



FBI MEMO P 70

~~SECRET~~ COMMERCIAL IN CONFIDENCE

~~100-1000~~ OCT 30 1981 KOB 9-6-89

13 OCT 1918

Section of PARK FARM SURFACE BOREHOLE

Purpose **Coal Exploration**

Exact Site E 444 886.1 metres

N-360-512-a (water)

N 308 662.9. Bistr.

near Sutton Scarsdale, Derbys.

shaft

Level at which shaft bore commenced relative to O.D. 357.13 ft. m or ft*
drift A.O.D.

Date of sinking or boring 24. 8.72 to 20.10.72

Sinker or borer Foray Ltd. (W. Thompson)

Cores examined by J.H. Rinnan, and P.K. Boam (below 1078/10)

FORM P 31
SERIES 680

COMMERCIAL IN CONFIDENCE

31 OCT 1973

Section of PARK FARM SURFACE BORERHOLE

| 6-INCH MAP | | B/H | |
|--------------------|--|-----|--|
| SK46 NW /21 | | | |

*Delete as appropriate

| GEOLOGICAL CLASSIFICATION | NATURE OF STRATA | THICKNESS | | DEPTH | |
|------------------------------|---|-----------|-----------|----------|-----------|
| | | m or ft* | cm or in* | m or ft* | cm or in* |
| | | | | 776 | 8 |
| Sandstone, | with minor interlaminated siltstone; diastems; locally crumpled bedding; coalified Calamites stem 0/0 ¹ " diameter from top to 78/3 roughly perpendicular to the normal bedding; locally dune-sized cross-bedding, with units up to 0/4" thick | 0 | 10 | 777 | 6 |
| Siltstone | coarse, very evenly interlaminated with sandstone; abundant coaly micaceous planty planes; | 0 | 5 | 777 | 11 |
| Siltstone | coarse; poorly-defined bedding with local layers of sandstone up to 0/2" thick; local large plant debris on some bedding planes | 1 | 11 | 779 | 10 |
| Siltstone, | coarse at the top, becoming fine grain below 80/4; massive; rare faultlets; common large coalified "strap" plants, some with many attached Spirorbis; common "fern" leaves and fronds including Neuropteris, some with attached Spirorbis passage | 0 | 8 | 780 | 6 |
| Mudstone, | unlaminated; local thin ironstone bands; locally listric; common "fern" fronds and "strap" plants; Pinnularia at 80/7; becoming silty towards the base | 0 | 8 | 781 | 2 |
| Siltstone | fine with abundant sandstone laminae; rare minor diastems, locally well-developed ripple drift as at 81/10, local poorly developed "train" drift; rare faultlets; common ironstone nodules; | 1 | 5 | 782 | 7 |
| Siltstone, | medium grain, well laminated; common ironstone nodules; | 0 | 5 | 783 | 0 |
| Siltstone, | medium grain with common sandstone laminae; well-developed "train" drift at 83/0; large ripple drift unit below; | 0 | 5 | 783 | 5 |
| Siltstone, | with many sandstone laminae; bedding contorted; abundant ironstone lenses; | 0 | 5 | 783 | 10 |
| Siltstone, | with abundant thin sandstone laminae; local ripple drift; bedding disturbed by an overthrust faultlet, dipping 10° with respect to the bedding at 84/3; diastems, especially to 84/0; | 0 | 6 | 784 | 4 |



FORM P 71
SERIES 680

COMMERCIAL IN CONFIDENCE

Section of **PARK SURFACE BOREHOLE**

B-1 INCH MAP B/H
46NU /21

**Delete as appropriate*

FORM 71
SERIES 680

COMMERCIAL IN COALFIELD

37 OCT 1973

Section of PARK FARM SURFACE BOREHOLE

B-INCH MAP B/H

SK46NW /21

*Delete as appropriate

| GEOLOGICAL CLASSIFICATION | NATURE OF STRATA | THICKNESS | | DEPTH | |
|------------------------------|--|-----------|-----------|----------|-----------|
| | | m or ft* | cm or in* | m or ft* | cm or in* |
| | | | | 806 | 9 |
| Siltstone, | medium grain, very poorly laminated; "fern" fronds and "strap" plants; local ironstone lenses; | 0 | 9 | 807 | 6 |
| Siltstone | with irregular sandstone laminae | 0 | 2 | 807 | 8 |
| Sandstone, | dune sets; unmineralised low hade breaks throughout (mining induced?) | 0 | 9 | 808 | 5 |
| Siltstone, | with abundant thin sandstone laminae; occasional ripple drift, evenly-bedded elsewhere; low-hade unmineralised breaks throughout; passage | 1 | 3 | 809 | 8 |
| Sandstone, | with discontinuous siltstone laminae and layers; small-scale, irregular cross- bedding; abundant diastems; abundant small micaceous planty planes throughout erosional base | 3 | 3 | 812 | 11 |
| Sandstone, | with interlaminated siltstone; small- scale cross-bedding in parts, evenly laminated elsewhere local prominent diastems; abundant large coaly micaceous planty planes throughout; | 1 | 6 | 814 | 5 |
| Sandstone, | dune sets; local ironstone clasts; mineralised joints; base very irregular erosional | 1 | 1 | 815 | 6 |
| Sandstone, | truncated linguoid ripple sets; carbonate- mineralised joints throughout; few coaly micaceous planty planes to approximately 18/0, more abundant below; not canky; sharp | 3 | 8 | 819 | 2 |
| Sandstone, | dune sets; abundant very coaly micaceous planty planes from 19/2 to 19/9 | 0 | 8 | 819 | 10 |
| Sandstone, | truncated linguoid ripple sets to 21/0, more irregularly-bedded below with extensive very coaly micaceous planty planes at some levels; discontinuous siltstone laminae common below 21/11; local thin ironstone lenses | 2 | 4 | 822 | 2 |
| Siltstone, | medium grain, with abundant sandstone lenses, with prominent diastems; sandstone content decreases gradually towards the base; low hade unmineralised breaks throughout; | 2 | 6 | 824 | 8 |



FORM P 71
SERIES 680

Section of

~~COMMERCIAL IN CONFIDENCE~~

137 OCT 1973

PARK FARM SURFACE BOREHOLE

| | |
|-------------|-----|
| 6-INCH MAP | B/H |
| SK46 NU /21 | |

**Delete as appropriate*

| GEOLOGICAL CLASSIFICATION | NATURE OF STRATA | THICKNESS | | DEPTH | |
|------------------------------|---|-----------|-----------|----------|-----------|
| | | m or ft* | cm or in* | m or ft* | cm or in* |
| Siltstone, | fine grain, with thin evenly bedded sandstone laminae; passage | 0 | 8 | 824 | 8 |
| Siltstone | fine grain, well-laminated; rare sandstone laminae; abundant plant debris on some bedding planes; passage | 2 | 6 | 825 | 4 |
| Siltstone, | medium grain, with many evenly-bedded sandstone laminae and occasional thin sandstone lenses; finer grain below 28/3 with little sandstone; passage | 0 | 8 | 827 | 10 |
| Ironstone | | 0 | 2 | 828 | 6 |
| Mudstone, | laminated; ironstone bands 0/2" thick at 29/0 and 30/5; core broken by high-hadé breaks from 29/0 - 30/0; passage | 2 | 4 | 831 | 0 |
| Mudstone, | poorly laminated; local small listric surfaces; rare small ironstone nodules; rare <u>Anthracosia</u> from 31/3; ironstone band 0/2" thick at 32/5; local sub-vertical breaks; passage | 1 | 8 | 832 | 8 |
| Mudstone, | slightly shaly, well laminated to approximately 33/4; common ironstone nodules containing non-marine lamellibranchs from 33/6 to 33/11 with associated listric surfaces; ironstone bands 0/2" thick at 34/4 and 34/11; vaguely wormy from 33/4, common large ?shell-guilielmites from 33/4; rare ostracods; passage | 2 | 4 | 835 | 0 |
| Mudstone, | slightly shaly, slightly carbonaceous in parts, laminated; common shell-guilielmites, abundant from 35/7, with many <u>Spirorbis</u> ; wormy in parts, especially below 35/7; local thin ironstone lenses throughout; passage | 1 | 4 | 836 | 4 |
| Mudstone, | slightly shaly, slightly carbonaceous, common poorly preserved non-marine lamellibranchs (? <u>Anthracosia</u>), abundant <u>Spirorbis</u> ; vaguely wormy in parts; increasingly shaly and carbonaceous towards the base; iron-rich in the basal 0/1" | 1 | 0½ | 837 | 4½ |



FORM P 71
SERIES 680

~~COMMERCIAL IN CONFIDENCE~~

31 OCT 1973

Section of

PARK FARM SURFACE BOREHOLE

B-INCH MAP

✓

SK4LMU / 2

ANSWER

| GEOLOGICAL CLASSIFICATION | NATURE OF STRATA | Delete as appropriate | | | |
|------------------------------|--|-----------------------|-----------|--------------------------------|----|
| | | THICKNESS m or ft* | cm or in* | DEPTH m or ft* cm or in* | |
| | <u>CORE BOXED 837/4 - 844/4</u> | | | | |
| * Mudstone, | dark grey, shaly; non-marine lamellibranchs and a little fish debris core attached | 0 | 4 | 837 | 4½ |
| * <u>2ND WATERLOO</u> | Coal, bright 0 - 4 Coal, dirty dull 0 - 1½ Coal, dirty bright 0 - 1½ Coal, banded 0 - 3½ Coal and ironstone 0 - 1 } top leaf Coal, mostly bright 0 - 5½ Coal, banded 0 - 6½ Coal, bright 0 - 6 Seatearth mudstone, grey 0 - 5½ Coal, mostly bright 1 - 2½ middle leaf Seatearth mudstone, grey 0 - 5 Coal, dirty, bright 0 - 5½ Coal, bright 1 - 5½ lower leaf 6 - 5½ | | | | |
| | Recovery 100% | | | | |
| | Thickness corrected for a 15° dip = 6' 1" | 6 | 5½ | 844 | 0 |
| | core attached | | | | |
| * Mudstone, | dark grey, with bright coal streaks | 0 | 1 | 844 | 1 |
| * Seat Earth | Mudstone, immature; roots and other plant remains | 0 | 3 | 844 | 4 |



FORM P 71
SERIES 680

COMMERCIAL IN CONFIDENCE

31 OCT 1973

Section of PARK FARM SURFACE BOREHOLE

6-INCH MAP B/H
246 NW/21

**Delete as appropriate*



FORM P-71
SERIES 680

COMMERCIAL IN CONFIDENCE

Section of

PARK FARM SURFACE BOREHOLE

6-INCH MAP B/H
246 NW/21

| GEOLOGICAL CLASSIFICATION | NATURE OF STRATA | *Delete as appropriate | | DEPTH | |
|------------------------------|---|------------------------|-----------|----------|-----------|
| | | m or ft* | cm or in* | m or ft* | cm or in* |
| Seat Earth | Siltstone fine, grey, immature; few roots; abundant ironstone nodules from 51/4; rare thin sandstone lenses from 51/6; local coalified Calamites sharp | 1 | 10 | 850 | 6 |
| Siltstone, | with abundant sandstone lenses and laminae; diastems; rare roots; | 0 | 7 | 852 | 4 |
| Sandstone, | with many small micaceous planty planes and discontinuous siltstone layers and laminae; abundant prominent diastems; low-had unmineralised breaks (mining induced ?) throughout | 2 | 1 | 855 | 0 |
| Sandstone | with rare truncated siltstone lenses; possible dune sets; micaceous planty planes; | 0 | 9 | 855 | 9 |
| Sandstone | with frequent discontinuous siltstone laminae and layers; abundant small micaceous planty planes; many prominent diastems; rare horizons of contorted bedding; | 2 | 9 | 858 | 6 |
| Siltstone | fine, with abundant disconnected sandstone lenses; | 0 | 2 | 858 | 8 |
| Siltstone | fine with large sandstone load-and-pouch structures | 1 | 4 | 860 | 0 |
| Siltstone | fine with thin sandstone lenses and laminae, rare to approximately 61/0; more common below, with local load-and-pouch structures; less sand from 61/9 to 61/11 passage | 1 | 11 | 861 | 11 |
| Siltstone | fine, laminated; a few thin sandstone laminae in the top 0/3" ironstone lens 0/2" thick at 65/8, passage | 4 | 1 | 866 | 0 |
| Mudstone, | silty near the top, poorly laminated; ironstone band 0/1" thick at the base | 2 | 5 | 868 | 5 |
| Mudstone, | poorly laminated; common thin ironstone bands; wormy; guilielmites from 69/4, poorly preserved non-marine lamellibranchs from 70/5 | 2 | 5 | 870 | 10 |



FORM P 71
SERIES 680

137 OCT 1973

Section of

COMMERCIAL IN CONFIDENCE

6-INCH MAP B/H
SK46 NU/21

| GEOLOGICAL CLASSIFICATION | NATURE OF STRATA | *Delete as appropriate | | | |
|------------------------------|--|------------------------|-------|----------|-----------|
| | | THICKNESS | DEPTH | m or ft* | cm or in* |
| Mudstone, | shaly highly carbonaceous, sub-cannelloid; iron-rich; rare fish-debris; attached | 0 | 5 | 870 | 10 |
| Coal, | mostly bright, with a few thin dull bands; core broken 71/7, attached | 0 | 5 | 871 | 3 |
| Mudstone, | highly carbonaceous, with many bright coal streaks; attached | 0 | 1½ | 871 | 9½ |
| Coal, | bright attached | 0 | 0½ | 871 | 9¼ |
| Seat Earth | Mudstone, dark brownish-grey; very listric; abundant roots; passage | 1 | 2½ | 873 | 0 |
| Seat Earth | Mudstone, grey, common listric surfaces, common ironstone nodules; abundant roots; becoming carbonaceous in basal 0/1" attached | 3 | 4½ | 876 | 4½ |
| COAL, | mostly bright, locally cannelloid; core largely fragmented; unattached | 0 | 4½ | 876 | 9 |
| Seat Earth | Mudstone, brown, very listric; abundant roots; sphaerosiderite patches from 80/10, ironstone nodules common from 81/8, | 5 | 6 | 882 | 3 |
| Seat Earth | Mudstone, grey, abundant sphaerosiderite; abundant roots | 0 | 9 | 883 | 0 |
| Seat Earth | Mudstone, dark brownish-grey; locally listric; common coalified "strap" plants and stigmarian roots; <u>Neuropterus</u> fronds at 84/10; local ironstone nodules; becoming silty below 85/0; to approximately 86/0; muddy, grey, and with large listric surfaces below 86/0; | 4 | 5 | 887 | 5 |
| Mudstone, | silty, dark brownish-grey; unlaminated; abundant coalified "strap" plants, common "fern" fronds and leaves; <u>Pinnularia</u> at 90/11; obscure bedding at 91/5 with abundant tiny ironstone pellets; local faultlets at 92/4; grey below approximately 94/0; passage | 7 | 7 | 895 | 0 |



FORM P 71
SERIES 680

COMMERCIAL IN CONFIDENCE

13 Oct 1973

— Section of **PARK FARM SURFACE BOREHOLE**

| | | |
|------------|---|-----|
| 6-INCH MAP | / | B/H |
| SK46 NW/21 | | |

| GEOLOGICAL CLASSIFICATION | NATURE OF STRATA | THICKNESS | | DEPTH | |
|------------------------------|--|-----------|-----------|----------|-----------|
| | | m or ft* | cm or in* | m or ft* | cm or in* |
| Siltstone | coarse, poorly laminated; abundant comminuted plant remains; | 0 | 6 | 895 | 0 |
| Mudstone, | silty, brownish grey, unlaminated; abundant poorly preserved "fern" fronds and leaves, common "strap" plants, <i>Calamites</i> , and <i>Lepidodendron</i> ; abundant faultlets from 899/10 to 900/0, and locally below; | 7 | 10 | 895 | 6 |
| Siltstone | fine, poorly laminated; abundant poorly preserved plant remains; | 0 | 10 | 903 | 4 |
| Mudstone, | silty unlaminated, usually brownish-grey; common small ironstone nodules; small ironstone-filled ?sedimentary dykes at 06/5, and locally below; abundant plant remains throughout, including coalified "strap" plants, <i>Calamites</i> , <i>Lepidodendron</i> , and poorly-preserved "fern" fronds and leaves; <i>Pinnularia</i> at 06/4; passage | 4 | 4 | 904 | 2 |
| Siltstone | fine, brownish-grey at the top, grey below; massive; locally common faultlets; abundant plant remains including "strap" plants and "fern" fronds and leaves; abundant tiny ironstone specks from 11/2 to 11/6; <i>Alethopteris</i> at 11/4; | 4 | 6 | 908 | 6 |
| Siltstone | fine, locally silty mudstone, dark grey, locally poorly laminated, abundant faultlets; local large inclined listric surfaces; local small ironstone nodules; abundant large coalified "strap" plants and <i>Calamites</i> , common "fern" remains, including <i>Alethopteris</i> large inclined listric surface at the base; sharp | 7 | 10 | 913 | 0 |
| Siltstone, | dark grey, with abundant sandstone laminae, bedding disturbed by numerous parallel faultlets throwing up to 1/12; diasteme; rapid passage | 0 | 8 | 920 | 10 |
| Siltstone | fine, massive; dark grey; irregular light greenish-grey patches from 29/5 to 29/7; abundant subparallel faultlets, common large inclined listric surfaces, common small ironstone nodules; irregular thin and very disturbed sandstone laminae from 30/7 to the base; abundant plant remains throughout including <i>Sigillaria</i> ; rare <i>Pinnularia</i> | 9 | 7 | 921 | 6 |

FORM P-71
SERIES 680

57 APR 1973
COMMERCIAL IN CONFIDENCE

Section of

PARK FARM SURFACE BOREHOLE

6-INCH MAP B/H
SK46 NW/21

*Delete as appropriate

| GEOLOGICAL CLASSIFICATION | NATURE OF STRATA | THICKNESS | | DEPTH | |
|------------------------------|---|-----------|-----------|----------|-----------|
| | | m or ft* | cm or in* | m or ft* | cm or in* |
| Sandstone, | poorly-defined subhorizontal bedding; small ironstone and siltstone clasts to 31/5, abundant twin siltstone inclusions below, with 0/1" thick microbreccia at the base erosional base | 0 | 9 | 931 | 1 |
| Siltstone | fine with thin disconnected sandstone lenses; local horizons of contorted bedding, rare iron-rich layers; becoming muddy towards the base (core condition deteriorates abruptly at 35/2); | 3 | 4 | 935 | 2 |
| Mudstone, | laminated, common ironstone bands up to 0/1" thick; vague wormy traces to approximately 38/0 and very worm below, "kaolin" oolith ironstone band 0/1" thick at 38/10 | 3 | 8 | 938 | 10 |
| Seat Earth | Mudstone, brown, very listric unattached | 0 | 2 | 939 | 0 |
| COAL and dirt | bat 0/1) coal, bright 0/1 } partly fragmented bat 0/1) unattached | 0 | 3 | 939 | 3 |
| Seat Earth | Mudstone, grey, very listric | 0 | 9 | 940 | 0 |
| Bat; | solid core unattached | 0 | 8 | 940 | 8 |
| Seat Earth | Mudstone, dark grey; very listric unattached | 0 | 11 | 941 | 7 |
| COAL, | bright unattached | 0 | 1 | 941 | 8 |
| Seat Earth | Mudstone, dark brownish-grey; very listric; sharp | 0 | 2 | 941 | 10 |
| Seat Earth | Siltstone fine, light grey; unlaminated, abundant <u>Stigmaria</u> ; passage | 2 | 6 | 944 | 4 |
| Seat Earth | Siltstone, with local disturbed sandstone laminae; bedding disturbed by roots; very iron-rich throughout; passage | 0 | 9 | 945 | 1 |
| Siltstone | fine, with rare sandstone laminae; common thin ironstone bands; abundant plant debris on many bedding planes | 2 | 10 | 947 | 11 |



FORM P 71
SERIES 680

COMMERCIAL IN CONFIDENCE

Section of

PARK FARM SURFACE BOREHOLE

6-INCH MAP

✓H

~~SK46 Mv/21~~

**Delete as appropriate*

| GEOLOGICAL CLASSIFICATION | NATURE OF STRATA | *Delete as appropriate | | |
|------------------------------|---|------------------------|-----------|---------------------------------|
| | | THICKNESS m or ft* | cm or in* | DEPTH m or ft* cm or in |
| Siltstone | with many regularly-occurring sandstone layers up to 0/1½" thick; diastems | 0 | 10 | 947 11 |
| Sandstone | with discontinuous siltstone laminae and layers; abundant diastems; sandstone content decreases below 49/6; passage | 1 | 3 | 948 9 |
| Siltstone | fine, laminated; rare sandstone laminae to 50/3; local thin ironstone bands; very wormy in parts; passage | 1 | 7 | 950 0 |
| Mudstone, | poorly laminated; wormy; <i>Cochlichnus</i> and a single poorly-preserved non-marine lamellibranch at 51/10; | 1 | 10 | 951 7 |
| Mudstone, | shaly, poorly laminated; fragment thin-shelled non-marine lamellibranchs, wormy | 0 | 10 | 953 5 |
| Siltstone | fine, poorly laminated; local iron-rich patches; locally very wormy; | 4 | 7 | 954 3 |
| Ironstone, | canky | 0 | 6½ | 955 4½ |
| Mudstone, | poorly laminated, slightly shaly; wormy; locally common poorly-preserved non-marine lamellibranchs to 62/9, with abundant minute juvenile non-marine lamellibranch at 61/3; abundant well-preserved <i>Anthracosia</i> , often with both valves attached, from 62/9, on some bedding planes | 5 | 1½ | 964 6 |
| Siltstone | fine, with thin sandstone lenses and laminae; sandstone content decreases downwards | 0 | 6 | 965 0 |
| Sandstone, | ripple sets; local discontinuous siltstone laminae especially in the basal 0/3" passage | 2 | 0 | 967 0 |
| Sandstone | with siltstone; sandstone lenses with basal diastems | 0 | 4 | 967 4 |
| Siltstone | fine, with connected sandstone lenses; several prominent diastems; local sandstone ? load structures; passage | 1 | 4 | 968 8 |

13 OCT 1910

FORM P 71
SERIES 680

COMMERCIAL IN CONFIDENCE

6-INCH MAP

B/H

SK46 NW/21

Section of PARK FARM SURFACE BOREHOLE

*Delete as appropriate

| GEOLOGICAL CLASSIFICATION | NATURE OF STRATA | THICKNESS | | DEPTH | |
|------------------------------|---|-----------|-----------|----------|-----------|
| | | m or ft* | cm or in* | m or ft* | cm or in* |
| | | | | 968 | 8 |
| Siltstone | fine with common sandstone laminae at several horizons; many minor diastems; bedding commonly contorted; | 2 | 4 | 971 | 0 |
| Siltstone | fine with common sandstone laminae and thin discontinuous sandstone lenses passage | 1 | 0 | 972 | 0 |
| Siltstone | fine with thin sandstone lenses; bedding commonly contorted; | 2 | 0 | 974 | 0 |
| Sandstone, | small scale cross-bedding with many discontinuous siltstone laminae; diastems; | 0 | 5 | 974 | 5 |
| Siltstone | fine with many prominent sandstone load structures; | 1 | 10 | 976 | 3 |
| Siltstone | fine with rare thin sandstone lenses and laminae; ironstone band 0/3" thick at 77/4 | 1 | 1 | 977 | 4 |
| Siltstone | fine, laminated passage | 1 | 8 | 979 | 0 |
| Mudstone | silty, laminated; ironstone bands 0/2" thick at 79/11 and 83/6 passage | 7 | 0 | 986 | 0 |
| Mudstone, | laminated; common thin ironstone bands and lenses up to 0/1½" thick; very wormy; rare poorly preserved non-marine lamellibranchs to 98/3, and abundant thick-shelled non-marine lamellibranchs at 98/3 | 3 | 4 | 989 | 4 |
| Mudstone, | shaly, highly carbonaceous; silty to 92/5; common non-marine lamellibranchs to 89/8, wormy throughout; | 3 | 6 | 992 | 10 |
| CORE BOXED 992/10 - 998/5½ | | | | | |
| * Mudstone, | dark grey, shaly, with non-marine lamellibranchs and ironstone bands in the basal 5 inches | 0 | 11½ | 993 | 9½ |
| core unattached | | | | | |
| * FIRST ELL | Coal, mostly bright 0 - 9 Seatearth, mudstone, grey 0 - 4½ Coal, bright 0 - 3 Mudstone, canneloid 0 - 1 Seatearth mudstone, grey 2 - 2 Coal, bright 0 - 6 Cannel, dirty 0 - 2 Coal, bright 0 - 3 Coal, dirty, bright 0 - 1 4 - 7½ Recovery 100% Thickness corrected for 15° dip = 4 - 5½ | 4 | 7½ | 998 | 5 |
| * Seat Earth | siltstone, medium grain, with sandstone streaks; roots | 0 | 3½ | 998 | 8½ |

FORM P 71
SERIES 680

COMMERCIAL IN CONFIDENCE

3 OCT 1973

Section of PARK FARM SURFACE BOREHOLE

| | |
|------------|-----|
| 6-INCH MAP | B/H |
| SK46 NW/21 | |

*Delete as appropriate

| GEOLOGICAL CLASSIFICATION | NATURE OF STRATA | THICKNESS | | DEPTH | |
|------------------------------|---|-----------|-----------|----------|-----------|
| | | m or ft* | cm or in* | m or ft* | cm or in* |
| Seat Earth | Siltstone, coarse, with irregular sandstone laminae; <u>Stigmaria</u> ; sharp | 0 | 2 | 998 | 8½ |
| Seat Earth | Sandstone, with discontinuous siltstone laminae; bedding disturbed by <u>Stigmaria</u> ; | 0 | 11½ | 998 | 10½ |
| Sandstone, | with abundant discontinuous siltstone laminae; diastems; roots throughout; sub-vertical unmineralised fractures (mining breaks ?) | 3 | 8 | 999 | 10 |
| Siltstone | coarse, with thin sandstone lenses; bedding very irregular and disturbed from 03/9; roots: | 0 | 11 | 1003 | 6 |
| Siltstone | coarse, laminated; several sandstone layers with erosional bases; | 1 | 1 | 1004 | 5 |
| Sandstone, | small-scale cross-bedding with discontinuous siltstone laminae and layers; abundant prominent diastems; local siltstone-clast breccia; bedding convoluted from 06/8 to 06/11; rare sand-filled burrows; | 4 | 1 | 1005 | 6 |
| Siltstone, | often coarse grain, with thin disconnected sandstone laminae and lenses; slurry with "sheen" surfaces from 09/7 to 10/0 | 1 | 11 | 1009 | 7 |
| Sandstone | connected sandstone lenses with inter-layered siltstone | 0 | 3 | 1011 | 6 |
| Sandstone, | ripple sets | 0 | 6 | 1011 | 9 |
| Siltstone | with abundant sandstone lenses and abundant minor diastems | 0 | 8 | 1012 | 11 |
| Sandstone | ripple sets | 1 | 4 | 1014 | 3 |
| Siltstone | with sandstone lenses; local minor diastems; | 0 | 8 | 1014 | 11 |
| Siltstone | fine with thin sandstone lenses; passage | 1 | 1 | 1016 | 0 |
| Sandstone | with discontinuous siltstone laminae; abundant prominent diastems; | 1 | 2 | 1017 | 2 |



FORM P 71
SERIES 680

COMMITTEE IN CHARGE

三月 1973

Section of **PARK PARM SURFACE BOREHOLE**

B-1INCH MAP B/H
SK46 NW/21

**Delete as appropriate*

| GEOLOGICAL CLASSIFICATION | NATURE OF STRATA | THICKNESS | | DEPTH | |
|------------------------------|--|-----------|-----------|----------|-----------|
| | | m or ft* | cm or in* | m or ft* | cm or in* |
| Siltstone | with sandstone; convoluted bedding; sharp | 2 | 5 | 1017 | 2 |
| Siltstone | fine with rare thin disconnected sandstone lenses; <u>Calamites</u> common on some bedding planes; wormy; core condition deteriorates sharply at base | 3 | 10 | 1019 | 7 |
| Mudstone, | poorly laminated, shaly; rare thin iron-stone bands in wormy; rare poorly-preserved non-marine lamellibranchs from 24/10 to approximately 26/0; frequent small <u>Naiadites</u> from 26/0; common small thick-shelled non-marine lamellibranchs from 30/5, becoming larger below 31/9; shell-guilielmites frequent throughout; ironstone band 0/2" thick at 32/1 | 8 | 8 | 1023 | 5 |
| Mudstone, | shaly, slightly carbonaceous; | 0 | 2 | 1032 | 1 |
| Siltstone | fine, carbonaceous, | 0 | 6 | 1032 | 3 |
| Seat Earth | Siltstone fine, grey; poorly bedded in parts; <u>Stigmaria</u> | 1 | 1 | 1033 | 9 |
| Seat Earth | Siltstone with sandstone; poorly bedded, vague diastems; roots; passage | 0 | 6 | 1034 | 4 |
| Siltstone, | dark grey, with thin regularly-bedded sandstone laminae; rare roots; common small sand-filled burrows from 34/9 | 0 | 10 | 1035 | 2 |
| Sandstone, | small-scale cross bedding, rare discontinuous siltstone laminae and layers; abundant prominent diastems; sandstone-filled burrows common at some levels; sub-vertical, carbonate-mineralised joints throughout | 1 | 9 | 1036 | 11 |
| Siltstone | fine with abundant thin disconnected sandstone lenses | 1 | 0 | 1037 | 11 |
| Sandstone, | with discontinuous siltstone laminae; diastems; erosional base | 0 | 4 | 1038 | 3 |
| Siltstone | fine, with abundant disconnected sandstone lenses and laminae; sandstone content decreases downwards; local small sandstone-filled burrows | 1 | 9 | 1040 | 0 |

FORM P 71
SERIES 680

COMMERCIAL IN CONFIDENCE

157 OCT 1973

6-INCH MAP

B/H

SK46NW/21

Section of PARK FARM SURFACE BOREHOLE

| GEOLOGICAL CLASSIFICATION | NATURE OF STRATA | *Delete as appropriate | | DEPTH | |
|------------------------------------|---|------------------------|-----------|----------|-----------|
| | | m or ft* | cm or in* | m or ft* | cm or in* |
| | | | | 1040 | 0 |
| Sandstone | with fine grain siltstone; abundant diastems; | 0 | 8 | 1040 | 8 |
| Siltstone | fine with thin sandstone laminae; abundant diastems passage | 0 | 4 | 1041 | 0 |
| Mudstone | silty, poorly laminated; ironstone band 0/2" at 41/7; locally common poorly preserved thick-shelled non-marine lamellibranchs, and <i>Naiadites</i> , and vague wormy traces to 42/5; more definitely wormy below with larger <i>Naiadites</i> , <i>Anthracosia</i> and possible <i>Anthraconaria</i> ; passage | 1 | 9 | 1042 | 9 |
| Mudstone, | unlaminated, not shaly; local ironstone bands and lenses up to 0/1" thick; abundant <i>Naiadites</i> and <i>Anthraconaria</i> ; abundant <i>Spirorbis</i> associated with <i>Naiadites</i> ; passage | 2 | 4 | 1045 | 1 |
| Mudstone, | dark grey, poorly laminated, slightly silty; abundant large non-marine lamellibranchs, including <i>Naiadites</i> , <i>Anthracosphaerium</i> and <i>Anthraconaria</i> | 0 | 8 | 1045 | 9 |
| Mudstone, | shaly, carbonaceous; pyritic ironstone-filled ?sedimentary dyke with flanking listric surfaces from 45/9 to 46/1; abundant large thick-shelled non-marine lamellibranchs including <i>Anthracosia</i> to 46/3, common <i>Naiadites</i> from 46/3 to 46/6, becoming fewer below; thin ironstone bands common below 46/4; | 1 | 1 | 1046 | 10 |
| Mudstone, | light grey, not shaly, not carbonaceous; laminated; rare small ironstone lenses; abundant small inclined listric surfaces, and local faultlets to approximately 47/4; vague wormy traces throughout, and very wormy at 47/3, possible non-marine lamellibranchs debris at 47/9; rare coalified plant debris throughout; listric from 47/11 to 48/3; whole-core gently inclined listric surface at the base: | 1 | 5 | 1048 | 3 |
| <u>CORE BOXED 1048/3 - 1052/9½</u> | | | | | |
| * Mudstone, | grey, highly listric core not attached | 0 | 5 | 1048 | 8 |
| * <u>SECOND ELL</u> | Coal bright 1 - 4 Coal, dirty, bright fragmented 0 - 3½ Coal, mostly bright 0 - 5 Coal, banded 0 - 5 Coal, bright 0 - 7½ Seatearth, mudstone 0 - 1½ Coal, dirty bright 0 - 0½ | 3 - 3 | | | |

FORM P 71
SERIES 680

COMMERCIAL IN CONFIDENCE

31 OCT 1973

Section of PARK FARM SURFACE BOREHOLE

| 6-INCH MAP | | B/H |
|-------------------|--|-----|
| SK46 NW/21 | | |

*Delete as appropriate

| GEOLOGICAL CLASSIFICATION | NATURE OF STRATA | THICKNESS | | DEPTH | |
|------------------------------|---|-----------|-----------|----------|-----------|
| | | m or ft* | cm or in* | m or ft* | cm or in* |
| | .../cont. | | | | |
| | Recovery 95% Thickness corrected for 15° dip = 3' 1 1/2" core attached | 3 | 3 | 1051 | 11 |
| * Seat Earth | Siltstone, medium grained, light grey; darker in the top 2 1/2" with occasional bright coal streaks, roots | 0 | 10 1/2 | 1052 | 9 1/2 |
| Seat Earth | Siltstone with many sandstone laminae, local sandstone lenses; diastems; bedding disturbed by <u>Stigmaria</u> ; | 1 | 7 1/2 | 1054 | 5 |
| Sandstone | with siltstone; large sandstone ?load structures; roots; | 0 | 7 | 1055 | 0 |
| Sandstone | with a little interlaminated siltstone; many small scale scour-and-fill structures; "train" drift and ripple drift in a siltier horizon at 55/7; rare roots; | 0 | 9 | 1055 | 9 |
| Siltstone | fine with many thin, often connected, sandstone lenses and laminae; minor diastems; rare roots; passage | 1 | 7 | 1057 | 4 |
| Siltstone | fine with many connected sandstone lenses with erosional bases; sharp | 2 | 1 | 1059 | 5 |
| Siltstone | coarse, locally very poorly laminated; fracture surfaces often show a "sheen"; ? partly slurry; local <u>Calamites</u> ; rapid passage | 2 | 4 | 1061 | 9 |
| Sandstone, | with a little interlaminated siltstone; diastems; erosional base | 0 | 2 | 1061 | 11 |
| Siltstone, | poorly laminated; several thin unconnected sandstone lenses from approximately 64/0 passage | 2 | 4 | 1064 | 3 |

FORM 71
SERIES 680

COMMERCIAL IN CONFIDENCE
37 OCT 1973

6-INCH MAP B/H
SK46 NW/21

Section of PARK FARM SURFACE BOREHOLE

*Delete as appropriate

| GEOLOGICAL CLASSIFICATION | NATURE OF STRATA | THICKNESS | | DEPTH | |
|------------------------------|---|-----------|-----------|----------|-----------|
| | | m or ft* | cm or in* | m or ft* | cm or in* |
| | | | | 1064 | 3 |
| Siltstone | with many connected sandstone lenses; passage | 0 | 5 | 1064 | 6 |
| Siltstone | fine, with common thin sandstone lenses and laminae to approximately 67/0, fewer below; rare thin ironstone lenses: | 5 | 2 | 1069 | 10 |
| Mudstone, | poorly laminated; | 0 | 11 | 1070 | 9 |
| Ironstone | | 0 | 3½ | 1071 | 0½ |
| Siltstone, | medium to coarse grain, very dark gray; poorly laminated; abundant thick-shelled non-marine lamellibranchs, mostly poorly preserved; sharp | 1 | 1½ | 1072 | 2 |
| Mudstone, | silty, poorly laminated; locally fine grain siltstone with rare thin sandstone laminae; abundant wormy traces; occasional poorly preserved non-marine lamellibranchs | 2 | 2 | 1074 | 4 |
| Siltstone | fine with connected sandstone lenses and laminae; sand content increases downwards; minor diastems to approximate 76/0 more prominent diastems below; rare roots, micaceous planty planes; passage | 4 | 6 | 1078 | 10 |
| Siltstone | fine with thin disconnected sandstone fine lenses and laminae; crumpled bedding with pouches; iron-rich patches; rare roots and "strap" plants | 2 | 10 | 1081 | 8 |
| Sandstone | fine massive; vague ripple sets from 88/2 to base; calcite-mineralised vertical break through most of core sharp | 7 | 4 | 1089 | 0 |
| Siltstone | fine and sandstone fine; variously inclined layers; diastems, ripple drift 91/0 - 92/2 with poorly-defined "train" drift; micaceous planty planes sharp | 4 | 4 | 1093 | 4 |
| Siltstone | fine, laminated, muddy; barren passage | 3 | 0 | 1096 | 4 |
| Mudstone, | laminated; | 0 | 10 | 1097 | 2 |
| Ironstone | | 0 | 6 | | |
| Mudstone, | dark, laminated; abundantly wormy with tracks; ironstone bands up to 0/2" thick; passage | 5 | 10 | 1103 | 6 |
| | | | | | |
| | | | | | |



FORM P 71
SERIES 680

COMMENCEMENT IN CONVERSATION

27 OCT 1973

Section of

PARK FARM SURFACE BOREHOLE

6-INCH MAP

✓H

SK46NW/21

**Delete as appropriate*

| GEOLOGICAL CLASSIFICATION | NATURE OF STRATA | THICKNESS | | DEPTH | |
|------------------------------|--|-----------|-----------|----------|-----------|
| | | m or ft* | cm or in* | m or ft* | cm or in* |
| Mudstone, | laminated, dark, locally fissile; ironstone bands up to 0/2" thick; rare non-marine lamellibranchs including Naiadites; | 3 | 4 | 1103 | 6 |
| Ironstone, | shelly | 0 | 2 | 1106 | 10 |
| Mudstone, | fissile; wormy; large carbonated non-marine lamellibranchs, dying out below 20/2 passage | 14 | 0 | 1107 | 0 |
| | <u>CLAY CROSS MARINE BAND</u> | | | 1121 | 0 |
| Mudstone, | dark fissile; Lingula, Curvirimula, wormy; fish-spines and rare scales, ostracods at 25/6, Dunbarella 27/2 - 29/0 with attached Spirorbis. | 8 | 6 | 1129 | 6 |
| Mudstone, | dark fissile; fish-debris, ostracods, Spirorbis attached | 2 | 0 | 1131 | 6 |
| COAL | | 0 | 1 | 1131 | 7 |
| Seat Earth | Mudstone, brown; highly listric; roots | 1 | 0 | 1132 | 7 |
| Siltstone | fine with thin connected sandstone fine lenses. crumpled bedding, pouches; abundant small plants along bedding planes | 6 | 11 | 1139 | 6 |
| Siltstone | fine, laminated; thin papery sandstone fine laminae; sand-filled worm tubes; rare plant remains | 1 | 1 | 1140 | 7 |
| Mudstone | laminated, dark; large non-marine lamellibranchs mainly sporadic, but crowded at 46/2; vaguely wormy | 6 | 1 | 1146 | 8 |
| Siltstone | fine, laminated; small "strap" plants and plant debris, mainly along bedding; megaspores; oblique semi-listric breaks throughout | 4 | 8 | 1151 | 4 |
| Ironstone; | plant debris | 0 | 4 | 1151 | 8 |

COMMERCIAL IN CONFIDENCE

FORM P 71
SERIES 680

31 OCT 1973

6-INCH MAP B/H
SK46NW/21

Section of PARK FARM SURFACE BOREHOLE

*Delete as appropriate

| GEOLOGICAL CLASSIFICATION | NATURE OF STRATA | THICKNESS | | DEPTH | |
|------------------------------|--|-----------|-----------|----------|-----------|
| | | m or ft* | cm or in* | m or ft* | cm or in* |
| | | | | 1151 | 8 |
| Mudstone, | locally silty, dark; abundantly wormy; plants; rare guilielmites sharp | 4 | 5 | 1156 | 1 |
| Siltstone | fine with connected sandstone fine lenses; load casts sharp | 1 | 2 | 1157 | 3 |
| Mudstone | fissile, dark; numerous ironstone bands and nodules; wormy, ostracods, <i>Spirorbis</i> , large non-marine lamellibranchs including Anthracosia below 60/0; fish debris sharp | 5 | 5 | 1162 | 8 |
| Seat Earth | Siltstone fine, immature; <i>Stigmaria</i> , ironstone nodules | 1 | 0 | 1163 | 8 |
| Siltstone | fine with connected sandstone fine lenses; load and pouch structures; plants along bedding planes, micaceous plenty planes sharp | 2 | 4 | 1166 | 0 |
| Sandstone | fine to medium, truncated linguoid ripple sets; micaceous plenty planes; vertical breaks sharp | 5 | 6 | 1171 | 6 |
| Siltstone | fine with disconnected sandstone fine lenses; plants along bedding planes; sandstone dying out downwards, becoming rhythmic below 75/4 passage | 4 | 2 | 1175 | 8 |
| Mudstone | dark, slightly silty, laminated, ironstone bands; wormy; non-marine lamellibranchs including Anthracosia sporadic to 82/0, large crowded, and carbonated 82/0 - 84/2 with <i>Spirorbis</i> ; abundant ostracods in basal 0/1; vertical crinkled breaks throughout | 8 | 2 | 1183 | 10 |
| COAL | | 0 | 2 | 1184 | 0 |
| Seat Earth | Siltstone fine, muddy; ironstone nodules; <i>Stigmaria</i> and plant debris passage | 6 | 2 | 1190 | 2 |
| Mudstone | laminated, dark, locally silty; ironstone bands, and nodules; wormy; small thin- shelled non-marine lamellibranchs, becoming larger downwards, crowded at some horizons below 96/0, with Anthracosia passage | 7 | 4 | 1197 | 6 |
| Mudstone | dark fissile; abundant carbonated thick shelled non-marine lamellibranchs, locally crowded; | 0 | 7 | 1198 | 1 |



FORM P-7
SERIES 68

~~COMMERCIAL IN CONFIDENCE~~

AL IN CONF
31 OCT 1975

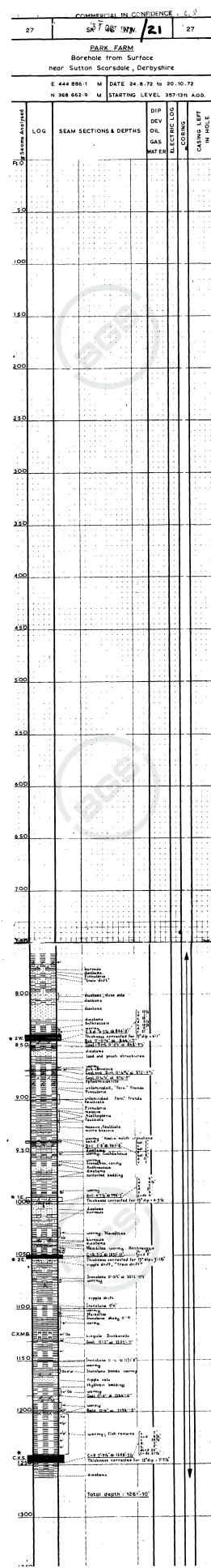
Section of

PARK FARM SURFACE BOREHOLE

| | |
|---------------|-----|
| 6-INCH MAP | |
| SK 46 NW / 21 | B/H |

**Delete as appropriate*

| GEOLOGICAL CLASSIFICATION | NATURE OF STRATA | Delete as appropriate | | | |
|------------------------------|---|-----------------------|-----------|--------------------------------|----|
| | | THICKNESS m or ft* | cm or in* | DEPTH m or ft* cm or in* | |
| BATT | | 0 | 4 | 1198 | 1 |
| Seat Earth | Mudstone dark, slightly silty, immature; root guilielmites; rare ironstone nodules passage | 3 | 7 | 1198 | 5 |
| Mudstone, | dark, locally fissile, highly lenticular, with ironstone bands up to 0/1" thick; abundantly wormy; abundant fish debris, scales and spines; ostracods at 05/0 and at several horizons below; large non-marine lamellibranchs, rare to 08/0, abundant locally below and crowded at 12/2; rare and mainly thin-shelled non-marine lamellibranchs below 12/2, some with both valves, from 12/2 to 21/0, locally crowded below 21/0 | 38 | 2 | 1202 | 0 |
| | | | | 1240 | 2 |
| | CORE BOXED 1240/2 - 1248/11 | | | | |
| * Mudstone | shaly; thin-shelled non-marine lamellibranchs and a little fish debris core attached | 0 | 6 | 1240 | 8 |
| * CLAY CROSS SOFT | Coal, bright 0 - 7 Coal, dirty, and dirt 0 - 6½ Coal, banded 0 - 5 Coal, mostly bright 1 - 7½ Seatearth mudstone 0 - 5 Coal, bright 0 - 9 Coal dirty 0 - 6 Mudstone 0 - 0½ Coal, dirty, bright 0 - 5 Mudstone 0 - 0½ Coal, dirty, bright 0 - 8 Coal, bright 1 - 6½ Coal, dirty, bright 0 - 3 7 - 9½ Recovery 100% Thickness corrected for 12° dip = 7' 7½" rotation surface | 7 | 9½ | 1248 | 5½ |
| * Seat Earth | Mudstone, grey; roots | 0 | 5½ | 1248 | 11 |





~~SK 46 NW/21~~
EVIDENCE

| | | |
|---------------------------------------|--------------------|---------------|
| COMMERCIAL IN CONFIDENCE | | SK 46 NW / 21 |
| = 13 OCT 1973 | | |
| Section of PARK FARM SURFACE BOREHOLE | | |
| Purpose | Coal Exploration | |
| Exact Site | E 444 886.1 metres | |
| | N 368 662.9 metres | |
| near Sutton Scarsdale, Derbyshire. | | |

Level at which shaft bore commenced relative to O.D. 357.13 ft. m or ft.
drift A.O.D.

34-872 to 30-1072

Sinker or bore. Foraky Ltd. (W. Thompson)

Foraminifera examined by J.H. Rippon and P.K. Boam (below 1078/10)

| GEOLOGICAL CLASSIFICATION | NATURE OF STRATA | THICKNESS | | DEPTH | |
|------------------------------|---|-----------|-----------|----------|-----------|
| | | m or ft* | cm or in* | m or ft* | cm or in* |
| | Open hole from 760/0 | | | | |
| | Cores from | | | 760 | 0 |
| Mudstone, | locally silty, laminated; ironstone bands up to 0/1" thick; rare poorly preserved non-marine lamellibranchs; core fragmented and only about 1'0" recovered; core not attached | 8 | 0+ | 768 | 0 |
| Seat Earth | Mudstone, grey, lenticular; abundant ironstone nodules throughout; abundant roots; passage | 1 | 5 | 769 | 5 |
| Seat Earth | Siltstone, fine grain, muddy in parts; grey; common roots and ironstone nodules; "strap" plant at 70/4; local faultlets; passage | 1 | 7 | 771 | 0 |
| Seat Earth | Mudstone, grey; common ironstone nodules; common small faultlets and lenticular surfaces; roots, with occasional "fern" leaves and "strap" plants throughout; passage | 0 | 11 | 771 | 11 |
| Seat Earth | Siltstone, usually fine grain, with local irregular coarse silt patches; abundant large iron-rich patches throughout; roots common at top and becoming rarer downwards; common calcified "strap" plants at some levels; 0/2" thick layer of coarse siltstone at the base | 2 | 2 | 774 | 1 |
| Siltstone | usually fine grain, with local layers of coarse siltstone and fine sandstone, up to 0/3" thick; poorly bedded; common ironstone nodules; common roots; abundant wormy burrows, especially at the coarser-grain horizons; local plant debris, including "fern" leaves; passage | 2 | 7 | 776 | 8 |

RECEIVED
COMMERCIAL CONFIDENCE
31/OCT/1973
PARK FARM SURFACE BOREHOLE
RECEIVED

6-INCH MAP B/H
SK46NW/21

*Delete as appropriate

| GEOLOGICAL CLASSIFICATION | NATURE OF STRATA | THICKNESS | | DEPTH | |
|------------------------------|---|-----------|------------|----------|------------|
| | | M OR FT* | C M OR IN* | M OR FT* | C M OR IN* |
| Sandstone, | with minor interlaminated siltstone; diastems; locally crumpled bedding; coalified Calamites stem 0/0 ¹ " diameter from top to 78/3 roughly perpendicular to the normal bedding; locally dune-sized cross-bedding, with units up to 0/4" thick | 0 | 10 | 776 | 8 |
| Siltstone | coarse, very evenly interlaminated with sandstone; abundant coaly micaceous planty planes; | 0 | 5 | 777 | 6 |
| Siltstone | coarse; poorly-defined bedding with local layers of sandstone up to 0/2" thick; local large plant debris on some bedding planes | 1 | 11 | 777 | 11 |
| Siltstone, | coarse at the top, becoming fine grain below 80/4; massive; rare faultlets; common large coalified "strap" plants, some with many attached Spirorbis; common "fern" leaves and fronds including Neuropteris, some with attached Spirorbis passage | 0 | 8 | 779 | 10 |
| Mudstone, | unlaminated; local thin ironstone bands; locally listric; common "fern" fronds and "strap" plants; Pinnularia at 80/7; becoming silty towards the base | 0 | 8 | 780 | 6 |
| Siltstone | fine with abundant sandstone laminae; rare minor diastems, locally well-developed ripple drift as at 81/10, local poorly developed "train" drift; rare faultlets; common ironstone nodules; | 1 | 5 | 781 | 2 |
| Siltstone, | medium grain, well laminated; common ironstone nodules; | 0 | 5 | 782 | 7 |
| Siltstone, | medium grain with common sandstone laminae; well-developed "train" drift at 83/0; large ripple drift unit below; * | 0 | 5 | 783 | 0 |
| Siltstone, | with many sandstone laminae; bedding contorted; abundant ironstone lenses; | 0 | 5 | 783 | 5 |
| Siltstone, | with abundant thin sandstone laminae; local ripple drift; bedding disturbed by an overthrust faultlet, dipping 10° with respect to the bedding at 84/3; diastems, especially to 84/0; | 0 | 6 | 784 | 4 |



| Section of | | DECLARED COMMERCIAL IN CONFIDENCE | 6-INCH MAP | B/H |
|------------------------------|---|--------------------------------------|-------------|--------------------|
| | | 37 OCT 1973 | SK46NW / 21 | |
| | | *Delete as appropriate | | |
| GEOLOGICAL CLASSIFICATION | NATURE OF STRATA | THICKNESS | DEPTH | |
| | | m or ft* | cm or in* | m or ft* cm or in* |
| Siltstone, | medium grain, very poorly laminated; "fern" fronds and "strap" plants; local ironstone lenses; | 0 | 9 | 806 9 |
| Siltstone | with irregular sandstone laminae | 0 | 2 | 807 6 |
| Sandstone, | dune sets; unmineralised low hade breaks throughout (mining induced ?) | 0 | 9 | 808 5 |
| Siltstone, | with abundant thin sandstone laminae; occasional ripple drift, evenly-bedded elsewhere; low-hade unmineralised breaks throughout; passage | 1 | 3 | 809 8 |
| Sandstone, | with discontinuous siltstone laminae and layers; small-scale, irregular cross-bedding; abundant diastems; abundant small micaceous planty planes throughout erosional base | 3 | 3 | 812 11 |
| Sandstone, | with interlaminated siltstone; small-scale cross-bedding in parts, evenly laminated elsewhere local prominent diastems; abundant large coaly micaceous planty planes throughout; | 1 | 6 | 814 5 |
| Sandstone, | dune sets; local ironstone clasts; mineralised joints; base very irregular erosional | 1 | 1 | 815 6 |
| Sandstone, | truncated linguoid ripple sets; carbonate-mineralised joints throughout; few coaly micaceous planty planes to approximately 18/0, more abundant below; not canky; sharp | 3 | 8 | 819 2 |
| Sandstone, | dune sets; abundant very coaly micaceous planty planes from 19/2 to 19/9 | 0 | 8 | 819 10 |
| Sandstone, | truncated linguoid ripple sets to 21/0, more irregularly-bedded below with extensive very coaly micaceous planty planes at some levels; discontinuous siltstone laminae common below 21/11; local thin ironstone lenses | 2 | 4 | 822 2 |
| Siltstone, | medium grain, with abundant sandstone lenses, with prominent diastems; sandstone content decreases gradually towards the base; low hade unmineralised breaks throughout; | 2 | 6 | 824 8 |

| Section of | | COMMERCIAL IN CONDUCE | | 6-INCH MAP | |
|---------------------------|--|--------------------------|-----------|------------|-----------|
| | | 131 OCT 1973 | | B/H | |
| | | PARK FARM SURFACE BORING | | SK46 NW/21 | |
| *Delete as appropriate | | | | | |
| GEOLOGICAL CLASSIFICATION | NATURE OF STRATA | | | THICKNESS | DEPTH |
| | | m or ft* | cm or in* | m or ft* | cm or in* |
| Siltstone, | fine grain, with thin evenly bedded sandstone laminae; passage | 0 | 8 | 824 | 8 |
| Siltstone | fine grain, well-laminated; rare sandstone laminae; abundant plant debris on some bedding planes; passage | 2 | 6 | 825 | 4 |
| Siltstone, | medium grain, with many evenly-bedded sandstone laminae and occasional thin sandstone lenses; finer grain below 28/3 with little sandstone; passage | 0 | 8 | 827 | 10 |
| Ironstone | | 0 | 2 | 828 | 6 |
| Mudstone, | laminated; ironstone bands 0/2" thick at 29/0 and 30/5; core broken by high-hade breaks from 29/0 - 30/0; passage | 2 | 4 | 831 | 0 |
| Mudstone, | poorly laminated; local small listric surfaces; rare small ironstone nodules; rare Anthracosia from 31/3; ironstone band 0/2" thick at 32/5; local sub-vertical breaks; passage | 1 | 8 | 832 | 8 |
| Mudstone, | slightly shaly, well laminated to approximately 33/4; common ironstone nodules containing non-marine lamellibranchs from 33/6 to 33/11 with associated listric surfaces; ironstone bands 0/2" thick at 34/4 and 34/11; vaguely wormy from 33/4, common large ?shell-guillemites from 33/4; rare ostracods; passage | 2 | 4 | 835 | 0 |
| Mudstone, | slightly shaly, slightly carbonaceous in parts, laminated; common shell-guillemites, abundant from 35/7, with many Spirorbis; wormy in parts, especially below 35/7; local thin ironstone lenses throughout; passage | 1 | 4 | 836 | 4 |
| Mudstone, | slightly shaly, slightly carbonaceous, common poorly preserved non-marine lamellibranchs (? Anthracosia), abundant Spirorbis; vaguely wormy in parts; increasingly shaly and carbonaceous towards the base; iron-rich in the basal 0/1" | 1 | 0½ | 837 | 4½ |





section of PARK FARM SURFACE BOREHOLE 39

COMMERCIAL IN CONFIDENCE

6-INCH MAP

14

137 OCT. 102

PARK FARM SURFACE BOREHOLE

SK466 Ny / 21

| GEOLOGICAL CLASSIFICATION | NATURE OF STRATA | DESCRIPTION | Delete as appropriate | | DEPTH m or ft* cm or in* |
|------------------------------|--|-------------|-----------------------|-----------|-----------------------------|
| | | | THICKNESS m or ft* | cm or in* | |
| Seat Earth | Siltstone fine, grey, immature; few roots; abundant ironstone nodules from 51/4; rare thin sandstone lenses from 51/6; local coalified Calamites sharp | | 1 | 10 | 850 6 |
| Siltstone, | with abundant sandstone lenses and laminae; diastems; rare roots; | | 0 | 7 | 852 4 |
| Sandstone, | with many small micaceous planty planes and discontinuous siltstone layers and laminae; abundant prominent diastems; low-hade unmineralised breaks (mining induced ?) throughout | | 2 | 1 | 855 0 |
| Sandstone | with rare truncated siltstone lenses; possible dune sets; micaceous planty planes; | | 0 | 9 | 855 9 |
| Sandstone | with frequent discontinuous siltstone laminae and layers; abundant small micaceous planty planes; many prominent diastems; rare horizons of contorted bedding: | | 2 | 9 | 858 6 |
| Siltstone | fine, with abundant disconnected sandstone lenses; | | 0 | 2 | 858 8 |
| Siltstone | fine with large sandstone load-and-pouch structures | | 1 | 4 | 860 0 |
| Siltstone | fine with thin sandstone lenses and laminae, rare to approximately 61/0; more common below, with local load-and-pouch structures; less sand from 61/9 to 61/11 passage | | 1 | 11 | 861 11 |
| Siltstone | fine, laminated; a few thin sandstone laminae in the top 0/3" ironstone lens 0/2" thick at 65/8, passage | | 4 | 1 | 866 0 |
| Mudstone, | silty near the top, poorly laminated; ironstone band 0/1" thick at the base | | 2 | 5 | 868 5 |
| Mudstone, | poorly laminated; common thin ironstone bands; wormy; guilielmites from 69/4, poorly preserved non-marine lamellibranchs from 70/5 | | 2 | 5 | 870 10 |



| Section of | | COMMERCIAL IN CONFIDENCE | DECLASSIFIED | B-INCH MAP | | B/H |
|---------------------------|--|---|--------------|------------|-----------|--------------------|
| | | PARK FARM SURFACE BOREHOLE | 13 OCT 1973 | SK46 NW/21 | | |
| GEOLOGICAL CLASSIFICATION | | NATURE OF STRATA | | Thickness | | Depth |
| | | | | m or ft* | cm or in* | m or ft* cm or in* |
| Siltstone | | coarse, poorly laminated; abundant comminuted plant remains. | | 0 | 6 | 895 0 |
| Mudstone, | | silty, brownish grey, unlaminated; abundant poorly preserved "fern" fronds and leaves, common "strap" plants, Calamites, and Lepidodendron; abundant faultlets from 899/10 to 900/0, and locally below; | 7 | 10 | 903 4 | |
| Siltstone | | fine, poorly laminated; abundant poorly preserved plant remains; | 0 | 10 | 904 2 | |
| Mudstone, | | silty unlaminated, usually brownish-grey; common small ironstone nodules; small ironstone-filled sedimentary dykes at 06/5, and locally below; abundant plant remains throughout, including coalified "strap" plants, Calamites, Lepidodendron, and poorly-preserved "fern" fronds and leaves; Pinnularia at 08/4; passage | 4 | 4 | 908 6 | |
| Siltstone | | fine, brownish-grey at the top, grey below; massive; locally common faultlets; abundant plant remains including "strap" plants and "fern" fronds and leaves; abundant tiny ironstone specks from 11/2 to 11/6; Alethopteris at 11/4; | 4 | 6 | 913 0 | |
| Siltstone | | fine, locally silty mudstone, dark grey, locally poorly laminated, abundant faultlets; local large inclined listric surfaces; local small ironstone nodules; abundant large coalified "strap" plants and Calamites, common "fern" remains, including Alethopteris large inclined listric surface at the base; sharp | 7 | 10 | 920 10 | |
| Siltstone, | | dark grey, with abundant sandstone laminae, bedding disturbed by numerous parallel faultlets throwing up to 1 $\frac{1}{2}$ "; diastems; rapid passage | 0 | 8 | 921 6 | |
| Siltstone | | fine, massive; dark grey; irregular light-greenish-grey patches from 29/5 to 29/7; abundant subparallel faultlets, common large inclined listric surfaces, common small ironstone nodules; irregular thin and very disturbed sandstone laminae from 30/7 to the base; abundant plant remains throughout including Sipularia; rare Pinnularia; | 9 | 7 | 931 1 | |



Section of

COMMERCIAL IN CONFIDENCE

6-INCH MAP B/H
SK46 NV/21

| GEOLOGICAL CLASSIFICATION | PROFILERS | NATURE OF STRATA | *Delete as appropriate | |
|------------------------------|-----------|---|---------------------------------|-----------------------------|
| | | | THICKNESS m or ft* cm or in* | DEPTH m or ft* cm or in* |
| Sandstone, | | poorly-defined subhorizontal bedding; small ironstone and siltstone clasts to 3 1/5; abundant twin siltstone inclusions below, with 0 1/1" thick microbreccia at the base | 0 | 9 931 1 |
| | | erosional base | | 931 10 |
| Siltstone | | fine with thin disconnected sandstone lenses; local horizons of contorted bedding, rare iron-rich layers; becoming muddy towards the base (core condition deteriorates abruptly at 35/2); | 3 | 4 935 2 |
| Mudstone, | | laminated, common ironstone bands up to 0 1/1" thick; vague wormy traces to approximately 38/0 and very worm below, "kaolin" oolith ironstone band 0 1/1" thick at 38/10 | 3 | 8 938 10 |
| Seat Earth | | Mudstone, brown, very listric unattached | 0 | 2 939 0 |
| COAL and dirt | | bat 0/1 coal, bright 0/1 } partly fragmented bat 0/1 } unattached | 0 | 5 939 3 |
| Seat Earth | | Mudstone, grey, very listric | 0 | 9 940 0 |
| Bat; | | solid core unattached | 0 | 8 940 8 |
| Seat Earth | | Mudstone, dark grey; very listric unattached | 0 | 11 941 7 |
| COAL, | | bright unattached | 0 | 1 941 8 |
| Seat Earth | | Mudstone, dark brownish-grey; very listric; sharp | 0 | 2 941 10 |
| Seat Earth | | Siltstone fine, light grey; unlaminated, abundant <u>Stigmaria</u> ; passage | 2 | 6 944 4 |
| Seat Earth | | Siltstone, with local disturbed sandstone laminæ; bedding disturbed by roots; very iron-rich throughout; passage | 0 | 9 945 1 |
| Siltstone | | fine, with rare sandstone laminæ; common thin ironstone bands; abundant plant debris on many bedding planes | 2 | 10 947 11 |

| Section of | | COMMERCIAL IN CONFIDENCE | G-INCH MAP | B/H |
|------------------------------|--|--------------------------|-----------------------|--------------------|
| | | RECORDED | Delete as appropriate | |
| GEOLOGICAL CLASSIFICATION | NATURE OF STRATA | THICKNESS | | DEPTH |
| | | m or ft* | cm or in* | m or ft* cm or in* |
| Siltstone | with many regularly-occurring sandstone layers up to 0/12" thick; diastems | 0 | 10 | 947 11 |
| Sandstone | with discontinuous siltstone laminae and layers; abundant diastems; sandstone content decreases below 49/6; passage | 1 | 3 | 948 9 |
| Siltstone | fine, laminated; rare sandstone laminae to 50/3; local thin ironstone bands; very wormy in parts; passage | 1 | 7 | 950 0 |
| Mudstone, | poorly laminated; wormy; <i>Cochlichnus</i> and a single poorly-preserved non-marine lamellibranch at 51/10; | 1 | 10 | 951 7 |
| Mudstone, | shaly, poorly laminated; fragment thin-shelled non-marine lamellibranchs, wormy | 0 | 10 | 953 5 |
| Siltstone | sharp | | | 954 3 |
| Ironstone, | fine, poorly laminated; local iron-rich patches; locally very wormy; | 4 | 7 | 958 10 |
| Mudstone, | canky | 0 | 6½ | 959 4½ |
| Siltstone | poorly laminated, slightly shaly; wormy; locally common poorly-preserved non-marine lamellibranchs to 62/9, with abundant minute juvenile non-marine lamellibranch at 61/3; abundant well-preserved <i>Anthracosia</i> , often with both valves attached, from 62/9 on some bedding planes | 5 | 1½ | 964 6 |
| Siltstone | fine, with thin sandstone lenses and laminae; sandstone content decreases downwards | 0 | 6 | 965 0 |
| Sandstone, | ripple sets; local discontinuous siltstone laminae especially in the basal 0/3" passage | 2 | 0 | 967 0 |
| Sandstone | with siltstone; sandstone lenses with basal diastems | 0 | 4 | 967 4 |
| Siltstone | fine, with connected sandstone lenses; several prominent diastems; local sandstone ? load structures; passage | 1 | 4 | 968 8 |

| | | 13 JULY 1974 | 1014 | 15 JULY 1974 | 1014 |
|------------------------------|--|----------------------------|-----------|-----------------------|-----------|
| | | COMMERCIAL IN CONFIDENCE | | G-INCH MAP | |
| | | 21 JUL 1974 | | B/H | |
| Section of | | PARK FARM SURFACE BOREHOLE | | SK46 NW/21 | |
| | | | | Delete as appropriate | |
| GEOLOGICAL CLASSIFICATION | NATURE OF STRATA | THICKNESS | | DEPTH | |
| | | m or ft* | cm or in* | m or ft* | cm or in* |
| | | | | 968 | 8 |
| Siltstone | fine with common sandstone laminae at several horizons; many minor diastems; bedding commonly contorted; | 2 | 4 | 971 | 0 |
| Siltstone | fine with common sandstone laminae and thin discontinuous sandstone lenses passage | 1 | 0 | 972 | 0 |
| Siltstone | fine with thin sandstone lenses; bedding commonly contorted; | 2 | 0 | 974 | 0 |
| Sandstone, | small scale cross-bedding with many discontinuous siltstone laminae; diastems; | 0 | 5 | 974 | 5 |
| Siltstone | fine with many prominent sandstone load structures; | 1 | 10 | 976 | 3 |
| Siltstone | fine with rare thin sandstone lenses and laminae; ironstone band 0/3" thick at 77/4 | 1 | 1 | 977 | 4 |
| Siltstone | fine, laminated passage | 1 | 8 | 979 | 0 |
| Mudstone | silty, laminated; ironstone bands 0/2" thick at 79/11 and 83/6 | 7 | 0 | 986 | 0 |
| Mudstone, | laminated; common thin ironstone bands and lenses up to 0/1½" thick; very wormy; rare poorly preserved non-marine lamellibranchs to 98/3, and abundant thick-shelled non-marine lamellibranchs at 98/3 | 3 | 4 | 989 | 4 |
| Mudstone, | shaly, highly carbonaceous; silty to 92/5; common non-marine lamellibranchs to 89/8, wormy throughout; | 3 | 6 | 992 | 10 |
| CORE BOXED 992/10 - 998/8½ | | | | | |
| * Mudstone, | dark grey, shaly, with non-marine lamellibranchs and ironstone bands in the basal 5 inchon core unattached | 0 | 11½ | 993 | 9½ |
| * FIRST ELL | Coal, mostly bright | 0 - 9 | | | |
| | Scat earth, mudstone, grey | 0 - 4½ | | | |
| | Coal, bright | 0 - 3 | | | |
| | Mudstone, canneloid | 0 - 1 | | | |
| | Scat earth mudstone, grey | 2 - 2 | | | |
| | Coal, bright | 0 - 6 | | | |
| | Cannel, dirty | 0 - 2 | | | |
| | Coal, bright | 0 - 3 | | | |
| | Coal, dirty, bright | 0 - 1 | | | |
| | | 4 - 7½ | | | |
| | Recovery 100% | | | | |
| | Thickness corrected for 15° dip = 4 - 5½ | 4 | 7½ | 998 | 5 |
| * Gault Earth | siltstone, medium grain, with sandstone streaks; roots | 0 | 5½ | 1000 | 5½ |

| COMMERCIAL IN CONFIDENCE | | | |
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| PARK FARM SURFACE BOREHOLE | | S-1 OCT 1973 | |
| | | SK46 NW/21 | |
| GEOLOGICAL CLASSIFICATION | NATURE OF STRATA | THICKNESS m or ft* | DEPTH cm or in* |
| Seat Earth | Siltstone, coarse, with irregular sandstone laminae; Stigmaria; sharp | 0 2 | 998 8½ |
| Seat Earth | Sandstone, with discontinuous siltstone laminae; bedding disturbed by Stigmaria; | 0 11½ | 998 10½ |
| Sandstone, | with abundant discontinuous siltstone laminae; diastems; roots throughout; sub-vertical unmineralised fractures (mining breaks ?) | 3 8 | 999 10 |
| Siltstone | coarse, with thin sandstone lenses; bedding very irregular and disturbed from 03/9; roots; | 0 11 | 1003 6 |
| Siltstone | coarse, laminated: several sandstone layers with erosional bases; | 1 1 | 1004 5 |
| Sandstone, | small-scale cross-bedding with discontinuous siltstone laminae and layers: abundant prominent diastems; local siltstone-clast breccia; bedding convoluted from 06/8 to 06/11; rare sand-filled burrows; | 4 1 | 1005 6 |
| Siltstone, | often coarse grain, with thin disconnected sandstone laminae and lenses; slurry with "sheen" surfaces from 09/7 to 10/0 | 1 11 | 1009 7 |
| Sandstone | connected sandstone lenses with inter-layered siltstone | 0 3 | 1011 6 |
| Sandstone, | ripple sets | 0 6 | 1012 3 |
| Siltstone | with abundant sandstone lenses and abundant minor diastems | 0 8 | 1012 11 |
| Sandstone | ripple sets | 1 4 | 1014 3 |
| Siltstone | with sandstone lenses; local minor diastems; | 0 8 | 1014 11 |
| Siltstone | fine with thin sandstone lenses; passage | 1 1 | 1016 0 |
| Sandstone | with discontinuous siltstone laminae; abundant prominent diastems; | 1 2 | 1017 2 |



Section of

PARK FARM SURFACE BOREHOLE

6-INCH MAP B/H

| GEOLOGICAL CLASSIFICATION | NATURE OF STRATA | THICKNESS | | DEPTH | |
|------------------------------|---|-----------|-----------|--------|-----------|
| | | IN FT* | CM OR IN* | IN FT* | CM OR IN* |
| Siltstone | with sandstone; convoluted bedding; sharp | 2 | 5 | 1017 | 2 |
| Siltstone | fine with rare thin disconnected sandstone lenses; Calamites common on some bedding planes; wormy; core condition deteriorates sharply at base | 3 | 10 | 1019 | 7 |
| Mudstone, | poorly laminated, shaly; rare thin iron-stone bands in wormy; rare poorly-preserved non-marine lamellibranchs from 24/10 to approximately 26/0; frequent small Naiadites from 26/0; common small thick-shelled non-marine lamellibranchs from 30/5, becoming larger below 31/9; shell-guilielmites frequent throughout; ironstone band 0/2" thick at 32/1 | 8 | 8 | 1023 | 5 |
| Mudstone, | shaly, slightly carbonaceous; | 0 | 2 | 1032 | 1 |
| Siltstone | fine, carbonaceous, | 0 | 6 | 1032 | 3 |
| Seat Earth | Siltstone fine, grey; poorly bedded in parts; Stigmaria | 1 | 1 | 1033 | 9 |
| Seat Earth | Siltstone with sandstone; poorly bedded, vague diastems; roots; passage | 0 | 6 | 1034 | 4 |
| Siltstone, | dark grey, with thin regularly-bedded sandstone laminae; rare roots; common small sand-filled burrows from 34/9 | 0 | 10 | 1035 | 2 |
| Sandstone, | small-scale cross bedding, rare discontinuous siltstone laminae and layers; abundant prominent diastems; sandstone-filled burrows common at some levels; sub-vertical, carbonate-mineralised joints throughout | 1 | 9 | 1036 | 11 |
| Siltstone | fine with abundant thin disconnected sandstone lenses | 1 | 0 | 1037 | 11 |
| Sandstone, | with discontinuous siltstone laminae; diastems; erosional base | 0 | 4~ | 1038 | 3 |
| Siltstone | fine, with abundant disconnected sandstone lenses and laminae; sandstone content decreases downwards; local small sandstone filled burrows | 1 | 9 | 1040 | 0 |

| Section of | | COMMERCIAL IN CONFIDENCE | | 6-INCH MAP | |
|-----------------------------------|---|--------------------------|-----------|-----------------------|-----------|
| | | 21 OCT 1973 | | SK46NW/21 | |
| PARK FARM SURFACE BOREHOLE | | RECEIVED | | Delete as appropriate | |
| GEOLOGICAL CLASSIFICATION | NATURE OF STRATA | THICKNESS | | DEPTH | |
| | | m or ft* | cm or in* | m or ft* | cm or in* |
| | | | | 1040 | 0 |
| Sandstone | with fine grain siltstone; abundant diastems; | 0 | 8 | 1040 | 8 |
| Siltstone | fine with thin sandstone laminae; abundant diastems passage | 0 | 4 | 1041 | 0 |
| Mudstone | silty, poorly laminated; ironstone band 0/2" at 41/7; locally common poorly preserved thick-shelled non-marine lamellibranchs, and Naiadites, and vague wormy traces to 42/5; more definitely wormy below with larger Naiadites, Anthracosia and possible Anthraconia; passage | 1 | 9 | 1042 | 9 |
| Mudstone, | unlaminated, not shaly; local ironstone bands and lenses up to 0/12" thick; abundant Naiadites and Anthraconia; abundant Spirorbis associated with Naiadites; passage | 2 | 4 | 1045 | 1 |
| Mudstone, | dark grey, poorly laminated, slightly silty; abundant large non-marine lamellibranchs, including Naiadites, Anthracosphaerium and Anthraconia | 0 | 8 | 1045 | 9 |
| Mudstone, | shaly, carbonaceous; pyritic ironstone-filled ?sedimentary dyke with flanking listric surfaces from 45/9 to 46/1; abundant large thick-shelled non-marine lamellibranchs including Anthracosia to 46/3, common Naiadites from 46/3 to 46/6, becoming fewer below; thin ironstone bands common below 46/4; | 1 | 1 | 1046 | 10 |
| Mudstone, | light grey, not shaly, not carbonaceous; laminated; rare small ironstone lenses; abundant small inclined listric surfaces, and local faultlets to approximately 47/4; vague wormy traces throughout, and very wormy at 47/3, possible non-marine lamellibranchs debris at 47/9; rare coalified plant debris throughout; listric from 47/11 to 48/3; whole-core gently inclined listric surface at the base: | 1 | 5 | 1048 | 3 |
| <u>CORE BOXED 1048/3 - 1052/9</u> | | | | | |
| * Mudstone, | grey, highly listric core not attached | 0 | 5 | 1048 | 8 |
| * <u>SECOND ELL</u> | Coal, bright 1 - 4 Coal, dirty, bright fragmented 0 - 3½ Coal, mostly bright 0 - 5 Coal, banded 0 - 5 Coal, bright 0 - 7½ Searleath mudstone 0 - 1½ Coal, dirty bright 0 - 0½ | | | | |

| Section of | | COMMERCIAL IN CONFIDENCE | | 6-INCH MAP | |
|------------------------------|---|----------------------------|-----------|------------|-----------|
| | | 15 OCT 1973 | | B/H | |
| | | PARK FARM SURFACE BOREHOLE | | SK46 NW/21 | |
| RECORDED | | | | | |
| *Delete as appropriate | | | | | |
| GEOLOGICAL CLASSIFICATION | NATURE OF STRATA | THICKNESS | | DEPTH | |
| | | m or ft* | cm or in* | m or ft* | cm or in* |
| | .../cont. | | | | |
| | Recovery 95% Thickness corrected for 15° dip = 3' 1½" | 3 | 3 | 1051 | 11 |
| | core attached | | | | |
| * Seat Earth | Siltstone, medium grained, light grey; darker in the top 2½" with occasional bright coal streaks, roots | 0 | 10½ | 1052 | 9½ |
| Seat Earth | Siltstone with many sandstone laminae, local sandstone lenses; diastems; bedding disturbed by Stigmaria; | 1 | 7½ | 1054 | 5 |
| Sandstone | with siltstone; large sandstone ?load structures; roots; | 0 | 7 | 1055 | 0 |
| Sandstone | with a little interlaminated siltstone; many small scale scour-and-fill structures; "train" drift and ripple drift in a siltier horizon at 55/7; rare roots; | 0 | 9 | 1055 | 9 |
| Siltstone | fine with many thin, often connected, sandstone lenses and laminae; minor diastems; rare roots: passage | 1 | 7 | 1057 | 4 |
| Siltstone | fine with many connected sandstone lenses with erosional bases; sharp | 2 | 1 | 1059 | 5 |
| Siltstone | coarse, locally very poorly laminated; fracture surfaces often show a "sheen"; ? partly slurry; local Calamites; rapid passage | 2 | 4 | 1061 | 9 |
| Sandstone, | with a little interlaminated siltstone; diastems; erosional base | 0 | 2 | 1061 | 11 |
| Siltstone, | poorly laminated; several thin unconnected sandstone lenses from approximately 64/0 passage | 2 | 4 | 1064 | 3 |

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37 OCT 1973 1989

PARK FARM SURFACE BOREHOLE
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6-INCH MAP B/W
SK46 NW/21

*Delete as appropriate

| GEOLOGICAL CLASSIFICATION | NATURE OF STRATA | THICKNESS | | DEPTH | |
|------------------------------|--|-----------|-----------------|----------|-----------------|
| | | m or ft* | cm or in* | m or ft* | cm or in* |
| | | | | 1064 | 3 |
| Siltstone | with many connected sandstone lenses; passage | 0 | 5 | 1064 | 8 |
| Siltstone | fine, with common thin sandstone lenses and laminae to approximately 67/0, fewer below; rare thin ironstone lenses; | 5 | 2 | 1069 | 10 |
| Mudstone, | poorly laminated; | 0 | 11 | 1070 | 9 |
| Ironstone | | 0 | 3 $\frac{1}{2}$ | 1071 | 0 $\frac{1}{2}$ |
| Siltstone, | medium to coarse grain, very dark grey; poorly laminated; abundant thick-shelled non-marine lamellibranchs, mostly poorly preserved; sharp | 1 | 1 $\frac{1}{2}$ | 1072 | 2 |
| Mudstone, | silty, poorly laminated; locally fine grain siltstone with rare thin sandstone laminae; abundant wormy traces; occasional poorly preserved non-marine lamellibranchs | 2 | 2 | 1074 | 4 |
| Siltstone | fine with connected sandstone lenses and laminae; sand content increases downwards; minor diastems to approximate 76/0 more prominent diastems below; rare roots, micaceous planty planes; passage | 4 | 6 | 1078 | 10 |
| Siltstone | fine with thin disconnected sandstone fine lenses and laminae; crumpled bedding with pouches; iron-rich patches; rare roots and "strap" plants | 2 | 10 | 1081 | 8 |
| Sandstone | fine massive; vague ripple sets from 88/2 to base; calcite-mineralised vertical break through most of core sharp | 7 | 4 | 1089 | 0 |
| Siltstone | fine and sandstone fine; variously inclined layers; diastems, ripple drift 91/0 - 92/2 with poorly-defined "train" drift; micaceous planty planes sharp | 4 | 4 | 1093 | 4 |
| Siltstone | fine, laminated, muddy; barren passage | 3 | 0 | 1096 | 4 |
| Mudstone, | laminated; | 0 | 10 | 1097 | 2 |
| Ironstone | | 0 | 6 | 1097 | 8 |
| Mudstone, | dark, laminated; abundantly wormy with tracks; ironstone bands up to 0/2" thick; passage | 5 | 10 | 1103 | 6 |

| Section of | | COMMERCIAL/CONFIDENCE | | 6-INCH MAP | |
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| | | 21 OCT 1973 | | SK46NW21 | |
| | | RECEIVED | | Delete as appropriate | |
| GEOLOGICAL CLASSIFICATION | NATURE OF STRATA | THICKNESS | DEPTH | | |
| | | m or ft* | cm or in* | m or ft* | cm or in* |
| Mudstone, | laminated, dark, locally fissile; ironstone bands up to 0/2" thick; rare non-marine lamellibranchs including Naiadites; | 3 | 4 | 1106 | 10 |
| Ironstone, | shelly | 0 | 2 | 1107 | 0 |
| Mudstone, | fissile; wormy; large carbonated non-marine lamellibranchs, dying out below 20/2 passage | 14 | 0 | 1121 | 0 |
| | CLAY CROSS MARINE BAND | | | | |
| Mudstone, | dark fissile; Lingula, Curvirimula, wormy; fish-spines and rare scales, ostracods at 25/6, Dunbarella 27/2 - 29/0 with attached Spirorbis. | 8 | 6 | 1129 | 6 |
| Mudstone, | dark fissile; fish-debris, ostracods, Spirorbis attached | 2 | 0 | 1131 | 6 |
| COAL | | 0 | 1 | 1131 | 7 |
| Seat Earth | Mudstone, brown; highly listric; roots | 1 | 0 | 1132 | 7 |
| Siltstone | fine with thin connected sandstone fine lenses, crumpled bedding, pouches; abundant small plants along bedding planes | 6 | 11 | 1139 | 6 |
| Siltstone | fine, laminated; thin papery sandstone fine laminae; sand-filled worm tubes; rare plant remains | 1 | 1 | 1140 | 7 |
| Mudstone | laminated, dark; large non-marine lamellibranchs mainly sporadic, but crowded at 46/2; vaguely wormy | 6 | 1 | 1146 | 8 |
| Siltstone | fine, laminated; small "strap" plants and plant debris, mainly along bedding; megaspores; oblique semi-listric breaks throughout | 4 | 8 | 1151 | 4 |
| Ironstone; | plant debris | 0 | 4 | 1151 | 8 |

COMMERCIAL IN CONFIDENCE

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31 OCT 1973
21 NOV 1973

6-INCH MAP
SK46NW/21
B/H

PARK FARM SURFACE BOREHOLE

| GEOLOGICAL CLASSIFICATION | NATURE OF STRATA | RECEIVED | | Delete as appropriate | |
|------------------------------|--|-----------|-------|-----------------------|-----------|
| | | THICKNESS | DEPTH | m or ft* | cm or in* |
| Mudstone, | locally silty, dark; abundantly wormy; plants; rare <i>Guilielmites</i> sharp | 4 | 5 | 1151 | 8 |
| Siltstone | fine with connected sandstone fine lenses; load casts sharp | 1 | 2 | 1156 | 1 |
| Mudstone | fissile, dark; numerous ironstone bands and nodules; wormy, ostracods, <i>Spirorbis</i> , large non-marine lamellibranchs including <i>Anthracosia</i> below 60/0; fish debris sharp | 5 | 5 | 1157 | 3 |
| Seat Earth | Siltstone fine, immature; <i>Stigmaria</i> , ironstone nodules | 1 | 0 | 1162 | 8 |
| Siltstone | fine with connected sandstone fine lenses; load and pouch structures; plants along bedding planes, micaceous planity planes sharp | 2 | 4 | 1163 | 8 |
| Sandstone | fine to medium, truncated linguoid ripple sets; micaceous planity planes; vertical breaks sharp | 5 | 6 | 1166 | 0 |
| Siltstone | fine with disconnected sandstone fine lenses; plants along bedding planes; sandstone dying out downwards, becoming rhythmic below 75/4 passage | 4 | 2 | 1171 | 6 |
| Mudstone | dark, slightly silty, laminated, ironstone bands; wormy; non-marine lamellibranchs including <i>Anthracosia</i> sporadic to 82/0, large crowded, and carbonated 82/0 - 84/2 with <i>Spirorbis</i> ; abundant ostracods in basal 0/; vertical crinkled breaks throughout | 8 | 2 | 1175 | 8 |
| COAL | | 0 | 2 | 1183 | 10 |
| Seat Earth | Siltstone fine, muddy; ironstone nodules; <i>Stigmaria</i> and plant debris passage | 6 | 2 | 1184 | 0 |
| Mudstone | laminated, dark, locally silty; ironstone bands, and nodules; wormy; small thin- shelled non-marine lamellibranchs, becoming larger downwards, crowded at some horizons below 96/0, with <i>Anthracosia</i> passage | 7 | 4 | 1190 | 2 |
| Mudstone | dark fissile; abundant carbonated thick shelled non-marine lamellibranchs, locally crowded; | 0 | 7 | 1197 | 6 |
| | | | | 1198 | 1 |



