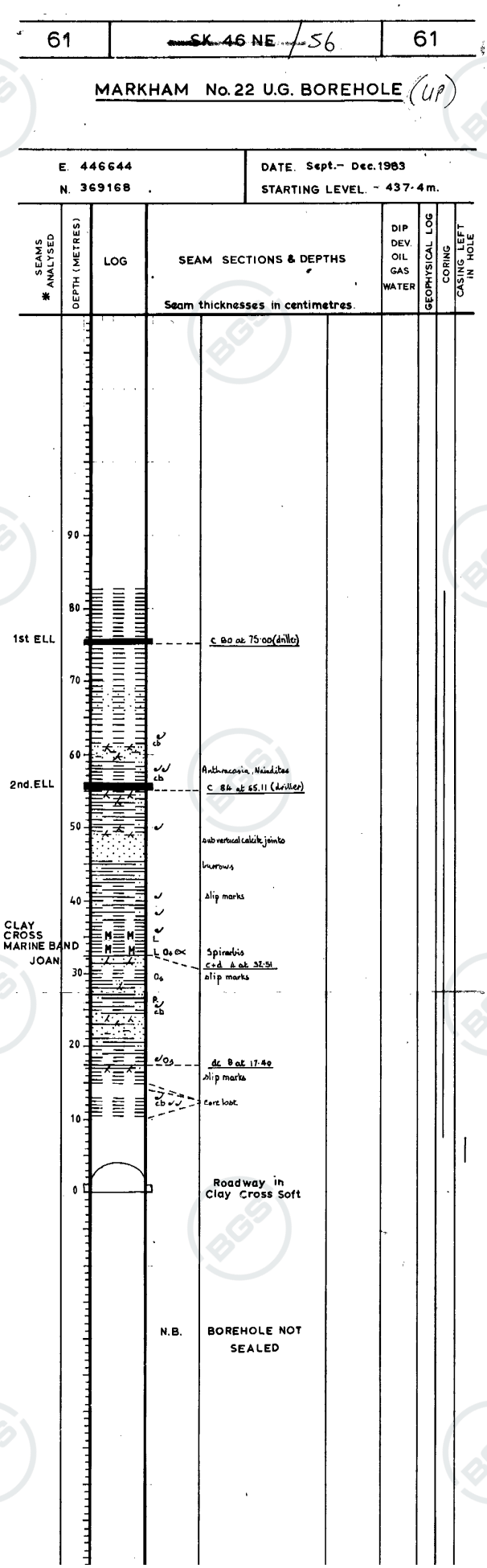

SK 46 NE/56

Section of: Markham No. 22 Underground Borehole

Purpose: Coal Exploration

Nat. Grid, Sheet & Qtr.	B/H REG. NO.
SK 46 NE	61

Exact Site: E446644 N469168

Level at which bore commenced relative to O.D. -437.4m.
in the Clay Cross Soft seam

Date of Boring: Sept. - Dec. 1983

Sinker or Borer: N.C.B.

Cores examined by D. J. Green

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS m	THICKNESS cm	DEPTH m	DEPTH cm
	Top of hole			82	50
Mudstone		6	70		
				75	80
COAL		0	80		
				75	00
Mudstone		3	00		
				72	00
Sandstone and Mudstone		3	00		
				69	00
Mudstone and Sandstone		3	00		
				66	00
Mudstone		3	85		
				62	15
	(Driller's record 62.15 - 82.50)				
Mudstone	laminated, 0.05 septarian ironstone band at the base; locally common worm tracks; locally common non-marine lamellibranchs	0	75		
				61	40
SEATEARTH					
Siltstone	fine; carbonaceous; unlaminated, occasional roots	0	17		
				61	23
Siltstone	fine and sandstone fine 50:50; irregularly interlaminated; common roots	0	27		
				60	96

SK 46 NE/56

				60	96
Sandstone	fine with common irregular siltstone fine laminae 70:30 locally 80:20; locally ripple bedded; common roots including Stigmaria in top 0.60	1	76		
				59	20
Siltstone	fine with occasional sandstone fine laminae 95:5; common micaceous carbonaceous planes	0	35		
				58	85
Mudstone	silty; laminated; common thin ironstone bands; locally common worm tracks; common and locally abundant non-marine lamellibranchs including Anthracosia and Naiadites	1	40		
				57	45
Mudstone	carbonaceous; shaly; occasional plant remains; locally common non-marine lamellibranchs including Naiadites	0	93		
				56	52
Mudstone	dark; laminated; occasional non-marine lamellibranchs including Naiadites	0	45		
				56	07
	detached				
CORE LOST		0	12		
				55	95
SECOND ELL COAL	mainly bright, fragments; 0.45 recovered				
	Driller records	(0	84)		
				55	11
CORE LOST		0	03		
SEATEARTH	detached			55	08
Mudstone	silty, grey, unlaminated; common irregular polished surfaces, common roots	0	18		
				54	90
Siltstone	fine, dark, unlaminated; occasional ironstone nodules; common roots	0	43		
				54	47
Mudstone	silty; dark; unlaminated; common roots	0	11		
				54	36
Mudstone	silty; grey becoming dark in top 0.08; occasional large ironstone nodules; common roots	0	40		
				53	96
Siltstone	fine to medium with occasional diffuse sandstone fine laminae and micro-lenses 80:20; locally ripple bedded with ripple sets; minor erosional surfaces; rare roots	0	71		
				53	25
Siltstone	fine to medium; laminated	0	15		
				53	10

SK 46 NE/56

				53	10
Mudstone	silty with occasional minor siltstone fine passages, rare ironstone bands; occasional worm tracks	2	35		
				50	75
Siltstone	fine, locally muddy; laminated	0	36		
				50	39
Siltstone	fine with rare sandstone fine laminae and lenses 95:5	0	10		
				50	29
Mudstone	laminated; occasional vague worm tracks	0	24		
				50	05
Mudstone	silty; dark; laminated; occasional 30 degree-hade unmineralised joints; rare poorly preserved non-marine lamellibranchs; rare roots	0	52		
				49	53
Mudstone	dark; unlaminated; common irregular polished surfaces, occasional roots	0	26		
				49	27
Mudstone	silty; dark; slightly carbonaceous; occasional irregular polished surfaces; occasional irregular coaly laminae	0	02		
				49	25
Siltstone	fine; locally muddy, dark; poorly laminated	0	05		
	sharp			49	20
Siltstone	fine and sandstone fine 50:50 irregularly interlaminated and interlayered; locally vaguely ripple bedded; common root nodules, common roots	0	46		
				48	74
Sandstone	fine with occasional siltstone fine laminae 95:5; occasional discontinous micaceous carbonaceous planes; locally vaguely ripple bedded; sub-vertical calcite - filled joint between 47.60 and 47.90	1	14		
				47	60
Sandstone	fine with occasional siltstone fine laminae 80:20; common iron-rich layers; common micaceous carbonaceous planes; locally ripple bedded with well-developed ripple sets; large load and pouch structures between 47.00 and 47.46; sub-vertical calcite-mineralised joints in basal 0.30	2	02		
				45	58
Siltstone	medium with occasional sandstone fine laminae 95:5; strong; 0.04 ironstone at the base	0	52		
				45	06
Siltstone	fine, muddy, dark, laminated; rare wispy thin sandstone fine laminae and un-connected lenses; locally common sand-filled burrows	0	91		
	sharp			44	15

SK 46 NE/56

				44	15
Siltstone	medium with rare diffuse sandstone fine laminae; load and pouch structures in basal 0.08; small sandstone load structures throughout	0	48		
	sharp			43	67
Siltstone	fine, muddy; laminated	1	17		
				42	50
	passage				
Mudstone	slightly silty; laminated; occasional ironstone bands; occasional worm tracks on some bedding planes	0	90		
				41	60
	passage				
Mudstone	silty; laminated; occasional thin ironstone bands; rare non-marine lamellibranchs including Naiadites; rare shell slip marks	1	84		
				39	76
Siltstone	fine; dark; poorly laminated; abundant non-marine lamellibranchs with mineralised shells	0	14		
				39	62
Siltstone	fine; unlaminated; iron-rich	0	16		
				39	46
Mudstone	silty; laminated; common non-marine lamellibranchs becoming less common towards the top	2	01		
				37	45
CLAY CROSS MARINE BAND					
Mudstone	slightly silty; laminated, fissile; rare non-marine lamellibranch fragments, occasional ostracods; common Lingula between 35.65 and 35.90				
	passage	1	85		
				35	60
Mudstone	laminated; slightly carbonaceous in the basal 0.10; Lingula at 34.95 and 35.80	2	94		
				32	66
Mudstone	highly carbonaceous, shaly, abundant ostracods; common fish remains; occasional detached Spirorbis	0	10		
				35	56
Mudstone	laminated	0	01		
	detached			32	55
JOAN COAL	and DIRT (cylinder)	0	04		
	detached, fitting			32	51

SK46 NE/56

				32	51
SEATEARTH					
Sandstone	fine to medium with occasional irregular micaceous carbonaceous planes; common roots	0	09		
				32	42
Siltstone	fine and sandstone fine 50:50; irregularly interlaminated and interlayered; common micaceous carbonaceous planes; common roots	0	32		
				32	10
Sandstone	fine with rare irregular siltstone fine laminae; occasional micaceous carbonaceous planes; occasional roots	0	13		
				31	97
Siltstone	fine with common irregular sandstone fine laminae 80:20; common micaceous carbonaceous planes; rare roots	0	61		
				31	36
Mudstone	silty; laminated	0	34		
				31	02
	sharp				
Sandstone	fine with rare siltstone fine laminae; common micaceous carbonaceous planes; vaguely ripple bedded throughout	0	21		
				30	81
	sharp				
Mudstone	silty; laminated	0	51		
	passage			30	30
Mudstone	locally slightly silty; laminated; rare shell slip marks; locally common worm tracks; rare plant fragments	1	08		
				29	22
Mudstone	dark, slightly carbonaceous; locally common ostracods	0	12		
				29	10
Siltstone	medium with occasional sandstone fine laminae 70:30; locally vaguely ripple bedded; sandstone load and pouch structures between 28.60 and 28.80	0	88		
				28	22
Siltstone	medium; unlaminated; strong; occasional roots	0	10		
				28	12
Siltstone	fine, locally muddy; laminated, becoming poorly laminated towards the top; rare plant remains including Calamites; occasional roots	0	46		
				27	66
Sandstone	fine; common micaceous carbonaceous planes; locally ripple bedded	0	28		
	sharp			27	38
Siltstone	fine with common sandstone fine laminae 70:30, becoming 90:10 near the top; common micaceous carbonaceous planes; common comminuted plant debris	0	63		
				26	75

SK 46 NE/56

				26	75
Siltstone	fine, locally muddy, laminated; locally common plant fragments near the base	0	35		
				26	40
Mudstone	silty, laminated, locally abundant comminuted plant debris	0	10		
				26	30
Mudstone	silty, laminated; common worm tracks and burrows; occasional non-marine lamellibranchs near the base and between 26:20 and 26:30; occasional shell slip marks	1	65		
				24	65
Mudstone	slightly silty; laminated; rare coalified plant remains; abundant non-marine lamellibranchs with mineralised shells	0	26		
	sharp			24	39
Mudstone	silty; highly carbonaceous; unlaminated; iron-rich	0	11		
	sharp			24	28
SEATEARTH					
Mudstone	silty; dark; unlaminated; abundant roots including Stigmaria	0	06		
	sharp			24	22
Sandstone	fine with common irregular siltstone fine laminae 60:40; common discontinuous micaceous carbonaceous planes; occasional roots	0	27		
				23	95
Sandstone	medium with common discontinuous micaceous carbonaceous planes; occasional roots	0	53		
				23	42
Siltstone	fine to medium with occasional sandstone fine laminae and ripple-marked lenses 95:5; rare roots	0	49		
	sharp			22	93
Sandstone	fine with rare siltstone fine laminae near the top; common micaceous carbonaceous planes; sub-vertical calcite-mineralised joints throughout; locally vaguely ripple bedded	0	68		
				22	25
Sandstone	fine to medium with occasional siltstone fine laminae, 90:10, common micaceous carbonaceous planes; locally vaguely ripple bedded	0	67		
				21	58
Siltstone	fine with rare wispy sandstone fine laminae	1	46		
				20	12
Siltstone	fine with occasional sandstone fine laminae and lenses, 95:5	0	15		
				19	97

SK46 NE/56

				19	97
Mudstone	silty, laminated; occasional thin ironstone bands; common worm tracks and burrows	1	92		
				18	05
Mudstone	silty, laminated; common non-marine lamellibranchs; common shell slip marks	0	33		
				17	72
Mudstone	silty, dark; laminated; common non-marine lamellibranchs, common ostracods	0	24		
	detached			17	48
COAL	dirty 0.08 broken cylinders and fragments	0	08		
	detached			17	40
SEATEARTH					
Siltstone	fine, grey; unlaminated, common roots	0	42		
				16	98
Mudstone	grey; unlaminated; occasional irregular polished surfaces; common roots	0	66		
				16	32
CORE LOST		0	42		
				15	90
Mudstone	laminated; locally slightly carbonaceous; occasional thin ironstone bands; occasional shell slip marks	1	20		
				14	70
CORE LOST		1	50		
				13	20
Mudstone	laminated; occasional shelly ironstone bands; core highly fragmented	0	45		
				12	75
Mudstone	laminated; occasional thin ironstone bands	0	50		
				12	25
Mudstone	carbonaceous; laminated; abundant non-marine lamellibranchs with mineralised shells	0	25		
				12	00
Mudstone	laminated; common thin ironstone bands; core highly fragmented; locally common worm tracks; rare non-marine lamellibranch fragments	1	40		
				10	60
CORE LOST		2	60		
				8	00

Start of coring 8.00m above origin in Clay Cross Soft seam

N.B. BOREHOLE NOT SEALED

0133r/JH

NOTTINGHAMSHIRE AREA
NATIONAL COAL BOARD

SK 46 NE/56

SURVEY DEPARTMENT

BOREHOLE DATA AND HISTORY

BOREHOLE NAME: LAGS UP-BORE (MARKHAM N°22).

Approximate Location: 2½ KM SOUTH OF MARKHAM COLLIERY

National Grid Reference: E 446644 N 369168·2

6 inch sheet: 46 NE.

Level of Origin: −437·41 metres.

Date of Drilling: Commenced 14-9-83.
Finished 9-12-83

Contractor's Name: N.C.B.

Name of Boremaster: J. MOTTRAM

Depth ~~(ft)~~ m	Diameter of Core (in)	Diameter of Hole (in)
00 – 3	—	126 mm
3 – 82·50	48 mm	76 mm

Drilling Difficulties: THE HOLE CAVED BADLY THROUGHOUT AND EVENTUALLY AT A DISTANCE OF 82·50m DRILLING WAS AT A STANDSTILL. SOME 26m SHORT OF 2ND WATERLOO THEN THE 1 YEAR STRIKE INTERVENED DURING WHICH TIME A FIRE MAIN BURST ON THE DISTRICT AND FLOODED SEVERAL GATES.

Method of Sealing Off Borehole: THE WATER WAS PUMPED AWAY ONLY TO ENABLE THE DRILLING EQUIPMENT TO BE RETRIEVED. THEN THE DISTRICT WILL BE SEALED OFF HENCE THE ABANDONMENT OF THE HOLE

HOLE WAS NOT SEALED

Purpose fulfilled by Borehole: PROVED ONLY THE 1ST & 2ND EL SEAMS

Official Responsible for above Report: K Tidswell

for Area Chief Surveyor & Minerals Manager