

B.M.R. Record No. 1952/51

Tr. S

OPEN CUT COAL PROGRAMME - NEWCASTLE REGION

POINT MORRISSET AREA

DRILLING RESULTS

By T. H. Rodger

B.M.R. Records No. 1952/51.

CONTENTS.

| Summa ry | Page | 1 |
|---|--------|------|
| Introduction | Page | 2 |
| Geology | Page | 2 |
| Mining | Page | 4 |
| Map N14-80 (Fig.1) - Geological Map and Sections Point Morr | :isset | Area |
| Map N14-92 (Plate 3) - Bore Locations on Wallarah Seam. | | |
| Graphic Logs - Coal Detail (Fig.2) | | |
| Graphic Logs (Figs.4, 5, 6) | | |
| Bore Logs. | | |
| | | |

SUMMARY

A total of 25 rotary cored holes were drilled by the Bureau in Portion 49, Parish of Wallarah, County Northumberland, 2 miles south of Swansea. Approximately 1400 ft. of "test and define" drilling proved a possible 200,000 tons of coal suitable to be open cut under an average overburden of 6/1 ratio.

The initial drilling programme showed a rolling seam. After surveying, further holes were drilled to locate the displacement which is 10 to 15ft. in the S.W. corner of the area. No other obstacles are known which would hinder immediate working of the area.

The lower split of the Wallarah Seam was tested in three holes but was found to be too thin to warrant further prospecting.

INTRODUCTION.

The area investigated is part of the eastern shore of Lake Macquarie and is approximately 2 miles south of Swansea. At present only a rough bush track leads into the area from the Pacific Highway. The N.E. corner of Portion 49, is within ½ mile of the Pacific Highway at the nearest point. The nearest coal loading plants from the centre of the area, are the Wallarah Colliery's Wharf at Catherine Hill Bay (3½ miles) and the Redhead Coal Mining Company's railway at Belmont (6½ miles). Either of these outlets would require approximately ½ mile of road to be made.

The recommendation from the Joint Coal Board suggested an area below the outcrop of the Wallarah Seam in Portion 49, Parish of Wallarah, Northumberland County, as shown in BMR. Map N.14/80 (Fig.1). The seam to be investigated has been tentatively called the Point Morrisset Split (probably of the Wallarah Seam). After prospecting had been started a further request was made by the Joint Coal Board to investigate the Lower Split of the Wallarah Seam in the same general area. This was done.

Prospecting the Point Morrisset Split has been limited in the past to one addit driven in the N.W. corner of Portion 49, near water level. The limit of these workings as shown on BMR. Map N.14/80 (Fig.1) was taken from a plan called "Outcrops and Workings of Seams in Portion 49" (unknown origin). Either the plan is not correct or further mining has proceeded since the original of the plan was drawn because BMR.24 encountered old workings at 71 ft. contrary to the plan. In the vicinity of the workings a shaft exists in which coal was encountered at 25 ft.

A total of 25 holes were sunk by Bureau Failing 750's, but because of poor recovery in the Earlier holes, which necessitated redrilling several holes, the number of useful holes was 16. Of these holes three were placed so as to encounter the Lower Split of the Wallarah, but as the results were so poor the prospecting of this seam was discontinued.

A further request was received from the Joint Coal Board to penetrate the Great Northern Seam which they expected to lie approximately 70 ft. below the Point Morrisset Split. The drillers were immediately instructed to deepen the hole on which they were working. In the meantime, information which was at that time not in the hands of the Joint Coal Board, was studied and seam correlation indicated that the Great Northern was possibly 200 ft. below the level of the Point Morrisset Split. By that time the drillers had reached 102 ft. below the Point Morrisset Split and had not encountered coal, so the hole was abandoned.

The possible open cut area is on a slope from Lake Macquarie to the hills capping the Upper Wallarah approximately 175 ft. high. The whole of the open cut area is covered by scrub and young timber which in places is quite thick.

The bearings for the bore locations are taken from magnetic north.

GEOLOGY.

Upper beds of the Newcastle Stage are exposed in many places in the area south of Swansea between the Pacific Ocean and Lake Macquarie. With few minor changes the dip is approximately 30 to the west over the whole Swansea Area.

Stratigraphically the seams of the Newcastle Stage in the Swansea Area are from top to bottom:-

Wallarah Seam - Upper Split Lower Split

Point Morrisset Split

Great Northern Seam.

WALLARAH SHAM - UPPER SPLIT. The Upper Split of the Wallarah Seam is the uppermost known seam in the Newcastle Stage. This seam has been extensively worked in the Swansea Area by the Wallarah, the Wallamaine and the Northern Highways Collieries; the first two are still in operation. Because of these extensive workings care was needed in placing the holes. BMR 15, 16 and 17 passed through this seam.

WALLARAH SEAM - LOWER SPLIT. The Lower Split has been worked in the Swansea Open-cut and in at least two places in the Wallamaine Colliery. This seam becomes progressively thinner south of Portions 4, 21 and 12 particularly towards the S.E. and in S14 Swansea South Area (BMR Sketch Map N14/92 (Plate 3) it is missing. Bore S14 was drilled 37ft. below the Upper Split of the Wallarah Seam. The Joint Coal Board's hole Swansea Bore No. 2, located at the Pacific Highway/Catherine Hill Bay Road junction in Portion 14, was commenced 10ft. below the Wallarah Upper Split and encountered no coal for the first 155ft.6ins. The Lower Split therefore combines with the Upper Split or disappears in Portion 14 and further south. In the holes where the Upper and Lower Splits were penetrated the vertical interval between the seams is 0 to 22ft. and the seam thickness/varies between 1ft.6ins. and 4ft.10ins.

POINT MORRISSET SPLIT. The Point Morrisset Split was prospected extensively in the area particularly in the S.W. corner. Coal of this seam was emountered to varying depths at thicknesses from 6ft.5ins. to 2ft. 6ins. In the southern half of the area the seam thickness decreases to the east with minor fluctuations. The graphic logs (Figs. 2,4.5 &6) and sections (Fig.1) show the extreme variation of the thickness of the Point Morrisset Split within a very small area. In the same degree the sediments above vary in thickness and rock type. A thickness of 4ft. was considered a minimum for a possible open cut, with an average thickness of 4ft.6ins. or greater. The seam in the area has no more than 2ins. of bands. The quality varies but the average without bands is:- ash content 18.4%, calorific value 11,200 B.Th.U's/lb.

The structure contours on Fig. 1. show a distinct vertical displacement of between 10 and 15ft. and more likely to be a fault than a roll. An examination of underground workings in the Upper Split of the Wallarah Seam in the Wallamaine Colliery failed to reveal any trace of a fault. The displacement however diminishes to the N.E. and may not noticeably affect the upper seam.

Washouts of a minor nature may occur. BMR 23 encountered only $2\frac{1}{2}$ ft. of coal whilst in the surrounding holes the seam was at least 4ft. thick.

No evidence of igneous intrusions was found either in drilling or in field survey.

The Point Morrisset Split, reported only from the Swansea Area, was assumed to be a split of the Great Northern Seam, but recent drilling results suggest rather that it is a split of the Wallarah Seam. The vertical intervals between the Lower Split of the Wallarah Seam and the Point Morrisset Seam are as follows:- BMR 24 42ft.8ins., BMR 15 & 16, 38ft.5½ins., BMR 17 29ft.3ins. Thus it seems that the Point Morrisset

Split thickens and diverges from the Lower Split of the Wallarah Seam to the N.W. in much the same way as the Lower Split thickens and diverges from the Upper Split of the Wallarah Seam.

The overburden as illustrated in graphic logs and sections is mainly conglomerate (Toralba Conglomerate) with minor bands of sand-stone, claystone and shale.

GREAT NORTHERN SEAM. The Great Northern Seam is being worked by the Normaine Colliery. BMR 23 proved that this seam is at least 102 ft. below the Point Morrisset Split and the bettem/95 of this is conglomerate. Joint Coal Board percussion holes intersected the Great Northern Seam at a depth below open cut limits.

MINING.

The coal within open cut limits lies in Portion 49, Parish of Wallarah in an irregular strip outlined by the overburden isopachs on Fig. 1.

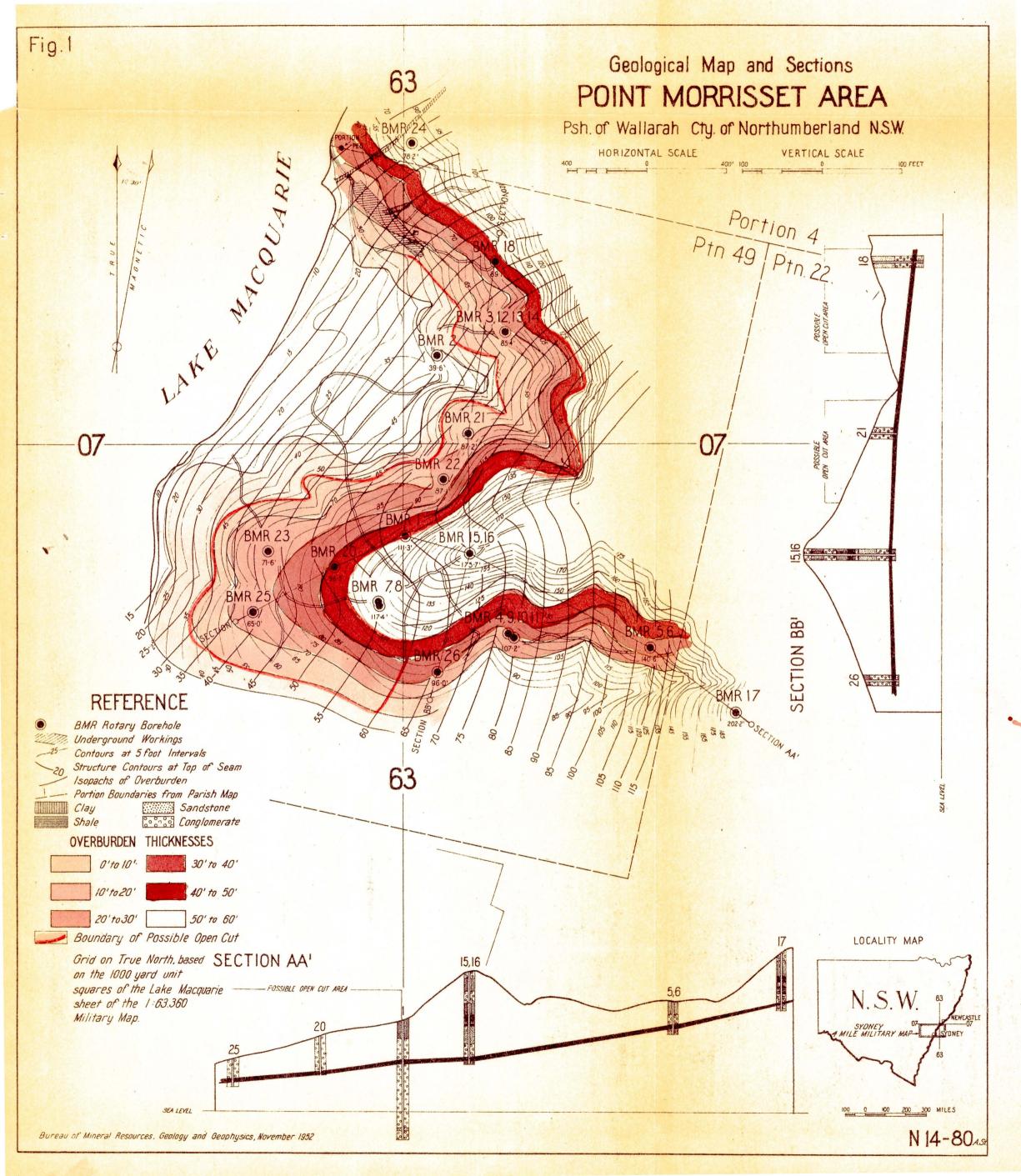
The area of coal beneath overburden of 50ft. or less is approximately 52 acres. The average seam thickness is $4\frac{1}{2}$ ft. which gives 320,000 tons of coal (calculated on the basis of 1500 tons/acre ft.) As this quantity has been estimated to the outcrop with no account taken of weathering or washouts, it is probable that the overall tonnage would have to be reduced by a third if not a half.

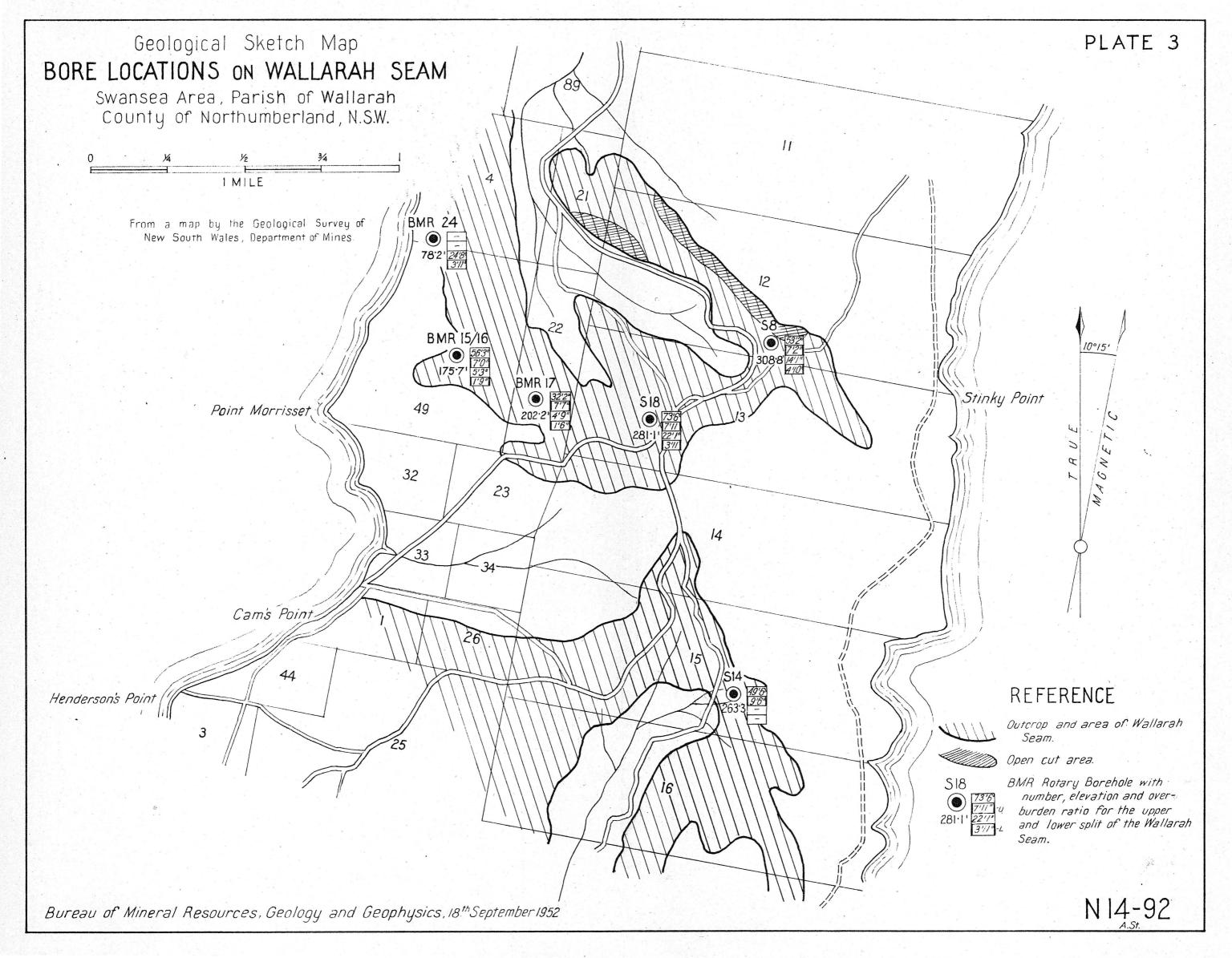
The only difficulties likely to be encountered in mining are the roll or fault in the S.W. of the area and the old workings in the N.W. of Portion 49 which are thought to be not extensive.

The seam dips with the slope of the ground under an average over-burden of 30ft. composed largely of conglomerate.

T.H. RODGER.

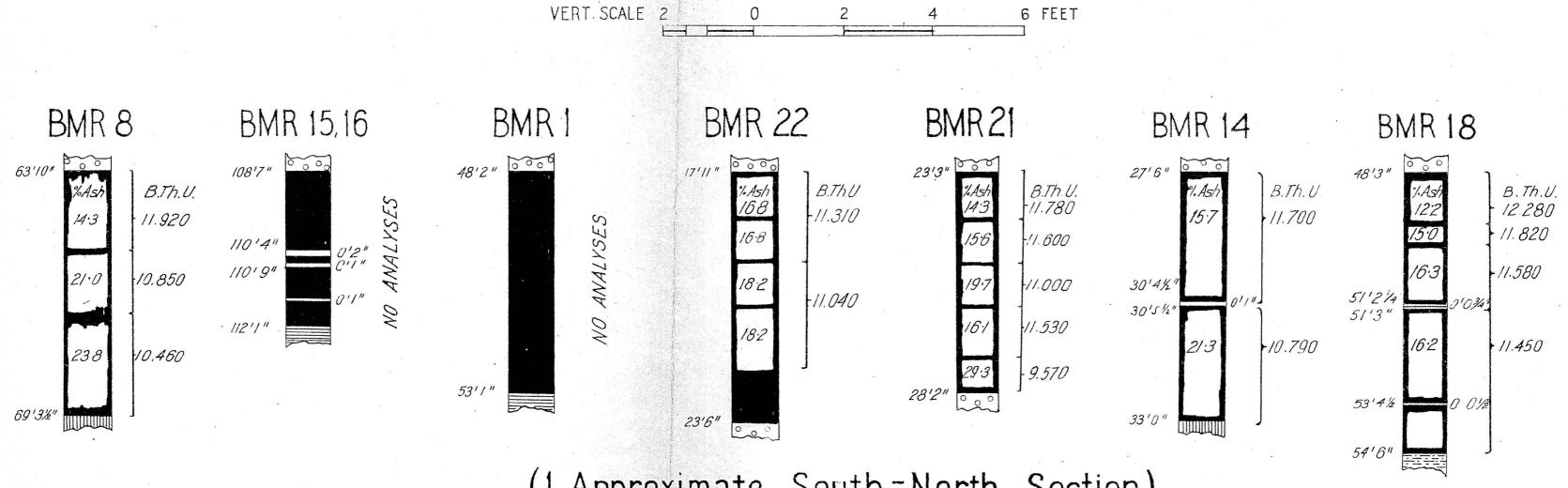
Colombia to



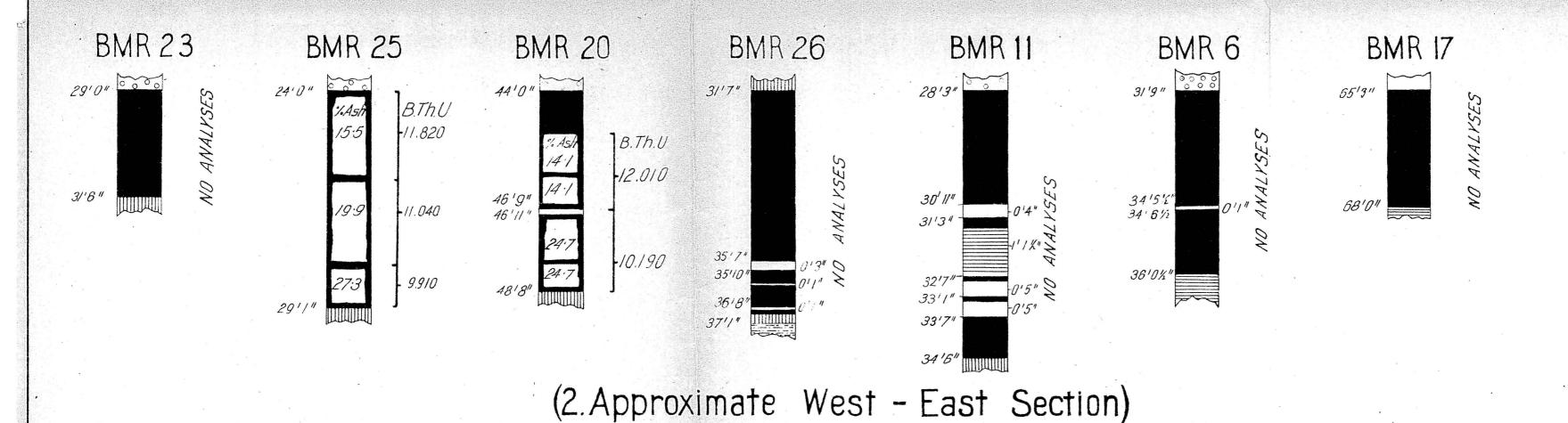


COAL DETAIL OF THE POINT MORRISSET SPLIT

Parish of Wallarah, County of Northumberland, N.S.W.



(1. Approximate South-North Section)



BMR 24 BMR 15, 16. BMR 17 44'6" 46'0"

(3. Bores through Wallarah Lower Split)

COMMONWEALTH OF AUSTRALIA

Bureau of Mineral Resources, Geology and Geophysics

Area: Point Morrisset Hole No: BMR 15 & 16 Elevation: 175.65' ASI

Reference: BMR Map N14/80, October 52

Datum: H.W.B.

Begun: 9.7.52

Finished: 10.7.52

Depth: 114'9"

| STRATIGRAPHIC LOG (1"-10') | COAL DETAIL (1"-2") |
|--|--|
| 0000 | 56' 3" |
| Congl. 0000 101 00 | Coal, soft, weathered |
| 10' 0" | |
| Claystone 15' 6" | |
| 25' 6" 000 | Coal, soft, weathered 5' 0" |
| Congl. 15' 0" | |
| 40' 6" | 63' 3" |
| Claystone 15: 9" | Coal, bright with thin |
| 56' 3" | Coal, bright with thin dull bds. |
| Coal w. Sltst. band 71 0" | |
| Clayst. 8 5: 3" sltst. & 5: 3" | |
| sst 68' 6" 1' 7½" 1' 7½" | 108 7" |
| | Coal, dull with thin bright bands |
| Sst. 32'10½" | Coal, silty with bright 2" bands Coal, dull with frequent bright bands |
| | Coal, dull with thin bright bands. 112' 1" |
| 931 011 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | No Coal samples taken for Analysis. |
| Congl. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | |
| Coal w.108' 7" 4' 6" Chale 112' 1" | |
| Shale, sltst. & clay. 114, 9" | |

COMMONWEALTH OF AUSTRALIA

Bureau of Mineral Resources, Geology and Geophysics

Area: Point Morrisset Hole No: BMR 17 Elevation: 202.2 ASL

Reference: BMR Map N14/80, October 52

Datum:

H.W.B.

Begun: 7.4.1952

Finished: 8.4.1952 Depth:

72 1 3"

| STRATIGRAPHIC LOG (1"-10') | COAL DETAIL (1"-2") |
|--|--|
| Congl | Coal, weathered |
| Claystone 15, 2, 2, 2, 2, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7, | |
| 39' 9" 4' 9" 4' 9" 1' 6" | 39' 9" |
| Claystone 46' 0" 4' 0" 4' 0" 3" Sst. with sh. & sltst. 56' 6" | Coal 44' 6" |
| Coal 65' 3" | |
| Shale 68' 0" | Coal 50' 0" 3" |
| | Coal. dull with |
| | Coal, dull with bright bands 68' 0" |
| e | No Coal samples taken for Analysis. |

COMMONWEALTH OF AUSTRALIA

Bureau of Mineral Resources, Geology and Gcophysics

Area: Point Morrisset Hole No: BMR 18

Elevation: 88.6 ASI

Reference: BMR Map N14/80, October 52

Datum:

H.W.B.

Begun: 8.4.1952.

Finished: 9.4.1952 Depth:

6310m

| STRATIGRAI | PHIC LOG (1"-10') | COAL DETAIL (1"-2") |
|---|-------------------|--|
| Sst. | 271 011 | HM V FC Ash BThU. 48' 3" 3.0 27.1 57.7 12.2 12.280 Coal dull & bright 3.3 25.6 56.1 15.0 11.820 49' 5" Coal v. silty & bright 3.4 25.7 54.6 16.3 11,580 Coal, silty & bright 3.4 27.6 52.8 16.2 11,450 |
| 27° Congl. | | Coal, fusinitic & bright 54' 6" |
| Coal with siderite & sltst. bds Sltst. 54' w. sst.cls & shale bd Sst. 61' | 3" | |

Name and No. of Bore BMR 1 POINT MORRISSET

| | | le COUNTY Northumberland PARISH | | | | | | | | 58 ⁰ /1968' |
|--|--|--|------------------|--|------------------------|------------------------|----------|------------|-----------|------------------------|
| Surveyed | by T.H.Ro | Survey Method Tel.Alidade | Elevatio | on 111.3 | S' ASL | Re | f. Map. | BMR Pla | ın N14/8 | 3.O |
| Logged b | y M.C.Ko | | Datum | | 3. | | f. Repor | t BMR Rec | ords 19 | 52/51 |
| Sunk by . | BMR. | Type of Drill Failing 750/262 | Depth | 150' | | Da | te Begu | n/Finished | 11.3.52 | /13.3.52 |
| Estimated Depth | Estimated Thickness | GEOLOGICAL DESCRIPTION OF STRATA | Core Measured | Coal Sample | Min. Bands Included | Min. Bands Excluded | | PROXIMA | ATE ANALY | SIS |
| Ft. Ins. | - | | Ft. Ins. | No. | Ft. Ins. | Ft. Ins. | H.M. | V. F.0 | C. ASH | B. TH. U/LB |
| 12 0 14 2 17 9 18 10 0 0 6 18 22 24 29 31 32 48 49 51 52 53 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 12 0 2 2 2 10 9 3 10 3 2 2 0 | Clayshale, yish-gy. mottled w. some claystone l.gy. at bottom Claystone, gy. to l.gy. partly wd. w. occasional plant detritus Sandstone. f. to c.gr. v. fri. Sandstone f. to c.gr. fri. partly wd. Clayshale, reddish-br. Sandstone, brish-gy. wd. c.gr. fri. Claystone, reddish-br. wd. Conglomerate, med. brish-gy. Conglomerate, med. to pebbly. Conglomerate as before Conglomerate as before CCAL CCAL (from cuttings) CCAL (from cuttings) CCAL (from cuttings) Shale, carb. bk. w. thin bds. of Coal Conglomerate as before Conglomerate f.gy. Sinistine, v.c.gr. hd. gy. Conglomerate, c. to m.hd. | | No coal samples selected due to poor core recoveries | | | PE. | 200 | Y SPLIT | (THR) |
| | | Hole completed | | | | | | typed | 15.9.5 | 2 |
| | | | | | 1 | | | | | |

APPROX. DISTRICT Newcastle COUNTY Northumberland Wallarah PORTION 49 LOCATION NW Cnr. Ptn 49/142.50 PARISH Surveyed by T.H. Posser Survey Method Tel Alidade 39.6: ASL Ref. Map BMR Flan M14/80 Elevation M.C. Konscki Not Ref. Report BMP Records 1952/51 Logged by ... H.W.B. Cased Datum ... BMR Failing 750/282 43 * Sunk by Type of Drill Depth ... Date Begun/Finished 13.3.52/14.3.52 Estimated Estimated Core Coal Min. Bands Min. Bands PROXIMATE ANALYSIS Depth Thickness GEOLOGICAL DESCRIPTION OF STRATA Measured Sample Included Excluded No. H.M. F.C. ASH B. TH. U/LB Ft. Ins. Ft. Ins. Ft. Ins. Ft. Ins. Ft. Ins. Clay, yish-l.gy, w. loose pbls, ferr. Conglomerate, gy. & partly forr.m. to c. Conglomerate gy. m. (sst. mtx.) 10 10 0 0 15 0 0 43 28 0 Hole abandoned. typed 15.9.52

Name and No. of Bore EMP 2 POINT MORSESSET

Name and No. of Bore DISTRICT Newcastle COUNTY Northumberland PARISH Wallarah 49 LOCATION NW Cnr.Ptn49/135.50/2950 PORTION Ref. Map BMR Plan N14/80 Surveyed by T.H.Rodges Survey Method Tel. Alidade 140.6' ASL Elevation

| Logged by Sunk by | y 121M | • | necki Cased Not Type of Drill Failing 750/262 | | tum pth | H.W. 3915 | ······ | | Re Da | ef. Repo ate Beg | ort BM un/Finis | shed 19 | ords 1.3.52/ | 952/51 19.3.52 |
|----------------------|--------------|---|---|-----|---------------|--|----------------------|------------------------|---------------|---------------------|--------------------|---------|--------------|-------------------|
| Estimated Depth | | mated ckness | GEOLOGICAL DESCRIPTION OF STRATA | | ore | Coal Min. | Min. Bands | Min. Bands Excluded | | | | | C ANALYS | |
| Ft. Ins. | Ft. | Ins. | GEOLOGICAL DESCRIPTION OF STRATA | İ | sured Ins. | Sample No. | Included Ft. Ins. | | Iuaea Ins. | H.M. | v. | F.C. | ASH | B. TH. U/LB |
| | 7 1 11 2 2 1 | 0003 2004 205 | Clay, mottled red, 1.gy. & 1.br. Clay, dk.gy-br. (might be wd. coal) Clay mottled Conglomerate gy. med. CCAL CCAL CCAL shy, & dull w. bright bds. CCAL (from cuttings) CCAL, shy. & dull Claystone, silty, brishgy. w. plant remain Siltstone, gy. carb. & mic. m.s. Sandstone, v.f.gr. brishgy. shy. s. carb. & mic. Hole completed. Re-drilled as EMR 6. Point Morrisset. | ns. | 9 4 2 7 2 5 | No samples taken from this hole due to poor core recoveries. | | | | | POINT | | | SPLIT_(TH |

Name and No. of Bore BMR 6 POLING MOTTERSETT

| DISTRICT Newcast | | Wallarah | | PORTION | 49 I | | | <u>/135.5% 2950°</u> | | |
|---|--|------------------|----------------|------------------------|------------------------|--------------|--------------------------------|----------------------|--|--|
| Surveyed by T.H.P. | odger Survey Method Tal. Alidade | Elevation | L | .7' ASL | Re | map | MR Plan Ni | ! | | |
| Logged by M.C.K | ongold Not | Datum | H.W | .B. | | T. ICPOIC | MR Records | | | |
| Sunk by BMR | Type of Drill Failing 750/262 | Depth | 421 | | Da | te Begun/Fin | Gegun/Finished 19.3.52/19.3.52 | | | |
| Estimated Estimated Depth Thickness | GEOLOGICAL DESCRIPTION OF STRATA | Core Measured | Coal Sample | Min. Bands Included | Min. Bands Excluded | PR | OXIMATE ANA | LYSIS | | |
| Ft. Ins. Ft. Ins. | | Ft. Ins. | No. | Ft. Ins. | Ft. Ins. | H.M. V. | F.C. ASI | H B. TH. U/LB | | |
| 17 6 17 6 31 9 14 5 | Clay, mottled, l.gy.red & reddish-br. Conglomerate, gy. med. (sst. mtx) | | | | | | | | | |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | CCAL CCAL, dull w. bright bds. CCAL, rather shaly Shale, carb. gy.w. thin coal bds. CCAL (from cuttings) with bands of siltst. carb. | 10½ 1 4½ 1 | n fo | | | PCINT MO | rrisset si | PLIT (THR) | | |
| 36 C ¹ 1C ¹ 1C ¹ | CCAL, dull w. bright bds. | 5 | th: | | | | | | | |
| 36 5 \frac{1}{2} 5 37 2 8 \frac{1}{2} 38 8 1 6 42 0 3 4 | Shale, gy. carb. w. coal bds. Claystone to siltstone, carb. Sandstone v.f.gr. w. leaf impressions, carb mic. rather cly. Sandstone as immediately preceeding | 5 8½ 1 4 | Seam sampli | | | | | | | |
| | Hole completed | | Coal | | | | typed 1 | .5.9.52 | | |
| | | | | | | • | | | | |

Name and No. of Bore BMR 7 POINT MORRISSET

| DISTRICT | le COUNTY Northumberland PARISH | Wallarah |] | PORTION4 | .9 L | OCATIO | NW Chr. | Ptn49/] | 62.5 ^C /2275' |
|---|--|---|---|------------------------|------------------------|-------------|-----------|-----------|--------------------------|
| Surveyed by T.H.Ro | dger Survey Method Tel. Alidade | Elevation | 117.9 | ¹ ASL | Re | f. Map | BNR Plar | N14/8 | 0 |
| Logged by M.C.Ko | necki Cased Not | Elevation 117.9' ASL Ref. Map BMR Plan N14/80 Datum H.W.B. Ref. Report MMR Records 1952/51 | | | | | | | |
| | Type of Drill Failing 750/262 | | | | Da | te Begun | /Finished | 0.3.52 | /21.3.52 |
| Estimated Estimated Depth Thickness | GEOLOGICAL DESCRIPTION OF STRATA | Core Measured | Coal Sample | Min. Bands Included | Min. Bands Excluded | | PROXIMA | TE ANALYS | SIS |
| Ft. Ins. Ft. Ins. | | Ft. Ins. | No. | Ft. Ins. | Ft. Ins. | H.M. | V. F.C. | ASH | B. TH. U/LB |
| Ft. Ins. Ft. Ins. 5 0 5 0 15 0 10 0 17 10 10 10 19 10 2 0 21 10 2 0 25 0 3 2 39 0 14 0 52 0 13 0 58 0 6 6 64 6 6 6 65 0 6 6 67 0 9 10 68 6 1 3 69 4 8 1 69 7 2 5 70 0 5 5 | Clay, y. & l.yish gy. Claystone, silty, yishl.gy. w. some sst. reddish-br. m.gr. Claystone, yish-gy COAL br. cly. completely wd. CCAL as before Claystone, off-wh. w. plant detritus Claystone as before Shale, gy. carb. Conglomerate gy. med. Conglomerate gy. med. w. bds. clayshale Conglomerate gy. med. COAL COAL, bright w. powdery (fusinitic) bds. COAL, dull mostly COAL, bright Siltstone, carb. brishdk. gy. COAL, dull w. bright bds. Siltstone, carb. brish-dk. gy. COAL, silty COAL & carb. siltstone brishdk. gy.intb. | Ft. Ins. 6 1 11 5 5 8 1 2 5 | coal samples taken due to poor core recoveries | Ft. Ins. | Ft. Ins. | <u>WAT.</u> | LARAH LOV | ÆR SPL | IT (THR) |
| 70 5 5 72 0 1 7 | Claystone, silty, carb. dk.gy. w. thin coal bds. bright | 5 | No o | | | | | | |
| | Claystone, silty, gy. w. plant remains Hole completed. Re-drilled as BMR 8 Point Morrisset. | 1 4 | | | | | typ | ed 15. | 9.52 |

Name and No. of Bore BMR 8 POINT MORRISSET

| | D | DISTRIC | r Newcast | cle COUNTY Northumberland PARISH | Wallar | ah | PORTION | | | | | | 2.50/22951 |
|----------|--------------------------------|---|---|--|-----------------------|--|------------------------|------------------------|--------------------|----------|----------------------|--------|-----------------|
| ; | Sı | Surveyed | by T.H.Ro | odger Survey Method Tel.Alidade | Elevati | O11 | | Re | ef. Map | BMR | Plan | N14/8 | O . |
| - | | | | necki Cased 63'8" | Datum | H.W.1 | В. | Re | ef. Repo | ort BM | R Rec | ords : | 1952/5 1 |
| | | Sunk by | | Type of Drill Failing 75 0/ 262 | Depth | | | Dε | ite Begi | ın/Finis | shed 24.3.52/25.3.52 | | |
| | E | Estimated Depth | Estimated Thickness | GEOLOGICAL DESCRIPTION OF STRATA | Core Measured | Coal Sample | Min. Bands Included | Min. Bands Excluded | PROXIMATE ANALYSIS | | | | |
| | <u>F't</u> | Ft. Ins. | Ft. Ins. | declosione become rion of similar | Ft. Ins | No | Ft. Ins. | Ft. Ins. | H.M. | V. | F.C. | ASH | B. TH. U/LB |
| 2 | L6] S6] S6] | 9 0 4 0 | 4 2 10 0 2 0 2 10 5 0 14 0 | Clay, y. & l.yishgy. Claystone, silty. l.yishgy. w. some sand- stone, m.gr. reddish-br. Claystone, yish-gy. COAL, br. cly. wd. Claystone, off-wh. w. plant detritus Shale, gy. carb. | | | | | <u>wa:</u> | LLARAI | I LOWE | R SPI | IT (THR) |
| 50 50 | 3(6 3(6 3(| 3 9 3 10 | 25 8 2 | Conglomerate, gy. med. w. some cl. bds. Conglomerate, (pbls. ½" - 2" diameter) | 2 | | | | PT | MORI | USSET | SPLI | T (THR) |
| | | 4 8 5 7 | 10 | COAL, bright w. silty. pwdry coal bds. COAL, bright interbedded w. pwdry coal | 11 | 1/BMR8 | | | 3.3 | | | 14.3 | |
| 9 | i1 6 | 6 3 7 0 | 8 9 | COAL, dull mostly COAL, bright & dull bds. | 5 - 9 | 2/BMR8 | | | 3.5 | 24.1 | 51.4 | 21.0 | 10,850 |
| 2 2 2 | 82 6 83 6 83 6 6 6 | 7 1 1 2 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 | 1 3½ 1 1 2 1 0½ | COAL, bright w. dull bds. v. thin COAL, mostly dull COAL, bright COAL, dull COAL, bright w. thin dull bds. COAL, dull w. thin dull bds. w. two l" | 1 3; 1 2 | 3/BMR8 | | | 3.1 | 26.0 | 47.1 | 23.8 | 10,460 |
| 3 | 5 6 | 8 10 9 2 <u>1</u> 9 3 <u>1</u> | 1 4 ¹ / ₂ 1 | siltstone bds. br.at top & bottom COAL, bright w. thin dull bds. COAL & siltstone, brishdk.gy. intb. COAL, dull & bright bds. | 7 1 4 1 | To the state of th | | | | | | | |
| | 6 | 9 6½ | 3 | Claustone, carb. dk.gy.w. thin cright coal bds. | 3 | | | | | | | | |
| | | 1 11 3 0 | 2 5½ 1 1 | Claystone, silty, dk.gy. w. plant remains Claystone, silty, gy. w. plant remains | 1 5 - 8 | | | | | | | | |
| | 1 | | | Hole completed | | | | | | typ | ed 16 | .9.52 | e garanta |

BMR 11 POINT MORRISSET Name and No. of Bore.

APPROX. LOCATION EWGnr. Ptn40/147.8^C/2600'

| D | ISTRIC' | TIve. | wcasi | cie COUNTY Northumberland PARISH M | Vailarah | | PORTION | 49 1 | APPRO [OCATIO | C. N IWUnt . F | tr40/1 | 47.8 ^C /36 0 0' | | |
|--|---|--------------|----------------------|---|---|----------------------|------------------------|------------------------|------------------|-------------------|------------------------|-----------------------------------|--|--|
| | | | | odger Survey Method Tal. Alidada | | | | | | | | | | |
| L | ogged by | yM | .C.Kc | necki Cased 29: | Datum | | | | | | | | | |
| Sı | ınk by | В | MR | Type of Drill Failing 750/262 | Depth | 35 ' | 6 ¹¹ | D | ate Begun | /Finished .2 | nished 27.3.52/27.3.52 | | | |
| | stimated Depth | | mated kness | GEOLOGICAL DESCRIPTION OF STRATA | Core Measured | Coal Sample | Min. Bands Included | Min. Bands Excluded | | PROXIMAT | E ANALYS | SIS | | |
| | . Ins. | Ft. | Ins. | | Ft. Ins. | No. | Ft. Ins. | Ft. Ins. | H.M. | V. F.C. | ASH | B. TH. U/LB | | |
| 16 28 | 3 3 | 9 7 12 | 3 0 0 | Clay, off-wh. Conglomerate, f. to m.w. sst.mtx. & clay be Conglomerate f. to m. | ls | | | | | | | | | |
| 29 30 30 30 30 31 31 32 32 32 32 32 32 32 32 32 32 32 32 32 | 0 3 5 1 1 3 4 1 8 7 8 1 2 5 6 | | 9 0316221101 1515 | COAL, possibly bright w. powdery bds. as shown by cuttings COAL, dull w. a few thin bright bds. COAL, rather dull, w. a few thin bright bds COAL, bright COAL, dull w. few bright bds. Shale, silty, carb. Siltstone, carb. brishdk.gy. COAL, shy COAL, dull Shale, carb. intb. w. bright coal Siltstone, carb. brish - dk. gy. COAL, bright Siltstone, carb. w.v. few thin coal bds. COAL, dull silty Siltstone, carb.intb.w. coal bds. about \[\frac{1}{2}^n \] thick | 9 6 1 1 1 2 1 1 1 2 1 1 5 1 3 1 1 1 5 1 3 1 1 1 5 1 1 3 1 1 1 5 1 1 3 1 1 1 5 1 1 3 1 1 1 1 | m too thin for sampl | | | POINT | MORRISS | ET SPL | IT (THR) | | |
| 34 35 35 | 0 | | 11 6 6 | COAL, mostly bright Claystone, gy. w. plant remains Claystone, gy. w. plant remains | 1 4 6 | Coal S | | · | | | | | | |
| | | | | Hole completed. | | | | | | | | | | |
| | | | · | This log supplements logs of bores BMR 4, | 9 & 10. | · | | | | typ | ∍đ 15.º | 5 2 | | |

Name and No. of Bore BMR 14 POINT MORRISSME

| DI | STRIC | r Ne | wcast | le county Northumberland parish | Walla | arah | H | PORTION4 | <u> </u> | | CATI | | OnrI't, | 140/12 | i.5°/lâ44° |
|----------------|----------------|------------|-------------------------|---|--|---------------------|----------------|------------------------|-------------------|------|------|----------|--------------------|--------|-------------|
| Su | rveyed | by .T | .H.Ro | dger Survey Method Tel. Alidade | Ele | vation | | | | | | | | 114/80 | |
| Log | gged b | | | necki Cased 27'8" | Datum H.W.B. Ref. Report BMR Records 195 | | | | | | | 52/51 | | | |
| Su | nk by | В | MR | Type of Drill Failing 750/262 | Der | oth | 70 ¹ | | | Date | Begu | ın/Finis | shed ³¹ | 3.52/ | 31.3.52 |
| | imated epth | | imated ickness | GEOLOGICAL DESCRIPTION OF STRATA | | ore sured | Coal Sample | Min. Bands Included | Min. Ba Exclud | | | PRC | XIMATE | ANALYS | IS |
| | Ins. | Ft. | Ins. | | Ft. | | No. | Ft. Ins. | Ft. I | | I.M. | | F.C. | ASH | B. TH. U/LB |
| 6 | 3 6 | 5 | 3 3 | Soil, brownish-dk.gy. (possibly wd. coal) Claystone, silty. l.gy. w. sandstone, red-dish-br. c.gr. | | | | | | | | | | | |
| 12 | 6 | 6 | 0 | Sandstone, y.c.gr. fri. wd. w. bds. of | | | | | | | | | | | |
| 27 | 6 | 15 | 0 | sandstone, l.gy. speckled w. carb. det. Conglomerate, gy. med. | | | | | | | | | | | |
| 27 | 8 | | 2 | COAL | | | | | | , | PT. | MORR | SSET | SPLIT | (THR) |
| 28 | 1 | | 5 | COAI, bright & fusinitic(?) bds. thinly interpale blue coating on bedding & cleavage | ٥. | | | | | | | | | | |
| 28 | 10 | | 9 | planes COAL, dull & bright bds. | | 5] 9 † | 1/BMR14 | | | 3 | .1 | 25.6 | 55.6 | 15.7 | 11,700 |
| 29 | 1 | | 3 | COAL, dull | | 3 | | | | | | | } | | - |
| 30 | 41/2 | 1 | 3 <u>1</u> | COAL, dull & bright bds. w. pale blue & irridescent (blue & green) coating on cleavage planes; occasional pyrites | 1 | 3 <u>1</u> | | | | | | | | | |
| 30 | 5 1 | | 1 | Siltstone, carb. brish,-dk.gy | | 1 | | | | | • | | | | |
| 30 31 | 9 1 | | 3 1 | COAL, bright w. dull bds. | | 3 <u>늹</u> 1 | 2/BMR14 | | | 3. | .1 | 26.0 | 49.6 | 21.3 | 10,790 |
| 31 | 2 | | 1 | COAL, bright w. dull bds COAL, dull w. pale blue films on planes | | , | | | | | | | | | 20,100 |
| 31 32 | 4 1 | 1 | ೭ | COAL, bright & dull bds. | ı | 2 | | | | | | | | | |
| 32 | 2 1 | | 9 1 <u>+</u> | COAL & splint w. thin bright bds. CCAL, bright w. dull bds. | | 9 | | | | | | | | | |
| 32 32 32 | 2 4 6 | | 2 | COAL, dull w. bright bds. | | 1 2 2 | | | | - | | | | | |
| 33 | 0 ਹ | | ం 5 ్ట్రే | COAL, bright w. thin dull bds. COAL, shy. w.v. thin bright bds. | | 5 1 | | | , | | | | | | |
| 33 | 5 | | | Claystone, silty, gy.w. plant remains | | | | | | | | | | | |
| 41 | Ö | 7 | | Claystone, as before, becoming more silty | | 2 | | | | | | | | | |
| 70 | 0 2 | 2 9 | | twds the bottom Conglomerate gv. medium to c | | | | | | | | | | | |
| | | | | Hole completed. This | d log | s su | plement | s logs of | BMR 3 | 3,13 | & 1 | e. t | yped : | 5.9.5 | 2 |

| | | | | | V 7-1 | | | | PPROX | | | wo | |
|-----------------------|------------------|--------------------|-----------------------|--|---|----------------------|---|-------------------|---------------|--------|--------|--------|-------------|
| I | OISTRIC | CTN | wcast] | le COUNTYNorthumberland PARISH V | Vallarah | | PORTION 49 | | | | nr.Ptr | 149/14 | 9.40/2130 |
| | | | | lger Survey Method Tel. Alidade | | | | | ef. Map | BMR | Plan 1 | 114/80 |) |
| L | ogged b | byI | T.C. Ko | onecki Cased Not | Datum | H.W.B | | Re | ef. Repo | rt BMR | Recor | ds 19 | 52/51 |
| S | unk by | I | BMR | Type of Drill Failing 750/262 | \ldots Depth $\overset{\mathcal{B}}{=}$ | MR15 55' MR16 114 | Date Begun/Finished • 4 • 52/3 • 4 • 52 | | | | | | |
| E | stimated | | Estimated | | Core | Coal | Min. Bands | Min. Bands | | | | ANALYS | |
| | Depth t. Ins. | 1 | Thickness Ft. Ins. | GEOLOGICAL DESCRIPTION OF STRATA | Measured Ft. Ins. | Sample No. | Included Ft. Ins. | Excluded Ft. Ins. | H.M. | V. | F.C. | ASH | B. TH. U/LB |
| 6 10 | 0 | 6 4 | | Conglomerate f. to m.br. Conglomerate as before w. bds. of claystone off-wh | | | | | | | | | |
| 25 40 56 | 6 6 3 | 15 15 15 | 0 | Claystone, l.br. w. loose pbls. Conglomerate l.br. f. to m. Claystone, lbr. | | | | | | | | | |
| 56 58 58 60 | 6 2 3 6 | 1 2 | 8 1 | CCAL (?) reddish to dk.br. clay. s.wd. COAL brishbk. clay. s. wd. Claystone, silty, brishgy. s. COAL, s. cly. wd. (from driller's report) | 1 8 | | | Ī | <u>VALTAI</u> | RAH UI | PER S | PLIT | (THR) |
| 63 64 65 | 6 9 | 3 | 3 3 | & rate of penetration COAL, less wd. dull & bright bds. disting- uishable Claystone, silty. l.gy. Claystone, v. silty. l.gy. | 2 9 1 3 1 3 | taken. | | | | | | | |
| 66 66 67 68 | 1 4 0 6 | 1 | 3 8 | Claystone, gy. Siltstone, cly. carb. gy. Sandstone, gy. f.gr. cly. mic. Sandstone, v.f.gr. l.gy. cly. mic. | 3 5 1 6 | samples | | | | | | | |
| 70 70 72 | 0 1½ 6 | 1 2 | 1물 | COAL (from cuttings) COAL, bright w.v. thin dull bds. Sandstone, v.f.gr. l.gy. s. cly. & mic. w. R & thin carb. bds. | 1½ 2 4½ | Coal | | Ā | /ALLAF | AH LC | WER S | PLIT | (THR) |
| 75 81 93 .08 | 0 0 0 7 | 2 6 18 15 | 0 : | Sandstone as before Sandstone, f. to m.gr. y. fri. Sandstone, m. to c.gr. gy. Conglomerate gy. f. to m. | 2 6 | No | | | | | | | |
| 108 | 10 | 1 | | COAL, dull w. thin bright bds. | 1 0 | | | Ī | PT. MC | RRISS | ET SP | LIT (| THR) |

Name and No. of Bore BMR 15 & 16 POINT MORRISSET Page .. Estimated Estimated Core Coal Min. Bands Min. Bands PROXIMATE ANALYSIS Depth Thickness GEOLOGICAL DESCRIPTION OF STRATA Measured Sample Included Excluded No. H.M. F.C. ASH Ft. Ins. Ft. Ins. Ft. Ins. Ft. Ins. Ft. Ins. 110 Siltstone gy. 6 COAL, silty, w. bright bds. 2 110 1 Siltstone, gy. m.hd. 110 8 COAL, dull w. frequent bright bds. 111 111 Siltstone, brish-gy. 111 Shale gy. s. 6 COAL, dull w. thin bright bds. & 2 carb. sh. 111 bds. of 1" thickness within lower half 2 COAL, bright, w. thin dull bds. 1 112 112 $2\frac{1}{2}$ Shale, carb. w. v. thin lam. of bright coal 121010101010 1310101010 112 Shale, carb. 5 112 Shale, carb. w. thin bright coal lam. 112 10 Shale, carb, Shale, carb. w. thin bright coal lam. 112 117 Siltstone, gy. w. a 1 carb. bd. in the 113 1<u>ដ</u> 1 middle 113 Shale, carb. w. thin bright coal lam. Claystone, gy. w. plant remains 114 1 Hole completed. typed 16.9.52

B. TH. U/LB

Name and No. of Bore BMR 17 POINT MORRISSET

| | | le COUNTY Northumberland PARISH | | | | | | | | | |
|--------------------------------------|---|--|---|-----------------------------|------------------------|------------------------|---------|--------------|--------|--------|-------------|
| Surveyed | byT.H.R | odger Survey Method Tel. Alidade | Elevatio | 1202. | 2' ASL | Re | ef. Map | BM | R-Plan | N14/ | 80 |
| Logged k | oy | onecki Cased Not | Datum | H.W. | В. | Re | f. Repo | ort <u>B</u> | MR Rec | ords | 1952/51 |
| Sunk by | BMR | Type of Drill Failing 750/262 | Depth | 7217 | 3.11 | Da | te Begi | un/Finis | shed7 | 4.52/ | 8.4.52 |
| Estimated Depth | Estimated Thickness | GEOLOGICAL DESCRIPTION OF STRATA | Core Measured | Coal Sample | Min. Bands Included | Min. Bands Excluded | | PRO | XIMATE | ANALYS | is ' |
| Ft. Ins. | | GRODOGIONE BEROWITTON OF BITWITT | Ft. Ins. | No. | Ft. Ins. | Ft. Ins. | H.M. | v. | F.C. | ASH | B. TH. U/LB |
| Ft. Ins. 17 | Ft. Ins. 17 0 2 10 2 9 9 1 3 6 6 0 0 3 5 1 6 2 6 6 0 0 9 2 4 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1 | Conglomerate, br. ferr. f. to c. Claystone, s. off-wh. COAL, brishbk. cly. wd. COAL as before COAL, less wd. dull & bright bds. discernible COAL, bright w. fussinews thin bds. partly wd. Iron-claystone, silty, gy. w. occasional plant remains Claystone gy. COAL, from cuttings Claystone, silty, gy. & l.gy CCAL (from cuttings) Shale, carb. Sandstone, gy. v.f.gr. hd. w. plant remains Shale, carb. w.v.thin bright coal bds. Shale, gy. s.w. plant remains Siltstone, gy. Sandstone, l.gy. f.gr. Sandstone. l.gy. f.gr. Sandstone. l.gy. c.gr. w. carb. plant remains Conglomerate gy. m. to c. COAL CCAL, dull w. bright bds. CCAL, bright | Ft. Ins. 4 9 5 3 1 3 8 6 6 0 1 9 1 9 4 1 | samples taken for analysis. | | l | WAL | LARAH | UPPER | SPLI | r (THR) |
| 66 3 67 4 67 6 68 0 69 0 | 1 1 2 6 | COAL, dull w. thin bright bds. COAL, mostly dull COAL, dull w. R thin bright bds. COAL (from cuttings) Shale, carb. w. few thin bds. of coal & l" siltstone bd. in middle | 1 1 2 1 0 | | | | | | | | |

Page2.....

Name and No. of Bore BMR 17 POINT MORRISSET

| | mated epth | Estimated Thickness | GEOLOGICAL DESCRIPTION OF STRATA | Core Measured | Coal Sample | Min. Bands Included | Min. Bands Excluded | | PRC | XIMATE | ANALYS | IS |
|----------------------------------|---------------|----------------------------------|---|----------------------------------|----------------|------------------------|------------------------|------|-----|--------|--------|-------------|
| | Ins. | Ft. Ins. | | Ft. Ins. | No. | Ft. Ins. | Ft. Ins. | H.M. | v. | F.C. | ASH | B. TH. U/LB |
| 69 69 70 71 71 72 | 8936593 | 8 1 6 3 11 4 6 | Shale, carb. w. a few thin coal bds. Siltstone, carb. Sandstone, gy. f.gr. w. thin carb. bds. Sandstone, gy. f.gr. hd. Sandstone, gy. f.gr. hd Sandstone, gy. c.gr. Conglomerate gy. f. to m. | 8 1 6 2 11 4 6 | | , | | | | | | |
| | | | Hole completed | | | | | | | t.vr | ed 17 | .9.52 |
| | | | <u>.</u> | | | | | | | | 1 | |
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Name and No. of BoreBMR 18 POINT MORRISSET

| STRIC | $	ext{Newc}$ astl | | Wallara | th | PORTION 49 |] | APPRO LOCAT | X IO N W | Cnr.P | tn49/1 | 13.60/970 |
|---|---|---|--|--|--|--|--|--|--|--|--|
| rveyed | | | Elevation | 88.6 | · ASL | | | | | | |
| gged b | y | Caseo | Datum | *************************************** | В. | R | ef. Rep | ort BMR | Recor | ds 19 | 52/51 |
| nk by | BMR | Type of Drill Failing 750/262 | Depth | 631 | | D | ate Beg | un/Fini | shed8.4 | 1.52/9 | 4.52 |
| timated Depth | Estimated Thickness | GEOLOGICAL DESCRIPTION OF STRATA | Core Measured | Coal Sample | Min. Bands Included | Min. Bands Excluded | | 1 | | 1 | 1 |
| Ins. | Ft. Ins. | | Ft. Ins. | No. | Ft. Ins. | Ft. Ins. | H.M. | _ | _ | ASH | B. TH. U/LB |
| 0 | | Sandstone, c.gr. br. cly. in the first 15' Sandstone, v.c.gr. br. | | | | | | | | | |
| . 4 | | Conglomerate, gy. m. COAL | | | | | PT. | MORRIS | SET S | PLIT | (THR) |
| 3 1 5 | 11 <u>1</u> 11/2 | COAL, dull w. thin bright bds. COAL, bright | 11½ 1½ | 1/BMR18 | · e | • | 3.0 | 27.1 | 57.7 | 12.2 | 12,280 |
| 9 | 4 | COAL, mostly dull | 4] | 2/BMR18 | | | 3,3 | 25.6 | 56.1 | 15.0 | 11,820 |
| 4 2 | 7 10 | COAL, dull, w. thin bright bds. COAL, dull w. thin bright bds. | 7 10 | 3/BMR18 | | ŗ | 3.4 | 25.7 | 54.6 | 16.3 | 11,580 |
| 2 1 1 2 3 1 2 3 3 3 1 2 3 3 1 2 3 3 1 2 3 3 1 2 3 3 1 2 3 3 1 2 3 3 1 2 3 3 3 3 | 1-14:4-14:4-102-102 | Siderite?, Khaki colour, hd. Siltstone, carb. bk. COAL, v. silty, intb.carb.shale & thin | -1/4-1/4-1/Q | · | | | | | | | |
| 4 | 1 2 | COAL, bright | નું∞-નું∞ | | ` | • | | | | | |
| 4 | 1 0 | COAL, silty, w. thin fusinitic & bright | | | | k. | | | | | |
| 4 <u>ন্</u> ত্র 5 6 | 1 | COAL, silty, w. fusinitic & bright bds. Shale, coaly, brish-bk. | $\begin{bmatrix} 10 \\ 0\frac{1}{2} \\ 1 \end{bmatrix}$ | 4/BMR18 | | 2 | 4 2 | 27.6 | 52.8 | 16.2 | 11,450 |
| 11 5 0 4 7 102 12 2 | 1 7 4 3 ½ | Siltstone, carb. w. plant remains Shale, carb. Siltstone, gy. w. thin carb. bds. Sandstone, gy. f.gr. mic. | 4 5 7 4 3 2 9 | | | | | | | | |
| 13 to | rveyed gged by nk by imated Depth Ins. 0034 35 9 42 223 3 4 4 456 6 115 0 | rveyed by T.H.Ro gged by M.C.Ko BMR nk by Estimated Thickness Ins. Ft. Ins. 0 23 0 4 0 3 21 3 1132 5 1132 9 4 4 1 0 2144 2 10 2144 313 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | T.H.Rodger M.C.Konseki M.Type of Drill Failing 750/262 Not Not Standstone, v.c.gr. br. cly. in the first 15. COAL, dull w. thin bright bds. COAL, bright M.C.Konseki M.C.Konseki M.C.Konseki M.C.Konseki M.C.Konseki M.C.Konseki M.S. Sandstone, v.c.gr. br. cly. Not siltstone, carb. bk. COAL, bright COAL, | T.H.Rodger Survey Method Tel. Alidade Elevation gged by M.C.Konecki Cased Not Datum Datum hk by EMR Type of Drill Failing 750/262 Depth. Mainted Depth Fix Ins. GBOLOGICAL DESCRIPTION OF STRATA Measured Measured Fix Ins. | T.H.Rodger Survey Method Tel. Alidade Blevation S8.6 | T.H.Rodger Survey Method Tel. Alidade Elevation 88.6 ASI Mot Datum H.W.B. Datum H.W.B. Depth 63 Mot Depth 63 Mot Depth Depth Mot Depth Depth | The Node of Not Cased Not Datum H.W.B. R | T.H. Modes Survey Method Tell Alidade Elevation S8.5 ASL Ref. Maj Ref. Ref. | Tell Note Tell Note Tell Alifade Elevation S8.6 ASL Ref. Map Ref. Regot Elevation S8.6 ASL Ref. Report Ref. Ref | T. H. Modger Survey Method Tol. Alidade Elevation S3.6 ASL Ref. Map MMR Plan Mar. Mar | T.F. Hodger Survey Method Tel. Alidade Elevation S3.6' ASL Ref. Map EMR Flan N14/E Regard by Y. C. Konecki Cased Not Datum H.W.B. Ref. Report EMR Records 16 Datum H.W.B. Ref. Map EMR Flan N14/E Datum H.W.B. Ref. Map EMR Flan N14/E EMP |

Page 2

Name and No. of Bore BMR 18 POINT MORRISSET

| Page & Name and No. of Bore Duly 10 FOINT MORALSOET | | | | | | | | | | • | | |
|---|---------------------------|------------------------|--|------------------------------|----------------|------------------------|------------------------|------|-------|------|--------|-------------|
| Est: | imated epth | Estimated Thickness | GEOLOGICAL DESCRIPTION OF STRATA | Core Measured | Coal Sample | Min. Bands Included | Min. Bands Excluded | | | | ANALYS | IS |
| | Ins. | Ft. Ins. | | Ft. Ins. | No. | Ft. Ins. | Ft. Ins. | H.M. | V. | F.C. | ASH | B. TH. U/LB |
| 60 61 62 62 63 | 7 ලිනු ලින 5 4. 6 0 | 5 4 <u>구</u> | Siltstone, gy. Claystone, carb. Siltstone, to v.f.gr. sandstone, gy. Sandstone, l.gy. f.gr. Sandstone. l.gy. m.gr. Sandstone, l.gy. c.gr. to v.c.gr. | 3 5 4½ 11 2 5 | | | | | | | | |
| | | | Hole completed. | | | | | | typed | 16.9 | .52 | |
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Name and No. of Bore BMR 20 POINT MORRISSET

| Ι | ISTRICT | r _{Newc} | astl | COUNTY Northumberland PARISH | Walla | rah | H | PORTION | 49 | LOCATI | ON ^{NWC1} | ır.Ptn | 49/16 | 8.2°/ 2100 |
|----------------------|-------------------|-------------------|-------------------|--|---------------|-------------------|----------------|------------------------|------------------------|----------|--------------------|---------|---------|---------------|
| g | hovever | by T. | H.Roo | dger Survey Method Tel. Alidade | Elev | ation | 96 | .0 | R | ef. Map | BŇR | Plan | N14/8 | 0 |
| L | ogged by | yA | .McK | innon Cased Not | Datu | ım | Н. | ₩.B. | R | ef. Repo | ort BM | R Reco | rds l | 952/51 |
| | unk by | В | MR | Type of Drill BMR's Fail 750/290 | Dept | h | 50 | 1411 | D | ate Begi | ın/Finis | hed 9.7 | .52/1 | 0.7.52 |
| E | stimated Depth | | nated kness | GEOLOGICAL DESCRIPTION OF STRATA | Core Measu | | Coal Sample | Min. Bands Included | Min. Bands Excluded | | PRO | XIMATE | ANALYS | IS |
| F | - | Ft. | Ins. | | 1 | Ins. | No. | Ft. Ins. | Ft. Ins. | H.M. | | F.C. | ASH | B. TH. U/LB |
| 44 45 | 0 | 44 1 | 0 | Conglomerate, blue-grey, fine to medium COAL | | 10 | ` | | | PT. | MORRI | SSET | SPLTT | (THR) |
| 46 | 0 - | 1 | 0 | COAL, mostly dull | - | ll | 1/BMR20 | E parameter : | | | | | | 12,010 |
| 46 46 | 9 | | 9 2 | COAL, dull with bright bands Shale, black, hard | | 9] | 2/BMR20 | | | | | - | | |
| 47 | 0 | | 1 | COAL, mainly bright | | 1 | | | | | | | | |
| 48 | 0 | 1 | 0 | COAL, dull with abundant bright bands | 1 | 0 | 3/BMR20 | | | 3.0 | 26.4 | 45.9 | 24.7 | 10,190 |
| 48 | 8 | | 8 | COAL, mainly bright | | 8 | 4/BMR20 | | | | | | ~ 1 🕻 1 | 10,10 |
| 48 49 49 50 | 10 4 6 4 | | 2 6 2 10 | Claystone, yellow Clayshale, dark grey COAL, very shaly Clayshale, dark grey soft | נ | 2 6 2 LO | | | | | | | | |
| | | | | Hole completed. | | • | | | | | | - | | |
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Name and No. of Bore BMR 22 FOINT MORPLESET

| | | | weast | | 3 |
|------------|------------------|----|----------------------|---|---|
| Su | rveyed | by | '.H.Ro | odger Survey Method Tel. Alidade Elevation 87.11 Ref. Map BAR Plan N14/80 | |
| $_{ m Lo}$ | gged b | y | I.A.Mc | eKinnon Cased Not Datum HWB. Ref. Report BWR Records 1952/51 | |
| Su | nk by . | E | MR | Type of Drill Failing 750/290 Depth 25'10" Date Begun/Finished17.7.52/18.7.52 | |
| | timated Depth | | stimated nickness | GEOLOGICAL DESCRIPTION OF STRATA Core Coal Min. Bands Min. Bands PROXIMATE ANALYSIS Measured Sample Included Excluded | _ |
| Ft. | Ins. | Ft | | Ft. Ins. No. Ft. Ins. Ft. Ins. H.M. V. F.C. ASH B. TH. U/LB | |
| 17 | 11 | 17 | 11 | Conglomerate, blue-grey, fine to medium | |
| 18 | 11 | 1 | 0 | COAL, dull 1 0 1/BMR22 PT. MORRISSET SPLIT (THR) | |
| 19 | 11 | 1 | 0 | COAL, dull & shaly, w. occasional bright 3.5 25.7 54.0 16.8 11,310 | |
| | | | | bands 1 0 2/BMR22 | |
| 20 | 11 | 1 | 0 | COAL, mainly bright 1 0 3/BMR22 3.3 27.7 50.8 18.2 11,040 | |
| 22 | 5 | 1 | 6 | COAL, dull w. bright bands 1 5 4/BMR22 3.3 27.7 50.8 18.2 11,040 | |
| 23 | 6 | 1 | ī | COAL, dull | |
| 23 25 | 11 10 | 1 | 5 11 | Conglomerate Conglomerate, blue grey, fine to medium | |
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| | | | | Hole completed. | |
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Name and No. of Bore

BMR 23 POINT MORRISSET

| DI | STRIC' | rNe | wcast | le COUNTY Northumberland PARISH | Wall | arah | | PORTION 49 | A. I. | oprox. | ON NWC | nr.Pt | n.49/ | 177.5°/2050 |
|------------|-----------------|------|-------------------|--|------|----------------|-----------------|------------------------|------------------------|----------|----------|---------|--------|-------------|
| Su | rveyed | byT | .H. R | odger Survey MethodTel Alidade | E | levation | 71.6 | | Re | ef. Map | BMR P | lan N | .14/80 |) |
| Lo | gged b | yw.A | McK | innos Cased Not | Da | atum! | H.W.B. | | Re | ef. Repo | rtBMR. | Recor | ls 195 | 52/51. |
| Su | nk by | BMR | | Type of DrillBMR.Fail.750/290 | D | epthl. | 331611 | | Da | ite Begi | ın/Finis | shed 8. | 7.52/3 | 31.7.52. |
| | imated Depth | | imated ickness | GEOLOGICAL DESCRIPTION OF STRATA | | Core asured | Coal Sample | Min. Bands Included | Min. Bands Excluded | | PRO | XIMATE | ANALYS | SIS |
| Ft. | _ | Ft. | | | | Ins. | No. | Ft. Ins. | Ft. Ins. | H.M. | v. | F.C. | ASH | B. TH. U/LB |
| 29 | 0 . | 29 | 0 | Conglomerate, blue-gray, fine to medium W. occasional sandy patches | | | | | | | · | | | |
| 29 | 6 | | 6 | COAL, weathered | | ı | | | | | | | | |
| 30 | 6 | 1 | 0 | COAL, weathered | | | ល់ | | | | | | | |
| 31 | 6 | 1 | 0 | COAL, weathered containing bright fragments. | 1 | 0 | a nalysi | | | | | | | |
| 32 | 3 | | 9 | Clayshale, dk. grey, soft. | | 9 | | | | | | | | |
| 33 | 10 | 1 | 7 | Clayshale, grey, soft. | 1 | 6 | for | | • | | | | | |
| 37 | 2 | 3 | 4 | Clayshale, grey, soft | 3 | 4 | taken | | | | | | | |
| 3 8 | 0 | | 10 | Clayshale, grey, soft. | | | | | | | | | | |
| 133 | 6 | 95 | 6 | Conglomerate, light in colour, consist- ing of a number of fine pebbles in a friable sandy matrix. | | | sambles | | | | | | | |
| | | | | | | | No | | | | | | | |
| | | | | Hole completed | | | | | | | | | . : | |
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Name and No. of Bore BMR 24. POINT MORRISSET

| | DIST | RICT | Newc | astl | e COUNTYNorthumberland PARISH W | alla | r ah | F | PORTION | | OCATIO | | r.Ptn | 49/7 | 70/3531 |
|----------------------------|----------------|------------------------|----------|----------------|--|------|------------------------|----------------|------------------------|------------------------|---------|----------|--------|--------|-------------|
| ; | Surve | eyed l | by .T | H.Ro | dger Survey Method Plane-table | El | evation | 7.8. | .21 | Re | f. Map | BMR | Plan | N14/8 | 0 |
| - | Logge | ed by | Д | .McK | innon Cased Not | Da | tum | Н. | W.B. | Re | f. Repo | rt BMF | Reco | rds l | 952/51 |
| 5 | Sunk | b y | | BMR | Type of Drill R's Fail .750/290 | De | pth | 71 | Ŷ | Da | te Begu | ın/Finis | hed23. | 7.52/ | 24.7.52 |
| | Estima Dept | | | nated kness | GEOLOGICAL DESCRIPTION OF STRATA | | ore sured | Coal Sample | Min. Bands Included | Min. Bands Excluded | | PRO | XIMATE | ANALYS | IS |
| | _ | Ins. | Ft. | Ins. | | Ft. | Ins. | No. | Ft. Ins. | Ft. Ins. | H.M. | | F.C. | ASH | B. TH. U/LB |
| 82 24 25 | | 8 8 6 | 22 2 | 8 0 10 | Sandstone, light yellow, friable weathered Claystone, dark, soft COAL, smut, weathered | | | No samp | les taken | for anal | , | | | | |
| 26 | | 6 | 1 | 0 | COAL, smut, weathered | 1 | 0 | | | • | PT | . MORE | RISSET | SPLI | T (THR) |
| 27 | | 6 | 1 | 0 | COAL, smut, weathered | 1 | 0 | | | | | | | | |
| 28 28 | | 7 9 | 1 | 1 2 | COAL, smut Clayshale, buff | 1 | 1 2 | | | | | | | | , |
| 28 29 30 31 31 | | 11 7 3 3 6 | 1 | 28803 | Clayshale, buff Claystone, off-white Claystone, sandy, yellow Claystone, off-white, soft Clayshale, chocolate brown, soft | | 1 8 6 10 3 | | · | · | | | | | · |
| 51 71 | | 6 0 | 20 19 | , O 6 | Clayshale, chocolate brown, soft Conglomerate, blue-grey, fine to medium | | | | | | | | | | |
| | | | | | Underground workings encountered at the following the second state of the second state | | ings. | | | | | | | | · |
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Name and No. of Bore BMR 25 POINT MORRISSET

| DI | STRICT | rNewca | stl | e COUNTY Northumberland PARISH | Walla | rah |] | PORTION | 49 I | LOCATI | ON NWC | nr.Pt | n.49:/ | 178 7 2367 |
|----------|----------------|----------------------|-----|---|-------|--------------|----------------|------------------------|------------------------|------------|----------|---------|-----------------|-----------------|
| Su | rveyed | by T.H. | Rod | lger Survey Method Tel. Alidade | Ele | evation | 1 | 651 | Re | ef. Man | BIVIR | Plan | MT4\C | |
| Lo | gged by | y W.A.Mc | Kin | non Cased Not | Da | tum | | H.W.B. | Re | ef. Repo | rtB | MR Re | cords | 1952/51 |
| Su | nk by | BM | R | Type of Drill BMR's Fail.750/29 |) Dej | pth | | 34'6" | Da | ate Begu | ın/Finis | hed 24 | .7.52/ | 24.7.52 |
| | imated epth | Estimate Thicknes | | GEOLOGICAL DESCRIPTION OF STRATA | | ore sured | Coal Sample | Min. Bands Included | Min. Bands Excluded | | PRO | XIMATE | ANALYS | IS |
| | Ins. | Ft. In | | | Ft. | Ins. | No. | Ft. Ins. | Ft. Ins. | H.M. | v. | F.C. | ASH | B. TH. U/LB |
| 24 | 0 | 24 | 0 | Conglomerate, yellow, consisting of fine bbles with a sandy matrix | | | | | | TOUT | 740 TOTO | CC:0111 | CDITE | /mup1 |
| 25 26 | 0 | 1 | 0 | COAL, dull | 1 | 9 | 1/BMR2 | 5 | | PT. 3.2 | | | | (THR) 11,820 |
| 27 28 | 0 | 1 | 0 | COAL, dull with bright bands COAL, dull with bright bands, somewhat shaly in places | 1 | 0 | 2/BMR2 | 5 | | 2.9 | 26. | 50. | å 19 . 9 | 11,040 |
| 29 29 | 0 | 1 | 0 | COAL, dull with bright bands | 1 | 0 1 | 3/BMR2 | 5 | | 2.5 | 25.0 | 45. | 2 27.3 | 9,910 |
| 29 30 | 5 6 | 1 | 4 | Shale, coaly Clayshale, light & dark brown interbande | d 1 | 4 1 | | | | , | | | | |
| 34 | 6 | 4 | 0 | Clayshale, dark brown, somewhat sandy in places | | | | | | | | | | |
| | | | | Hole Completed. | | | | | | | - | | | |
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Name and No. of Bore EMR 26 POINT MORRI SSET

| DISTRICT Newcas | ole county Northumberland PARISH | Wallsrah | ·] | PORTION | 49 L | CATION NACUL POR | 49/1570/26651 |
|---|---|------------------|--|------------------------|------------------------|---------------------|-----------------|
| Surveyed by T.H.R | odger Survey Method Tel.Alidade | Elevation | ıŞŞ | | | f. Map BMP Plo | |
| Logged by T.H.R | · · · · · · · · · · · · · · · · · · · | Datum | | 7.B. | Ref | Report BMR Per | ords 1952/51 |
| Sunk by B.M.R | • Type of Drill Fail. 750/290 | Depth | ව පි | 10" | Dat | te Begun/Finished 5 | 9.52/~8.9.52 |
| Estimated Estimated Depth Thickness | GEOLOGICAL DESCRIPTION OF STRATA | Core Measured | Coal Sample | Min. Bands Included | Min. Bands Excluded | | E ANALYSIS |
| Ft. Ins. Ft. Ins. | | Ft. Ins. | No. | Ft. Ins. | Ft. Ins. | H.M. V. F.C. | ASH B. TH. U/LB |
| 7 0 7 0 29 10 22 10 31 7 1 9 31 10 3 32 10 1 0 34 10 1 0 35 10 1 0 36 1 3 36 8 7 36 9 1 36 9 1 37 1 3 38 3 1 2 38 10 7 | Clay, soft w. pebbly rock fragments Conglomerate, yellow Clay, yellow COAL (from cuttings) COAL (from cuttings) COAL, dull v. shaly COAL, dull shaly Shale, brown grey, soft w. thin bands of bright coal COAL, dull shaly Shale, brown. w. thin bands of bright coal Shale, dark grey, soft COAL, dull w. bright bands Clayshale, dark grey, soft Siltstone, light grey, soft Clayshale, dark grey w. carb. markings | 46 12 61 1326 | No Coal samples taken for Analysis. | | | PT. MORRISSET S | SPLIT (THR) |
| | Hole completed | | | | | typed 1 | 3.10.52 |
| | | | | | | | |

Name and No. of Bore BMR 21 POINT MORRISSET

| | DISTRICT Newcastle COUNTY Northumberland PARISH Wallarah PORTION 49 LOCATION NW Cnr.Ptn49/143.50/ | | | | | | | | | | | | | |
|----------|---|--------|----------------|---|-----|----------------|----------------|------------------------|------------------------|----------|----------|---------|----------|-------------|
| DIS | STRICT | rNe | wcast | cle COUNTY Northumberland PARISH | Wal | lara | <u>h</u> 1 | PORTION | | | | | | 3 6 6 6 7 |
| Sur | veyed | by T.I | H.Roc | lger Survey Method Tel. Alidade | El | evatio | n 87.2 | S. 1 | Re | ef. Map | BMR] | Plan N | J14/80 | 1570 |
| Log | ged by | yW. | A.McF | Cased Not | Da | atum . | | ••••• | | | | | | 952/51 |
| Sun | ık by | B.I | M.R. | Type of Drill Failing 750/290 | De | epth | 28 1 5 | 5" | Da | ite Begu | ın/Finis | shed 10 | .7.52 | /11.7.52 |
| | mated epth | | mated kness | GEOLOGICAL DESCRIPTION OF STRATA | | core asured | Coal Sample | Min. Bands Included | Min. Bands Excluded | | | 1 | E ANALYS | |
| | Ins. | Ft. | Ins. | | Ft. | Ins. | No. | Ft. Ins. | Ft. Ins. | H.M. | V. | F.C. | ASH | B. TH. U/LB |
| 23 23 | 3 5 | 23 | 3 2 | Conglomerate, blue-grey, fine to medium COAL, bright banded | | | | | | PT. | MORRI | SSET | SPLIT | (THR) |
| 24 | 5 | 1 | 0 | COAL, mainly bright, slightly weathered | 1 | 0 | 1/BMR21 | | | 3.7 | 26.1 | 55.9 | 14.3 | 11,780 |
| 25 | 5 | 1 | 0 | COAL, mainly bright, slightly weathered | 1 | 0 | 2/BMR21 | | | 3.6 | 25.7 | 55.1 | 15.6 | 11,600 |
| 26 | 5 | 1 | 0 | COAL, mainly bright, slightly weathered | 1 | 0 | 3/BMR21 | | | 3.4 | 27.1 | 49.8 | 19.7 | 11,000 |
| 27 | 5 | 1 | 0 | COAL, mainly bright, slightly weathered | 1 | 0 | 4/BMR21 | | | 3.3 | 28.0 | 52.6 | 16.1 | 11,530 |
| 28 | 2 . | | 9 | COAL, mainly bright, slightly weathered | | 9 | 5/BMR21 | | | 2.9 | 24.2 | 43.6 | 29.3 | 9,570 |
| 28 | 5 | | 3 | Conglomerate (?) - very hard | | | | | | | | | | |
| | | | | Hole completed | | | | | | | | t | ped 2 | 2.9.52 |
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