Springwell Solar Farm

Consultation Report
Appendix L-1.8

APFP Regulation 5(2)(q)

Planning Act 2008

Infrastructure Planning
(Applications: Prescribed Forms
and Procedure) Regulations 2009

EN010149/APP/5.2
November 2024
Springwell Energyfarm Ltd

Table of Contents

Appendix L-1.8 – Preliminary Environmental Information Report

Volume 3: Supporting Reports (Appendix 10.1: Preliminary Risk Appraisal to Appendix 15.1: Long List of other developments)

Appendix L-1.8 – Preliminary Environmental Information Report

Application Document Ref: EN010149/APP/5.2
Planning Inspectorate Scheme Ref: EN010149

APPENDIX E5 BGS BOREHOLE LOGS – ZONE G

RECORD OF WELL (SHAFT OR BORE)

1/14/

TF05/16 80

At Toll Bar Cottages

Town or Village Ashby de la Launde and Bloxholm Parish

County Lincs. Six-inch quarter sheet 87 S.W.

For Mr.

Exact site of well TF05NW 0268 5569 (Attach a tracing from a map, or a sketch-map, if possible.)

Level of ground surface above sea-level (O.D.) 158 feet.

Is well-top at ground level? If not, state how far above / below; feet.

Shaft 94 ft., diameter ft. Details of headings

Bore ft.; diameter of bore: at top ins.; at bottom ins.

Lengths, diameters, perforations, etc., of lining tubes

Water struck at depths, below well-top, of (feet)

TEST DETAILS
Month
Year

Rest-level of water ft. above / below well-top. Suction at ft. Yield on hours' / days'
pumping gallons per (max. capacity of pump g.p.h.),
with depression of feet. Recovery to in mins. / hours.

WORKING CONDITIONS

Rest-level of water in (month), 1943 (year), 87 ft. above / below well-top.
Highest " in (month), (year), ft. above / below "
Lowest " in (month), (year), ft. above / below "
Suction at ft. Rate of pumping galls. per for hours per day.
with average depression of ft. Recovery to in mins. / hours

Quality of water (*attach copy of analysis if available*)

Well made by Date of well

Information from Dr. W. D. Evans.

ADDITIONAL NOTES.

See wartime cat. 11.

According to 6" Field slip 94' deep with RWL 87' down.

Site on Lincs. List.

O.T.B.

LOG OF STRATA OVERLEAF.

GEOLOGICAL SURVEY AND MUSEUM,
SOUTH KENSINGTON,
LONDON, S.W.7.

Date received.	G.S.M. Office File No.	1" N.S. Map No.	1" O.S. Map No.	Site marked (use symbol) on 1" Map.	on 6" Map.

(17206) Wt.42901/0877 10,000 2/41 A.& E.W.Ltd. Gp.656

British Geological Survey

Version 2.0.6.6

BGS ID: 469106 : BGS Reference: TF05NW38
British National Grid (27700) : 502600,356040
[redacted]

NGRC

BOREHOLE RECORDS

ADJUSTMENT FORM

QUARTER SHEET TF05NW.

BH REGISTRATION NUMBER 38 – 43.

RECORDS ENTERED AND HELD BY WALLINGFORD

BH REGISTRATION NUMBER(S)

British Geological Survey

Version 2.0.6.6

BGS ID: 469106 : BGS Reference: TF05NW38
British National Grid (27700) : 502600,356040

[redacted]

RECORD OF WELL

For Institute use only Licence No. TF05/51 N.....

114/173

EXACT SITE OF WELL

At 2½ km WNW of Ashby

Town or Village ASHBY DE LA LAUNDE

County LINCS

Six-inch County Sheet .....

Six-inch National Grid sheet and reference TF 0260 5604 TF05NW

For IGS Hydrol Dept (GNPR No. LL 08)

State whether owner, tenant, builder, contractor, consultant, etc.:— .....

Address (if different from above) .....

.....

Level of ground surface above sea level (O.D.) ..... ft (46.03 m)

*DELETE AS NECESSARY

If well top is not at ground level, state how far above:* below: ..... ft (..... m)

SHAFT.....ft (.....m); diameter.....ft (.....m);

HEADINGS (please attach details—dimensions and directions)

BORE.....ft (28.7 m); diameter: at top 4.5 in (.....cm); at bottom 4.5 in (.....cm)

Full details of permanent lining tubes (position, length, diameter, plain, slotted, etc.) .....

Trial - filled in

Continuously cored

.....

.....

Water struck at depths of .....ft (.....m) below well top

TEST CONDITIONS

Rest level of water.....ft (.....m) above* below well top. Suction at.....ft (..... m)

Yield on..... hours'* days' test pumping at.....galls (.....m³) per..... with

depression to.....ft (.....m) below well top. Recovery to rest level in ..... mins* hours

Capacity of pump .....g.p.h. (.....m³/h)

Date of measurements.....

NORMAL CONDITIONS

DESCRIPTION OF PERMANENT PUMPING EQUIPMENT:

Make and/or type..... Motive power.....

Capacity.....galls (.....m³) per hour. Suction at.....ft (..... m)

below well top. Amount pumped.....galls (.....m³) per day. Estimated

consumption.....galls (.....m³) per week

Well made by Soil Mechanics Ltd Date of sinking Nov. 1977

ADDITIONAL NOTES ANALYSIS (please attach copy if available)

See IGS Report Series 83/3

LOG OF STRATA OVERLEAF

Received from .....

.....

.....

Date .....

Observation well .....

INSTITUTE OF GEOLOGICAL SCIENCES,
WATER DEPARTMENT,
SOUTH KENSINGTON,
LONDON, S.W.7.

Recorder.....
E.R. log .....
Site marked on
1″ map .....
6″ map .....
(use symbol)
Copy to .....
.....
Date .....

British Geological Survey

Version 2.0.6.6

BGS ID: 469106 : BGS Reference: TF05NW38
British National Grid (27700) : 502600,356040

[redacted]

(For Institute use only) GEOLOGICAL CLASSIFICATION	NATURE OF STRATA If measurements start below ground surface, state how far.	THICKNESS Feet	Inches	Metres	DEPTH Feet	Inches	Metre

British Geological Survey

Version 2.0.6.6

BGS ID: 469106 : BGS Reference: TF05NW38
British National Grid (27700) : 502600,356040
[redacted]

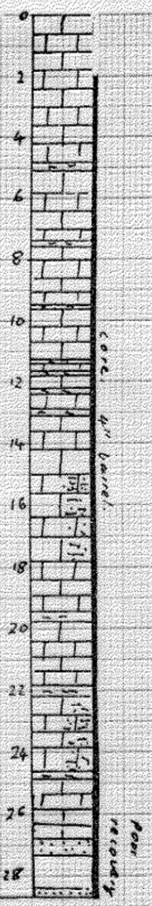
ASHBY LLB
G/L 46.03 m.a.o.d.

114/173 TF 0256/60
TF 02605604.

GEOLOGICAL CLASSIFICATION

TF05|51

OUTCROP: LINCOLNSHIRE LIMESTONE



4" open hole infilled

Description		Geological classification
massive cementstones.		?
buff grey friable oolites		
Hard partially cemented oolite.		
Hard muddy limestone underlain by laminated marl seam. Hard partially cemented oolites	LINCOLNSHIRE LIMESTONE	LINCOLNSHIRE LIMESTONE (UNDIVIDED) — BAJOCIAN — MIDDLE JURASSIC
massive cementstone with laminated marls especially near the top		
A-A but blue hearted		
hard muddy limestone		
Hard partially cemented oolite with occ. marlstone bands		
Hard muddy Limestone.		
soft running sand above sandy clay & sandy silts, slightly calc. Mottled brown & grey clays with plant frags & clayey sands siliceous cemented sands.	LOWER ESTUARINE SERIES	LOWER ESTUARINE BEDS AND NORTHAMPTON SAND/GRANTHAM FORMATION?

Base 28.70

(94 ft 2 ins)

Information on Fracture index, porosity, rock chemistry. moisture content 410 TRV
more detailed log in master file. L.R.D. Boton

Drilled 24-27/11/77 for I.G.S.
by Soil Mechanics
cored throughout. core stored for I.G.S.

PEL A.T. 1980

British Geological Survey

Version 2.0.6.6

BGS ID: 469106 : BGS Reference: TF05NW38
British National Grid (27700) : 502600,356040
[redacted]

report : to members £40 U #14/173

GROUNDWATER NITRATE POLLUTION RESEARCH BOREHOLE LL8 O.D. G.L. 46.03 m. IGS

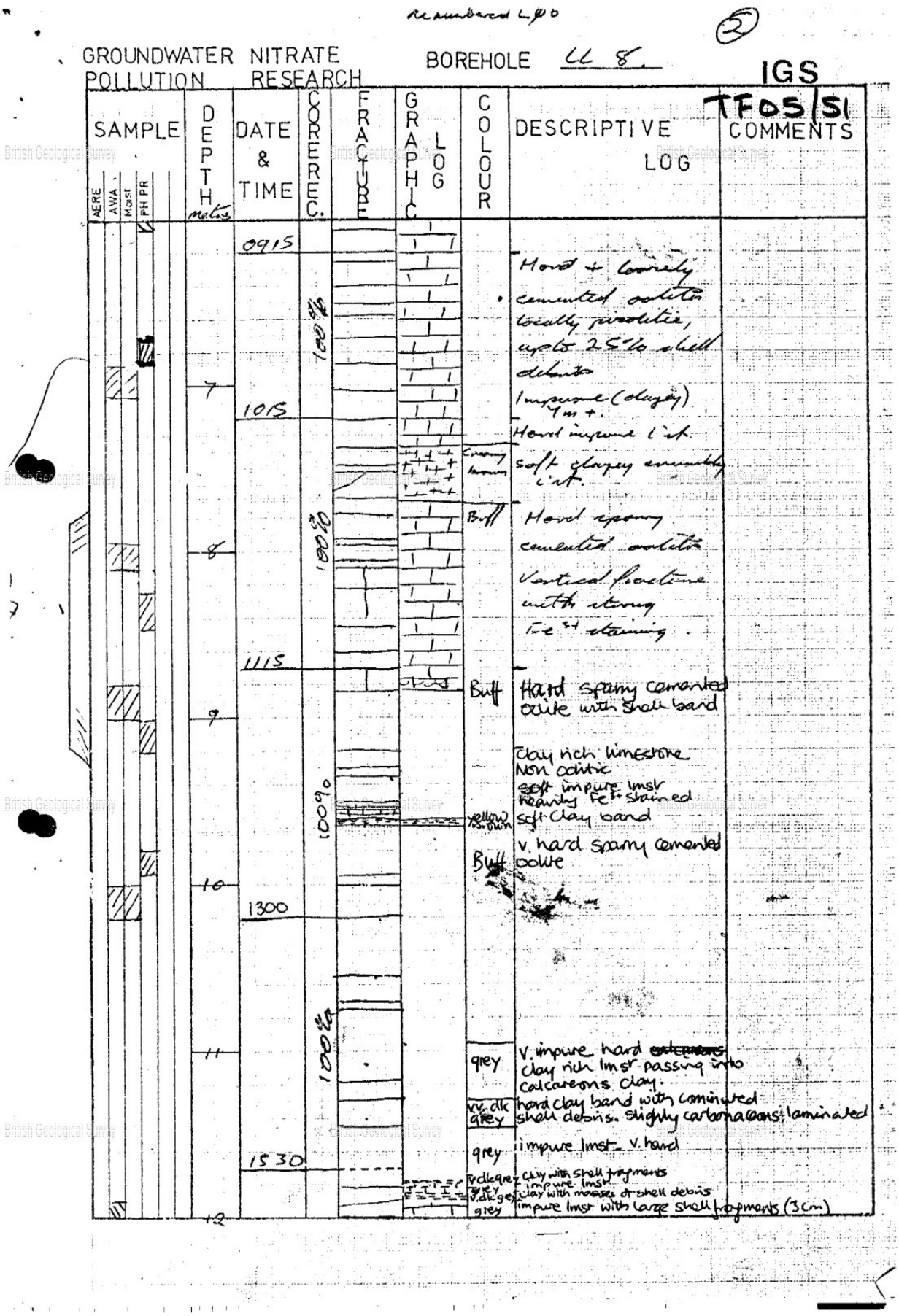
TF05/51

SAMPLE (AEME / AWA / Mast / PH PR)	DEPTH (metres)	DATE & TIME	CORE REC.	FRACTURE	GRAPHIC LOG	COLOUR	DESCRIPTIVE LOG	COMMENTS
		24.11.77				Brown	Brown soil with limestone fragments	
						Buff & grey		
	1				HOLE OPEN			
	2	24.11.77				Buff to yellow brown	oolitic limestone with calcite nests (2cm.)	
			100%	RUBBLE			Occasional bivalve fragments (1–2cm)	
	3	1615					oolths well cemented by sparry cement in patches – otherwise rather friable and crumbly	
			100%				oolitic limst with calcite veins and sparry calcite nests	
							many shell frgments in oolite	
	4	1645					poorly cemented oolith	
			100%			Buff	Fine grained clay rich limestone with scattered oolites and shell fragments	
							Calcite veinlets thro' oolite	
		1730 25/1/78					V. course oolitic limst with minor shell fragment component	
	5						clay seam.	
						Buff	Hard sparry cemented fine oolite minor shell debris	
							Vertical fracture with clay mixed in coating	
	6							

British Geological Survey

Version 2.0.6.6

BGS ID: 469106 : BGS Reference: TF05NW38
British National Grid (27700) : 502600,356040
[redacted]


renumbered LL 10
(2)
GROUNDWATER NITRATE POLLUTION RESEARCH
BOREHOLE LL 8.
IGS
TF05/51
SAMPLE
AERE
AWA
Mast
PH PR
DEPTH metres
DATE & TIME
CORE REC.
FRACTURE
GRAPHIC LOG
COLOUR
DESCRIPTIVE LOG
COMMENTS
0915
1015
1115
1300
1530
Hard + coarsely cemented oolite locally pisolitic, upto 25% shell debris
Impure (clayey) lmst.
Hard impure lmst.
soft clayey crumbly lmst.
Buff
Hard sparry cemented oolite
Vertical fracture with strong Fe3+ staining.
Hard sparry cemented oolite with shell band
Clay rich limestone Non oolitic
soft impure lmstr heavily Fe3+ stained
yellow brown
soft clay band
v. hard sparry cemented oolite
Buff
grey
V. impure hard calcareous clay rich lmst passing into calcareous clay.
vv. dk grey
hard clay band with comminuted shell debris. slightly carbonaceous laminated
grey
impure lmst. v. hard
dk grey
clay with shell fragments
impure lmst
v. dk grey
clay with masses of shell debris
grey
impure lmst with large shell fragments (3cm)

British Geological Survey

Version 2.0.6.6

BGS ID: 469106 : BGS Reference: TF05NW38
British National Grid (27700) : 502600,356040
[redacted]

re numbered LØ6 (3) TF05/51 IGS

GROUNDWATER NITRATE POLLUTION RESEARCH BOREHOLE LL8

SAMPLE (AERE, AWA, Moist, PH PR)	DEPTH METRES	DATE & TIME	CORE REC.	FRACTURE	GRAPHIC LOG	COLOUR	DESCRIPTIVE LOG	COMMENTS
							laminated clay bands with masses of shell fragments v. impure lmst	
						grey, buff	v. hard lmst – buff where more porous + oxidised Fe 2m a grey ure Fe in reduced condition scattered ooliths + shell fragments	
			100 %			grey	v. impure lmst with massive shell fragments (10cm+)	
	13					buff	v. soft marl seam	
							Hard impure lmst	
		1700 26/11/77				grey with buff	Hard crumbly +	
						nodular nine	hard splintery impure cementstone patchy oolite bands + shell debris thro' unit	
	14		100 %				Clay lenses + & shell nodule scattered thro' sum.	
		0915					All debris of core blue kaolinised	
	15							
					LOST	Grey penny CORE	Soft to v. soft clay with shell fragment	
			90 %			Buff	Hard impure l'st non oolitic bands 2 cm shell fragment	
							Soft clay	
							Soft clay	Sub vertical fractures with pyrolusite spots, no Fe 2+
	16						Soft clay-clay staining	
		1015					white Cementstone with ferruginous oolitths (scarce	
							thin patchy impure lmst with many ferruginous oolitths	
							Cementstone with V. scattered oolitths + comminuted shell fragments & clay pellets	
	17					v.dk grey	Thin clay parting	
							Impure lmst with many large gastropod fragments (4cm)	
						v.dk grey buff	Thin clay parting	
							V. impure lmst Thin clay parting band	
						orange buff brown buff	V. impure lmst – much Fe 3+ Staining on vertical joint & clay seam & Pyrolusite	
		1115				lt. buff	V. impure limestone with scattered oolitths	
	18							

British Geological Survey

Version 2.0.6.6

BGS ID: 469106 : BGS Reference: TF05NW38
British National Grid (27700) : 502600,356040
[redacted]

re numbered LP6

(4)

TF05/51
IGS

GROUNDWATER NITRATE POLLUTION RESEARCH

BOREHOLE LL8

SAMPLE (AERE / AWA / Moist / PH PR)	DEPTH	DATE & TIME	CORREC.	FRACTURE	GRAPHIC LOG	COLOUR	DESCRIPTIVE LOG	COMMENTS
	18		100%			Buff	Hard oolitic limestone with sparry calcite cement Some clay in matrix Calcite crystals infilling vugs (2cm)	
		1215						
	19					Buff	impure limestone with occasional ooliths Deconstituted shells replaced with clay infilling	
							Oolite - very hard	
			100%			Orange brown	Crumbly clay band with comminuted shell debris - Fe stained	
						buff	Ferruginous oolite with sparry calcite cement	
	20							
		1420				Buff	very hard oolitic limestone well cemented with sparry calcite	
			100%					
		1530						
	21						very hard oolitic limestone with sparry cement	
							do.	
			100%				do. becoming more impure with depth, & bn well cemented.	
							Impure oolitic limestone with much clay in matrix and large shells (3cm) soft & friable	
	22					Orange brown	Soft and moist clay band	
						Buff	stained with Fe^{3+}	
		1650					Hard oolitic unst with clay pellets (3cm) and shell fragments replaced by calcite	
		27/4/17					Hard impure lst many shell frags thin patches oolith-rich. Vuggy - 5cm+ - clay filled	
	23		100%			Grey	Hard sparry lst many bivalve & gastropod fragments up to 2cm; calcite cmtn v minor oolith content, no clays.	
		1010						
	24							

British Geological Survey

Version 2.0.6.6

BGS ID: 469106 : BGS Reference: TF05NW38
British National Grid (27700) : 502600,356040
[redacted]

re numbered LP0

TF05/51
IGS

GROUNDWATER NITRATE POLLUTION RESEARCH

BOREHOLE LL8

SAMPLE (AERE, AWA, Mast, PH PR)	DEPTH metres	DATE & TIME	CORE REC.	FRACTURE	GRAPHIC LOG	COLOUR	DESCRIPTIVE LOG	COMMENTS
			100%			GREY	Very hard splintery fine grained impure limestone, shelly Coarse 24.52-.70m much shell debris very clayey.	
	25	1130					Lst with minor amount of large (0.5cm+) shell debris	
	26		100%				Hard impure shelly limestone, mainly bivalves + gastropod frags, bivalves up to 4cm diameter.	
		1230					Silty clay limestone, slightly micaceous silt, well laminated.	
	27		60%				Soft running sand above sandy clay + sandy silt, slightly calcareous	
?*	28	1400					Passes down to mottled brown + grey clays with plant fragments (coaly) + clayey sands. & siliceous cemented sand & silt below.	
		1500 END	10%					
	29						* 28m sample ? location 40% core loss in run.	
	30							

British Geological Survey

Version 2.0.6.6

BGS ID: 469106 : BGS Reference: TF05NW38
British National Grid (27700) : 502600,356040

[redacted]

TF05/51

Core Analysis data

available from Aquifer Properties Laboratory, Engineering Geology and Reservoir Rock Properties group.

National Grid Reference :- TF 026 561

Laboratory sample number :- 1080

[redacted]

June 1985.

APPENDIX E6 BGS BOREHOLE LOGS – ZONE H

RECORD of ~~WELL or~~ a Series of BORINGS (Nos. 19-29)

TF05NW 9-13

Survey No.
1" N.S. 114
1" O.S.

~~at (house or farm)~~ Across the outcrop of the Lincolnshire Limestone, 9 miles S. of Lincoln.

Town, Village, &c. County Lincs Six-inch map

Exact site (unless a tracing from a map is supplied, give distance and direction from parish church, cross-roads, or other object shown on maps). Description given made by L.H.D. from the (see Tracing) Popular Edition of one-inch map. Sheet Square

Surface level of ground ft. above Ordnance Datum. Well or Bore commenced at ft. below surface level of ground.

Sunk ft., diameter ft. Bored ft.; diameter of boring at top 6 in., at bottom 6 in.

Details of lining tubes (internal diameters preferred)

All the holes were bailed to take explosives (for the seismic method of geophysical survey)

Water struck at depths of (feet)

Rest-level of water below / above top of well or bore ft. Pumping level ft. Time of recovery hours.

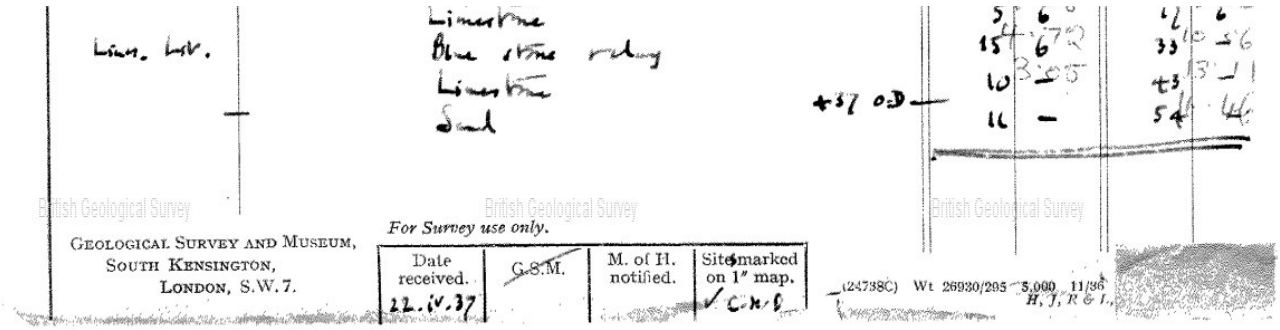
Suction at ft. depth. Yield: (i) on test galls. per, (ii) normal galls. per.

Quality (attach copy of analysis if available)

Made by L. Cornish Sutcliff & Gell for the D'Arcy Exploration Co. Date of boring Nov.-Dec. 1934

Information from Mr. P.E. Kent (Anglo-Iranian Co.)

(For Survey use only). GEOLOGICAL CLASSIFICATION.	NATURE OF STRATA. (Thickness and additional remarks)	THICKNESS. Feet.	Inches.	DEPTH. Feet.	Inches.
	TF05NW/9 & 10				
	Nos 19 & 20* Records apparently not preserved. No 19 was in Navenby, on N. side of road opposite Vine Farm. No. 20: Navenby Heath, against parish boundary, 1 mile 48 chains E. of Navenby church & 44 chains N. of Temple road.				
TF05NW/11	No 21. Temple Bruer & Temple Hirst Grange (joint) parish; about 40 chains N.W. of Temple Hirst Grange Farm, 10 chains E. of main road, & 10 chains S. of road leading from Scopwick to Scopwick. O.D. ca +155 (range 152–160). No water.				
	Top soil	0	30	0	30
	Soft with Limestone	1	37	1	68
	Limestone	4	6	5	6 76
Lincs. List.		49	6	55	6 76
TF05NW/12	No. 22. Same parish. About 51 chains N.E.ly of same farm, & 34 chains S. of same road to Scopwick. W. by N. of Scopwick Lodge. O.D. say +105. No water.				
	Top soil	0	46	0	46
	Limestone	1	6	1	6
	Blue clay & stone	16	6	18	53
	Limestone	2	74	21	28
		9	7	31	35
		23	7	60	42
TF05NW/13	No. 23. Scopwick parish. (About ¼ mile N.E. of Scopwick Lodge.) One & a half miles W.N.W. of Scopwick church; ca. 3 chains S.E. of line of main road to Scopwick Lodge from the N.W., & 34 chains S.W. from where latter leaves Scopwick–Navenby road. O.D. ca 180. Rock-head struck at 22½' down. Water struck at 28 ft. down; water-strike again at 43' down.				
	Top soil	0	30	0	30
	Soft rocky stones	2	0 61	2	91
	Soft stones	2	0 61	5	52
	Layers of sand & limestone	7	2 13	12	66
			1 68		5 33



GEOLOGICAL SURVEY AND MUSEUM,
SOUTH KENSINGTON,
LONDON, S.W.7.

For Survey use only.

Date received.	G.S.M.	M. of H. notified.	Site marked on 1" map.
22.iv.37			✓ C.H.B.

(24738C) Wt 26930/295 5,000 11/36
H, J, R & L.

CLR 9/10/90

RECORD OF WELL (SHAFT OR BORE)

10 114 1" N.S. TF05NE4

03645626

At Ruskington Hill Farm [illegible]

Town or Village [illegible] Six-inch quarter sheet [illegible]

Exact site [illegible] See tracing in parish of Ruskington (a rough sketch-map or a tracing from a map is very desirable)

Level of ground surface above sea-level (O.D.) [illegible] ft. If well starts below ground surface, state how far ____ ft.

Shaft ____ ft., diameter ____ ft. Bore ____ ft. Diameter of bore: at top ____ ins.; at bottom ____ ins.

Details of permanent lining tubes (internal diameters preferred) ____

Water struck at depths of (feet) ____

Rest-level of water below top of well 44 feet. Suction at ____ feet. Yield on ____ hours' / days' test ____ gallons per ____ (with pump of capacity ____ g.p.h.); depressing water level to ____ feet below top. Time of recovery ____ hrs. Amount normally pumped daily ____ g.p.h. for ____ hours.

Quality (attach copy of analysis if available) ____

Sunk by T. Smith & Son for Mr. W.H. Baldock, Surveyor, Ruskington Date of well July 1926

Information from W.F. Pettifer & Son, Grimsby per W.D. Evans

(For Survey use only). GEOLOGICAL CLASSIFICATION.	NATURE OF STRATA (and any additional remarks).		THICKNESS Feet.	Inches.	DEPTH Feet.	Inches.
Soil, [illegible]	(grid ref located) Red soil	0.46	1	6	1	6 (0.46)
Grantham / Limestone	Yellow sandstone	1.37	4	6	6	— (1.83)
	Blue clay	0.30	1	—	7	— (2.13)
	Blue stone	1.22	4	—	11	— (3.35)
	Blue clay BWL	0.15	[illegible]	[illegible]	[illegible]	[illegible]
	Blue stone	2.74	9	[illegible]	[illegible]	[illegible]
Upper Estuarine Beds	Yellow sandstone	0.46	1	6	[illegible]	[illegible]
	Blue clay	0.30	1	[illegible]	23	[illegible]
	Very hard blue stone RLD	1.52	[illegible]	[illegible]	28	(8.53)
	Black clay	0.61	[illegible]	[illegible]	30	[illegible]
	Blue stone	1.83	6	[illegible]	[illegible]	(10.97)
	Blue clay	0.30	1	[illegible]	[illegible]	(11.28)
LL	Very hard blue stone	11.89	39	[illegible]	76	[illegible]
	Brown sandstone LL	1.22	[illegible]	[illegible]	80	(24.[illegible])
	Hard blue stone	9.75	32	—	112	(34.14)

[illegible] put in [illegible] 50 inches down.

Comments

?BWC BWL RLD RL

6.71 ROCK CLAY SST BWL

11.28 CLAY STONE RLD

34.14 STONE LL

For Survey use only

Date received	G.S.M. Office File No.	Site marked on 1" map (see symbol)
VIII — IX		

GEOLOGICAL SURVEY AND MUSEUM, SOUTH KENSINGTON, LONDON, S.W.7.

(*11818) Wt.29661/O.889 10,000 A.& E.W.Ltd. Gp.336

British Geological Survey

Version 2.0.6.6

BGS ID: 469074 : BGS Reference: TF05NW7/A
British National Grid (27700) : 504886,356649
[redacted]

Scopwick Mill. 1 [illegible] Tel. No. D 86

1 WELL BORING at Digby Aerodrome, 17V County Lincs

Geol. map OS 70 (NE) 1 in. map New Series 114 6 in. map 87 S.W.

Made by R.E. boring squad Date 1925.

Bored

TF05NW7 114

Communicated by Col. Restler, Air Ministry

Height above Ordnance Datum app. c102 3107 Rest level of water

Yield sufficient quantity

Quality (with copy of analysis on separate sheet) No 2 Bore. 04895665

54A

GEOLOGICAL FORMATION	NATURE OF STRATA.		THICKNESS. Feet.	THICKNESS. Inches.	DEPTH. Feet.	DEPTH. Inches.
* Superficial lst. gravel as exposed in fen court near Temple Grange to the N.W.	Pennell gravel		0.61 2	—	0.61 2	—
[W.R.E.] U. Lincs. Lst.	Hard siliceous limestone	Lincs. Lst.	10.52 34	6	11.13 36	6
	" " " w. sandstone bands.		2.44 8	—	13.56 44	6
	Very hard bluestone		8.38 27	6	21.95 72	—
? Lincs. Lst. [illegible]	Bluestone with yellow sandstone		0.61 2	—	22.56 74	—
MST [illegible] Contains a G.O. Cgst.	Greyish blue conglomerate)	Probably lst. [illegible]	5.49 18	—	92	28.04
LL at Digby	Hard siliceous limestone		1.22 4	—	96	29.26
	Hard bluestone		1.37 4	6	100	30.63 6
MOST GRF L. Est. S. N. Sands	Blue sandy shale	Lower Estuarine	0.91 3	—	103	31.39 6
MOST NSF Estuarine	Soft yellow sandstone [? sand]	Northampton Sands	0.61 2	—	105	32.16 6
MOST ULI U. Lias	Dark blue shale	Upper Lias	4.88 16	—	121	37.03 6.

RB

reli. 3

A,B Sited on Lincs 87 SW-E.

[illegible] is not at Digby [illegible] (part in Scopwick, part West [illegible])

Site [illegible] (1.1.'47)

[illegible] 53/30

[Digby aerodrome is apparently the same place as Scopwick Camp 114/93 R.L.S. 11/2/62]

* Trouble was produced by a loose upcast tube (GSM — ? [illegible] "sufficient quantity" [illegible])

[Pennell gravel may be lst. rubble according to W.R.E. R.L.S. 11/2/62]

Sited on Lincs 87 SW-E

No 2 Bore. RWL. 53' bs. 22.10.49. [W6 Return]

yield. 2,120 gph.

OD. C102.

RM

GSM 6469 § Digby

Submitted 4.xi.25 by J.A.H.

GEOLOGICAL SURVEY AND MUSEUM,

[redacted]RMYN STREET, LONDON, S.W. 1.

(S. 1656.) Wt. 3621/749. 2000. 6-19. Ph. & Ty. Ltd.

RECORD OF WELL (SHAFT OR BORE)

"TF05/18A 114. /54A

At Leopwick Camp (R.A.F.) Nol Boro.

Town or Village —

County Lincs Six-inch quarter sheet 87 SW/E

For Mr. —

Exact site of well TF05NW 0488 5668 { Attach a tracing from a map, or a sketch-map, if possible.

Level of ground surface above sea-level (O.D.) C99 feet.

Is well-top at ground level? — If not, state how far above / below — feet.

Shaft — ft., diameter — ft. Details of headings —

Bore 91 ft.; diameter of bore: at top 11 ins.; at bottom — ins.

Lengths, diameters, perforations, etc., of lining tubes —

Water struck at depths, below well-top, of (feet) 46 ft.

TEST DETAILS
Month May
Year 1918

Rest-level of water 38 ft. above / below well-top. Suction at — ft. Yield on — hours' / days'
pumping. — gallons per — (max. capacity of pump — g.p.h.),
with depression of — feet. Recovery to — in — mins. / hours.

WORKING CONDITIONS

Rest-level of water in — (month), — (year), — ft. above / below well-top.
Highest " in — (month), — (year), — ft. above / below "
Lowest " in — (month), — (year), — ft. above / below "
Suction at — ft. Rate of pumping — galls. per — for — hours per day.
with average depression of — ft. Recovery to — in — mins. / hours

Quality of water (*attach copy of analysis if available*) —

Well made by J. T. BARNES & son, Date of well Apr - May 1918

Information from SLEAFORD-do

ADDITIONAL NOTES.

"Supply not known, but a lot of water"

Aerodrome marked on 1" Pop 47

(a) Nol Boro. RWL 38' b.s
yield 2.480 gph.
OD. C99 Rm 1949

LOG OF STRATA OVERLEAF.

GEOLOGICAL SURVEY AND MUSEUM,
SOUTH KENSINGTON,
LONDON, S.W.7.

Date received.	G.S.M. Office File No.	1" N.S. Map No.	1" O.S. Map No.	Site marked on 1" Map.	(use symbol) on 6" Map.
		116		△	⊙

(17206) Wt.42201/0377 10,000 2/41 A.& E.W.Ltd. Gp.686

BGS ID: 469074 : BGS Reference: TF05NW7/A
British National Grid (27700) : 504886,356649

[redacted]

(For Survey use only) GEOLOGICAL CLASSIFICATION

NATURE OF STRATA If measurements start below ground surface, state how far...	THICKNESS Feet	THICKNESS Inches	DEPTH Feet	DEPTH Inches	TF 05 18/4/5
Limest. ✓ Limestone RJB 16/12/75	91	-	91	-	SLA

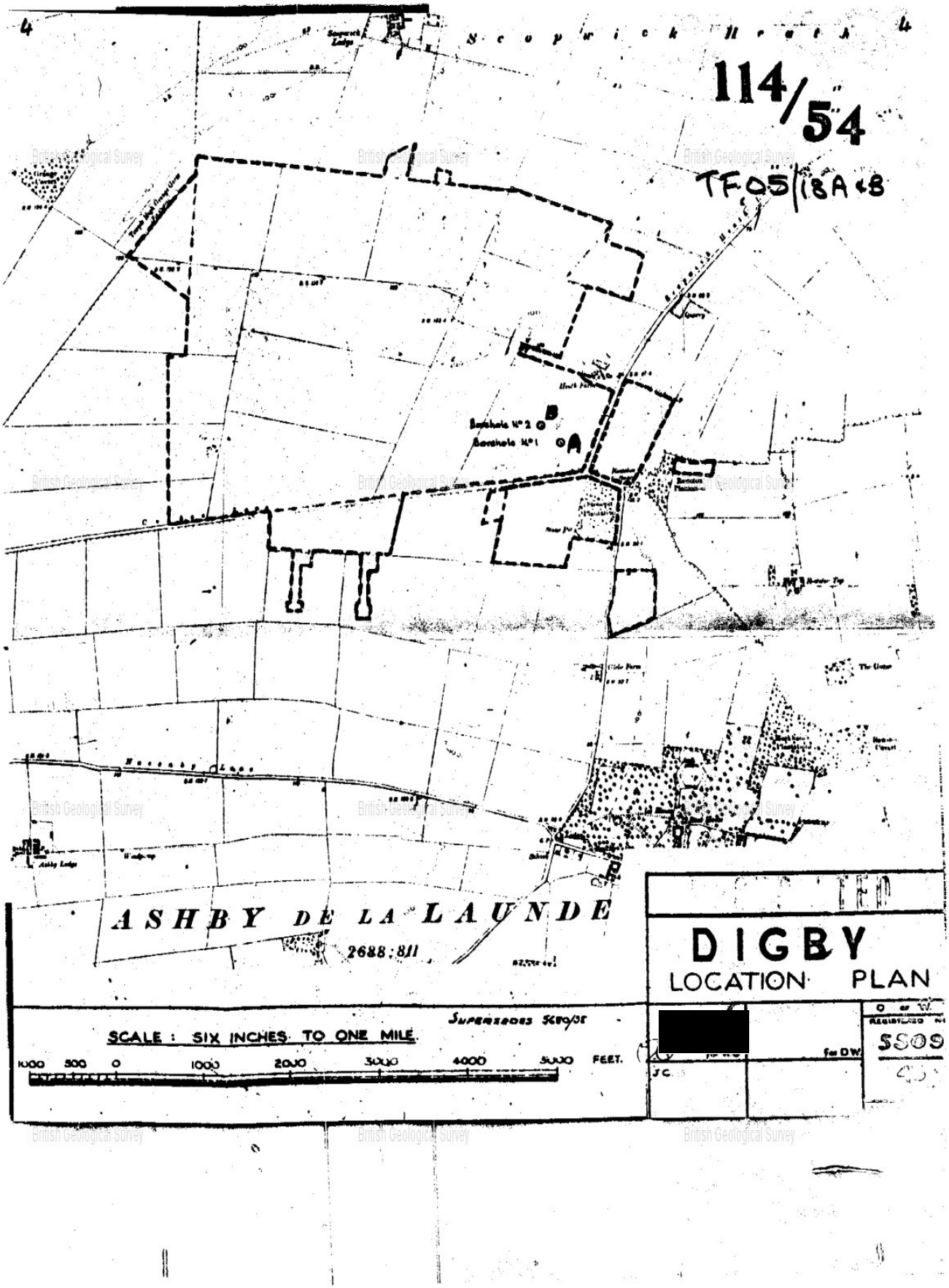

British Geological Survey
British Geological Survey
British Geological Survey

British Geological Survey

Version 2.0.6.6

BGS ID: 469074 : BGS Reference: TF05NW7/A
British National Grid (27700) : 504886,356649

[redacted]

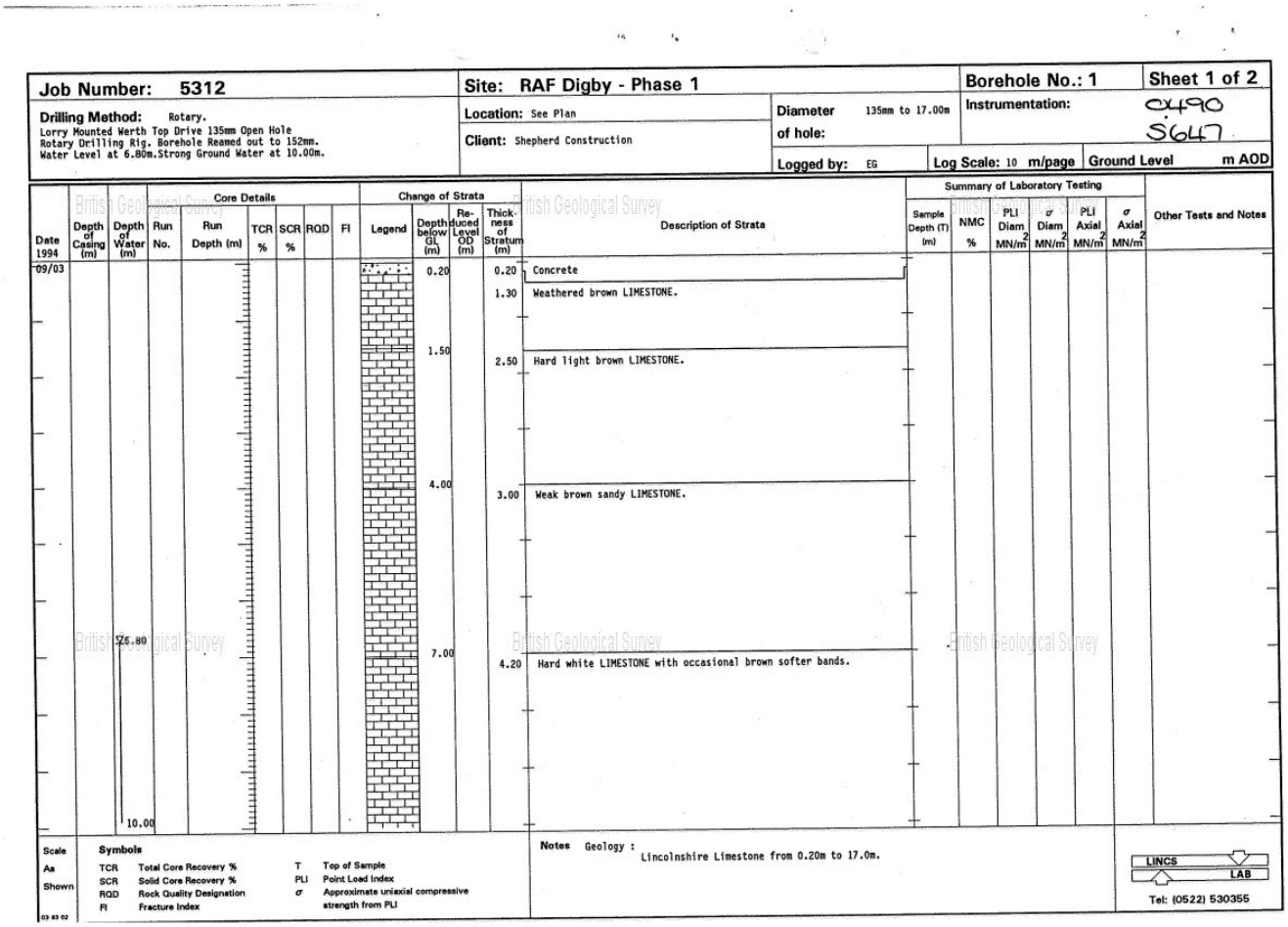


British Geological Survey

Version 2.0.6.6

BGS ID: 15611372 : BGS Reference: TF05NW44
British National Grid (27700) : 504900,356470

[redacted]



Job Number: 5312 | **Site:** RAF Digby - Phase 1 | **Borehole No.:** 1 | **Sheet 1 of 2**

Drilling Method: Rotary.
Lorry Mounted Werth Top Drive 135mm Open Hole Rotary Drilling Rig. Borehole Reamed out to 152mm. Water Level at 6.80m.Strong Ground Water at 10.00m.

Location: See Plan | **Client:** Shepherd Construction | **Diameter of hole:** 135mm to 17.00m | **Instrumentation:** CX490 S647

Logged by: EG | **Log Scale:** 10 m/page | **Ground Level** m AOD

Date 1994	Depth of Casing (m)	Depth of Water (m)	Core Details: Run No.	Run Depth (m)	TCR %	SCR %	RQD %	FI	Legend	Change of Strata: Depth below GL (m)	Reduced Level OD (m)	Thickness of Stratum (m)	Description of Strata	Summary of Laboratory Testing: Sample Depth (T) (m)	NMC %	PLI Diam σ^2 MN/m	σ Diam σ^2 MN/m	PLI Axial σ^2 MN/m	σ Axial σ^2 MN/m	Other Tests and Notes
09/03		▽6.80								0.20		0.20	Concrete							
												1.30	Weathered brown LIMESTONE.							
										1.50		2.50	Hard light brown LIMESTONE.							
										4.00		3.00	Weak brown sandy LIMESTONE.							
										7.00		4.20	Hard white LIMESTONE with occasional brown softer bands.							
		10.00																		

Scale As Shown

Symbols
TCR Total Core Recovery %
SCR Solid Core Recovery %
RQD Rock Quality Designation
FI Fracture Index
T Top of Sample
PLI Point Load Index
σ Approximate uniaxial compressive strength from PLI

Notes Geology : Lincolnshire Limestone from 0.20m to 17.0m.

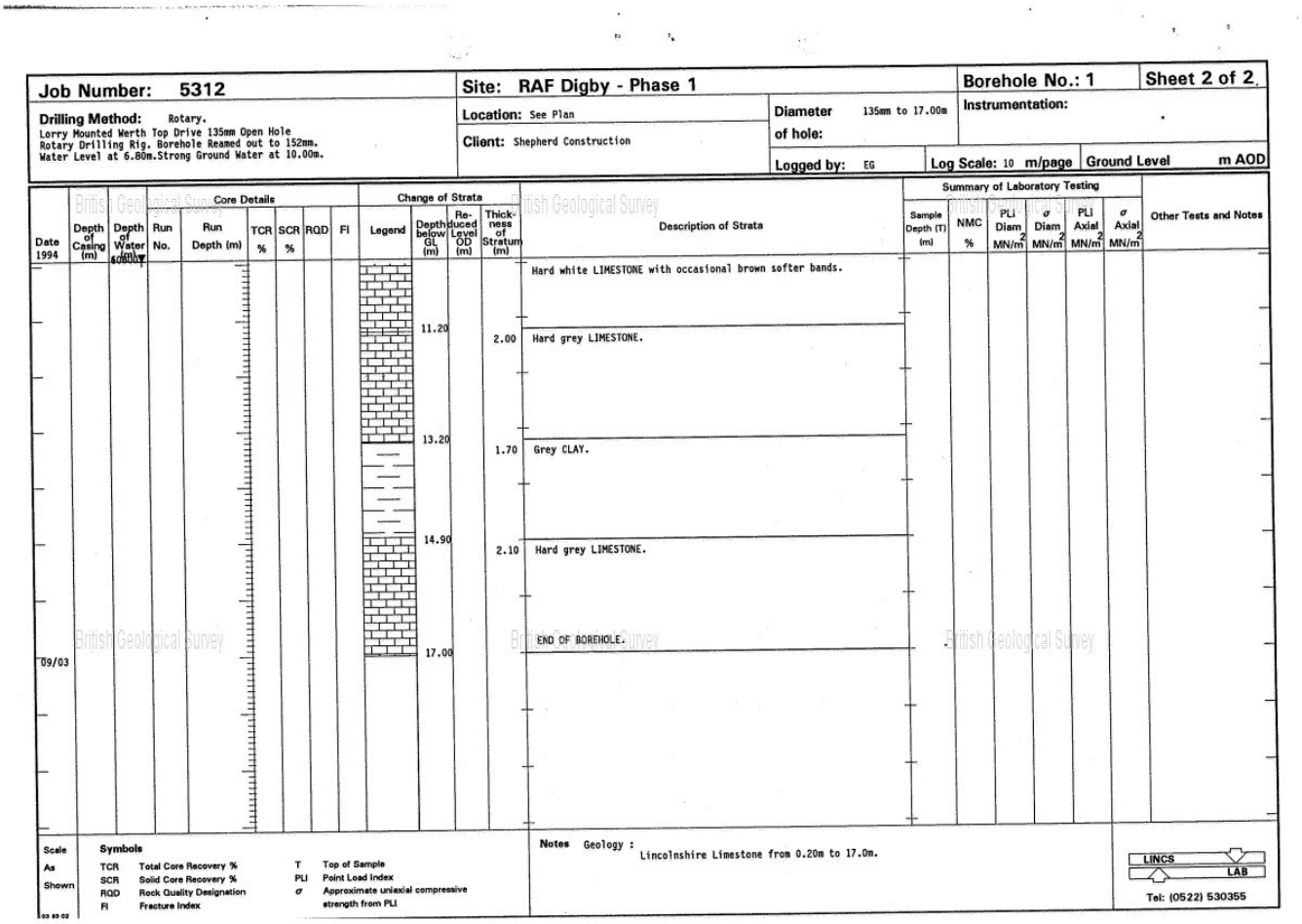
LINCS LAB
Tel: (0522) 530355

British Geological Survey

Version 2.0.6.6

BGS ID: 15611372 : BGS Reference: TF05NW44
British National Grid (27700) : 504900,356470

[redacted]



Job Number: 5312 | **Site:** RAF Digby - Phase 1 | **Borehole No.:** 1 | **Sheet 2 of 2**

Drilling Method: Rotary.
Lorry Mounted Werth Top Drive 135mm Open Hole Rotary Drilling Rig. Borehole Reamed out to 152mm. Water Level at 6.80m.Strong Ground Water at 10.00m.

Location: See Plan | **Client:** Shepherd Construction | **Diameter of hole:** 135mm to 17.00m | **Instrumentation:**

Logged by: EG | **Log Scale:** 10 m/page | **Ground Level** m AOD

Date 1994	Depth of Casing (m)	Depth of Water (m)	Core Details: Run No.	Run Depth (m)	TCR %	SCR %	RQD	FI	Change of Strata: Legend	Depth below GL (m)	Re-duced Level OD (m)	Thick-ness of Stratum (m)	Description of Strata	Summary of Laboratory Testing: Sample Depth (T) (m)	NMC %	PLI Diam MN/m²	σ Diam MN/m²	PLI Axial MN/m²	σ Axial MN/m²	Other Tests and Notes
													Hard white LIMESTONE with occasional brown softer bands.							
										11.20		2.00	Hard grey LIMESTONE.							
										13.20		1.70	Grey CLAY.							
										14.90		2.10	Hard grey LIMESTONE.							
09/03										17.00			END OF BOREHOLE.							

Scale As Shown

Symbols
TCR Total Core Recovery %
SCR Solid Core Recovery %
RQD Rock Quality Designation
FI Fracture Index
T Top of Sample
PLI Point Load Index
σ Approximate uniaxial compressive strength from PLI

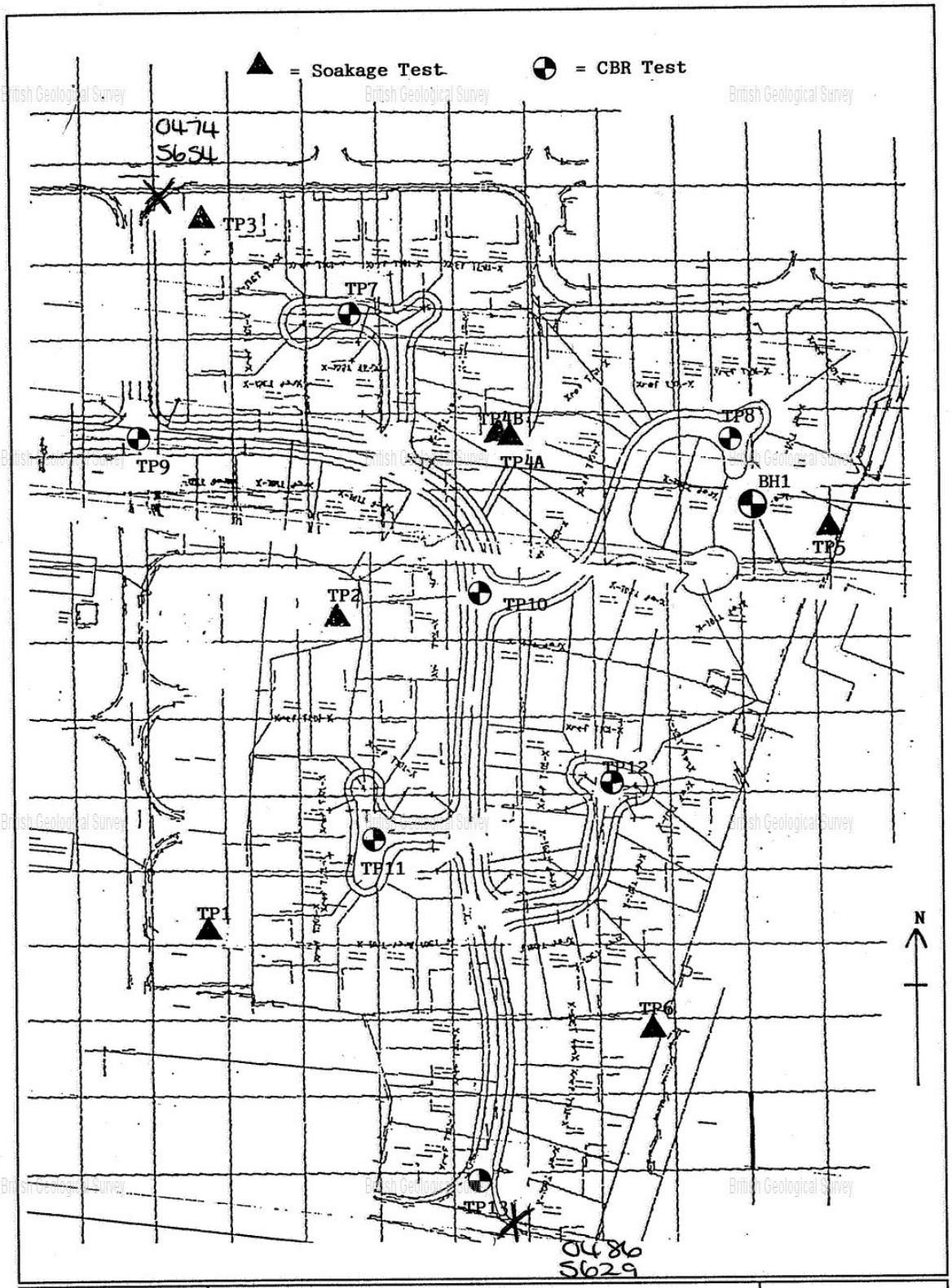
Notes Geology : Lincolnshire Limestone from 0.20m to 17.0m.

LINCS LAB
Tel: (0522) 530355

British Geological Survey

Version 2.0.6.6

BGS ID: 15611372 : BGS Reference: TF05NW44
British National Grid (27700) : 504900,356470
[redacted]



March 1994 Dwg No 2	R.A.F. Digby - Phase 1 Trial Pit/Borehole Location Plan	LINCS LAB Telephone (0522) 530355

APPENDIX E7 BGS BOREHOLE LOGS – ZONE I

RECORD OF WELL (SHAFT OR BORE)

062225799 207 TF05NE14/162

SCOPWICK.

Pilot borehole sunk by Messrs. Hamblett & Son for Messrs. British Crop Driers Ltd. at Scopwick, July 1943.

Ground level 60.83 O.D.

map, or a sketch map if possible. Sited on Lincs 8 NW-SE.

	Strata	Thickness	Depth	Notes
Soil etc.	Soil & stones	0.46 1-6		Lined with 6" tubes. SAGK RH
	Sand & gravel	1.07 3-6	1.52 5-0	
	Soft limestone	3.96 13-0	5.49 18-0	
	Hard limestone	3.81 12-6	9.30 30-6	
	Very hard "	0.91 3-0	10.21 33-6	
	Black clay	0.91 3-0	11.13 36-6	
	Limestone	0.61 2-0	11.73 38-6	
	Grey clay	0.61 2-0	12.34 40-6	
	Limestone grey			
	" yellow	15.24 50-0	27.58 90-6	
	"light grey			
Northampton Sands and Lower Estuarine Beds	Blue sandstone fairly hard	2.74 9-0	30.33 99-6	Most water found in this layer.
?	Limestone	0.91 3-0	31.24 102-6	LL
? Upper Lias	Black clay	3.05 10-0	34.29 112-6	GRF (rel. 3)

Water rest level in bore 8 feet below ground level 25.7.43. (Sunday)
Centrifugal pump test gave 5,000 galls per hour measured over V-notch.
Impossible to measure loss of head owing to suction pipe filling bore tube.
Level of subsoil water between bore tube and working tube 12 feet below ground level.

on hours' days' g.p.h.), above below well-top. above below ". above below ". hours per day. mins. hours ell

Edwin A. Sills M.S.E.
Engineer. E. Kesteven R.D.C.

This bore supplies most of the water used at the British Crop Driers' Factory (see 114/123)

Inf. from No 3 Regional Engineer (Mr ? Heald) per D.A. Moss 25.VI.48
14-12" bore. Sereska submersible pump. 35 K.V.A. motor.
8000 g.p.h but throttled back to 7000 g.p.h.
Winter 8 hours/day. Summer 4½ hours/day. Not worked continuously but makes up storage in 12000 gallon tank
J.J. 27.VI.48

LOG OF STRATA OVERLEAF.

	Date received.	G.S.M. Office File No.	1" N.S. Map No.	1" O.S. Map No.	Site marked (use symbol) on 1" Map.	on 6" Map.
GEOLOGICAL SURVEY AND MUSEUM, SOUTH KENSINGTON, LONDON, S.W.7.					⊙	⊙

(17208) Wt.42901/0877 10,000 2/41 A.& E.W.Ltd. Gp.686

BGS ID: 469005 : BGS Reference: TF05NE3
British National Grid (27700) : 506381,357874

[redacted]

TF05NE3

A description of the strata pierced should be given as follows :—

Other information from W.B. Marsden's 1924 printed return :—
Water level: max. 64·5′, min. 51·5′ (O.D.)
Pumping level: max 58′, min 48′ (O.D.)
Pumps: 5"×6" double ram, 3000 g.p.h. by capacity, working average 3 hrs. per day.
Remarks: [Water Tower drilled 1 mile N. of here] 31,000 g. 10 ft deep, top water level 135·5 ft O.D.
Yield, never fully tested, more than 150,000 gals per day, maximum capacity 7,500 g. in 5½ hours. [each minimum]

	Thickness of each stratum.		Total depth of the strata.	
	Feet.	Inches.	Feet.	
Vegetable Soil.	4	1·22	4	1·22
Running Quick Sands (§)	12	3·66	16	4·88
White Limestone	24	7·32	40	12·19
Blue Limestone	40	12·19	80	24·38
Hard Blue Limestone	36	10·97	116	35·36
Blue clay [? W. Lincs. W.B. Trans]	4	1·22	120	36·58

Lincs. List 100′ OD −61

~~If Soil Section attached~~

The Static level of water in Borehole was taken under favourable conditions. The variation in the Static level of water in the boreholes belonging to the Council in the North District averages 9'6". The variation in the South district is much greater having been found at Osbournby on one occasion to be 28' 10". The Quick sands shewn in Section have been cut off from borehole by means of a 4'0" diameter* C.I 1/8" thick cylinder, and there is no pollution whatever to the borehole

(*W.B.M says 5' diameter in written account)

W.B. Marsden
Engineer & Surveyor
to the R.D.C.

Feby 25th 1911

The following should also be forwarded to the Board :—

(1.) Map 6 in. to 1 mile. On this map the position of the well or boring should be shewn in red color.

(2.) Section to scale showing the size of the well or boring, strata pierced, rest level of water, and other particulars.

CLR 9/10/90

RECORD OF WELL (SHAFT OR BORE)

10 114 1" N.S. [illegible]

TF 05NE4

03645626

At Roxholm Hill [illegible]

Town or Village [illegible] Six-inch quarter sheet 87 SW/E

Exact site (Roxholm [illegible] 1½ m [illegible] 1560 yd NNE of [illegible] (land chart) See tracing in parish of Rowston (A rough sketch-map or a tracing from a map is very desirable)

Level of ground surface above sea-level (O.D.) c. 1017 ft. If well starts below ground surface, state how far ____ ft.

Shaft ____ ft., diameter ____ ft. Bore ____ ft. Diameter of bore: at top ____ ins.; at bottom ____ ins.

Details of permanent lining tubes (internal diameters preferred) ____

Water struck at depths of (feet) ____

Rest-level of water below ~~above~~ top of well 44 feet. Suction at ____ feet. Yield on ____ hours' / days' test ____ gallons per ____ (with pump of capacity ____ g.p.h.); depressing water level to ____ feet below top. Time of recovery ____ hrs. Amount normally pumped daily ____ g.p.h. for ____ hours.

Quality (attach copy of analysis if available) ____

Sunk by T. Smith & Son. for Mr. W. H. Baldock, Surveyor, Ruskington Date of well July 1926 ~~[illegible]~~

Information from W. F. Pettifer & Son, Grimsby per W D Evans + from P. Smith & Son

(For Survey use only). GEOLOGICAL CLASSIFICATION.	NATURE OF STRATA (and any additional remarks).			THICKNESS Feet.	THICKNESS Inches.	DEPTH Feet.	DEPTH Inches.	
* soil, [illegible]	(? map incorrect). Red soil		0.46	1	6	1	6	0.46
Grantham Limestone	Yellow sandstone		1.37	4	6	6	—	1.82
	Blue clay		0.30	1	—	7	—	2.13
	Blue stone		1.22	4	—	11	—	3.35
	Blue clay	BWL	0.15	[illegible]	[illegible]	[illegible]	[illegible]	3.51
[illegible]	Blue stone		2.74	9	[illegible]	[illegible]	[illegible]	[illegible]
Upper Estuarine Beds	Yellow sandstone		0.46	1	6	[illegible]	[illegible]	[illegible]
	Blue clay		0.30	1	[illegible]	23	—	[illegible]
	Very hard blue stone	RLD	1.52	[illegible]	[illegible]	28	—	8.53
	Black clay		0.61	[illegible]	[illegible]	30	[illegible]	[illegible]
	Blue stone		1.83	6	[illegible]	[illegible]	[illegible]	10.97
	Blue clay		0.30	1	[illegible]	[illegible]	[illegible]	11.28
LL	Very hard blue stone		11.89	39	[illegible]	76	—	23.1[illegible]
	Brown sandstone	LL	1.22	[illegible]	—	80	—	24.[illegible]
	Hard blue stone.		9.75	32	—	112		34.14

[illegible] cut of 5D [illegible] down.

Comments

? BWL BWL RLD RLD

6.71 ROCK CLAY SDST BWL

11.28 CLAY STONE RLD

34.14 STONE LL

For Survey use only

GEOLOGICAL SURVEY AND MUSEUM, SOUTH KENSINGTON, LONDON, S.W.7.

Date received	G.S.M. Office File No.	Site marked on 1" map (see symbol)
VIII – 26		

(*11818) Wt.29661/0.889 10,000 A.& E.W.Ltd. Gp.136

[illegible] T14 114/69.

To be furnished in Triplicate.
Transferred under S1:1961:2349 to Kesteven Water Board

WELLS AND BOREHOLES

51A

51B

Information to be supplied to the Ministry of Health

TF05/13B

Name of District EAST KESTEVEN RURAL DISTRICT

If the District is a Rural District, name of Contributory Place concerned Scopwick. Digby. Rowston. etc..

Level of surface of ground above O.D. 55.58'

Depth and diameter of shaft or boring, or of each 15" bore to 42' 5" (thence for 42' down) 8" bore to 100'

Depth or depths at which water was found 4.58' O.D. and -32.42' O.D.

Yield of water in gallons per diem, as ascertained by continuous pumping during ---------- days or otherwise overflowed 210,000 gallons. See Report.

Level of water (above O.D.) at commencement of pumping ---

Level of water (above O.D.) at cessation of pumping ---

Time taken for water to return to original rest level after pumping ceased ---

A tabulated Statement should be sent showing the quantity of water pumped in each 24 hours during the duration of the test together with the level of the water (above O.D.) at the end of each day. If there should be any stoppage, the reason and duration should be stated. ---

Distances of the well or borehole from any other known wells or boreholes in the neighbourhood 7 feet.

Quality. (Copies of chemical and bacteriological analyses should be annexed. Information as to the mineral constituents of the water is desirable) Attached.

A 6" to the mile Ordnance map showing (in red) the precise situation of the well or borehole Attached.

Date of completion of well or borehole June 16th. 1937.

Well or borehole sunk by Messrs.Wm.Stone & Co., Eye, Suffolk.

Signed [redacted]

Date 12th July, 1937.

Normally the pumping test should be continuous over a period of 14 days.
This form should be signed by the Engineer for the proposed works.

P.T.O.

K.20 a

B.P.M. 44786-2-1966-AP

British Geological Survey

Version 2.0.6.6

BGS ID: 469007 : BGS Reference: TF05NE5
British National Grid (27700) : 506848,356681
[redacted]

RECORD OF WELL (SHAFT OR BORE)

TF 05 NE/5

At [illegible]

Town or Village [illegible] Rowston

County Lincs Six-inch quarter sheet 87 SW/E

For Mr.

Exact site of well [illegible] { Attach a tracing from a map, or a sketch-map, if possible.

Level of ground surface above sea-level (O.D.) 78 feet.

Is well-top at ground level? If not, state how far above / below ; feet.

Shaft ft., diameter ft. Details of headings

Bore ft. ; diameter of bore : at top ins. ; at bottom ins.

Lengths, diameters, perforations, etc., of lining tubes [illegible]

Water struck at depths, below well-top, of (feet)

TEST D[illegible] above [illegible] Suction at ft. Yield on hours' / days'

Month . g.p.h.),

Year [illegible] [illegible] s.
[illegible] rs.

[illegible] ft. above / below well-top.

ft. above / below "

WORI ft. above / below "
COND

hours per day.

mins.
hours

Quality of water [illegible]

Well made by J. T. BARNES & SON Date of well

Information from SLEAFORD -

do

ADDITIONAL NOTES.

Visited. Sited on Lines 87SW-E.
Farmer: J. Bamber.
Supplies farm. Plentiful supply.
Was tested to 400 gph when sunk.
O.D. C 78.

47.51 Rm.

LOG OF STRATA OVERLEAF.

GEOLOGICAL SURVEY AND MUSEUM,
SOUTH KENSINGTON,
LONDON, S.W.7.

Date received.	G.S.M. Office File No.	1" N.S. Map No.	1" O.S. Map No.	Site marked (use symbol) on 1" Map.	Site marked (use symbol) on 6" Map.
		87		⊙	⊙

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British Geological Survey

Version 2.0.6.6

BGS ID: 469007 : BGS Reference: TF05NE5
British National Grid (27700) : 506848,356681
[redacted]

2

(For Survey use only)
GEOLOGICAL CLASSIFICATION

NATURE OF STRATA 170

If measurements start below ground surface, state how far... ...

THICKNESS Feet	Inches	DEPTH Feet	Inches
...	...		
		3	—
	1036	37	0.24
	1829	97	29.62 → 29.56
	152	102	31.09

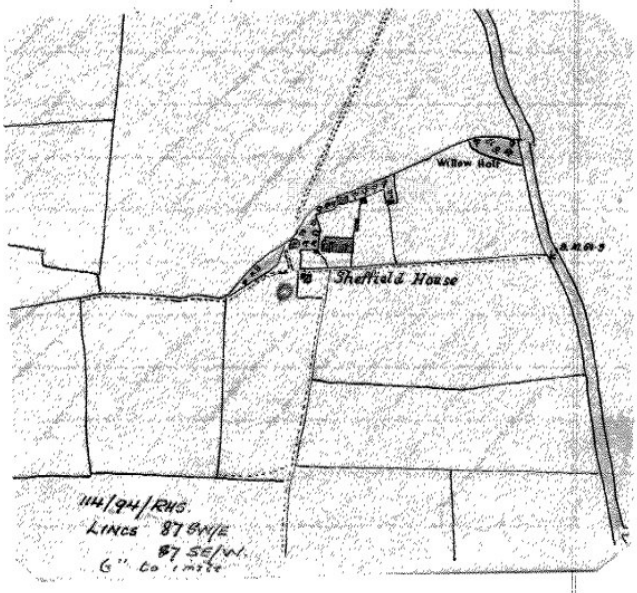
Soil

~~Blisworth Clay~~, Gt. Oolite Lst

and Upper Estuarine Beds

} Lincs Lst

RJB



RECORD OF WELL (SHAFT OR BORE)

220

114/94

TF05/2

At Sheffield Arms

Town or Village Scopwick with Newton

County Lincs. Six-inch quarter sheet 87 SW/E

For Mr.

Exact site of well TF05NE 0680 5669 (Attach a tracing from a map, or a sketch-map, if possible.)

Level of ground surface above sea-level (O.D.) c 78. feet.

Is well-top at ground level? If not, state how far above / below; feet.

Shaft ft., diameter ft. Details of headings

Bore ft.; diameter of bore: at top ins.; at bottom ins.

Lengths, diameters, perforations, etc., of lining tubes 6" tubes a to blue rock [c 60]

Water struck at depths, below well-top, of (feet)

TEST DETAILS
Month
Year

Rest-level of water ft. above / below well-top. Suction at ft. Yield on hours' / days'
pumping gallons per (max. capacity of pump g.p.h.),
with depression of feet. Recovery to in mins. / hours.

WORKING CONDITIONS

Rest-level of water in (month), (year), ft. above / below well-top.
Highest " in (month), (year), ft. above / below "
Lowest " in (month), (year), ft. above / below "
Suction at ft. Rate of pumping galls. per for hours per day.
with average depression of ft. Recovery to in mins. / hours

Quality of water (*attach copy of analysis if available*)

Well made by J. T. BARNES & son, Date of well Oct 1936

Information from SLEAFORD.

do

ADDITIONAL NOTES.

Plenty of water.
Visited. Listed as Lines 87 SW-E.
Farmer: J. Bamber.
Supplies farm. Plentiful supply.
Was tested to 400 gph when sunk
O.D. C 78.

4.7.51 RM.

Windpump on 1" popular 1963. & 6" grid sheet.

LOG OF STRATA OVERLEAF.

GEOLOGICAL SURVEY AND MUSEUM,
SOUTH KENSINGTON,
LONDON, S.W.7.

Date received.	G.S.M. Office File No.	1" N.S. Map No.	1" O.S. Map No.	Site marked (use symbol) on 1" Map.	on 6" Map.
		114		⊙	⊙

(17998) Wt.42901/0877 10,000 2/41 A.& E.W.Ltd. Gp.686

British Geological Survey

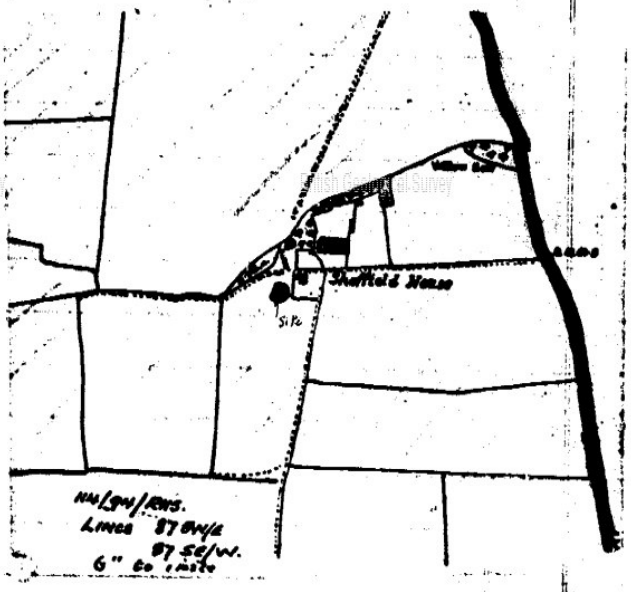
Version 2.0.6.6

BGS ID: 469007 : BGS Reference: TF05NE5
British National Grid (27700) : 506848,356681
[redacted]

TF05NE5 7/14/94

(For Survey use only) GEOLOGICAL CLASSIFICATION	NATURE OF STRATA If measurements start below ground surface, state how far... ...	THICKNESS Feet ...	THICKNESS inches ...	DEPTH Feet	DEPTH inches
	Soil + gravel Soil	3		3	—
Gt. Oolite Lst & U. Estuarine	Clay + stone Gt. Oolite Lst + Upper Estuarine Beds	34		37	—
Lincs Lst.	Blue rock } Lincs. Lst.	60		97	—
[illegible]	Limestone }	5		102	—

RJB.
16/12/75



WATER RESOURCES BOARD (Geology Division)

Reference Number G.S.M. 114/94 TF05/2

Chemical analysis of water sample (to be copied in the same units as original document)

Source of sample SHEFFIELD HOUSE

N.G.R. Date Collected 15/11/68

Aquifer LINCOLNSHIRE LIMESTONE

Analyst F.A.LYNE Analyst's ref.no. 69

Appearance

E. cond. at 20°C Turbidity (silica scale)

Reaction pH 7.7 Colour (hazen)

S.G. at Odour

Temperature °C / °F Taste

Constituents (the units of the original analysis to be indicated, if not mg/l)

	Units:	mg/l		Units:	mg/l
T.D.S. (dried at 180°C)		566	Nitrogen in nitrates		
Hardness, Total*		410	Nitrogen in nitrites		
Carbonate*			Free ammonia		
Non-carbonate*			Albuminoid ammonia		
Alkalinity*		240	Oxygen absorbed in		
Chlorine in chlorides		55	4 hours at 27°C		
Free carbon dioxide			Residual chlorine		
Silica					
Fluoride		4.05			
Metals					

* expressed as calcium carbonate

		Units:	mg/l	me/l	Percentage reacting equivalents
Calcium	(Ca)				
Magnesium	(Mg)				
Sodium	(Na)				
Potassium	(K)				
			Total		
Carbonate	(CO_3)				
Bicarbonate	(HCO_3)				
Sulphate	(SO_4)		116.		
Chloride	(Cl)		55.		
Nitrate	(NO_3)				
			Total		

Remarks: (continue overleaf if necessary)

DR 44378/1/89 2m 3/66 XL

Version 2.0.6.6

BGS ID: 469024 : BGS Reference: TF05NE15
British National Grid (27700) : 507190,358530
[redacted]

RECORD of ~~WELL or~~ BORING TF ~~02~~ 05 NE/14-17 (Nos. 14-29)

Survey No. 1" N.S. 114 1" O.S.

Across the outcrop of the Lincolnshire Limestone, 9 miles S. of Lincoln.

Town, Village, &c. .... County Lincs .... Six-inch map

Exact site (unless a tracing from a map is supplied, give distance and direction from parish church, cross-roads, or other object shown on maps). Descriptions of sites made by G.H.D. from the tracing used in a 1" scale. (see Tracing) Popular Edition (Sheet of one-inch map. (Square

Surface level of ground .... ft. above Ordnance Datum. Well or Bore commenced at .... ft. below surface level of ground.

Sunk .... ft., diameter .... ft. Bored .... ft.; diameter of borings at top 6 in., at bottom 6 in.

Details of lining tubes (internal diameters preferred) ....
All the bores were drilled to take explosives (for the seismic method of geophysical survey)

Water struck at depths of (feet) ....

Rest-level of water below/above top of well or bore .... ft. Pumping level .... ft. Time of recovery .... hours.

Suction at .... ft. depth. Yield: (i) on test .... galls. per ...., (ii) normal .... galls. per ....

Quality (attach copy of analysis if available) ....

Made by Le Grand Sutcliff & Gell for ~~Mr~~ D'Arcy Exploration Co Date of boring Nov.-Dec. 193[illegible]

Information from Mr P.E. Kent (Anglo-Iranian Co.)

(For Survey use only). THICKNESS. DEPTH.

TF 05 NE/14 + 15

No. 24 + 25 Records of ? not preserved. No. 24 was 64 chains W.N.W of Scopwick church, + just N. of the Navenby Road. No. 25 was 26 chains N by E of Scopwick church and 26 chains E of the Blankney road at the turning to Navenby + Lincoln.

TF05 NE/16

No. 26. Scopwick parish; on the boundary, 78 chains ENE of Scopwick church and about 9 chains W.S.W of Scopwick Lodge Fm. [nowhere near Scopwick Lodge of bore 23]. O.D. [just below 50' contour] say 49'. No note of water.

Strata	Thickness ft	Thickness in	Thickness metres	Depth ft	Depth in	Depth metres
Mould	—	6	0·5	—	6	0·5
Soil + stones	1	3	0·38	1	9	0·53
Limestone (Cornbrash)	5		1·52	6	9	2·06
Mottled clay	2		0·61	8	9	2·67
Clay	39		11·96	48	9	14·63
Hard sandy clay	12		3·66	60		18·29

"Bore is in Cornbrash crop figured. map. ? Where is Gt. Oolite Lst."

TF05NE17 MARTIN PARISH BORE NO. 27 TF 09541 58809

TF05 NE/17

No. 27. Martin parish, on the Timberland boundary. 8 chains E of the railway and 37 chains N by E of bridge (or level crossing ?) at Scopwick station. O.D. (just below 25' contour) say 24'. Rest water-level 3 ft. down.

Strata	Thickness ft	Thickness metres	Depth ft	Depth metres
Top soil	1	—	1	—
Mottled clay	39	11·89	40	12·19
Blue sandy clay	20	6·10	60	18·29

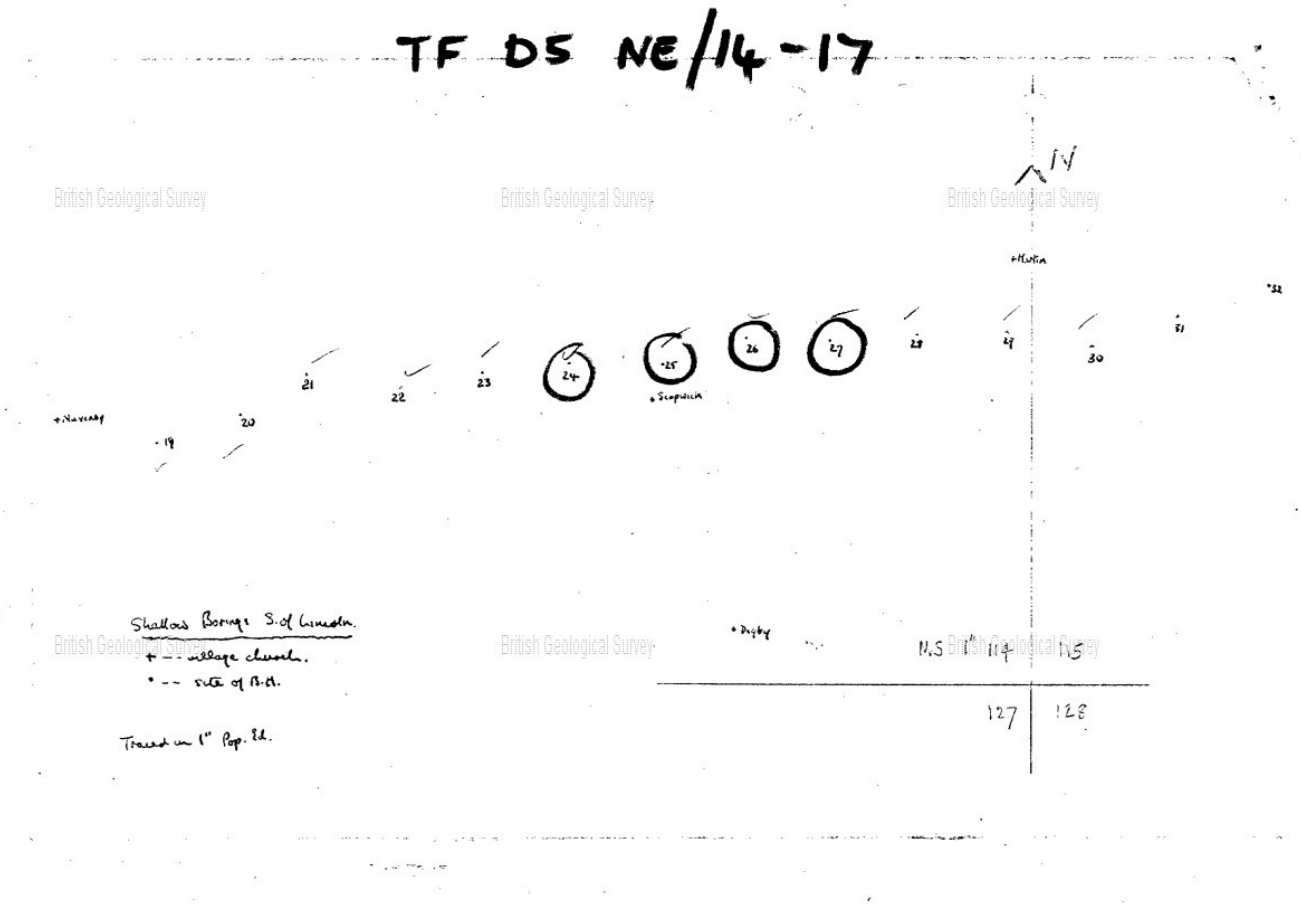
"? Kellaways under B. Clay. [If so] Chr. is here -36' [or lower], but is ca + 47' OD in No 26 — giving dip of 83' per 3/4 mile or 112 ft. per mile."

British Geological Survey

Version 2.0.6.6

BGS ID: 469024 : BGS Reference: TF05NE15
British National Grid (27700) : 507190,358530

[redacted]

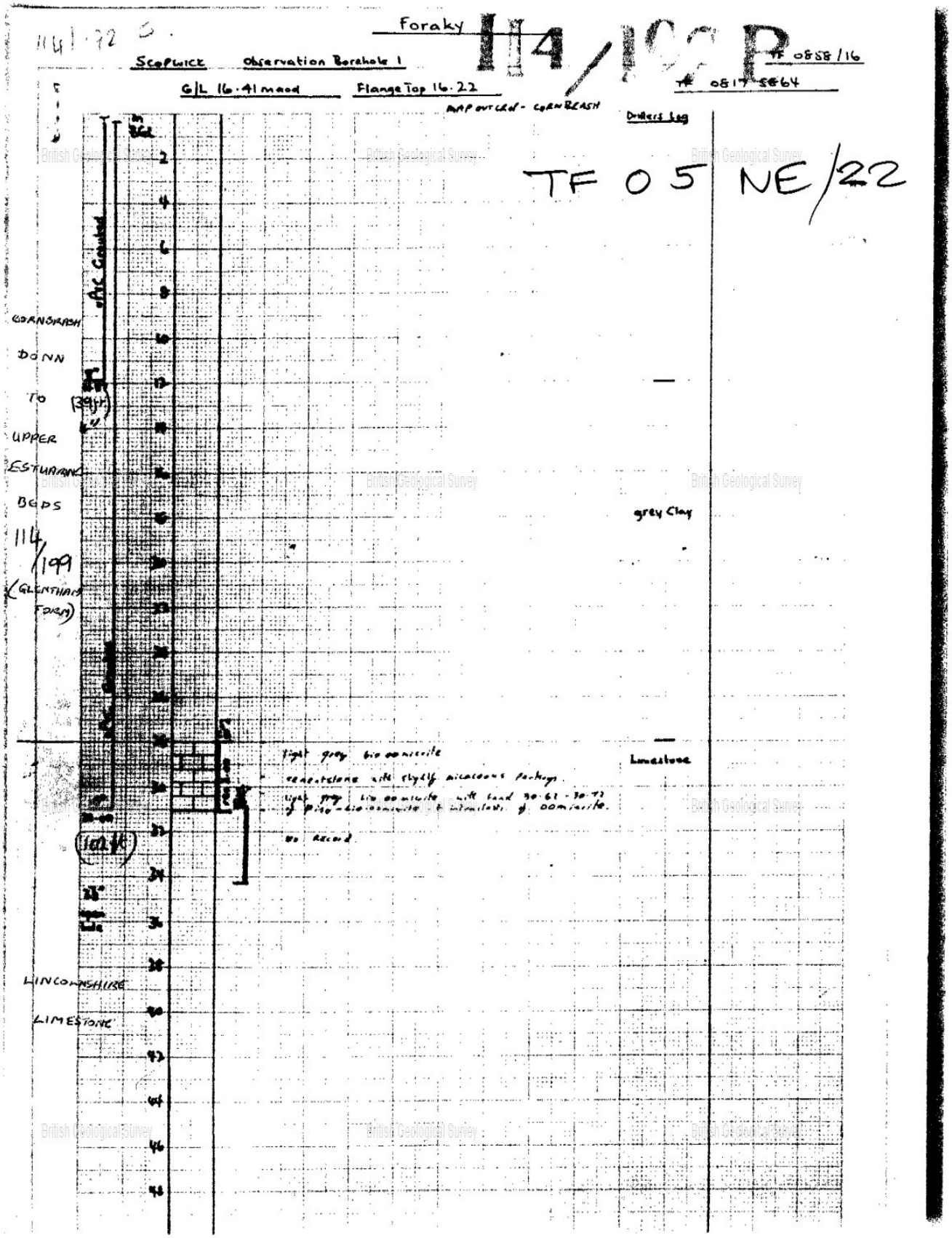


British Geological Survey

Version 2.0.6.6

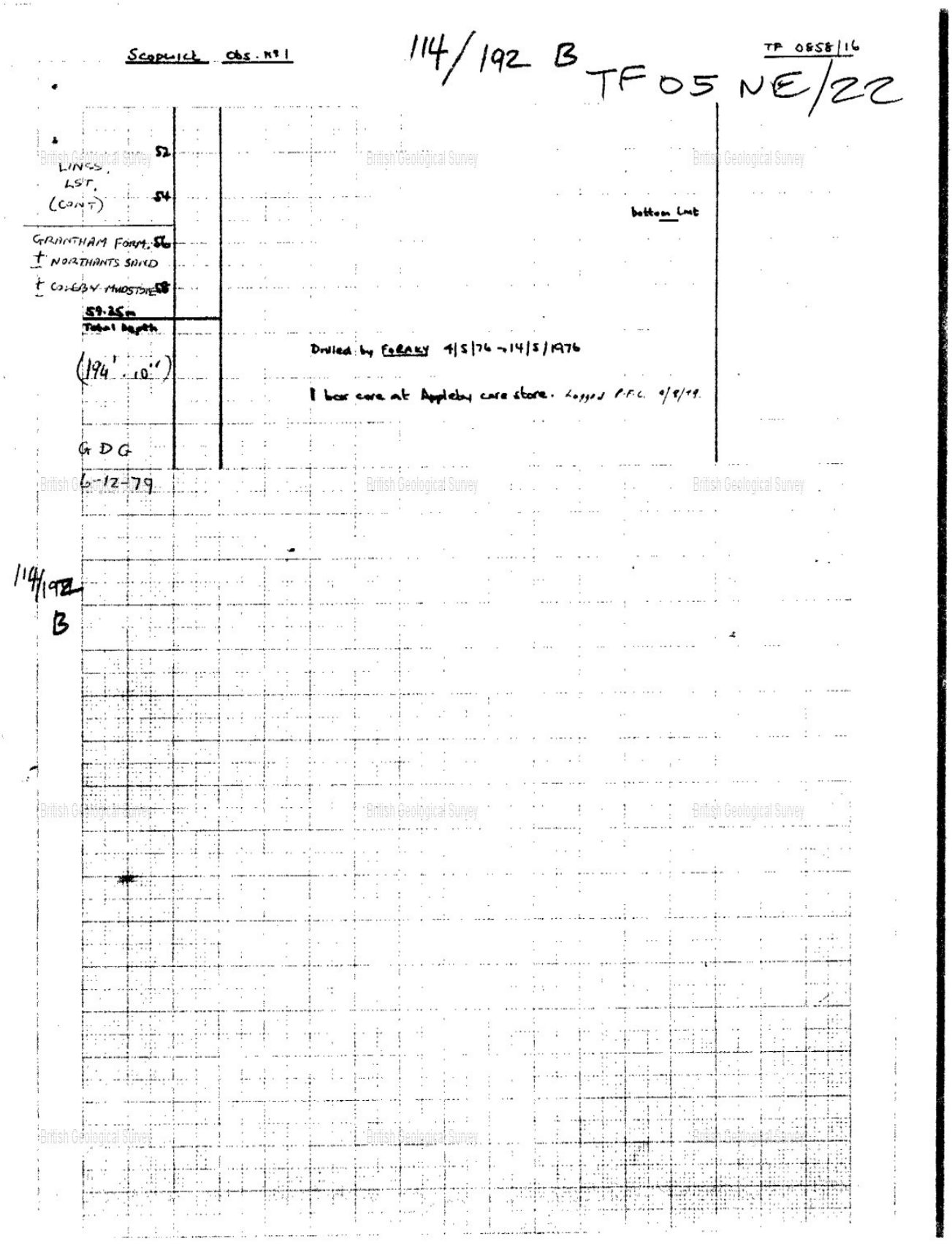
BGS ID: 469031 : BGS Reference: TF05NE22
British National Grid (27700) : 508170,358640

[redacted]



BGS ID: 469031 : BGS Reference: TF05NE22
British National Grid (27700) : 508170,358640

[redacted]



British Geological Survey

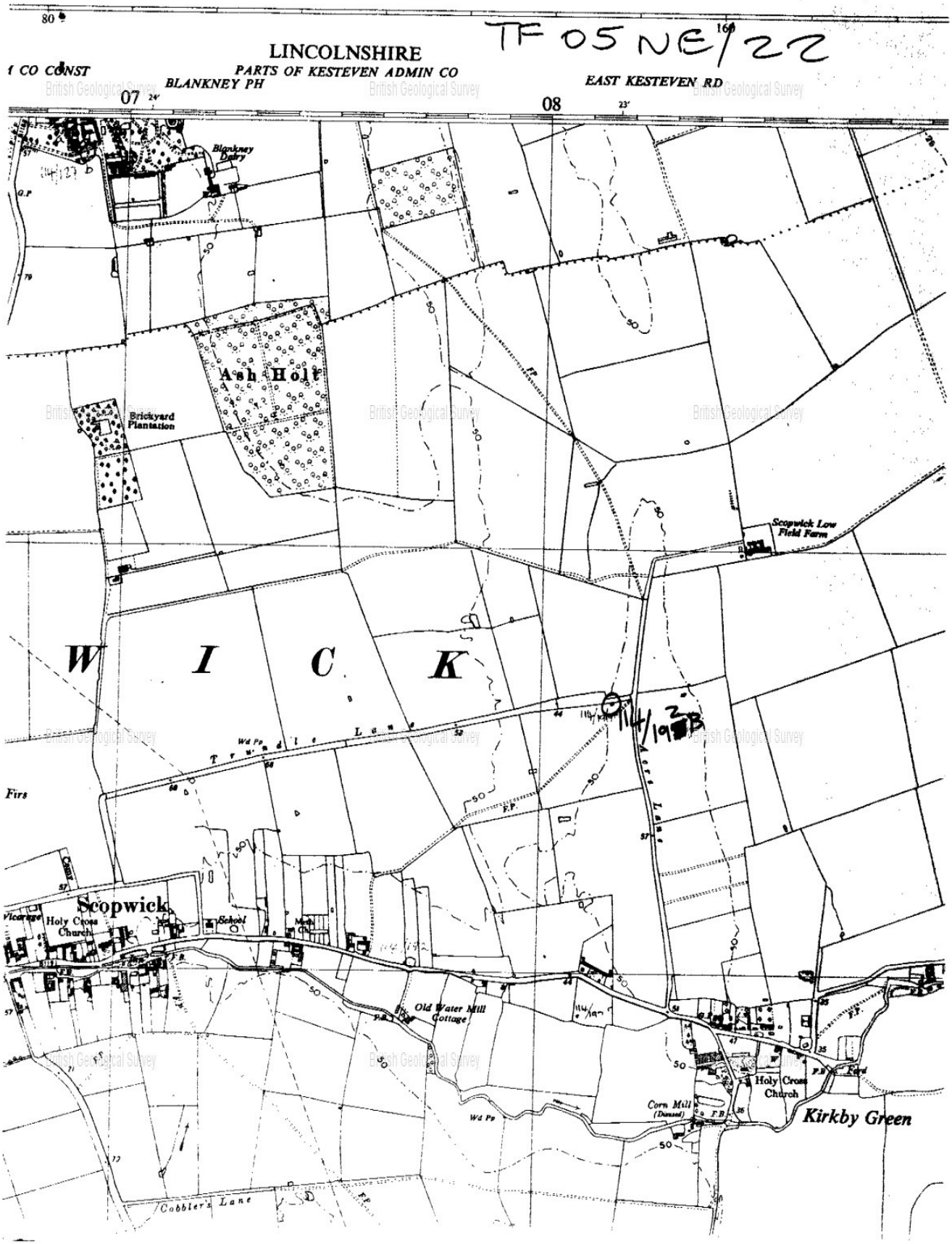
Version 2.0.6.6

BGS ID: 469031 : BGS Reference: TF05NE22
British National Grid (27700) : 508170,358640
[redacted]

Scale 1:10,560 or 6 Inches to 1 Mile

Provisional

TF 05 NE/22



British Geological Survey

Version 2.0.6.6

BGS ID: 469031 : BGS Reference: TF05NE22
British National Grid (27700) : 508170,358640
[redacted]

TF05/45
TF 0858/16

Scopwick obs. no 1

114/192 B

LINCOLNSHIRE LIMESTONE (CONT.) 52 54

bottom Unit

GRANTHAM FM + NORTHAMPTON SAND + COCKBY MUDSTONE 56 58

59.25m Total depth

(194'.10")

Drilled by FORAMY 4/5/74 - 14/5/1974

1 box core at Appleby core store. Logged P.F.C. 9/9/79

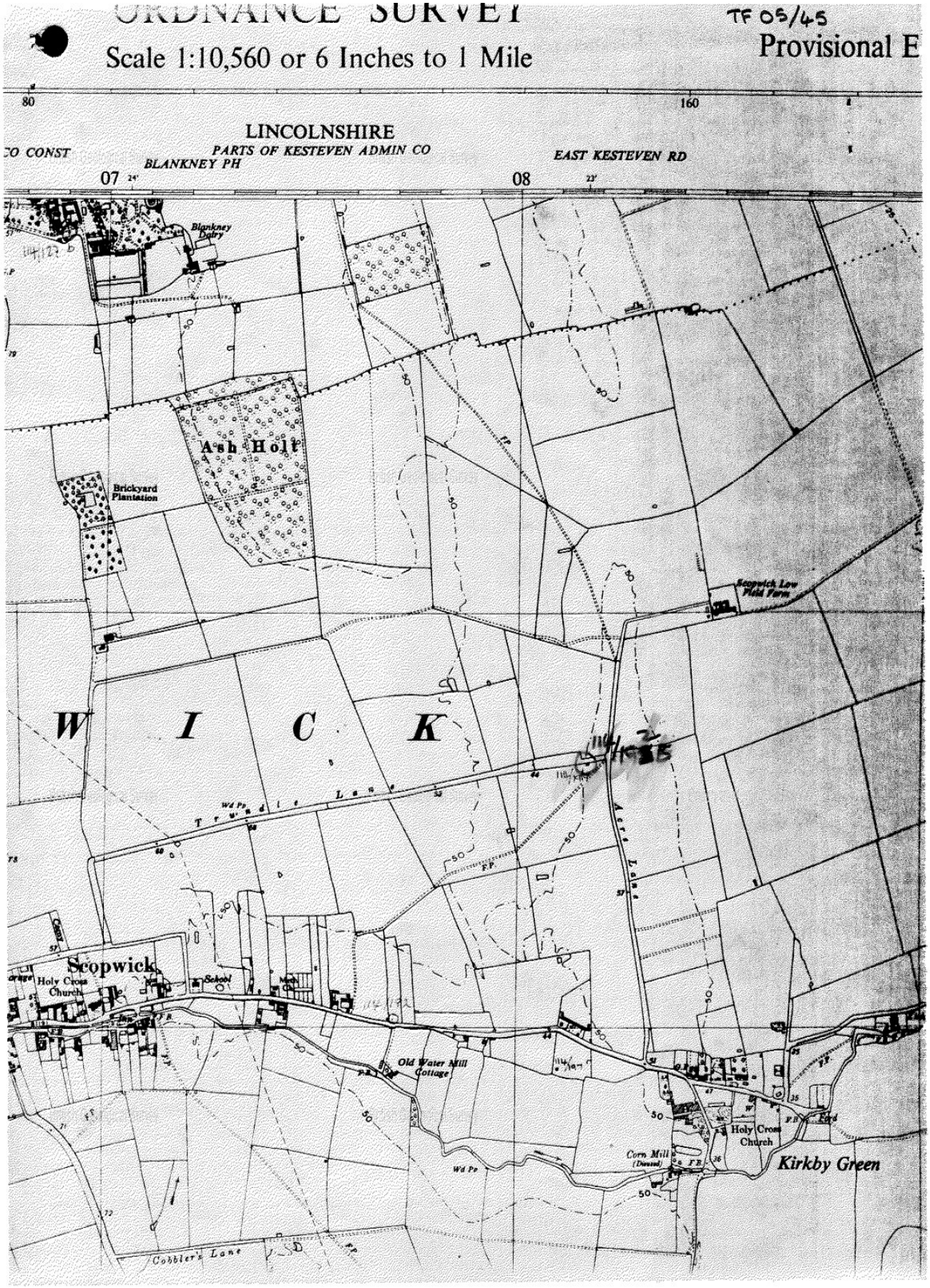
PBR. G.D.G. 5.12.79.

114/192 B

British Geological Survey

Version 2.0.6.6

BGS ID: 469031 : BGS Reference: TF05NE22
British National Grid (27700) : 508170,358640
[redacted]


ORDNANCE SURVEY
TF 05/45
Provisional E
Scale 1:10,560 or 6 Inches to 1 Mile
80
160
LINCOLNSHIRE
PARTS OF KESTEVEN ADMIN CO
BLANKNEY PH
EAST KESTEVEN RD
07
08
Blankney Dairy
Ash Holt
Brickyard Plantation
Scopwick Low Field Farm
W I C K
Scopwick
Holy Cross Church
School
Old Water Mill Cottage
Holy Cross Church
Corn Mill (Disused)
Kirkby Green
Cobbler's Lane

APPENDIX E8 BGS BOREHOLE LOGS – ZONE J

British Geological Survey

Version 2.0.6.6

BGS ID: 469026 : BGS Reference: TF05NE17
British National Grid (27700) : 509541,358809

[redacted]

RECORD of BORING TF 05 NE/14-17 (Nos. 14-29)

Survey No. 1" N.S. 114 1" O.S.

Across the outcrop of the Lincolnshire Limestone, 9 miles S. of Lincoln.

Town, Village, &c. County Lincs Six-inch map

Exact site (unless a tracing from a map is supplied, give distance and direction from parish church, cross-roads, or other object shown on maps). Description of sites made by C.H.D. from the tracing used at a 1" scale. (see Tracing) Popular Edition (Sheet of one-inch map. (Square

Surface level of ground ft. above Ordnance Datum. Well or Bore commenced at ft. below surface level of ground.

Sunk ft., diameter ft. Bored ft.; diameter of borings at top 6 in., at bottom 6 in.

Details of lining tubes (internal diameters preferred) All the bores were drilled to take explosives (for the seismic method of geophysical survey)

Water struck at depths of (feet)

Rest-level of water below/above top of well or bore ft. Pumping level ft. Time of recovery hours.

Suction at ft. depth. Yield: (i) on test galls. per , (ii) normal galls. per

Quality (attach copy of analysis if available)

Made by La Cornel Schlff & Cell for Mr D'Arcy Exploration Co Date of boring Nov.–Dec. 1936

Information from Mr. P.E. Kent (Anglo-Iranian Co)

(For Survey use only). | THICKNESS. | DEPTH.

TF 05 NE/14 + 15

No. 24 + 25 Records of ? not preserved. No. 24 was 64 chains W.N.W of Scopwick church, & just N. of the Navenby Road. No. 25 was 26 chains N by E of Scopwick church and 26 chains E of the Blankney road at the turning to Navenby + Lincoln.

TF05 NE/16

No. 26. Scopwick parish; on the boundary, 78 chains ENE of Scopwick church and about 9 chains W.S.W of "Scopwick Lodge Fm." [another near Scopwick Lodge of bore 23]. O.D. [just below 50' contour] say 49'. No note of water

Strata	Thickness (ft)	Thickness (Metres)	Depth (ft)	Depth (Metres)
Mould	0.5	6	—	60.5
Soil & stones	1 (0.38)	3	1	90.53
Cornbrash — Limestone	5'	1.52	6	92.06
Mottled clay	2	0.61	8	92.67
Clay	39''	3.96	48	14.63
Hard sandy clay	12	3.66	60	18.29

"Bore is on Cornbrash crop judged. map. ? where is Ox-Oolite Lst"

TF05NE17 MARTIN PARISH BORE NO. 27 TF 09541 58809

TF05 NE/17

No. 27. Martin parish, on the Timberland boundary. 8 chains E of the railway and 37 chains N by E of bridge (or level crossing ?) at Scopwick Station. O.D. (just below 25' contour) say 24'. Rest-water-level 3 ft down.

Strata	Thickness (ft)	Thickness (Metres)	Depth (ft)	Depth (Metres)
Top soil	1	—	1	—
Mottled clay	39	11.89	40	12.19
Blue sandy clay	20	6.10	60	18.29

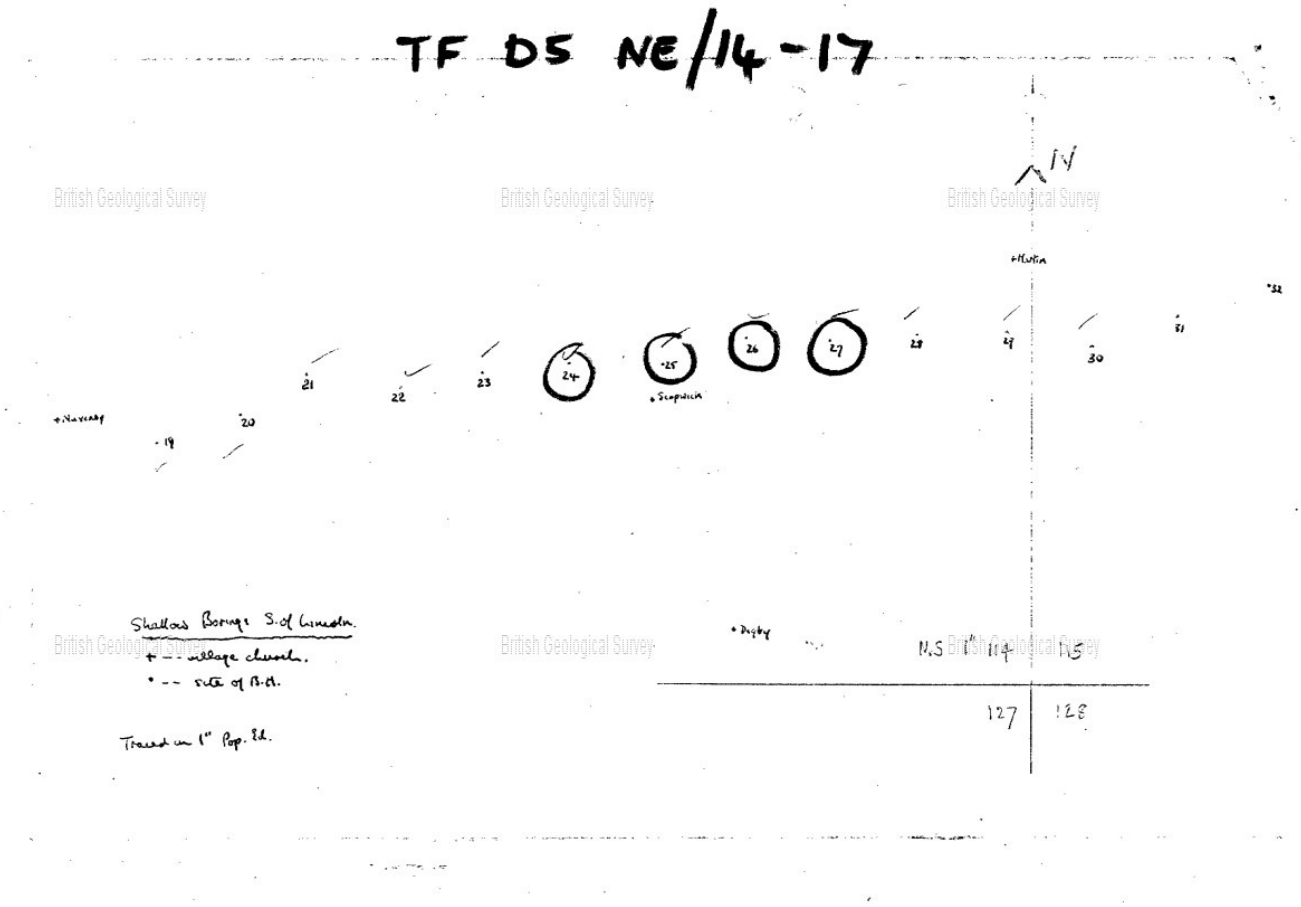
"? Kellaways under B. Clay. [If so] Clr. is here -36' [or lower], but is ca + 47' OD in No 26 — giving dip of 83' per 3/4 mile or 112 ft. per mile."

British Geological Survey

Version 2.0.6.6

BGS ID: 469026 : BGS Reference: TF05NE17
British National Grid (27700) : 509541,358809

[redacted]



British Geological Survey

Version 2.0.6.6

BGS ID: 469031 : BGS Reference: TF05NE22
British National Grid (27700) : 508170,358640

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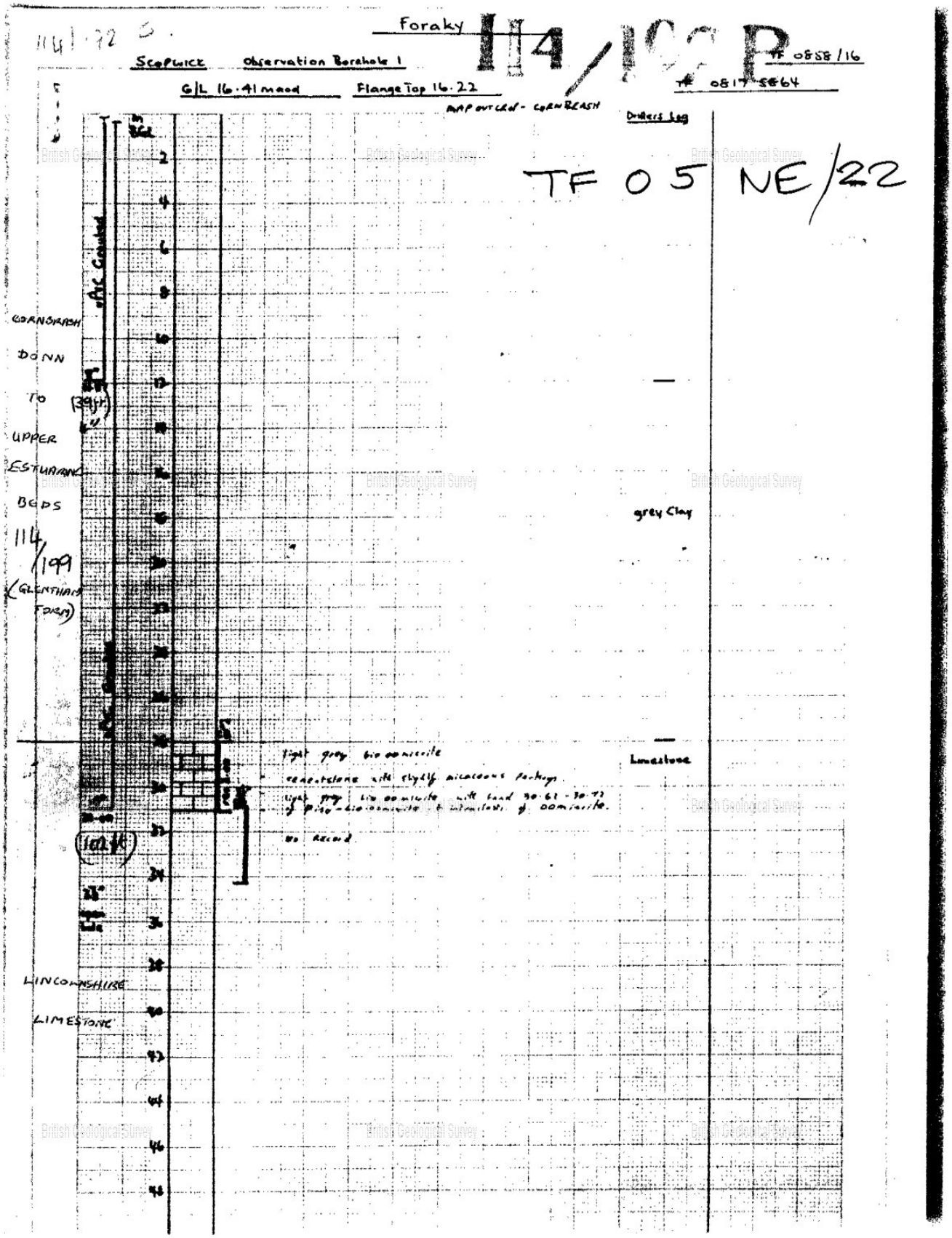

BGS ID: 469031 : BGS Reference: TF05NE22
British National Grid (27700) : 508170,358640

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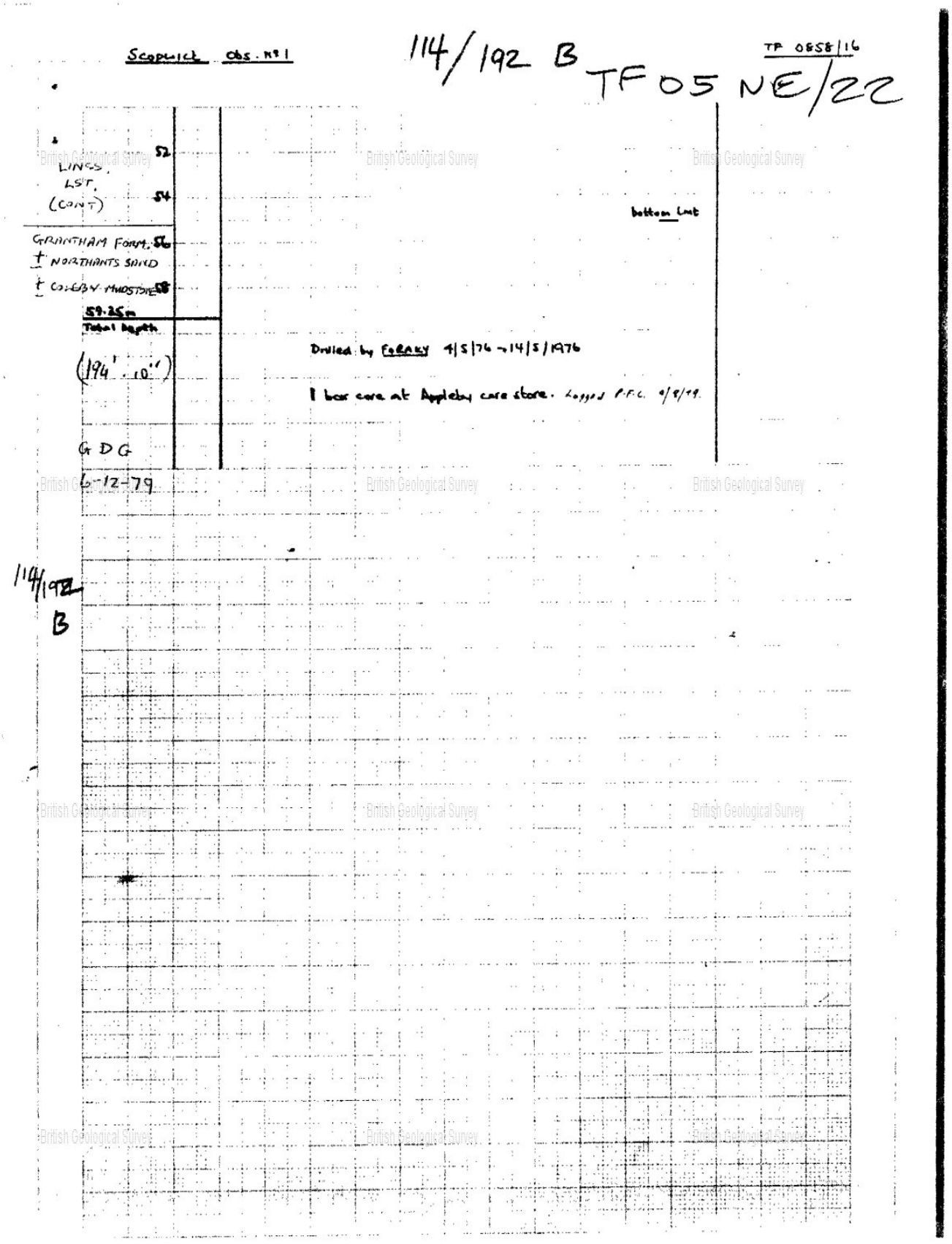


British Geological Survey

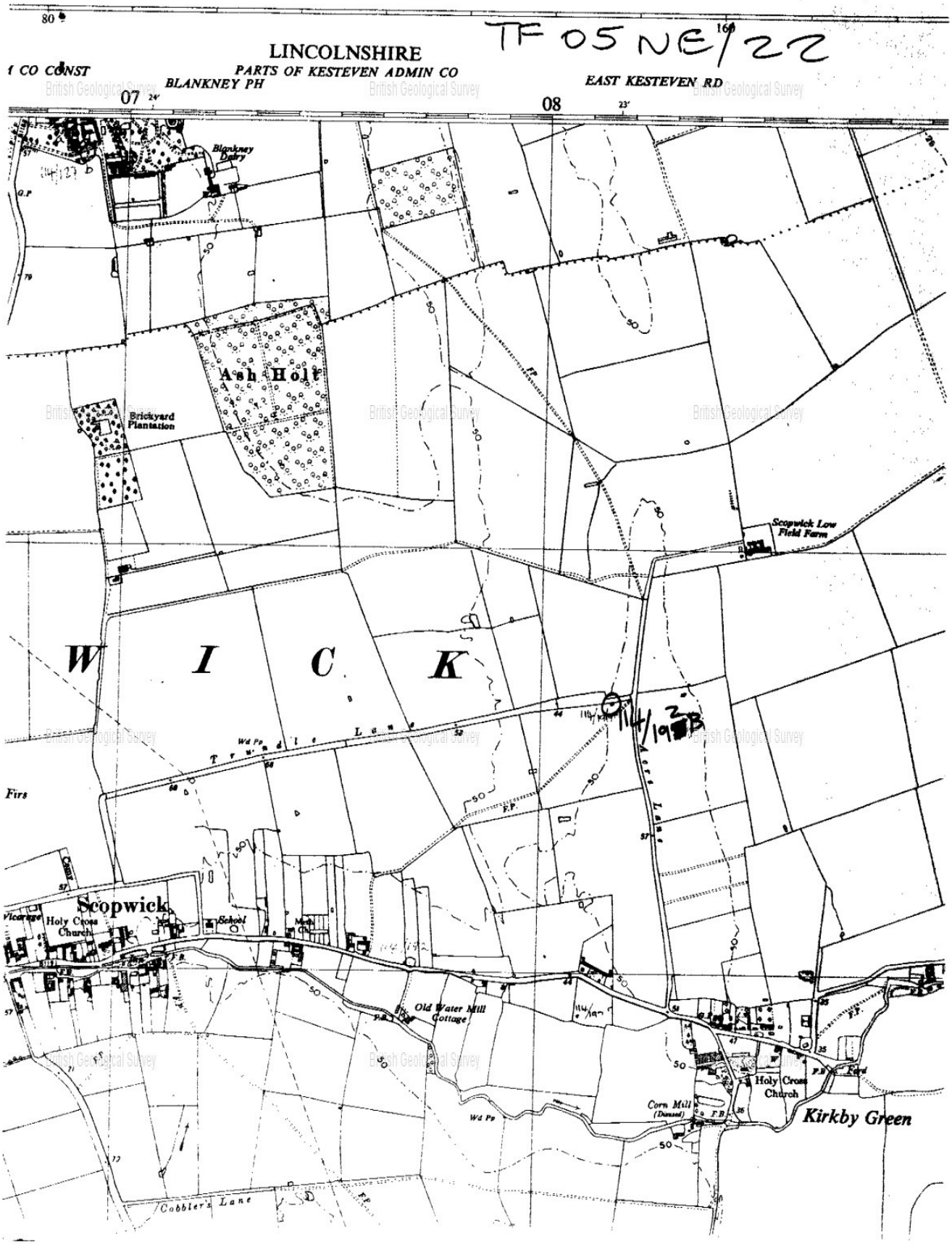
Version 2.0.6.6

BGS ID: 469031 : BGS Reference: TF05NE22
British National Grid (27700) : 508170,358640
[redacted]

Scale 1:10,560 or 6 Inches to 1 Mile

Provisional

TF 05 NE/22



British Geological Survey

Version 2.0.6.6

BGS ID: 469031 : BGS Reference: TF05NE22
British National Grid (27700) : 508170,358640
[redacted]

TF05/45
TF 0858/16

Scopwick obs. no 1

114/192 B

LINCOLNSHIRE LIMESTONE (CONT.) 52 54

bottom Unit

GRANTHAM FM + NORTHAMPTON SAND + COCKBY MUDSTONE 56 58

59.25m Total depth

(194'.10")

Drilled by FORAMY 4/5/74 - 14/5/1974

1 box core at Appleby core store. Logged P.F.C. 9/9/79

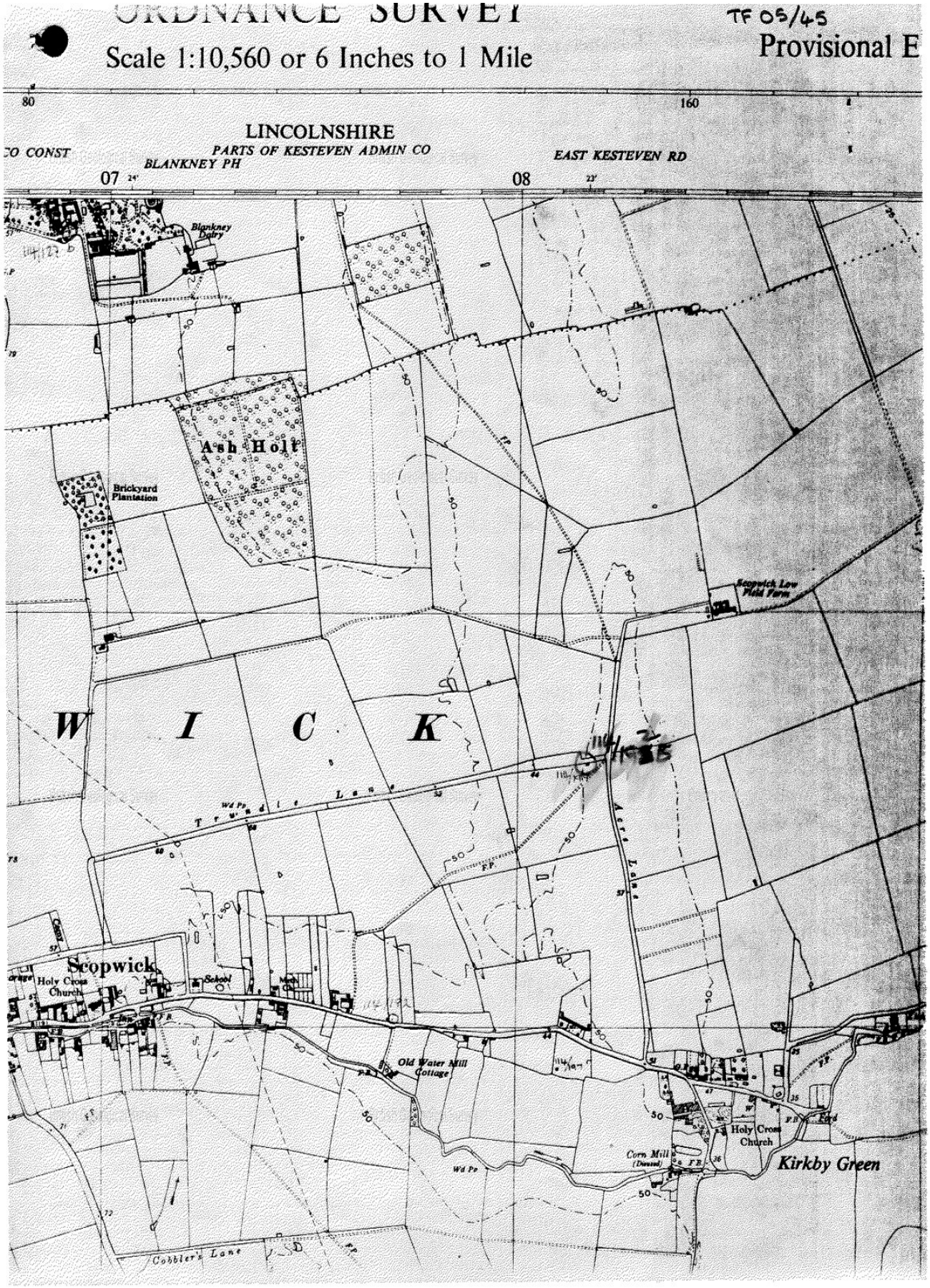
PBR. G.D.G. 5.12.79.

114/192 B

British Geological Survey

Version 2.0.6.6

BGS ID: 469031 : BGS Reference: TF05NE22
British National Grid (27700) : 508170,358640
[redacted]


ORDNANCE SURVEY
TF 05/45
Provisional E
Scale 1:10,560 or 6 Inches to 1 Mile
80
160
LINCOLNSHIRE
PARTS OF KESTEVEN ADMIN CO
BLANKNEY PH
EAST KESTEVEN RD
07
08
Blankney Dairy
Ash Holt
Brickyard Plantation
Scopwick Low Field Farm
W I C K
Scopwick
Holy Cross Church
School
Old Water Mill Cottage
Holy Cross Church
Corn Mill (Disused)
Kirkby Green
Cobbler's Lane

British Geological Survey

Version 2.0.6.6

BGS ID: 469033 : BGS Reference: TF05NE24
British National Grid (27700) : 509196,358035
[redacted]

TF05NE24 KIRKBY GREEN OBSERVATION BH NO.2 TF 09196 58035

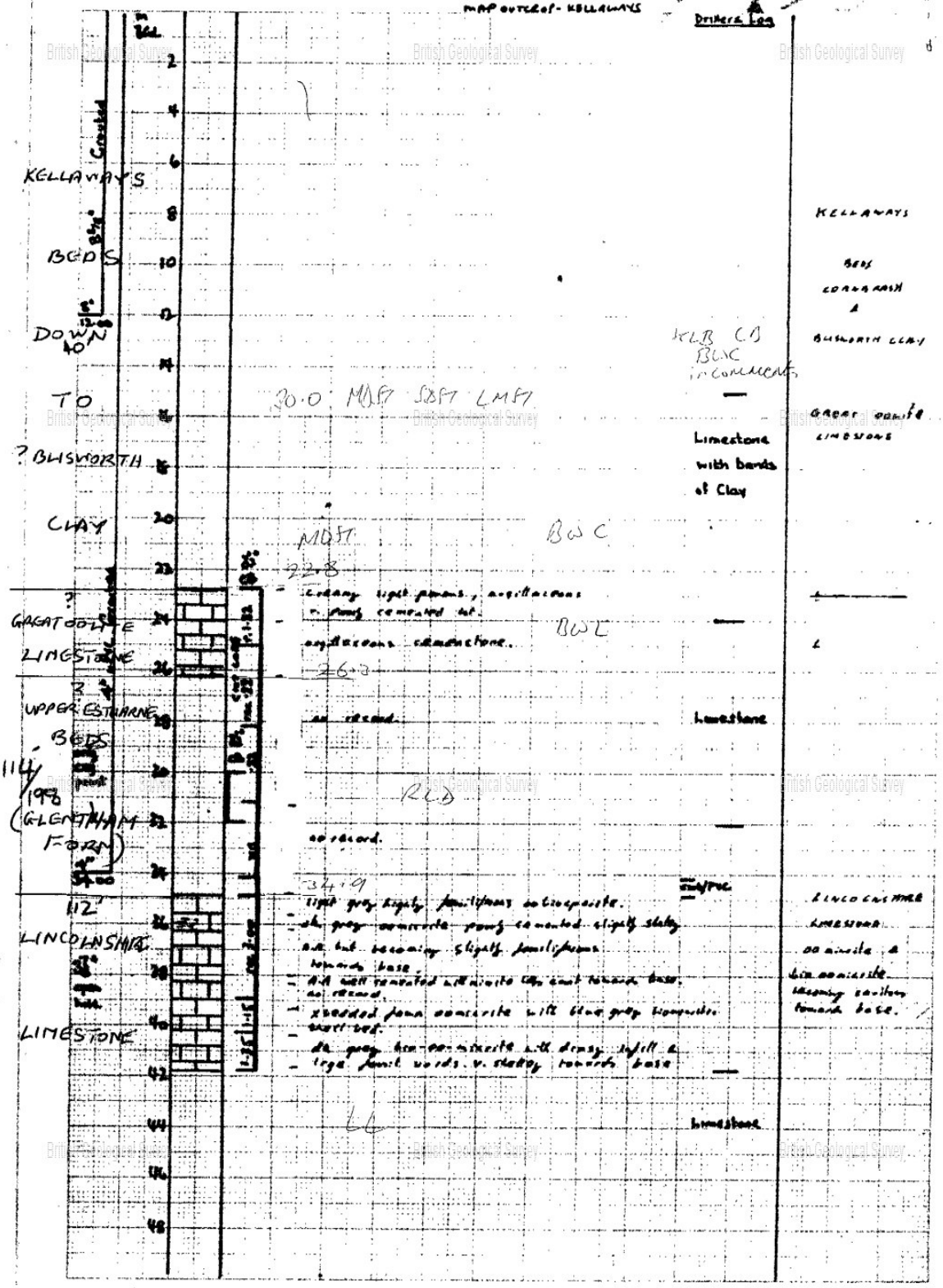
TF 05 NE/24 FORAKY

KIRKBY GREEN Observation Borehole No 2

TF 109 0958/20 TF 0920 5804.

G/L 8.41 mAOD FLANGE TOP 8.26 mAOD MAP OUTCROP - KELLAWAYS

Driller's Log



British Geological Survey

Version 2.0.6.6

BGS ID: 469033 : BGS Reference: TF05NE24
British National Grid (27700) : 509196,358035
[redacted]

Kirkby Green Obs. B/H 2. 114/198

TF 05 NE/24

LINCS. LST. (CONT)

? ? ?

GRANTHAM FORM. 62.25

Total Depth (20ft)

NORTHANTS SAND

COLEBY MUDSTONE

67.79 (222ft) 3"

LMST

LL

59.40

SDST

GRF

Cell 3

lght grey oomicrite occ. fossiliferous becoming
v fossil towards base. sandy dinsy infill, occ. clay bands.
A.A. shell beds. mudstone towards base
fine grained light grey oomicrite. a bioturbated.
lght grey oomicrite. shaley in parts

consistently oomicrite. Limestone

blue grey bio-oo-micrite. occ shaley bands.

blue grey bio oomicrite occ. shell frags.
bioturbated blue grey bio oo micrite.
A.A. two bioturbated. 2ndry infill of calcite.
bio-oo-micrite becoming mudstone at base
top erosion surface micrite with shaley bands
grey/black calc. silty sst with burrows at base.

light grey calc sst. with occ. borings silty towards base.
micaceous silty sst.
calc porous white sst fossiliferous towards base. slightly
ferruginous. towards base with rolled ironstone
frags (rolled subrounded) at base.

buff dark green sst with chestnut brown patches

DRILLED BY FORAKY to 62.25, 4/5/1976 - 28/5/1976

5/7/1976 redrilled and reset casing to 24m, new

total depth 67.79m. 21/7/76

7 boxes cores at Appleby core store.

LINCOLNSHIRE LIMESTONE

Bioturbated oomicrite with shaley bands.

erosion but becoming sandy.

LOWER ESTUARINE SERIES

ferruginous green sst.

? UPPER LIAS

GDE 6-12-79

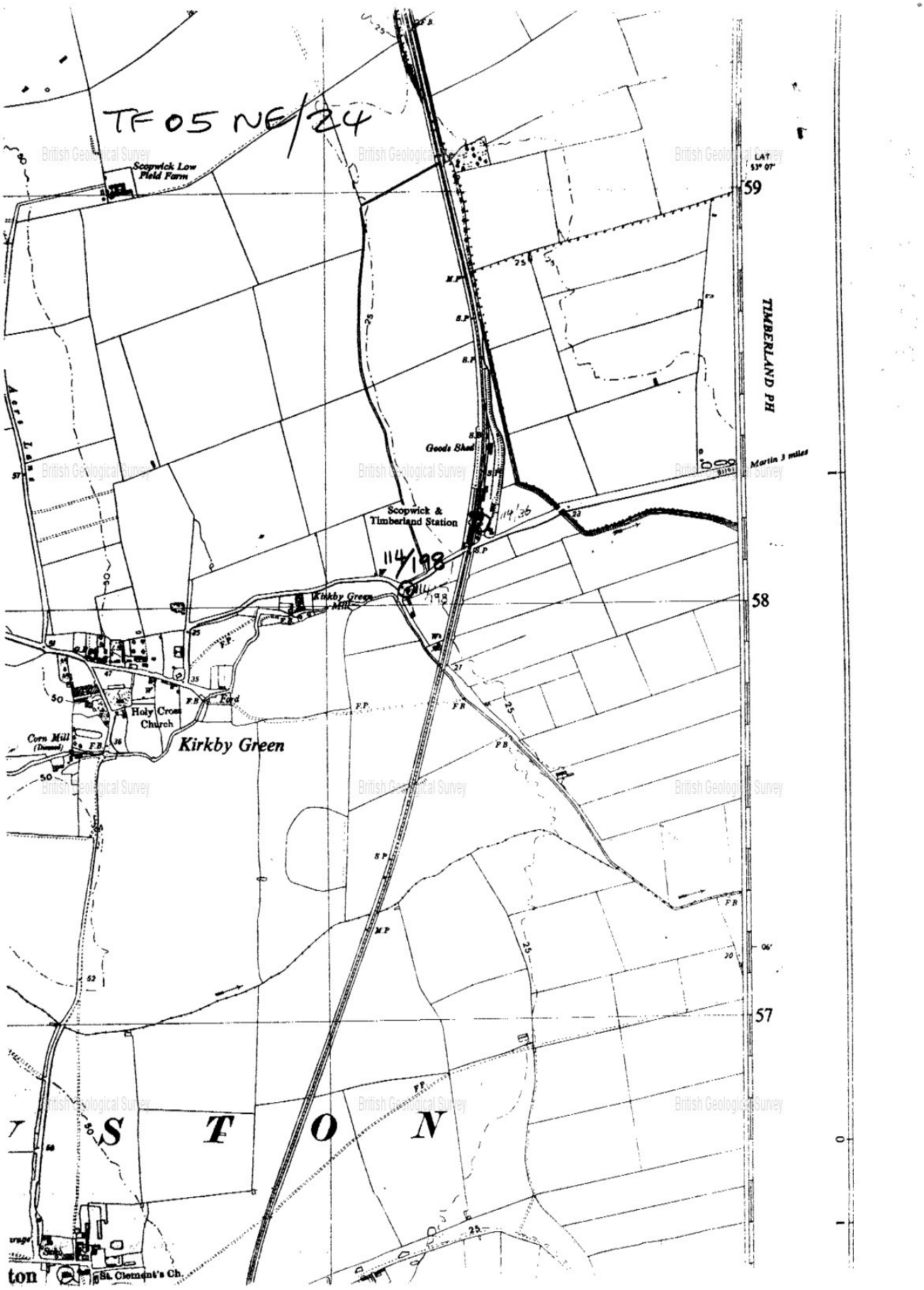
all depths reli 3

114/198

British Geological Survey

Version 2.0.6.6

BGS ID: 469033 : BGS Reference: TF05NE24
British National Grid (27700) : 509196,358035
[redacted]


TF 05 NE/24
Scopwick Low Field Farm
Goods Shed
Scopwick & Timberland Station
114/198
Kirkby Green Mill
Holy Cross Church
Corn Mill
Kirkby Green
Ford
St. Clement's Ch.
TIMBERLAND PH
Martin 3 miles
59
58
57
S T O N

British Geological Survey

Version 2.0.6.6

BGS ID: 469033 : BGS Reference: TF05NE24
British National Grid (27700) : 509196,358035
[redacted]

FORAKY

TF05/47

KIRKBY GREEN Observation Borehole N°2 OF 0958/20

G/L 8.41 mAOD FLANGE TOP 8.26 mAOD TF 0920 5804.

MAP OUTCROP - KELLAWAYS

Drillers Log

KELLAWAYS BEDS DOWN TO ? BRIGHTH CLAY

KELLAWAYS BEDS COMMARSH & BLISWORTH CLAY

GREAT OOLITE LIMESTONE

Limestone with bands of Clay

GREAT OOLITE LIMESTONE

Limestone

UPPER ESTUARINE BEDS (GLENTHAM FORM)

Cmy/Pnc

LINCOLNSHIRE LIMESTONE

Limestone

LINCOLNSHIRE LIMESTONE

m OD

2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48

8⅝" Grouted 12.00 40'

4" uPVC Grouted 34.00 112'

8⅜" open hole

14/198

creamy light grey, argillaceous v. poorly cemented lst.

argillaceous calcarenite.

no record.

no record.

light grey, highly fossiliferous oolitic calcarenite.

dk. grey oomicrite poorly cemented slightly shaly

A.A but becoming slightly fossiliferous towards base

A.A well cemented with micrite lens cent towards base, no record.

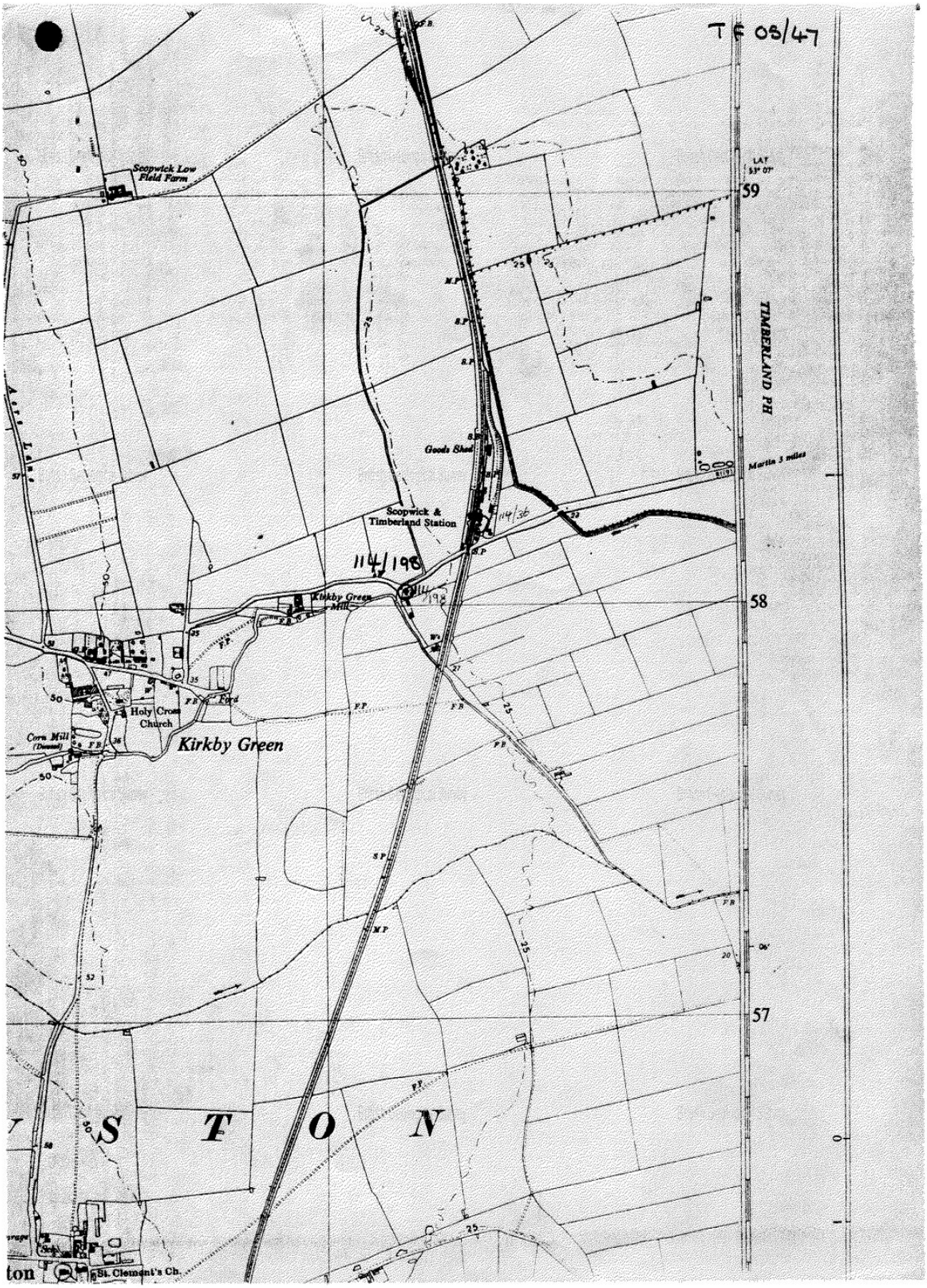
x bedded plum oomicrite with blue grey limestone shell bed.

dk grey bio-oomicrite with drusy infill & large fossil voids. v. shelly towards base

British Geological Survey

Version 2.0.6.6

BGS ID: 469033 : BGS Reference: TF05NE24
British National Grid (27700) : 509196,358035
[redacted]


TF 08/47
Scopwick Low Field Farm
Goods Shed
Scopwick & Timberland Station
114/136
114/198
Kirkby Green Mill
Holy Cross Church
Ford
Corn Mill (Disused)
Kirkby Green
TIMBERLAND PH
Martin 3 miles
59
58
57
S T O N
St. Clement's Ch.

APPENDIX E9 BGS BOREHOLE LOGS – ZONE L

TF06/62

Ae. No. 47816

The Wright Drilling CO.

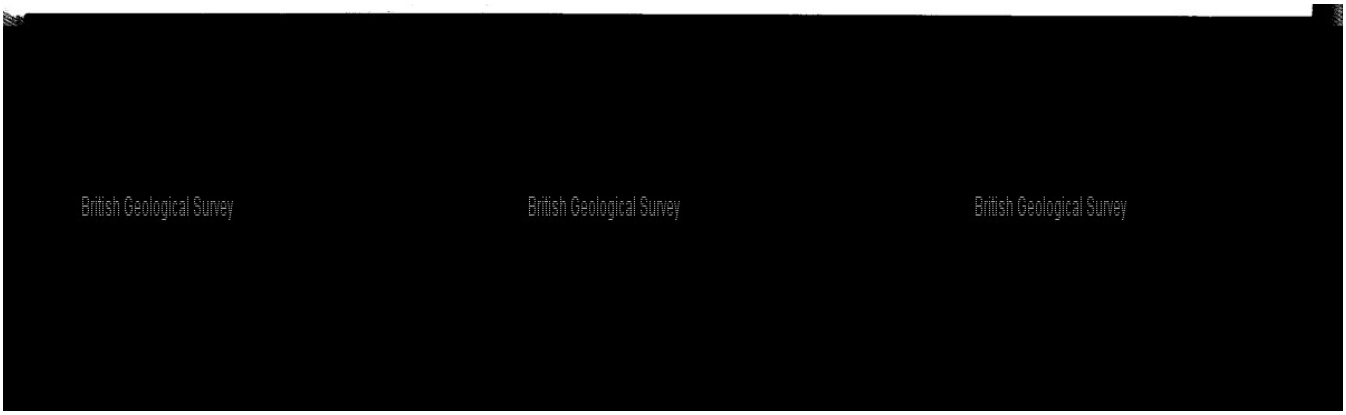
Water divining - Well Drilling - Pump Installations

19 Blakemore Drive, Sutton Coldfield West Midlands B75 7RN
Tel./ Fax 0121 378 1062 Mobile 07979 526 943
email: gordonwright@waterdiviner.com internet http//:www.waterdiviner.com

TF06 SW

CLIENT	Mr. D.Johnson			
ADDRESS	The Quarry Heath Lane Metheringham Lincoln LN4 3DH			
YIELD	G.P.H.	750 +	FINISHED DIA	4"
GRID REF.	TF 05645 61594		FINISHED DEPTH	30 METRE
WATER	REST LEVEL	12	METRES	
WATER	DRAW DOWN	1 Meter		
Date	27 March 2008			

FROM METRES	TO METRES	FORMATION	CASED DEPTH
0	12	Limestone	
12	14	Sand	
14	23	Limestone	
23	30	Blue mud stone	30 m


British Geological Survey
British Geological Survey
British Geological Survey

BGS ID: 469003 : BGS Reference: TF05NE1
British National Grid (27700) : 506397,359695
[redacted]

0635 5967 2162

D'ARCY EXPLORATION Co. LTD. M/

TEST AREA BLANKNEY WELL No. 1

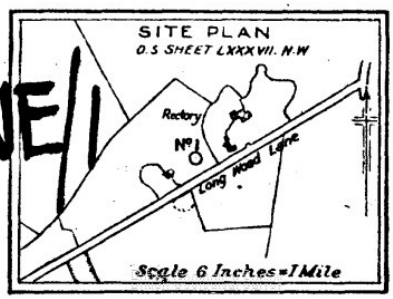
LICENCE N°A 30(a) "Amended"

POSITION OF WELL: LONG: 0° 24' 35·4" W.
LAT: 53° 7' 24·7" N.
COUNTY: LINCS.

TF05NE/1
128

ELEVATION: DERRICK FLOOR:
ROTARY TABLE: 93'
28.3

RIG: ROTARY
DERRICK: 87' JACK KNIFE
POWER: DIESEL



HISTORY:-

Commenced drilling on 2·9·43
Cemented 11¾" casing at 195'
Completed drilling on 16·9·43 at 3085'

Abandoned
Plugged with cement from bottom – 2750'
Wooden plug placed at 221' & Cement plug from 221' to surface

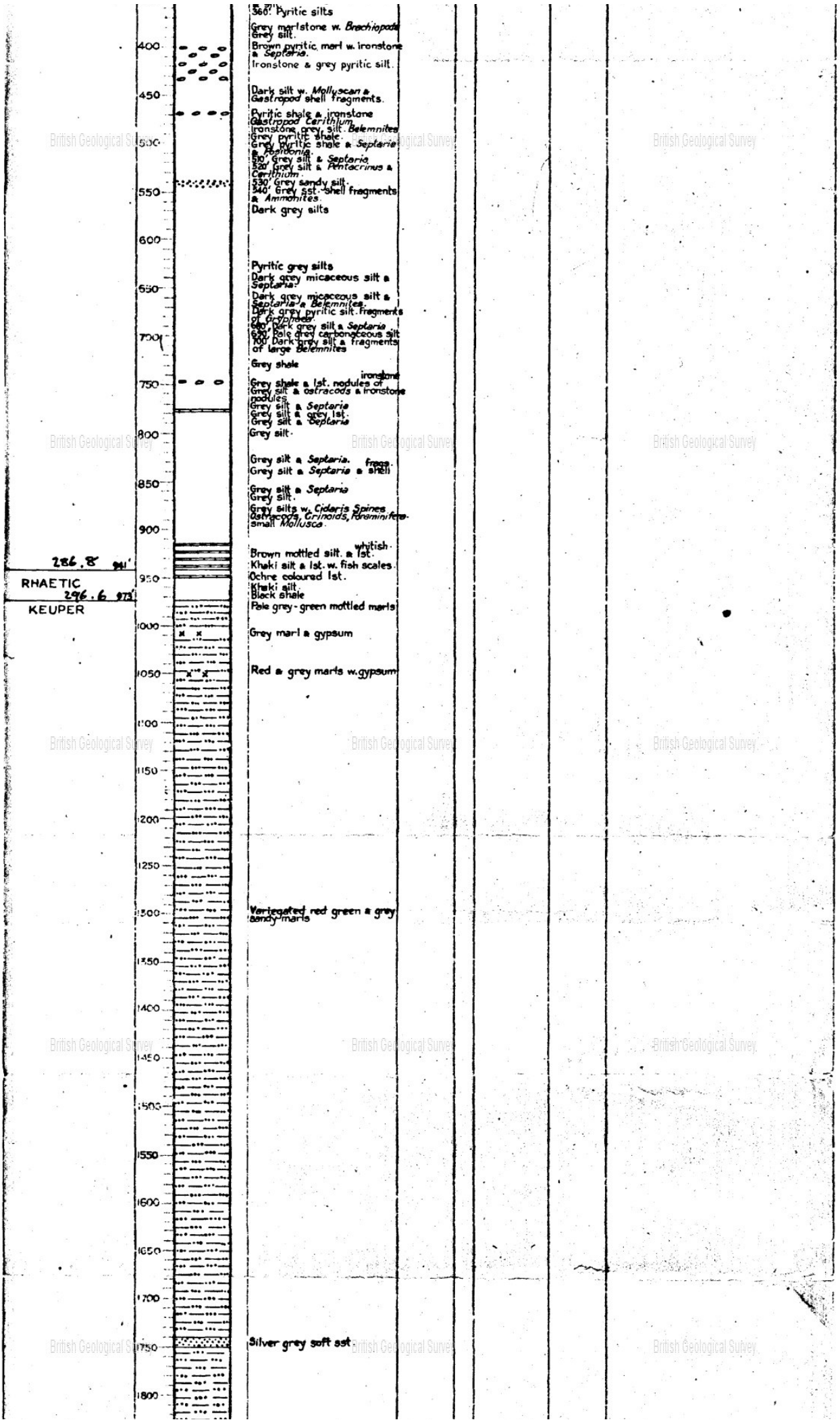
[sited on 6"]

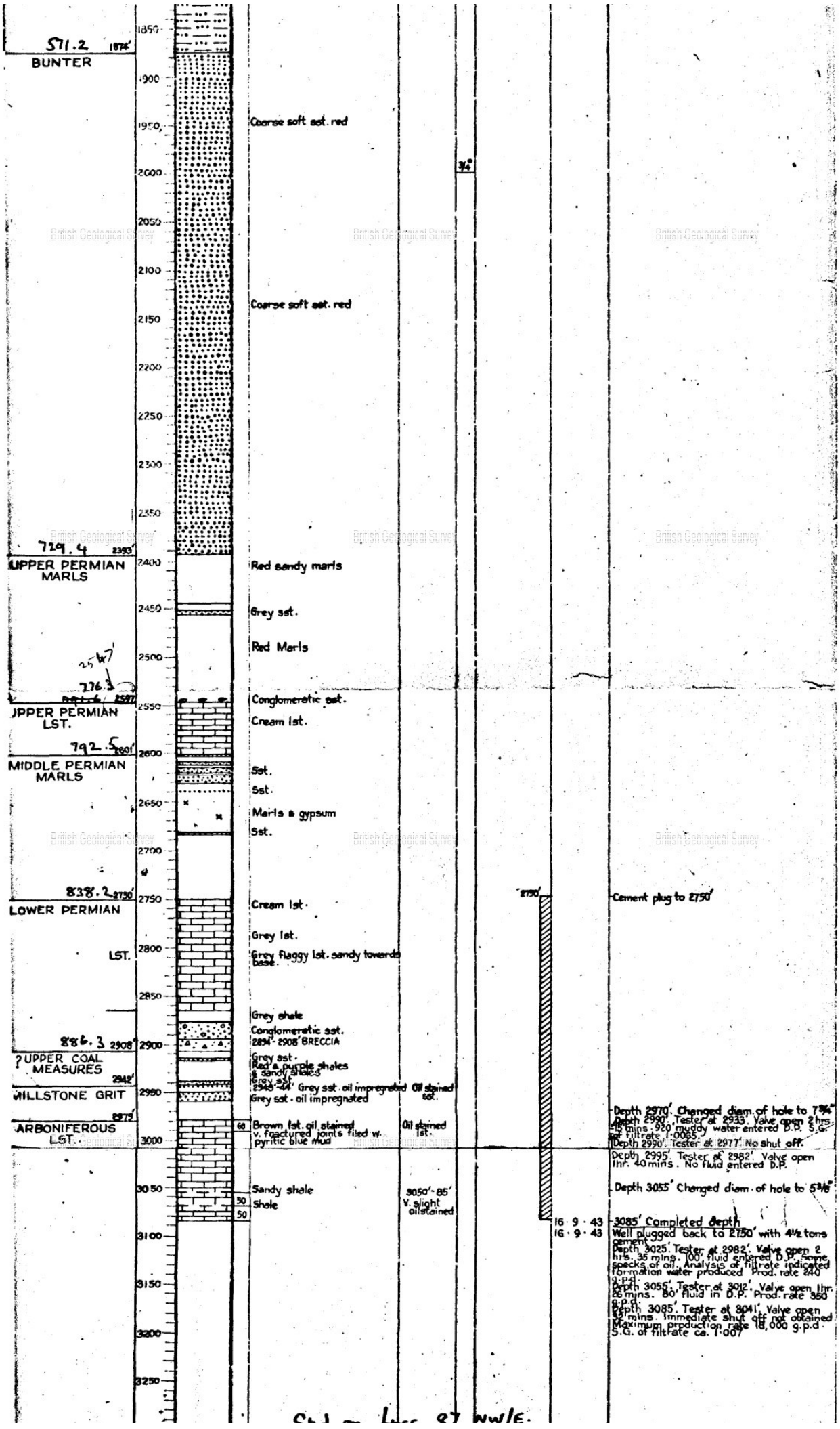
OD cc 80

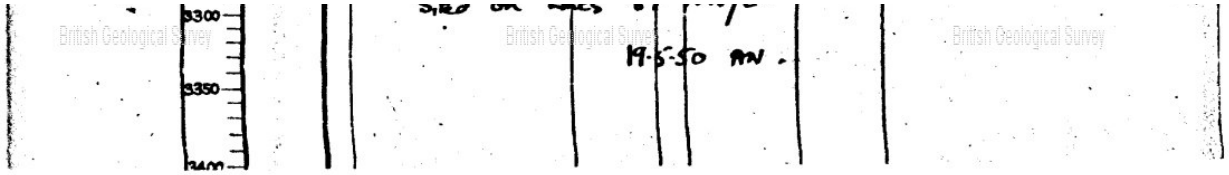
- LEGEND -

- SHALE CLAY MARL OR MUDSTONE.
- SANDY SHALE ETC.
- INTER-BEDDED SHALE ETC. & SANDSTONE.
- CONGLOMERATE BRECCIA
- PEBBLY SANDSTONE
- SANDSTONE
- COAL
- FIRECLAY.
- IRONSTONE.
- CHERT OR FLINT.
- ANHYDRITE, GYPSUM OR SALT.
- LIMESTONE.
- DOLOMITIC LIMESTONE OR DOLOMITE ROCK.
- IGNEOUS ROCK.

GEOLOGICAL FORMATION	DEPTH IN FEET	LOG	CASING	DETAILS OF FORMATION	OIL, GAS, WATER COAL SEAMS	CASING	DATE	REMARKS
LINCOLNSHIRE LST.				Cream coloured oolitic lst.			2·9·43	Commenced drilling 14⅞" diam. hole.
	50			Cream oolitic lst.				
28 NORTHAMPTON SANDS (69)	100			Calc. sandy flags. Lignite.				
UPPER LIAS 33.2				Grey coarse soft sst.				
				Grey silt.				
	150			Soft grey shale w. pyritised *Foraminifera*.				
	200			Grey shale		11¾" 221' Wooden Plug	3·9·43	Depth 221' Cemented 11¾" casing at 195' with 4 tons cement. No cement returns. 221' Changed diam. of hole to 8⅝"
82.3 270' MIDDLE LIAS	250			Argillaceous lst. w. shales				
				Thin bedded grey silt.				
100.6 330' LOWER LIAS	300			Sandy lst. Marlstone Grey sst. Grey silt with pyrite Grey micaceous silt. Grey brown argillaceous lst.				
	350							


360' Pyritic silts
Grey marlstone w. Brachiopods
Grey silt.
400
Brown pyritic marl w. ironstone
& Septaria.
Ironstone & grey pyritic silt.
450
Dark silt w. Mollyscan &
Gastropod shell fragments.
Pyritic shale & ironstone
Gastropod Cerithium
Ironstone grey silt. Belemnites
Grey pyritic shale.
500
Grey pyritic shale & Septaria
& Posidonia.
510' Grey silt & Septaria
520' Grey silt & Pentacrinus &
Cerithium.
530' Grey sandy silt.
550
540' Grey sst.-shell fragments
& Ammonites.
Dark grey silts
600
Pyritic grey silts
Dark grey micaceous silt &
Septaria.
650
Dark grey micaceous silt &
Septaria & Belemnites.
Dark grey pyritic silt. fragments
of Gryphaea.
680' Dark grey silt & Septaria
690' Pale grey carbonaceous silt
700' Dark grey silt & fragments
of large Belemnites
700
Grey shale
ironstone
Grey shale & lst. nodules of
750
Grey silt & ostracods & ironstone
nodules.
Grey silt & Septaria
Grey silt & grey lst.
Grey silt & Septaria
800
Grey silt.
Grey silt & Septaria. fossil
Grey silt & Septaria & shell
850
Grey silt & Septaria
Grey silt.
Grey silts w. Cidaris Spines.
Ostracods, Crinoids, Foraminifera.
small Mollusca.
900
whitish
Brown mottled silt. & lst.
286.8 941'
Khaki silt & lst. w. fish scales.
RHAETIC
Ochre coloured lst.
950
Khaki silt.
296.6 975'
Black shale
KEUPER
Pale grey-green mottled marls
1000
Grey marl & gypsum
1050
Red & grey marls w. gypsum
1100
1150
1200
1250
1300
Variegated red green & grey
sandy marls
1350
1400
1450
1500
1550
1600
1650
1700
1750
Silver grey soft sst.
1800


571.2 1874'
BUNTER
1850
1900
1950
Coarse soft sst. red
2000
3½°
2050
2100
Coarse soft sst. red
2150
2200
2250
2300
2350
729.4 2393'
UPPER PERMIAN MARLS
2400
Red sandy marls
2450
Grey sst.
Red Marls
2500
276.3
2677'
2550
Conglomeratic sst.
UPPER PERMIAN LST.
Cream lst.
792.5 2601'
2600
MIDDLE PERMIAN MARLS
Sst.
Sst.
2650
Marls & gypsum
Sst.
2700
838.2 2750'
2750
LOWER PERMIAN
Cream lst.
2750'
Cement plug to 2750'
Grey lst.
LST.
2800
Grey flaggy lst. sandy towards base.
2850
Grey shale
Conglomeratic sst.
886.3 2908'
2900
2894'-2908' BRECCIA
? UPPER COAL MEASURES 2942'
Grey sst.
Red & purple shales & sandy shales
Grey sst.
2943'-44' Grey sst. oil impregnated
Oil stained sst.
MILLSTONE GRIT 2979'
2950
Grey sst. oil impregnated
CARBONIFEROUS LST.
3000
60
Brown lst. oil stained v. fractured joints filled w. pyritic blue mud
Oil stained lst.
Depth 2970' Changed diam. of hole to 7¾"
Depth 2990' Tester at 2933' Valve open 2 hrs. 15 mins. 920' muddy water entered D.P. S.G. of filtrate 1.0065
Depth 2990' Tester at 2977' No shut off.
Depth 2995' Tester at 2982' Valve open 1hr. 40 mins. No fluid entered D.P.
Depth 3055' Changed diam. of hole to 5⅜"
3050
Sandy shale
50
Shale
50
3050'-85' V. slight oil stained
16·9·43
16·9·43
3085' Completed depth
Well plugged back to 2750' with 4½ tons cement
Depth 3025' Tester at 2982' Valve open 2 hrs. 35 mins. 100' fluid entered D.P. Some specks of oil. Analysis of filtrate indicated formation water produced Prod. rate 240 g.p.d.
Depth 3055' Tester at 3012' Valve open 1hr. 26 mins. 80' fluid in D.P. Prod. rate 360 g.p.d.
Depth 3085' Tester at 3041' Valve open 39 mins. Immediate shut off not obtained Maximum production rate 18,000 g.p.d. S.G. of filtrate ca. 1.007
3100
3150
3200
3250



Version 2.0.6.6

BGS ID: 469003 : BGS Reference: TF05NE1
British National Grid (27700) : 506397,359695
[redacted]

0635 5967 | 114/128 | TF05NE/1

(and in 0638 59..)

D'ARCY EXPLORATION Cº LTD

TEST AREA BLANKNEY WELL Nº 1

LICENCE Nº A 30(a)

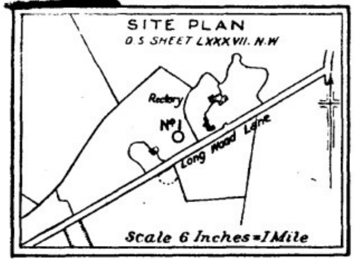
→ SEE "AMENDED" ← (4) 1" N.S. 114; O.S. 83

POSITION OF WELL: LONG: 0° 24' 35·4" W. LAT: 53° 7' 24·7" N.

COUNTY: LINCS:

ELEVATION: DERRICK FLOOR:
ROTARY TABLE: 93'

RIG: ROTARY DERRICK: 87' JACK KNIFE
POWER: DIESEL



HISTORY:–

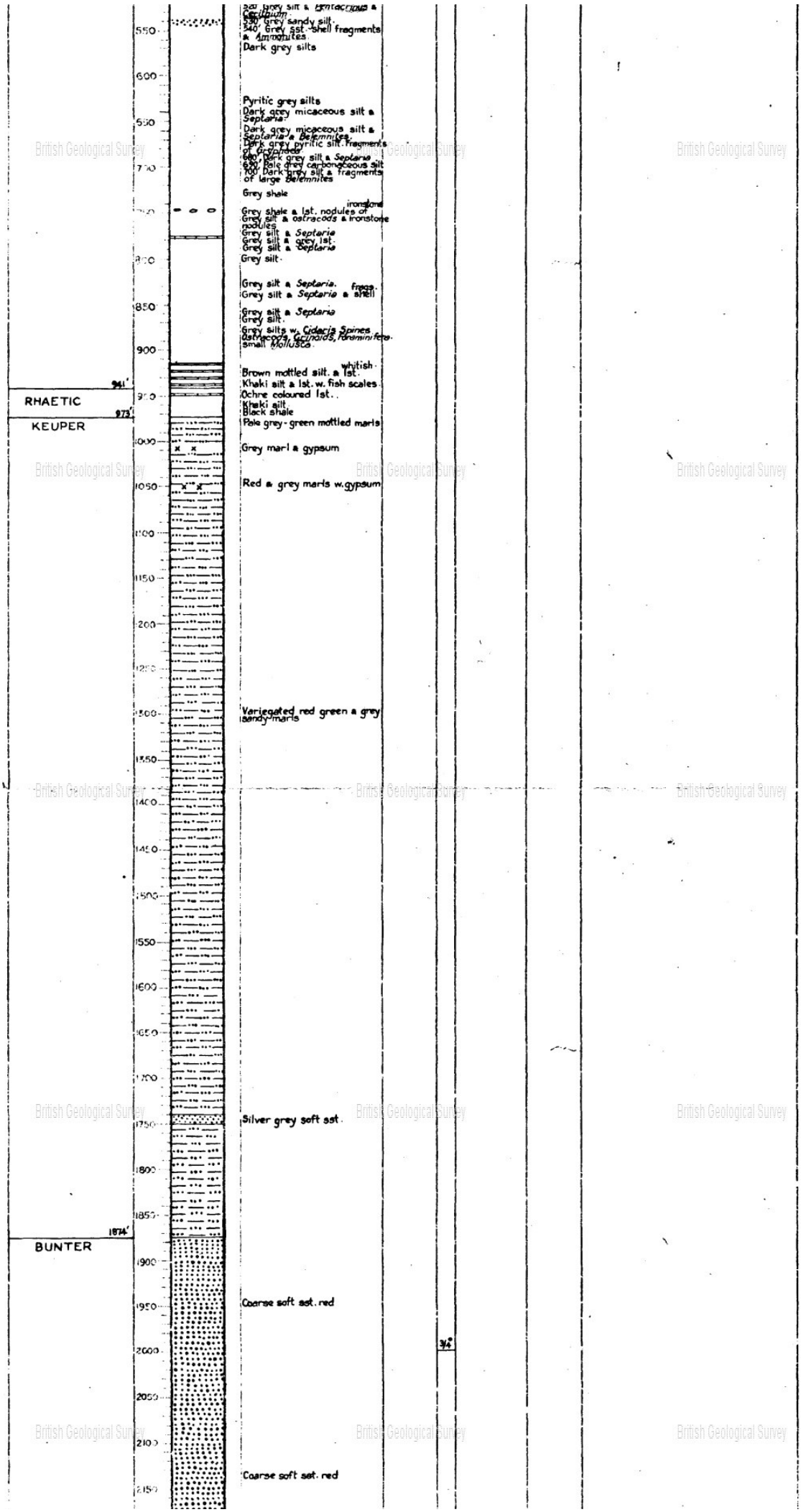
Commenced drilling on 2·9·43
Cemented 11¾" casing at 195'
Completed drilling on 16·9·43 at 3085'

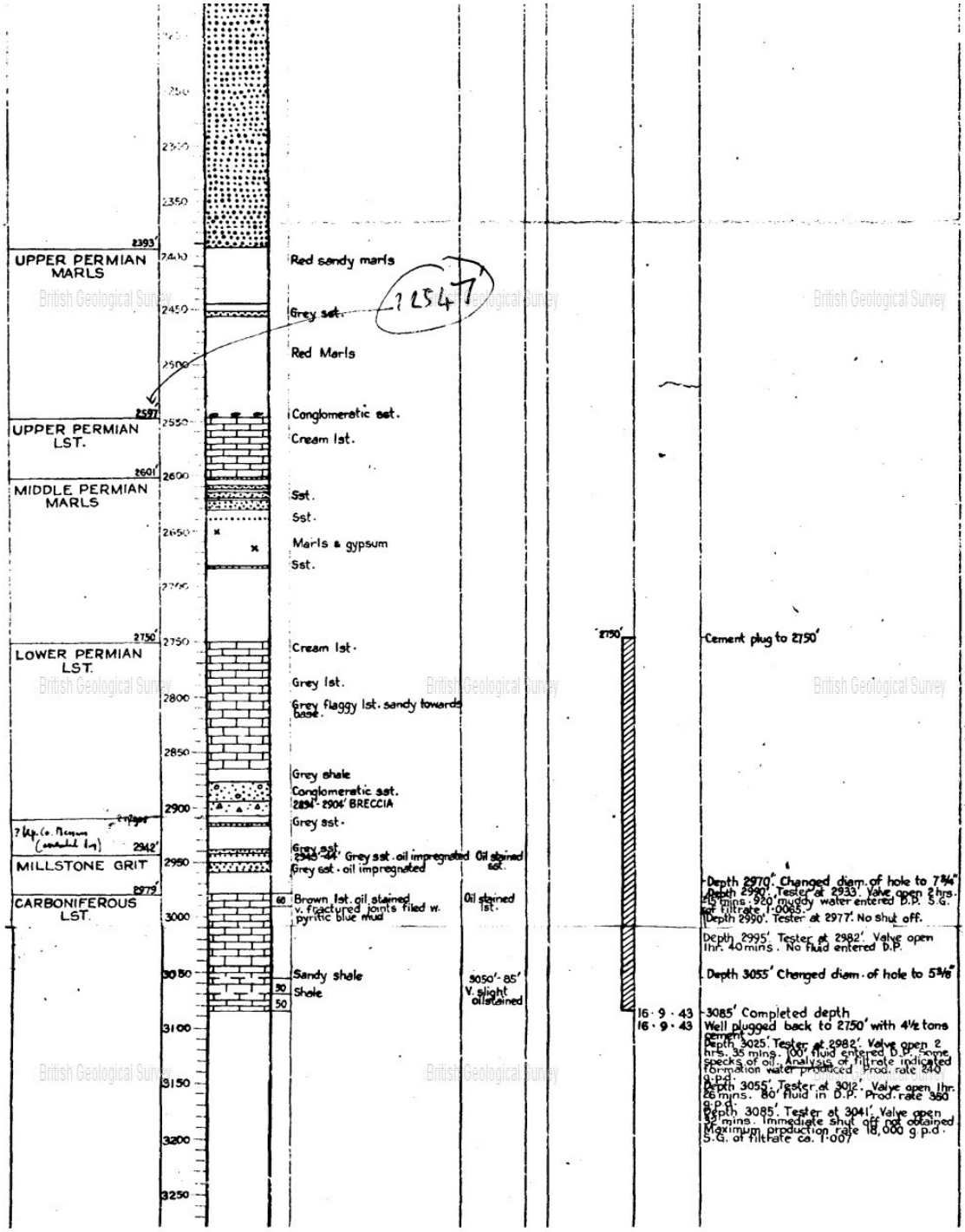
Abandoned
Plugged with cement from bottom – 2750'
Wooden plug placed at 221' & Cement plug from 221' to surface

-LEGEND-

SHALE CLAY, MARL OR MUDSTONE.	FIRECLAY.
SANDY SHALE ETC.	IRONSTONE.
INTER-BEDDED SHALE ETC. & SANDSTONE.	CHERT OR FLINT.
CONGLOMERATE BRECCIA	ANHYDRITE, GYPSUM OR SALT.
PEBBLY SANDSTONE	LIMESTONE.
SANDSTONE	DOLOMITIC LIMESTONE OR DOLOMITE ROCK.
COAL	IGNEOUS ROCK.

GEOLOGICAL FORMATION	DEPTH IN FEET	LOG	CORING RECOVERY	DETAILS OF FORMATION	OIL, GAS, WATER COAL SEAMS	DEVIATION	CASING	DATE	REMARKS
								2·9·43	Commenced drilling 14⅞" diam. hole.
				Cream coloured oolitic lst.					
	50			Cream oolitic lst.					
				Calc. sandy flags.					
				Lignite.					
69	100			Grey coarse soft sst. >				>	Revised thickness of ... Sands (A.H. Tait ... 22.i.45) 11 ft (98'–109')
140'				Grey silt					
UPPER LIAS	150			Soft grey shale w. pyritised *Foraminifera*.					
	200			Grey shale			11¾"		
							221' Wooden Plug	3·9·43	Depth 221' Cemented 11¾" casing at 195' with 4 tons cement. No cement returns. 221' Changed diam. of hole to 8⅝"
	250			Argillaceous lst. w. shales					
270'				Thin bedded grey silt.					
MIDDLE LIAS	300			Sandy lst.					
				Marlstone					
				Grey sst.					
330'				Grey silt with pyrite					
LOWER LIAS				Grey micaceous silt.					
	350			Grey-brown argillaceous lst. & silt.					
				360'. Pyritic silts					
				Grey marlstone w. *Brachiopods*					
				Grey silt.					
	400			Brown pyritic marl w. ironstone & *Septaria*.					
				Ironstone & grey pyritic silt.					
	450			Dark silt w. *Molluscan* & *Gastropod* shell fragments.					
				Pyritic shale & ironstone *Gastropod Cerithium*					
				Ironstone, grey, silt. *Belemnites*					
	500			Grey pyritic shale.					
				Grey pyritic shale & *Septaria* & *Posidonia*.					
				510', Grey silt & *Septaria*					


Grey silt & Gryphaea & Cardium
Grey sandy silt.
Grey sst.-shell fragments & Ammonites
Dark grey silts
Pyritic grey silts
Dark grey micaceous silt & Septaria?
Dark grey micaceous silt & Septaria & Belemnites.
Dark grey pyritic silt. fragments of Pectinids
Dark grey silt & Septaria
Pale grey carbonaceous silt
Dark grey silt & fragments of large Belemnites
Grey shale
ironstone
Grey shale & lst. nodules of
Grey silt & ostracods & ironstone nodules
Grey silt & Septaria
Grey silt & grey lst.
Grey silt & Septaria
Grey silt.
Grey silt & Septaria. Frags.
Grey silt & Septaria & shell
Grey silt & Septaria
Grey silt.
Grey silts w. Cidaris Spines, ostracods, Gclnoids, Foraminifera, small Mollusca.
whitish
Brown mottled silt. & lst.
Khaki silt & lst. w. fish scales
Ochre coloured lst..
Khaki silt
Black shale
Pale grey-green mottled marls
Grey marl & gypsum
Red & grey marls w. gypsum
Variegated red green & grey sandy marls
Silver grey soft sst.
Coarse soft sst. red
Coarse soft sst. red
RHAETIC
KEUPER
BUNTER
941'
973'
1874'
3/4°


UPPER PERMIAN MARLS
2393'
UPPER PERMIAN LST.
2597'
MIDDLE PERMIAN MARLS
2601'
LOWER PERMIAN LST.
2750'
MILLSTONE GRIT
2942'
CARBONIFEROUS LST.
2979'
2400
2450
2500
2550
2600
2650
2700
2750
2800
2850
2900
2950
3000
3050
3100
3150
3200
3250
Red sandy marls
Grey sst.
Red Marls
Conglomeratic sst.
Cream lst.
Sst.
Sst.
Marls & gypsum
Sst.
Cream lst.
Grey lst.
Grey flaggy lst. sandy towards base.
Grey shale
Conglomeratic sst.
2894'-2904' BRECCIA
Grey sst.
Grey sst.
2945'-64' Grey sst. oil impregnated
Grey sst. oil impregnated
Brown lst. oil stained v. fractured joints filled w. pyritic blue mud
60
Sandy shale
30
Shale
50
Oil stained sst.
Oil stained lst.
3050'-85' V. slight oil stained
2750'
Cement plug to 2750'
Depth 2970' Changed diam. of hole to 7 3/4"
Depth 2990'. Tester at 2933'. Valve open 2 hrs. 15 mins. 920' muddy water entered D.P. S.G. of filtrate 1·0085.
Depth 2990'. Tester at 2977'. No shut off.
Depth 2995'. Tester at 2982'. Valve open 1hr. 40 mins. No fluid entered D.P.
Depth 3055' Changed diam. of hole to 5 3/8"
16·9·43
16·9·43
3085' Completed depth
Well plugged back to 2750' with 4½ tons cement.
Depth 3025'. Tester at 2982'. Valve open 2 hrs. 35 mins. 100' fluid entered D.P. Some specks of oil. Analysis of filtrate indicated formation water produced. Prod. rate 240 g.p.d.
Depth 3055'. Tester at 3012'. Valve open 1hr. 26 mins. 80' fluid in D.P. Prod. rate 360 g.p.d.
Depth 3085'. Tester at 3041'. Valve open 55 mins. Immediate shut off not obtained. Maximum prpduction rate 18,000 g.p.d. S.G. of filtrate ca. 1·007

British Geological Survey

Version 2.0.6.6

BGS ID: 469003 : BGS Reference: TF05NE1
British National Grid (27700) : 506397,359695

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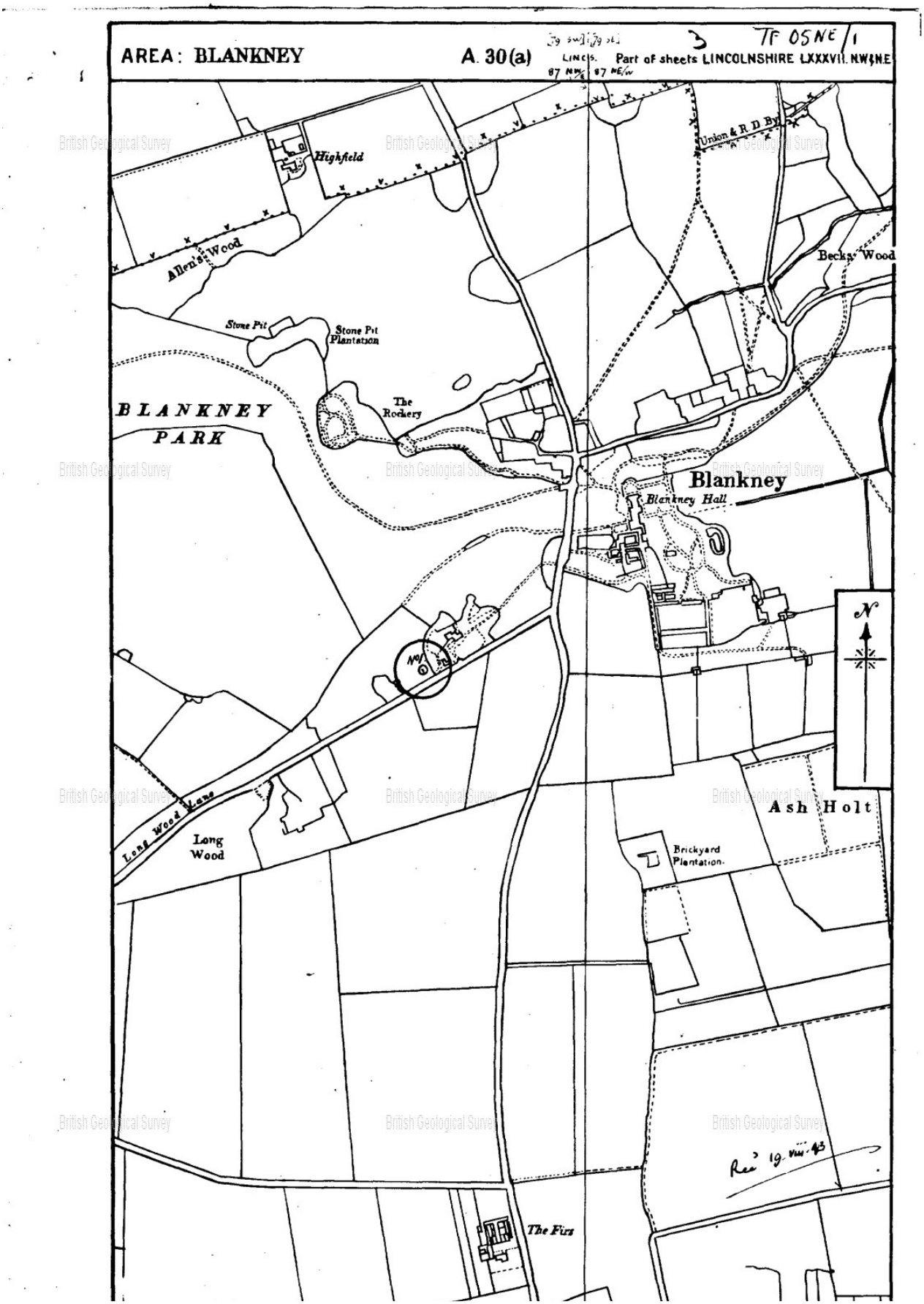
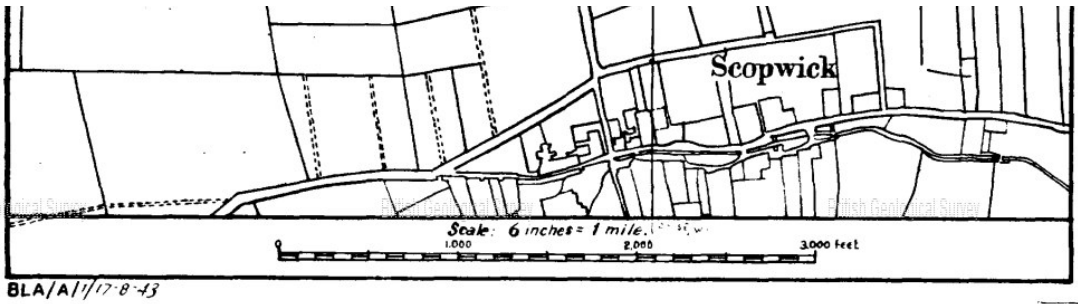




BLA/A/1/17-8-43

BGS ID: 469003 : BGS Reference: TF05NE1
British National Grid (27700) : 506397,359695

[redacted]

D'ARCY EXPLORATION Co. LTD.

TEST AREA BLANKNEY WELL No. 1

TF05/12

LICENCE No. A 30(W) "Arnold"

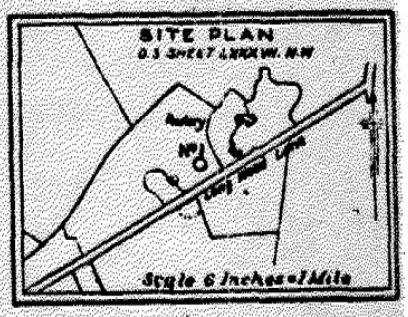
POSITION OF WELL: LONG: 0° 24' 35.4" W. LAT: 53° 7' 31.7" N.

COUNTY: LINCS:

114/128

ELEVATION: DERRICK FLOOR:
ROTARY TABLE: 93'

RIG: ROTARY DERRICK: 87' JACK KNIFE
POWER: DIESEL



HISTORY:-

Commenced drilling on 2.9.43
Cemented 11¾" casing at 195'
Completed drilling on 16.9.43 at 3086'

Abandoned
Plugged with cement from bottom - 2750'
Wooden plug placed at 221' & Cement plug from 221' to surface

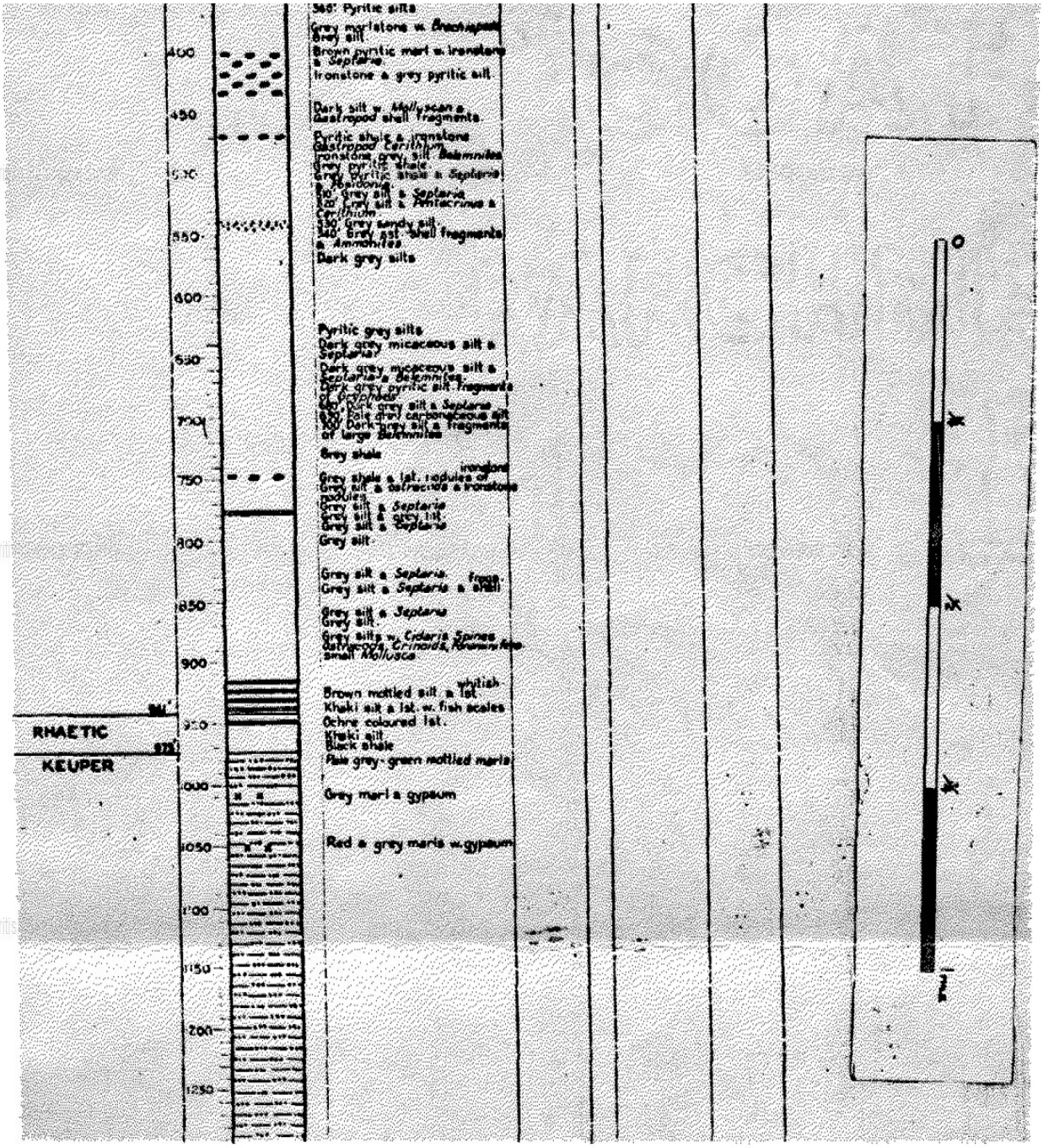
N.G.R. TF 0641 5970.

ODC 80. & TF05NE/1

- LEGEND -

- SHALE CLAY, MARL OR MUDSTONE
- SANDY SHALE ETC.
- INTER-BEDDED SHALE ETC & SANDSTONE.
- CONGLOMERATE BRECCIA
- PEBBLY SANDSTONE
- SANDSTONE
- COAL
- FIRECLAY
- IRONSTONE
- CHERT OR FLINT
- ANHYDRITE, GYPSUM OR SALT
- LIMESTONE.
- DOLOMITIC LIMESTONE OR DOLOMITE ROCK.
- IGNEOUS ROCK.

GEOLOGICAL FORMATION	DEPTH IN FEET	LOG	DETAILS OF FORMATION	OIL, GAS WATER COAL SEAMS	CASING	DATE	REMARKS
INCOLNSHIRE LST.						2.9.43	Commenced drilling 14¾" diam. hole.
	50		Cream coloured oolitic lst.				
			Cream oolitic lst.				
NORTHAMPTON SANDS	100		Calc. sandy flags. Lignite.				
UPPER LIAS			Grey coarse soft sst.				
			Grey silt				
	150		Soft grey shale w. pyritised fossiliferous.				
	200		Grey shale		11¾" 221' Wooden Plug	3.9.43	Depth 221' Cemented 11¾" casing at 195' with a tone cement. No cement returns. 221' Changed diam. of hole to 8¾"
	250		Argillaceous lst. w. shales				
270' MIDDLE LIAS			Thin bedded grey silt.				
	300		Sandy lst. Marlstone Grey sst. Grey silt with pyrite Grey micaceous silt Grey-brown argillaceous lst & silt				
330' LOWER LIAS	350						


RHAETIC
KEUPER
400
450
500
550
600
650
700
750
800
850
900
950
1000
1050
1100
1150
1200
1250
Pyritic silts
Grey marlstone w. Brachiopods
Grey silt
Brown pyritic marl w. ironstone
a Septaria
Ironstone a grey pyritic silt
Dark silt w. Mollusca a
Gastropod shell fragments.
Pyritic shale a ironstone
Gastropod Cerithium
Ironstone, grey silt Belemnites
Grey pyritic shale
Grey pyritic shale a Septaria
a Pentacrinus
Grey silt a Septaria
Grey silt a Pentacrinus a
Cerithium
Grey sandy silt
Grey pyritic shell fragments
a Ammonites
Dark grey silts
Pyritic grey silts
Dark grey micaceous silt a
Septaria?
Dark grey micaceous silt a
Septaria a Belemnites
Dark grey pyritic silt fragments
of Pentacrinus
Dark grey silt a Septaria
Pale grey carbonaceous silt
Dark grey silt a fragments
of large Belemnites
Grey shale
Grey shale a lst. nodules of
ironstone
Grey silt a calcareous ironstone
nodules
Grey silt a Septaria
Grey silt a grey lst.
Grey silt a Septaria
Grey silt
Grey silt a Septaria. fossil
Grey silt a Septaria a shell
Grey silt a Septaria
Grey silt.
Grey silts w. Cidaris Spines
Saltwater fossils Crinoids, Foraminifera
Small Mollusca
Brown mottled silt a whitish
Khaki silt a lst. w. fish scales
Ochre coloured lst.
Khaki silt
Black shale
Pale grey-green mottled marls
Grey marl a gypsum
Red a grey marls w. gypsum

British Geological Survey

Version 2.0.6.6

BGS ID: 469003 : BGS Reference: TF05NE1
British National Grid (27700) : 506397,359695

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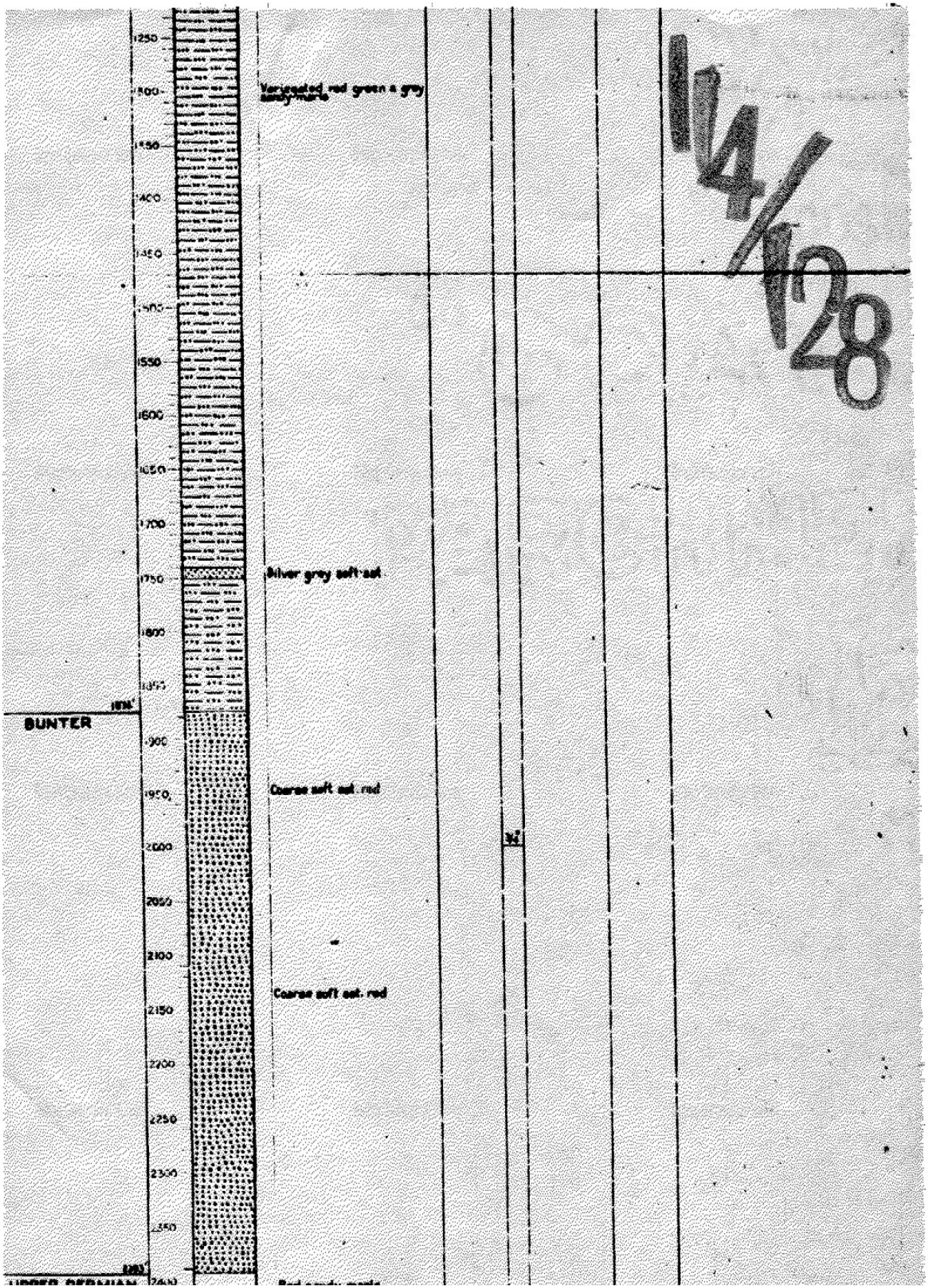

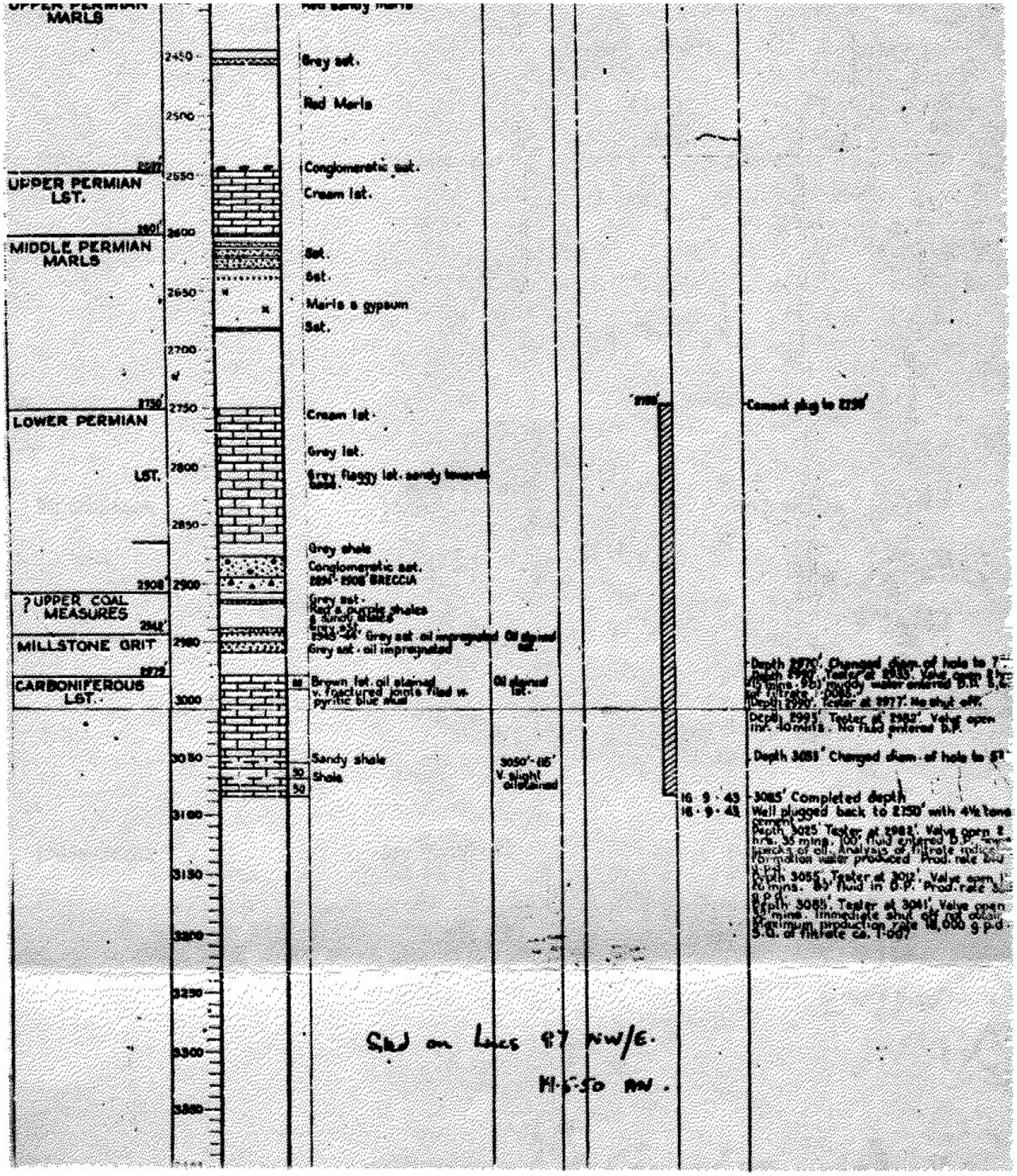

Sh on Lecs 97 NW/E.

Version 2.0.6.6

BGS ID: 469025 : BGS Reference: TF05NE16
British National Grid (27700) : 508334,358923
[redacted]

RECORD of ~~WELL or~~ BORING (Nos. 19–29) TF 05 NE/14 T17.

Survey No. ... 1" N.S. 114 1" O.S. ...

Across the outcrop of the Lincolnshire Limestone, 9 miles S. of Lincoln.

Town, Village, &c. ... County Lincs ... Six-inch map

Exact site (unless a tracing from a map is supplied, give distance and direction from parish church, cross-roads, or other object shown on maps). Description of sites made by G.H.D. from the tracing attached as a 1" scale. (see Tracing) ... Popular Edition Sheet of one-inch map. (Square

Surface level of ground ... ft. above Ordnance Datum. Well or Bore commenced at ... ft. below surface level of ground.

Sunk ... ft., diameter ... ft. Bored ... ft.; diameter of borings at top 6 in., at bottom 6 in.

Details of lining tubes (internal diameters preferred) ...
All the bores were drilled to take explosives (for the seismic method of geophysical survey)

Water struck at depths of (feet) ...

Rest-level of water below/above top of well or bore ... ft. Pumping level ... ft. Time of recovery ... hours.

Suction at ... ft. depth. Yield: (i) on test ... galls. per ..., (ii) normal ... galls. per ...

Quality (attach copy of analysis if available) ...

Made by La Cie Générale Schlumberger & Cie for D'Arcy Exploration Co. Date of boring Nov.–Dec. 1936

Information from Mr. P. E. Kent (Anglo-Iranian Co.)

(For Survey use only). | | THICKNESS. | DEPTH.

TF 05 NE/14 + 15

No. 24 + 25 Records of ? not preserved. No. 24 was 64 chains W.N.W. of Scopwick church, or just N. of the Navenby Road. No 25 was 26 chains N by E of Scopwick church and 26 chains E of the Blankney road at the turning to Navenby + Lincoln.

TF05 NE/16

No. 26. Scopwick parish; on the boundary, 78 chains ENE of Scopwick church and about 9 chains W.S.W. of Scopwick Lodge Fm. [Nowhere near Scopwick Lodge of bore 23]. O.D. [just below 50' contour] say 49'. No note of water.

Cornbrash		Thickness (ft.)	Metres	Depth (ft.)	Metres
	Mould	6	0.15	—	60.5
	Soil + stones	3	0.91	1	90.53
	Limestone	5	1.52	6	92.06
	Mottled clay	2	0.61	8	92.67
	Clay	39	3.96	48	14.63
	Hard sandy clay	12	3.66	60	18.29

"Bore is in Cornbrash area of geol. map. ? where is the Oolite Lst."

TF05NE17 MARTIN PARISH BORE NO. 27 TF 09541 58809

TF05 NE/17

No. 27. Martin parish, on the Timberland boundary. 8 chains E of the railway and 37 chains N. by E of bridge (or level crossing ?) at Scopwick station. O.D. (just below 25' contour) say 24'. Rest water-level 3 ft. down.

	Thickness (ft.)	Metres	Depth (ft.)	Metres
Top soil	1	—	1	—
Mottled clay	39	11.89	40	12.19
Blue sandy clay	20	6.10	60	18.29

"? Kellaways under B. Clay. [If so] Clr. is here −36' [or less], but is at ca + 47' OD in No. 26 — giving dip of 83' per 3/4 mile — 112 ft. per mile."

British Geological Survey

Version 2.0.6.6

BGS ID: 469025 : BGS Reference: TF05NE16
British National Grid (27700) : 508334,358923

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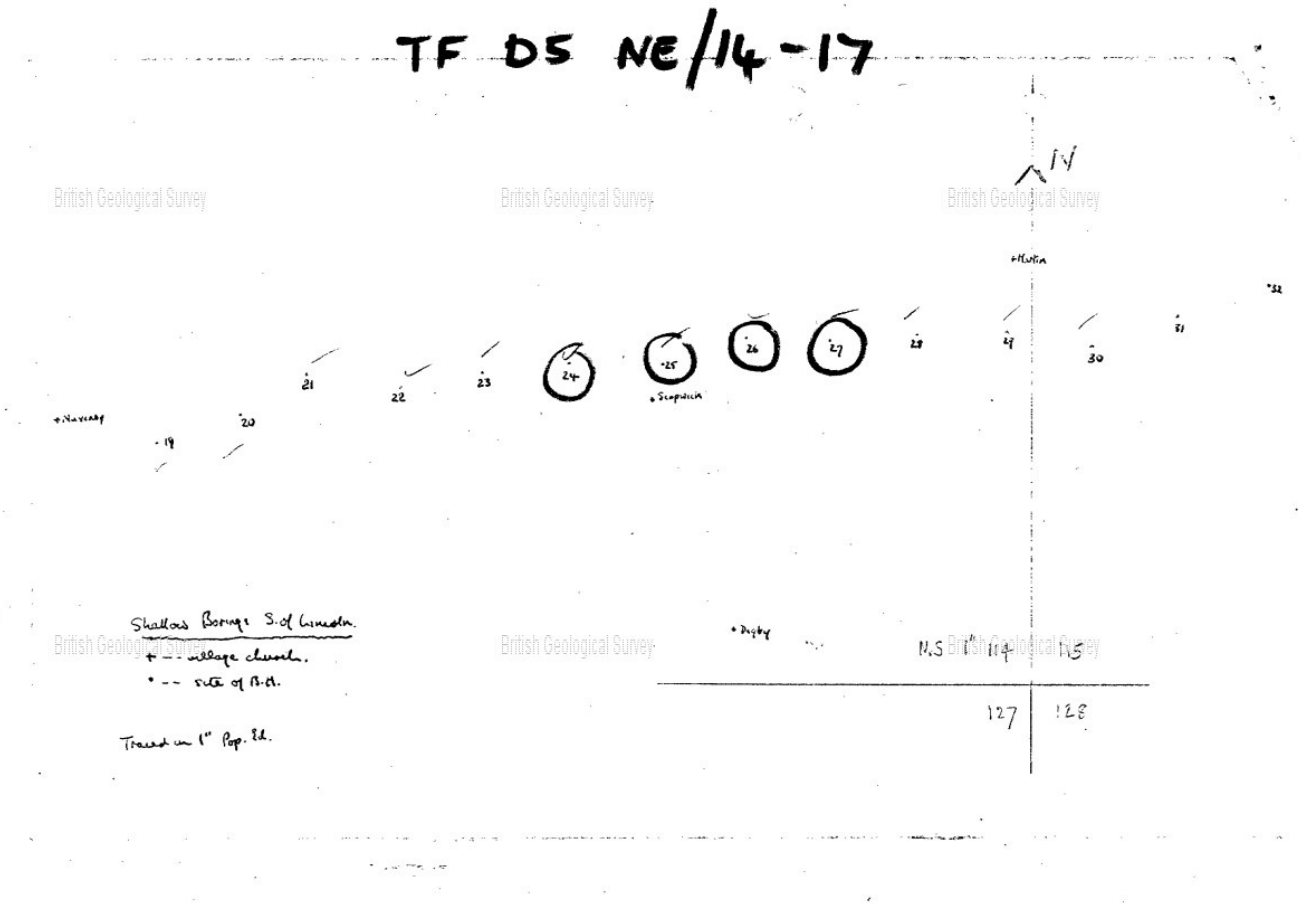


APPENDIX E10 BGS BOREHOLE LOGS – ZONE M

TF16SW21 LINWOOD GRANGE TF 10190 60220

Surface level (+ 18.1 m) +59 ft
Water struck at +16.6 m
March 1979

Overburden 0.7 m
Mineral 2.8 m
Waste 13.8 m
Bedrock 1.2 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.7	0.7
Fluvio-glacial and Older River Sand and Gravel	Pebbly sand, 'clayey' to 1.5 m Gravel: fine with coarse, subrounded quartzite with sub-rounded limestone, rounded quartz, subangular flint and subrounded sandstone Sand: medium, quartz with lithic grains	2.8	3.5
Till	Clay, silty, chiefly olive grey with reddish brown patches at 16 m; pebbles of chalk, flint and mudstone (common to base)	13.8	17.3
Ancholme Clay Group	Silt, clayey, dark greenish grey, laminated in part, fossiliferous	1.2+	18.5

GRADING

Mean for deposit percentages			Depth below surface (m)	Percentages						
				Fines	Sand			Gravel		
Fines	Sand	Gravel		$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	+1 -4	+4 -16	+16 -64	+64 mm
6	75	19	0.7-1.5	14	19	51	4	8	4	0
			1.5-3.5	2	9	59	7	14	9	0
			Mean	**6**	**12**	**57**	**6**	**12**	**7**	**0**

COMPOSITION

Depth below surface (m)	Percentages by weight in +8 -16 mm fraction								
	Flint	Quartzite	Limestone	Quartz	Sandstone	Mudstone	Ironstone	Igneous	Others
0.7-1.5	9	55	0	17	19	0	0	0	0
1.5-3.5	10	44	20	17	7	0	0	2	0
Mean	**10**	**46**	**16**	**17**	**9**	**0**	**0**	**2**	**0**

TF05SE/20

DRILLING & GEOSERVICES SEPT. 1972.

127/218 A

TF 0653/31

Blackholm Exploratory (Hole C.E.)

(TF 06355311) TF05SE

G/L 22.79 maod Flange 22.54 maod

MAP OUTCROP - CORNBRASH

Core Description - J.A. Dickson

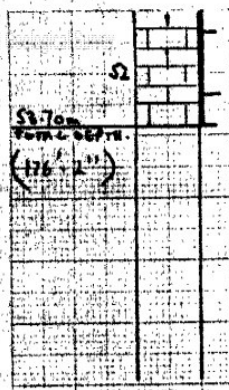
m BGL		Driller's Log	
2		stiff brown clay + Bldr.	TOPSOIL + CORNBRASH
4		grey sand rock	BLISWORTH CLAY
6			
8			
10			GT OOLITE LIMEST.
12		light grey sand rock	
14			
16		lt. grey sand rock	
18	492 core 1.5 — oolitic-rich SHALY LIMESTONE. Then bioturbated sandy clayey LIMESTONE, few shells.	grey sandy rock	UPPER ESTUARINE
20		dark grey stiff Clay	
22			
24	492 core rec 2.50 — grey oosparite LIMESTONE, some shells, hard		LINCS. LIMESTONE
26	brown crumbly oolite LIMESTONE. grey crumbly OOLITE LIMESTONE. grey and brown bands oosparite, cross-bedded, friable and hard bands.	Lincoln. Limestone	
26.0m			
28	rec 3.70 — mainly grey fine-grained LIMESTONE, scatt'd ooids, shal. debris. brown and grey oomicrite, calcite-filled cavities, nerinea, trigonia, shells, sol. pebbles, bac. fn grained LIMESTONE. grey oolite, buff pebbles w/ dark skins.		
30	grey oomicrite and lime mudstone, calc. shale bands, bac. coated grains in L.mdst, then ccd. boundstone paler areas w/ skeletal debris and black clay between brown L/m at base.		
32	banded grey oosparite and oomicrite.		
34	grey lime mudstone, soft w/ scatt'd ooids. grey crumbly oomicrite LIMESTONE with clayey base.		
36	grey shelly oomicrite then sandy lime mudstone. LIMESTONE with ooids. grey oomicrite, clayey at top.		
38	grey LIME MUDSTONE w/ scatt'd oolithe, darker at base, more grainy. oomicrite and lime mudstone. Jaquahea white bivalves. grey hard oomicrite, then lime mudstone, large shells and hentia, patches of oolite, clayey streaks.	Limestone	
40	pl grey lime mdst, + oomicrite, mud patches. mainly grey lime Mudstone, mud patches, clayey in pts, scattered wht skeletal debris + squashed ooids at base.	and bands of Clay	
42	SHALE. grey CALCITE MUDSTONE, fine skeletal debris + chondrites; CALCITE MUDST and few ooids; pebbles + skeletal layer in lime mudstone at base.		
44	thin brown band grey close-packed oomicrite LIMESTONE, clayey at bottom.		
46	grey and brown (interlocked) oomicrite LIMESTONE,		
48	clayey-lime mudstone at base. grey patchy oomicrite and lime mudstone, bioturbated, scattered ooids. Black shale at base		

Rec'd from A.W.A 17.5.79. Sited by © on 1" site map + on 6" Nat Grid Sheet.

TF05SE/20

127/218 A TF 0653/31

Blakeholm Exploratory



grey Lime mudstone, sed bedding, clayey seams, scattered oolids and shells.

Limb + bands of Clay

LIME CLAY. ER ESTUARINE?

Drilled by DRILLING & GEOSERVICES
2/9/1972 - 12/9/1972

W/L 12/11/1972 ... 7.5m.

9 boxes cores at Appleby core store.

DICKSON.

BLOCKHOLM (CGD).

TF 06538

m				
2		CLAY		STIFF BROWN, W/ BOULDERS.
4				
6	DRILLERS LOG.	GREY SANDY ROCK		
8				
10				
12		LT GREY SAND ROCK		
14				
16		A/A		
18		LIMESTONE		OSTREA-RICH, SHALY, DEC BIOMICRITATED CLAYEY.
20	NO CORE	DARK GREY STIFF CLAY.		
SCALE CHANGE m 24				
	24.5		TOP LMT.	
25		OOLITIC LIMESTONES		HARD OOSPARRITE, SOME SHELLS, GREY AT TOP THEN BROWN.
26				CRUMBLY OOLITE, BROWN THEN GREY,
27				FRIABLE/HARD OOSPAR, BROWN/GREY BANDS.
28		FG LIMESTONES + OOMICRITE		SCATT OOIDS, WHT SKELETAL DEBRIS;
29				GREY W/ BROWN BANDS, DEC SHELLY.
30		LIMESTONE	LINCS. LIMESTONE	OOLITIC PELOIDAL; GRANULAR; OOMIC;
31				LIME MUDSTONE; SOME BOUDINAGE;
32				BANDED OOSPARITE, X-BEDDED OOMICRITE.
33		LIME MUDST.		MAINLY GREY, BROWN BAND.
34		CRUMBLY OOMICRITE.		SOFT, SCATTERED OOIDS.
35				GREY.
36		LIME MDST.		CLAYEY BASE.
37		OOMICRITE + LIME MDST.		SANDY; GREY; PRED HARD, MICACEOUS.
38				GREY; SHALY IN PTS; SCATT OOLS IN
39		LIME MDST A/A		LIME MUD; DEC DKR, SHELLY, HARD.
40		OOMICRITE + LIME MUDST.		[SOME LARGE BIVALVES. IN NEXT]
41				W/ OOIDS. SHELLY. GREY.
42				BOUDINAGE; SLIGHT CLAYEY PARTS; HARD
43		CALCITE MUDSTONE		PALE GREY, MUD PATCHES,
44				SCATT SHELLS + SQUASHED OOIDS AT BASE.
45		OOMICRITE		GREY, BROWN AT BASE.
46				CHONDRITES + SKELETAL DEBRIS. FEW OOIDS.
47		OOMICRITE		PISOLITIC LAYER.
48				CLOSE PACKED, BROWN AT TOP THEN ALL GREY,
49		OOMICRITE + LIME MUDST.		DEC MUDDY IN PATCHES.
50				BROWN+ GREY PATCHY; CRUMBLY IN PTS,
51		LIME MUDST.		CLAYEY TOWARDS BASE.
	50.7 END CORE			PATCHY, BIOTURB, SCATT OOIDS.
				BLACK SHALE BASE.
				SED. BOUDINAGE; CLAY SEAMS; SCAT OOIDS + SHELLS

Additional information

Bloxham 127/218 (b)

AWA production site

Information from AWA Sept. 1981

At the time that Ashby P.S. 114/99 (b + c) was producing waters of a nitrate content of c. 15 mg/l, the water produced at Bloxham was 3–4 mg/l lower. (?1976) However, the yield at Bloxham was found to be inadequate.

ASR Sept. 1981

SP43NW

See also JNV's log. GRID REF. TF 05331 ~~TF05SE/27~~ TF05SE/20

GROUNDWATER NITRATE POLLUTION RESEARCH BOREHOLE BLOXHOLM - AWA IGS

SAMPLE (AERE / AWA / Moist / PH PH)	DEPTH	DATE & TIME	CORE REC.	FRACTURE	GRAPHIC LOG	COLOUR	DESCRIPTIVE LOG	COMMENTS
	24					Grey	Fine grained impure limestone with large shells - c. 3cm diam. Hard & well cemented	
	25						Oolitic limestones with spary cement. Occasional shells. Ooliths even medium size & constitute 95% of limestone. Well cemented & hard.	
	26							
	27					Buff	oxidised portion either side of fissure.	Major fissure
						Grey	Oolitic limestones as above — towards base ooliths ↘ & shell % ↑	Buff edges to fissure
	28					Buff		
						Grey	Impure shelly limestones with minor oolith content in patches. Well cemented with spary calcite. Blue hearted with buff oxidised portion near fissures. Shell fragments up to 1cm	
	29					Buff		
						Grey	Oolitic limestones with many shell fragments up to 10%. Spary cemented and hard. Ooliths ↘ & shell % ↑ near base.	
							Fine grained impure shelly limestones - in places whole small branch shells up to 3cm diam. Spary cement. Becoming oolitic towards base	
	30							

GROUNDWATER NITRATE POLLUTION RESEARCH

BOREHOLE BLOXHOLM – AWA

IGS

SAMPLE (AERE, AVA, Moist, PH PR)	DEPTH	DATE & TIME	CORE REC.	FRACTURE	GRAPHIC LOG	COLOUR	DESCRIPTIVE LOG	COMMENTS
	30					mid grey	laminated clay band with small shell fragments	
						Light grey (with mottled buff patches)	Impure shelly limestone (minor oolith content at top) with micrite matrix but spamy calcite cement. Often large whole shells set in skeletal debris. Hard & well cemented.	
	31							
	32					Buff		
						Light grey	Oolitic limestones with spamy cement. In patches v. silty. Minor shell component. Ooliths banded in fining upward sequence in places.	
	33							
							Fine grained impure soft limestone. Occasional oolith	
							Friable oolitic limestone with spamy calcite cement. Banded in fining upward sequences - marly parting in parts	
						Buff		
	34					Grey		
	35							
						mid grey	laminated clay seam with shell fragments	
						grey	Oolitic limestone with intraclasts	
						mid grey	clay seams with shell fragments - flaggy	
							Oolitic limestone with spamy cement & in patches much silt. Occasional shell fragments	
	36							

GROUNDWATER NITRATE POLLUTION RESEARCH

BOREHOLE Bloxham AWA

IGS

SAMPLE (AERE, AWA, Mast, PH PR)	DEPTH	DATE & TIME	CORE REC.	FRACTURE	GRAPHIC LOG	COLOUR	DESCRIPTIVE LOG	COMMENTS
	36					grey	oolitic limestones with Sparry cement for most part. In patches v. impure with silt up to 40%. Some parts rich in skeletal debris and large whole lamellibranch + gastropod shells (up to c. 4cm) Vugs filled with sparry calcite crystals	
	37						Impure fine grained limestones with occasional scattered oolliths + some shell debris. Hard + well cemented	
	38							
							Impure fine grained lmst with abundant shell debris. Minor oolith % which increases towards base Hard + cemented with spar	
	39					dark grey	laminated clay seam with much shell debris on laminae + scattered ooliths. Micaceous	
						grey	Fine grained limestone with scattered black ooliths (50%)	
							Fine grained porcellanous lmst with shell fragments - Thin marl seam with shell debris	
	40						Fine grained lmst + shells	
						dk grey	laminated marl seam with shell debris	
						grey	Impure fine grained limestone with scattered ooliths. V. hard. No shells	
	41							
							Very impure limestone Fine grained and laminated much shell debris aligned along laminae. Squashed ooliths minor %	
						dk grey	laminated clay seam with shell debris	
	42						v. fine grained porcellaneous lmst with very occasional ooliths (<1%)	

GROUNDWATER NITRATE POLLUTION RESEARCH

BOREHOLE BLOXHAM – AWA

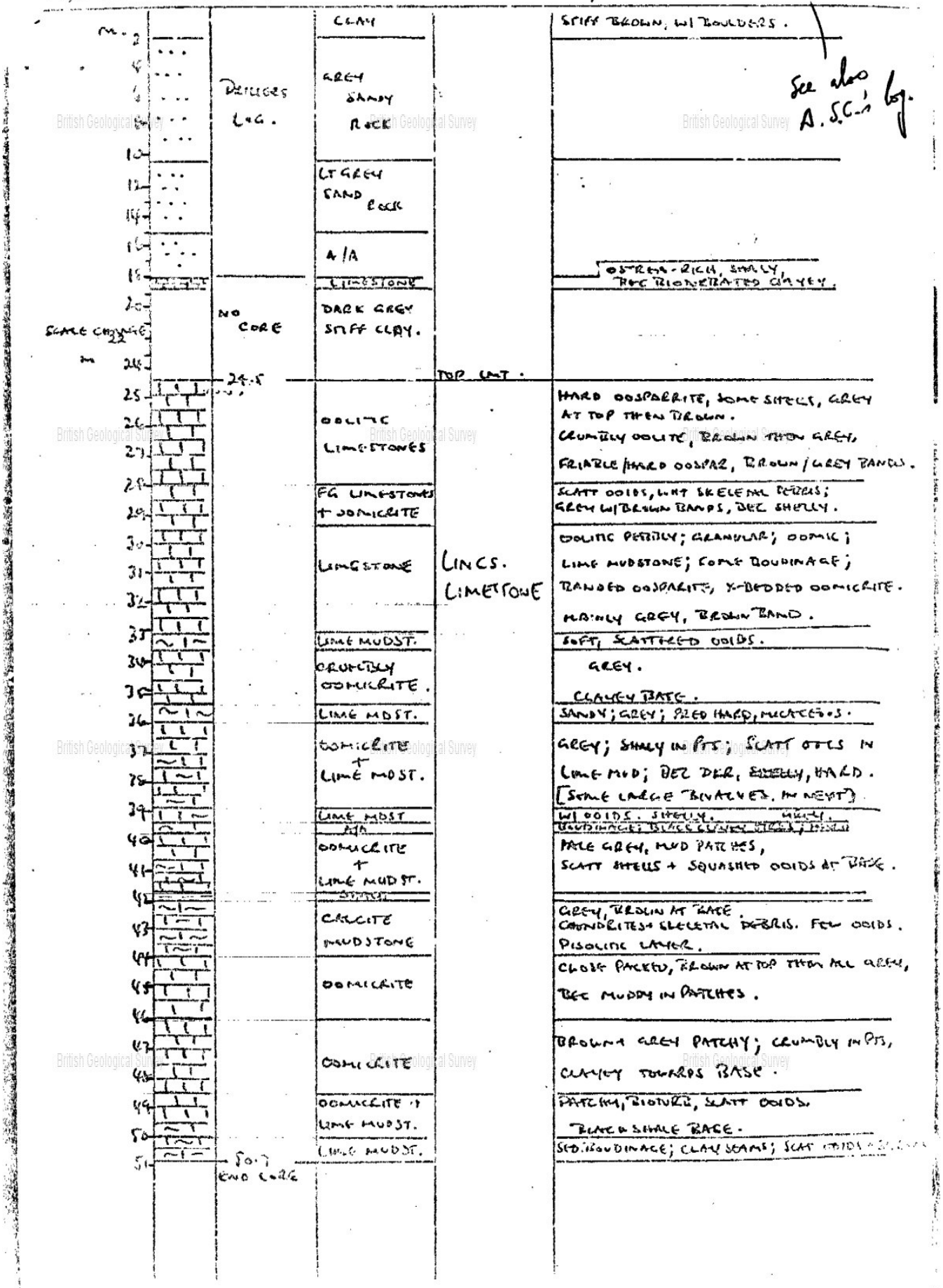
IGS

SAMPLE (AERE / AWA / Moist / PH PR)	DEPTH	DATE & TIME	CORREC.	FRACTURE	GRAPHIC LOG	COLOUR	DESCRIPTIVE LOG	COMMENTS
	42						V. fine grained porcellaneous lst as above	
						Grey		
							Fine grained limestone with scattered oolith (10%) Clay pellets & reworked lst.	
	43							
							Fine grained impure limestones with laminated bands of shell fragments (2-3cm)	
						Buff	marly packing	
						Grey	Oolitic limestone with hard spary cement. Silty matrix in patches	
	44							
							large shell 6cm replaced & infilled with calcite crystals.	
	45							
							shell fragments become more abundant in oolitic lmst.	
						mottled buff/grey		
						grey		
	46					Midgrey Buff	Very coarse crumbly oolite with muddy matrix and mud pellets	
						Buff Grey	occasional shell fragments in med. sized oolitic lmst with spary cement hard limestone	
						Buff		
	47						crumbly oolite with vugs	
						Grey	Hard oolitic limestone with much clay in matrix	
						Buff		
	48							

GROUNDWATER POLLUTION NITRATE RESEARCH BOREHOLE BLOXHOLM - AWA IGS

SAMPLE AERE	SAMPLE AWA	SAMPLE Moist	SAMPLE PH PR	DEPTH	DATE & TIME	CORE REC.	FRACTURE	GRAPHIC LOG	COLOUR	DESCRIPTIVE LOG	COMMENTS
				48					Buff	Oolitic limestone with fine grained matrix Hard & well cemented (sparry) Calcite infilled horizontal Vein (1cm diam) Major vertical fracture with Ferruginous deposit on walls Minor shell fragment component in patches	
									Grey		
									Buff		
				49						shelly clay rich band limestone.	
									Grey	Fine grained limestone with scattered oolths and approx 5% shell debris Hard & well cemented	
				50					Grey B	clay rich band with shell fragments	
									Lt Grey	Fine grained impure limestone with scattered oolths. Marly partings at top. Minor shell debris component	
				51							

(GD). TF05SE/20 TF 005 551



Version 2.0.6.6

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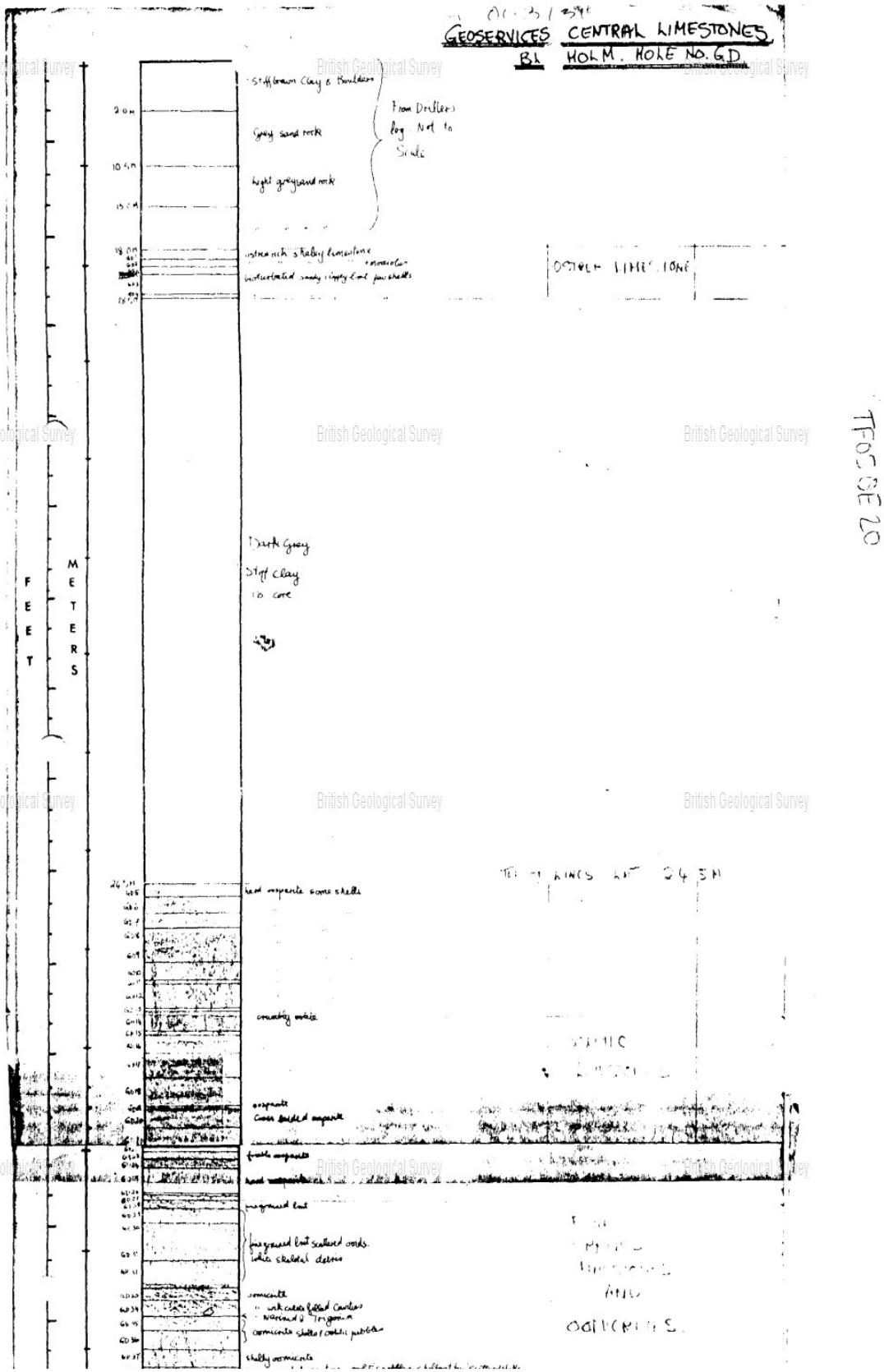
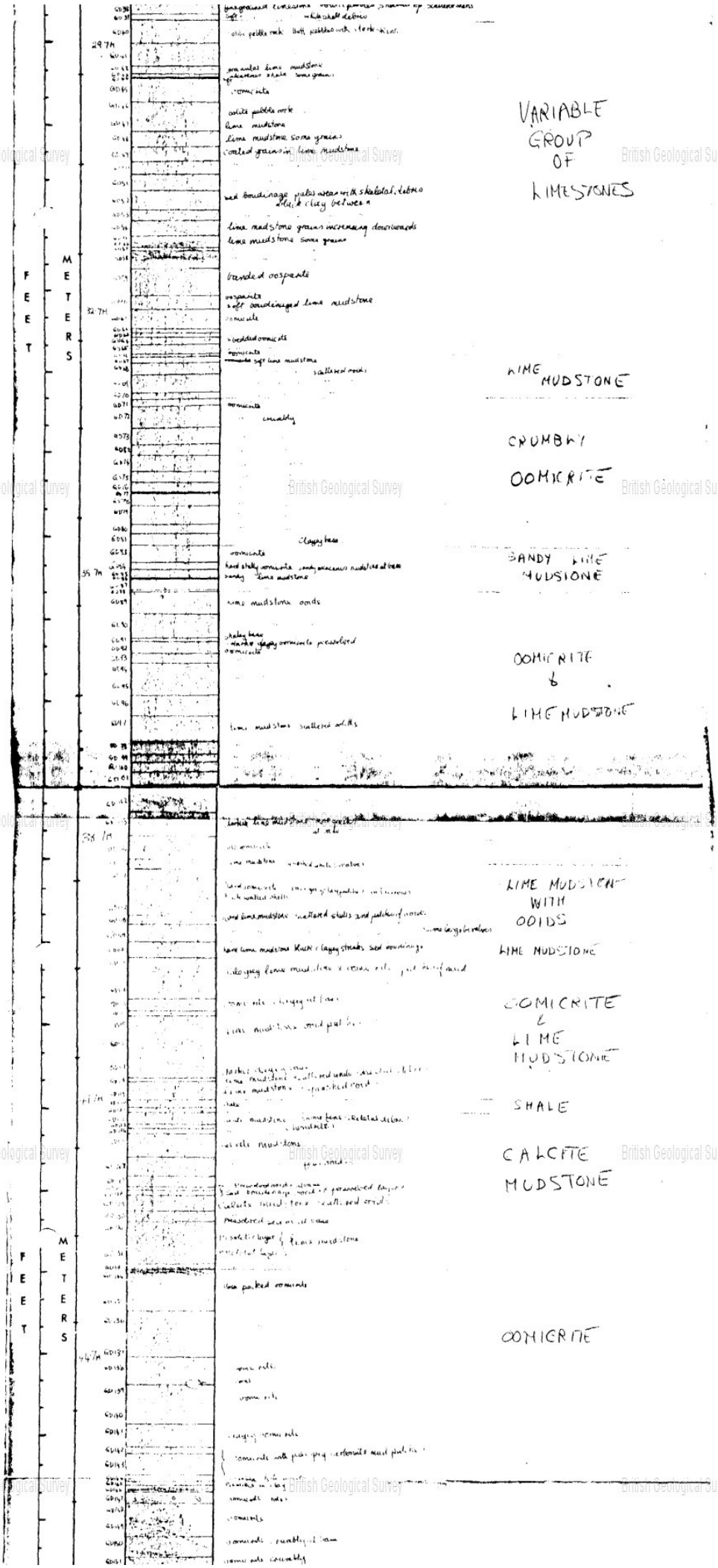
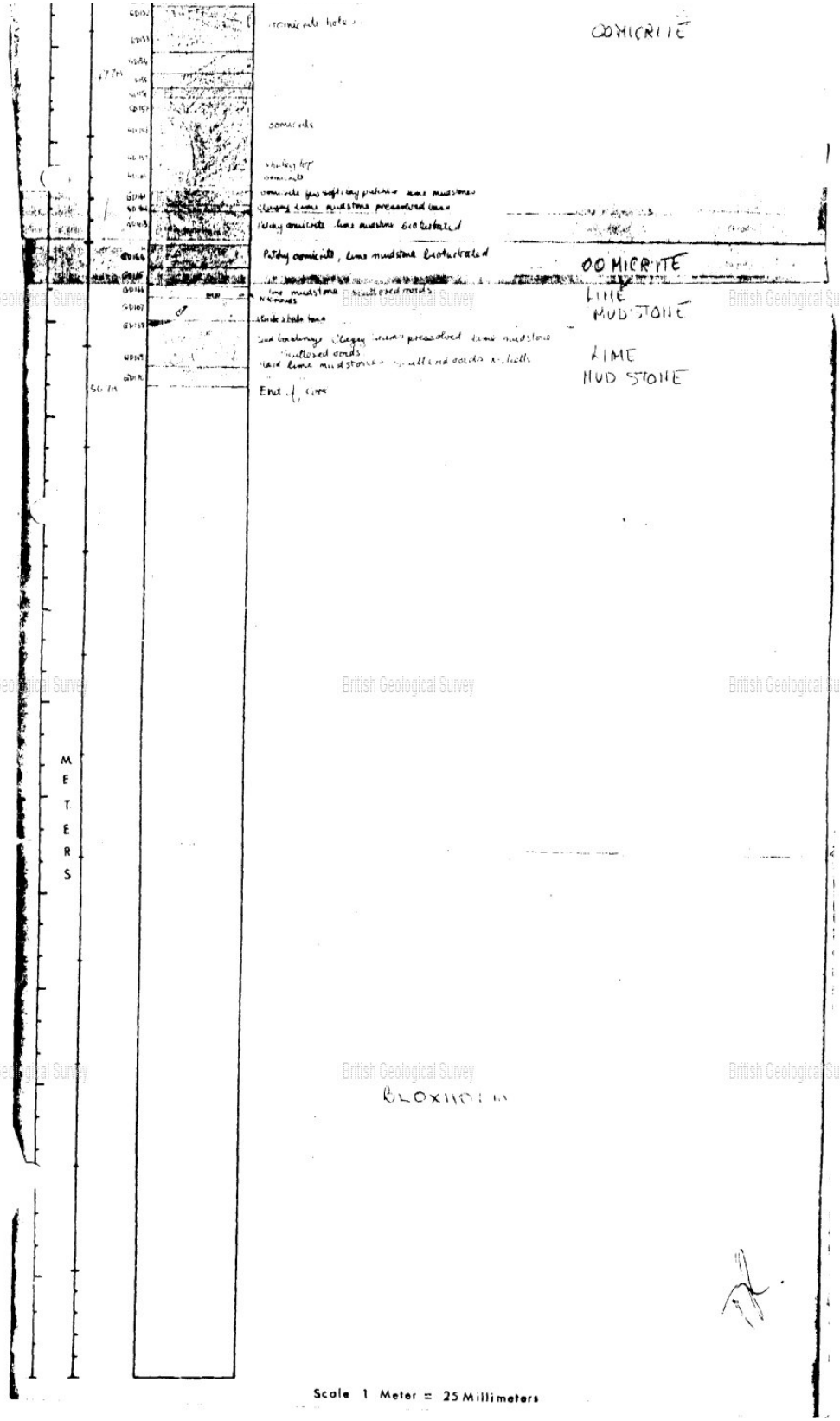



FEET
METERS
29.7M
32.7M
35.7M
38.7M
41.7M
44.7M
VARIABLE GROUP OF LIMESTONES
LIME MUDSTONE
CRUMBLY OOMICRITE
SANDY LIME MUDSTONE
OOMICRITE & LIME MUDSTONE
LIME MUDSTONE WITH OOIDS
LIME MUDSTONE
OOMICRITE & LIME MUDSTONE
SHALE
CALCITE MUDSTONE
OOMICRITE



Version 2.0.6.6

BGS ID: 469026 : BGS Reference: TF05NE17
British National Grid (27700) : 509541,358809
[redacted]

<< < Prev Page 1 of 2 Next > >>

RECORD of ~~WELL or~~ BORING TF ~~05~~ NE/14 - 17 (Nos. 24-29)

Survey No. ... 1" N.S. 114 1" O.S. ...

(name and owner) Across the outcrop of the Lincolnshire Limestone, 9 miles S. of Lincoln.

Town, Village, &c. ... County Lincs ... Six-inch map ...

Exact site (unless a tracing from a map is supplied, give distance and direction from parish church, cross-roads, or other object shown on maps). Descriptions of sites made by C.H.D. from the tracing which is on 1" scale. (see Tracing) Popular Edition (Sheet of one-inch map. (Square ...

Surface level of ground ... ft. above Ordnance Datum. Well or Bore commenced at ... ft. below surface level of ground ...

Sunk ... ft., diameter ... ft. Bored ... ft.; diameter of borings at top 6 in., at bottom 6 in.

Details of lining tubes (internal diameters preferred) ...

All the bores were drilled to take explosives (for the seismic method of geophysical survey)

Water struck at depths of (feet) ...

Rest-level of water below/above top of well or bore ... ft. Pumping level ... ft. Time of recovery ... hours.

Suction at ... ft. depth. Yield: (i) on test ... galls. per ..., (ii) normal ... galls. per ...

Quality (attach copy of analysis if available) ...

Made by Le Grand Sutcliff & Gell for Mr D'Arcy Exploration Co Date of boring Nov.-Dec. 1936

Information from Mr. P.E. Kent (Anglo-Iranian Co)

(For Survey use only). | | THICKNESS. | DEPTH.

TF05 NE/14 + 15

No. 24 + 25 Records of [illegible] not preserved. No. 24 was 64 chains W.N.W of Scopwick church, & just N. of the Navenby Road. No 25 was 26 chains N by E of Scopwick church and 26 chains E of the Blankney road at the turning to Navenby + Lincoln.

TF05 NE/16 | No. 26. Scopwick parish; on the boundary, 78 chains ENE of Scopwick church and about 9 chains W.S.W of "Scopwick Lodge Fm. [another near Scopwick Lodge of bore 23]. O.D. [just below 50' contour] say 49'. No note of water

		Thickness (ft)	Thickness (in) / Metres	Depth (ft)	Depth Metres
	Mould	0.5	6	—	6
	Soil & stones	0.38 1	3	1	90.53
Cornbrash	Limestone	5'	52	6	92.06
	Mottled clay	2	0.61	8	92.67
	Clay	39"	3.96	48	14.63
	Hard sandy clay	12	3.66	60	18.29

"Bore is on Cornbrash crop [illegible]. ? Where is Gt. Oolite Lst"

TF05NE17 MARTIN PARISH BORE NO. 27 TF 09541 58809

TFO5 NE/17 | No. 27. Martin parish, on the Timberland boundary. 8 chains E of the railway and 37 chains N by E of bridge (or level crossing ?) at Scopwick station. O.D. (just below 25' contour) say 24'. Rest water-level 3 ft down.

	Thickness (ft)	Thickness Metres	Depth (ft)	Depth Metres
Top soil	1	—	1	—
Mottled clay	39	11.89	40	12.19
Blue sandy clay	20	6.10	60	18.29

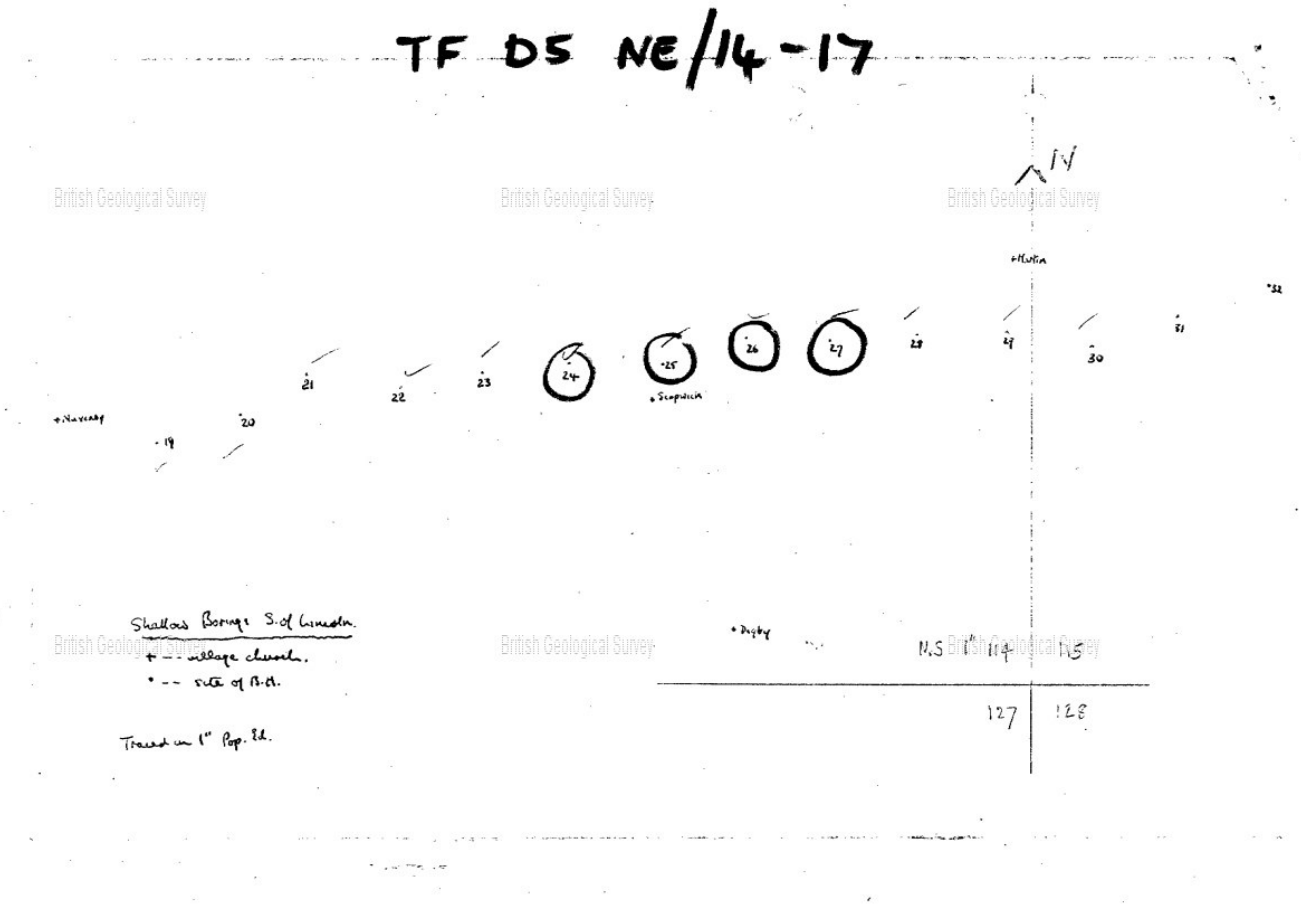
"? Kellaways under B. Clay. [If so] Chr. is here 10.97 -36' [or less], but is ca +47' OD in No 26 — giving dip of 83' per 3/4 mile — 112 ft. per mile."

British Geological Survey

Version 2.0.6.6

BGS ID: 469026 : BGS Reference: TF05NE17
British National Grid (27700) : 509541,358809

[redacted]



British Geological Survey

Version 2.0.6.6

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British National Grid (27700) : 508170,358640

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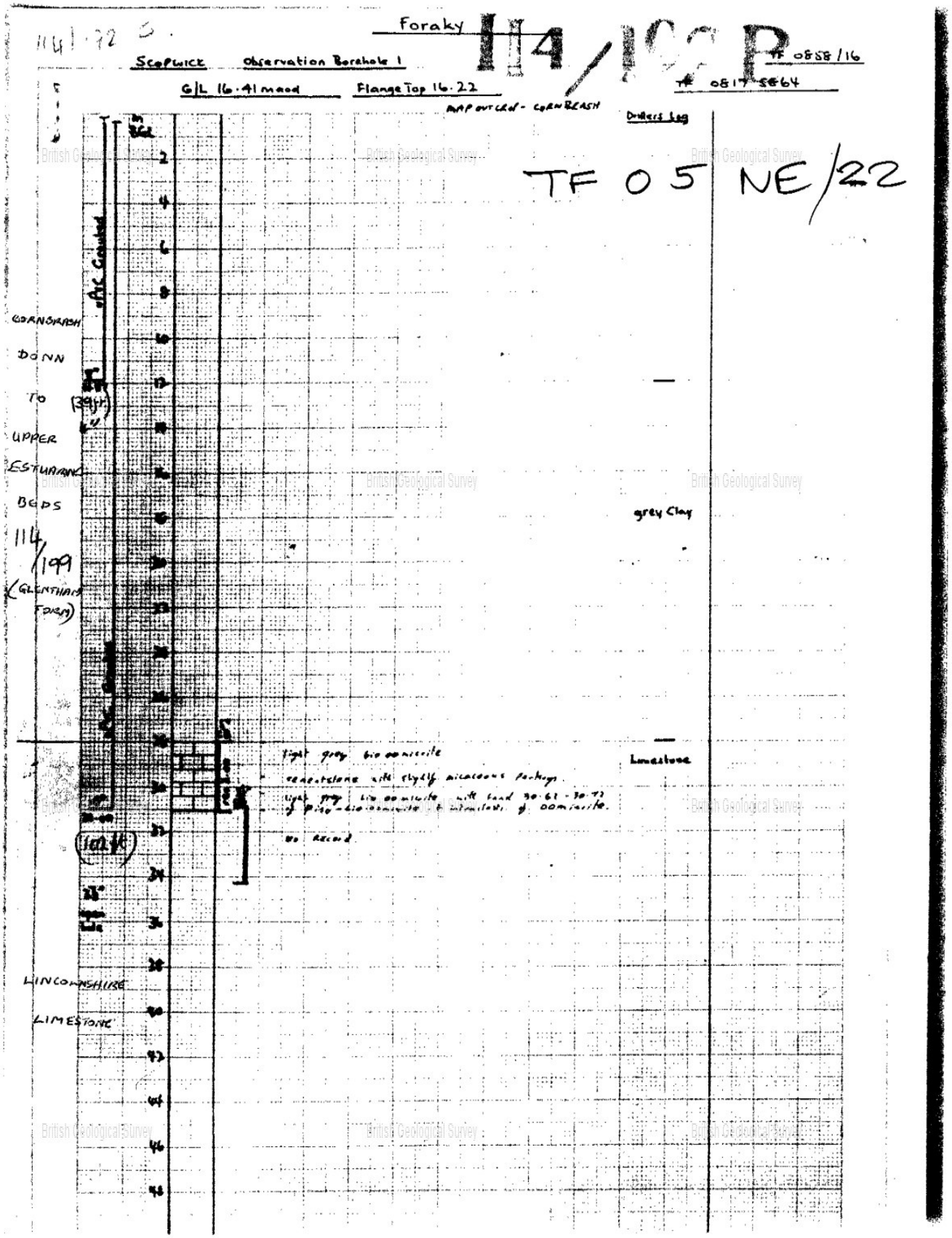

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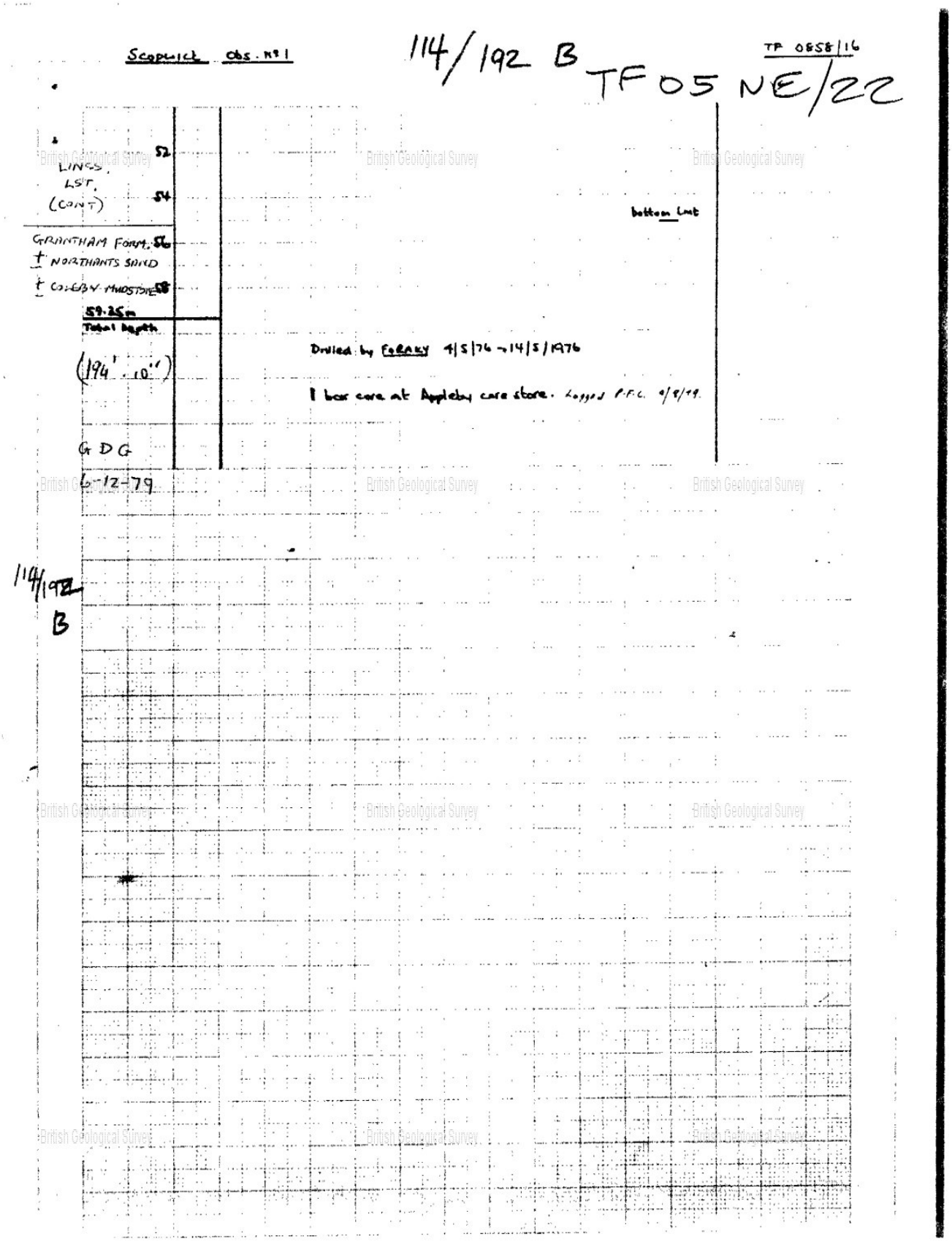


British Geological Survey

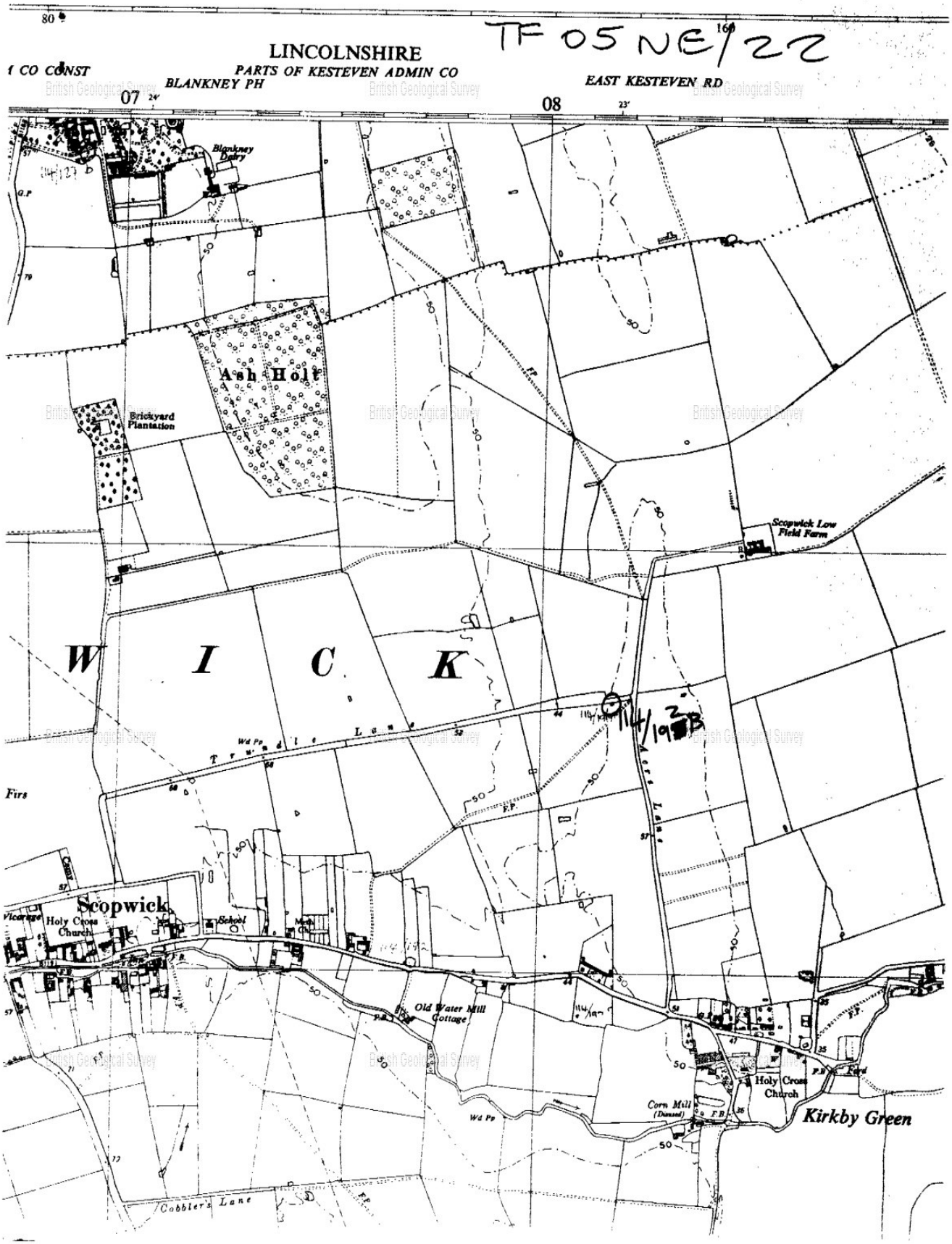
Version 2.0.6.6

BGS ID: 469031 : BGS Reference: TF05NE22
British National Grid (27700) : 508170,358640
[redacted]

Scale 1:10,560 or 6 Inches to 1 Mile

Provisional

TF 05 NE/22



British Geological Survey

Version 2.0.6.6

BGS ID: 469031 : BGS Reference: TF05NE22
British National Grid (27700) : 508170,358640
[redacted]

TF05/45
TF 0858/16

Scopwick obs. no 1

114/192 B

LINCOLNSHIRE LIMESTONE (CONT.) 52 54

bottom Unit

GRANTHAM FM + NORTHAMPTON SAND + COCKBY MUDSTONE 56 58

59.25m Total depth

(194'.10")

Drilled by FORAMY 4/5/74 - 14/5/1974

1 box core at Appleby core store. Logged P.F.C. 9/9/79

PBR. G.D.G. 5.12.79.

114/192 B

British Geological Survey

Version 2.0.6.6

BGS ID: 469031 : BGS Reference: TF05NE22
British National Grid (27700) : 508170,358640
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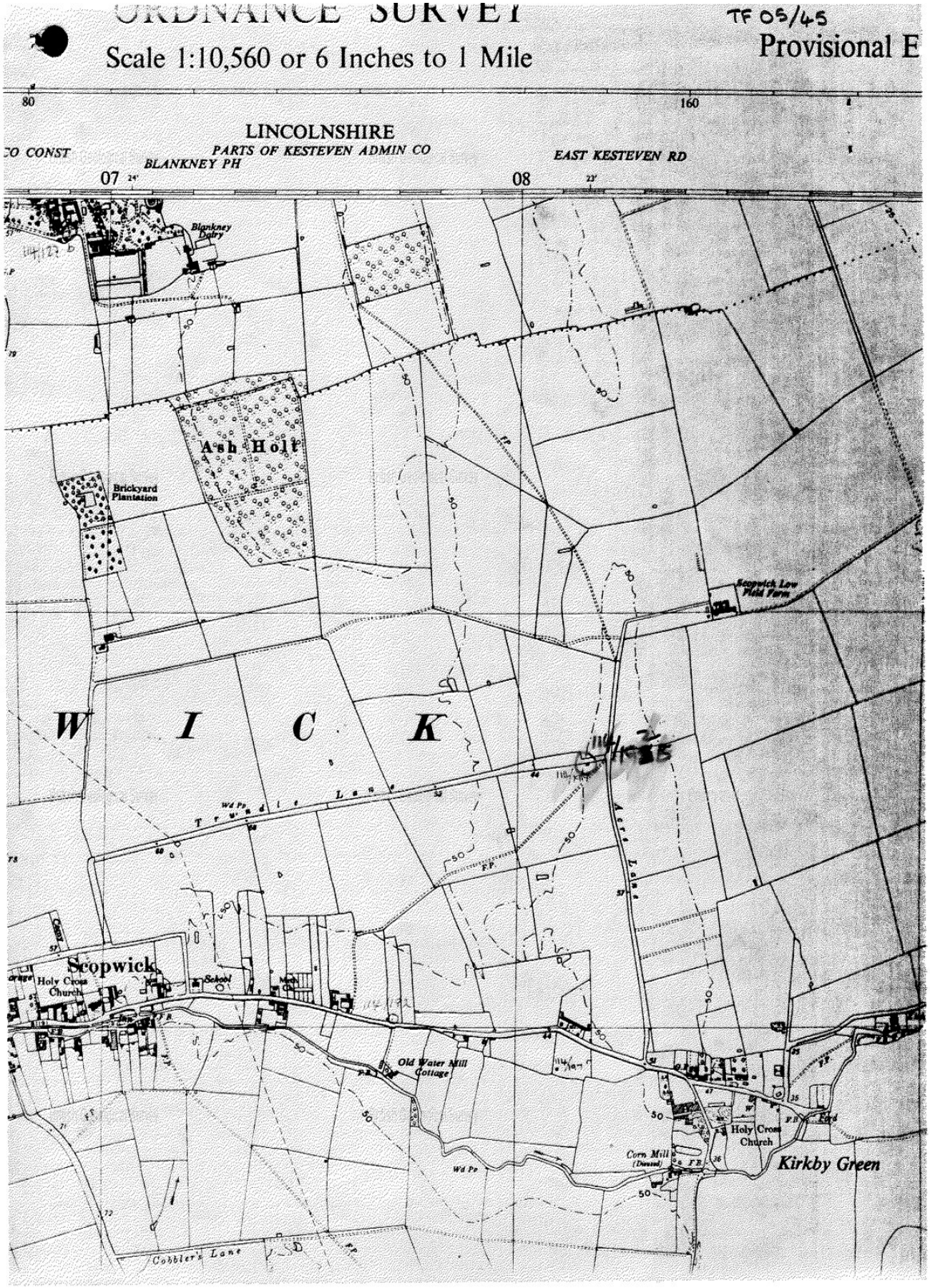

ORDNANCE SURVEY
TF 05/45
Provisional E
Scale 1:10,560 or 6 Inches to 1 Mile
80
160
LINCOLNSHIRE
PARTS OF KESTEVEN ADMIN CO
BLANKNEY PH
EAST KESTEVEN RD
07
08
Blankney Dairy
Ash Holt
Brickyard Plantation
Scopwick Low Field Farm
W I C K
Scopwick
Holy Cross Church
School
Old Water Mill Cottage
Holy Cross Church
Corn Mill (Disused)
Kirkby Green
Cobbler's Lane

APPENDIX F SITE RECONNAISSANCE PHOTOGRAPHS

APPENDIX F SITE RECONNAISSANCE PHOTO LOG

PHOTOGRAPHIC LOG

Photo no.	**Date:**
1	20/10/2022

South west

Description:

Zone M9 - Minor road running onto the site.

Photo No.	**Date:**
2	20/10/2022

North west

Description:

Zone M9 - Overhead services running along the northern site boundary.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
3	20/10/2022

East

Description:

Zone M9 - Residential home which does not form part of the site.

Photo No.	**Date:**
4	20/10/2022

South East

Description:

Zone M9/M5 - Area subject to tree planting

PHOTOGRAPHIC LOG

Photo no.	**Date:**
5	20/10/2022

North west

Description:

Zone M9/M5 - Field forming part of the site. Farmhouse in the distance does not form part of the site.

Photo No.	**Date:**
6	20/10/2022

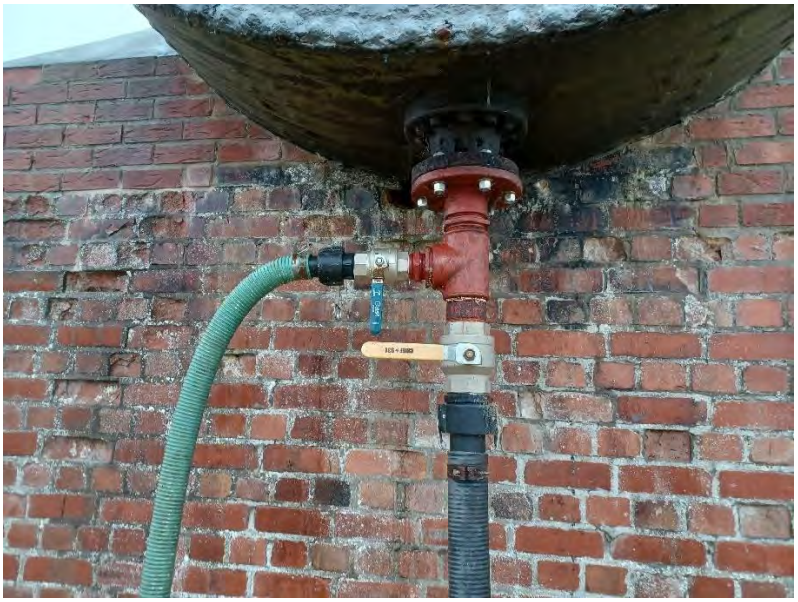
North east

Description:

Zone M5 - Water tank does not form part of the site boundary

PHOTOGRAPHIC LOG

Photo no.	**Date:**
7	20/10/2022



Description:

Zone M5 - Tap on water tank

Photo No.	**Date:**
8	20/10/2022

South

Description:

Zone M5 - View of water tank

PHOTOGRAPHIC LOG

Photo no.	**Date:**
9	20/10/2022

South east

Description:

Zone M5 - Remnants from a bonfire and a barn. This area doesn't form part of the site.

Photo No.	**Date:**
10	20/10/2022

South

Description:

Zone M5 - Services noted

PHOTOGRAPHIC LOG

Photo no.	**Date:**
11	20/10/2022

South west

Description:

Zone M5 - View across field which forms part of the site.

Photo No.	**Date:**
12	20/10/2022

East

Description:

Zone M6 - Railway line running adjacent to the site on the eastern boundary.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
13	20/10/2022

South west

Description:

Zone M5 - View across field which forms part of the site.

Photo No.	**Date:**
14	20/10/2022

West

Description:

Zone M5 - View across field which forms part of the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
15	20/10/2022

South west

Description:

Zone M5/M1 - View across field which forms part of the site. Overhead services noted running across the site.

Photo No.	**Date:**
16	20/10/2022

South east

Description:

Zone M5/M6 - View across field which forms part of the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
17	20/10/2022

South east

Description:

Zone M2 - View across field which forms part of the site.

Photo No.	**Date:**
18	20/10/2022

South west

Description:

Zone M1 - View across field which forms part of the site. Overhead services noted running across the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
19	20/10/2022

South west

Description:

Zone J14 - View across field which forms part of the site. Overhead services noted running across the site.

Photo No.	**Date:**
20	20/10/2022

West

Description:

Zone J14 - Small footbridge over drainage ditch.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
21	20/10/2022

East

Description:

Drainage ditch running between fields, and overhead services crossing the site.

Photo No.	**Date:**
22	20/10/2022

South east

Description:

Zone J14 - View across field which forms part of the site. Overhead services noted running across the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
23	20/10/2022

West

Description:

Zone J13 - View across field which forms part of the site.

Photo No.	**Date:**
24	20/10/2022

South west

Description:

Zone J9 - View across field which forms part of the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
25	20/10/2022

South east

Description:

Zone J13 - View across field which forms part of the site.

Photo No.	**Date:**
26	20/10/2022

West

Description:

I16 - View across field which forms part of the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
27	20/10/2022

South west

Description:

Zone I12 - View across field which forms part of the site.

Photo No.	**Date:**
28	20/10/2022

North west

Description:

Zone I16 - View across field which forms part of the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
29	20/10/2022

Description:

Zone I16 - Underground service.

Photo No.	**Date:**
30	20/10/2022

North west

Description:

Zone M1/L4 - Overhead services noted running across the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
31	20/10/2022

North east

Description:

Zone M1 - Barn which is part of Scopwick Low Field Farm. This building is not included within the site boundary.

Photo No.	**Date:**
32	20/10/2022

East

Description:

Zone J13 - Buildings which are part of Scopwick Low Field Farm. These structures are not included within the site boundary.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
35	20/10/2022

North

Description:

Zone L3/L4 - View across field which forms part of the site, with some waterlogging observed.

Photo No.	**Date:**
36	20/10/2022

South west

Description:

Zone I15 - Underground service covers noted.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
37	20/10/2022

Description:

Zone I15 - Underground service covers noted.

Photo No.	**Date:**
38	20/10/2022

South west

Description:

Zone I15 - Borehole noted.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
39	20/10/2022

South west

Description:

Zone I15 - View across field which forms part of the site.

Photo No.	**Date:**
40	20/10/2022

South east

Description:

Zone I15 - Pylons noted running across the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
41	20/10/2022

West

Description:

Zone I14 - View across field which forms part of the site.

Photo No.	**Date:**
42	20/10/2022

North

Description:

Zone I14 - View across field which forms part of the site. Pylons noted running across the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
43	20/10/2022

West

Description:

Zone I14/I15 - View across field which forms part of the site. Pylons noted running across the site.

Photo No.	**Date:**
44	20/10/2022

East

Description:

Zone L3 - View across field which forms part of the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
45	20/10/2022

South

Description:

Zone L2 - View across field which forms part of the site.

Photo No.	**Date:**
46	20/10/2022

East

Description:

Zone L6/L2 - View across field which forms part of the site. The building noted in the distance does not form part of the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
47	20/10/2022

South

Description:

Zone L7/L3 - View across field which forms part of the site. Overhead services noted running across the site.

Photo No.	**Date:**
48	20/10/2022

East

Description:

Zone L3 - View across field which forms part of the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
49	20/10/2022

North west

Description:

Zone L8 - View across field which forms part of the site.

Photo No.	**Date:**
50	20/10/2022

North

Description:

Zone – L8 - View across field which forms part of the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
51	20/10/2022

South east

Description:

Zone L4/M1 - View across field which forms part of the site.

Photo No.	**Date:**
52	20/10/2022

North

Description:

Zone L8 - View across field which forms part of the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
53	20/10/2022

East

Description:

Zone M5 - Barn structure which does not form part of the site.

Photo No.	**Date:**
54	20/10/2022

North east

Description:

Zone M5 - Barn structure which does not form part of the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
55	20/10/2022

South

Description:

Zone L8/L12 - View across field which forms part of the site.

Photo No.	**Date:**
56	20/10/2022

North east

Description:

Zone I10 - View across field which forms part of the site. Residential homes do not form part of the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
57	20/10/2022

North

Description:

Zone I9 - Pumping Station

Photo No.	**Date:**
58	20/10/2022

West

Description:

Zone I9 - View across field which forms part of the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
59	20/10/2022

Description:

Zone I9 - Small structures noted.

Photo No.	**Date:**
60	21/10/2022

North west

Description:

Zone I9/H12 - View across field which forms part of the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
61	21/10/2022

West

Description:

Zone I9/H12 - View across field which forms part of the site. Underground services noted.

Photo No.	**Date:**
62	21/10/2022

North

Description:

Zone H8 - View across field which forms part of the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
63	21/10/2022

North

Description:

Zone H4 - Entrance to an Autism Care Centre adjacent to the site.

Photo No.	**Date:**
64	21/10/2022

South west

Description:

Zone I5 - View across field which forms part of the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
65	21/10/2022

South west

Description:

Zone I5 - View across field which forms part of the site.

Photo No.	**Date:**
66	21/10/2022

East

Description:

Zone I5 - An area of tree planting, saplings visible.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
67	21/10/2022

South west

Description:

Zone I5 - View across field which forms part of the site.

Photo No.	**Date:**
68	21/10/2022

South east

Description:

Zone I5 - View across field which forms part of the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
69	21/10/2022

East

Description:

Zone I5 - Barn structure which does not form part of the site.

Photo No.	**Date:**
70	21/10/2022

Description:

Zone I5 - Barn structure which does not form part of the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
71	21/10/2022

South west

Description:

Zone I5 - Stockpiles adjacent to the barn which doesn't form part of the site.

Photo No.	**Date:**
72	21/10/2022

South east

Description:

Zone I5/I1 - View of field which forms part of the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
73	21/10/2022

North

Description:

Zone I6 - Gas pipeline marker noted.

Photo No.	**Date:**
74	21/10/2022

North

Description:

Zone I6 - View of field which forms part of the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
75	21/10/2022

South east

Description:

Zone I6/I2 - View of field which forms part of the site.

Photo No.	**Date:**
76	21/10/2022

East

Description:

Zone I6 - View of field which forms part of the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
77	21/10/2022

East

Description:

Zone I7/I10 - View of field which forms part of the site.

Photo No.	**Date:**
78	21/10/2022

South west

Description:

Zone I1 - View of field which forms part of the site.

PHOTOGRAPHIC LOG

Photo no. **79**	**Date:** 21/10/2022	
East		
Description: Zone I1 - View of field which forms part of the site.		

Photo No. **80**	**Date:** 21/10/2022	
South west		
Description: Zone I1/H4 - View of field which forms part of the site.		

PHOTOGRAPHIC LOG

Photo no.	**Date:**
81	21/10/2022

West

Description:

Zone H4 - View of field which forms part of the site.

Photo No.	**Date:**
82	21/10/2022

South west

Description:

Zone H4 - View of field which forms part of the site.

PHOTOGRAPHIC LOG

Photo no. **83**	**Date:** 21/10/2022	
East		
Description: Zone F13 - View of field which forms part of the site.		

Photo No. **84**	**Date:** 21/10/2022	
West		
Description: Zone F13 - View of field which forms part of the site.		

PHOTOGRAPHIC LOG

Photo no.	**Date:**
85	21/10/2022

South

Description:

Zone F13 - View of field which forms part of the site.

Photo No.	**Date:**
86	21/10/2022

South east

Description:

Zone F13 - View of field which forms part of the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
87	21/10/2022

South

Description:

Zone F13/F9 - View of field which forms part of the site.

Photo No.	**Date:**
88	21/10/2022

South

Description:

Zone E16 - View of field which forms part of the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
89	21/10/2022

North

Description:

Zone E16 - View of field which forms part of the site. Overhead services present running across the site.

Photo No.	**Date:**
90	21/10/2022

North

Description:

Zone E16 - Small asphalt stockpile located on hardstanding.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
91	21/10/2022

North west

Description:

Zone E16 - View of field which forms part of the site.

Photo No.	**Date:**
92	21/10/2022

South west

Description:

E16 - Residential property adjacent to the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
93	21/10/2022

West

Description:

Zone E16/E15 - View of field which forms part of the site.

Photo No.	**Date:**
94	21/10/2022

North west

Description:

Zone E15 - Gas tap observed

PHOTOGRAPHIC LOG

Photo no.	**Date:**
95	21/10/2022

West

Description:

Zone E15 - View of field which forms part of the site.

Photo No.	**Date:**
96	21/10/2022

N/A

Description:

Zone E15 - Gas tap observed

PHOTOGRAPHIC LOG

Photo no.	**Date:**
97	21/10/2022

West

Description:

Zone E14/E15 - View of field which forms part of the site.

Photo No.	**Date:**
98	21/10/2022

North

Description:

Zone E14 - View of field which forms part of the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
99	21/10/2022

East

Description:

Zone H2 - Haybale stacks.

Photo No.	**Date:**
100	21/10/2022

North west

Description:

Zone H2 - Haybale stacks.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
101	21/10/2022

North west

Description:

Zone H2 - View of field which forms part of the site. The buildings in the distance do not form part of the site.

Photo No.	**Date:**
102	21/10/2022

South west

Description:

Zone E13/E14 - View of field which forms part of the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
103	21/10/2022

South west

Description:

Zone E13 - View of field which forms part of the site.

Photo No.	**Date:**
104	21/10/2022

East

Description:

Zone E9 - View of field which forms part of the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
105	21/10/2022

South east

Description:

Zone E10 - View of field which forms part of the site.

Photo No.	**Date:**
106	21/10/2022

East

Description:

Zone E9 - View of field which forms part of the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
107	21/10/2022

N/A

Description:

Zone E9 - Underground service noted.

Photo No.	**Date:**
108	21/10/2022

South

Description:

Zone E9 - View of field which forms part of the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
109	21/10/2022

South west

Description:

Zone E9/E5 - View of field which forms part of the site. Pylons are visible running across the site.

Photo No.	**Date:**
110	21/10/2022

East

Description:

Zone E5/E6 - View of field which forms part of the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
111	21/10/2022

South

Description:

Zone E5 - View of field which forms part of the site. Pylons visible running across the site.

Photo No.	**Date:**
112	21/10/2022

East

Description:

Zone E5/E6 - View of field which forms part of the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
113	21/10/2022

South west

Description:

Zone E1 - View of field which forms part of the site.

Photo No.	**Date:**
114	21/10/2022

South east

Description:

Zone E1/E2 - View of field which forms part of the site. The buildings in the distance do not form part of the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
115	21/10/2022

North west

Description:

Zone B13/B14 - View of field which forms part of the site. Pylons visible running through the site.

Photo No.	**Date:**
116	21/10/2022

South west

Description:

Zone B13/B14 - View of field which forms part of the site. Overhead services visible running through the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
117	21/10/2022

South

Description:

Zone B14 - View of field which forms part of the site. Pylons visible running through the site.

Photo No.	**Date:**
118	21/10/2022

South

Description:

Zone B14 - View of field which forms part of the site. Pylons visible running through the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
119	21/10/2022

South

Description:

Zone B15 - View of field which forms part of the site. Pylons visible running through the site.

Photo No.	**Date:**
120	21/10/2022

East

Description:

Zone B15 - View of field which forms part of the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
121	21/10/2022

West

Description:

Zone E2 - View of field which forms part of the site. Pylons visible running through the site.

Photo No.	**Date:**
122	21/10/2022

South east

Description:

Zone E2/E7/E3 - View of field which forms part of the site. Overhead services visible running through the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
123	21/10/2022

North east

Description:

Zone E7 - View of field which forms part of the site. Overhead services visible running through the site.

Photo No.	**Date:**
124	21/10/2022

South east

Description:

Zone E3 - View of field which forms part of the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
125	21/10/2022

North

Description:

Zone E7 - View of field which forms part of the site. Buildings in the distance do not form part of the site.

Photo No.	**Date:**
126	21/10/2022

North

Description:

Zone B13 - View of field which forms part of the site. Pylons visible running through the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
127	21/10/2022

North

Description:

Zone B13/A16 - View of field which forms part of the site. Pylons visible running through the site.

Photo No.	**Date:**
128	21/10/2022

West

Description:

Zone A16 - View of field which forms part of the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
129	21/10/2022

North east

Description:

Zone A16 - An area of hardstanding. Pylons visible running through the site.

Photo No.	**Date:**
130	21/10/2022

Description:

Zone E1 - View of fields which form part of the site. Pylons visible running through the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
131	21/10/2022

Description:

Zone E1 - Agricultural loading/storage area. Haybales visible.

Photo No.	**Date:**
132	21/10/2022

North

Description:

Zone E5/D8 - View of field which forms part of the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**
133	21/10/2022

South

Description:

Zone D12 - View of field which forms part of the site. Pylons visible running across the site.

Photo No.	**Date:**
134	21/10/2022

North west

Description:

Zone D12 - View of field which forms part of the site. Pylons visible running across the site.

PHOTOGRAPHIC LOG

Photo no.	**Date:**	
135	21/10/2022	
North east		
Description: Zone D11 - Pylons visible running across the site.		

APPENDIX G TECHNICAL BACKGROUND

G1 Desk Study

Aquifer designation and Source protection zones

Principal aquifer: layers of rock or drift deposit that have high intergranular and/or fracture permeability (usually providing a high level of water storage). They may support water supply and/or river base flow on a strategic scale.

Secondary A aquifer: permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.

Secondary B aquifer: predominantly lower permeability layers that may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering.

Secondary undifferentiated aquifer: it has not been possible to attribute either a category A or B to a rock type. In most cases this means that it was previously designated as both a minor and non-aquifer in different locations owing to the variable characteristics.

Unproductive' strata: low permeability with negligible significance for water supply or river base flow.

The EA generally adopts a three-fold classification of source protection zones (SPZ) surround abstractions for public water supply. The Site is situated in an area defined as follows:

- Zone 1 or the 'inner protection zone' is located immediately adjacent to the groundwater source and is based on a 50-day travel time from any point below the water table to the source. It is designed to protect against the effects of human activity and biological/chemical contaminants that may have an immediate effect on the source
- Zone 2 or the 'outer protection zone' is defined by a 400-day travel time from a point below the water table to the source. The travel time is designed to provide delay and attenuation of slowly degrading pollutants
- Zone 3 or the 'total catchment' is the area around the source within which all groundwater recharge is presumed to be discharged at the source.

Preliminary risk assessment methodology

LCRM outlines the framework to be followed for risk assessment in the UK. The framework is designed to be consistent with UK legislation and policies including planning. An outline conceptual model should be formed at the preliminary risk assessment stage that collates all the existing information pertaining to a site in text, tabular or diagrammatic form. The outline conceptual model identifies potentially complete (termed possible) contaminant linkages (contaminant–pathway–receptor) and is used as the basis for the design of the site investigation. The outline conceptual model is updated as further information becomes available, for example as a result of the site investigation.

Production of a conceptual model requires an assessment of risk to be made. Risk is a combination of the likelihood of an event occurring and the magnitude of its consequences. Therefore, both the

likelihood and the consequences of an event must be taken into account when assessing risk. RSK has adopted guidance provided in CIRIA C552 for use in the production of conceptual models.

The likelihood of an event can be classified on a four-point system using the following terms and definitions based on CIRIA C552:

- highly likely: the event appears very likely in the short term and almost inevitable over the long term or there is evidence at the receptor of harm or pollution
- likely: it is probable that an event will occur or circumstances are such that the event is not inevitable, but possible in the short term and likely over the long term
- low likelihood: circumstances are possible under which an event could occur, but it is not certain even in the long term that an event would occur and it is less likely in the short term
- unlikely: circumstances are such that it is improbable the event would occur even in the long term.

The severity can be classified using a similar system also based on CIRIA C552. The terms and definitions relating to severity are:

- severe: short term (acute) risk to human health likely to result in 'significant harm' as defined by the Environment Protection Act 1990, Part IIA. Short-term risk of pollution of sensitive water resources. Catastrophic damage to buildings or property. Short-term risk to an ecosystem or organism forming part of that ecosystem (note definition of ecosystem in 'Draft Circular on Contaminated Land', DETR 2000)
- medium: chronic damage to human health ('significant harm' as defined in 'Draft Circular on Contaminated Land', DETR 2000), pollution of sensitive water resources, significant change in an ecosystem or organism forming part of that ecosystem
- mild: pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services ('significant harm' as defined in 'Draft Circular on Contaminated Land', DETR 2000). Damage to sensitive buildings, structures or the environment
- minor: harm, not necessarily significant, but that could result in financial loss or expenditure to resolve. Non-permanent human health effects easily prevented by use of personal protective clothing. Easily repairable damage to buildings, structures and services.

Once the probability of an event occurring and its consequences have been classified, a risk category can be assigned according to the table below.

		Consequences			
		Severe	**Medium**	**Mild**	**Minor**
Probability	**Highly likely**	Very high	High	Moderate	Moderate/low
	Likely	High	Moderate	Moderate/low	Low
	Low likelihood	Moderate	Moderate/low	Low	Very low
	Unlikely	Moderate/low	Low	Very low	Very low

Definitions of these risk categories are as follows together with an assessment of the further work that may be required:

- very high: there is a high probability that severe harm could occur or there is evidence that severe harm is currently happening. This risk, if realised, could result in substantial liability; urgent investigation and remediation are likely to be required
- high: harm is likely to occur. Realisation of the risk is likely to present a substantial liability. Urgent investigation is required. Remedial works may be necessary in the short term and are likely over the long term
- moderate: it is possible that harm could arise, but it is unlikely that the harm would be severe and it is more likely that the harm would be relatively mild. Investigation is normally required to clarify the risk and determine the liability. Some remedial works may be required in the longer term
- low: it is possible that harm could occur, but it is likely that if realised this harm would at worst normally be mild
- very low: there is a low possibility that harm could occur and if realised the harm is unlikely to be severe.

APPENDIX H PRELIMINARY UXO ASSESSMENT

STAGE 1 PRELIMINARY UXO RISK ASSESSMENT

REPORT REF: PRA-22-1948 | Revision: 0

Client: RSK
Project: Land at Ashby de la Launde and Scopwick, Lincolnshire
Date: 08/11/2022

BRIMSTONE SITE INVESTIGATION
Suite 6, Delta House, Laser Quay,
Culpeper Close, Rochester, ME2 4HU
0207 117 2492
www.brimstoneuxo.com

INTRODUCTION

The Stage 1 Preliminary Risk Assessment is an initial screening assessment designed to highlight any sources of unexploded ordnance (UXO) with the potential to contaminate a given site.

The aim of the Stage 1 assessment is to identify or discount the need for further detailed research - a Stage 2 Detailed UXO Risk Assessment.

This desktop assessment has been researched and written by a dedicated Researcher / Risk Assessor and produced in accordance with the CIRIA C681 Guidelines: 'Unexploded Ordnance, a Guide for the Construction Industry' (published in 2009).

In preparation for this assessment, original wartime records, historic OS mapping and the *Brimstone UXO Sources Database* have been reviewed. The latter incorporates multiple datasets plotting the positions of a variety of domestic military sites and confirmed historic German bombing targets.

The Stage 1 Preliminary Risk Assessment considers the following:

1. The Proposed Works
2. Enemy Action during WWI and WWII
3. British / Allied Military Activity
4. Historic Site Occupancy
5. Risk Mitigating Factors

THE SITE

The Site (approximately centred on the National Grid Reference TF 05010 55383) is located in Lincolnshire, between Metheringham and Cranwell Village. The Site measures approximately 10.1km from its most south-western and north-eastern points.
The Site comprises a large area of almost entirely undeveloped open ground, likely used agriculturally, as well as several wooded areas. Roadways and groups of farm buildings are also interspersed throughout the Site.
The Site is largely bound by similar terrain; open land likely used for farming. Railway sidings bind a section of the Site to the east, and the villages of Blankney, Scopwick, Kirkby Green and Ashby de la Launde are also located in relatively close proximity to the Site boundary. RAF Digby, a current military base, is situated to the immediate west of the Site.

THE PROPOSED WORKS

While GI works will be carried out on Site in the future, no information regarding the specific works was available at the time of writing.
Development works on Site comprise the construction of a solar farm.

ENEMY ACTION DURING WWI AND WWII

Potential Source of UXO	Significant?	Details
WWI German Bombing	×/✓	On 12th/13th April 1918, Zeppelin L 63 dropped a 100kg HE bomb in a field at Blankney Park (located immediately north of the Site) before heading north, away from the Site.

WWII German Bombing	✓	British District Bombing Density Statistics	The Site was formerly located within the WWII-era Rural District of East Kesteven which sustained 2.4 bombs / 1,000 acres, a very low bombing density.
		Evidence of bomb strikes / damage	Information obtained from the Sleaford Gazette, pertaining to how many air raids affected individual settlements in the region, indicates that many air raids affected the wider study area. Six air raids affected Scopwick and two affected Ashby de la Launde, both located in close proximity to the east of the Site, while four affected Blankney, situated to the north. Evidence also indicates that RAF Digby, located immediately to the west of the Site, was bombed on several occasions. No evidence of bomb damage has been identified on the Site; however, records are limited at this stage, with no available aerial photography, thereby prohibiting analysis of ground conditions.
		Local Bombing Decoy Sites	The closest was located approximately 3.7km to the south-east of Site.
		Local German Bombing Targets	There is no evidence of any primary Luftwaffe targets in the vicinity of the Site. However, given the numerous bomber airfields in Lincolnshire, as well as the presence of several such airfields in the vicinity of the Site, including RAF Digby immediately to the west, it is possible that enemy aircraft deliberately targeted the local area.
WWII German Cross Channel Artillery Shelling	×	n/a	
BRITISH / ALLIED MILITARY ACTIVITY			
Potential Source of UXO	**Significant?**	**Details**	
WWII Home Guard (HG) activity	×/✓	Soldiers of the 2nd East Kesteven (Sleaford) Home Guard (HG) Battalion may have been responsible for defending the study area during WWII. The possibility that the Site was accessed by armed HG soldiers cannot be discounted at this stage, given its undeveloped nature.	
Site requisitioned for wartime military use	×/✓	No such evidence found at this stage. However, given the presence of several RAF stations in the vicinity, including partially within and immediately to the west, military activity on Site cannot be entirely ruled out at this stage.	
Existing or historic Army or RAF training area / weapons range	×/✓	No such evidence found at this stage. However, given the presence of RAF Digby partially within and immediately to the west of the Site, it cannot be ruled out that aircraft or infantry training has taken place at this stage.	
Existing or historic military bases and other installations	×/✓	None wholly recorded on Site; however, RAF Digby was situated partially within and immediately to the west. The true extent of the airfield during WWII cannot be accurately deduced without historical aerial photography and airfield station plans.	
Existing or historic munitions or explosives factories	×	n/a	
Existing or historic military storage depots	×/✓	None recorded on Site; however, given that RAF Digby was situated partially within and immediately to the west, the possibility that the Site was used for the storage of ordnance during WWII cannot be ruled out at this stage.	

Existing or historic military defensive fortifications	✓	An in-house geo dataset records two pillboxes, likely associated with RAF Digby, within the west of the Site. Additional pillboxes lie within the perimeter of the former airfield.
WWII light and / or heavy anti-aircraft (LAA and HAA) fire	×/✓	Two HAA batteries were established within a 15km radius of the Site, whilst LAA batteries likely defended the airfields in the vicinity as well, with at least one recorded at RAF Digby approximately 140m to the west of the Site. Luftwaffe raids in the region were somewhat frequent, although not particularly intense, and therefore these guns may have expended ammunition over the wider area. It is possible that an unexploded AA shell struck the Site.
WWII pipe-mined locations and beach minefields	×	n/a
SITE HISTORY		
What was the Site occupancy historically, especially during WWI and WWII?	WWII-era OS mapping indicates that the composition of the Site was largely similar to the present day, mainly comprising undeveloped open land, wooded areas, and farmsteads.	
RISK MITIGATING FACTORS		
Post-conflict ground works	There do not appear to have been any significant ground works across the Site since WWII. The laying of hardstanding for new roadways and the ploughing of agricultural land may have disturbed the soil to very shallow depths (<1m bgl).	
Likelihood of UXO remaining	The risk associated with (any) deep (>2m bgl) or shallow (1-2m bgl) buried German UXBs and HAA shells will not have been mitigated across the Site. The risk associated with (any) very shallow buried UXO, including Allied SAA/LSA and HAA shells, will have been partially mitigated.	
CONCLUSIONS		

German UXO:

- The Site was formerly located within the WWII-era Rural District of East Kesteven which sustained 2.4 bombs / 1,000 acres, a very low bombing density. Despite this, the presence of several airfields in the vicinity of the Site, including immediately adjacent to the west, as well as a bombing decoy approximately 3.7km to the south-east, may have elevated the local bombing density. Indeed, anecdotal evidence indicates that villages in close proximity to the Site boundary sustained bombing on several occasions each, with RAF Digby also noted to have been targeted on occasion.
- Given that the Site appears to have mainly comprised undeveloped open land during WWII, evidence of UXBs is likely to have been less noticeable; the entry hole of a 50kg UXB could be as little as 20cm in diameter. Furthermore, access is likely to have been less frequent in comparison to a house or roadway, for example, reducing the likelihood of UXBs being observed at the time.
- In summary, there is evidence of air raids affecting areas in close proximity to the Site, indicating that enemy aircraft likely flew over the Site on multiple occasions. Furthermore, conditions on Site are typically unconducive to the detection of UXBs. A necessarily macro-scale approach has been taken with this assessment given the size of the Site. While specific areas of the Site may be at a greater or lesser risk of contamination with UXO than others, given the lack of available records at this stage, it has not been possible to discount the potential German UXO contamination on Site. It would therefore be considered prudent to investigate available written records and aerial photography to assess the risk accurately.

British / Allied UXO:

- RAF Digby was located partially within and immediately to the west of the Site during and after WWII. An in-house geo dataset records two pillboxes, two aircraft disposal pens, and a loopholed wall, all likely associated with the airfield, within the Site boundary. Given the undeveloped nature of the Site, it cannot be ruled out that military activity in the form of ad hoc training exercises or the storage/disposal of ammunition may have taken place in this area of the Site. Given this, the risk from Allied UXO is considered to be elevated above the background level for Lincolnshire.
- It is quite possible that an unexploded British AA shell struck the Site during WWII and penetrated to a shallow depth. Any such item could have been overlooked and remain in situ.

RECOMMENDATION(S)	
SI Works	A **Stage 2 Detailed Risk Assessment** is recommended to assess the risk to the proposed works.
Development Works	

Appendix 15.1

Long List of other Developments

Other Development' Details						Stage 1 (Establish Long list)		Stage 2 (Identify Short-list)	
ID	**Application Reference**	**Applicant for 'other development' and brief description**	**Distance from Proposed Development**	**Status**	**Tier**	**Within ZoI?**	**Progress to stage 2?**	**Overlap in temporal scope?**	**Scale and nature of development likely to have a significant effect?**
1	PL/0082/22	Applicant: Brauncewell Quarries Ltd Determining authority: Lincolnshire County Council For the installation and operation of filter press	Located within the Site Bounding Circle as outlined in **Figure 15.1**	Approved 22/09/22	1	Yes	No – due to the lack of data. No environment assessment technical reports prepared as part of the application.	N/A	N/A
2	PL/0028/22	Applicant: Len Kirk Plant Hire Ltd Determining authority: Lincolnshire County Council For the installation and operation of a wash plant in conjunction with the existing recycling facilities	Located within the Site Bounding Circle as outlined in **Figure 15.1**	Approved 13/05/22	1	Yes	No - due to the lack of data. No environmental assessment technical reports prepared as part of the application.	N/A	N/A
3	PL/0001/20	Applicant: Brauncewell Quarries Ltd Determining authority: Lincolnshire County Council For installation and use of aggregate washing plant and associated stockpiles and lagoon	Located within the Site Bounding Circle as outlined in **Figure 15.1**	Approved 20/03/22	1	Yes	No - due to the lack of data. In terms of environment assessment technical reports, only a Flood Risk and Sequential Test Report prepared as part of application.	N/A	N/A
4	20/0029/FUL	Applicant: JCO Developments Limited Determining authority: North Kesteven District Council Erection of 329 no. dwellings, formulation of new access points from Sleaford Road and Dunston Road, provision of new internal access roads, and, provision of new sustainable drainage infrastructure	0.37km NE	Approved 17/02/21	1	Yes	Yes - various environment assessment technical reports are available.	Yes - Operation proposed for 2026	The site is approximately 115ha and immediately adjacent to the existing settlement of Metheringham. The size and nature of the development may give rise to cumulative effects with the Proposed Development.
5	18/0437/FUL	Applicant: D.B.Lawrance and Associates Limited Determining authority: North Kesteven District Council Erection Of 6no Light Industrial Units (B1) Including Associated Parking, Access Road and change of use of site.	1.46km SE	Approved 17/08/18	1	Yes	No - due to the lack of data. No environment assessment technical reports prepared as part of the application.	N/A	N/A

Other Development' Details						Stage 1 (Establish Long list)		Stage 2 (Identify Short-list)	
ID	**Application Reference**	**Applicant for 'other development' and brief description**	**Distance from Proposed Development**	**Status**	**Tier**	**Within ZoI?**	**Progress to stage 2?**	**Overlap in temporal scope?**	**Scale and nature of development likely to have a significant effect?**
6	EIA/37/22	Applicant: Unknown Determining authority: Lincolnshire County Council Proposed construction of an Anaerobic Digestion Plant and associated infrastructure	2km NE	Scoping Opinion 16/12/22	2	Yes	Yes – EIA required.	Documentation does not specify dates	The overall site is approximately 8ha. The size and nature of the development may give rise to cumulative effects with the Proposed Development.
7	23/0390/EIASCO	Applicant: Pegasus Group Determining authority: North Kesteven District Council Navenby Heath battery storage project: Erection of 400MW Battery Storage Development incorporating 324no. Containerised Battery Storage Units, 54no. transformer/inverter blocks and 8 back up auxiliary transformers, 4no. storage containers for spare parts etc, substation comprising 4-6no. switchgear units, a control room and a HV compound with 2 Step-up Transformers, associated access tracks, inverter, switchgear substations, boundary treatments and CCTV	2km NW	Scoping Opinion 14/09/23	2	Yes	Yes - EIA required.	Documentation does not specify dates	The overall site is approximately 11.8ha with the developable area approximately 5ha. The Scoping Report sought to scope out all environmental factors, apart from landscape and visual. However, North Kesteven District Council has requested that archaeology and cultural heritage, agricultural land, climate change, major accidents, and waste (hazardous waste disposal) be scoped in. The size and nature of the development may give rise to cumulative effects with the Proposed Development.
8	21/1609/FUL	Applicant: Stonegate Farmers Ltd Determining authority: North Kesteven District Council Proposed erection of additional 8 no. poultry units with associated infrastructure	3.21km SE	Approved 19/5/22	1	Yes	Yes – Environmental Statement prepared.	Documentation does not specify dates	The Site is located at an existing poultry rearing facility encompassing an area of approximately 3.9ha. 8 additional units of a similar scale and appearance to the existing units will be required. The size and nature of the development is not anticipated to give rise to cumulative effects with the Proposed Development.

Other Development' Details						Stage 1 (Establish Long list)		Stage 2 (Identify Short-list)	
ID	**Application Reference**	**Applicant for 'other development' and brief description**	**Distance from Proposed Development**	**Status**	**Tier**	**Within ZoI?**	**Progress to stage 2?**	**Overlap in temporal scope?**	**Scale and nature of development likely to have a significant effect?**
9	19/0631/FUL	Applicant: RCS Commercial Properties Ltd Determining authority: North Kesteven District Council Erection of 17 commercial units (B2 Use)	6.06km NW	Approved 26/11/19	1	Yes	No - limited environment assessment technical reports prepared as part of the application (ground investigation reports only).	N/A	N/A
10	EN010151	Applicant: Beacon Fen Energy Park Limited Determining authority: Secretary of State A 400MW solar photovoltaic farm incorporating up to 600MVA Battery Energy Storage System and on-site substation and electrical connection, including solar PV panels up to 4.5m in height; single stacked BESS units up to 4.5m in height; security perimeter fencing; hedgerow improvements; ecological enhancements; above and/or below ground electrical cable connection at up to 400kV; associated development and ancillary works.	7.45km SE	Pre-application – expected to be submitted to PINS Q3 2024	2	Yes	Yes – EIA required.	Construction is anticipated to start in 2026 (subject to consent)	The site comprises two areas of land equating to approximately 1,036 ha, although not all of this area will be developed with above ground infrastructure. The size and nature of the development may give rise to cumulative effects with the Proposed Development.
11	17/1615/FUL	Applicant: JHG Planning Consultancy Ltd Determining authority: North Kesteven District Council Erection of 20no dwellings.	8.39km NW	Approved 27/11/18	1	Yes	Yes - various environment assessment technical reports prepared as part of the application.	Documentation does not specify dates	The application site occupies an area of approximately 0.98ha upon land situated within the established built environment. The size and nature of the development is not anticipated to give rise to cumulative effects with the Proposed Development.
12	EN010154	Applicant: Fosse Green Energy Limited Determining authority: Secretary of State The Scheme comprises the installation of solar photovoltaic panels, associated electrical equipment, cabling and on-site energy storage facilities together with grid	11.24km NW	Pre-application – Application is expected to be submitted to the Planning	2	No	Yes – EIA required	Construction anticipated to commence 2031. Operation anticipated to commence 2033.	The solar and energy storage park is approximately 1003ha. The size and nature of the development may give rise to cumulative effects with the Proposed Development.

Other Development' Details						Stage 1 (Establish Long list)		Stage 2 (Identify Short-list)	
ID	**Application Reference**	**Applicant for 'other development' and brief description**	**Distance from Proposed Development**	**Status**	**Tier**	**Within ZoI?**	**Progress to stage 2?**	**Overlap in temporal scope?**	**Scale and nature of development likely to have a significant effect?**
		connection infrastructure. At this early stage, the connection to the national grid is being explored. The generating capacity of the FGE Scheme will exceed 50MW. and its capacity is anticipated to be approximately 320MW.		Inspectorate in Q4 2024					
13	EN010123	Applicant: Ecotricity (Heck Fen Solar) Limited Determining authority: Secretary of State The Proposed development will comprise the construction, operation and decommissioning of a solar photovoltaic electricity generating facility exceeding 50 MW. output capacity, together with associated energy storage. The installed capacity of the solar generation is expected to be in the order of 500MW.	12.97km SE	Examination	1	No	Yes – Environmental Statement available	Construction will commence, at the earliest in the Spring 2025 for 30 months. Earliest operation Autumn 2027.	The site extends to approximately 644.5ha. The size and nature of the development may give rise to cumulative effects with the Proposed Development.

Springwell
Solar Farm

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Application Document Ref: EN010149/APP/5.2
Planning Inspectorate Scheme Ref: EN010149