



Permit Ref.	14005	Project / Site Location	Oakenholt, Flint,
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Please complete and return this e-form within **3 months** of the permitted works being completed. It is supplementary to, and should form part of, the full completion/validation reporting.

Where relevant the report should include; borehole logs and details of mine or mine entry treatment works carried out (incl. engineering drawings, grout takes etc.) and a scaled site layout plan (correlated to O.S N' Grid) showing all relevant mine entry positions, coal seams, voids and broken ground proved by the works.

Summary of works

Start date

Finish date

Have variations occurred to the scope / design of the works since the Permit was granted? No, Yes.

If yes, please describe;

Did if any of the following incidents occur?

- Spontaneous combustion, Water emission, Gas emission (elevated or above action levels)
 Geotechnical instability, Legal issues incl. damage or potential claims, None

If yes, please detail each item;

If shallow coal or coal workings were encountered please describe the conditions.

- Intact coal only, Broken ground, Backfilled ground, Voids

Please provide a general description;

Will further works be necessary that require a Permit? No Yes

If yes, please describe, including any recommendations;

Will the closure information be submitted to the LPA for discharge of a Planning Condition? No Yes

Relevant Planning Application Reference No.

Please provide the details;

LPA - Client

Name: **M. SCOTT**

Email: **m.kescott@groundsolve.com**

Company: **Groundsolve LTD**

Tel: **01244 661 361**

REF: 1944/ORC/CAclosure/sdi

Permitting Office
Coal Authority
200 Lichfield Lane
Berry Hill
Mansfield
Nottinghamshire
NG18 4RG26th July 2017

Dear Sirs,

RE: CA Reference 14005: Mine Shaft Location & Treatment, Oakenholt, Flintshire.

We have now completed our investigation works for Mine shaft reference 326371-002.

This letter report provides full details of the works undertaken, as required by the original permit terms and conditions. The Permit Closure Summary Form is also enclosed.

Background

A Coal Authority report identified the presence of a mine shaft on a site in Oakenholt in Flintshire, reference 326371-002.

A shaft data sheet identified the source of the information to be as follows:

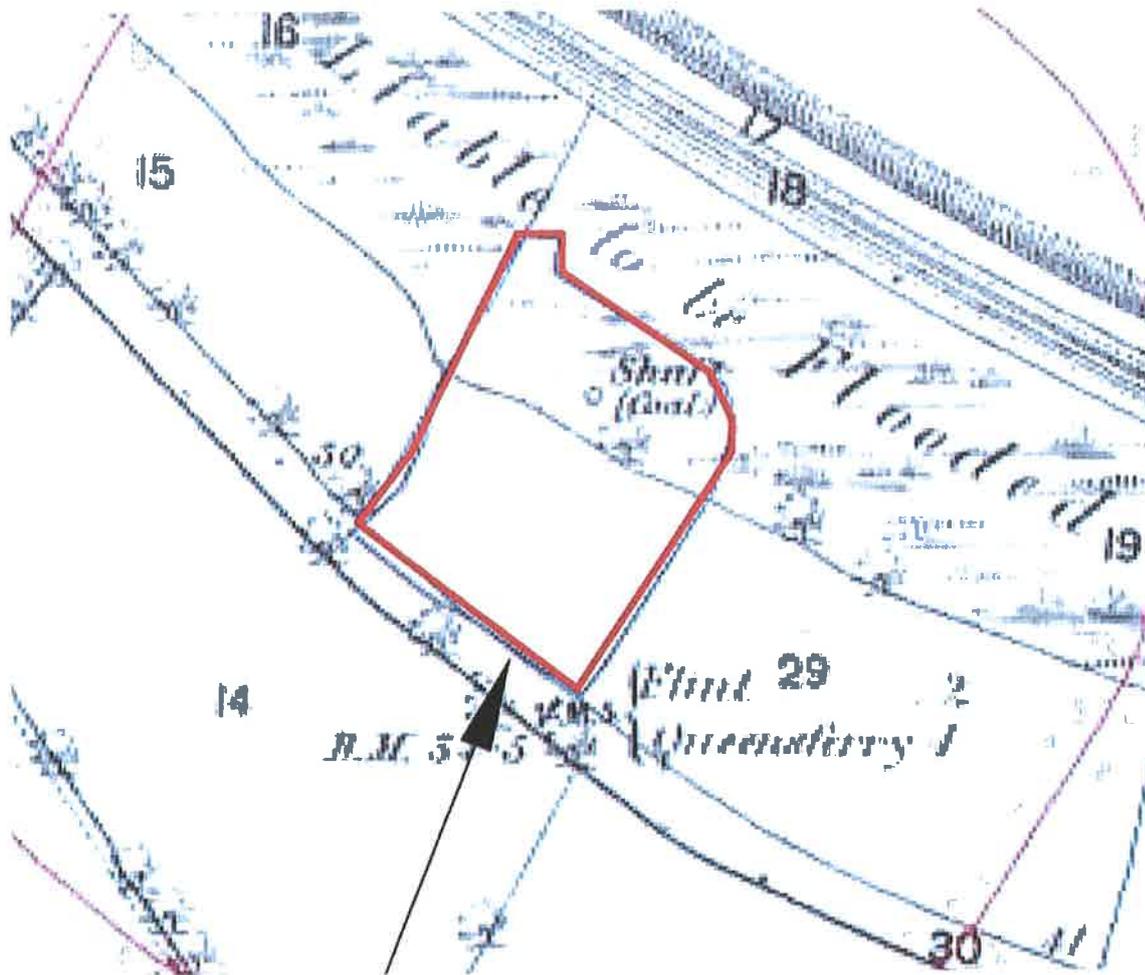
- 1870 OS plan,
- Geology plan dated 1923 at a scale of 1:10,560.

The depth of the shaft was given as 54.90m. The data sheet is presented in Appendix A.

In addition, a shaft, reference 326371-015 was shown immediately east of the site, with the source being the 1870 OS plan, no depth information was submitted.

The desk study information, in particular the 1870 OS plan, shows shaft 002 was in an area liable to flooding. In addition, shaft 015 is not shown on the 1870 plan, not appearing until the 1899 plan, see below.

The desk study and site investigation proved that the area occupied by shaft 002 was backfilled in the 1940's. Subsequent investigation proved several metres of ash and clinker fill, with a high ground water table.



1870 OS plan

Description of Works Undertaken

The scope of works covered by the permit comprised “investigation to locate and treat by grouting one mine entry (326371-002)”, see Appendix B.

It should be noted that the fact that a good OS source was available for the shaft, meant that an accurate grid reference could be obtained and set out on site using a GPS system.

In the first instance, a tracked excavator was used to excavate at the location of the shaft. However, the loose nature of the fill and the high groundwater table meant that the excavation quickly became unstable and had to be abandoned.

Therefore, and in accordance with the permit conditions, a rotary drilling rig was mobilised to site to locate the shaft prior to treatment, via probe drilling.

The probe drilling was carried out on a 1m by 1m grid, in an anticlockwise spiralling-outwards pattern starting at the recorded position of the shaft. Once rockhead was proven (to a minimum

thickness of 1.5m), the borehole was terminated and the probing pattern continued out to a 10m radius from the anticipated shaft location.

A plan showing the locations of the individual probe holes is presented on Figure 1.

The ground conditions comprised approximately 4-5m of loose ash fill, overlying soft tidal flat deposits, predominantly clays and silts. The presence of the loose ash fill caused a loss of flush while drilling through the deposit, and rockhead could therefore only be determined by the onset of "firm drilling" conditions, rather than by identification of rock in the drill flush returns. The driller's logs are presented in Appendix C, along with the contractor's records of borehole locations.

The depth to rockhead recorded within the probe holes was very consistent, with rockhead typically encountered at a depth of 10.5m below existing ground level. A small cluster of five boreholes, at the northwesternmost perimeter of the probing grid, encountered rockhead from a greater depth of between 13.0-14.0m below existing ground level. Rockhead was subsequently proven for another 1-2m (to 15.0m depth) before these probe holes were terminated.

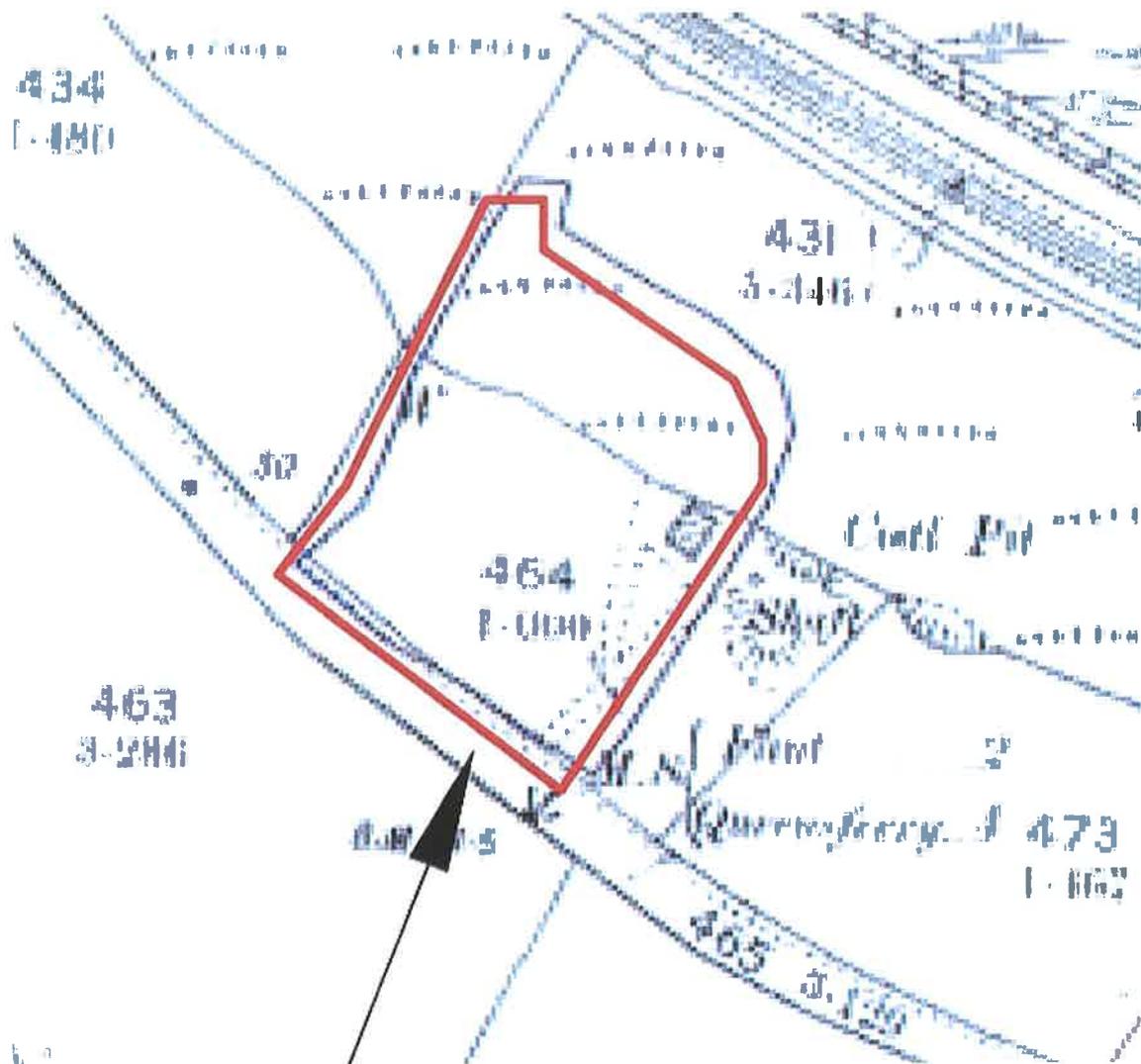
Discussion of Investigation Findings

Out of 347 locations drilled around the recorded location of the shaft, rockhead was encountered at 10.5m depth in 342 of the probe holes. A cluster of five probe holes, at the north-western limit of the drilling grid, encountered rockhead at slightly greater depths of between 13.0 and 14.0m depth, proved to a depth of 15.0m.

No evidence of a shaft, shaft liner, or any backfill material (other than the made ground known to be present on site) was encountered, and subsequently no shaft treatment has been carried out.

The recorded position of the shaft 002 is based on the 1870, 1: 2,500 scale Ordnance Survey (OS) plan, which showed the shaft as a well-defined feature, although no evidence of any spoil heaps is shown surrounding the shaft. The area where the shaft is located is recorded as "liable to be flooded", with higher ground evident immediately to the south of the shaft location.

The subsequent 1889 OS plan no longer shows shaft 002, but a new shaft 015 is recorded 30m to the southeast of the site boundary, with spoil surrounding its location, see below.



1899 OS plan

It is therefore considered likely that the shaft 002 was a trial, which was quickly abandoned due to flooding issues, and shaft 015 was subsequently sunk on the higher ground to the southeast, which means that the records held by the Coal Authority will need to be amended.

Conclusion

Based on the lack of spoil surrounding shaft 002 location, and no evidence of a shaft encountered during the probe drilling, despite there being an accurate record of its location. It is therefore considered unlikely that a shaft was ever excavated to significant depth at this location, or that workings were pursued from the shaft.

The recorded depth for shaft 002 of 54.9m is more likely to be attributed to the nearby shaft 015, for which no depth is recorded.

Based on the above findings, no further investigation or shaft treatment works are considered necessary, and no special precautions will be required for any proposed development at the recorded location of the shaft.

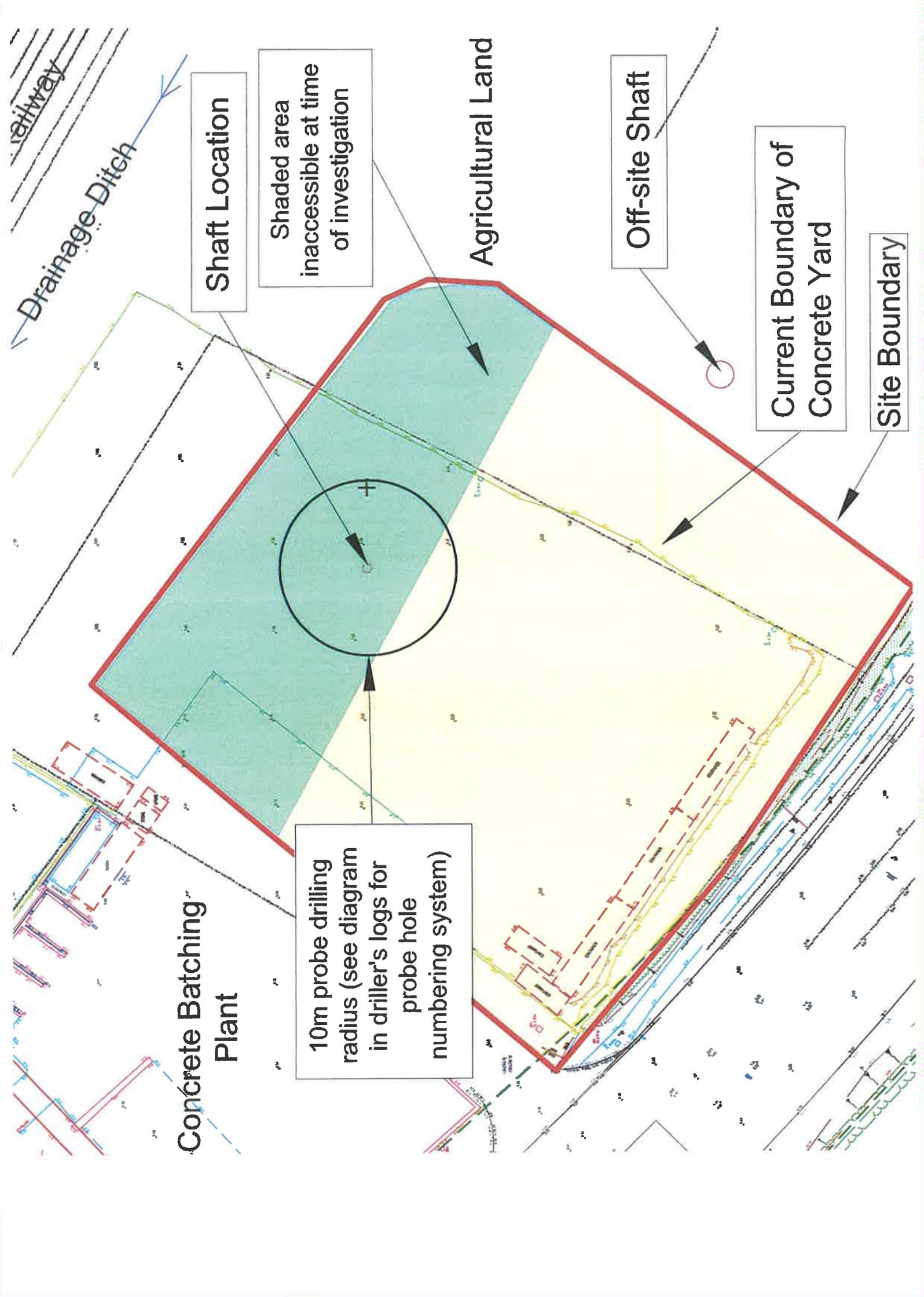
We trust this is satisfactory, should you have any queries please call Stefan Imiolczyk on 01244 661361.

Yours faithfully,


PR

Stefan D Imiolczyk
Enc.

FIGURES



Drainage Ditch

railway

Shaft Location

Shaded area inaccessible at time of investigation

Agricultural Land

Off-site Shaft

Current Boundary of Concrete Yard

Site Boundary

Concrete Batching Plant

10m probe drilling radius (see diagram in driller's logs for probe hole numbering system)

APPENDIX A

Shaft data sheet



The Coal
Authority

Issued by:

The Coal Authority, Property Search Services, 200 Lichfield Lane, Berry Hill, Mansfield, Nottinghamshire, NG18 4RG
Website: www.groundstability.com Phone: 0345 762 6848

**TERRACONSULT
BOLD BUSINESS CENTRE
BOLD LANE
BOLD
ST HELENS COUNCIL
WA9 4TX**

Our reference:	51001306125001
Your reference:	3124-Oakenholt HWRC
Date of your enquiry:	07 December 2016
Date we received your enquiry:	07 December 2016
Date of issue:	07 December 2016

This report is for the property described in the address below and the attached plan.

Shaft Plan and Data Sheets

OAKENHOLT, FLINTSHIRE, CH6 5SF

I refer to the enquiry dated 07 December 2016, received 07 December 2016, in connection with the above.

As requested I enclose the mine entry data sheet(s) held for the mine entry/entries referred to.

Mine Entry Data

Shaft/adit:	Shaft
Reference:	326371-015
Source:	OS: 1/2500 plan FL 10/5 - 1870 edition.
Colliery name:	Unknown
Entry name:	Unknown
Date abandoned:	Unknown
Depth of superficial deposits (m):	Unknown
Depth of shaft (m):	Unknown
Diameter of shaft (m):	Unknown
Probable adit azimuth:	Not Applicable
Treatment details:	Unknown
Conveyance:	Not Applicable
Easting:	326676
Northing:	371406
Other information:	Yes

Mine Entry Data (continued)

Shaft/adit:	Shaft
Reference:	326371-002
Source:	OS: 1/2500 plan FL 10/5 - 1870 edition. Geol: 1/10560 geological plan FL 10 NW - 1923 edition.
Colliery name:	Unknown
Entry name:	Unknown
Date abandoned:	Unknown
Depth of superficial deposits (m):	Unknown
Depth of shaft (m):	54.9
Diameter of shaft (m):	Unknown
Probable adit azimuth:	Not Applicable
Treatment details:	Unknown
Conveyance:	Not Applicable
Easting:	326654
Northing:	371446
Other information:	Yes

APPENDIX B

Coal Authority Permit

APPENDIX C

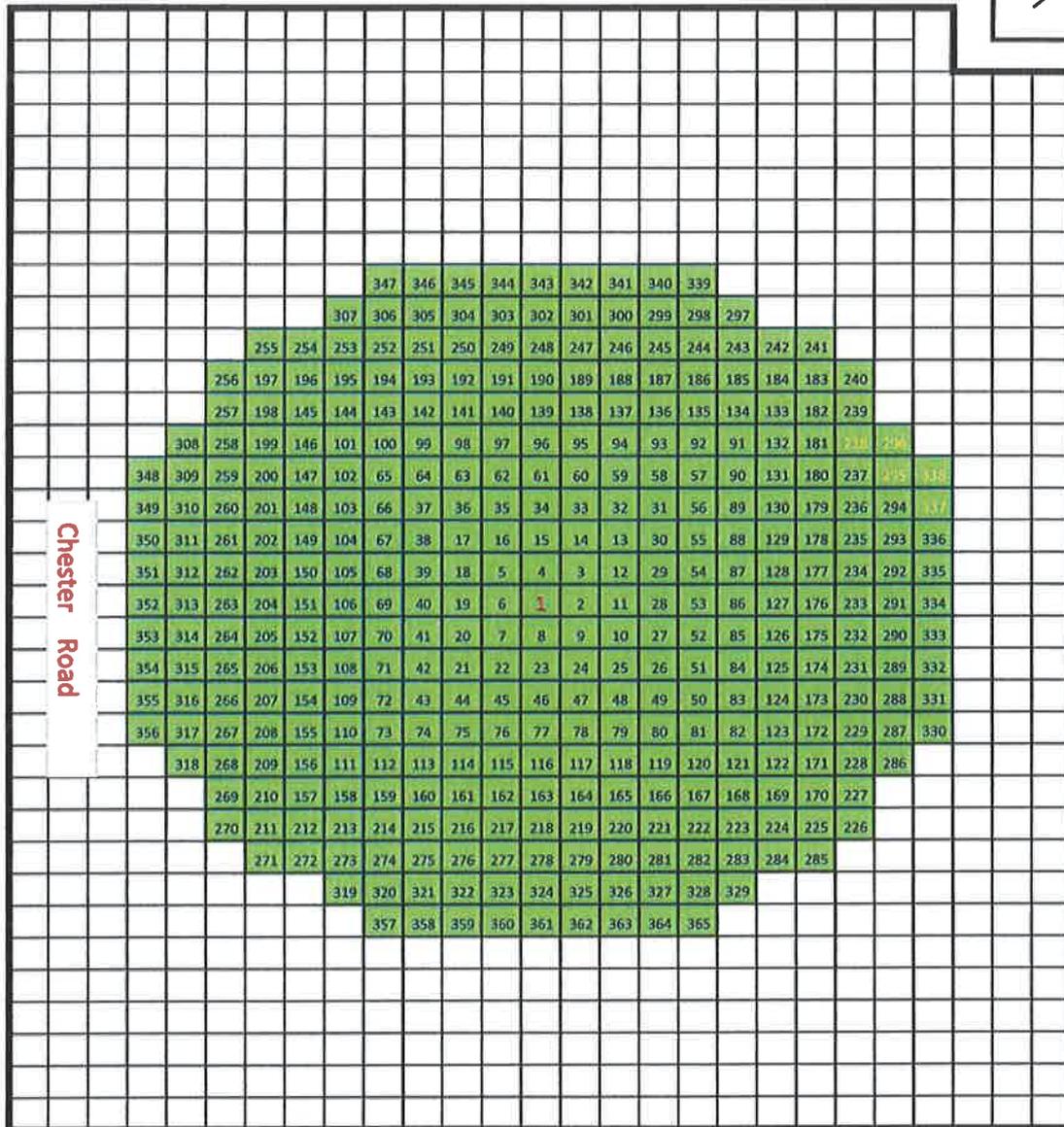
Contractors Records

FOREMAN'S DAILY JOURNAL – PLAN OF PROBE DRILLING GRID

**CONTRACT: Oakenholt, Flintshire
 CONTRACT NO.: F766**

DATE: 23/06/2017	DATE HOLE COMMENCED: 06/06/2017	SHAFT NUMBER: 326371-002	GRID SPACING: 1.0m	SHEET NUMBER: 1
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Holes Drilled Up To Week Ending 25/06/2017



Notes

-  Set Out Position of Shaft
-  Firm Drilling Encountered at 10.5m BGL
-  Firm Drilling Encountered at 13.0m to 14.0m BGL

Foreman's Daily Journal – Rotary Percussive Drilling

X/C/000/AP19

Forkers Ltd

Gold's Green House, Shaw Street, West Bromwich, West Midlands B70 0TX
Tel: 0121 505 1010 • Email: admin@forkers.com

Contract: FLINT	Contract No: F766	Date: 14-6-17 Date Commenced:	Sheet No: (D7)	Ground Level (m): TBC
Drilling Method: RA	Drilling Equipment / Rig No: KLEMM Blockoff	Drilling / Casing Diam (mm): 75mm	Bit Type: BB	Flush Type: WATER

Borehole No	Angle of Hole	Strata Thickness (m)		Description of Strata	Depth of Casing (m)	Flush Return (%)	Final Depth Borehole (m)
		From	To				
P218	V	CL	10.50	SOFT			
		10.50	12.00	HARD			
P237	I	CL	10.50	SOFT			
		10.50	12.00	HARD			
P238	V	CL	13.00	SOFT			
		13.00	15.00	HARD			
P239	V	CL	10.50	SOFT			
		10.50	12.00	HARD			
P258	I	CL	10.50	SOFT			
		10.50	12.00	HARD			

Hours Worked on Site			Remarks: Standing Time / Weather Conditions / Groundwater etc:	Signed for Forkers Ltd: <i>L. Cosgrove</i>
From	To	Total		
Signed for Client				

