



NGRC
BOREHOLE RECORDS
ADJUSTMENT FORM



British
Geological
Survey

QUARTER SHEET SK47SW

BH REGISTRATION NUMBER 260-274

~~NUMBER NOT USED~~ / ~~! BGS MISSING !~~

(Delete as appropriate)

RECORDS ENTERED & HELD BY WALLINGFORD



Note: Some depths unreliable
- see 40' = 1" section
(B.G.C.)

4741.1

SECTION OF MARKHAM No. 3 COLLIERY U.C. SHAFT
(Formerly No. 2 U.C. Shaft)

6 inch Map
Registered No.

SK 47 SW 11 B

4741.1 SK47/S6B

Exact Site

N.G.B. E 444911 N 371918

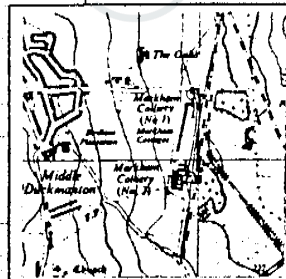
Level at which ^{shaft} commenced relative to O.D. = 135 c.s.

Date of sinking or boring 1886

Sinker or Borer

One Inch Geological Map

Six Inch Map (County and Quarter Sheet) SK 47 SW



4491

7192

NATURE OF STRATA		THICKNESS		DEPTH	
Geologist's Notes	Borer's Journal	Feet	In.	Feet	In.
	Soil	0	1	0	1
	Yellow Clay	0	2	4	1
	Blue Clay and Marl Mixed	3	2	5	1
	Slaty Grey Bind	1	0	6	1
	COAL	0	1	6	2
	Grey Clunch	0	0	6	1
	Grey Bind	3	1	10	1
	Dark Bind	13	2	24	0
	COAL	0	0	24	1
	Clunch	2	1	27	0
	Beddy Rock	2	0	29	0
	Stone Bind	0	2	29	2
	COAL	0	0	29	2
	Clunch with Ironstone	3	0	32	2
	COAL	0	0	33	0
	Clunch	0	1	33	1
	COAL	0	0	33	2
	Soft Clunch	0	1	34	6
	Strong Clunch	0	1	34	2



SECTION OF
Six Inch Map (County and Quarter Sheet)

SK 47 SW

negl. no.

SK 47 SW / 11 B
SK 47 / 56 B

NATURE OF STRATA		THICKNESS			DEPTH		
Geologist's Notes	Borer's Journal		Feet	In.		Feet	In.
	Stone Bind	2	2	8	37	2	0
	Rock	1	2	7	39	1	7
	Dark Grey Bind	6	1	6	46	0	1
	Black Bind	0	2	11	47	0	0
	COAL	0	0	11	47	0	11
	Clunch	1	1	0	48	1	11
	Strong Blue Bind	1	2	10	50	1	9
	Rock with Cank Bed	0	2	5	51	1	2
	Blue Bind	5	0	7	56	1	9
	Dark Bind	1	2	6	58	1	3
	Clunch	2	0	8	60	1	11
	Stone Bind	0	1	6	61	0	5
	Rock	0	2	0	61	2	5
	Blue Bind	3	0	10	65	0	3
	Black Bind	5	0	2	70	0	5
	CLOWNE COAL	1	1	8	71	2	1
	Soft Clunch	0	1	7	72	0	8
	Stone Clunch	0	1	10	72	2	6
	Stone Bind	1	2	6	74	2	0
	Rock	0	2	0	75	1	0
	Blue Bind	3	0	5	78	1	5
	Dark Bind	2	1	6	80	2	11
	White Clunch	2	0	8	83	0	7
	Blue Bind	8	2	2	91	2	9
	COAL	0	1	3	92	1	0

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NATURE OF STRATA		THICKNESS			DEPTH		
Geologist's Notes	Borer's Journal						
		Feet	In.		Feet	In.	
Main Bright	Clunch (Soft)	0	1	0	92	2	0
	Clunch (stone)	1	2	6	94	1	6
	COAL	0	0	2	94	1	8
	Clunch	0	2	11	95	1	7
	Black Bind	0	0	7	95	2	2
	Cank	0	0	9	95	2	11
	Coal	0	0	2	96	0	1
	Stone Clunch	0	2	11	97	0	0
	Stone Bind	1	2	0	98	2	0
	Strong Blue bind with Ironstone	4	2	9	103	1	9
Sough	Clunch with Coal Pipes	0	2	4	104	1	1
	Stone Bind with Cank	10	2	2	115	0	3
	Black Bind	0	0	11	115	1	2
	Black Bind with Ironstone	10	0	7	125	1	9
	Coal (good and bright)	0	2	4	126	1	1
	Clunch	0	2	11	127	1	0
	COAL (good and bright)	0	1	4½	127	2	4½
	Clunch (soft)	0	0	7½	128	0	0
	Strong Clunch	1	0	3	129	0	3
	Rock and Stone Bind	5	1	6	134	1	3
Furnace	Blue Bind	5	1	10	140	0	1
	COAL	1	0	0	141	0	1
	Clunch (soft)	0	1	11	141	2	0
	Clunch	5	1	4	147	0	4
	COAL	0	0	6	147	0	10
	Clunch	1	2	6	149	0	4

SK 47 SW 11 / 8
SK 47 / 56 B



SECTION OF
Six Inch Map (County and Quarter Sheet) SK 47 SW

SK 47/56B
SK 47SW11/B

NATURE OF STRATA		THICKNESS			DEPTH		
Geologist's Notes	Borer's Journal		Feet	In.		Feet	In.
	Stone Bind and Rock	3	2	3	152	2	7
	Blue Bind	2	1	4	155	0	11
	COAL	0	1	6	155	2	5
	Clunch	0	1	1	156	0	6
	Stone Bind	3	2	1	159	2	7
		1	0	8	161	0	3
	Clunch	3	0	1	164	0	4
	Stone Bind and Rock	6	0	1	170	0	5
	Stone Bind	1	1	2	171	1	7
	Stone Clunch	1	0	1	172	1	8
	Stone Bind	5	0	7	177	2	3
	Rock	4	0	0	181	2	3
	Blue Bind (strong)	2	0	2	183	2	5
	Dark Bind	1	2	10	185	2	3
HIGH HAZLES	COAL	0	2	0	186	1	3
	Clunch	0	2	9	187	1	0
	Stone Bind (with Cank Balls)	9	0	9	196	1	9
	Rock (very strong)	23	0	4	220	2	1
	Black Bind	0	1	1	221	0	2
	COAL	0	0	1	221	0	3
	Stone Clunch	0	0	3	221	0	6
	Stone Bind	2	1	3	223	1	9
	Rock	0	2	2	224	0	11
	Grey Bind	4	1	1	228	2	0
	Blue Bind	0	1	0	229	0	0

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NATURE OF STRATA		THICKNESS			DEPTH		
Geologist's Notes	Borer's Journal		Feet	In.		Feet	In.
	COAL	0	0	8	229	0	8
	Clunch	0	0	5	229	1	1
	Strong Bind	5	2	11	235	1	0
	Stone Bind and Rock Bands	2	1	10	237	2	10
	Grey Bind & Ironstone	0	2	0	238	1	10
	COAL	0	1	6	239	0	4
	Stone Clunch	4	2	8	244	0	0
	Stone Bind (with Cank)	5	0	8	249	0	8
	St. JOHN'S COAL	0	2	8	250	0	4
	Clunch(with coal streaks)	1		8	250	2	0
	Stone Bind	2	1	4	253	0	4
	Rock (strong Grey)	1	1	0	254	1	4
	Black Bind	9	2	1	264	0	5
	Stone Bind	1	1	11	265	2	4
	Rock	1	1	0	267	0	4
	Grey Bind (strong)	13	0	11	280	1	3
	Blue Bind	3	2	8	284	0	11
	Black Bind	2	1	1	286	2	0
	Stone Bind	0	2	11	287	1	11
	Rock	0	1	9	288	0	8
	Strong Bind	1	2	4	290	0	0
	COAL (batty)	0	1	7	290	1	7
	Clunch	0	0	6	290	2	1
	Strong Blue Bind	9	0	5	299	2	6
	Strong Dark Bind	7	0	1	306	2	7
	COAL	0	0	3	306	2	10

SK 47 SW 11/B
SK 47/56B

SECTION OF
Six Inch Map (County and Quarter Sheet) SK 47 SW

Sheet No.
Read. No.

SK 47 SW 11/B
SK 47/56B

NATURE OF STRATA		THICKNESS			DEPTH		
Geologist's Notes	Borer's Journal	Feet In.			Feet In.		
	Clunch	0	1	3	307	1	1
	Stone Bind (with Rock Bands)	5	2	3	313	0	4
	COAL	0	0	3	313	0	7
	Stone Bind	8	2	5	322	0	0
	Soft Blue Bind	0	1	6	322	1	6
	TOP HARD COAL	2	0	5	324	1	11
	Stone Clunch	2	2	9	327	1	8
	Stone Bind	2	1	6	330	0	2
	Blue Bind	3	0	10	333	1	0
	Blackstone	0	0	5	333	1	5
	Cannel						
	Bat	0	0	12	333	1	6 1/2
	Stone Clunch	1	1	3	335	0	5
	Stone Bind and Cank	7	1	3	342	1	8
	Grey Bind with Ironstone	2	1	3	344	2	11
	Black Bat	0	0	6	345	0	5
	COAL	0	0	5	345	0	10
	Clunch	4	0	1	349	0	11
	Stone Bind	1	1	0	350	1	11
	Strong Bind	2	2	6	353	1	5
	Stone Bind and Rock Bands	1	0	3	354	1	8
	Strong Bind	4	0	7	358	2	3
	COAL	0	1	11	359	1	2
	Clunch (soft)	0	1	3	359	2	5
	Clunch (strong)	2	1	0	362	0	5

Bedworth

Quint



NATURE OF STRATA		THICKNESS			DEPTH		
Geologist's Notes	Borer's Journal	Feet In.			Feet In.		
	Strong Bind	2	1	0	364	1	5
	Rock	0	0	8	364	2	1
	Strong Bind	2	1	0	367	0	2
	Rock	0	0	8	367	0	10
	Dark Bind	4	2	2	372	0	0
1 st Waterloo	COAL	0	1	4	372	1	4
Coal Batty 3"	COAL and dirt mixed	1	1	8	374	0	0
Coal (Good - Bright) 18"	Clunch	1	2	6	375	2	6
clunch 6"	COAL	0	0	2	375	2	8
Blackstone 4"							
More Bind 2 1/2"	Clunch	1	0	0	376	2	8
Coal (Good - Bright) 25 1/2"	Strong Bind with Ironstone	5	2	4	382	2	0
Dirt band 0 1/2"	Dark Blue Bind	4	1	2	387	0	2
Good coal 1 1/2"	Black Bind	0	1	3	387	1	5
Thin dirt band 0 1/2"	COAL	0	1	7	388	0	0
Good coal 3 1/2"	Stone Clunch	1	0	6	389	0	6
Dirt band 1"	Stone Bind and Rock	2	1	6	394	2	0
Good coal 4"	Rock	1	2	3	395	1	3
Inf coal (Dirt bands) 5 1/2"	Stone Bind	2	2	11	396	1	2
clunch 66"	Dark Grey Bind	2	1	1	398	2	3
Coal Soft 2"	Black Bind	1	0	4	399	2	7
	COAL and Bat	0	0	8	400	0	1
	COAL (good) - bright	0	2	4	400	2	5
2 nd Waterloo	Black Bind	2	0	7	403	0	0
	CANNEL (good)	0	1	3	403	1	8
	Dark Grey Bind	1	1	4	405	0	0
	CANNEL (inferior)	0	0	11	405	0	11

SK47SW / 11 B
SK47/56B



SECTION OF

Six Inch Map (County and Quarter Sheet) SK 47 SW

Sheet No.
Revd. No.

SK47/SK47SW
56B/11B.

NATURE OF STRATA		THICKNESS		DEPTH	
Geologist's Notes	Borer's Journal	Feet	In.	Feet	In.
	Grey Bind	2	1	7	407 2 6
	Black Bind	0	0	6	408 0 0
	Stone Bind	1	0	11	409 0 11
	Rock	0	2	9	410 0 8
	Stone Bind	1	1	2	411 1 10
	Dark Bind	1	1	10	413 0 3
	COAL	0	0	8	413 1 4
	Clunch	1	1	4	414 2 8
	Blue Bind	2	2	4	417 2 0
	CANNEL	0	0	4	417 2 4
	Dark Bind	0	0	10	418 0 2
	COAL	0	0	11	418 1 1
	But (dark)	0	0	8	418 1 9
	Clunch	0	2	7	419 1 4
	Dark Clunch	0	2	0	420 0 4
	Rock	5	2	2	425 2 6
	Strong Bind	0	2	2	425 1 8
	COAL	0	1	5	427 0 1
	Clunch	3	0	11	430 1 0
	Rock	2	0	2	432 1 2
	Blue Bind	1	2	9	434 0 17
	Blackshale	0	0	6	434 1 3
	COAL	0	0	8	434 2 1
	Strong Clunch	3	1	1	438 0 2
	Blue Bind	2	2	6	440 2 3

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NATURE OF STRATA		THICKNESS			DEPTH		
Geologist's Notes	Borer's Journal	Feet	In.		Feet	In.	
	Rock	0	2	7	441	2	3
	Stone Bind	6	1	3	448	0	6
	Blue Bind (with Cank)	2	2	5	450	2	11
	Blackshale	1	1	5	452	1	4
	COAL	0	0	8	452	2	0
	Clunch	0	0	8	452	2	8
	COAL	0	0	3	452	2	11
	Clunch	0	2	8	453	2	7
	COAL	0	1	0	454	0	7
	Clunch	0	2	4	454	2	11
	Rock (grey)	4	1	1	459	1	0
	Dark Bind	3	2	9	403	0	9
	COAL and Bat	0	0	6	463	1	3
	Clunch	0	2	10	464	1	1
	Stone Bind and Rock Bands	1	0	5	465	1	6
	Stone Bind	2	0	0	467	1	6
	Dark Bind	3	0	5	470	1	11
	COAL	0	2	7	471	1	4
	Rock	3	1	7	474	2	11
	Stone Bind	2	2	11	477	2	10
	Stone Bind and Rock Bands	6	2	11	484	2	9
	Dark Bind	9	0	7	494	0	4
	Stone Clunch	1	0	11	495	1	3
	Cank	0	2	0	496	0	3
	Cank with Stone Bind partings	1	1	5	497	1	8
	Dark Bind with Ironstone	2	2	7	500	1	3

SK 47 SW 11/B

SK47/56B

CX MB

SECTION OF
Six Inch Map (County and Quarter Sheet)

S K 47 S W

Road No.

Regd. No. 5K47/56B

SK 47 SW 11 B

[illegible]

240090—W. A. S. Ltd)

1597 to
486.79m



COAL BOARD EAST MIDLANDS DIVISION NO. 1 AREA

SCHEDULE 1

MARKHAM COLLIERY.

COMMENTS ON WATER PROBLEMS IN WORKINGS.

R.92 (r)

The four Markham Shafts were sunk due South of Seymour old Colliery, Blackshale, Deep Hard, Ell Coal, and Top Hard Seam have been extensively worked. On the Seymour Carrier Water pressure up to 400lbs. per sq. inch. is adequately held by stout barriers in the Top Hard Seam. This necessitated great care in the formation of barriers and later in the projection of workings of lower seams. The major portion of Top Hard development was due south to the Palterton Area and now that all Top Hard is exhausted Palterton Water make has built up until at some 50ft. deep in the shaft the water reached Markham No. 2 Pumps. Little trouble is experienced in lower seams, indeed the Blackshale is very dry.

Due to feed water shortage for internal use Markham Unit installed a Sulzer Submersible Pump in Duckmanton Iron Works, old Top Hard Shaft and this water pumped and delivered to Markham Reservoir under Automatic Control is of excellent quality. The installation of this Pumping Station relieved the adjacent Arkwright Colliery of much of this surplus water. Such has been the water shortage at Markham that Pumps have had to be installed near Bolsover to pump from the River Doe Lea before this was further polluted by industrial effluent downstream.

See SK47 SW/11 for 11/20 and Log of Section

11/20 & refers to
Markham No 4 Colliery
(645027230)

SK47SE/9

112/20
112/30
307

SK47/56B

SK47/56B

Maukhaur

No 1 ~~4496~~ 7232

No 2 ~~4492/3~~ 7190

3 ~~4491~~ 7193

Not numbered

No 4(a) 4502 ~~7231~~ 7230

Golsomes

No 1 4612 7106

No 2 4608 7103

No 3 4604 7111

200 ^a Golsomes	1	4936	7162
201 ^a NRB Phylls	2	4944	7165
	4	4943	7166
200 B	5	4863	7201 Pub 7203
201 B	7	4803	7283
202	6	4692	7269
205	9	4754	7014
219	8	4677	7151
255			



NATIONAL COAL BOARD

EAST MIDLANDS DIVISION

NO. 1 AREA

SCHEDULE: 2

MARKHAM

COLLERY.

R. 092(a)

WATER ENCOUNTERED

DURING

SHAFT SINKINGS

DRIVING OF WORKINGS

SHAFT

HORIZON

QUANTITY

HORIZON

QUANTITY

A
No. 1 Shaft
Tubbing from - 6yds. to
78 yds.

B
No. 2 Shaft
Tubbing from 3 yds. to
77 yds.

C
No. 3 Shaft
Tubbing from 4 yds to
75 yds.

All above
80 yds.

No record

No water difficulties

-

11/2/20
SK47/56
A-C



NATIONAL COAL BOARD				EAST MIDLANDS DIVISION				NO. 1 AREA				SCHEDULE 3			
				MARKHAM				COLLIERY				R. 892(b)			
ADDRESS OF PREMISES	NAME OF WELL OR OTHER WORK	QUANTITY	SOURCE	USE OF WATER											
				DOMESTIC	COAL WASHING	BOILER FEED	SURPLUS								
Markham Colliery Duckmanton, Nr. Chesterfield.	Duckmanton Iron- works, No. 1 Old Shaft Sulzer Sub- mersible Shaft Pump	112/2 180,000 g.p. day	Top Hard Ancient Workings	-	Nil (Coal Washing and other surface use	273,800 gals. per day	Nil								
Bolsover Pumping Station	Bolsover Pumping Station Doe Lea Brook.	237,800 g.p. day	River Doe Lea and its tributaries	-	144,000 gals. per day	-	Nil								

112/20
112/20
SK47/56



NATIONAL COAL BOARD

EAST MIDLANDS DIVISION

NO. 1 AREA

SCHEDULE; 1

O.D. TOP OF SHAFT,

2371 237.1

SITE COORDS.

COLLIERY: MARKHAM

R.992

No.	PUMP	CAPACITY	Quantity Pumped	Workings Drained	Horizon Drained	Shaft from Which pumped	USE OF WATER				Method of Disposal of Unused water
							DOMESTIC	COAL WASHING	BOTTLER FEED	SURPLUS	
1.	Sulzer Centrifugal	250 g.p.m.	31,000 g.p.day	Ell Coal Seam	- 480 40 yds.	No. 3	-	-	-	-	Waste Water to River Doe Lea direct - do -
2.	Sulzer Centrifugal	250 g.p.m.	60,000 g.p.day	Top Hard Seam Gob.	- 326 yds.	No. 3	-	-	-	-	- do -
3.	Sulzer Centrifugal	250 g.p.m.	60,000 g.p.day	- do -	- 326 yds.	No. 3	-	-	-	-	- do -
	Duckmanton Pump	250 g.p.m.	See Schedule 3								
	Sulzer Shaft Driven Submersible										
	Bolsover Pumping Station	Lee Howel Centrifugal & Worthington Simpson	See Schedule 3.								

112
20/20
SK47/1/56



NATIONAL COAL BOARD

EAST MIDLANDS DIVISION

NO. 1 AREA

SCHEDULE: 4

MARKHAM COLLIERY

COMMENTS ON WATER PROBLEMS IN WORKINGS.

R.892 (c)

The four Markham Shafts were sunk due South of Seymour old Colliery, Blackshale, Deep Hard, Ell Coal, and Top Hard Seam have been extensively worked. On the Seymour Carrier Water pressure up to 400lbs. per sq. inch. is adequately held by stout barriers in the Top Hard Seam. This necessitated great care in the formation of barriers and later in the projection of workings of lower seams. The major portion of Top Hard development was due south to the Palterton Area and now that all Top Hard is exhausted Palterton Water make has built up until at some 50ft. deep in the shaft the water reached Markham No. 2 Pumps. Little trouble is experienced in lower seams, indeed the Blackshale is very dry.

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11/2
11/2
20
11/20
SK47/56

13
112
20
11/2/20
SK47/56

NATIONAL COAL BOARD EAST MIDLANDS DIVISION NO. 1 AREA SCIENTIFIC
GENERAL ANALYSIS OF WATER SAMPLE
(Required for General Assessment)

Name of Colliery: **Martham** Source: **Blackshale Seam.**
Date of Sampling: **27/12/51** Date submitted for Analysis: **1/1/52.** 2's R.H.A. Head. Sample No.:
Possible Sources of Pollution: **Required in connection with pumping.**
Intended Use:

CONDITIONS AT TIME OF ANALYSIS

Appearance: **Turbid** Suspended Matter: **7** p.p.m.
Appearance after Filtration: **Clear** Iron in Suspended Matter (as Fe): **-** p.p.m.
Colour: Hazen Units Oil: **-** p.p.m.
pH Value: **7.2** Langelier Saturation Index: **Minus 0.2**

ANALYSIS OF FILTERED WATER

Parts per million	PROBABLE COMBINATIONS
Calcium (as Ca): 5280	Silica: 10
Magnesium (as mg): 1091	Iron Oxide (as Fe ₂ O ₃): 0.4
Iron (as Fe): 0.3	Calcium Carbonate: 105
Sodium (as Na): 24.176	Calcium Sulphate: 286
Sulphate (as SO ₄): 10	Calcium Chloride: 14.277
Chlorides (as Cl): 49,560	Magnesium Carbonate:
Sulphates (as SO ₄): 202	Magnesium Sulphate: 4.277
Nitrates (as N): -	Magnesium Chloride:
Free Carbon Dioxide (as CO ₂): -	Magnesium Nitrate:
Total Alkalinity (as CaCO ₃): 105	Sodium Carbonate:
Total Acidity (as CaCO ₃): -	Sodium Sulphate:
Total Dissolved Solids (dried at 180°C): 81,000	Sodium Chloride: 61.427
Total Dissolved Solids after ignition:	Sodium Nitrate:
Total Hardness (as CaCO ₃): 17,700	p.p.m.
Temporary Hardness (as CaCO ₃): 105	p.p.m.
Permanent Hardness (as CaCO ₃): 17,595	p.p.m.
Hardness due to Calcium (as CaCO ₃): 13,200	p.p.m.
Hardness due to magnesium (as CaCO ₃): 4,500	p.p.m.

R. 80.

11 2/2/56

SK 47/56

The total solid content of the water is much the same as Sea Water, but I see no reason why it should not be used for Hydraulic conveyance of the coal if the coal is sprayed on elevators and pipe line flushed out after use with cleaner water.