADE GROUND: Light grey ashy angluar to subangular fine to coarse GRAVEL of mudstone, coal, clinker and burnt shale. (COLLIERY SPOIL)
	1.30	D&B					
	2.20	J&T		2.10	215.55		Dark brown sandy slightly gravelly CLAY with rare rootlets. Gravel is subangular to subrounded fine to medium of mixed lithologies. (RELICT TOPSOIL)
	2.30	D		2.40	215.25		Firm light orangish brown mottled grey slightly gravelly CLAY. Gravel is angular to subangular fine to medium of sandstone. (COHESIVE RESIDUAL SOIL)
			HVP=50				
	2.70	D					
			HVP=52				
							At 3.1m scraping on likely bedrock.
				3.10	214.55		End of pit at 3.10 m

1 2 3 4 5

Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

Stability: 1. The sides of the trial pit remained stable during excavation.

AGS

LITHOS CONSULTING

Trial Pit Log

Trialpit No **TP13**

Sheet 1 of 1

Project Name:	Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422318.99 - 416205.69 Level: 217.40	Date 10/10/2022
Location:	Grange Moor	Dimensions (m): Depth 3.50	2.8 × 0.6	Scale 1:25
Client:	Yorkshire Country Properties			Logged CC

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	J&T		0.20	217.20		MADE GROUND: Dark grey slightly gravelly SAND with occasional rootlets. Gravel is angular to subangular fine to medium of mixed lithologies including sandstone, mudstone, clinker and coal. (MADE GROUND TOPSOIL)
	0.50	J&T		0.70	216.70		MADE GROUND: Light grey ashy angular to subangular fine to coarse GRAVEL of mudstone, coal, clinker and burnt shale. (COLLIERY SPOIL)
	1.80	J&T		2.80	214.60		MADE GROUND: Light brown sandy angular tabular fine to coarse GRAVEL of sandstone with a high cobble content. Cobbles are angular of sandstone. Rare occasional half brick. (COLLIERY SPOIL)
	2.90 3.00	J&T D&B		3.50	213.90		MADE GROUND: Dark reddish grey ash of angular to subrounded fine to coarse GRAVEL of clinker, mudstone, coal, burnt shale and sandstone. (COLLIERY SPOIL)
							End of pit at 3.50 m

1 2 3 4 5

Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

Stability: 1. The sides of the trial pit remained stable during excavation.

AGS

LITHOS CONSULTING

Trial Pit Log

Trialpit No
TP14
Sheet 1 of 1

Project Name: Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422335.81 - 416209.48 Level: 216.70	Date 10/10/2022
Location: Grange Moor		Dimensions (m): 2.6 × 0.6, Depth 3.00	Scale 1:25
Client: Yorkshire Country Properties			Logged CC

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	J&T		0.30	216.40		MADE GROUND: Dark grey ashy slightly gravelly SAND with occasional rootlets. Gravel is angular to subrounded fine to medium of mixed lithologies including coal, mudstone, sandstone and clinker. (MADE GROUND TOPSOIL)
	0.80	J&T					MADE GROUND: Light grey ashy angular to subangular fine to coarse GRAVEL of mudstone, coal, clinker, burnt shale and sandstone. (COLLIERY SPOIL)
	1.10	D&B					
				2.10	214.60		Light brown slightly clayey angular to subangular fine to coarse GRAVEL of sandstone with frequent angular cobbles of sandstone. (GRANULAR RESIDUAL SOIL)
	2.50	D					*Difficult to excavate beyond 3.0m*
				3.00	213.70		End of pit at 3.00 m

1 2 3 4 5

Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

Stability: 1. The sides of the trial pit remained stable during excavation.

AGS

LITHOS CONSULTING

Trial Pit Log

Trialpit No
TP15
Sheet 1 of 1

Project Name: Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422332.79 - 416220.79 Level: 216.75	Date 10/10/2022
Location: Grange Moor		Dimensions (m): 2.6 × 0.6, Depth 3.10	Scale 1:25
Client: Yorkshire Country Properties			Logged CC

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	J&T		0.30	216.45		MADE GROUND: Dark greyish brown slightly gravelly ashy SAND with occasional rootlets. Gravel is angular to subangular fine to medium of mudstone, coal and clinker. (MADE GROUND TOPSOIL)
	0.70	J&T		1.00	215.75		MADE GROUND: Light grey sandy angular to subangular fine to coarse GRAVEL of mudstone, coal and clinker. (COLLIERY SPOIL)
	1.50	D&B		1.90	214.85		MADE GROUND: Light brown sandy angular to subangular fine to coarse GRAVEL of sandstone with a low cobble content. Cobbles are angular of sandstone. (REWORKED NATURAL GROUND)
	2.50	J&T		3.10	213.65		MADE GROUND: Dark grey ashy angular to subrounded fine to coarse GRAVEL of clinker, mudstone and coal. (COLLIERY SPOIL) End of pit at 3.10 m

Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

Stability: 1. The sides of the trial pit remained stable during excavation.

AGS

LITHOS CONSULTING

Trial Pit Log

Trialpit No **TP16**

Sheet 1 of 1

Project Name: Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422310.69 - 416207.10 Level: 217.75	Date 12/10/2022
Location: Grange Moor		Dimensions (m): 2.6 × 0.6, Depth 2.60	Scale 1:25
Client: Yorkshire Country Properties			Logged CC

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	J&T		0.30	217.45		MADE GROUND: Dark grey gravelly ASH with frequent rootlets.Gravel is angular to subrounded fine to coarse of mixed lithologies including coal, mudstone and clinker. (MADE GROUND TOPSOIL)
							MADE GROUND: Orangish red sandy angular tabular fine to coarse GRAVEL of burnt shale with a medium cobble content. (COLLIERY SPOIL)
							Between 0.3m and 2.0m, spalling of trial pit walls.
	0.90	J&T					
				2.00	215.75		MADE GROUND: Light brown slightly clayey gravelly angular COBBLES of sandstone. Gravel is angular to subangular fine to coarse of sandstone. (REWORKED NATURAL GROUND)
				2.40	215.35		MADE GROUND: Dark grey slightly gravelly ASH. Gravel is angular to subangular fine to coarse of coal, mudstone and burnt shale. (COLLIERY SPOIL)
				2.60	215.15		End of pit at 2.60 m

1 2 3 4 5

Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

Stability: 1. The sides of the trial pit were unstable between 0.3m and 2.0m depth during excavation.

AGS

LITHOS CONSULTING

Trial Pit Log

Trialpit No **TP17** Sheet 1 of 1

Project Name:	Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422295.73 - 416191.00 Level: 217.90	Date 12/10/2022
Location:	Grange Moor		Dimensions (m): 2.8 × 0.6, Depth 2.90	Scale 1:25
Client:	Yorkshire Country Properties			Logged CC

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.30	217.60		MADE GROUND: Dark grey slightly gravelly ASH with frequent rootlets. Gravel is angular to subangular fine to coarse of mixed lithologies including clinker, mudstone, sandstone and brick fragments. (MADE GROUND TOPSOIL)
	0.50	J&T					MADE GROUND: Dark grey gravelly ASH. Gravel is angular to subrounded fine to coarse of mixed lithologies including sandstone, mudstone, coal and clinker. (COLLIERY SPOIL)
				0.90	217.00		POSSIBLE MADE GROUND: Light brown sandy slightly clayey angular to subangular fine to coarse GRAVEL of sandstone (REWORKED NATURAL GROUND)
	1.40	D					
				2.90	215.00		*Between 0.9m and 2.8m, gravel appears to be loose and not always horizontal suggesting possible reworked natural.* End of pit at 2.90 m

1 2 3 4 5

Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

Stability: 1. The sides of the trial pit remained stable during excavation.

AGS

LITHOS CONSULTING

Trial Pit Log

Trialpit No **TP18**

Sheet 1 of 1

Project Name:	Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422285.71 - 416201.19 Level: 218.35
Location:	Grange Moor	Dimensions (m): Depth 3.20	2.8 × 0.6
Client:	Yorkshire Country Properties		Date 10/10/2022 Scale 1:25 Logged CC

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							MADE GROUND: Dark grey slightly sandy CLAY with frequent rootlets. (MADE GROUND TOPSOIL)
				0.40	217.95		MADE GROUND: Light grey slightly sandly angular to subangular fine to coarse GRAVEL of mudstone and coal (REWORKED NATURAL GROUND)
				2.90	215.45		POSISBLE MADE GROUND: Light orangish brown clayey angular to subangular fine to coarse GRAVEL of sandstone, mudstone and coal. (REWORKED NATURAL GROUND)
				3.20	215.15		*From 3.2m, difficult to excavate further.* End of pit at 3.20 m

Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

Stability: 1. The sides of the trial pit remained stable during excavation.

AGS

LITHOS CONSULTING

Trial Pit Log

Trialpit No
TP19
Sheet 1 of 1

Project Name: Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422266.50 - 416211.20 Level: 218.75	Date 10/10/2022
Location: Grange Moor		Dimensions (m): Depth 1.60 — 2.6 × 0.6	Scale 1:25
Client: Yorkshire Country Properties			Logged CC

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	J&T		0.30	218.45		MADE GROUND: Dark brown slightly sandy slightly gravelly CLAY with frequent rootlets. Gravel is angular to subrounded fine to coarse of brick, plastic and carpet. (MADE GROUND TOPSOIL)
	0.90	D					Light brown sandy angular tabular fine to coarse GRAVEL of standstone. (GRANULAR RESIDUAL SOIL) *Trial pit extended east to locate quarry highwall.*
				1.60	217.15		*At 1.6m, refusal on bedrock.* End of pit at 1.60 m

Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

Stability: 1. The sides of the trial pit remained stable during excavation.

AGS

LITHOS CONSULTING

Trial Pit Log

Trialpit No
TP20
Sheet 1 of 1

Project Name: Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422284.48 - 416217.52 Level: 218.60	Date 10/10/2022
Location: Grange Moor		Dimensions (m): 2.6 × 0.6, Depth 3.30	Scale 1:25
Client: Yorkshire Country Properties			Logged CC

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	J&T		0.20	218.40		MADE GROUND: Dark grey slightly gravelly SAND with frequent rootlets. Gravel is angular to subangular fine to medium of predominantly mudstone. (MADE GROUND TOPSOIL)
	0.60	J&T					MADE GROUND: Light grey sandy angular to subangular fine to coarse GRAVEL of mudstone, coal and clinker. (COLLIERY SPOIL)
				3.30	215.30		End of pit at 3.30 m

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Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

Stability: 1. The sides of the trial pit remained stable during excavation.

AGS

LITHOS CONSULTING

Trial Pit Log

Trialpit No **TP21**

Sheet 1 of 1

Project Name:	Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422306.51 - 416227.81 Level: 217.40	Date 10/10/2022
Location:	Grange Moor	Dimensions (m): Depth 3.20 — 2.7 × 0.6		Scale 1:25
Client:	Yorkshire Country Properties			Logged CC

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	J&T		0.20	217.20		MADE GROUND:Dark grey slightly gravelly ASH with frequent rootlets. Gravel is angular to subangular fine to medium of mudstone, clinker and coal. (MADE GROUND TOPSOIL)
							MADE GROUND:Light grey ashy angular to subangular fine to coarse GRAVEL of mudstone, coal and clinker. (COLLIERY SPOIL)
	1.70	J&T					*Between 1.6m to 1.8m, lense of burnt shale in southern face of pit.*
				3.20	214.20		End of pit at 3.20 m

Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

Stability: 1. The sides of the trial pit remained stable during excavation.

AGS

LITHOS CONSULTING

Trial Pit Log

Trialpit No
TP22
Sheet 1 of 1

Project Name:	Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422317.82 - 416233.91 Level: 216.55	Date 11/10/2022
Location:	Grange Moor	Dimensions (m): Depth 2.90	2.6 × 0.6	Scale 1:25
Client:	Yorkshire Country Properties			Logged CC

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	J&T		0.30	216.25		MADE GROUND: Dark brown slightly gravelly ASH with frequent rootlets. Gravel is angular to subangular fine to coarse of sandstone, mudstone, coal and clinker. (MADE GROUND TOPSOIL)
	1.00	J&T		2.00	214.55		MADE GROUND: Dark grey ashy angular to subangular fine to coarse GRAVEL of mudstone and coal. (COLLIERY SPOIL)
				2.40	214.15		MADE GROUND: Light brown sandy angular to subangular fine to coarse GRAVEL of sandstone with rare fragments of mudstone, coal and clinker. (COLLIERY SPOIL)
				2.90	213.65		MADE GROUND: Dark grey ashy angular to subrounded fine to coarse GRAVEL of sandstone, mudstone, coal, clinker and burnt shale. (COLLIERY SPOIL)
							End of pit at 2.90 m

1 2 3 4 5

Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

Stability: 1. The sides of the trial pit remained stable during excavation.

AGS

LITHOS CONSULTING

Trial Pit Log

Trialpit No
TP23
Sheet 1 of 1

Project Name:	Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422383.68 - 416272.86 Level: 209.37	Date 11/10/2022
Location:	Grange Moor	Dimensions (m): Depth 1.00	2.6 × 0.6	Scale 1:25
Client:	Yorkshire Country Properties			Logged CC

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.50	208.87		Dark brown slightly gravelly SAND with occasional rootlets. Gravel is subangular to subrounded fine to coarse of mixed lithologies. (TOPSOIL)
				1.00	208.37		Firm light orangish brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to medium of mixed lithologies. (COHESIVE RESIDUAL SOIL) *At 0.80m, black pastic pipe c.30cm in diameter in east of pit. Pipe is set in brick surround.* *Shallow trial pit to determine the adjacent quarry extent.* End of pit at 1.00 m

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Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

Stability: 1. The sides of the trial pit remained stable during excavation.

AGS

LITHOS CONSULTING

Trial Pit Log

Trialpit No
TP24
Sheet 1 of 1

Project Name:	Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422381.62 - 416234.77 Level: 211.58	Date 12/10/2022
Location:	Grange Moor	Dimensions (m): Depth 0.50	4.3 × 1.2	Scale 1:25
Client:	Yorkshire Country Properties			Logged CC

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.30	211.28		Dark brown slight gravelly SAND with frequent rootlets. Gravel is subangular to subrounded fine to medium of mixed lithologies. (TOPSOIL)
				0.50	211.08		Firm light orangish brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to medium of mixed lithologies. (COHESIVE RESIDUAL SOIL)
							Shallow trial pit to locate the well shown on historical plans.
							End of pit at 0.50 m

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Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

Stability: 1. The sides of the trial pit remained stable during excavation.

AGS

LITHOS CONSULTING

Trial Pit Log

Trialpit No
TP25
Sheet 1 of 1

Project Name:	Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422330.44 - 416185.84 Level: 216.66	Date 12/10/2022
Location:	Grange Moor	Dimensions (m): Depth 0.50	2.6 × 1.2	Scale 1:25
Client:	Yorkshire Country Properties			Logged CC

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.30	216.36		Dark brown slight gravelly SAND with frequent rootlets. Gravel is subangular to subrounded fine to medium of mixed lithologies. (TOPSOIL)
				0.50	216.16		Firm light orangish brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to medium of mixed lithologies. (COHESIVE RESIDUAL SOIL)
							Shallow trial pit to determine the extent of made ground.
							End of pit at 0.50 m

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Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

Stability: 1. The sides of the trial pit remained stable during excavation.

AGS

LITHOS CONSULTING

Trial Pit Log

Trialpit No
422416-004
Search
Sheet 1 of 1

Project Name:	Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422335.99 - 416216.01 Level: 216.70	Date 12/10/2022
Location:	Grange Moor		Dimensions (m): Depth 1.50 — 4.5 × 2.5	Scale 1:25
Client:	Yorkshire Country Properties			Logged CC

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	216.50		MADE GROUND: Dark grey gravelly ASH with frequent rootlets. Gravel is angular to subrounded fine to coarse of mixed lithologies including coal, clinker, mudstone and sandstone. (MADE GROUND TOPSOIL)
							MADE GROUND: Brownish grey sandy gravelly ASH. Gravel is angular to subrounded fine to coarse of mixed lithologies including coal, clinker, mudstone, sandstone and rare brick. (COLLIERY SPOIL)
							At 0.8m, square sandstone brick lined mine entry. 4.0m long, 2.4m wide. Infilled with MADE GROUND: Dark grey gravelly ASH. Gravel is angular to subangular fine to coarse of mudstone, coal and clinker.
				1.50	215.20		End of pit at 1.50 m

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Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

Stability: 1. The sides of the trial pit remained stable during excavation.

AGS

DENBY LANE, GRANGE MOOR – SHAFT SEARCH

LITHOS

Shaft 422416-004. Located at coordinates 422335.99, 416216.01

LITHOS CONSULTING

Trial Pit Log

Trialpit No
422416-005
Search
Sheet 1 of 1

Project Name:	Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422342.99 - 416206.01 Level: 216.40	Date 12/10/2022
Location:	Grange Moor		Dimensions (m): 5 × 3, Depth 1.00	Scale 1:25
Client:	Yorkshire Country Properties			Logged CC

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	216.20		MADE GROUND: Dark greyish brown gravelly ASH with frequent rootlets. Gravel is angular to subangular fine to coarse of mudstone, coal and clinker. (MADE GROUND TOPSOIL)
				0.80	215.60		MADE GROUND: Light greyish brown sandy ashy angular to subrounded fine to coarse GRAVEL of brick, mudstone, glass, coal, sandstone and clinker. (COLLIERY SPOIL)
				1.00	215.40		Firm light orangish brown sandy slightly gravelly CLAY. Gravel is angular to subangular fine to medium of sandstone and mudstone. (COHESIVE RESIDUAL SOIL) *At 0.8m, double brick lined circular mine entry encountered. Approximately 2.6m in diameter. Infilled with MADE GROUND: Dark grey ashy GRAVEL of clinker, mudstone, coal and rare brick.* End of pit at 1.00 m

1 2 3 4 5

Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

Stability: 1. The sides of the trial pit remained stable during excavation.

AGS

DENBY LANE, GRANGE MOOR – SHAFT SEARCH

LITHOS

Shaft 422416-005. Located at coordinates 422342.00, 416206.01

LITHOS CONSULTING

Trial Pit Log

Trialpit No
422416-029
Search
Sheet 1 of 1

Project Name:	Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422315.01 - 416186.03 Level: 217.60	Date 12/10/2022
Location:	Grange Moor		Dimensions (m): Depth 0.60 — 4 × 4	Scale 1:25
Client:	Yorkshire Country Properties			Logged CC

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.60	217.00		MADE GROUND: Dark grey gravelly ASH. Gravel is angular to subrounded fine to coarse of mixed lithologies including clinker, coal and mudstone. (COLLIERY SPOIL) *Tipped materials on surface including bin bags, childrens toys, metal and wood.* *At 0.4m depth, concrete square pad 3.0m x 3.0m x 0.1m encountered. Likely well/mine entry cap.* End of pit at 0.60 m

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Remarks: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during excavation. 3. Backfilled with materials arising upon completion. 4. Exploratory hole surveyed in (level and co-ordinates) on completion.

Stability: 1. The sides of the trial pit remained stable during excavation.

AGS

DENBY LANE, GRANGE MOOR – SHAFT SEARCH

LITHOS

Shaft 422416-029. Located at coordinates 422315.01, 416186.03.

LITHOS CONSULTING

Borehole Log

Borehole No.
PH01
Sheet 1 of 2

Project Name:	Denby Lane, Grange Moor	Project No. 4511	Co-ords:	422391.71 - 416208.01	Hole Type PH
Location:	Grange Moor		Level:	212.55	Scale 1:50
Client:	Yorkshire Country Properties		Dates:	12/10/2022 - 12/10/2022	Logged By DP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Light brown OVEBURDEN. (RESIDUAL SOIL)
					1.80	210.75		Light brown SANDSTONE. (COAL MEASURES)
					3.00	209.55		Light grey MUDSTONE. (COAL MEASURES)
					8.10	204.45		Black COAL. (2nd BROWN METAL)
					8.80	203.75		Light grey MUDSTONE. (COAL MEASURES)
								Continued on next sheet

1 2 3 4 5 6 7 8 9 10

Remarks
1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during drilling. 3. Exploratory hole surveyed in (level and co-ordinates) on completion.

AGS

Borehole Log

Borehole No. **PH01**

Sheet 2 of 2

Project Name:	Denby Lane, Grange Moor	Project No. 4511	Co-ords:	422391.71 - 416208.01	Hole Type PH
Location:	Grange Moor		Level:	212.55	Scale 1:50
Client:	Yorkshire Country Properties		Dates:	12/10/2022 - 12/10/2022	Logged By DP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					12.00	200.55		End of borehole at 12.00 m

11 12 13 14 15 16 17 18 19 20

Remarks

1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during drilling. 3. Exploratory hole surveyed in (level and co-ordinates) on completion.

LITHOS CONSULTING

Borehole Log

Borehole No.
PH01A
Sheet 1 of 1

Project Name:	Denby Lane, Grange Moor	Project No. 4511	Co-ords:	422392.64 - 416206.91	Hole Type PH
Location:	Grange Moor		Level:	212.62	Scale 1:50
Client:	Yorkshire Country Properties		Dates:	13/10/2022 - 13/10/2022	Logged By DP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Light brown OVERBURDEN. (RESIDUAL SOIL)
					1.80	210.82		Light brown SANDSTONE. (COAL MEASURES)
					3.00	209.62		Light grey MUDSTONE. (COAL MEASURES)
					6.00	206.62		End of borehole at 6.00 m

Remarks
1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during drilling. 3. Exploratory hole surveyed in (level and co-ordinates) on completion.

AGS

LITHOS CONSULTING

Borehole Log

Borehole No.
PH02
Sheet 1 of 1

Project Name:	Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422367.69 - 416242.17	Hole Type PH
Location:	Grange Moor		Level: 211.65	Scale 1:50
Client:	Yorkshire Country Properties		Dates: 12/10/2022 - 12/10/2022	Logged By DP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Light brown OVERBURDEN. (RESIDUAL SOIL)
					1.00	210.65		Light brown SANDSTONE. (COAL MEASURES)
					2.00	209.65		Light grey MUDSTONE. (COAL MEASURES)
					4.00	207.65		Black COAL. (2nd BROWN METAL)
					4.10	207.55		Light grey MUDSTONE. (COAL MEASURES)
					6.40	205.25		Black COAL. (2nd BROWN METAL)
					6.90	204.75		Light grey MUDSTONE. (COAL MEASURES)
					10.00	201.65		End of borehole at 10.00 m

Remarks
1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during drilling. 3. Exploratory hole surveyed in (level and co-ordinates) on completion.

AGS

Borehole Log

Borehole No. **PH03** Sheet 1 of 1			
Project Name: Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422349.43 - 416286.95	Hole Type PH
Location: Grange Moor		Level: 209.80	Scale 1:50
Client: Yorkshire Country Properties		Dates: 12/10/2022 - 12/10/2022	Logged By DP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Light brown OVERBURDEN. (RESIDUAL SOIL)
					3.10	206.70		Black COAL. (2nd BROWN METAL)
					3.80	206.00		Light grey MUDSTONE. (COAL MEASURES)
					9.00	200.80		End of borehole at 9.00 m

Remarks

1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during drilling. 3. Exploratory hole surveyed in (level and co-ordinates) on completion.

LITHOS CONSULTING

Borehole Log

Borehole No.
PH04
Sheet 1 of 2

Project Name:	Denby Lane, Grange Moor	Project No. 4511	Co-ords:	422357.91 - 416196.51	Hole Type PH
Location:	Grange Moor		Level:	216.15	Scale 1:50
Client:	Yorkshire Country Properties		Dates:	11/10/2022 - 11/10/2022	Logged By DP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Dark grey OVERBURDEN. Likely Colliery Spoil. (COLLIERY SPOIL)
								Between 2.0m and 3.0m, fast drilling.
					3.70	212.45		Light brown SANDSTONE. (COAL MEASURES)
					6.00	210.15		Light grey MUDSTONE. (COAL MEASURES)
								At 9.2m depth, flush lost. Soft ground.
					9.90	206.25		

Continued on next sheet

Remarks
1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during drilling. 3. Exploratory hole surveyed in (level and co-ordinates) on completion.

AGS

Borehole Log

Borehole No. **PH04**

Sheet 2 of 2

Project Name:	Denby Lane, Grange Moor	Project No. 4511	Co-ords:	422357.91 - 416196.51	Hole Type PH
Location:	Grange Moor		Level:	216.15	Scale 1:50
Client:	Yorkshire Country Properties		Dates:	11/10/2022 - 11/10/2022	Logged By DP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Fast drilling. Suspected coal, no returns. (WORKINGS)
					10.40	205.75		Solid ground. Possible mudstone. (COAL MEASURES)
					15.30	200.85		End of borehole at 15.30 m

Remarks

1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during drilling. 3. Exploratory hole surveyed in (level and co-ordinates) on completion.

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Borehole Log

Borehole No.
PH05
Sheet 1 of 2

Project Name:	Denby Lane, Grange Moor	Project No. 4511	Co-ords:	422345.38 - 416177.19	Hole Type PH
Location:	Grange Moor		Level:	216.35	Scale 1:50
Client:	Yorkshire Country Properties		Dates:	13/10/2022 - 13/10/2022	Logged By CC

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Dark grey OVERBURDEN. (COLLIERY SPOIL)
					2.00	214.35		Light brown SANDSTONE. (COAL MEASURES)
					5.40	210.95		Light grey MUDSTONE. (COAL MEASURES)
					9.30	207.05		Loss of flush. Possible workings. Soft drilling. (WORKINGS)
					10.00	206.35		Continued on next sheet

1 2 3 4 5 6 7 8 9 10

Remarks
1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during drilling. 3. Exploratory hole surveyed in (level and co-ordinates) on completion.

AGS

LITHOS CONSULTING

Borehole Log

Borehole No.
PH05
Sheet 2 of 2

Project Name:	Denby Lane, Grange Moor	Project No. 4511	Co-ords:	422345.38 - 416177.19	Hole Type PH
Location:	Grange Moor		Level:	216.35	Scale 1:50
Client:	Yorkshire Country Properties		Dates:	13/10/2022 - 13/10/2022	Logged By CC

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Solid ground. (COAL MEASURES)
					13.00	203.35		End of borehole at 13.00 m

Remarks
1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during drilling. 3. Exploratory hole surveyed in (level and co-ordinates) on completion.

AGS

LITHOS CONSULTING

Borehole Log

Borehole No.
PH05A
Sheet 1 of 1

Project Name:	Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422346.18 - 416178.25	Hole Type PH
Location:	Grange Moor		Level: 216.45	Scale 1:50
Client:	Yorkshire Country Properties		Dates: 13/10/2022 - 13/10/2022	Logged By CC

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Dark grey OVERBURDEN. (COLLIERY SPOIL)
					2.00	214.45		Light brown SANDSTONE. (COAL MEASURES)
					5.40	211.05		Light grey MUDSTONE (COAL MEASURES)
					6.00	210.45		End of borehole at 6.00 m

Remarks
1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during drilling. 3. Exploratory hole surveyed in (level and co-ordinates) on completion.

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Borehole Log

Borehole No.
PH06
Sheet 1 of 2

Project Name:	Denby Lane, Grange Moor	Project No. 4511	Co-ords:	422325.82 - 416199.00	Hole Type PH
Location:	Grange Moor		Level:	217.30	Scale 1:50
Client:	Yorkshire Country Properties		Dates:	11/10/2022 - 11/10/2022	Logged By DP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Light reddish brown OVERBURDEN. (COLLIERY SPOIL)
					4.20	213.10		Light brown SANDSTONE. (COAL MEASURES)
					7.50	209.80		Light grey MUDSTONE. (COAL MEASURES)
					9.70	207.60		Black COAL.
								Continued on next sheet

Remarks
1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during drilling. 3. Exploratory hole surveyed in (level and co-ordinates) on completion.

AGS

Borehole Log

Borehole No. **PH06** Sheet 2 of 2

Project Name: Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422325.82 - 416199.00	Hole Type PH
Location: Grange Moor		Level: 217.30	Scale 1:50
Client: Yorkshire Country Properties		Dates: 11/10/2022 - 11/10/2022	Logged By DP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								(2nd BROWN METAL)
					10.60	206.70		Light grey MUDSTONE. (COAL MEASURES)
					15.00	202.30		End of borehole at 15.00 m

Remarks

1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during drilling. 3. Exploratory hole surveyed in (level and co-ordinates) on completion.

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Borehole Log

Borehole No.
PH07
Sheet 1 of 2

Project Name:	Denby Lane, Grange Moor	Project No. 4511	Co-ords:	422291.91 - 416210.99	Hole Type PH
Location:	Grange Moor		Level:	218.35	Scale 1:50
Client:	Yorkshire Country Properties		Dates:	10/10/2022 - 10/10/2022	Logged By DP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Dark grey OVERBURDEN. (COLLIERY SPOIL)
					6.10	212.25		Light grey MUDSTONE. (COAL MEASURES)
					9.90	208.45		

Continued on next sheet

Remarks
1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during drilling. 3. Exploratory hole surveyed in (level and co-ordinates) on completion.

AGS

Borehole Log

Borehole No. **PH07**

Sheet 2 of 2

Project Name: Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422291.91 - 416210.99	Hole Type PH
Location: Grange Moor		Level: 218.35	Scale 1:50
Client: Yorkshire Country Properties		Dates: 10/10/2022 - 10/10/2022	Logged By DP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Dark grey MUDSTONE with coal flashes. (WORKINGS)
								Between 9.9m and 11.0m depth, 50% flush, fast drilling.
					10.60	207.75		Dark grey MUDSTONE with coal flashes. (WORKINGS)
					11.50	206.85		Solid ground. No returns. (COAL MEASURES)
					15.30	203.05		End of borehole at 15.30 m

11 12 13 14 15 16 17 18 19 20

Remarks

1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during drilling. 3. Exploratory hole surveyed in (level and co-ordinates) on completion.

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Borehole Log

Borehole No.
PH07A
Sheet 1 of 1

Project Name:	Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422293.30 - 416208.79	Hole Type PH
Location:	Grange Moor		Level: 218.30	Scale 1:50
Client:	Yorkshire Country Properties		Dates: 13/10/2022 - 13/10/2022	Logged By CC

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Dark grey OVERBURDEN. (COLLIERY SPOIL)
					6.00	212.30		End of borehole at 6.00 m

Remarks
1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during drilling. 3. Exploratory hole surveyed in (level and co-ordinates) on completion.

AGS

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Borehole Log

Borehole No.
PH08
Sheet 1 of 3

Project Name:	Denby Lane, Grange Moor	Project No. 4511	Co-ords:	422332.03 - 416230.92	Hole Type PH
Location:	Grange Moor		Level:	216.65	Scale 1:50
Client:	Yorkshire Country Properties		Dates:	10/10/2022 - 10/10/2022	Logged By DP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Dark grey OVERBURDEN. (COLLIERY SPOIL)
					3.00	213.65		Light grey MUDSTONE. (COAL MEASURES)
					4.40	212.25		Light brown SANDSTONE. (COAL MEASURES)
					8.80	207.85		Light grey MUDSTONE. (COAL MEASURES)
					10.00	206.65		Continued on next sheet

Remarks
1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during drilling. 3. Exploratory hole surveyed in (level and co-ordinates) on completion.

AGS

Borehole Log

Borehole No. **PH08**

Sheet 2 of 3

Project Name: Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422332.03 - 416230.92	Hole Type PH
Location: Grange Moor		Level: 216.65	Scale 1:50
Client: Yorkshire Country Properties		Dates: 10/10/2022 - 10/10/2022	Logged By DP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Loss of flush. Coal workings. (WORKINGS)
					11.00	205.65		Light brown SANDSTONE. (COAL MEASURES)
					13.10	203.55		Light grey MUDSTONE. Partial returns. (COAL MEASURES)
					14.50	202.15		Light grey MUDSTONE. Full returns. (COAL MEASURES)
					19.40	197.25		Dark grey MUDSTONE. (COAL MEASURES)
								Continued on next sheet

Remarks

1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during drilling. 3. Exploratory hole surveyed in (level and co-ordinates) on completion.

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Borehole Log

Borehole No.
PH08
Sheet 3 of 3

Project Name:	Denby Lane, Grange Moor	Project No. 4511	Co-ords:	422332.03 - 416230.92	Hole Type PH
Location:	Grange Moor		Level:	216.65	Scale 1:50
Client:	Yorkshire Country Properties		Dates:	10/10/2022 - 10/10/2022	Logged By DP

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					23.50	193.15		Light grey MUDSTONE. (COAL MEASURES)
					30.00	186.65		End of borehole at 30.00 m

21 22 23 24 25 26 27 28 29 30

Remarks
1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during drilling. 3. Exploratory hole surveyed in (level and co-ordinates) on completion.

AGS

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Borehole Log

Borehole No.
PH08A
Sheet 1 of 1

Project Name:	Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422330.80 - 416229.55	Hole Type PH
Location:	Grange Moor		Level: 216.70	Scale 1:50
Client:	Yorkshire Country Properties		Dates: 14/10/2022 - 14/10/2022	Logged By CC

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Dark grey OVERBURDEN. (COLLIERY SPOIL)
					3.00	213.70		Light grey MUDSTONE. (COAL MEASURES)
					4.40	212.30		Light brown SANDSTONE. (COAL MEASURES)
					6.00	210.70		End of borehole at 6.00 m

Remarks
1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during drilling. 3. Exploratory hole surveyed in (level and co-ordinates) on completion.

AGS

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Borehole Log

Borehole No.
PH09
Sheet 1 of 2

Project Name:	Denby Lane, Grange Moor	Project No. 4511	Co-ords:	422395.17 - 416184.33	Hole Type PH
Location:	Grange Moor		Level:	214.60	Scale 1:50
Client:	Yorkshire Country Properties		Dates:	12/10/2022 - 12/10/2022	Logged By CC

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Light brown OVERBURDEN. (RESIDUAL SOIL)
					3.50	211.10		Light grey MUDSTONE. (COAL MEASURES)
					9.60	205.00		very fast drilling, no returns. Loss of flush. (WORKINGS)
								Continued on next sheet

Remarks
1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during drilling. 4. Co-ordinates from hand held GPS, hole not surveyed in. Ground level inferred from topographic survey.

AGS

Borehole Log

Borehole No. **PH09** Sheet 2 of 2

Project Name: Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422395.17 - 416184.33	Hole Type PH
Location: Grange Moor		Level: 214.60	Scale 1:50
Client: Yorkshire Country Properties		Dates: 12/10/2022 - 12/10/2022	Logged By CC

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					10.50	204.10		Solid ground. (COAL MEASURES)
					13.50	201.10		End of borehole at 13.50 m

Remarks

1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during drilling. 4. Co-ordinates from hand held GPS, hole not surveyed in. Ground level inferred from topographic survey.

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Borehole Log

Borehole No.
PH10
Sheet 1 of 2

Project Name: Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422390.30 - 416222.63	Hole Type PH
Location: Grange Moor		Level: 212.00	Scale 1:50
Client: Yorkshire Country Properties		Dates: 12/10/2022 - 12/10/2022	Logged By CC

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Light brown OVERBURDEN. (RESIDUAL SOIL)
					3.00	209.00		Light grey MUDSTONE. (COAL MEASURES)
					7.00	205.00		Black COAL. (2nd BROWN METAL)
					7.70	204.30		Light grey MUDSTONE. (COAL MEASURES)
								Continued on next sheet

Remarks
1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during drilling. 4. Co-ordinates from hand held GPS, hole not surveyed in. Ground level inferred from topographic survey.

AGS

Borehole Log

Borehole No. **PH10** Sheet 2 of 2			
Project Name: Denby Lane, Grange Moor	Project No. 4511	Co-ords: 422390.30 - 416222.63	Hole Type PH
Location: Grange Moor		Level: 212.00	Scale 1:50
Client: Yorkshire Country Properties		Dates: 12/10/2022 - 12/10/2022	Logged By CC

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					11.80	200.20		End of borehole at 11.80 m

Remarks

1. Prior to drilling a Cable Avoidance Tool (CAT) survey was carried out. 2. Groundwater was not apparent during drilling. 4. Co-ordinates from hand held GPS, hole not surveyed in. Ground level inferred from topographic survey.