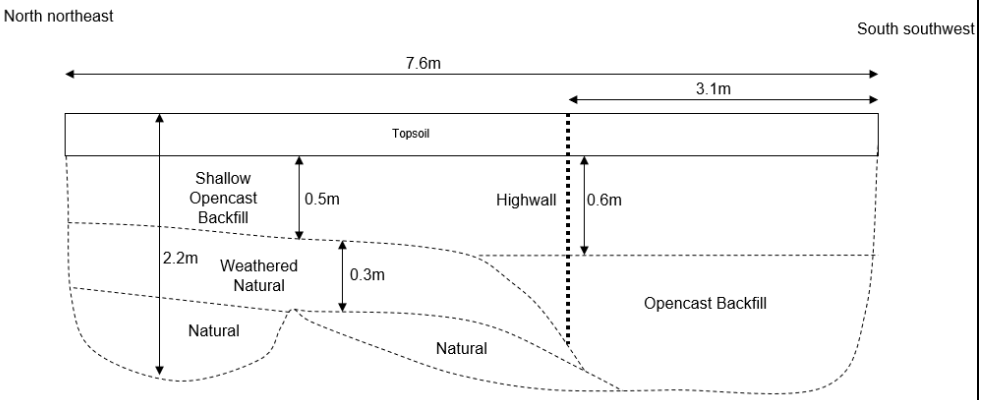
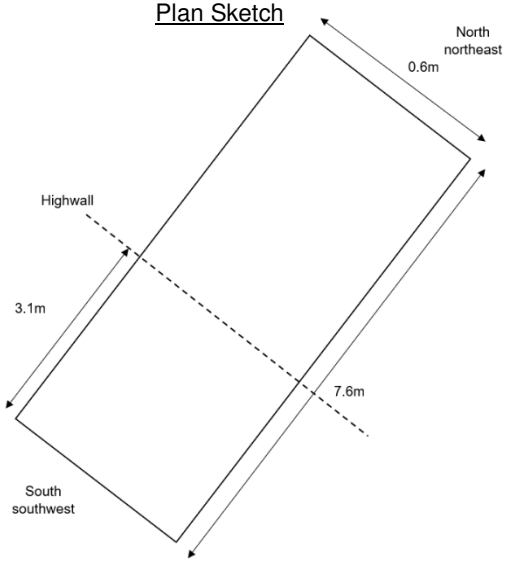
Cross Section Sketch



Looking southeast



Plan Sketch



Looking south southwest



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Project: Hoyland Common, Barnsley, M1 Junction 36

Title: Trial Trench Record

TT2032

TRIAL PIT LOG

TT2033

Project	Hoyland Common, Barnsley	**Project No.**	AG3080-19
Client	Newlands Developments	**Sheet**	1 of 1
Date	13/02/2020	**Scale**	1:25
Ground Level	124.40m AOD **Coordinates** E 435738.30 N 399379.33	**Total Depth**	2.20m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
			124.30	(0.10) 0.10	E	Soft brown slightly sandy slightly gravelly CLAY with occasional rootlets. Gravel is fine to coarse subangular siltstone, mudstone and rare brick. (TOPSOIL/MADE GROUND)		
			124.10	(0.20) 0.30	E	Firm to stiff orangish brown mottled grey and occasionally brown slightly sandy slightly gravelly CLAY. Gravel is fine to coarse subangular siltstone and mudstone. (MADE GROUND - OPENCAST BACKFILL)		
			123.80	(0.30) 0.60	E	Firm greyish brown occasionally mottled orangish brown and grey slightly sandy slightly gravelly CLAY. Gravel is fine to coarse subangular siltstone, mudstone and rare coal with rare small cobbles of siltstone. (MADE GROUND - OPENCAST BACKFILL)		
				(1.60)	E	Stiff orangish brown mottled light grey slightly sandy slightly gravelly CLAY. Gravel is fine to coarse subangular siltstone and rare coal. (PENNINE MIDDLE COAL MEASURES FORMATION)		
			122.20	2.20		End of Trial Pit at 2.20m		

Method: 20T Tracked excavator

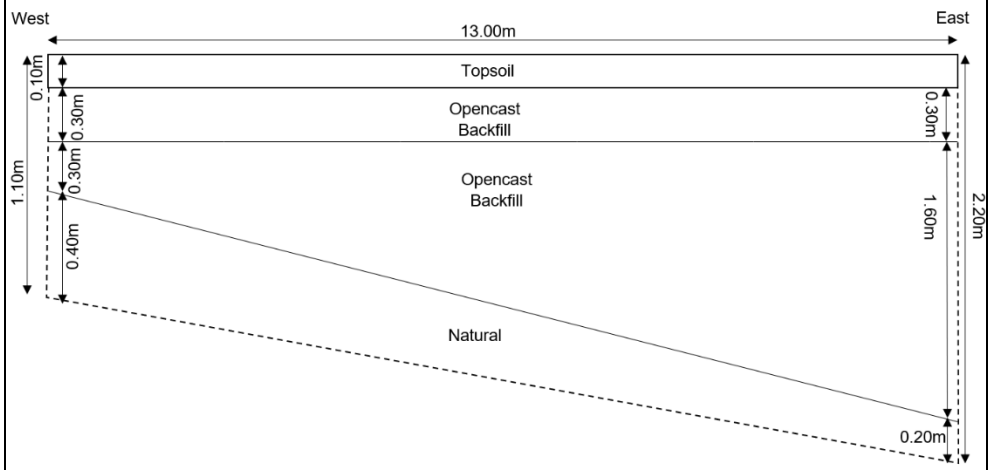
Groundwater: Groundwater not encountered.

Stability: Stable.

Remarks: Trench pit backfilled with arisings on completion.

Length:	13.00m
Width:	0.60m
Logged:	TWC
Checked:	SD

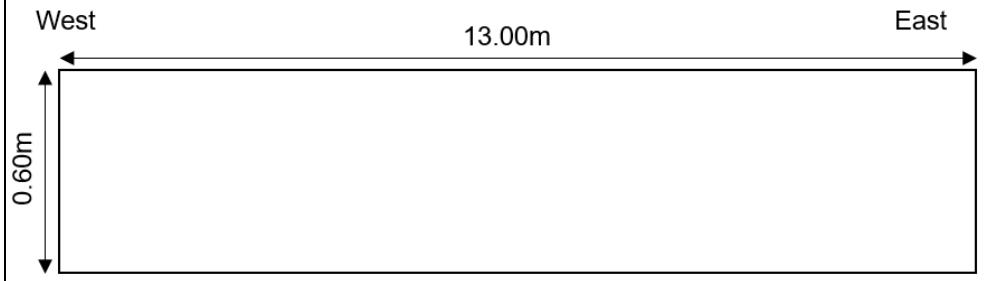
Cross Section Sketch



Looking north



Plan Sketch



Arisings



APPLiED GEOLOGY Unit 23 Abbey Park Stareton Kenilworth CV8 2LY Tel: 02476 511 822 email: admin@appliedgeology.co.uk	Client: Newlands Developments Project: Hoyland Common, Barnsley, M1 Junction 36	Title: Trial Trench Record	TT2033

TRIAL PIT LOG

TT2034

Project	Hoyland Common, Barnsley	**Project No.**	AG3080-19
Client	Newlands Developments	**Sheet**	1 of 1
Date	16/01/2020	**Scale**	1:25
Ground Level	128.44m AOD **Coordinates** E 435954.07 N 399599.09	**Total Depth**	2.80m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
				(0.40)	E	Very soft dark brown slightly gravelly silty CLAY with frequent rootlets. Gravel is fine to coarse angular to subangular mudstone and siltstone. (TOPSOIL/MADE GROUND)		
			128.04	0.40				
				(2.40)	E	Firm (locally with pockets of soft and stiff material) grey and brownish grey slightly gravelly silty CLAY with occasional cobbles and 1No. boulder. Gravel is fine to coarse subangular mudstone, siltstone and rare shale and coal. Cobbles are siltstone and sandstone. Boulder of siltstone (0.60 x 0.30 x 0.35m). (MADE GROUND - OPENCAST BACKFILL)		
			125.64	2.80		End of Trial Pit at 2.80m		

Method: 20T Tracked excavator

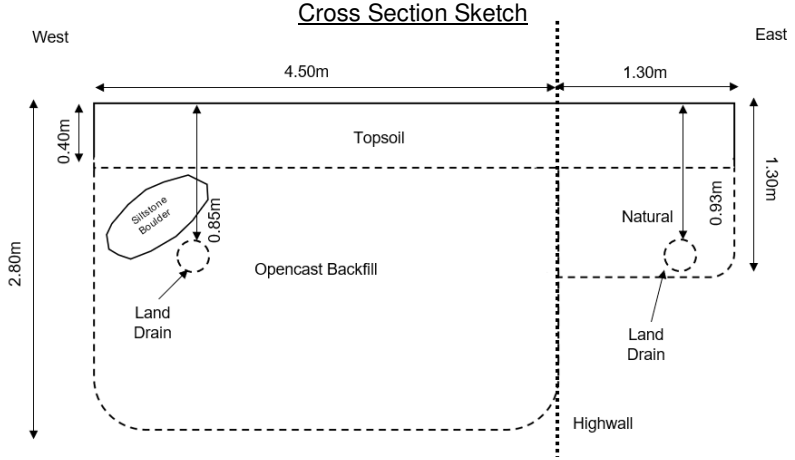
Groundwater: Seepage only from land drains.

Stability: Stable.

Remarks: 80mm diameter land drains encountered at 0.85m bgl (western end) and 0.93m bgl (eastern end) - both repaired. Trench backfilled with arisings on completion.

Length:	4.80m
Width:	0.60m
Logged:	FC
Checked:	SD

Cross Section Sketch



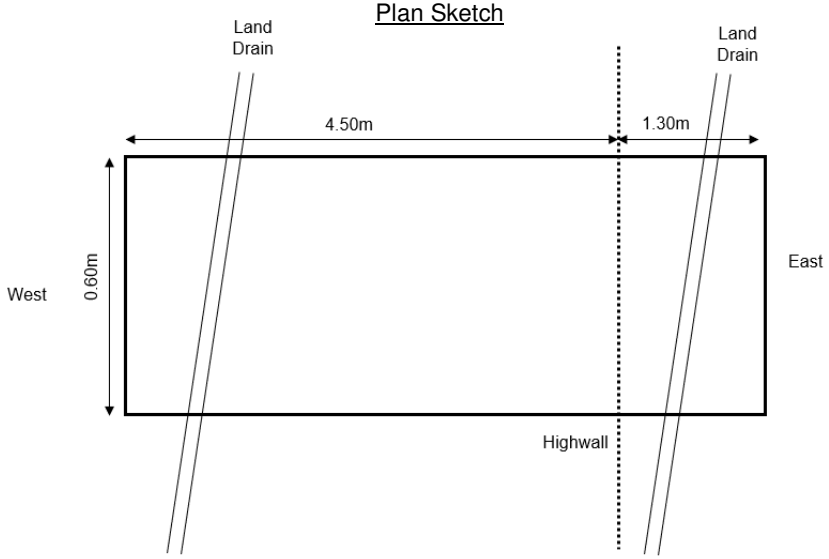
Natural Description-

0.40m-1.30m bgl- Firm to stiff yellowish brown mottled light grey locally silty CLAY (Pennine Middle Coal Measures Formation).

Looking south



Plan Sketch



Looking east



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Project: Hoyland Common, Barnsley, M1 Junction 36

Title: Trial Trench Record

TT2034

BOREHOLE LOG - CABLE PERCUSSION

TT2035

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	1 of 1
Start	07/02/2020	**Coordinates**	E 435857.70 N 399365.77	**Scale**	1:50
End	07/02/2020	**Ground Level**	121.24m AOD	**Total Depth**	1.70m

Sample / Test Type	Depth (m)	Result	Casing Depth (m)	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
				121.04	(0.20) 0.20	Soft brown slightly sandy slightly gravelly CLAY with occasional rootlets. Gravel is fine to coarse subangular siltstone and mudstone with rare brick. (TOPSOIL/MADE GROUND)			
					(1.50)	Firm greyish brown locally occasionally orangish brown slightly sandy sightly gravelly CLAY with rare cobbles of siltstone. Gravel is fine to coarse subangular siltstone and mudstone. (MADE GROUND - OPENCAST BACKFILL)			
				119.54	1.70	End of Borehole at 1.70m			

Chiselling

From	To	Duration (hh:mm)

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed
0.20	0.00	Seepage		

Drilled:

Logged: TWC

Checked: SD

Remarks: Highwall not located. Trench backfilled with arisings on completion.

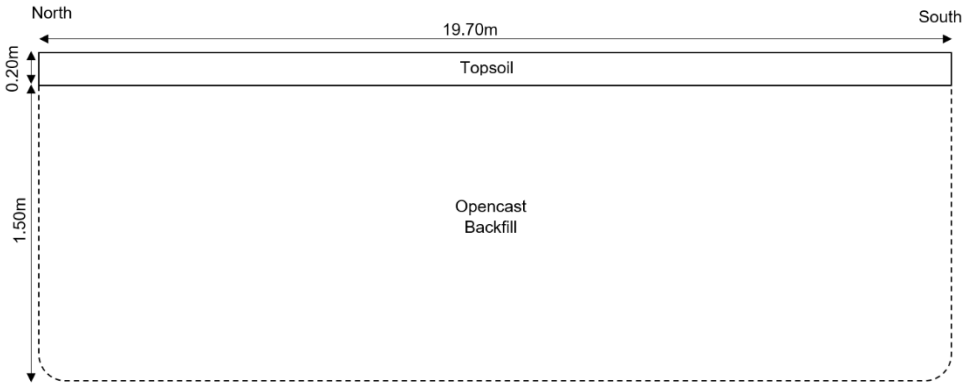
Installation:

Diameter:

Exploratory hole logs should be read in conjunction with key sheets

APPLiED GEOLOGY

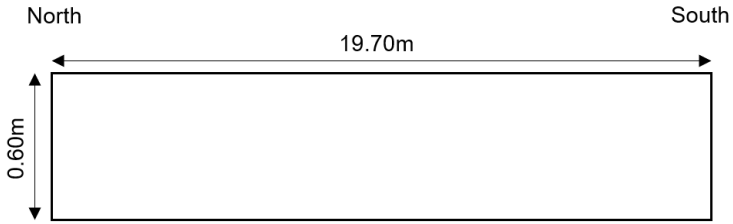
Cross Section Sketch



Looking north



Plan Sketch



Arisings



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Project: Hoyland Common, Barnsley, M1 Junction 36

Title: Trial Trench Record

TT2035

TRIAL PIT LOG

TT2036

Project	Hoyland Common, Barnsley	**Project No.**	AG3080-19
Client	Newlands Developments	**Sheet**	1 of 1
Date	19/02/2020	**Scale**	1:25
Ground Level	117.98m AOD **Coordinates** E 435822.31 N 399312.23	**Total Depth**	2.50m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
				(0.30)	E	Very soft dark brown silty CLAY with occasional rootlets. (TOPSOIL/MADE GROUND)		
			117.68	0.30				
				(1.30)	E	Firm locally soft grey mottled brown gravelly CLAY. Gravel is fine to coarse angular to subrounded mudstone, siltstone, rare brick and coal fragments. (MADE GROUND - OPENCAST BACKFILL)		
			116.38	1.60				
				(0.90)	E-M	Firm light grey mottled yellowish brown silty CLAY. (PENNINE MIDDLE COAL MEASURES FORMATION) *Between 2.20m and 2.50m bgl: becoming mottled grey, locally with rare cobble sized pockets of coal.*		
			115.48	2.50		End of Trial Pit at 2.50m		

Method: 20T Tracked excavator

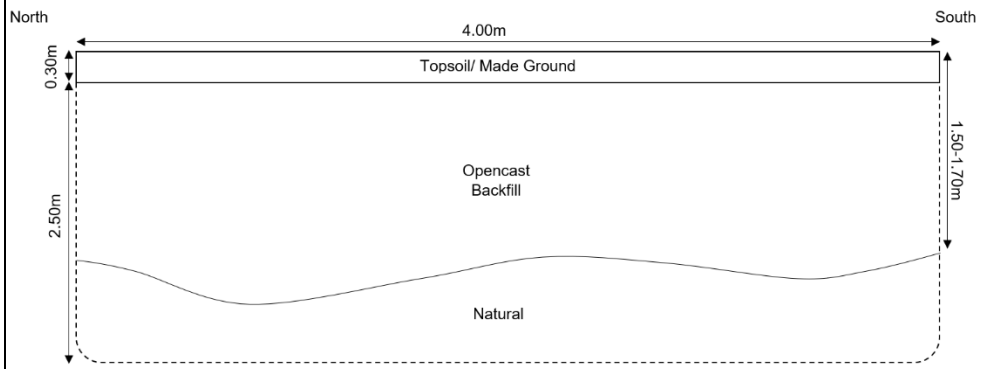
Groundwater: Groundwater not encountered.

Stability: Stable.

Remarks: Trench pit backfilled with arisings on completion.

Length:	4.00m
Width:	4.00m
Logged:	FC
Checked:	SD

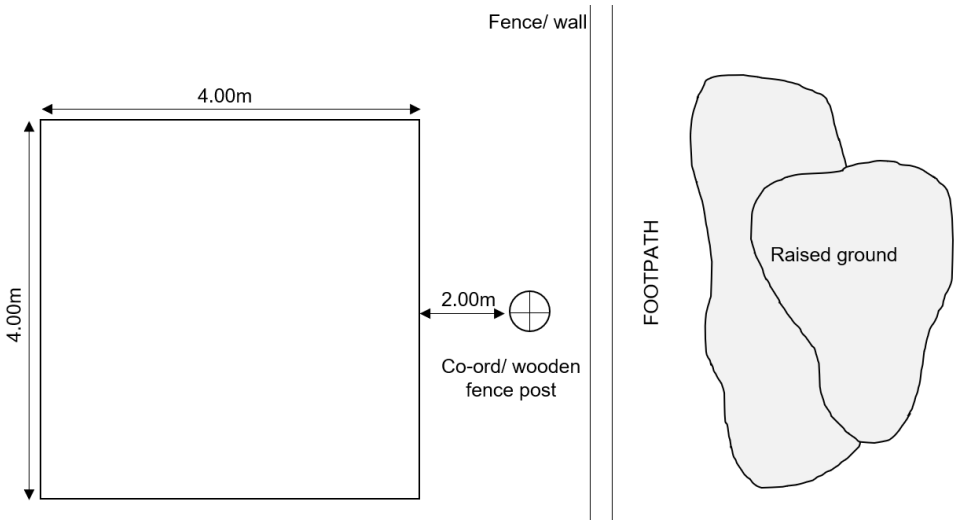
Cross Section Sketch



Looking north



Plan Sketch



Looking south



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BOREHOLE LOG - DRIVEN CONTINUOUS SAMPLING

RS3001

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	1 of 1
Start	18/02/2020	**Coordinates**	E 435142.28 N 400376.34	**Scale**	1:25
End	18/02/2020	**Ground Level**	144.49m AOD	**Total Depth**	2.00m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
ES	0.20				(0.35)	Very soft dark brown slightly gravelly silty CLAY with occasional pockets of decomposed organic matter. Gravel is fine to coarse subangular to subrounded brick, sandstone, coal and rare glass. (TOPSOIL/MADE GROUND)			
				144.14	0.35				
D	0.50		101mm /70%			Firm yellowish brown mottled light grey and rare black silty CLAY with rare fine to coarse gravel sized ironstone nodule lithorelicts and fine siltstone lithorelicts. (PENNINE MIDDLE COAL MEASURES FORMATION)			
D	0.75								
						By 0.90m bgl: firm to stiff.			
D	1.00				(1.35)				
S	1.00	N = 9							
D	1.50		92mm /-%			*By 1.50m bgl: very stiff/hard thinly laminated and friable.*			
				142.79	1.70				
					(0.30)	Very weak yellowish brown, grey and dark grey SILTSTONE recovered as fine to medium subangular tabular gravel. (PENNINE MIDDLE COAL MEASURES FORMATION)			
D	2.00			142.49	2.00				
S	2.00	N >50				End of Borehole at 2.00m			

Installation:
Remarks: Borehole backfilled with arisings on completion.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: DH

Logged: FC

Checked: SD

Exploratory hole logs to be read in conjunction with key sheet

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3002

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	1 of 2
Start	21/02/2020	**Coordinates**	E 435110.76 N 400280.91	**Scale**	1:25
End	24/02/2020	**Ground Level**	148.00m AOD	**Total Depth**	9.00m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
					(0.30)	Very soft dark brown slightly gravelly silty CLAY with rare organic matter. Gravel is fine to coarse angular to subrounded sandstone, brick and coal.			
				147.70	0.30	(TOPSOIL/MADE GROUND)			
						Recovered as soft to very soft dark grey, brownish grey and black gravelly silty CLAY. Gravel is fine to coarse subangular predominantly coal, occasional mudstone and siltstone. (MADE GROUND - OPENCAST BACKFILL)			
D	0.90		170mm /33%						
						Between 2.60m and 3.00m bgl: locally recovered stiff.			
D	2.90				(5.20)				
						Below 3.00m bgl: locally pockets of clayey gravel.			
B	4.00		170mm /72%						
D	4.00								
S	5.00	N = 9				Continued next sheet			

Installation: 50mm diameter standpipe installed to 5.00m bgl.
Remarks: Borehole cased to 6.00m bgl.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: FC
Checked: SD

APPLIED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3002

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	2 of 2
Start	21/02/2020	**Coordinates**	E 435110.76 N 400280.91	**Scale**	1:25
End	24/02/2020	**Ground Level**	148.00m AOD	**Total Depth**	9.00m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
						Recovered as soft to very soft dark grey, brownish grey and black gravelly silty CLAY. Gravel is fine to coarse subangular predominantly coal, occasional mudstone and siltstone. (MADE GROUND - OPENCAST BACKFILL)			
				142.50	5.50				
			170mm /100%			Firm grey mottled dark grey and brown slightly gravelly to gravelly silty CLAY. Gravel is fine to coarse subangular mudstone, siltstone, occasional coal and sandstone. (MADE GROUND - OPENCAST BACKFILL) *Between 5.80m and 6.00m bgl: locally stiff.*			
					(1.55)	*Between 6.30m and 6.55m bgl: locally orangish brown.*			
S	6.50	N = 9							
						Between 6.85m and 7.05m bgl: locally black gravel including clarain coal.			
D	7.00		146mm /100%	140.95	7.05	Extremely weak to very weak light grey and grey SILTSTONE recovered as fine to coarse subangular gravel. (PENNINE MIDDLE COAL MEASURES FORMATION)			
					(0.80)				
				140.15	7.85	Extremely weak light grey becoming grey MUDTONE. Bedding fractures subhorizontal closely spaced. (PENNINE MIDDLE COAL MEASURES FORMATION)			
D	8.30		146mm /100%						
					(1.15)				
				139.00	9.00	End of Borehole at 9.00m			

Installation: 50mm diameter standpipe installed to 5.00m bgl.
Remarks: Borehole cased to 6.00m bgl.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: FC
Checked: SD

APPLIED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3003

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	1 of 2
Start	25/02/2020	**Coordinates**	E 435119.29 N 400185.53	**Scale**	1:25
End	26/02/2020	**Ground Level**	146.77m AOD	**Total Depth**	9.70m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
					(0.90)	Soft to firm orangish brown, brown and grey slightly gravelly slightly sandy CLAY with occasional cobbles. Gravel is fine to coarse subangular sandstone, mudstone, brick and coal. Cobbles are subangular siltstone and mudstone. (MADE GROUND - OPENCAST BACKFILL)			
D	0.80		170mm /100%	145.87	0.90	Stiff friable locally pockets of soft (possible drilling disturbance) grey, brownish grey and dark grey gravelly silty CLAY with occasional cobbles. Gravel is fine to coarse subangular mudstone, ironstone, coal and rare coal. Cobbles are subangular mudstone and siltstone. (MADE GROUND - OPENCAST BACKFILL)			
S	1.50	N = 8				*At 1.50m bgl: cobble/boulder struck in core bit.*			
D	2.00								
D	2.90								
S	3.00	N = 11			(4.90)				
			170mm /87%						
S	4.50	N = 6							
						Continued next sheet			

Installation: 50mm diameter standpipe installed to 5.00m bgl.
Remarks: 300mm topsoil stripped prior to drilling rig set up. Borehole cased to 6.00m bgl.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: FC
Checked: SD

APPLIED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3003

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	2 of 2
Start	25/02/2020	**Coordinates**	E 435119.29 N 400185.53	**Scale**	1:25
End	26/02/2020	**Ground Level**	146.77m AOD	**Total Depth**	9.70m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
			146mm /67%			Stiff friable locally pockets of soft (possible drilling disturbance) grey, brownish grey and dark grey gravelly silty CLAY with occasional cobbles. Gravel is fine to coarse subangular mudstone, ironstone, coal and rare coal. Cobbles are subangular mudstone and siltstone. (MADE GROUND - OPENCAST BACKFILL)			
				140.97	5.80				
S	6.00	N >50			(0.50)	Black semi dull to dull fusain COAL recovered as fine to medium subangular gravel. (PENNINE MIDDLE COAL MEASURES FORMATION)			
			146mm /100%	140.47	6.30				
D	6.50					Extremely weak light grey and grey SILTSTONE with occasional thin bands of mudstone. Recovered as fine to medium subangular gravel. (PENNINE MIDDLE COAL MEASURES FORMATION)			
			146mm /100%						
					(3.40)				
			146mm /100%						
				137.07	9.70	End of Borehole at 9.70m			

Installation: 50mm diameter standpipe installed to 5.00m bgl.
Remarks: 300mm topsoil stripped prior to drilling rig set up. Borehole cased to 6.00m bgl.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: FC
Checked: SD

Exploratory hole logs to be read in conjunction with key sheet

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3004

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	1 of 3
Start	26/02/2020	**Coordinates**	E 435152.88 N 400039.67	**Scale**	1:25
End	27/02/2020	**Ground Level**	146.69m AOD	**Total Depth**	12.00m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
					(1.00)	Firm locally friable brownish grey, dark grey and brown slightly gravelly to gravelly CLAY with occasional cobbles (partial recovery). Gravel is fine to coarse subangular ironstone, coal, rare brick and (mudstone) siltstone. (MADE GROUND - OPENCAST BACKFILL)			
D	0.70		170mm /97%			*Between 0.80m and 0.90m bgl: possible cobble of sandstone.*			
				145.69	1.00	Firm grey locally brownish grey slightly gravelly to gravelly silty CLAY. Gravel is fine to coarse subangular predominantly mudstone and rare coal. (MADE GROUND - OPENCAST BACKFILL)			
D	1.40								
S	1.50	N = 8				*Between 1.50m and 1.70m bgl: recovered as very soft.*			
						From 1.70m and 2.50m bgl: soft.			
D	2.00				(2.00)				
D	2.30		170mm /97%			*From 2.50m and 3.00m bgl: stiff, friable.*			
D	3.00			143.69	3.00				
S	3.00	N = 7				Predominantly firm greyish brown and grey locally dark grey slightly gravelly to gravelly silty CLAY. Gravel is fine to medium occasionally coarse mudstone, coal, brick and ironstone. (MADE GROUND - OPENCAST BACKFILL) *From 3.00m to 3.40m bgl: recovered very soft.*			
			170mm /83%						
					(2.80)				
S	4.50	N = 8				*From 4.50m to 5.00m bgl: recovered very soft.*			
						Continued next sheet			

Installation: 50mm diameter standpipe installed to 4.00m bgl.
Remarks: 300mm topsoil stripped prior to drilling rig set up. Borehole cased to 7.50m bgl.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: FC
Checked: SD

APPLIED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3004

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	2 of 3
Start	26/02/2020	**Coordinates**	E 435152.88 N 400039.67	**Scale**	1:25
End	27/02/2020	**Ground Level**	146.69m AOD	**Total Depth**	12.00m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
			170mm /90%			Predominantly firm greyish brown and grey locally dark grey slightly gravelly to gravelly silty CLAY. Gravel is fine to medium occasionally coarse mudstone, coal, brick and ironstone. (MADE GROUND - OPENCAST BACKFILL)			
				140.89	5.80 (0.20)	Reocvered as grey and light grey slightly gravelly COBBLES. Gravel is fine to coarse subangular extremely weak to very weak siltstone. Cobbles are extremely to very extremely light grey siltstone with thin laminae of carbonaceous material. (MADE GROUND - OPENCAST BACKFILL)			
S	6.00	N >50		140.69	6.00	Firm to stiff dark grey, brownish grey and black slightly gravelly to gravelly silty CLAY. Gravel is fine to coarse subangular siltstone, mudstone, ironstone and coal. (MADE GROUND - OPENCAST BACKFILL)			
D	6.50								
S	7.50	N = 11			(3.80)				
						From 8.50m to 9.00m bgl: predominantly grey.			
D	9.00					*From 9.00m to 9.80m bgl: dark grey locally black.*			
S	9.00	N = 20	146mm /87%						
				136.89	9.80	Extremely weak light grey and grey SILTSTONE recovered as fine to coarse subangular gravel of siltstone and occasional mudstone.			

Continued next sheet

Installation: 50mm diameter standpipe installed to 4.00m bgl.
Remarks: 300mm topsoil stripped prior to drilling rig set up. Borehole cased to 7.50m bgl.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: FC
Checked: SD

APPLIED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3004

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	3 of 3
Start	26/02/2020	**Coordinates**	E 435152.88 N 400039.67	**Scale**	1:25
End	27/02/2020	**Ground Level**	146.69m AOD	**Total Depth**	12.00m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
					(2.20)	Extremely weak light grey and grey SILTSTONE recovered as fine to coarse subangular gravel of siltstone and occasional mudstone. (PENNINE MIDDLE COAL MEASURES FORMATION) *From 10.50m to 11.00m bgl: recovered soft.*			
D	11.50		146mm /97%			*From 11.50m to 12.00m bgl: becoming weak, predominantly grey with rare carbonaceous laminae.*			
				134.69	12.00	End of Borehole at 12.00m			

Installation: 50mm diameter standpipe installed to 4.00m bgl.
Remarks: 300mm topsoil stripped prior to drilling rig set up. Borehole cased to 7.50m bgl.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: FC
Checked: SD

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3005

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	1 of 1
Start	05/02/2020	**Coordinates**	E 435196.10 N 399838.35	**Scale**	1:25
End	06/02/2020	**Ground Level**	146.59m AOD	**Total Depth**	5.00m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
D	0.15				(0.25)	Soft brown slightly gravelly CLAY with frequent rootlets. Gravel is fine to coarse subangular to subrounded sandstone and mudstone. (TOPSOIL)			
ES	0.15			146.34	0.25				
						Firm to stiff grey and orangish brown slightly gravelly CLAY. Gravel is fine to coarse subangular to subrounded sandstone, mudstone and coal. (PENNINE MIDDLE COAL MEASURES FORMATION)			
D	0.60		146mm /87%		(0.70)	*Between 0.80m and 0.95m bgl: gravelly clay.*			
				145.64	0.95	Very stiff brownish grey slightly gravelly CLAY. Grave is fine to coarse angular to subrounded mudstone and coal. (PENNINE MIDDLE COAL MEASURES FORMATION)			
					(0.80)				
D	1.50								
UT	1.50	(62)							
				144.84	1.75	Stiff to very stiff brown and grey very gravelly CLAY. Gravel is fine to coarse angular to subangular mudstone and coal. (PENNINE MIDDLE COAL MEASURES FORMATION)			
B	2.00								
			146mm /100%		(2.25)				
D	3.80								
				142.59	4.00	Very weak interbedded light grey SILTSTONE and grey MUDSTONE. Distinctly weathered. Fractures dip <5 degrees extremely closely to very closely spaced undulating smooth. (PENNINE MIDDLE COAL MEASURES FORMATION)			
			146mm /100%		(1.00)				
C	4.84								
				141.59	5.00	End of Borehole at 5.00m			

Installation: 50mm diameter standpipe installed to 4.00m bgl.
Remarks:

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: JW
Checked: SD

APPLIED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3006

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	1 of 1
Start	06/02/2020	**Coordinates**	E 435259.44 N 399906.31	**Scale**	1:25
End	07/02/2020	**Ground Level**	146.23m AOD	**Total Depth**	5.00m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
			170mm /100%		(0.35)	Very soft to soft dark brown slightly gravelly silty CLAY with weak organic odour and occasional rootlets. Gravel is medium porcelain. (TOPSOIL/MADE GROUND)			
				145.88	0.35				
D	0.40			145.83	(0.05)	Soft brown and orange slightly sandy clayey SILT with rare rootlets. (PENNINE MIDDLE COAL MEASURES FORMATION)			
					0.40	Firm grey and orange slightly gravelly silty CLAY. Gravel is fine angular to subrounded mudstone and siltstone. (PENNINE MIDDLE COAL MEASURES FORMATION)			
						Below 0.80m bgl: becoming stiff.			
					(1.20)				
			170mm /100%						
						Between 1.50m and 1.55m bgl: weak siltstone.			
				144.63	1.60	Black bright clarain COAL recovered as sandy gravel. (PENNINE MIDDLE COAL MEASURES FORMATION)			
D	1.70				(0.30)				
D	1.95			144.33	1.90	Extremely weak thinly laminated dark grey silty MUDSTONE. (PENNINE MIDDLE COAL MEASURES FORMATION)			
					(0.40)	*From 2.00m to 2.30m bgl: no recovery.*			
				143.93	2.30	Very weak grey SILTSTONE recovered as very silty gravel of fine to coarse angular to subangular siltstone. (PENNINE MIDDLE COAL MEASURES FORMATION)			
					(0.60)				
			146mm /80%						
				143.33	2.90	Extremely weak grey silty MUDSTONE. (PENNINE MIDDLE COAL MEASURES FORMATION)			
						Between 2.90m and 3.35m bgl: recovered as firm friable slightly gravelly clay. Gravel is fine to medium angular to subangular mudstone.			
					(0.60)				
						Between 3.43m and 3.50m bgl: recovered as stiff thinly laminated grey gravelly silty clay. Gravel is fine to coarse angular mudstone.			
				142.73	3.50	Weak thinly bedded grey silty MUDSTONE. (PENNINE MIDDLE COAL MEASURES FORMATION)			
						Between 3.50m and 3.90m bgl: no recovery.			
						Between 3.90m and 4.30m bgl: recovered as fine to coarse angular gravel.			
D	4.00								
			146mm /73%		(1.50)				
						Between 4.30m and 4.60m bgl: recovered as clayey gravel. Gravel is fine to coarse angular to subangular mudstone and coal.			
						Between 4.60m and 5.00m bgl: recovered as firm grey gravelly clay. Gravel is fine to coarse angular to subangular mudstone.			
				141.23	5.00	End of Borehole at 5.00m			

Installation:
Remarks: Borehole backfilled with bentonite grout on completion.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: FD
Checked: SD

APPLIED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3007

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	1 of 1
Start	05/02/2020	**Coordinates**	E 435328.50 N 399969.51	**Scale**	1:25
End	05/02/2020	**Ground Level**	146.99m AOD	**Total Depth**	4.50m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
					(0.15)	Soft brown slightly gravelly CLAY with frequent rootlets. Gravel is fine to coarse subangular to subrounded mudstone and sandstone. (TOPSOIL)			
D	0.10			146.84	0.15				
ES	0.10								
					(0.35)	Firm light brown and orangish grey slightly gravelly CLAY. Gravel is fine to medium subangular to subrounded mudstone and sandstone. (PENNINE MIDDLE COAL MEASURES FORMATION)			
D	0.40			146.49	0.50				
			170mm /100%			Firm greyish brown gravelly CLAY. Gravel is fine to coarse subangular to subrounded mudstone and sandstone. (PENNINE MIDDLE COAL MEASURES FORMATION)			
					(0.60)				
D	1.00			145.89	1.10				
						Stiff to very stiff brownish grey slightly gravelly CLAY. Gravel is fine to coarse angular to subrounded mudstone and coal. (PENNINE MIDDLE COAL MEASURES FORMATION)			
UT	1.50	(48)			(0.95)				
				144.94	2.05	Very stiff grey slightly gravelly CLAY. Gravel is fine to coarse angular to subangular mudstone. (PENNINE MIDDLE COAL MEASURES FORMATION)			
						From 2.05m to 2.25m bgl: recovered as gravel of fine to coarse angular to subangular mudstone.			
D	2.50		170mm /100%						
ES	2.50					*From 2.65m to 2.80m bgl: recovered as firm.*			
						From 3.00m to 4.05m bgl: recovered as firm.			
					(2.45)				
D	3.50		146mm /100%						
D	4.50			142.49	4.50	End of Borehole at 4.50m			

Installation:
Remarks: Borehole backfilled with bentonite grout on completion.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: JW
Checked: SD

Exploratory hole logs to be read in conjunction with key sheet

APPLIED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3008

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	1 of 2
Start	06/02/2020	**Coordinates**	E 435255.81 N 399842.65	**Scale**	1:25
End	06/02/2020	**Ground Level**	146.54m AOD	**Total Depth**	5.00m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
D	0.10				(0.20)	Soft brown slightly gravelly CLAY with frequent rootlets. Gravel is fine to coarse subangular to subrounded mudstone and sandstone. (TOPSOIL)			
ES	0.10			146.34	0.20	Firm to stiff grey and orangish brown slightly gravelly CLAY. Gravel is fine to coarse angular to subrounded mudstone and fusain coal. (PENNINE MIDDLE COAL MEASURES FORMATION)			
D	0.50								
			170mm /100%		(1.50)				
D	1.50								
				144.84	1.70	Very stiff brown and grey gravelly CLAY. Gravel is fine to coarse angular to subangular mudstone and fusain coal. (PENNINE MIDDLE COAL MEASURES FORMATION)			
					(0.80)				
D	2.20								
				144.04	2.50	Black dull fusain COAL recovered as black sandy gravel. (PENNINE MIDDLE COAL MEASURES FORMATION)			
					(0.30)				
				143.74	2.80	Very stiff grey slightly gravelly CLAY. Gravel is fine to coarse angular to subangular mudstone. (PENNINE MIDDLE COAL MEASURES FORMATION)			
D	3.00								
			146mm /47%						
					(2.12)				
D	4.00								
				141.62	4.92				
				141.54	(0.08)	Continued next sheet			

Installation: 50mm diameter standpipe installed to 3.00m bgl.
Remarks: Borehole cased to 1.50m bgl.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: FD
Checked: SD

APPLIED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3008

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	2 of 2
Start	06/02/2020	**Coordinates**	E 435255.81 N 399842.65	**Scale**	1:25
End	06/02/2020	**Ground Level**	146.54m AOD	**Total Depth**	5.00m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
					5.00	Very weak thinly bedded grey MUDSTONE. (PENNINE MIDDLE COAL MEASURES FORMATION) End of Borehole at 5.00m			

Installation: 50mm diameter standpipe installed to 3.00m bgl.
Remarks: Borehole cased to 1.50m bgl.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: FD
Checked: SD

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3009

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	1 of 1
Start	03/02/2020	**Coordinates**	E 435327.04 N 399865.57	**Scale**	1:25
End	03/02/2020	**Ground Level**	145.99m AOD	**Total Depth**	4.95m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
D	0.15				(0.30)	Soft brown slightly gravelly CLAY with frequent rootlets. Gravel is fine to medium subangular to subrounded mudstone and sandstone. (TOPSOIL)			
ES	0.15			145.69	0.30				
					(0.35)	Firm light brown slightly gravelly CLAY. Gravel is fine to coarse subangular to subrounded mudstone and coal. (PENNINE MIDDLE COAL MEASURES FORMATION)			
D	0.55			145.34	0.65				
						Stiff light grey and orange slightly gravelly CLAY. Gravel is fine to coarse subangular to subrounded mudstone and coal. (PENNINE MIDDLE COAL MEASURES FORMATION)			
UT	1.00	(73)							
			170mm /100%		(1.85)				
D	1.70								
				143.49	2.50	Extremely weak thinly laminated grey MUDSTONE. Fractures dip <5 degrees very closely to closely spaced undulating smooth. (PENNINE MIDDLE COAL MEASURES FORMATION)			
D	2.85								
D	2.95								
S	2.95	N >50							
D	3.50								
ES	3.50								
					(2.45)				
			146mm /100%						
D	4.50								
				141.04	4.95	End of Borehole at 4.95m			

Installation:
Remarks: Borehole backfilled with bentonite grout on completion.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: JW
Checked: SD

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3010

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	1 of 2
Start	31/01/2020	**Coordinates**	E 435249.75 N 399744.68	**Scale**	1:25
End	31/01/2020	**Ground Level**	148.08m AOD	**Total Depth**	7.00m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
D	0.10				(0.20)	Soft brown slightly gravelly CLAY with frequent rootlets. Gravel is fine to coarse subangular to subrounded sandstone, mudstone, coal and brick.			
ES	0.10			147.88	0.20	(TOPSOIL/MADE GROUND)			
					(0.40)	Firm dark brown and orange slightly gravelly CLAY. Gravel is fine to coarse subangular to subrounded sandstone, mudstone and coal. (PENNINE MIDDLE COAL MEASURES FORMATION)			
D	0.50			147.48	0.60				
			170mm /100%			Stiff grey and orange slightly gravelly CLAY. Gravel is fine to coarse angular to subrounded mudstone. (PENNINE MIDDLE COAL MEASURES FORMATION)			
D	1.00				(0.70)				
				146.78	1.30				
D	1.50					Stiff brownish grey slightly gravelly CLAY. Gravel is fine to coarse angular to subrounded mudstone. (PENNINE MIDDLE COAL MEASURES FORMATION)			
S	1.50	N = 13							
						From 2.00m bgl: stiff to very stiff.			
			170mm /100%		(1.70)				
D	3.00			145.08	3.00				
D	3.00					Extremely weak thinly bedded dark brownish grey MUDSTONE. Recovered as gravel of fine to coarse angular to subangular mudstone in a light grey clay matrix. Extremely weathered. No fractures observed. (PENNINE MIDDLE COAL MEASURES FORMATION)			
S	3.00	N >50							
			146mm /100%		(1.50)				
D	4.50			143.58	4.50				
ES	4.50					Black semi-bright clarain COAL. Recovered as gravel of fine to coarse angular to subangular coal in a grey clay matrix. (PENNINE MIDDLE COAL MEASURES FORMATION)			
S	4.50	N >50			(0.30)				
				143.28	4.80	Extremely weak thinly bedded grey MUDSTONE. Extremely weathered. No fractures observed.			
						Continued next sheet			

Installation: 50mm diameter standpipe installed to 5.00m bgl.
Remarks: Borehole cased to 3.00m bgl.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: JW
Checked: SD

APPLIED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3010

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	2 of 2
Start	31/01/2020	**Coordinates**	E 435249.75 N 399744.68	**Scale**	1:25
End	31/01/2020	**Ground Level**	148.08m AOD	**Total Depth**	7.00m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
						Extremely weak thinly bedded grey MUDSTONE. Extremely weathered. No fractures observed. (PENNINE MIDDLE COAL MEASURES FORMATION)			
D	5.30					*Between 4.80m and 5.40m bgl: recovered as very stiff grey slightly gravelly clay. Gravel is fine to coarse angular to subangular mudstone and coal.*			
						Between 5.40m and 6.00m bgl: recovered as grey gravel of fine to coarse angular to subangular mudstone and coal.			
					(1.90)				
			146mm /82%			*Between 6.00m and 6.70m bgl: recovered as firm to stiff grey slightly gravelly clay. Gravel is fine to coarse angular to subangular mudstone.*			
D	6.30								
				141.38	6.70	Very weak light grey SILTSTONE. Distinctly weathered. Fractures dip <5 degrees very closely to closely spaced rough undulating. (PENNINE MIDDLE COAL MEASURES FORMATION)			
					(0.30)				
				141.08	7.00	End of Borehole at 7.00m			

Installation: 50mm diameter standpipe installed to 5.00m bgl.
Remarks: Borehole cased to 3.00m bgl.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: JW
Checked: SD

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3011

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	1 of 2
Start	30/01/2020	**Coordinates**	E 435359.34 N 399792.67	**Scale**	1:25
End	30/01/2020	**Ground Level**	147.39m AOD	**Total Depth**	6.00m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
D	0.15				(0.25)	Soft brown slightly gravelly CLAY with frequent rootlets. Gravel is fine to medium subangular to subrounded mudstone and sandstone. (TOPSOIL/MADE GROUND)			
ES	0.15			147.14	0.25	Firm to stiff orangish brown slightly gravelly CLAY. Gravel is fine to coarse subangular to subrounded mudstone. (MADE GROUND - OPENCAST BACKFILL)			
D	0.60				(0.75)	*Between 0.60m and 1.00m bgl: greyish brown.*			
				146.39	1.00	Stiff orangish brown and orange slightly gravelly CLAY. Gravel is fine to coarse angular to subangular mudstone and coal. (MADE GROUND - OPENCAST BACKFILL)			
B	1.20		170mm /68%						
					(3.00)				
			146mm /100%	143.39	4.00	Extremely weak thinly bedded grey MUDSTONE. Recovered as very stiff grey gravelly clay. Gravel is fine to coarse angular to subangular mudstone. (PENNINE MIDDLE COAL MEASURES FORMATION)			
D	4.50								
					(2.00)				

Continued next sheet

Installation:
Remarks: Borehole backfilled with bentonite grout on completion.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: JW
Checked: SD

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3011

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	2 of 2
Start	30/01/2020	**Coordinates**	E 435359.34 N 399792.67	**Scale**	1:25
End	30/01/2020	**Ground Level**	147.39m AOD	**Total Depth**	6.00m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
D	5.50					Extremely weak thinly bedded grey MUDSTONE. Recovered as very stiff grey gravelly clay. Gravel is fine to coarse angular to subangular mudstone. (PENNINE MIDDLE COAL MEASURES FORMATION)			
				141.39	6.00	End of Borehole at 6.00m			

Installation:
Remarks: Borehole backfilled with bentonite grout on completion.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: JW
Checked: SD

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3012

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	1 of 2
Start	20/02/2020	**Coordinates**	E 435447.60 N 399870.71	**Scale**	1:25
End	20/02/2020	**Ground Level**	145.12m AOD	**Total Depth**	8.50m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
					(0.40)	Soft dark brown slightly gravelly silty CLAY with rare rootlets. Gravel is fine to coarse subangular brick, quartzite, sandstone and rare coal. (TOPSOIL/MADE GROUND)			
				144.72	0.40				
			170mm /27%			Firm to stiff orangish brown and grey slightly gravelly CLAY. Gravel is fine to coarse subangular mudstone, occasional ironstone, brick and siltstone. (MADE GROUND - OPENCAST BACKFILL)			
D	0.90				(1.10)				
				143.62	1.50	Stiff locally firm friable gravelly to very gravelly silty CLAY. Gravel is fine to coarse subangular mudstone, occasional coal, sandstone and ironstone. (MADE GROUND - OPENCAST BACKFILL)			
			170mm /93%						
D	2.90					*Between 3.00m and 3.75m bgl: locally soft.*			
			170mm /48%		(4.95)				
						Continued next sheet			

Installation:
Remarks: Borehole cased to 3.00m bgl. Borehole backfilled with bentonite grout on completion.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: FC
Checked: SD

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3012

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	2 of 2
Start	20/02/2020	**Coordinates**	E 435447.60 N 399870.71	**Scale**	1:25
End	20/02/2020	**Ground Level**	145.12m AOD	**Total Depth**	8.50m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
						Stiff locally firm friable gravelly to very gravelly silty CLAY. Gravel is fine to coarse subangular mudstone, occasional coal, sandstone and ironstone. (MADE GROUND - OPENCAST BACKFILL) *Between 5.00m and 6.45m bgl: predominantly brown and orangish brown.*			
			170mm /100%	138.67	6.45	Extremely weak to very weak light grey SILTSTONE. (PENNINE MIDDLE COAL MEASURES FORMATION) *Between 6.45m and 6.50m bgl: locally black, containing coal.*			
					(0.55)				
				138.12	7.00	Firm thinly laminated grey slightly gravelly silty CLAY. Gravel is fine to coarse angular to subangular mudstone and siltstone. (PENNINE MIDDLE COAL MEASURES FORMATION)			
					(0.85)	*Between 7.60m and 7.65m bgl: siltstone band.* *Between 7.70m and 7.74m bgl: siltstone band.*			
			146mm /100%	137.27	7.85	Extremely weak to weak grey silty MUDSTONE. (PENNINE MIDDLE COAL MEASURES FORMATION)			
D	8.20				(0.65)	*Below 8.10m bgl: noted to be thinly laminated.*			
				136.62	8.50	*Between 8.40m and 8.45m bgl: firm grey gravelly silt. Gravel is fine to medium angular mudstone.* End of Borehole at 8.50m			

Installation:
Remarks: Borehole cased to 3.00m bgl. Borehole backfilled with bentonite grout on completion.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: FC
Checked: SD

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3013

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	1 of 2
Start	04/02/2020	**Coordinates**	E 435274.32 N 399625.02	**Scale**	1:25
End	04/02/2020	**Ground Level**	149.64m AOD	**Total Depth**	7.00m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
D ES	0.20 0.20				(0.30)	Soft brown slightly gravelly CLAY with frequent rootlets. Gravel is fine to coarse subangular to subrounded mudstone and sandstone. (TOPSOIL/MADE GROUND)			
				149.34	0.30	Firm to stiff greyish brown and orange slightly gravelly CLAY. Gravel is fine to coarse angular to subrounded mudstone and coal. (MADE GROUND - OPENCAST BACKFILL)			
D	0.60				(0.85)				
B	1.15			148.49	1.15	Firm brown and grey gravelly CLAY. Gravel is fine to coarse angular to subrounded mudstone and coal. (MADE GROUND - OPENCAST BACKFILL)			
			170mm /38%		(3.35)				
			170mm /67%						
				145.14	4.50	Stiff light brown and grey slightly gravelly CLAY. Gravel is fine to coarse angular to subrounded mudstone and coal. (MADE GROUND - OPENCAST BACKFILL)			
					(0.25)				
				144.89	4.75	Black dull fusain COAL. Recovered as fine to coarse angular to subangular gravel of coal. (PENNINE MIDDLE COAL MEASURES FORMATION)			
					(0.25)				
				144.64	5.00				

Continued next sheet

Installation: 50mm diameter standpipe installed to 4.00m bgl.
Remarks: Borehole cased to 3.00m bgl.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: FD
Checked: SD

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3013

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	2 of 2
Start	04/02/2020	**Coordinates**	E 435274.32 N 399625.02	**Scale**	1:25
End	04/02/2020	**Ground Level**	149.64m AOD	**Total Depth**	7.00m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
D	5.20		170mm /100%	144.24	(0.40) 5.40	Very stiff light grey slightly gravelly CLAY. Gravel is fine to coarse angular to subangular mudstone and coal. (PENNINE MIDDLE COAL MEASURES FORMATION)			
D ES	6.00 6.00		146mm /100%		(1.60)	Extremely weak thinly laminated grey MUDSTONE. Recovered as firm to stiff gravelly clay. Gravel is fine to coarse angular to subangular mudstone. Extremely weathered. No fractures observed. (PENNINE MIDDLE COAL MEASURES FORMATION)			
				142.64	7.00	End of Borehole at 7.00m			

Installation: 50mm diameter standpipe installed to 4.00m bgl.
Remarks: Borehole cased to 3.00m bgl.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: FD
Checked: SD

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3014

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	1 of 2
Start	03/02/2020	**Coordinates**	E 435333.00 N 399678.70	**Scale**	1:25
End	03/02/2020	**Ground Level**	150.34m AOD	**Total Depth**	9.00m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
D ES	0.15 0.15			150.09	(0.25) 0.25	Soft brown slightly gravelly CLAY with frequent rootlets. Gravel is fine to coarse subangular to subrounded mudstone and sandstone. (TOPSOIL/MADE GROUND)			
					(0.70)	Firm to stiff brown slightly gravelly CLAY. Gravel is fine to coarse angular to subangular mudstone and coal. (MADE GROUND - OPENCAST BACKFILL)			
D	0.80			149.39	0.95	Stiff to very stiff greyish brown and orange slightly gravelly CLAY. Gravel is fine to coarse angular to subangular mudstone and coal. (MADE GROUND - OPENCAST BACKFILL)			
			170mm /50%						
D	1.80								
B ES	3.00 3.00					*Between 3.00m and 5.50m bgl: soft to firm.*			
			170mm /80%						
					(6.20)				
						Continued next sheet			

Installation:
Remarks: Borehole cased to 3.00m bgl. Borehole backfilled with bentonite grout on completion.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: JW
Checked: SD

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3014

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	2 of 2
Start	03/02/2020	**Coordinates**	E 435333.00 N 399678.70	**Scale**	1:25
End	03/02/2020	**Ground Level**	150.34m AOD	**Total Depth**	9.00m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
			170mm /87%			Stiff to very stiff greyish brown and orange slightly gravelly CLAY. Gravel is fine to coarse angular to subangular mudstone and coal. (MADE GROUND - OPENCAST BACKFILL)			
B	6.00					*Between 6.00m and 6.55m bgl: soft to firm.*			
				143.19	7.15				
D ES	7.50 7.50		146mm /93%			Extremely weak thinly bedded grey MUDSTONE. Recovered as very stiff grey gravelly clay. Gravel is fine to coarse angular to subangular mudstone. (PENNINE MIDDLE COAL MEASURES FORMATION)			
					(1.85)				
				141.34	9.00	End of Borehole at 9.00m			

Installation:
Remarks: Borehole cased to 3.00m bgl. Borehole backfilled with bentonite grout on completion.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: JW
Checked: SD

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3015

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	1 of 3
Start	31/01/2020	**Coordinates**	E 435420.87 N 399773.19	**Scale**	1:25
End		**Ground Level**	147.92m AOD	**Total Depth**	11.00m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
D	0.15				(0.25)	Soft to firm light brown slightly gravelly CLAY with frequent rootlets. Gravel is fine to medium subangular to subrounded mudstone and sandstone.			
ES	0.15			147.67	0.25	(TOPSOIL/MADE GROUND)			
					(0.45)	Firm brown slightly gravelly CLAY. Gravel is fine to coarse subangular to subrounded mudstone and sandstone. (MADE GROUND - OPENCAST BACKFILL)			
D	0.60			147.22	0.70				
B	1.00		170mm /45%		(2.30)	Stiff to very stiff grey slightly gravelly CLAY. Gravel is fine to medium occasionally coarse subangular mudstone and siltstone. (MADE GROUND - OPENCAST BACKFILL)			
				144.92	3.00				
			170mm /33%		(2.40)	Stiff greyish brown and dark grey gravelly CLAY. Gravel is fine to coarse angular to subangular mudstone and sandstone. (MADE GROUND - OPENCAST BACKFILL)			
D	4.50								
ES	4.50								

Continued next sheet

Installation: 50mm diameter standpipe installed to 7.00m bgl.
Remarks: Borehole cased to 9.00m bgl.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: JW
Checked: SD

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3015

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	2 of 3
Start	31/01/2020	**Coordinates**	E 435420.87 N 399773.19	**Scale**	1:25
End		**Ground Level**	147.92m AOD	**Total Depth**	11.00m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
						Stiff greyish brown and dark grey gravelly CLAY. Gravel is fine to coarse angular to subangular mudstone and sandstone. (MADE GROUND - OPENCAST BACKFILL)			
				142.52	5.40	Stiff to very stiff grey silty CLAY. (MADE GROUND - OPENCAST BACKFILL)			
B	6.00				(1.05)	*Between 6.00m and 6.40m bgl: light grey slightly gravelly to gravelly. Gravel is fine to coarse angular to subangular mudstone and coal.*			
				141.47	6.45	Stiff greyish brown and brown slightly gravelly to gravelly CLAY. Gravel is fine to coarse subangular mudstone. (MADE GROUND - OPENCAST BACKFILL)			
					(1.15)	*From 7.20m bgl: gravel includes sandstone.*			
			170mm /90%	140.32	7.60	Extremely weak thinly bedded grey MUDSTONE. (PENNINE MIDDLE COAL MEASURES FORMATION) *Between 7.60m and 8.15m bgl: recovered as very stiff grey slightly gravelly clay. Gravel is fine to coarse angular to subangular coal.*			
D	8.00					*Between 8.15m and 9.50m bgl: recovered as very stiff grey gravelly clay. Gravel is fine to coarse angular to subangular mudstone.*			
					(1.90)				
				138.42	9.50				
					(0.15)	Very weak light grey SILTSTONE. Recovered as light grey gravel of fine to coarse angular to subangular siltstone. (PENNINE MIDDLE COAL MEASURES FORMATION)			
				138.27	9.65	Extremely weak thinly bedded grey MUDSTONE. Recovered as stiff to very stiff grey gravelly clay. Gravel is fine to coarse angular to subangular mudstone.			
D	10.00					Continued next sheet			

Installation: 50mm diameter standpipe installed to 7.00m bgl.
Remarks: Borehole cased to 9.00m bgl.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: JW
Checked: SD

APPLIED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3015

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	3 of 3
Start	31/01/2020	**Coordinates**	E 435420.87 N 399773.19	**Scale**	1:25
End		**Ground Level**	147.92m AOD	**Total Depth**	11.00m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
			146mm /100%		(1.35)	Extremely weak thinly bedded grey MUDSTONE. Recovered as stiff to very stiff grey gravelly clay. Gravel is fine to coarse angular to subangular mudstone. (PENNINE MIDDLE COAL MEASURES FORMATION)			
				136.92	11.00	End of Borehole at 11.00m			

Installation: 50mm diameter standpipe installed to 7.00m bgl.
Remarks: Borehole cased to 9.00m bgl.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: JW
Checked: SD

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3017

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	1 of 3
Start	18/02/2020	**Coordinates**	E 435519.80 N 399863.76	**Scale**	1:25
End	19/02/2020	**Ground Level**	144.50m AOD	**Total Depth**	12.00m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
					(0.30)	Very soft dark brown slightly gravelly silty CLAY with occasional rootlets. Gravel is fine to medium subangular to subrounded quartzite, brick and occasional coal. (TOPSOIL/MADE GROUND)			
				144.20	0.30	Firm locally soft orangish brown mottled grey slightly gravelly silty CLAY. Gravel is fine to coarse subangular to subrounded predominantly mudstone, occasional sandstone, coal and fine brick. (MADE GROUND - OPENCAST BACKFILL)			
			170mm /93%		(0.80)				
D	1.00			143.40	1.10	Firm to stiff predominantly grey locally brownish grey and dark grey silty gravelly CLAY. Gravel is fine to medium subangular occasionally coarse of predominantly mudstone and occasional coal. (MADE GROUND - OPENCAST BACKFILL)			
					(0.80)				
				142.60	1.90	Very stiff locally stiff brownish grey and grey silty gravelly CLAY. Gravel is fine to medium subangular occasionally coarse predominantly mudstone, siltstone and rare coal. (MADE GROUND - OPENCAST BACKFILL)			
B	2.00								
D	2.20		170mm /80%						
						From 3.00m to 4.70m bgl: recovered very soft.			
			170mm /27%						
D	4.50								
D	5.00								

Continued next sheet

Installation: 50mm diameter standpipe installed to 5.00m bgl.
Remarks: Borehole cased to 3.00m bgl.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: FC
Checked: SD

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3017

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	2 of 3
Start	18/02/2020	**Coordinates**	E 435519.80 N 399863.76	**Scale**	1:25
End	19/02/2020	**Ground Level**	144.50m AOD	**Total Depth**	12.00m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
			170mm /93%		(8.20)	Very stiff locally stiff brownish grey and grey silty gravelly CLAY. Gravel is fine to medium subangular occasionally coarse predominantly mudstone, siltstone and rare coal. (MADE GROUND - OPENCAST BACKFILL) *From 6.00m to 6.50m bgl: recovered very soft.*			
			170mm /53%						
D	8.00		170mm /83%						
			146mm /80%			*From 9.00m to 10.10m bgl: recovered soft to firm.*			
						Continued next sheet			

Installation: 50mm diameter standpipe installed to 5.00m bgl.
Remarks: Borehole cased to 3.00m bgl.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: FC
Checked: SD

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3017

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	3 of 3
Start	18/02/2020	**Coordinates**	E 435519.80 N 399863.76	**Scale**	1:25
End	19/02/2020	**Ground Level**	144.50m AOD	**Total Depth**	12.00m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
				134.40	10.10	Very stiff locally stiff brownish grey and grey silty gravelly CLAY. Gravel is fine to medium subangular occasionally coarse predominantly mudstone, siltstone and rare coal. (MADE GROUND - OPENCAST BACKFILL)			
D	11.00		146mm /100%		(1.90)	Extremely weak to very weak light grey and grey interbedded SILTSTONE and MUDSTONE, recovered as fine to coarse subangular clayey gravel. (PENNINE MIDDLE COAL MEASURES FORMATION)			
				132.50	12.00	End of Borehole at 12.00m			

Installation: 50mm diameter standpipe installed to 5.00m bgl.
Remarks: Borehole cased to 3.00m bgl.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: FC
Checked: SD

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3018

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	1 of 2
Start	13/02/2020	**Coordinates**	E 435423.99 N 399698.04	**Scale**	1:25
End	13/02/2020	**Ground Level**	148.80m AOD	**Total Depth**	9.50m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
D	0.15				(0.25)	Soft brown slightly gravelly CLAY with frequent rootlets. Gravel is fine to coarse subangular to subrounded mudstone and sandstone. No fractures observed due to drilling method. (TOPSOIL/MADE GROUND)			
ES	0.15			148.55	0.25				
D	0.50				(0.35)	Firm to stiff orangish brown and grey slightly gravelly CLAY. Gravel is fine to coarse subangular to subrounded mudstone and fusain coal. (MADE GROUND - OPENCAST BACKFILL)			
				148.20	0.60				
B	1.00		170mm /73%			Very stiff locally recovered very stiff, locally friable, brownish grey gravelly CLAY. Gravel is fine to coarse angular to subangular mudstone and fusain coal. (MADE GROUND - OPENCAST BACKFILL)			
D	4.00		170mm /67%		(6.90)				
ES	4.00								
B	5.00								

Continued next sheet

Installation:
Remarks: Borehole cased to 3.00m bgl. Borehole backfilled with bentonite grout on completion.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: JW
Checked: SD

APPLIED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3018

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	2 of 2
Start	13/02/2020	**Coordinates**	E 435423.99 N 399698.04	**Scale**	1:25
End	13/02/2020	**Ground Level**	148.80m AOD	**Total Depth**	9.50m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
						Very stiff locally recovered very stiff, locally friable, brownish grey gravelly CLAY. Gravel is fine to coarse angular to subangular mudstone and fusain coal. (MADE GROUND - OPENCAST BACKFILL)			
D ES	7.00 7.00		170mm /60%						
				141.30	7.50	Extremely weak thinly bedded grey MUDSTONE recovered as very stiff brownish grey slightly gravelly clay. Gravel is fine to coarse angular to subangular mudstone and clarain coal. (PENNINE MIDDLE COAL MEASURES FORMATION) *Between 7.50m and 7.70m bgl: recovered as gravel of fine to coarse angular to subangular mudstone and clarain coal.*			
D	8.00								
			146mm /80%		(2.00)				
D	9.00								
				139.30	9.50	End of Borehole at 9.50m			

Installation:
Remarks: Borehole cased to 3.00m bgl. Borehole backfilled with bentonite grout on completion.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: JW
Checked: SD

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3019

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	1 of 3
Start	18/02/2020	**Coordinates**	E 435510.06 N 399787.54	**Scale**	1:25
End	18/02/2020	**Ground Level**	145.17m AOD	**Total Depth**	12.00m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
					(0.35)	Very soft dark brown slightly gravelly silty CLAY with rare rootlets. Gravel is fine to coarse subangular mudstone, siltstone and rare brick. (TOPSOIL/MADE GROUND)			
				144.82	0.35				
D	0.70				(1.15)	Firm locally soft orangish brown mottled brown silty slightly gravelly CLAY. Gravel is fine to coarse subangular siltstone, sandstone, brick and coal. (MADE GROUND - OPENCAST BACKFILL)			
				143.67	1.50				
D	2.70					Firm locally stiff friable grey mottled locally brownish grey silty gravelly CLAY with occasional cobbles. Gravel is fine to coarse subangular mudstone, siltstone and rare coal. Cobbles are subangular siltstone. (MADE GROUND - OPENCAST BACKFILL) *Between 1.50m and 3.40m bgl: locally soft.*			
D	3.00								

Continued next sheet

Installation: 50mm diameter standpipe installed to 5.00m bgl.
Remarks: Borehole cased to 3.00m bgl.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: FC
Checked: SD

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3019

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	2 of 3
Start	18/02/2020	**Coordinates**	E 435510.06 N 399787.54	**Scale**	1:25
End	18/02/2020	**Ground Level**	145.17m AOD	**Total Depth**	12.00m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
					(9.00)	Firm locally stiff friable grey mottled locally brownish grey silty gravelly CLAY with occasional cobbles. Gravel is fine to coarse subangular mudstone, siltstone and rare coal. Cobbles are subangular siltstone. (MADE GROUND - OPENCAST BACKFILL) *Between 5.00m and 6.50m bgl: locally soft.*			
D	6.50								
D	8.00		170mm /100%			*From 9.70m and 10.00m bgl: very soft.*			
						Continued next sheet			

Installation: 50mm diameter standpipe installed to 5.00m bgl.
Remarks: Borehole cased to 3.00m bgl.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: FC
Checked: SD

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3019

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	3 of 3
Start	18/02/2020	**Coordinates**	E 435510.06 N 399787.54	**Scale**	1:25
End	18/02/2020	**Ground Level**	145.17m AOD	**Total Depth**	12.00m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
						Firm locally stiff friable grey mottled locally brownish grey silty gravelly CLAY with occasional cobbles. Gravel is fine to coarse subangular mudstone, siltstone and rare coal. Cobbles are subangular siltstone. (MADE GROUND - OPENCAST BACKFILL)			
						At 10.45m bgl: cobble of mudstone.			
				134.67	10.50	Grey clayey very silty GRAVEL. Gravel is fine to coarse angular to subangular mudstone and siltstone. (PENNINE MIDDLE COAL MEASURES FORMATION)			
					(1.00)	*From 10.90m to 10.96m bgl: very stiff thinly laminated slightly gravelly silty clay. Gravel is fine to coarse angular mudstone.*			
			146mm /100%						
				133.67	11.50	Weak indistinctly thinly laminated silty MUDSTONE recovered as fine to coarse gravel. (PENNINE MIDDLE COAL MEASURES FORMATION)			
					(0.50)				
				133.17	12.00	End of Borehole at 12.00m			

Installation: 50mm diameter standpipe installed to 5.00m bgl.
Remarks: Borehole cased to 3.00m bgl.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: FC
Checked: SD

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3020

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	1 of 3
Start	17/02/2020	**Coordinates**	E 435557.68 N 399821.98	**Scale**	1:25
End	17/02/2020	**Ground Level**	143.53m AOD	**Total Depth**	12.00m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
					(0.35)	Very soft dark brown slightly gravelly silty CLAY with rare rootlets. Gravel is fine to medium subangular brick, coal and mudstone. (TOPSOIL/MADE GROUND)			
				143.18	0.35	Firm locally stiff friable brown and greyish brown silty slightly gravelly CLAY. Gravel is fine to coarse subangular to subrounded mudstone, ironstone and rare coal. (MADE GROUND - OPENCAST BACKFILL)			
D	0.70		170mm /53%			*Between 0.35m and 0.50m bgl: rare rootlets.*			
						Between 1.70m and 1.90m bgl: possible cobble of mudstone.			
			170mm /100%						
D	2.50					*From 3.00m to 3.50m bgl: firm.*			
						From 3.50m to 6.00m bgl; stiff.			
D	4.00		170mm /37%						
D	4.50								
						Continued next sheet			

Installation:
Remarks: Borehole cased to 3.00m bgl. Borehole backfilled with bentonite grout on completion.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: FC
Checked: SD

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3020

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	2 of 3
Start	17/02/2020	**Coordinates**	E 435557.68 N 399821.98	**Scale**	1:25
End	17/02/2020	**Ground Level**	143.53m AOD	**Total Depth**	12.00m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
					(9.85)	Firm locally stiff friable brown and greyish brown silty slightly gravelly CLAY. Gravel is fine to coarse subangular to subrounded mudstone, ironstone and rare coal. (MADE GROUND - OPENCAST BACKFILL)			
						From 6.00m to 6.50m bgl: very stiff.			
D	6.50					*From 6.50m to 7.00m bgl: possible boulder of mudstone, firm from approximately 7.50m to 8.00m bgl.*			
			170mm /43%						
						From 8.00m to 9.00m bgl: very stiff.			
D	8.50								
			146mm /100%						
						Continued next sheet			

Installation:
Remarks: Borehole cased to 3.00m bgl. Borehole backfilled with bentonite grout on completion.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: FC
Checked: SD

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3020

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	3 of 3
Start	17/02/2020	**Coordinates**	E 435557.68 N 399821.98	**Scale**	1:25
End	17/02/2020	**Ground Level**	143.53m AOD	**Total Depth**	12.00m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
				133.33	10.20	Firm locally stiff friable brown and greyish brown silty slightly gravelly CLAY. Gravel is fine to coarse subangular to subrounded mudstone, ironstone and rare coal. (MADE GROUND - OPENCAST BACKFILL)			
			146mm /100%		(1.80)	Extremely to very weak light grey and grey medium interlaminated SILTSTONE and MUDSTONE recovered as gravel and cobbles. (PENNINE MIDDLE COAL MEASURES FORMATION)			
				131.53	12.00	End of Borehole at 12.00m			

Installation:
Remarks: Borehole cased to 3.00m bgl. Borehole backfilled with bentonite grout on completion.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: FC
Checked: SD

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3022

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	1 of 2
Start	10/02/2020	**Coordinates**	E 435395.15 N 399640.23	**Scale**	1:25
End	12/02/2020	**Ground Level**	149.57m AOD	**Total Depth**	7.50m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
D	0.15				(0.25)	Soft brown slightly gravelly CLAY with frequent rootlets. Gravel is fine to coarse subangular to subrounded sandstone and mudstone. (TOPSOIL/MADE GROUND)			
ES	0.15			149.32	0.25				
						Firm to stiff brownish grey and orange slightly gravelly CLAY. Gravel is fine to coarse subangular to subrounded sandstone, mudstone and fusain coal. (MADE GROUND - OPENCAST BACKFILL)			
D	0.60				(0.85)				
				148.47	1.10				
B	1.20					Very stiff brown and grey slightly gravelly CLAY. Gravel is fine to coarse angular to subrounded mudstone. (MADE GROUND - OPENCAST BACKFILL)			
			170mm /100%						
					(3.30)				
D	3.00					*Between 3.00m and 3.40m bgl: recovered as slightly clayey GRAVEL of fine to coarse angular to subangular mudstone.*			
ES	3.00								
			170mm /100%			*Between 3.80m and 4.40m bgl: grey and brown clayey gravel of fine to coarse angular to subangular mudstone.*			
D	4.00								
ES	4.00								
				145.17	4.40				
S	4.50	N >50				Extremely weak thinly bedded grey MUDSTONE recovered as very stiff grey gravelly clay. Gravel is fine to coarse angular to subangular mudstone. (PENNINE MIDDLE COAL MEASURES FORMATION)			
D	5.00								

Continued next sheet

Installation: 50mm diameter standpipe installed to 5.00m bgl.
Remarks: Borehole cased to 3.00m bgl.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: FC
Checked: SD

APPLIED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3022

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	2 of 2
Start	10/02/2020	**Coordinates**	E 435395.15 N 399640.23	**Scale**	1:25
End	12/02/2020	**Ground Level**	149.57m AOD	**Total Depth**	7.50m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
			146mm /53%		(3.10)	Extremely weak thinly bedded grey MUDSTONE recovered as very stiff grey gravelly clay. Gravel is fine to coarse angular to subangular mudstone. (PENNINE MIDDLE COAL MEASURES FORMATION)			
D	6.00								
			146mm /100%						
D	7.00								
				142.07	7.50	End of Borehole at 7.50m			

Installation: 50mm diameter standpipe installed to 5.00m bgl.
Remarks: Borehole cased to 3.00m bgl.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: FC
Checked: SD

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3023

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	1 of 1
Start	12/02/2020	**Coordinates**	E 435444.30 N 399507.08	**Scale**	1:25
End	12/02/2020	**Ground Level**	141.31m AOD	**Total Depth**	5.00m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
D	0.10				(0.20)	Soft brown slightly gravelly CLAY with frequent rootlets. Gravel is fine to coarse subangular to subrounded mudstone and sandstone.			
ES	0.10			141.11	0.20	(TOPSOIL)			
						Firm greyish brown gravelly CLAY. Gravel is fine t coarse angular to subrounded sandstone, mudstone and coal.			
D	0.50				(0.50)	(PENNINE MIDDLE COAL MEASURES FORMATION)			
			170mm /100%	140.61	0.70				
						Stiff grey and orangish brown slightly gravelly CLAY. Gravel is fine to coarse subangular to subrounded mudstone and coal.			
D	1.00				(0.55)	(PENNINE MIDDLE COAL MEASURES FORMATION)			
				140.06	1.25				
						Black dull fusain COAL, recovered as fine to coarse angular to subrounded gravel.			
D	1.50					(PENNINE MIDDLE COAL MEASURES FORMATION)			
U	1.50	(34)			(0.60)				
				139.46	1.85				
						Stiff grey slightly gravelly CLAY. Gravel is fine to coarse angular to subangular mudstone.			
D	2.00				(0.40)	(PENNINE MIDDLE COAL MEASURES FORMATION)			
				139.06	2.25				
						Recovered as grey GRAVEL of fine to coarse angular to subangular mudstone.			
						(PENNINE MIDDLE COAL MEASURES FORMATION)			
			170mm /100%		(0.90)				
D	2.80								
				138.16	3.15				
						Very stiff light brown slightly gravelly CLAY. Gravel is fine to coarse angular to subangular mudstone.			
						(PENNINE MIDDLE COAL MEASURES FORMATION)			
D	3.45								
S	3.50	N >50				*From 3.50m to 4.30m bgl: recovered as firm.*			
					(1.15)				
			146mm /80%	137.01	4.30				
						Very stiff grey and brown slightly gravelly CLAY. Gravel is fine to coarse angular to subangular mudstone.			
						(PENNINE MIDDLE COAL MEASURES FORMATION)			
						From 4.30m to 4.55m bgl: recovered as firm.			
D	4.70				(0.70)				
				136.31	5.00	End of Borehole at 5.00m			

Installation:
Remarks: Borehole cased to 1.50m bgl. Borehole backfilled with bentonite grout on completion.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: JW
Checked: SD

Exploratory hole logs to be read in conjunction with key sheet

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3024

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	1 of 3
Start	14/02/2020	**Coordinates**	E 435684.39 N 399799.07	**Scale**	1:25
End	14/02/2020	**Ground Level**	139.90m AOD	**Total Depth**	13.50m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
D	0.15				(0.25)	Soft brown slightly gravelly CLAY with frequent rootlets. Gravel is fine to coarse angular to subrounded sandstone, mudstone and brick. (TOPSOIL/MADE GROUND)			
ES	0.15			139.66	0.25	Soft to firm brown slightly gravelly CLAY. Gravel is fine to coarse subangular to subrounded sandstone and mudstone. (MADE GROUND - OPENCAST BACKFILL)			
D	0.60				(0.45)				
				139.21	0.70	Stiff to very stiff grey and orange slightly gravelly CLAY. Gravel is fine to coarse angular to subrounded mudstone. (MADE GROUND - OPENCAST BACKFILL)			
					(1.20)				
			170mm /67%						
D	1.60								
ES	1.60								
				138.00	1.90	Very stiff grey gravelly CLAY. Gravel is fine to coarse angular to subangular mudstone. (MADE GROUND - OPENCAST BACKFILL)			
B	2.50					*Between 3.00m and 6.30m bgl: soft to firm.*			
			170mm /43%						
					(4.90)				
D	5.00					Continued next sheet			

Installation:
Remarks: Borehole cased to 3.00m bgl. Borehole backfilled with bentonite grout on completion.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: JW
Checked: SD

APPLIED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3024

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	2 of 3
Start	14/02/2020	**Coordinates**	E 435684.39 N 399799.07	**Scale**	1:25
End	14/02/2020	**Ground Level**	139.90m AOD	**Total Depth**	13.50m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
ES	5.00					Very stiff grey gravelly CLAY. Gravel is fine to coarse angular to subangular mudstone. (MADE GROUND - OPENCAST BACKFILL)			
B	6.30		170mm /100%	133.10	6.80	Stiff to very stiff brownish grey and orange slightly gravelly CLAY. Gravel is fine to coarse angular to subangular mudstone, siltstone, fusain and clarain coal. (MADE GROUND - OPENCAST BACKFILL) *Between 7.50m and 8.40m bgl: soft to firm.*			
D	8.50		146mm /93%						
ES	8.50								
B	9.00		146mm /53%			*Between 9.00m and 9.5m bgl: soft to firm.*			
					(5.80)				

Continued next sheet

Installation:
Remarks: Borehole cased to 3.00m bgl. Borehole backfilled with bentonite grout on completion.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: JW
Checked: SD

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY SONIC

RS3024

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	3 of 3
Start	14/02/2020	**Coordinates**	E 435684.39 N 399799.07	**Scale**	1:25
End	14/02/2020	**Ground Level**	139.90m AOD	**Total Depth**	13.50m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
						Stiff to very stiff brownish grey and orange slightly gravelly CLAY. Gravel is fine to coarse angular to subangular mudstone, siltstone, fusain and clarain coal. (MADE GROUND - OPENCAST BACKFILL)			
						Between 10.50m and 11.40m bgl: recovered as soft to firm.			
			146mm /100%						
D ES	11.65 11.65								
						Between 12.00m and 12.60m bgl: recovered as brownish grey clayey gravel of fine to coarse angular to subangular mudstone and siltstone.			
				127.30	12.60				
D	12.70		146mm /100%			Very weak grey SILTSTONE. No fractures observed. (PENNINE MIDDLE COAL MEASURES FORMATION) *Between 12.60m and 13.33m bgl: recovered as very stiff grey gravelly clay. Gravel is fine to coarse angular to subangular siltstone.*			
					(0.90)				
				126.40	13.50	End of Borehole at 13.50m			

Installation:
Remarks: Borehole cased to 3.00m bgl. Borehole backfilled with bentonite grout on completion.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: TOR Drilling Ltd
Logged: JW
Checked: SD

APPLiED GEOLOGY

BOREHOLE LOG - DRIVEN CONTINUOUS SAMPLING

RS3025

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	1 of 1
Start	18/02/2020	**Coordinates**	E 436004.10 N 399617.46	**Scale**	1:25
End	18/02/2020	**Ground Level**	127.36m AOD	**Total Depth**	2.95m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
					(0.45)	Very soft dark brown slightly gravelly silty CLAY with occasional to frequent rootlets. (TOPSOIL/MADE GROUND)			
			101mm /80%	126.91	0.45				
D	0.70				(0.55)	Firm to stiff brownish grey and brown slightly sandy slightly gravelly silty CLAY with occasional cobbles. Gravel is fine to coarse angular to subangular sandstone, brick and clinker. Cobbles are subangular sandstone. (POSSIBLE MADE GROUND)			
D	1.00			126.36	1.00				
S	1.00	N = 11				Firm to stiff yellowish brown mottled light grey silty CLAY. (PENNINE MIDDLE COAL MEASURES FORMATION) *From 1.25m bgl: locally mottled black.*			
D	1.50		92mm /100%		(1.00)	*From 1.60m bgl: stiff locally stained orangish brown with rare fine gravel sized ironstone nodule lithorelicts.* *From 1.95m bgl: locally very closely fissured.*			
D	2.00			125.36	2.00				
S	2.00	N = 16				Black semi dull fusain COAL recovered as fine subangular gravelly sand. (PENNINE MIDDLE COAL MEASURES FORMATION)			
			79mm /100%	124.86	2.50				
D	2.80				(0.45)	Very stiff to hard light grey mottled orangish brown SILT with occasional fine gravel sized mudstone and siltstone lithorelicts. (PENNINE MIDDLE COAL MEASURES FORMATION) *From 2.85m and 2.90m bgl: tending to siltstone.*			
S	3.00	N >50		124.41	2.95	End of Borehole at 2.95m			

Installation: 50mm diameter standpipe installed to 3.00m bgl.
Remarks:

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: DH

Logged: FC

Checked: SD

APPLiED GEOLOGY

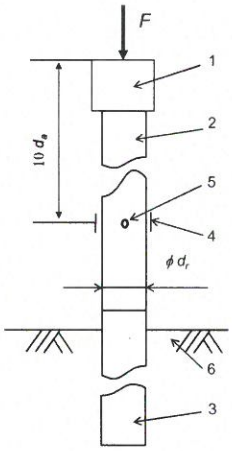
SPT Calibration Report

Hammer Energy Measurement Report

Type of Hammer	AUTO HAMMER
Test No	EQU2365
Client	TOR
Test Depth (m)	5.30
Mass of hammer	m = 63.5kg
Falling height	h = 0.76m
E_{theor} =	$m \times g \times h$ = 473J

Characteristics of the instrumented rod

Diameter	d_r = 0.052 m
Length of instrumented rod	0.558 m
Area	A = 11.61 cm²
Modulus	E_a = 206843 MPa



Key

1 Anvil
2 Part of instrumented rod
3 Drive Rod
4 Strain Gauge
5 Accelerometer
6 Ground

F Force
d_r Diameter of rod

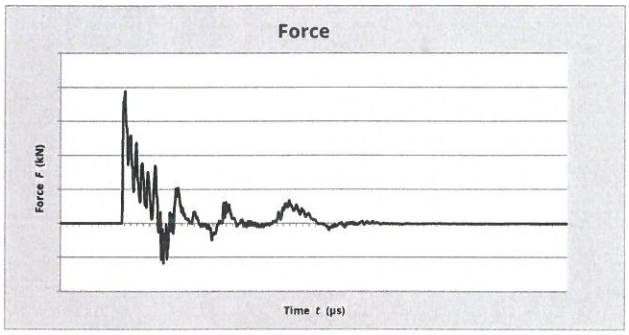
Fig. B.1 and B.2
BS EN ISO 22476-3 : 2005 + A1 : 2011

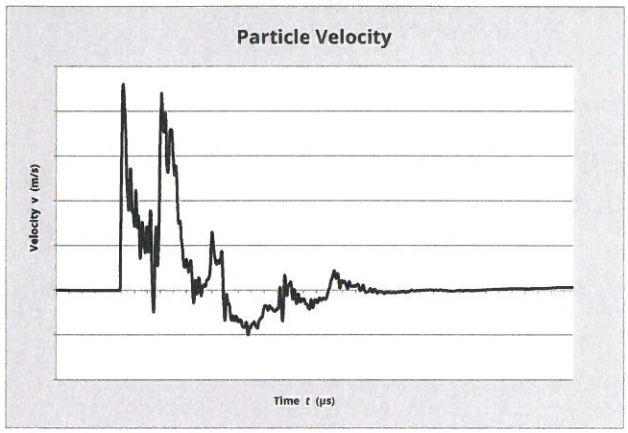
DATE OF TEST	VALID UNTIL	HAMMER ID
21/06/2019	20/06/2020	TD34

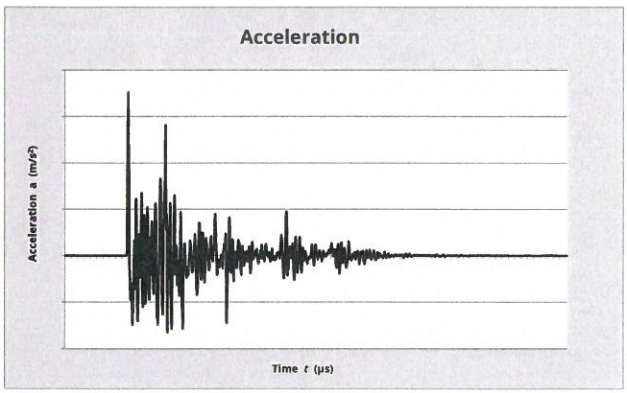
Observations:
1.

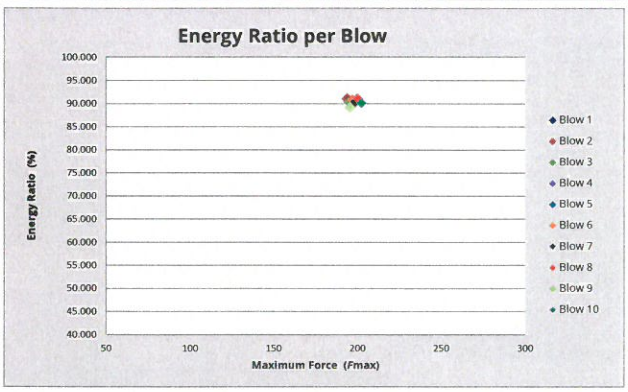
E_{meas} = **0.427** kN-m

E_{theor} = **0.473** kN-m









Energy Ratio (Er) = $\frac{E_{meas}}{E_{theor}}$ **90.18%**

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Equipe SPT Analyzer Operator	Certificate prepared by	Certificate checked by	Certificate date
AF			03/07/2019

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BOREHOLE LOG - DRIVEN CONTINUOUS SAMPLING

RS3026

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	1 of 2
Start	14/07/2020	**Coordinates**	E 435749.00 N 399472.00	**Scale**	1:25
End	14/07/2020	**Ground Level**	129.40m AOD	**Total Depth**	5.45m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
			101mm /100%		(0.30)	Soft brown slightly sandy slightly gravelly CLAY with frequent rootlets. Gravel is fine to coarse angular to subrounded mudstone and sandstone. (TOPSOIL)			
UT	0.30	(18)		129.10	0.30				
			101mm /0%			Firm brown and grey slightly sandy gravelly CLAY. Gravel is fine to coarse angular to subrounded mudstone, sandstone and coal. (MADE GROUND - OPENCAST BACKFILL)			
B	0.75								
			101mm /100%		(1.30)				
UT	1.00	(29)							
			101mm /100%						
B	1.45								
			101mm /100%	127.80	1.60	Firm becoming very stiff brown and dark grey gravelly CLAY. Gravel is fine to coarse angular to subrounded mudstone and coal. (MADE GROUND - OPENCAST BACKFILL)			
B	2.00								
S	2.00	N = 8							
			92mm /75%						
B	3.00								
S	3.00	N = 9							
			79mm /75%		(3.85)				
B	4.00								
S	4.00	N = 17							
			70mm /70%						
S	5.00	N = 17							

Continued next sheet

Installation: 50mm diameter standpipe installed to 5.00m bgl.
Remarks:

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed
1.00	1.00	Slight seepage		

Drilled: DH
Logged: JW
Checked: AP

APPLIED GEOLOGY

BOREHOLE LOG - DRIVEN CONTINUOUS SAMPLING

RS3026

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	2 of 2
Start	14/07/2020	**Coordinates**	E 435749.00 N 399472.00	**Scale**	1:25
End	14/07/2020	**Ground Level**	129.40m AOD	**Total Depth**	5.45m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
						Firm becoming very stiff brown and dark grey gravelly CLAY. Gravel is fine to coarse angular to subrounded mudstone and coal. (MADE GROUND - OPENCAST BACKFILL)			
				123.95	5.45	End of Borehole at 5.45m			

Installation: 50mm diameter standpipe installed to 5.00m bgl.
Remarks:

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed
1.00	1.00	Slight seepage		

Drilled: DH

Logged: JW

Checked: AP

Exploratory hole logs to be read in conjunction with key sheet

APPLiED GEOLOGY

BOREHOLE LOG - DRIVEN CONTINUOUS SAMPLING

RS3027

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	1 of 1
Start	14/07/2020	**Coordinates**	E 435799.00 N 399534.00	**Scale**	1:25
End	14/07/2020	**Ground Level**	130.10m AOD	**Total Depth**	4.26m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
			101mm /100%		(0.30)	Soft brown slightly sandy slightly gravelly CLAY with frequent rootlets. Gravel is fine to coarse angular to subrounded mudstone and sandstone. (TOPSOIL)			
UT	0.30	(14)		129.80	0.30				
			101mm /0%			Firm brown and grey slightly sandy gravelly CLAY. Gravel is fine to coarse angular to subrounded mudstone, sandstone and coal. (MADE GROUND - OPENCAST BACKFILL)			
B	0.75								
			101mm /100%		(1.20)				
UT	1.00	(31)							
			101mm /65%						
B	1.45			128.60	1.50				
			101mm /100%			Stiff brown and dark grey gravelly CLAY. Gravel is fine to coarse angular to subrounded mudstone, sandstone and coal. (MADE GROUND - OPENCAST BACKFILL)			
B	2.00								
S	2.00	N = 19							
			92mm /75%		(2.76)				
B	3.00								
S	3.00	N = 12							
			79mm /70%						
S	4.00	N >50							
				125.84	4.26	End of Borehole at 4.26m			

Installation: 50mm diameter standpipe installed to 3.70m bgl.
Remarks: Hole collapsed 4.00m to 3.70m bgl.

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: DH
Logged: JW
Checked: AP

Exploratory hole logs to be read in conjunction with key sheet

APPLiED GEOLOGY

BOREHOLE LOG - DRIVEN CONTINUOUS SAMPLING

RS3028

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	1 of 2
Start	14/07/2020	**Coordinates**	E 435904.00 N 399548.00	**Scale**	1:25
End	14/07/2020	**Ground Level**	127.40m AOD	**Total Depth**	5.45m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
			101mm /100%		(0.30)	Soft brown slightly sandy slightly gravelly CLAY with frequent rootlets. Gravel is fine to coarse angular to subrounded mudstone. (TOPSOIL)			
UT	0.30	(17)		127.10	0.30				
			101mm /0%			Firm light brown an dark grey slightly sandy gravelly CLAY. Gravel is fine to coarse angular to subrounded mudstone, sandstone and coal. (MADE GROUND - OPENCAST BACKFILL)			
B	0.75								
			101mm /100%						
UT	1.00	(31)			(1.40)				
			101mm /65%						
B	1.45								
			101mm /100%	125.70	1.70				
B	2.00					Stiff dark brown and grey gravelly CLAY. Gravel is fine to coarse angular to subrounded mudstone and coal. (MADE GROUND - OPENCAST BACKFILL)			
S	2.00	N = 9							
			92mm /75%						
B	3.00								
S	3.00	N = 9							
			79mm /80%		(3.75)				
B	4.00								
S	4.00	N = 11							
			70mm /85%						
S	5.00	N = 11							

Continued next sheet

Installation: 50mm diameter standpipe installed to 5.00m bgl.
Remarks:

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed
1.30	1.00	Slight seepage		

Drilled: DH
Logged: JW
Checked: AP

APPLIED GEOLOGY

BOREHOLE LOG - DRIVEN CONTINUOUS SAMPLING

RS3028

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	2 of 2
Start	14/07/2020	**Coordinates**	E 435904.00 N 399548.00	**Scale**	1:25
End	14/07/2020	**Ground Level**	127.40m AOD	**Total Depth**	5.45m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
						Stiff dark brown and grey gravelly CLAY. Gravel is fine to coarse angular to subrounded mudstone and coal. (MADE GROUND - OPENCAST BACKFILL)			
				121.95	5.45	End of Borehole at 5.45m			

Installation: 50mm diameter standpipe installed to 5.00m bgl.
Remarks:

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed
1.30	1.00	Slight seepage		

Drilled: DH

Logged: JW

Checked: AP

BOREHOLE LOG - DRIVEN CONTINUOUS SAMPLING

RS3029

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	1 of 2
Start	14/07/2020	**Coordinates**	E 435850.00 N 399456.00	**Scale**	1:25
End	14/07/2020	**Ground Level**	126.40m AOD	**Total Depth**	5.45m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
			101mm /100%		(0.30)	Soft brown slightly sandy slightly gravelly CLAY with frequent rootlets. Gravel is fine to coarse angular to subrounded mudstone. (TOPSOIL)			
UT	0.30	(13)		126.10	0.30				
			101mm /65%			Stiff brown and dark grey slightly sandy gravelly CLAY. Gravel is fine to coarse angular to subrounded mudstone and sandstone. (MADE GROUND - OPENCAST BACKFILL)			
B	0.75								
			101mm /100%						
UT	1.00	(22)							
			101mm /60%						
B	1.45								
			101mm /100%						
					(3.20)				
B	2.00								
S	2.00	N = 9							
			92mm /65%						
B	3.00								
S	3.00	N = 11							
			79mm /55%	122.90	3.50	Dark brown and dark grey clayey sandy GRAVEL. Gravel is fine to coarse angular to subrounded mudstone and sandstone. (MADE GROUND - OPENCAST BACKFILL)			
B	4.00								
S	4.00	N = 28							
			70mm /100%		(1.95)				
S	5.00	N = 29							

Continued next sheet

Installation: 50mm diameter standpipe installed to 5.00m bgl.
Remarks:

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: DH
Logged: JW
Checked: AP

APPLIED GEOLOGY

BOREHOLE LOG - DRIVEN CONTINUOUS SAMPLING

RS3029

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	2 of 2
Start	14/07/2020	**Coordinates**	E 435850.00 N 399456.00	**Scale**	1:25
End	14/07/2020	**Ground Level**	126.40m AOD	**Total Depth**	5.45m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
						Dark brown and dark grey clayey sandy GRAVEL. Gravel is fine to coarse angular to subrounded mudstone and sandstone. (MADE GROUND - OPENCAST BACKFILL)			
				120.95	5.45	End of Borehole at 5.45m			

Installation: 50mm diameter standpipe installed to 5.00m bgl.
Remarks:

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed

Drilled: DH

Logged: JW

Checked: AP

Exploratory hole logs to be read in conjunction with key sheet

APPLiED GEOLOGY

BOREHOLE LOG - DRIVEN CONTINUOUS SAMPLING

RS3030

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	1 of 1
Start	14/07/2020	**Coordinates**	E 435804.00 N 399372.00	**Scale**	1:25
End	14/07/2020	**Ground Level**	122.50m AOD	**Total Depth**	4.24m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata
D ES	0.10 0.10		101mm /100%		(0.30)	Soft brown slightly sandy slightly gravelly CLAY with frequent rootlets. Gravel is fine to coarse angular to subrounded mudstone. (TOPSOIL)
UT	0.30	(22)		122.20	0.30	
			101mm /100%			Firm brown and grey slightly sandy gravelly CLAY. Gravel is fine to coarse angular to subrounded mudstone and sandstone. (MADE GROUND - OPENCAST BACKFILL)
B	0.75					
			101mm /100%		(1.20)	
UT	1.00	(33)				
			101mm /60%			
B	1.50			121.00	1.50	
			92mm /100%			Stiff brown and grey gravelly CLAY. Gravel is fine to coarse angular to subrounded mudstone, sandstone and coal. (MADE GROUND - OPENCAST BACKFILL)
B S	2.00 2.00	N = 7				
			79mm /70%		(2.74)	
B S	3.00 3.00	N = 13				
			70mm /65%			
S	4.00	N >50				
				118.26	4.24	End of Borehole at 4.24m

Installation: 50mm diameter standpipe installed to 4.00m bgl.
Remarks:

Groundwater Strikes

Depth Strike	Rose to	Remarks	Cased	Sealed
1.00	1.00	Seepage		
4.00	4.00	Seepage		

Drilled: DH
Logged: JW
Checked: AP

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY

RC4001

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	1 of 2
Start	05/02/2020	**Coordinates**	E 435163.46 N 399908.57	**Scale**	1:50
End	05/02/2020	**Ground Level**	145.34m AOD	**Total Depth**	16.10m

Depth (m)	TCR SCR RQD	If	Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata
0.00			D	0.00			(0.30)	Soft brown slightly gravelly CLAY with frequent rootlets. Gravel is fine to coarse angular to subrounded sandstone and mudstone. (TOPSOIL)
			D	0.20		145.04	0.30	
	100 0 0		ES					
			D	1.00			(1.35)	Firm to stiff orange and grey slightly gravelly CLAY. Gravel is fine to coarse subangular to subrounded sandstone, mudstone and coal. (PENNINE MIDDLE COAL MEASURES FORMATION)
			D					
			S		N = 26			
1.50			D	1.50				
						143.69	1.65	
	100 0 0		D	2.00				Very stiff grey and light brown gravelly CLAY. Gravel is fine to coarse angular to subangular mudstone. (PENNINE MIDDLE COAL MEASURES FORMATION)
			ES					
							(1.35)	
			D	2.50				
			S		N = 13			
3.00			D	3.00		142.34	3.00	
	100		D				(0.25)	Recovered as brown and dark grey clayey GRAVEL of fine to coarse angular to subangular mudstone. (PENNINE MIDDLE COAL MEASURES FORMATION)
						142.09		
3.35			D	3.20			3.25	
			S		N >50			Extremely weak thinly bedded grey MUDSTONE. Distinctly weathered. Fractures dip <5 degrees very closely to closely spaced undulating smooth. (PENNINE MIDDLE COAL MEASURES FORMATION)
	92 76 16							*Between 3.35m and 3.45m bgl: recovered as fine to coarse angular to subangular gravel of mudstone in a clay matrix.*
							(2.00)	*Between 3.65m and 3.72m bgl: recovered as fine to coarse angular to subangular gravel of mudstone in a clay matrix.*
4.60								*Between 3.85m and 3.95m bgl: fracture at 45 degrees undulating rough.*
								At 3.90m bgl: light brown mudstone nodule 20mm width.
								Between 4.60m and 4.85m bgl: recovered as fine to coarse angular to subangular gravel of mudstone.
	100 74 7		C	5.39 - 5.46		140.09	5.25	*Between 4.85m and 5.10m bgl: fracture at 90 degree dip undulating smooth.*
								Between 5.15m and 5.23m bgl: recovered as fine to coarse angular to subangular gravel of mudstone in a clay matrix.
								Very weak interbedded light grey SILTSTONE and grey MUDSTONE. Distinctly weathered. Fractures dip <5 degrees very closely to closely spaced undulating smooth. (PENNINE MIDDLE COAL MEASURES FORMATION)
6.10							(1.95)	
		NI 60 170						*Between 5.77m and 5.81m bgl: recovered as fine to coarse angular to subangular gravel of mudstone in a clay matrix.*
	100 83 20							*Between 6.20m and 6.28m bgl: recovered as fine to coarse angular to subangular gravel of mudstone in a clay matrix.*
			C	7.02 - 7.11				*At 6.40m bgl: fracture at 20 degree dip planar smooth.*
						138.14	7.20	*Between 6.50m and 6.57m bgl: recovered as fine to coarse angular to subangular gravel of mudstone in a clay matrix.*
7.60								Extremely weak thinly bedded MUDSTONE. Distinctly weathered. Fractures dip <5 degrees very closely to closely spaced undulating rough. (PENNINE MIDDLE COAL MEASURES FORMATION)
	100 70 0							*Between 7.95m and 8.03m bgl: recovered as fine to coarse angular to subangular gravel of mudstone and coal in a clay matrix.*
								Between 8.15m and 8.30m bgl: fracture at 75 degrees dip undulating smooth.
								Between 8.45m and 8.65m bgl: recovered as fine to coarse angular to subangular gravel of mudstone and coal in a clay matrix.
9.10							(3.75)	*Between 9.10m and 10.10m bgl: assumed zone of core loss.*
	33 0 0							

Continued next sheet

Installation: 50mm diameter standpipe installed to 11.50m bgl.

Remarks: Dynamic sampling to 3.25m bgl, rotary cored from 3.25m to 16.10m bgl. Air mist flush used. Borehole cased to 1.50m bgl. Driller noted 100% flush returns throughout hole, however fluctuating pressure levels in flush between 9.10m and 12.10m, as well as evidence of bubbling in flush at surface of the borehole.

Groundwater Strikes

Depth Strike	Rise	Remarks	Cased	Sealed

Drilled: Ace Drilling Services Ltd

Logged: JW

Checked: SD

Diameter: 140mm to 1.50m
123mm to 16.10m

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY

RC4001

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	2 of 2
Start	05/02/2020	**Coordinates**	E 435163.46 N 399908.57	**Scale**	1:50
End	05/02/2020	**Ground Level**	145.34m AOD	**Total Depth**	16.10m

Depth (m)	TCR SCR RQD	If	Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
			C	10.24 - 10.32				Extremely weak thinly bedded MUDSTONE. Distinctly weathered. Fractures dip <5 degrees very closely to closely spaced undulating rough. (PENNINE MIDDLE COAL MEASURES FORMATION)			
10.60			C	10.58 - 10.66				*Between 10.60m and 10.90m bgl: assumed zone of core loss.*			
			D	10.60		134.39	10.95	*Between 10.85m and 10.95m bgl: recovered as fine to coarse angular to subangular gravel of mudstone and coal in a clay matrix.*			
			S		N = 24	134.29	(0.10)	Black semi-bright clarain COAL. Distinctly weathered. (PENNINE MIDDLE COAL MEASURES FORMATION)			
	70 61 27		C	11.49 - 11.64			11.05 (1.15)	Very weak thinly bedded grey MUDSTONE. Slightly weathered. Fractures dip<5 degrees extremely closely to closely spaced undulating smooth. (PENNINE MIDDLE COAL MEASURES FORMATION)			
12.10						133.14	12.20	*At 11.65m bgl: light brown mudstone nodule 30mm width.* *At 11.75m bgl: light brown mudstone nodule 10mm width.*			
	100 97 74		C	12.31 - 12.44			(1.05)	Weak interbedded grey MUDSTONE and light grey SILTSTONE. slightly weathered. Fractures dip <5 degrees very closely to closely spaced undulating smooth. (PENNINE MIDDLE COAL MEASURES FORMATION)			
13.10			C	13.18 - 13.29				*Between 12.65m and 12.75m bgl: fracture at 90 degrees dip undulating rough.*			
		NI 105				132.09	13.25	Thickly bedded light grey and black SILTSTONE. Slightly weathered. Fractures dip <5 degrees very closely to medium spaced undulating rough. (PENNINE MIDDLE COAL MEASURES FORMATION)			
	100 82 59	290	C	13.59 - 13.82				*Between 13.85m and 13.95m bgl: interbedded with extremely weak grey mudstone.*			
14.60			C	14.67 - 14.77			(2.85)				
	100 100 73		C	15.28 - 15.57				*Between 15.60m and 16.10m bgl: fracture at 90 degree dip undulating rough.*			
16.10						129.24	16.10	End of Borehole at 16.10m			

Installation: 50mm diameter standpipe installed to 11.50m bgl.

Remarks: Dynamic sampling to 3.25m bgl, rotary cored from 3.25m to 16.10m bgl. Air mist flush used. Borehole cased to 1.50m bgl. Driller noted 100% flush returns throughout hole, however fluctuating pressure levels in flush between 9.10m and 12.10m, as well as evidence of bubbling in flush at surface of the borehole.

Groundwater Strikes

Depth Strike	Rise	Remarks	Cased	Sealed

Drilled: Ace Drilling Services Ltd

Logged: JW

Checked: SD

Diameter: 140mm to 1.50m
123mm to 16.10m

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY

RC4002

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	1 of 2
Start	11/02/2020	**Coordinates**	E 435278.60 N 399955.26	**Scale**	1:50
End	11/02/2020	**Ground Level**	146.72m AOD	**Total Depth**	11.00m

Depth (m)	TCR SCR RQD	If	Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata
0.00	90 0 0	N/A	D	0.10		146.52	(0.20)	Soft brown slightly gravelly CLAY with frequent rootlets. Gravel is fine to coarse subangular to subrounded sandstone and mudstone. (TOPSOIL)
			ES				0.20	
			D	0.80			(1.30)	Firm to stiff grey and orange slightly gravelly CLAY. Gravel is fine to coarse subangular to subrounded mudstone and sandstone. (PENNINE MIDDLE COAL MEASURES FORMATION)
			D	1.00				
			S		N = 26			
1.50	100 0 0		D	1.80		145.22	1.50	Very stiff grey CLAY with occasional to frequent fine to coarse angular to subangular mudstone lithorelicts. (PENNINE MIDDLE COAL MEASURES FORMATION)
							(1.00)	
2.50	100 75 70		D	2.50		144.22	2.50	Black dull fusain COAL. (PENNINE MIDDLE COAL MEASURES FORMATION)
			S		N >50	144.12	(0.10)	
			C	3.32 - 3.50			2.60	Very weak interbedded grey MUDSTONE and light grey SILTSTONE. Distinctly weathered. Fractures dip <5 degrees very closely to closely spaced undulating smooth. (PENNINE MIDDLE COAL MEASURES FORMATION) *Between 2.60m and 3.00m bgl: recovered as stiff to very stiff grey slightly gravelly clay. Gravel is fine to coarse angular to subangular mudstone and coal. Between 3.00m and 3.30m bgl: extremely weak. Between 3.90m and 4.50m bgl: recovered as very stiff grey gravelly clay. Gravel is fine to coarse angular to subangular mudstone and coal.*
3.50	100 61 34	NI 90 290						
			C	4.56 - 4.70				
			C	4.71 - 5.00				
5.00	100 93 36						(5.75)	*Between 5.40m and 5.50m bgl: fractures at 75 degrees dip, planar rough.*
			C	6.09 - 6.26				
			C	6.38 - 6.50				
6.50	100 97 64							
			C	7.50 - 7.67				
		NI 120 510						*Between 7.80m and 7.88m bgl: fractures at 60 degrees dip, planar rough.*
8.00			C	8.36 - 8.62		138.37	8.35	Weak to thickly bedded light grey SILTSTONE. Slightly weathered. Fractures dip <5 degrees closely spaced undulating rough. (PENNINE MIDDLE COAL MEASURES FORMATION)
	100 100 57		C				(0.55)	
						137.82	8.90	Very weak interbedded grey MUDSTONE and light grey SILTSTONE. Slightly weathered. Fractures dip <5 degrees very closely to medium spacing undulating rough. (PENNINE MIDDLE COAL MEASURES FORMATION) *Between 8.95m and 9.15m bgl: fractures at 80 degrees dip, planar rough. Between 9.68m and 9.82m bgl: fractures at 90 degrees dip, planar rough.*
9.50							(2.10)	

Continued next sheet

Installation:

Remarks: Dynamic/drive sample to 2.50m bgl, rotary cored from 2.50m to 11.00m bgl. Air mist flush used. Borehole cased to 1.50m bgl. Borehole backfilled with bentonite grout on completion.

Groundwater Strikes

Depth Strike	Rise	Remarks	Cased	Sealed

Drilled: Ace Drilling Services Ltd

Logged: JW

Checked: SD

Diameter: 140mm to 2.50m
123mm to 11.00m

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY

RC4002

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	2 of 2
Start	11/02/2020	**Coordinates**	E 435278.60 N 399955.26	**Scale**	1:50
End	11/02/2020	**Ground Level**	146.72m AOD	**Total Depth**	11.00m

Depth (m)	TCR SCR RQD	If	Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
	97 92 65		C C	10.05 - 10.31 10.56 - 10.72				Very weak interbedded grey MUDSTONE and light grey SILTSTONE. Slightly weathered. Fractures dip <5 degrees very closely to medium spacing undulating rough. (PENNINE MIDDLE COAL MEASURES FORMATION) *Between 10.72m and 10.89m bgl: fracture at 80 degree dip undulating rough.*			
11.00						135.72	11.00	End of Borehole at 11.00m			

Installation:
Remarks: Dynamic/drive sample to 2.50m bgl, rotary cored from 2.50m to 11.00m bgl. Air mist flush used. Borehole cased to 1.50m bgl. Borehole backfilled with bentonite grout on completion.

Groundwater Strikes

Depth Strike	Rise	Remarks	Cased	Sealed

Drilled: Ace Drilling Services Ltd
Logged: JW
Checked: SD

Diameter: 140mm to 2.50m
123mm to 11.00m

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY

RC4003

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	1 of 2
Start	07/02/2020	**Coordinates**	E 435238.94 N 399806.78	**Scale**	1:50
End		**Ground Level**	146.50m AOD	**Total Depth**	16.50m

Depth (m)	TCR SCR RQD	If	Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
0.00			D	0.20		146.20	(0.30)	Soft brown slightly gravelly CLAY with frequent rootlets. Gravel is fine to coarse angular to subrounded mudstone and sandstone. (TOPSOIL)			
	90 0 0		ES				0.30				
			D	0.75				Firm to stiff grey and orange slightly gravelly CLAY. Gravel is fine to coarse subangular to subrounded mudstone and sandstone. (PENNINE MIDDLE COAL MEASURES FORMATION)			
			D	1.00							
			S		N = 5		(1.55)				
1.50											
	100 0 0					144.65	1.85	Very stiff grey slightly gravelly CLAY. Gravel is fine to coarse angular to subrounded mudstone and fusain coal. (PENNINE MIDDLE COAL MEASURES FORMATION)			
			D	2.10			(0.55)				
						144.10	2.40	Black semi bright clarain COAL recovered as fine to coarse angular to subangular gravel. (PENNINE MIDDLE COAL MEASURES FORMATION)			
			D	2.50							
			S		N = 50		(0.50)				
						143.60	2.90				
3.00						143.45	(0.15)	Very stiff grey slightly gravelly CLAY. Gravel is fine to medium angular to subangular mudstone an clarain coal. (PENNINE MIDDLE COAL MEASURES FORMATION)			
							3.05				
							(0.95)	Extremely weak thinly bedded grey MUDSTONE. Distinctly weathered. Fractures are extremely closely to closely spaced <5 degrees dip undulating rough. (PENNINE MIDDLE COAL MEASURES FORMATION)			
	100 65 21										
			C	4.09 - 4.28		142.50	4.00	*Between 3.15m and 3.40m bgl: recovered as gravel of fine to coarse angular to subangular mudstone.*			
							(0.35)				
						142.15	4.35	Weak thickly bedded light grey SILTSTONE. Distinctly weathered. Fractures are closely spaced <5 degree dip undulating rough. (PENNINE MIDDLE COAL MEASURES FORMATION)			
4.50		NI 60 140									
							(0.95)				
	100 83 23							Very weak thinly bedded grey MUDSTONE. Distinctly weathered. Fractures dip <5 degrees very closely to closely spaced undulating smooth. (PENNINE MIDDLE COAL MEASURES FORMATION)			
						141.20	5.30	*Between 4.95m and 5.05m bgl: recovered as gravel of fine to coarse angular to subangular mudstone in clay matrix.*			
			C	5.50 - 5.64				*Between 5.15m and 5.30m bgl: fracture at 90 degree dip undulating rough.*			
6.00											
			C	6.26 - 6.39				Very weak interbedded light grey SILTSTONE and grey MUDSTONE. Distinctly weathered. Fractures dip <5 degrees very closely to closely spaced undulating rough. (PENNINE MIDDLE COAL MEASURES FORMATION)			
	100 91 20						(2.95)	*Between 5.75m and 5.90m bgl: fracture at 90 degrees dip undualting rough.*			
			C	6.92 - 7.05				*Between 7.07m and 7.13m bgl: recovered as gravel of fine to coarse angular to subangular mudstone.*			
7.50								*Between 7.20m and 7.35m bgl: fracture at 90 degree dip planar rough.*			
		NI 85 210	C	8.05 - 8.14							
	100 99 79					138.25	8.25	Weak thickly bedded light grey SILTSTONE. Slightly weathered. Fractures dip <5 degrees closely spaced undulating rough. (PENNINE MIDDLE COAL MEASURES FORMATION)			
			C	8.50 - 8.70			(0.50)				
						137.75	8.75				
9.00								Very weak interbedded grey MUDSTONE and light grey SILTSTONE. Slightly weathered. Fractures dip <5 degrees very closely to closely spaced undulating smooth. (PENNINE MIDDLE COAL MEASURES FORMATION)			
	100 93 45		C	9.45 - 9.56				*Between 8.85m and 8.95m bgl: fracture at 90 degrees dip planar rough.*			
								Continued next sheet			

Installation:

Remarks: Dynamic sampling to 3.00m bgl, rotary cored from 3.00m to 16.50m bgl. Air mist flush used. Borehole cased to 1.50m bgl. Borehole backfilled with bentonite grout on completion.

Groundwater Strikes

Depth Strike	Rise	Remarks	Cased	Sealed

Drilled: Ace Drilling Services Ltd

Logged: JW

Checked: SD

Diameter: 140mm to 3.05m
123mm to 16.50m

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY

RC4003

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	2 of 2
Start	07/02/2020	**Coordinates**	E 435238.94 N 399806.78	**Scale**	1:50
End		**Ground Level**	146.50m AOD	**Total Depth**	16.50m

Depth (m)	TCR SCR RQD	If	Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
			C	10.30 - 10.50			(3.05)	Very weak interbedded grey MUDSTONE and light grey SILTSTONE. Slightly weathered. Fractures dip <5 degrees very closely to closely spaced undulating smooth. (PENNINE MIDDLE COAL MEASURES FORMATION) *Between 9.99m and 10.05m bgl: recovered as gravel of fine to coarse angular to subangular mudstone and siltstone. At 10.80m bgl: fracture at 40 degrees dip planar smooth.*			
10.50											
	100 73 19		C	10.96 - 11.10				*Between 11.25m and 11.30m bgl: recovered as gravel of fine to coarse angular to subangular mudstone and siltstone in clay matrix.*			
			C	11.84 - 11.94		134.70	11.80	*Between 11.70m and 11.80m bgl: fracture at 90 degrees dip planar rough.*			
12.00								Very weak thinly bedded grey MUDSTONE. Slightly weathered. Fractures dip <5 degrees very closely to closely spaced undulating smooth. (PENNINE MIDDLE COAL MEASURES FORMATION) *Between 12.40m and 12.45m bgl: recovered as gravel of fine to coarse angular to subangular mudstone in clay matrix. Between 12.80m and 12.85m bgl: recovered as gravel of fine to coarse angular to subangular mudstone in clay matrix.*			
	100 81 9		C	12.63 - 12.76			(2.45)				
13.50								*Between 13.58m and 13.65m bgl: recovered as gravel of fine to coarse angular to subangular mudstone in clay matrix. Between 13.76m and 13.84m bgl: recovered as gravel of fine to coarse angular to subangular mudstone in clay matrix. Between 14.00m and 14.25m bgl: dark grey in colour. Between 14.12m and 14.34m bgl: fracture at 90 degrees dip planar smooth.*			
	100 85 26	NI 75 290				132.25	14.25	Black bright vitrain COAL. Traces of pyrite throughout. Cleats up to 20mm in width. (PENNINE MIDDLE COAL MEASURES FORMATION)			
15.00							(0.85)				
						131.40	15.10	Extremely weak thinly bedded brownish grey MUDSTONE. Slightly weathered. Fractures dip <5 degrees very closely to closely spaced undulating smooth. Up to 3mm vitrain coal bands throughout. (PENNINE MIDDLE COAL MEASURES FORMATION)			
							(0.40)				
	97 87 80		C	15.77 - 15.99		131.00	15.50	*Between 15.18m and 15.23m bgl: recovered as gravel of fine to coarse angular to subangular mudstone and vitrain coal in a clay matrix.*			
			C	16.24 - 16.34			(1.00)				
16.50						130.00	16.50	Very weak thinly bedded grey MUDSTONE. Slightly weathered. Fractures dip <5 degrees very closely to closely spaced undulating smooth. Light brown nodules throughout, some containing pyrite. Up to 30mm width. (PENNINE MIDDLE COAL MEASURES FORMATION)			
								End of Borehole at 16.50m			

Installation:

Remarks: Dynamic sampling to 3.00m bgl, rotary cored from 3.00m to 16.50m bgl. Air mist flush used. Borehole cased to 1.50m bgl. Borehole backfilled with bentonite grout on completion.

Groundwater Strikes

Depth Strike	Rise	Remarks	Cased	Sealed

Drilled: Ace Drilling Services Ltd

Logged: JW

Checked: SD

Diameter: 140mm to 3.05m
123mm to 16.50m

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY

RC4004

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	1 of 3
Start	17/01/2020	**Coordinates**	E 435354.53 N 399837.65	**Scale**	1:50
End	23/01/2020	**Ground Level**	146.10m AOD	**Total Depth**	30.00m

Depth (m)	TCR SCR RQD	If	Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata
0.00			D	0.15			(0.25)	Soft becoming firm greyish brown slightly gravelly CLAY with frequent rootlets. Gravel is fine to medium subangular to subrounded mudstone, sandstone and coal. (TOPSOIL)
			ES			145.85	0.25	
	100 0 0		D	0.45			(0.30)	
						145.55	0.55	Firm becoming stiff greyish orange gravelly CLAY with frequent rootlets. Gravel is fine to coarse subangular to subrounded mudstone and coal. (PENNINE MIDDLE COAL MEASURES FORMATION)
			D	0.80			(0.45)	
1.00						145.10	1.00	Black dull fusain COAL recovered as slightly sandy fine to coarse subangular gravel. (PENNINE MIDDLE COAL MEASURES FORMATION)
	100 10 0		D	1.35			(0.50)	
						144.60	1.50	Stiff light grey and orange slightly gravelly CLAY. Gravel is fine to medium subangular to subrounded coal and mudstone. (PENNINE MIDDLE COAL MEASURES FORMATION) *From 1.30m to 1.50m bgl: dark grey.*
			D	1.75			(0.40)	
2.00						144.20	1.90	Black dull fusain COAL. (PENNINE MIDDLE COAL MEASURES FORMATION) *Between 1.75m and 1.80m bgl: black semi bright vitrain coal.*
			C	2.05 - 2.12				
	100 46 31							
3.00							(2.30)	Extremely weak thinly laminated grey MUDSTONE. Weathering effects have reduced strength. Distinctly weathered. Fractures dip <5 degrees extremely to closely spaced undulating smooth. (PENNINE MIDDLE COAL MEASURES FORMATION) *Between 2.30m and 2.45m bgl: recovered as gravel sized fragments.*
	88 41 16							
4.20						141.90	4.20	Extremely weak thinly laminated dark grey MUDSTONE. Distinctly weathered. Fractures dip <5 degrees extremely closely to closely spaced undulating smooth. (PENNINE MIDDLE COAL MEASURES FORMATION)
	85 38 8	NI 35 70						
5.50								*Between 5.74m and 5.87m bgl: planar smooth fractures at 45 degrees and 90 degrees dip.*
	75 10 0							
6.10							(3.70)	
	77 22 0							*Between 6.45m and 6.83m bgl: Recovered as fine to coarse angular to subangular gravel of mudstone within clay matrix.*
			C	6.92 - 7.00				
7.30								
	98 62 41		C	7.97 - 8.06		138.20	7.90	
						138.13	(0.07)	Black bright vitrain COAL. Distinctly weathered. Cleats 1-15mm width. (PENNINE MIDDLE COAL MEASURES FORMATION)
							7.97	
8.60								Extremely weak thinly bedded dark grey MUDSTONE. Slightly weathered. Fractures dip <5 degrees very closely to closely spaced undulating rough. (PENNINE MIDDLE COAL MEASURES FORMATION)
			C	8.78 - 8.86				
	93 73 41		C	8.99 - 9.20			(2.28)	*Between 8.35m and 8.60m bgl: recovered as fine to coarse angular to subangular gravel of mudstone within clay matrix. Between 8.60m and 8.95m bgl: very weak light grey siltstone. Fractures dip <5 degrees very closely to closely spaced undulating rough.*

Continued next sheet

Installation: 19mm diameter standpipe installed to 20.00m bgl.
Remarks: Dynamic sampling to 2.00m bgl, rotary cored from 2.00m to 30.00m bgl. Air mist flush used. Borehole cased to 1.50m bgl.

Groundwater Strikes

Depth Strike	Rise	Remarks	Cased	Sealed
20.00	10.66	Medium seepage	1.50	
5.14	5.14	Start of shift	1.50	
11.24	11.24	End of shift	1.50	

Drilled: Ace Drilling Services Ltd
Logged: JW
Checked: SD

Diameter: 140mm to 2.00m
123mm to 30.00m

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY

RC4004

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	2 of 3
Start	17/01/2020	**Coordinates**	E 435354.53 N 399837.65	**Scale**	1:50
End	23/01/2020	**Ground Level**	146.10m AOD	**Total Depth**	30.00m

Depth (m)	TCR SCR RQD	If	Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata
10.10			C	10.10 - 10.25		135.85	10.25	Extremely weak thinly bedded dark grey MUDSTONE. Slightly weathered. Fractures dip <5 degrees very closely to closely spaced undulating rough. (PENNINE MIDDLE COAL MEASURES FORMATION)
	97 63 57		C	10.55 - 10.75				Very weak interbedded light grey SILTSTONE and dark grey MUDSTONE. Slightly weathered. Fractures dip <5 degree very closely to medium spaced undulating smooth. (PENNINE MIDDLE COAL MEASURES FORMATION)
11.60			C	11.63 - 11.78				
	100 73 39	NI 110 400	C	12.03 - 12.40				
13.10			C	13.25 - 13.38			(5.95)	*Between 12.82m and 13.15m bgl: undulating smooth fractures at 90 degree dip. Between 12.86m and 13.15m bgl: very weak light grey siltstone. Fractures dip <5 degree very closely to medium spaced undulating smooth.*
	89 79 45							
			C	14.28 - 14.44				
14.60			C	14.66 - 14.84				
	99 77 44	NI 115 200						*Between 15.80m and 16.20m bgl: planar smooth fractures at 20 degree dip.*
16.20						129.90	16.20	Extremely weak thinly bedded dark grey MUDSTONE. Slightly weathered. Fractures dip <5 degrees very closely to closely spaced undulating smooth. (PENNINE MIDDLE COAL MEASURES FORMATION) *Between 16.29m and 16.42m bgl: planar smooth fractures at 90 degrees.*
	65 47 20							
17.00			C	17.00 - 17.09				
	84 46 17						(2.60)	*At 17.65m bgl: undulating smooth fracture at 20 degree dip.*
18.00								
	81 55 11	NI 75 160	C	18.37 - 18.47				*Between 18.60m and 18.80m bgl: becoming black in colour.*
						127.30	18.80 (0.30)	Extremely weak black bright vitrain COAL. Slightly weathered. Cleats 1-20mm width.
						127.00	19.10	(PENNINE MIDDLE COAL MEASURES FORMATION)
19.50								Extremely weak thinly bedded dark grey MUDSTONE. Slightly weathered. Fractures dip <5 degrees very closely to closely spaced undulating smooth. (PENNINE MIDDLE COAL MEASURES FORMATION)

Continued next sheet

Installation: 19mm diameter standpipe installed to 20.00m bgl.
Remarks: Dynamic sampling to 2.00m bgl, rotary cored from 2.00m to 30.00m bgl. Air mist flush used. Borehole cased to 1.50m bgl.

Groundwater Strikes

Depth Strike	Rise	Remarks	Cased	Sealed
20.00	10.66	Medium seepage	1.50	
5.14	5.14	Start of shift	1.50	
11.24	11.24	End of shift	1.50	

Drilled: Ace Drilling Services Ltd
Logged: JW
Checked: SD

Diameter: 140mm to 2.00m
123mm to 30.00m

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY

RC4004

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	3 of 3
Start	17/01/2020	**Coordinates**	E 435354.53 N 399837.65	**Scale**	1:50
End	23/01/2020	**Ground Level**	146.10m AOD	**Total Depth**	30.00m

Depth (m)	TCR SCR RQD	If	Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
	100 84 43		C	20.37 - 20.50			(2.40)	Extremely weak thinly bedded dark grey MUDSTONE. Slightly weathered. Fractures dip <5 degrees very closely to closely spaced undulating smooth. (PENNINE MIDDLE COAL MEASURES FORMATION) *Between 19.18m and 19.24m bgl: recovered as fine to coarse angular to subangular gravel of mudstone in clay matrix.* *At 19.65m bgl: undulating rough fracture at 45 degree dip.*			
			C	20.78 - 21.00							
21.00						124.60	21.50				
	97 71 55		C	21.70 - 22.00				Very weak interbedded light grey SILTSTONE and dark grey MUDSTONE. Slightly weathered. Fractures dip <5 degree very closely to closely spaced undulating smooth. (PENNINE MIDDLE COAL MEASURES FORMATION)			
22.50			C	22.50 - 22.67							
	95 89 67	NI 215 900	C	23.23 - 23.40			(3.40)				
24.00											
	100 100 75		C	24.97 - 25.20		121.20	24.90	Very weak Interbedded light grey SANDSTONE and dark grey MUDSTONE. Slightly weathered. Fractures dip <5 degrees very closely to medium spaced undulating smooth. (PENNINE MIDDLE COAL MEASURES FORMATION)			
25.50							(1.60)				
	89 73 45		C	25.98 - 26.08							
						119.60	26.50	Extremely weak black bright vitrain COAL. Slightly weathered. (PENNINE MIDDLE COAL MEASURES FORMATION)			
						119.46	(0.14) 26.64				
27.00								Extremely weak thinly bedded dark grey MUDSTONE. Slightly weathered. Fractures dip <5-20 degrees very closely to medium spaced undulating smooth. (PENNINE MIDDLE COAL MEASURES FORMATION) *Between 26.64m and 26.70m bgl: recovered as fine to coarse angular to subangular gravel of mudstone.* *Between 27.70m and 27.75m bgl: recovered as fine to coarse angular to subangular gravel of mudstone in clay matrix.*			
	85 75 9		C	28.08 - 28.18							
		NI 85 210					(3.36)				
28.50											
	100 79 27		C	29.46 - 29.61				*Between 29.18m and 29.22m bgl: recovered as fine to coarse subangular to angular gravel of mudstone and vitrain bright coal.*			
30.00						116.10	30.00	End of Borehole at 30.00m			

Installation: 19mm diameter standpipe installed to 20.00m bgl.

Remarks: Dynamic sampling to 2.00m bgl, rotary cored from 2.00m to 30.00m bgl. Air mist flush used. Borehole cased to 1.50m bgl.

Groundwater Strikes

Depth Strike	Rise	Remarks	Cased	Sealed
20.00	10.66	Medium seepage	1.50	
5.14	5.14	Start of shift	1.50	
11.24	11.24	End of shift	1.50	

Drilled: Ace Drilling Services Ltd

Logged: JW

Checked: SD

Diameter: 140mm to 2.00m
123mm to 30.00m

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY

RC4005

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	1 of 2
Start	24/01/2020	**Coordinates**	E 435350.41 N 399721.84	**Scale**	1:50
End	27/01/2020	**Ground Level**	149.89m AOD	**Total Depth**	13.00m

Depth (m)	TCR SCR RQD	If	Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
0.00	93 0 0		D ES	0.10		149.74	(0.15) 0.15	Soft to firm greyish brown slightly gravelly CLAY with frequent rootlets. Gravel is fine to medium subangular to subrounded mudstone and sandstone. (TOPSOIL/MADE GROUND)			
			D ES	0.60							
			D S	1.00	N = 8		(1.47)	Firm to stiff greyish brown and orange slightly gravelly CLAY. Gravel is fine to coarse subangular to subrounded mudstone and coal. (MADE GROUND - OPENCAST BACKFILL)			
1.50						148.27	1.62				
	95 15 0		D ES	2.00			(0.73)	Dark grey and brown GRAVEL of fine to coarse angular to subangular mudstone. (MADE GROUND - OPENCAST BACKFILL)			
2.50	100		D S	2.50	N >50	147.54	2.35	Extremely weak thinly laminated dark grey and orange MUDSTONE. Extremely weathered. Fractures dip <5 degrees very closely to medium spaced undulating smooth. (PENNINE MIDDLE COAL MEASURES FORMATION)			
2.90	91 80 68	NI 70 290	C	3.29 - 3.36			(1.90)	*At 3.20m bgl: planar smooth fracture at 30 degrees dip. Between 3.26m and 3.31m bgl: recovered as fine to coarse angular to subangular gravel of mudstone.*			
4.20	97 59 27					145.64	4.25	Extremely weak thinly bedded grey MUDSTONE. Distinctly weathered. Fractures dip <5 degrees very closely to closely spaced undulating smooth. (PENNINE MIDDLE COAL MEASURES FORMATION)			
							(1.44)	*At 4.60m bgl: undulating rough fracture at 90 degree dip. At 4.65m bgl: planar smooth fracture at 45 degrees dip. Between 5.11m and 5.69m bgl: recovered as fine to coarse angular to subangular gravel of mudstone in clay matrix.*			
5.50	100 12 0	NI				144.20	5.69 (0.41)	Black bright vitrain COAL. Distinctly weathered. Cleats 1-25mm width. (PENNINE MIDDLE COAL MEASURES FORMATION)			
						143.79	6.10 (0.49)	Extremely weak thinly bedded dark grey MUDSTONE. Extremely weathered. (PENNINE MIDDLE COAL MEASURES FORMATION)			
						143.30	6.59				
						143.11	(0.19)	Black bright vitrain COAL. Distinctly weathered. (PENNINE MIDDLE COAL MEASURES FORMATION)			
7.00						143.07	6.78 (0.04)				
			C	7.13 - 7.24			6.82	Extremely weak thinly bedded dark grey MUDSTONE. Extremely weathered. Fractures not observed due to extreme weathering/alteration. (PENNINE MIDDLE COAL MEASURES FORMATION)			
	100 93 43		C	7.36 - 7.51			(1.82)	Very weak interbedded light grey SILTSTONE and grey MUDSTONE. Slightly weathered. Fractures dip <5 degrees closely spaced undulating rough. (PENNINE MIDDLE COAL MEASURES FORMATION)			
8.50		NI 90 170				141.25	8.64				
	97 82 34		C	8.97 - 9.74				Extremely weak thinly bedded grey MUDSTONE locally recovered as clayey fine to coarse subangular gravel. Slightly weathered. Fractures dip <5 degrees very closely to closely spaced undulating rough. (PENNINE MIDDLE COAL MEASURES FORMATION) *Between 9.08m and 9.12m bgl: recovered as fine to coarse angular to subangular gravel of mudstone. At 9.38m bgl: planar smooth fracture at 90 degrees dip.*			
			C	9.40 - 9.49							
			C	9.84 - 9.95							
10.00								Continued next sheet			

Installation:
Remarks: Dynamic/drive sample to 2.50m bgl, rotary cored from 2.50m to 13.00m bgl. Air mist flush used. Borehole cased to 1.50m bgl. Borehole backfilled with bentonite grout on completion.

Groundwater Strikes

Depth Strike	Rise	Remarks	Cased	Sealed
12.90	0.00	Slight seepage	1.50	

Drilled: Ace Drilling Services Ltd
Logged: JW
Checked: SD

Diameter: 140mm to 2.50m
123mm to 13.00m

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY

RC4005

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	2 of 2
Start	24/01/2020	**Coordinates**	E 435350.41 N 399721.84	**Scale**	1:50
End	27/01/2020	**Ground Level**	149.89m AOD	**Total Depth**	13.00m

Depth (m)	TCR SCR RQD	If	Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
	97 65 19		C	10.40 - 10.54			(3.43)	Extremely weak thinly bedded grey MUDSTONE locally recovered as clayey fine to coarse subangular gravel. Slightly weathered. Fractures dip <5 degrees very closely to closely spaced undulating rough. (PENNINE MIDDLE COAL MEASURES FORMATION)			
11.50											
	100 75 19		C	12.32 - 12.39		137.82	12.07	*At 11.95m bgl: undulating rough fracture at 90 degrees dip. Between 11.97m and 12.07m bgl: recovered as fine to coarse angular to subangular gravel of mudstone and coal in a clay matrix.*			
						137.57	(0.25) 12.32				
			C	12.55 - 12.72		137.39	(0.18) 12.50	Black semi=bight clarain COAL. Slightly weathered. (PENNINE MIDDLE COAL MEASURES FORMATION)			
							(0.50)	Extremely weak thinly bedded dark grey MUDSTONE. Slightly weathered. Fractures dip <5 degrees closely spaced undulating rough. (PENNINE MIDDLE COAL MEASURES FORMATION)			
13.00						136.89	13.00	Very weak thickly bedded grey SILTSTONE. Slightly weathered. Fractures dip <5 degrees closely spaced undulating rough. (PENNINE MIDDLE COAL MEASURES FORMATION)			
								End of Borehole at 13.00m			

Installation:
Remarks: Dynamic/drive sample to 2.50m bgl, rotary cored from 2.50m to 13.00m bgl. Air mist flush used. Borehole cased to 1.50m bgl. Borehole backfilled with bentonite grout on completion.

Groundwater Strikes

Depth Strike	Rise	Remarks	Cased	Sealed
12.90	0.00	Slight seepage	1.50	

Drilled: Ace Drilling Services Ltd
Logged: JW
Checked: SD

Diameter: 140mm to 2.50m
123mm to 13.00m

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY

RC4006

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	1 of 2
Start	04/02/2020	**Coordinates**	E 435326.00 N 399649.45	**Scale**	1:50
End		**Ground Level**	150.16m AOD	**Total Depth**	11.90m

Depth (m)	TCR SCR RQD	If	Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
0.00			D	0.00			(0.20)	Soft brown slightly gravelly CLAY with frequent rootlets. Gravel is fine to coarse subangular to subrounded mudstone and sandstone. (TOPSOIL/MADE GROUND)			
			D	0.10		149.96	0.20				
	75		ES				(0.25)				
	0		D	0.30		149.71	0.45				
	0							Firm brown and orange slightly gravelly CLAY. Gravel is fine to coarse subangular to subrounded mudstone, sandstone and coal. (MADE GROUND - OPENCAST BACKFILL)			
			B	1.00							
			D								
			S		N = 4						
1.50			D	1.50			(2.00)	Brown and dark grey very clayey GRAVEL of fine to coarse angular to subangular mudstone. (MADE GROUND - OPENCAST BACKFILL)			
	100										
	0										
	0										
			D	2.50		147.71	2.45	Firm brownish grey gravelly CLAY. Gravel is fine to coarse angular to subangular mudstone and dull fusain coal. (MADE GROUND - OPENCAST BACKFILL)			
			S		N = 4						
3.00			B	3.00							
			D								
	100										
	0										
	0										
							(2.85)				
			D	4.00							
			S		N = 7						
4.50			D	4.50							
	100										
	0		D	5.00							
	0										
						144.86	5.30	Grey and brown clayey GRAVEL of fine to coarse angular to subangular mudstone. (MADE GROUND - OPENCAST BACKFILL)			
			S	5.50	N = 8						
			B	5.80							
6.00			D	6.00			(1.70)				
	100										
	0		D	6.50							
	0		ES								
7.00			D	7.00		143.16	7.00	Very weak interbedded light grey SILTSTONE and grey MUDSTONE. Distinctly weathered. Fractures dip <5 degrees very closely to closely spaced undulating rough. (PENNINE MIDDLE COAL MEASURES FORMATION)			
	17		S		N >50						
7.40											
	100						(1.90)				
	100							*Between 8.20m and 8.40m bgl: fracture at 90 degree dip planar rough.*			
	55	NI									
		90									
		200									
8.90						141.26	8.90	Extremely weak thinly bedded grey MUDSTONE. Distinctly weathered. Fractures dip <5 degrees very closely to closely spaced undulating smooth. (PENNINE MIDDLE COAL MEASURES FORMATION) *Between 9.20m and 9.40m bgl: recovered as gravel of fine to coarse angular to subangular mudstone in clay matrix. Between 9.50m and 9.65m bgl: fracture at 90 degree dip planar smooth.*			
	89										
	63										
	8										

Continued next sheet

Installation:

Remarks: Dynamic sampling to 7.00m bgl, rotary cored from 7.00m to 11.90m bgl. Air mist flush used. Borehole cased to 1.50m bgl. Borehole backfilled with bentonite grout on completion.

Groundwater Strikes

Depth Strike	Rise	Remarks	Cased	Sealed

Drilled: Ace Drilling Services Ltd

Logged: JW

Checked: SD

Diameter: 140mm to 7.00m
123mm to 11.90m

APPLiED GEOLOGY

BOREHOLE LOG - ROTARY

RC4006

Project	Hoyland Common, Barnsley			**Project No.**	AG3080-19
Client	Newlands Developments			**Sheet**	2 of 2
Start	04/02/2020	**Coordinates**	E 435326.00 N 399649.45	**Scale**	1:50
End		**Ground Level**	150.16m AOD	**Total Depth**	11.90m

Depth (m)	TCR SCR RQD	If	Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
			C	10.24 - 10.32				Extremely weak thinly bedded grey MUDSTONE. Distinctly weathered. Fractures dip <5 degrees very closely to closely spaced undulating smooth. (PENNINE MIDDLE COAL MEASURES FORMATION) *Between 9.83m and 9.87m bgl: recovered as gravel of fine to coarse angular to subangular mudstone in clay matrix.* *Between 10.70m and 10.80m bgl: recovered as gravel of fine to coarse angular to subangular mudstone.*			
10.40			C	10.58 - 10.66			(3.00)				
	90 77 8							*Between 11.65m and 11.75m bgl: recovered as gravel of fine to coarse angular to subangular mudstone in clay matrix.*			
11.90						138.26	11.90	End of Borehole at 11.90m			

Installation:

Remarks: Dynamic sampling to 7.00m bgl, rotary cored from 7.00m to 11.90m bgl. Air mist flush used. Borehole cased to 1.50m bgl. Borehole backfilled with bentonite grout on completion.

Groundwater Strikes

Depth Strike	Rise	Remarks	Cased	Sealed

Drilled: Ace Drilling Services Ltd

Logged: JW

Checked: SD

Diameter: 140mm to 7.00m
123mm to 11.90m

APPLiED GEOLOGY