NGRC
BOREHOLE RECORDS
ADJUSTMENT FORM

British Geological Survey

QUARTER SHEET SK47SW

BH REGISTRATION NUMBER 260-27H

~~NUMBER NOT USED~~ / ~~! LOG MISSING !~~

(Delete as appropriate)

RECORDS ENTERED & HELD BY WALLINGFORD

(NGRC FORM 2)

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

4741·1

6 inch Map Registered No.
SK 47 SW 11 B
4741·1 SK47/56B

4491
7192

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

Exact Site

N.G.R. E 444911 N 371918

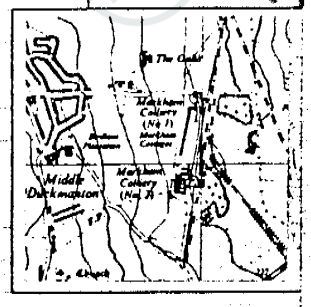
Level at which shaft / bore / drift commenced relative to O.D. + 236 c.s.

Date of sinking or boring 1886

Sinker or Borer

One Inch Geological Map

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



Geologist's Notes	Borer's Journal	Thickness Feet	Thickness In.	Depth Feet	Depth In.
	Soil	0	1 2	0	1 2
	Yellow Clay	0	2 ~~2~~ 0	1	2 ~~1~~ 2
	Blue Clay and Marl Mixed	3	2 ~~16~~	5	1 6
	Slaty Grey Bind	1	0 0	6	1 6
	COAL	0	~~1~~ 0 ~~1~~ 6	6	2 ~~7~~ 0
	Grey Clunch	0	0 4	6	~~1~~ 10
	Grey Bind	3	1 8	10	1 7
	Dark Bind	13	2 2	24	0 0
	COAL	0	0 5	24	1 2
	Clunch	2	1 10	27	0 0
	Beddy Rock	2	0 0	29	0 0
	Stone Bind	0	2 0	29	2 0
	COAL	0	0 4	29	2 4
	Clunch with Ironstone	3	0 5	32	2 9
	COAL	0	0 8	33	0 5
	Clunch	0	1 2	33	1 7
	COAL	0	0 6	33	2 1
	Soft Clunch	0	1 5	34	6
	Strong Clunch	0	1 10	34	2 4

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

Regn. No. SK 47 SW / 11 B
SK47/56B

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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SK 47 SW 11/8
SK47/56B

Geologist's Notes	NATURE OF STRATA Borer's Journal	THICKNESS Feet	In.	DEPTH 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
	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
South	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
	Blue Bind	5	1 10	140	0 1
Furnace	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

Regn. No. SK 47/56B
SK 47 SW 11/8

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

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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SK 47 SW 11/B
SK47/56B

NATURE OF STRATA		THICKNESS			DEPTH		
ogist'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

Six Inch Map Regd. No. SK 47 SW 11/B
SK47/56B

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

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						
Bridworth	Bat	0	0	1½	333	1	6½
	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

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BGS ID: 767760 : BGS Reference: SK47SW269
British National Grid (27700) : 444910,371910

SK47SW/11 B
SK47/56B

Geologist's Notes	NATURE OF STRATA Borer's Journal	THICKNESS Feet	In.	DEPTH 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	
1st Waterloo	Dark Bind	4 2	2	372 0	0	
Coal Bally 3"	COAL	0 1	4	372 1	4	
Coal (Good + Bright) 18"						
Clunch 6"	COAL and dirt mixed	1 1	8	374 0	0	
Blackstone 4"						
Hors Bind 3½"	Clunch	1 2	6	375 2	6	
Coal (Good + Bright) 25½"	COAL	0 0	2	375 2	8	? 374 0 · 9
Dirt band 0½"						
Good Coal 11½"	Clunch	1 0	0	376 2	8	
Thin dirt band 0½"	Strong Bind with Ironstone	5 2	4	382 2	0	
Good coal 3½"						
Dirt band 1"	Dark Blue Bind	4 1	2	387 0	2	
Good Coal 4"						
Inf Coal (Dirt bands) 6½"	Black Bind	0 1	3	387 1	5	
Clunch 66"						
Coal Soft 2"	COAL	0 1	7	388 0	0	
	Stone Clunch	1 0	6	389 0	6	
	Stone Bind and Rock	2 1	6	391 2	0	
	Rock	1 2	3	393 1	3	
	Stone Bind	2 2	11	396 1	2	
	Dark Grey Bind	2 1	1	398 2	3	
	Black Bind	1 0	4	399 2	7	
	COAL and Bat	0 0	6	400 0	1	
	COAL (good + bright)	0 2	4	400 2	5	
2nd 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	? 403 · 2 · 6

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

Record No. SK47/56B / SK47SW / 11 B.

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	8
	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	426	1	8
	COAL	0	1	5	427	0	1
	Clunch	3	0	11	430	1	0
	[illegible]	2	0	2	432	1	2
	Blue Bind	1	2	9	434	0	11
	Blackshale	0	0	6	434	1	5
	COAL	0	0	8	434	2	1
	Strong Clunch	3	1	1	436	0	2
	Blue Bind	2	2	6	440	2	8

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SK 47 SW 11/B
SK47/56B

Geologist's Notes	NATURE OF STRATA Borer's Journal	THICKNESS Feet	 In.	DEPTH 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
6	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
C+MB	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

Rgd. No. SK47/56B
SK 47 SW 11/B

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

NATURE OF STRATA		THICKNESS			DEPTH		
Geologist's Notes	Borer's Journal		Feet	In.		Feet	In.
	Dark Bind with Cank partings.	3	1	3	503	2	6
	Blackstone and Shells	1	1	6	505	1	0
	Blue Bind	1	1	3	506	2	3
	Strong Bind and Rock	1	1	9	508	1	0
	Blue Bind	1	2	2	510	0	2
	Dark Bind and Shell Beds	0	1	9	510	1	11
	Stone Clunch	3	1	9	514	0	8
	Dark Blue Bind	0	2	11	515	0	7
	Dark Bind with Shell Beds	3	0	9	518	1	4
	Dark Bind	1	0	3	519	1	7
	Black Bind	1	2	2	521	0	9
	Stone Clunch	0	1	2	521	1	11
	Grey Bind	4	1	5	526	0	4
	Black Bind	3	0	10	529	1	2
	COAL 1' 7½" Clod 1' 1" COAL 2' 0" Clod 1' 2" Bat 1½" COAL 3' 8" — Deep Soft Coal	3	0	8	532	1	10

1597 ft
486·79m

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...L COAL BOARD — EAST MIDLANDS DIVISION — NO. 1 AREA — SCHEDULE 4

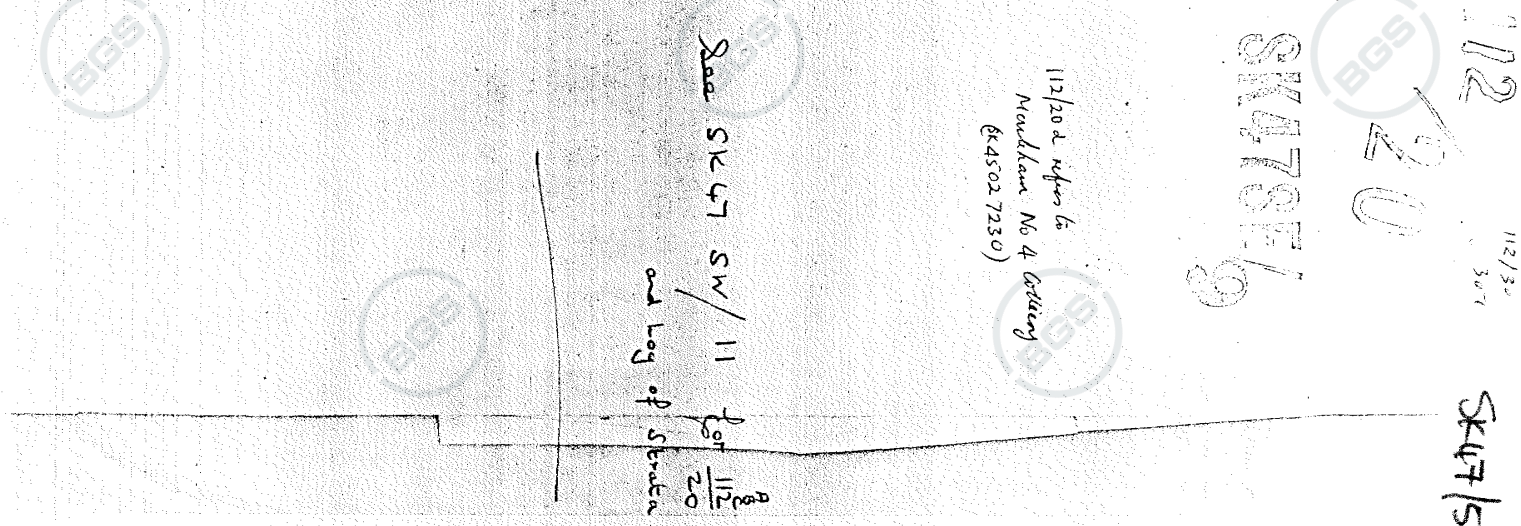
MARKHAM COLLIERY.

COMMENTS ON WATER PROBLEMS IN WORKINGS. R.S92 (c)

The four Markham Shafts were sunk due South of Seymour old Colliery, Blackshale, Deep Hard, Ell Coal, andTop 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 inlowerseams, indeed the Blackshale is very dry.

112/81

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 installat 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.



SK47/56B

Markham

No 1 ~~4496~~ 7232

No 2 ~~4492/3~~ 7190

3 ~~(b) 4491~~ 7193 (Not numbered)

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

Bolsover

No 1 4612 7106

No 2 4608 7103

No 3 4604 7111

200A Bolsover	1	4936	87162
201A NPG Plug	2	4944	7165
200B	4	4943	7166
201B	5	4863	7201 Pub7203
202	7	4803	7283
205	6	4692	7269
219	9	4754	7014
255	8	4677	7151

NATIONAL COAL BOARD — EAST MIDLANDS DIVISION — NO. 1 AREA — SCHEDULE: 2

MARKHAM COLLIERY.

R.892(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.	All above 80 yds.	No record	No water difficulties	-
C	No.3 Shaft Tubbing from 4 yds to 75 yds.				

11/50
SK47/56
A–C

BGS ID: 767760 : BGS Reference: SK47SW269
British National Grid (27700) : 444910,371910

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	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

NATIONAL COAL BOARD — EAST MIDLANDS DIVISION — NO. 1 AREA — SCHEDULE: 1

O.D. TOP OF SHAFT. 237 / 237.1 — SITE COORDS.

COLLIERY: MARKHAM — R.892

No.	PUMP	CAPACITY	Quantity Pumped	Workings Drained	Horizon Drained	Shaft from Which pumped	USE OF WATER: DOMESTIC	USE OF WATER: COAL WASHING	USE OF WATER: BOILER FEED	USE OF WATER: SURPLUS	Method of Dispesal of Unused water
1.	Sulzer Centrifugal	250 g.p.m.	31,000 g.p.Day	Ell Coal Seam	- 480 40 yds.	No. 3	-	-	-	-	Waste Water to River Dos Lea direct
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	Sulzer Shaft Driven Submersible	250 g.p.m.	See Schedule 3								
Bolsover Pumping Station	Lee Howel Centrifugal & Worthington Simpson	See Schedule 3.									

See Schedule 3

SK47/34

NATIONAL COAL BOARD EAST MIDLANDS DIVISION NO. 1 AREA SCHEDULE: 4

MARKHAM COLLIERY.

COMMENTS ON WATER PROBLEMS IN WORKINGS. R.892(c)

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112/81

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SK47/56 11/26

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NAL COAL BOARD — EAST MIDLAND DIVISION — NO. 1 AREA SCIENTIFIC

112/20

SK47/56

MINERAL ANALYSIS OF WATER SAMPLE

(Required for General Acceptance)

Name of Colliery: Markham — Source: - Blackshale Seam. 2's R.H.A. Head.

Date of Sampling: 27/12/51 — Date submitted for Analysis: 1/1/52. — Sample No.:

Possible Sources of Pollution:

Intended Use: Required in connection with pumping.

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_2O_3):	0.4
Iron (as Fe):	0.3	Calcium Carbonate:	105
Sodium (as Na):	24,176	Calcium Sulphate:	286
Silica (as SiO_2):	10	Calcium Chloride:	14,277
Chlorides (as Cl):	49,560	Magnesium Carbonate:	
Sulphates (as SO_4):	202	Magnesium Sulphate:	
Nitrates (as N):	-	Magnesium Chloride:	4,277
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/

BGS ID: 767760 : BGS Reference: SK47SW269
British National Grid (27700) : 444910,371910

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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.