

**PHASE 2 SITE INVESTIGATION - BUILDING 2**  
**PROPOSED REPLACEMENT DWELLING (NEW BUILD)**  
**SUPPLEMENTAL BOREHOLES BH04 & BH05 (NEW BUILD SITE ONLY)**

Hill End Farm, Hill End Road, Mapplewell, Barnsley, S75 6DU

**Planning Ref: 2022/1165**

**Report Ref:** TH/HILL END/PH2 Supplement/BNote02/May 2023

**17<sup>th</sup> May 2023**



**T. M. Hyett** MSc CEng MIEI, CGeol FGS, MCIQB  
Chartered Engineer, Chartered Consultant Engineering Geologist  
Earth-Tech Consulting Ltd  
No. 5 Wentworth Terrace  
Wakefield  
West Yorkshire  
WF1 3QW  
T: 07790 581478  
E: [timhyett@hotmail.co.uk](mailto:timhyett@hotmail.co.uk)



**BRIEFING NOTE - TH/HILL END/PH2 Supplement/ BNote02/May 2023**  
**17<sup>th</sup> May 2023**  
**Hill End Farm, Hill End Road, Mapplewell, Barnsley, S75 6DU**

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SHORT NOTE: FAO THE COAL AUTHORITY (A PLANNING AUTHORITY CONSULTEE) REGARDING THE PLANNING PERMISSION GRANTED UNDER REF: 2022/1165) – RESULTS OBTAINED FROM SUPPLEMENTARY BOREHOLES (2No.) DRILLED FOLLOWING DISCUSSIONS RELATING TO RELIABILITY OF PREVIOUSLY DRILLED BHs AS PART OF THE PHASE II SITE INVESTIGATION.

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**(i) Introduction.**

The above referenced site (Hill End Farm, Hill End Road, Mapplewell, Barnsley, S75 6DU) is subject to planning permission (Ref: 2022/1165) to construct a new build dwelling granted by Barnsley Metropolitan District Council on 29.11.2022. The planning required a Phase I Desk Study to be carried out and a Coal Mining Risk Assessment (CMRA), and subject to the findings from the above, a Phase II Intrusive Site Investigation, as per the usual requirements and best practice for a site proposed for development situated in a location which may/may not have been impacted by past coal mining legacy.

- A **Coal Mining Risk Assessment (CMRA)** Report was carried out by Earth Tech Consulting Ltd, Ref: TH/Hill End/Bldng2/Rep/CMRA/01/Oct2022/v01 dated 5<sup>th</sup> October 2022.
- An initial **Phase I - Potential Contaminated Land & Preliminary Risk Assessment (PRA)** Report Ref: TH/Hill End/Bldng2/REP/PHASE1/02/Oct2022/v01 was also carried out by Earth Tech dated 5<sup>th</sup> October 2022.
- This led to a **Phase II Site Investigation** (Ref: TH/Hill End/Bldng2/New Build/PHASE2/Mar2023/v01) dated 11<sup>th</sup> March 2023, that identified low risk and recommended no further action.

As part of the planning process, the Coal Authority (CA) were invited to comment on the findings / output of the Phase II report submitted, and whilst broadly in agreement, the CA (James Smith) had some concerns regarding the single BH drilled in front of the proposed new build dwelling, and questioned whether, on balance this was adequate to demonstrate the risk profile for the site.

Specifically, the BH in question (BH3) in the Ph2 identified a coal seam (unworked) but c.900m thick at a depth which indicated c.7.5m rock cover:

- a. The CA were of the view that, in theory at least, this seam could feasibly have been worked in the past, and if this was the case beneath the building, a rock cover of c. Ten Times (x10) seam thickness would be required to provide absolute certainty of stability.
- b. Although no evidence was obtained to indicate the seam had been works in this location (or in any other location of the Hill End site) this did raise the further question as to whether, under these circumstances, it would be prudent to drill additional boreholes beneath the footprint of the building, to demonstrate that no past workings are present within this seam, hence the minor rock cover deficiency (which would require c. 9m of solid geology) was not therefore considered a factor of concern.
- c. The Senior Geotechnical Consultant at Earth Tech accepted the logic presented by the CA, and it was agreed that, as the CA Permit had not yet been closed-out, it would be prudent to bring the drilling contractor back to site and drill 2No. additional boreholes, but directly on the footprint of the proposed dwelling.

(ii) **The Subject of this Briefing Note.**

The additional boreholes were drilled by the appointed contractor, ACE Drilling Services Ltd, under the existing CA Permit for the site (which was still open) and under the existing RAMS provided for the works.

This briefing note is a presentation of the findings of the supplemental boreholes, BH04 and BH05 carried out on 11<sup>th</sup> May 2023 and 12<sup>th</sup> May 2023, which identify the coal seam in question and demonstrate that it has **NOT BEEN WORKED** beneath the structure.

**1. Site Location & Location Plan - Additional Boreholes BH04 and BH05**



Fig 1 – General Location and Aerial Photo of the Site in South Yorkshire: Hill End Farm, Mapplewell, S75 6DU

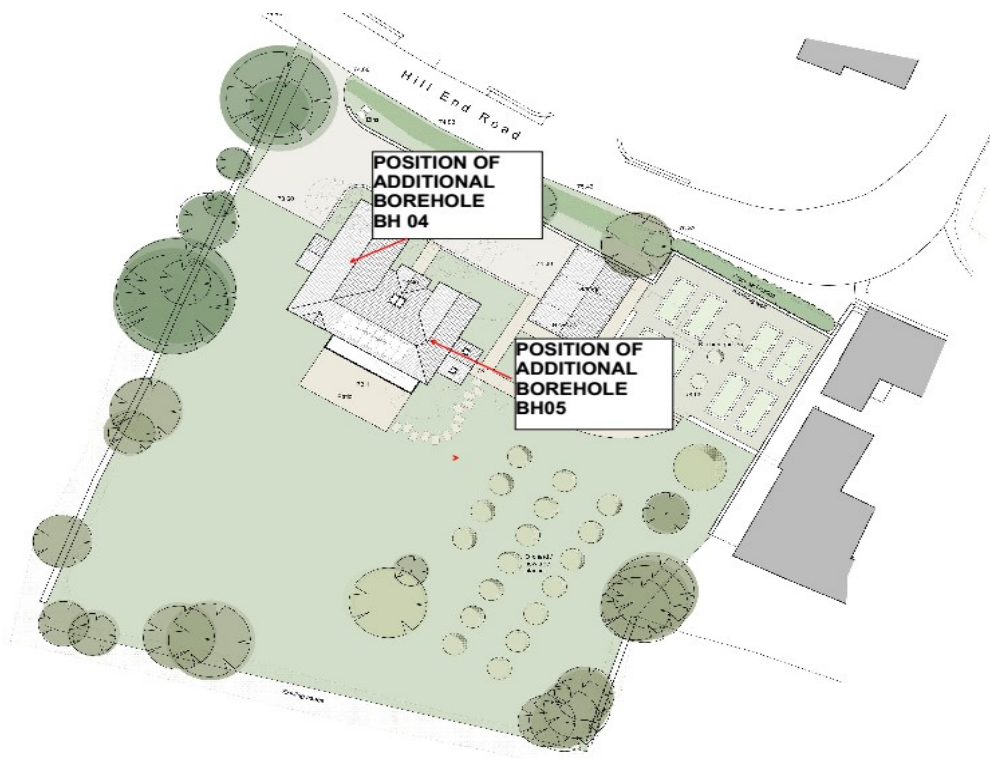



Fig 2 – Location of Additional Boreholes – BH04 and BH05 – New Build Site in South Yorkshire: Hill End Farm, Mapplewell, S75 6DU


2. Drillers Logs (ACE Ltd) - Boreholes BH04 and BH05 – 11<sup>th</sup> & 12<sup>th</sup> May 2023

Ace Drilling Services	Drillers Daily Borehole Log												Office 6, Rear Walled Garden, Nostell Estate, Wakefield, West Yorkshire, WF4 1AB Office: (01924) 80202 Stuart@acedrillingservicesltd.com								
Contract No.	Site: hill end farm											Borehole No: BH4									
Rig	Beretta GT54-6											Borehole Dia: 5"									
Driller	Pete Smallwood											Type of Bit / Barrel: PCD		Rock Bit							
Date	11.5.23											Type of Flush: Water									
Casing used	Strata description		Depth		Drilling / Coring								Penetration Tests								
	Colour	Strata	From	To	Type OH/C/D/S/ SPT	Sample No	Depth From	Depth To	Run Length	Core Recovered	Percentage of Recovery	Flush Colour	Flush Returns	75mm	75mm	75mm	75mm	75mm	75mm	Refusal	
Size	PW	Black	top Soil	0.00	0.10	OH							Black	100%							
Depth to	1.5	Brown	Clay	0.10	1.70																
Water strikes		Grey	Mudstone	1.70	7.00																
		Black	Coal	7.00	8.00																
Depth		Brown	Sandstone	8.00	12.00																
Inflow																					
Water level																					
Depth sealed off																					
Hours on site																					
From																					
To																					
Water level AM																					
Water level PM																					
Consumables used	Dayworks				Time		Standing				Time		Installation		Depth						
	From	To	From	To	From	To	From	To	From	To	Size	Type	From	To							
Core Boxes																					
Liner																					
Gravel																					
Bentonite																					
Postcrete																					
Install Cover																					
Crew																					
Driller	Pete Smallwood																				
2nd man	Ryan Stevens																				
3rd man																					
Remarks																					

Ace Drilling Services	Drillers Daily Borehole Log												Office 6, Rear Walled Garden, Nostell Estate, Wakefield, West Yorkshire, WF4 1AB Office: (01924) 80202 Stuart@acedrillingservicesltd.com								
Contract No.	Site: hill end farm											Borehole No: BH5									
Rig	Beretta GT54-6											Borehole Dia: 5"									
Driller	Pete Smallwood											Type of Bit / Barrel: PCD		Rock Bit							
Date	12.5.23											Type of Flush: Water									
Casing used	Strata description		Depth		Drilling / Coring								Penetration Tests								
	Colour	Strata	From	To	Type OH/C/D/S/ SPT	Sample No	Depth From	Depth To	Run Length	Core Recovered	Percentage of Recovery	Flush Colour	Flush Returns	75mm	75mm	75mm	75mm	75mm	75mm	Refusal	
Size	PW	Black	top Soil	0.00	0.10	OH		1.20	12.00				Grey	100%							
Depth to	1.5	Brown	Clay	0.10	1.70																
Water strikes		Grey	Mudstone	1.70	7.50																
		Brown	Coal	7.50	8.50																
Depth		Grey	Mudstone	8.50	11.00																
Inflow		Brown	Sandstone	11.00	12.00																
Water level																					
Depth sealed off																					
Hours on site																					
From																					
To																					
Water level AM																					
Water level PM																					
Consumables used	Dayworks				Time		Standing				Time		Installation		Depth						
	From	To	From	To	From	To	From	To	From	To	Size	Type	From	To							
Core Boxes																					
Liner																					
Gravel																					
Bentonite																					
Postcrete																					
Install Cover																					
Crew																					
Driller	Pete Smallwood																				
2nd man	Ryan Stevens																				
3rd man																					
Remarks																					

### 3. Borehole Logs (Earth Tech) – 17<sup>th</sup> May 2023

			<h2 style="text-align: center;">Rotary Borehole Record</h2>					<h1 style="text-align: center;">BH04</h1>		Sheet 1 of 1	
Project Ref: <b>TH/SBR/BESSEMER/02</b>			Client: <b>Mr Needham</b>					Date: <b>11.05.2023</b>			
Location: <b>Hill End Farm, Hill End Road, Mapplewell, Barnsley, S75 6DU</b>			Plant Used: <b>Berreta T41 rotary rig</b>					Borehole Position: (see plan Dwng No.)			
Geology Description			Depth (m)	Legend	TRC (%)	SCR (%)	RQD (%)	Sample / Insitu Test Information			
								Type	Depth	Remarks	
0.00m to 1.70m Firm to stiff brown locally orangish-brown slightly sandy silty CLAY with gravel of fine to coarse sandstone - gravels are angular to coarse sandstone			0.0								
			2.0								
			4.0								
			6.0								
7.00m to 8.0m Coal Seam (900mm thick – unworked)			8.0								
7.90m to 12.00m – Solid formation - Medium strong locally grey fine to medium grained MUDSTONE with many localized bands of sandstone / siltstone (PLCM-MDSS)			10.0								
			12.0								
			14.0								
Hole Diameter by Depth			Drilling Flush Details				Water Strike				
Depth (m)	Diameter (mm)	Casing (mm)	Depth(m)	Type	Return (%)	Strike Depth (m)	Depths Sealed (m)	Remarks			
				water	100%						
Earth-Tech Consulting Ltd Yorkshire Office T: 07790 581478 E: timhyett@hotmail.co.uk			Remarks: 3. No voids or fractures / no loss of flush 4. No groundwater								
Drilled By: <b>ACE Drilling Svs Ltd</b>			Logged By: <b>TH</b>				Checked By: <b>KH</b>				

			<h2 style="text-align: center;">Rotary Borehole Record</h2>					<h1 style="text-align: center;">BH05</h1>		Sheet 1 of 1	
Project Ref: <b>TH/SBR/BESSEMER/02</b>			Client: <b>Mr Needham</b>					Date: <b>12.05.2023</b>			
Location: <b>Hill End Farm, Hill End Road, Mapplewell, Barnsley, S75 6DU</b>			Plant Used: <b>Berreta T41 rotary rig</b>					Borehole Position: (see plan Dwng No.)			
Geology Description			Depth (m)	Legend	TRC (%)	SCR (%)	RQD (%)	Sample / Insitu Test Information			
								Type	Depth	Remarks	
0.00m to 1.70m Firm to stiff brown locally orangish-brown slightly sandy silty CLAY with gravel of fine to coarse sandstone - gravels are angular to coarse sandstone			0.0								
			2.0								
			4.0								
			6.0								
7.50m to 8.5m Coal Seam (900mm thick – unworked)			8.0								
8.50m to 11.00m – Solid formation - Medium strong locally grey fine to medium grained MUDSTONE with many localized bands of sandstone / siltstone (PLCM-MDSS) and 11.00m to 12.00m – Solid formation - Medium strong locally grey fine to medium grained SANDSTONE			10.0								
			12.0								
			14.0								
Hole Diameter by Depth			Drilling Flush Details				Water Strike				
Depth (m)	Diameter (mm)	Casing (mm)	Depth(m)	Type	Return (%)	Strike Depth (m)	Depths Sealed (m)	Remarks			
				water	100%						
Earth-Tech Consulting Ltd Yorkshire Office T: 07790 581478 E: timhyett@hotmail.co.uk			Remarks: 1. No voids or fractures / no loss of flush 2. No groundwater								
Drilled By: <b>ACE Drilling Svs Ltd</b>			Logged By: <b>TH</b>				Checked By: <b>KH</b>				

#### 4. Summary

The additional boreholes (BH04 and BH05) identified the same geology recorded in BH03. There was no loss of flush and no indication that the coal seam identified in BH03 has been worked in the precise vicinity of the proposed building under planning Ref: 2022/1165.

- No further action is required.

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End



Timothy M. Hyett LLM MSc CEng MIEI CGeol FGS  
Tunnelling Specialist & Consultant Engineering Geologist  
T: 07790 581478  
E: [timhyett@hotmail.co.uk](mailto:timhyett@hotmail.co.uk)

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