INDUSTRIAL & MINING INVESTIGATIONS PTY. LTD.

AND

THE SHELL COMPANY OF AUSTRALIA LIMITED

SIX MONTHLY PROGRESS REPORT ON EXPLORATION CONDUCTED IN

EXPLORATION LICENCE 5/61 GRAY.

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C E P R 9/79

SIX MONTHLY PROGRESS REPORT ON EXPLORATION CONDUCTED IN E.L. 5/61, GRAY

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SUMMARY

An exploration programme was undertaken in north-east Tasmania, within E.L. 5/61 (Gray), from May, 1978 to January, 1979.

Thick vegetation and rugged topography caused difficulties in gaining access to many parts of the lease.

Coal outcrops have been known in the area since last century and considerable prospecting has been carried out. Several small collieries were operated, however lack of markets and difficulties due to faulting forced their closure. These previous investigations revealed numerous coal and carbonaceous intervals within a Triassic sequence measuring about 400m in thickness.

Throughout most of the area the Triassic section is covered by thick Jurassic dolerite which forms a disesected plateau. This has restricted previous exploration to the bordering scarp regions where outcropping coal measures could be observed.

An earth fracture analysis, using stereographic techniques and Landsat imagery, was carried out over the entire E.L. with the aim of establishing a detailed structural pattern for the area, and to highlight less faulted regions where mineable panels of coal could be sought.

Detailed mapping in the Dalmayne/Douglas River region indicated considerable faulting and also several transgressive dolerite bodies within the coal measure sequence.

Eighteen boreholes were drilled by Shell in E.L. 5/61 during 1978, with the majority being located to the west of the old Dalmayne colliery. Several coal seams were intersected however only one, the Dalmayne D seam, shows any potential. This seam was usually found as two splits, an upper and a lower, which range between 0.7m and 3.8m in thickness, and average 1.61m and 2.41m respectively. In general, the seam consists of dull-heavy dull coal with occasional thin stone bands, although deterioration to carbonaceous mudstone has occurred in some areas.

Laboratory analyses indicate that the coal is high volatile bituminous, non-swelling, with high inherent ash and low sulphur. Raw ash content of the Dalmayne D seam averages 25% while the specific energy ranges from 22-26 MJ/kg. Washing can reduce the ash content to about 20% with a high yield (80%) and a specific energy of 24-27 MJ/kg.

Total in situ raw coal reserves in the D seam are 118 million tonnes which represents 39 million tonnes run of mine reserves. Similarly, total in situ washed coal reserves (allowing for a greater working seam thickness) are 165 million tonnes which could produce 44 million tonnes of recoverable clean coal. Typical properties of the coal in these reserve areas are listed below:-

		Raw coal	Washed coal
Seam thickness	m	1.8	2.2
Moisture	%	4.0	4.0
Ash	%	25.0	20.0
Volatile Matter	%	25.0	26.0
Fixed Carbon	%	46.0	50.0
Total Sulphur	%	0.3	0.3
Spec. Energy	MJ/kg	24.0	26.0
Hard. Grind. Index		55	55
Yield	%	-	80

Due to faulting and localised seam deterioration, reserve blocks are somewhat isolated. Only 8 million tonnes (R.O.M.) could be extracted from an adit entry mine, whereas deep shafts would be required to access the remaining reserves.

Seam thickness and ash content show a tendency to improve to the south and it is anticipated that proposed future drilling in this direction will extend reserve blocks another 3 to 4 kilometres to the Douglas River where adit entry may be possible.

There is some potential for extending reserves to the northern edge of the plateau where adit entry again may be possible, but on current evidence seam quality appears to be deteriorating in this direction.

1. INTRODUCTION

1.1 SCOPE

This report presents results of exploration conducted in EL 5/61 (Gray) for the six month period ending 23rd February, 1979. The major part of the exploration activity to date has been a drilling programme that commenced in May and saw the completion of eighteen fully cored diamond boreholes plus two redrills. The bulk of these holes (15) were drilled on an approximate 2 km grid to the west and north of the old Dalmayne Mine.

Petrophysical logging of the majority of boreholes and detailed mapping of the more prospective areas was undertaken.

Results of laboratory analyses on coal samples available at the present time are included with this report.

1.2 TENURE DETAILS

Exploration Licence 5/61 (Gray) was granted to Industrial & Mining Investigations Pty. Ltd., (I.M.I.), on the 23rd February, 1961.

The Exploration Licence is exclusive of four mining leases (total area 450 ha approximately) in the Mount Nicholas Range area which are held by the Cornwall Coal Mining Company, and SR 1978/110 held by the Department of Mines (Encl. 1).

The exploration of the area is currently being carried out by The Shell Company of Australia Limited on behalf of a joint venture between I.M.I. and Shell.

1.3 LOCATION AND ACCESS

Exploration Licence 5/61 (Gray) is situated on the east coast of Tasmania, north from Great Oyster Bay. The main part of the licence covering some 732 square kilometres lies within A.M.G. co-ordinates 5405000-5354000m N and 590000-605000m E, while a separate smaller area (43 square kilometres) lies to the south in the Mt. Paul area within A.M.G. co-ordinates 5349000-5341000m N and 601000-607000m E (Encl 1).

The area is served by the Esk Highway from the west and the Tasman (East Coast) Highway from the south. The North East railway line runs from Launceston, via Conara Junction, to St. Marys a distance of 130km.

Conveniently the lease area can be divided into five areas:-

- Mount Nicholas Range Area
- Dalmayne Area
- Western Area
- East Coast Area (South from Seymour)
- Mt. Paul area

Exploration to date has been concentrated in the Dalmayne area, although several scout boreholes have been drilled in other areas to the south and west.

The Dalmayne area (approximately 100 sq. km) is situated between the east coast and the eastern margin of the Fingal Tier, and extends from Gray in the north to Seymour in the south (Encl 1).

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To gain access to the main drilling grid, immediately west of the old Dalmayne Mine it was necessary to construct rough tracks through the bush and to construct log bridges across main streams (Encl. 1). Access to western and southern parts of the lease was via gravel roads which have been constructed by Tasmanian Pulp and Forestry Holdings (T.P.F.H.) for use in their logging operations in the area. T.P.F.H. are gradually extending their operations north to Gray and this will eventually provide a network of roads to most parts of the area.

1.4 TOPOGRAPHY AND CLIMATE

The area is the most rugged in the east coast district, and with the exception of the narrow coastal plain and the upper part of the Break 'O Day Plain, is of strong relief. Mt. Elephant is the highest point, rising to 720m above sea level while the hills west of the coastal plain rise sharply to over 400m ASL.

Great variations occur in the topography of the area and the geomorphological units can be classified as:

- Dolerite Plateau & Monadnocks
- East Coast Ranges
- Coastal plain & Lowlands

In the east coast region many small creeks and rivers descend rapidly from the dolerite plateau through deep gorges to the coast. In the plateau region most creeks and rivers (e.g. Douglas River) flow through marshes (e.g. Thompsons Marsh), which occur in the depressions of the dolerite.

The climate is classified as temperate maritime. The mean maximum temperature in January is 21°C, while the mean minimum in July is 3°C. Summers are mild and characterised by greatly lengthened days with about 15 hours daylight in mid-summer. In mid-winter, the shortest day consists of about 9 hours daylight (Bureau of Meteorology, 1977).

Average rainfall in the area varies from 1278mm (138 rain days) at Gray on the East Coast Range to 680mm (not avail.) at Bicheno on the coast. The rainfall is fairly evenly distributed throughout the year averaging 800mm (30 inches) per annum in the Dalmayne area. Short periods of extreme precipitation occur when wind flow is sustained for several days from the north-east, rather than the normal prevailing westerlies.

The river system most affected by flooding in Tasmania is the South Esk. The Esk catchment includes most of the north-eastern highlands where annual rainfall averages about 1300mm. As many rivers in the South Esk system flow through flat country, flooding is widespread, disruptive and frequent (e.g. Fingal Valley). The short fast-flowing streams of the east coast can flood and cause disruption to road systems. Severe frosts are common during the winter months and thick fogs often occur in conjunction with heavy rain periods. Rare snowfalls were recorded during drilling operations in the Dalmayne area.

2. PREVIOUS INVESTIGATIONS WITHIN EL 5/61, GRAY

2.1 DALMAYNE AREA

The geology of the area has been reported by McNeil (1965).

In 1915 the Dalmayne Coal Company drove a tunnel into a 4m thick seam outcropping at an elevation of 325m above sea level. The amount of coal produced at that time was negligible. An aerial ropeway had been constructed to carry coal from the mine to a jetty off Piccaninny Point. The jetty was destroyed by rough seas.

During 1939-1954 the Transport Commission reopened the old workings and extracted some 35,000 tonnes of coal which was trucked to the railhead at St. Marys. The mine was closed in 1954 due to a lack of markets and technical problems associated with faulting. The mining was carried out on the bord and pillar system in a faulted wedgeshaped block (Encl 2).

In 1949-52 the Mines Department drilled 8 holes in the Dalmayne area to intersect the main working seam (?Dalmayne D seam). None of these holes penetrated the full coal measure sequence (Beatson, 1952) (Encl. 3).

In 1974 Industrial and Mining Investigations Pty. Ltd., (I.M.I.) drilled 2 holes to penetrate the overlying dolerite and coal measure sequence (Edyvean, 1977). The Dalmayne D seam, thought to be equivalent to the seam mined at Mount Nicholas in the north, was intersected at 160m and 192m below the surface (Encl. 3).

2.2 MOUNT NICHOLAS AREA

The Mount Nicholas area is located in the extreme north of EL 5/61 (Encl 1). Several authors have outlined the history of exploration and mining in the area (Gould (1861), Thureau (1883), Twelvetrees (1902), Keid (1920), Hills et al, (1922)).

Numerous coal outcrops were observed in creek beds along the flanks of the Mount Nicholas Range with the major coal horizons occurring between 200m and 300m above the level of the Break O' Day Plain.

In 1878, two boreholes (Harefield B.H. and Killymoon B.H.) located on the plain, penetrated mainly Permian sediments although the Harefield bore intersected the lower 80m of Triassic coal measures (Encl. 3).

The Mines Department drilled one hole in 1971 (MD 13) and two holes in 1978 (MD 33, MD 36) in the Mount Nicholas Range area and intersected the main coal measure interval.

Mining commenced in the Mount Nicholas area towards the end of the last century. Several companies have occupied leases in the area:- The Cornwall Coal Company, The Mount Nicholas Coal Mining Company, N.L., Jubilee Coal Company, Silkstone Collieries. The mining method was simply to drive a tunnel in at the seam outcrop and then drive cross-cuts. Both bord and pillar, and longwall systems were used. The major problem affecting operations was the presence of numerous minor faults.

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At the Cornwall Mine, three seams locally called the Hitit (1.45 m) (? Dalmayne D Lower), the Fenton (? Dalmayne E seam), approximately 53m below, and the Blue seam (3.25 m) (? Dalmayne D Upper), approximately 10m above, were found. In 1957 the Cornwall Coal Company drilled two boreholes to the east of their workings at Cornwall and the three seams were present. The coal and mudstone interval approximately 82m above the Hitit seam may correspond to Hills' Beta seam (? Dalmayne C seam). The Cornwall Mine closed in 1963 and over the life of the mine produced about 4 million tons of coal with a typical reported analysis (Hills et al, 1922) of:-

M	3.8%
VM	21.7%
A	20.2%
S	0.86%
CV	10,007 BTU/lb

At the Mount Nicholas Mine four seams were known. These were the top seam of 1.83m with a 1.22m seam 12m below, both of which may correspond to the Blue seam as found at the Cornwall Mine. A third seam, 1.45m thick, occurs about 12m below (Hitit seam), and a 2.44m seam some 49m below that (Fenton seam). It is thought that the seam in the downfaulted block between the old Mount Nicholas and Cornwall workings is the Blue seam. The seam worked on both the Mount Nicholas and Cornwall sides of this block was the Hitit seam. The Mount Nicholas Mine was closed in 1958 and over the life of the mine produced 1.7 million tons with a typical reported analysis (Hills et al, 1922) of:-

M	4.9%
VM	26.8%
A	20.6%
S	0.48%
CV	9742 BTU/lb

It is not known what seam was worked at the Jubilee Mine, but one hole drilled in the area penetrated a number of seams. The mine closed in 1960 and produced about 665,000 tons of coal with a typical reported analysis (Hills et al, 1922) of:-

M	3.9%
VM	28.5%
A	20.1%
S	0.65%
CV	9653 BTU/lb

The Cornwall Coal Company which worked the eastern leases in the Mount Nicholas area is currently mining in the Fingal area. It still retains several coal leases around the Mount Nicholas area and is currently engaged in opening a new mine in the downfaulted block between the old Mount Nicholas and Cornwall mines. A 3m thick seam has been exposed behind the apron of scree and equipment is already engaged in opening up the headings and access roadways.

Approximately 20 sq. km of coal measure sediments could exist in the Mount Nicholas Range west of the Cornwall Fault. The Cornwall Coal Company currently holds approximately 4.5 sq. km of this ground as Coal Mining Leases, and a further 5 sq. km has been worked out by underground mining at the Cornwall and Mount Nicholas mines.

2.3 EAST COAST (SOUTH FROM SEYMOUR)

Previous work in this area rarely proceeded past the prospecting stage although numerous bores, adits and shafts were put down. However, of all this early exploratory work only 8 complete borehole records are available, 5 from around Seymour and 3 near Llandaff (Encl. 1).

Numerous seam sections were recorded from shafts, adits and outcrops. The majority of this exploration took place between 1850-1900 with further reports by Keid (1921), Hills et al, (1922), Nye (1927) and Cundy (1931). However these later authors generally summarised the earlier knowledge while inspecting and recording some further field outcrops.

The mining companies that operated in this area were Seymour Coal Mines, (Seymour), Mt. John Coal Company (Douglas River, Denison River, Steep Creek), Douglas River Coal Company (Seymour, Denison River) and the Morning Star Company (Denison River).

Five boreholes were drilled in the Seymour area in 1888 and indicate the similarity in this area of the Lower Triassic-Permian section to that observed in holes drilled in the Dalmayne area (Encl. 3). Twelvetrees (1901) describes workings opened up by the Douglas River Coal Company between 1850-1860. Twelvetrees states on the authority of the Company's reports, that in the Inner Mine, seams were struck at 92 feet (28m) and 165 feet (50m) being 4 feet (1.22m) and 5 feet (1.52m) thick respectively. The lower seam was reported as yielding good quality coal. Some 800 tons of coal were won from the area. The eastern and western limits of the Seymour area are bounded by faults. The Lagoon Fault passes through Long Point and into Maclean's Bay while to the west the mine workings were reported as having encountered a fault.

In 1913 the Mt. John Coal Co. drove a 50m tunnel into an 8 feet (2.4m) thick seam outcropping in the Douglas River about 6 km from its mouth. It was considered that this seam was equivalent to that mined at Dalmayne (? Dalmayne D Seam). A second seam some 5 feet (1.5m) thick was also opened up. Both seams were observed to outcrop at various levels along the river indicating a significant degree of faulting in the area. The presence of several dolerite dykes and the variable levels of the main dolerite mass suggested to early workers that the intrusion was transgressive in this area (Hills et al, 1922).

In the Denison River area, the Douglas River Coal Company began two prospective mines, the Inner Mine (1.6 km from the river mouth) and the Outer or Lagoon Mine (on the coast slightly south of the Denison River). At the Inner Mine two seams were intersected at 28m (2.44m) and 50m (1.52m) below the surface, but due to shale partings, less than 1.22m of the top seam could be extracted profitably. This 1.22m consisted of two layers of coal, 0.79m and 0.43m thick. The upper seam finally proved unworkable due to the numerous splits.

At the Outer (Lagoon) Mine, a shaft intersected two seams. The second, at 32m ASL, was 2.44m thick, and thought to correspond with the main seam at Dalmayne. Further shafts encountered two seams at 28m and 59m below the surface. The lower seam was 1.5-2.1m thick, but with only 0.50m of coal suitable for working. Another shaft reportedly passed through five or six layers of coal but all were insignificant. The Morning Star Company, situated 3.2km upstream on the Denison River, encountered three seams. These were named the B1, B2, and B3 seams and occurred in the same greenish sandstones as the seams intersected in the Inner Mine. The B2 seam had no more than 0.71m of workable coal while the B3 seam had 0.76m of workable coal. A little above the B3 is another seam approximately 0.30m thick. A number of coal outcrops also occur along the Denison River, one which was reported as 0.86m thick including thin partings.

In the St. Albans area, just west of Bicheno, Triassic coal measures outcrop along the Apsley River valley. Six banded coal seams up to 2 m thick have been observed, ranging between 100m and 250m ASL (Hills et al, 1922).

In the Steep Creek area, just north of the old township of Llandaff, a number of outcrops occur in what is now known as Lynes Creek (originally Steep Creek). These outcrops range from 60m to 200m ASL with two major seams at 158m (the A1 seam) and 198m ASL. Three bores, Llandaff 1-3, were drilled in this area (Encl. 4). Twelvetrees (1902) states that he located eight seams in the Steep Creek area, however this has not been confirmed. At 180m ASL in Steep Creek a large outcrop of sandstone, shale and coal was observed but none of the seams were thick enough to warrant development. Three seams are recorded from Combend, south-west of the Steep Creek area, one of which was correlated with the main Dalmayne seam by Keid (1921). It is thought possible that the seams of the Steep Creek area may continue through the range to the St. Albans area.

2.4 MT. PAUL AREA

The only report on this area is included in Hills et al, (1922). Coal seam outcrops were interpreted as indicating the presence of four seams possibly corresponding to those at Mount Nicholas and Dalmayne. However the only definite evidence of a significant coal seam is from an adit driven by the Mt. Paul Coal Mining Syndicate along a 3.0m thick seam containing about 2.5m of coal. Production was limited to a few bulk samples for testing purposes.

3. GEOLOGY OF THE AREA

A generalised geological map of EL 5/61 is presented as Enclosure 1. Information has been drawn from McNeil (1965), Leaman (1978), the Launceston and Oatlands 1;250,000 map sheets, and from recent exploration carried out by Shell in the Dalmayne/Douglas River area.

3.1 STRATIGRAPHY

Ordovician - Devonian

The Mathinna Group, ranging in age from Early Ordovician to Early Devonian, is a very thick series of sandstones, shales, quartzites and slates which have been intensely folded along a general NW-SE axis. Good exposures exist in Wardlaws Creek and the lower reaches of Piccaninny Creek. These sediments have been intruded by late Devonian granitic rocks which outcrop to the east of St. Marys and at Bicheno.

Permian

The basement rocks are unconformably overlain by Permian sediments of both freshwater and marine origin. They consist of fossiliferous sandstone, shale, limestone and unfossiliferous siltstone, grit and conglomerate. The best available section is at Elephant Pass (McNeil, 1965). Although no complete Permian section has been observed in boreholes drilled in the area, the Harefield, Killymoon and Seymour No. 4 holes penetrated 130m, 152m and 160m of Permian sediments respectively (Encl. 3).

Triassic

Disconformably overlying the Permian sediments are the Triassic coal measures consisting of lithic sandstones, mudstones, shales, carbonaceous mudstones and coal seams. The thickest Triassic section recognised in boreholes was 386m in GY 9. This compares with a maximum measured thickness of 321m in Mines Departmnet hole DOM 6 drilled near Fingal (Threader, 1968).

Jurassic

Dolerite has intruded the Permo-Triassic section as large dykes and sheets. Drilling and mapping in the Dalmayne area has shown that the dolerite is generally conformable although two large feeders and several small pipes have been located. A geophysical survey over the entire EL indicates the existence of numerous dolerite bodies transgressive through the Permo- Triassic section (Leaman, 1978).

Quaternary

Alluvial deposits occur in all river valleys and marsh deposits are common on the dolerite plateau. Most slopes are covered with a generally thick veneer of dolerite scree with block sizes locally exceeding 10m. The scree creates difficulties in interpreting the form of the dolerite body and in locating coal measure outcrops.

3.2 STRUCTURE

The unconformity occurring at the base of the Permian is apparently at a consistent level in the north of the area, however it becomes more irregular towards the south (Leaman, 1978).

The Permian and Triassic sediments are disconformable and have a regional dip of 1^0 - 3^0 in a southerly direction, although faulting locally increases the dip.

Shell's exploration in the Dalmayne area has indicated the presence of considerable faulting. Major north-south trending faults with displacements over 100m have been inferred from borehole results. East-west trending faults are also evident with displacements varying from 0-60m.

Faulting was the main problem affecting early mining operations throughout the Fingal Valley and East Coast coalfields, and it is expected to be an important factor in any future development in this area.

4. RESULTS OF EXPLORATION

4.1 PHOTOGEOLOGY

Consultant Geologists, Layton and Associates Pty. Ltd., performed an earth fracture analysis using stereographic techniques and Landsat imagery. Base plans and photogeological overlays were prepared together with four fracture plans comprising:

- a total fracture trace plot
- a Landsat imagery lineament plot
- a plan showing the local variation of the fracture traces by means of rose diagrams
- a plan showing suggested major and anomalous lineaments of probable significance.

The aim of the fracture analysis was to establish a detailed structural pattern for EL 5/61, highlighting individual domains within which mineable panels were likely to be fault free, or at least less faulted than other areas.

No field visits were made and the identification of the lithological groups mapped on the photogeological plan were based on the 1:250,000 Geological Survey of Tasmania sheets SK 55-4 and SK 55-6, and to a lesser extent on Hills, L., 1922, "The Coal Resources of Tasmania, Geological Survey of Tasmania, Mineral Resources No. 7". For the geological plan the pattern of major lineaments was simplified with emphasis being placed on those thought to show evidence of actual displacement of geological boundaries.

The total fracture trace plot was prepared defining a fracture trace as a generally abundant, natural lineation.

The Landsat imagery lineament plot was prepared from 1:100,000 computer enhanced colour and black and white Landsat images, selecting lineaments greater than 2 km in length. The scale was increased to the photoscale of 1:40,000.

Local variations in fracture traces were expressed by rose diagrams. Fracture traces were processed manually by defining areas bounded by major faults or geological contacts and being approximately 30 sq. km in area. A rose diagram using three fracture length categories was then prepared for each block.

Using a combination of these first three plans a plot showing possible major anomalous lineaments was compiled (Encl. 5).

The results of field mapping and drilling in the Dalmayne area agree to some extent with the predictions made by the photoanalysis, although many of the lineaments appear to be only weathering enhancement of some minor structural feature.

4.2 MAPPING

Field mapping was carried out from December, 1978 to January, 1979 by Shell geologists J.K. Ivett and P.R. Murphy in the general area encompassed by Thompsons Marsh, the Douglas River, and the east coast (Encl. 1). The main aim of the project was to delineate areas of Triassic coal measures and also to determine the shape and form of the intrusive Jurassic dolerite bodies. A total field magnetometer was used as an aid in determining the Jurassic/Triassic boundary in areas covered by dolerite scree. A major dolerite feeder appears to exist in the Bedggood Hill area, just west of Seymour. Also, several small dolerite pipes were located and it is expected that numerous other pipes, dykes and sills have locally disrupted the coal measure sediments in areas adjacent to major feeders.

Triassic lithic sandstones outcrop extensively to the south and west of Bedggood Hill. The Triassic section in this area appears to have been considerably thickened by faulting since outcrops varying in altitude from sea level to over 500m ASL were observed. Several faults were noted in the upper reaches of the Douglas River.

Several major faults dissect the area. A major structural zone runs from Piccaninny Point, north of Bedggood Hill to the Douglas River, and appears to coincide with the northern limit of the dolerite feeder outlined by Leaman (1978).

To the north of this zone, faulting trends more north-south (Encl. 2). An east-west fault has offset the main N-S fault, near GY 1 approximately 1000m to the west. Although the northerly extension of this main fault has not been traced during mapping, drilling confirms its presence to the north.

4.3 DRILLING

Drilling in EL 5/61 commenced on May 8th 1978 and was completed on January 16th, 1979. Up to three rigs were used during drilling operations, two supplied by Associated Diamond Drillers and one by Longyear Australia.

Severe weather conditions, particularly during the winter months, together with the rugged topography caused constant access problems. Continuous use of bulldozers was necessary to provide and maintain access to drillsites. Approximately 32 km of access tracks were constructed.

Eighteen fully cored boreholes and two redrills were completed. Drilling statistics are listed in Table 1. Fifteen of these boreholes were sited on an approximate 2 km grid to the west of the old Dalmayne colliery with the aim of testing the extent of prospective coal seams intersected in two boreholes drilled by I.M.I. in 1974 near the mine workings. The remaining three boreholes (GY5, GY7, GY8) were scout holes designed to test the potential of the western and southern parts of the lease. Locations of all boreholes are shown on Enclosure 1. All core obtained from the coal measure and Permian sequences has been stored at a central core shed located adjacent to the E road near Piccaninny Point (Encl. 1). Dolerite core was stored on galvanised iron sheets at drillsites.

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TABLE 1 E.L. 5/61 GRAY

DRILLING STATISTICS & DOLERITE/PERMO-TRIASSIC DETAILS

DRILLHOLE NO.	R.L. (m) SURFACE	THICKNESS (m)		DEPTH TOP OF PERMIAN (m)	TOTAL DEPTH (m)
		DOLERITE	COAL MEASURES		
IMI DDH 1	416	16 (scree)	258	274.0	284.0
IMI DDH 2	412	14 (scree)	incomplete	-	199.5
Shell GY 1	450	2 (scree)	315	317.0	335.0
GY 2	475	145.0	325.5	470.5	510.5
GY 3	480	135.5	349.2	484.7	487.2
GY 4	550	78.5	359.5	438.0	461.0
GY 5	470	101.2	339.3	440.5	455.0
GY 6	440	93.8	incomplete	-	151.7
GY 6A	445	191.8	140.2	332.0	341.0
GY 7	590	146.8	incomplete	-	418.0
GY 8	300	51.0 (scree)	183.2	234.2	265.5
GY 9	530	35.6	385.6	421.2	425.0
GY 10	530	196.1	300.1	496.2	500.6
GY 10A	530	197.6	incomplete	-	391.6
GY 11	595	126.0	323.0	449.0	473.0
GY 12	565	208.0	305.1	513.1	515.0
GY 13	685	457.6	-	-	457.6
GY 14	535	170.7	333.1	403.6	410.0
GY 15	570	445.6	-	-	445.6
GY 16	545	21.5 (scree)	287.3	308.8	320.2
GY 17	680	254.9	346.3	601.2	604.0
GY 18	490	60.5 (weathered)	incomplete	-	271.0

IMI 483.5
Shell 8238.5

Triassic coal measures were intersected in all Shell boreholes except GY13 and GY15 which both penetrated dolerite to total depth. The maximum thickness of coal measures intersected was 386m in GY9 (Table 1). Typically the coal measures consist of lithic sandstones, siltstones, mudstones, carbonaceous mudstones, shales and coal. The coal is dull to heavy-dull with rare bright bands.

The coal measure sequence is reasonably consistent throughout the Dalmayne area and it has been possible to correlate several coal seam intervals from borehole to borehole. These seams have been referred to as the Dalmayne A,B,C,.....G seams (Encl. 3). A persistent pebble conglomerate band near the top of the sequence has been a useful marker horizon which has been referred to as the Dalmayne Conglomerate. This band varies in thickness from 20cm (GY18) to over 5m (GY3), and consists mainly of quartz and mudstone pebbles and cobbles in a medium-coarse grained sandstone matrix.

The Dalmayne A seam typically consists of 6-8m of mainly black carbonaceous mudstone with minor soft, brown mudstone and dull-heavy dull coal bands.

The Dalmayne B seam is a very banded seam containing dull-heavy dull coal, carbonaceous mudstone and soft, light brown mudstone. The seam interval ranges from 5-10m in thickness (Encl. 6).

The Dalmayne C seam is also a very banded interval containing carbonaceous mudstone soft, light brown mudstone and coal (Encl. 6). The seam ranges in thickness from 3-5m.

The most promising seam in the area is the Dalmayne D seam. Throughout most of the area the seam is split by up to 15m of sediment (Table 2; Encl. 7). The two splits have been referred to as the D Upper (previously Unnamed Seam Above D, CEPR 21/78) and D Lower seams. The D Upper seam is best developed in borehole GY3 where it is 2.85m thick (Table 2; Encl. 8). The seam averages 1.6m in thickness throughout the drilled area, although in several holes the interval has deteriorated to mudstone (GY1, GY6A). When developed the seam consists of dull-heavy dull coal with minor mudstone bands and partings (Encl. 9). The D Lower seam interval was recognised in all holes except GY16. The thickest interval recorded was 3.80m in GY4, however the upper 2.8m was only banded mudstone and carbonaceous shale (Table 2; Encl. 10). The seam is best developed in borehole GY3 where it is 2.82m thick and has a 90% coal content. A mudstone band that splits the seam into two parts is often present near the top of the seam. The upper section varies from good quality coal to carbonaceous mudstone while the lower section typically contains 1.5-2.0m of dull-heavy dull coal with a few thin mudstone partings (Encl. 9). The D seam interval is quite variable in the northern part of the Dalmayne area. The two splits have coalesced in DDH 1, DDH 2, GY12 and GY18 while the lower split in GY10 has deteriorated to mudstone. In GY16 the absence of the entire interval can probably be attributed to a localised facies change.

The Dalmayne E seam ranges in thickness from 0.50m to 2.59m (Table 3) and shows considerable variation in quality (Encl. 9; Sect. 4.4.1). The variability of this seam limits its economic potential.

The Dalmayne F and G seams are thin and variable in quality which cause difficulties in correlation (Encl. 9). These seams are not considered to be prospective.

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TABLE 2 EL5/61, GRAY

SEAM - INTERSEAM DETIALS, DAMLAYNE D. SEAM

HOLE NO.	DALMAYNE D UPPER		INTERSEAM	DALMAYNE D LOWER	
	DEPTH TO TOP (M)	SEAM THICKNESS (M)	THICKNESS (M)	DEPTH TO TOP (M)	SEAM THICKNESS (M)
I.M.I. DDH1	159.59	1.55	1.45	162.59	1.56
I.M.I. DDH2	192.94	1.82	1.53	196.29	0.95
GY 1	190.96	2.31*	12.05	205.30	1.68
2	346.34	2.21	8.51	357.06	2.79
3	360.97	2.85	12.86	376.68	2.82
4	302.15	1.77	10.80	314.72	3.80
6A	215.13	0.66*	7.38	223.17	2.55
9	268.02	1.39	12.51	281.92	2.59
10A	365.90	1.25	13.63	380.78	3.42*
11	309.96	1.27	13.41	324.64	2.76
12	376.78	1.86	1.48	380.12	1.40
13	Dolerite	-	-	-	-
14	266.10	1.19	11.42	278.71	2.59
15	Dolerite	-	-	-	-
16	Not Recognised	-	-	Not Recogised	-
17	466.75	1.52	12.08	480.35	3.14
18	218.29	0.85	2.15	221.29	1.63

* - Interval recognised as carbonaceous shale or mudstone.

SEAM AVERAGES

	DALMAYNE D UPPER		DALMAYNE D LOWER	
	EXCLUDING *	ALL SECTIONS	EXCLUDING *	ALL SECTIONS
Mean	1.57 m	1.61 m	2.33	2.41
Stan Dev.	0.52	0.59	0.81	0.84
Range	0.85-2.85m	0.66-2.85m	0.95-3.14m	0.95-3.80m

TABLE 3 - EL 5/61 GRAY

SEAM DETAILS, DALMAYNE E SEAM

HOLE NO.	DEPTH IN METRES		SEAM
	TOP	BOTTOM	THICKNESS
IMI DDH1	202.23	202.95	0.72
GY 1	254.28	256.48	2.20
2	406.56	407.32	0.76
3	423.50	424.00	0.50
4	367.70	368.49	0.79
6A	262.95	263.92	0.97
9	336.61	337.68	1.07
10	430.67	431.96	1.29
11	380.35	381.24	0.89
12	443.02	443.74	0.72
14	329.76	330.91	1.15
16	242.84	245.04	2.20
17	528.26	530.85	2.59
Mean Thickness=1.22m;Stan. Dev.=0.67;Range=0.50-2.59m			

Overlying the coal measures in all holes is dolerite or dolerite scree (Table 1). The base of the dolerite is generally just above the Dalmayne A seam except in holes GY6/6A and GY14 where it has intruded the coal measures at lower levels (Encl. 3). When fresh the dolerite is generally grey and hard, and grades from medium to fine grained with depth, although very coarse grained dolerite was observed in the upper parts of GY13 and GY15. It is usually widely jointed except for occasional zones which exhibit closely spaced, steeply dipping joints with abundant talc, calcite and chlorite infillings. In most holes the effect of the dolerite on the underlying coal measures is minimal although in GY2 the sediments have been baked for about 20m below the contact and exhibit ferruginous staining, secondary mineral formation and silica remobilization. A thin dolerite sill has intruded the coal measures just above the Dalmayne B seam in GY1 which has baked and fractured the surrounding sediments and has burnt the coal seam. A dolerite dyke dipping at 60^{0} is present within the coal measure sequence in GY6 about 25m below the main dolerite body. The sediments encountered in this hole showed the effects of strong shearing and fracturing which prevented completion of the hole. A second hole (GY6A) drilled some 50m from the initial hole intersected an additional 98m of dolerite. Geophysical mapping has indicated a small pipe-like body in the vicinity of these holes. The Dalmayne D Lower seam was highly sheared in this hole and the interval was not recovered, although wire-line logs indicate the seam to contain 1.68m of cindered coal.

Apart from GY18 all holes that penetrated coal measures were continued into the underlying Permian sediments. The base of the coal measures is usually indicated by one or more cream coloured quartz grits and the presence of green mudstones. The Permian sediments consist mainly of dark grey siltstone with scattered quartz fragments. Minor limestone and conglomeratic bands are also present. The thickest Permian section penetrated was 40m in GY2. The last 5m of this section was a glauconitic sandstone which has been correlated with the Risdon Sandstone (Threader, 1968, Encl. 3).

Cross sections (Encl. 11) illustrate the structure in the Dalmayne area. A major feature is a north-south trending graben containing boreholes GY2, GY3, GY10 and GY12 which has been downthrown approximately 110m. The location of the faults bounding this structure can only be approximated at present, however it is felt that both faults have been offset by tranverse faults (Encl. 2). Enclosure 11/1 which is a section along the eastern edge of the area indicates numerous faults that have been interpreted from drilling and fairly detailed mapping. It is suspected that considerable faulting, both minor and major, exists throughout the entire Dalmayne area. A second major structural feature that emerged from the drilling operations was the presence of very thick dolerite in the region of GY13 and GY15 which corresponds with the results of a recent gravity survey carried out by the Mines Department in the area. This has been interpreted as a major dolerite feeder (Leaman, 1978).

Boreholes GY5 and GY7 drilled to the south west of the main grid area can readily be correlated with the Dalmayne holes. Overall, the sequence in this area contains a higher proportion of sandstone, however the Dalmayne Conglomerate and the Dalmayne B and C seam horizons are easily recognisable, while tentative correlation of coal seams below the C seam is suggested (Encl. 12). This correlation indicates the gradual deterioration of the Dalmayne D seam interval to the south- west. A thick carbonaceous interval is present between the conglomerate and the B seam. This interval was also observed in some of the Dalmayne holes (GY4, GY12). Permian sediments intersected in GY5 consist mainly of light grey-green sandstones with minor limestone bands.

The Triassic coal measure section intersected in GY8 was predominantly lithic sandstone with occasional siltstone, mudstone and carbonaceous intervals (Encl. 4). Considerable jointing and fracturing of the sediments was observed. From 235.15m to the base of the hole (265.50m) clean quartz sandstones interbedded with arkosic sandstones and granite boulders were intersected. These are considered as derivatives of the underlying Devonian granite basement which is thought to be quite shallow in this area (Leaman, 1978). A 1.0m thick siltstone band at 234.15m may represent the Permian Ferntree Group. It has not been possible to correlate the Triassic section observed in this area with that in the Dalmayne area, although correlation with the old Llandaff holes was possible (Encl. 4).

4.4 WIRELINE LOGGING

Wireline logging of most Shell boreholes was undertaken by B.P.B. Instruments (Aust.) Pty. Ltd. between November, 1978 and January, 1979. Unfortunately, due to the instability of the majority of boreholes it was necessary to log through drill rods thus preventing the use of the electric tools. The log suite run in each hole is listed in Table 4.

4.5 LABORATORY TESTING OF COAL SAMPLES

4.5.1 General

Seams were logged in detail and sampled on the basis of coal lithotypes (Encls. 6 & 9). Samples from the NQ (48mm) cores were variously analysed in detail according to Enclosures 7 and 8 of our previously submitted report CEPR 21/78. GY14 was the only HQ (64mm) coal core taken during the programme and has been partly analysed according to Enclosure 9 of report CEPR 21/78. All analyses were carried out by A.C.I.R.L. at their Bellambi laboratory.

Available data indicates the coal is high volatile bituminous, non-swelling, with high inherent ash and low sulphur.

Preliminary washability data, and raw and washed coal analysis data are presented in Tables 5-11.

Results of analysis of the thick Dalmayne B and C seams indicate almost without exception that the seams have extremely high (40-60%) raw coal ash contents (Tables 5 & 8). These seams are not considered further as washing, although producing an acceptable ash level (20-30%), gave unfavourable yields (40-50%) (Table 8).

The Dalmayne E and F seams (Table 7) are generally less than 1m in thickness and average 35% raw ash. Washing produced a fairly low ash coal (approx. 20%) with a high specific energy (25MJ/kg; 10,500 BTU/lb) (Table 11), however seam thickness variations preclude these seams from further serious consideration.

4.5.2 Coal Quality, Dalmayne D Seam

Raw coal ash contents were determined on all sections of the Dalmayne D Upper and D Lower seams (Table 6). The range is 13% - 36% and the mean 25%. Specific energy (air dried) is relatively high (22-26MJ/kg) and total sulphur is usually less than 0.5% (Tables 9 & 10). The coal has high ash fusion temperatures (reducing atmosphere) with initial deformation temperatures generally greater than 1350°C. The coal is moderately hard with a Hardgrove grindability index in the order 55-60.

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TABLE 4 - EL 5/61 GRAY

WIRELINE LOGGING - CEMENTING DETAILS

HOLE NO	LOGS RUN											CEMENTING DETAILS
	General Scale (1:200)						Detailed Scale (1:20)					
	GR	LSD	NN	FE	S-PR	C	GR	LSD	HRD	BRD	C	
GY1												
2	✓	✓	✓			*	✓	✓	✓	✓	*	320-370m
3	✓	✓	✓			*	✓	✓	✓	✓	*	340-390m
4	✓	✓	✓			*	✓	✓	✓	✓	*	
5												
6A	✓	✓	✓			*	✓	✓	✓	✓	*	
7	✓	✓	✓			*	✓	✓	✓	✓	*	
8												
9	✓	✓	✓			*	✓	✓	✓	✓	*	
10A	✓	✓	✓			*	✓	✓	✓	✓	*	
11	✓	✓	✓			*	✓	✓	✓	✓	*	
12	✓	✓	✓			*	✓	✓	✓	✓	*	
13												
14	✓	✓	✓			*	✓	✓	✓	✓	*	240-290m
15												
16	✓	✓	✓			*	✓	✓	✓	✓	*	
17	✓	✓	✓			*	✓	✓	✓	✓	*	
18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Mines DR 10	✓	✓	✓			*	✓	✓	✓	✓	*	

GR = Gamma Ray
LSD= Long Spaced Density
HRD= High Resolution Density
BRD= Bed Resolution Density

NN = Neutron-Neutron
C = Caliper
FE = Focussed Electric
SP-R= Spontaneous Potential Resistivity

* logged through drill rods

Washability characteristics (Table 6) indicate that the ash content of both seams can be reduced to about 20% by washing, and that wash yields would be high (85%) at high separation densities (1.80-2.00). The ash reduction could be almost entirely attributable to removal of the discrete stone bands. The specific energy (24-27 MJ/kg) and the ash fusion temperatures of the washed coal are high and the ash composition favourable (very low slagging and fouling indicies) (Tables 9 & 10).

Size Distribution

Three size analyses were carried out on the Dalmayne D Upper and D Lower seams from the 64mm core hole GY14. These included crushed sample (no tumble tests), dry tumbled sample, and wet tumbled sample (Tables 12 & 13).

The crushed samples contained as much as 69% and 78% plus 12.7mm material and only 10% and 7% minus 3.18mm fines. This size distribution may represent hand mined or opencut coal, but is not indicative of a mechanically mined underground product.

The dry tumbled samples may represent the size distribution in a product which has undergone crushing and material handling from a continuous miner. The wet tumbled samples may represent the sizing of a combination washed coal plus rejects from a jig plant.

Both tumbled samples have a size distribution coefficent (approx. 0.78) similar to N.S.W. steaming coals.

The Dalmayne D Lower seam shows a slightly higher ash content (40.4%) in the coarsest size fraction than the raw coal (37.0%), while the reverse is true of the Dalmayne D Upper seam (19.3% vs 29.3%). A Bradford Breaker is not expected therefore to significantly improve the overall ash content of the lower seam.

4.6 COAL RESERVES, DALMAYNE D SEAMS

For the purpose of reserve calculations, the deposit has been divided into three blocks (East, Graben and West) which are bounded by the seam subcrop, faults and subsurface dolerite.

The total seam thickness is that thickness of strata (coal and stone) that is considered to represent the total geological seam horizon (Table 14). The mining section represents the working section of the geological seam that would produce a run of mine coal with an ash content of less than 30%. Based on ash and yield values, mining sections were also calculated allowing for washing of the seams such that the section mined would produce a high yield, clean coal product of up to 20% ash. Calculated mining section thicknesses (raw and washed) are listed in Table 14.

The parameters used in the reserve calculations were:

- minimum working seam thickness 1.5m
- maximum working seam thickness 3.0m
- minimum seam separation 8.0m
- maximum raw ash value 30%

TABLE 12 EL 5/61 GRAY

SIZE ANALYSIS, DALMAYNE D UPPER SEAM

SAMPLES GY 14/7-9 THICKNESS 1.19m

SIZE ANALYSIS

	Size Analysis Before Dry Tumbling		Size Analysis After Dry Tumbling	
Size	Mass %		Mass %	
+25.4 mm	33.6		6.1	
25.4 x 12.7 mm	35.3	68.9	22.3	28.4
12.7 x 6.35 mm	13.7	82.6	23.3	51.7
6.35 x 3.18 mm	7.2	89.8	16.2	67.9
-3.18 mm	10.2	100.0	32.1	100

Size	Size Analysis After Wet Tumbling Mass %		Ash %
+25.4 mm	4.9		19.3
25.4 x 12.7 mm	19.3	24.2	
12.7 x 6.35 mm	21.2	45.4	24.5
6.35 x 3.18 mm	20.3	65.7	37.4
3.18 x 0.5 mm (ww)	20.0	85.7	30.8
0.5 mm (ww) x 0.1 mm	11.0	96.7	36.2
-0.1 mm	3.3	100	50.0
Calculated Composite	100.0		29.3

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TABLE 12 (Cont'd)

FLOAT & SINK ANALYSIS OF +0.5 mm FRACTION

Relative Density Fraction	Fractional % Mass	Ash	Cumulative % Mass	Ash
F1.35	24.2	8.0	24.2	8.0
1.35 - 1.40	20.8	11.9	45.0	9.8
1.40 - 1.45	21.6	18.5	66.6	12.6
1.45 - 1.50	3.3	23.6	69.9	13.1
1.50 - 1.55	4.5	30.3	74.4	14.2
1.55 - 1.60	2.0	32.1	76.4	14.6
1.60 - 1.70	2.8	39.3	79.2	15.5
1.70 - 1.80	1.7	46.9	80.9	16.2
1.80 - 1.90	1.2	57.0	82.1	16.8
1.90 - 2.00	0.6	63.4	82.7	17.1
S2.00	17.3	81.0	100.0	28.2

0.5 mm (ww) x 0.1 mm FRACTION

Relative Density Fraction	Fractional % Mass	Ash	Total Sulphur	Cumulative % Mass	Ash	Total Sulphur
F1.50	48.2	12.8	0.39	48.2	12.8	0.39
S1.50	51.8	58.0	0.16	100.0	36.2	0.27

TABLE 13 - EL 5/61 GRAY

SIZE ANALYSIS - DALMAYNE D LOWER SEAM

SAMPLES GY 14/10-13 : THICKNESS 2.59m

SIZE ANALYSIS

Size	Size Analysis Before Dry Tumbling Mass %		Size Analysis After Dry Tumbling Mass %	
+25.4 mm	46.7		6.0	6
25.4 x 12.7 mm	31.9	78.6	21.9	27.9
12.7 x 6.35 mm	9.7	88.3	24.9	52.8
6.35 x 3.18 mm	4.9	93.2	16.0	68.8
-31.8 mm 3.18	6.8	100	31.2	100

Size	Size Analysis After Wet Tumbling Mass %		Ash %
+25.4 mm	5.2	5.2	
25.4 x 12.7 mm	21.9	27.1	40.4
12.7 x 6.35 mm	23.9	51	31.8
6.35 x 3.18 mm	16.6	67.6	36.5
3.18 x 0.5 mm (ww)	20.2	87.8	38.3
0.5 mm (ww) x 0.1 mm	10.4	98	37.9
-0.1 mm	2.0	100	43.5
Calculated Composite	100.0		37.0

TABLE 13 (Cont'd)

FLOAT & SINK ANALYSIS OF +0.5 mm FRACTION

Relative Density Fraction	Fractional % Mass	Ash	Cumulative % Mass	Ash
F1.35	7.0	9.3	7.0	9.3
1.35 - 1.40	6.8	13.0	13.8	11.1
1.40 - 1.45	16.0	16.7	39.8	14.1
1.45 - 1.50	11.9	22.5	41.7	16.5
1.50 - 1.55	10.9	26.7	52.6	18.6
1.55 - 1.60	7.4	31.0	60.0	20.1
1.60 - 1.70	8.6	37.9	68.6	22.4
1.70 - 1.80	6.2	47.1	74.8	24.4
1.80 - 1.90	3.8	55.6	78.6	25.9
1.90 - 2.00	4.2	61.0	82.8	27.7
S2.00	17.2	79.9	100.0	36.7

0.5 mm (ww) x 0.1 mm FRACTION

Relative Density Fraction	Fractional % Mass	Ash	Total Sulphur	Cumulative % Mass	Ash	Total Sulphur
F1.50	36.0	16.7	0.34	36.0	16.7	0.34
S1.50	64.0	49.8	0.21	100.0	37.9	0.26

TABLE 14 EL 5/61 GRAY

MINING SEAM DETAILS DALMAYNE D SEAM

Borehole \ Seam	DALMAYNE D UPPER						DALMAYNE D LOWER					
	Geological Seam Thickness (m)	Mining Section (Raw) Thickness (m)	Mining Section (Raw) Ash (%)	Mining Section (Washed) Thickness (m)	Mining Section (Washed) Ash (%)	Mining Section (Washed) Yield (%)	Geological Seam Thickness (m)	Mining Section (Raw) Thickness (m)	Mining Section (Raw) Ash (%)	Mining Section (Washed) Thickness (m)	Mining Section (Washed) Ash (%)	Mining Section (Washed) Yield (%)
IMI 1	1.55	1.55	"31"	1.55			1.56	1.56	"25"	1.56		
2	1.82	1.82	"20"	1.82			0.95	0.95	(24)	0.95		
GY 1	2.31	-		-			1.68	1.68	23	1.68	20	93
2	2.33	1.23	19	2.33	20	61	2.79	2.01	24	2.79	21	84
3	2.85	1.86	17	2.85	16	75	2.82	2.82	24	2.82	19	90
4	1.77	1.77	22	1.77	18	92	3.80	1.44	30	1.44	26	90
6A	Seam Not Recognised						2.55	1.68	(25)	1.68		
9	1.39	1.39	20	1.39	18	95	2.59	1.01	27.	1.01	24	93
10	1.26	1.26	33	1.26	18	77	3.42	-		-		
11	1.27	1.27	26	1.27	20	88	2.76	1.43	24	2.76	27	66
12	1.86	1.86	29	2.60	19	70	1.40	1.21	27	1.21	22	91
14	1.19	1.19	29	1.19	16	82	2.59	1.56	(25)	2.59	24	75
16	Seam Not Recognised						Seam Not Recognised					
17	1.52	1.52	29	1.52	18	83	3.14	1.95	25	1.95	19	89
18	0.85	0.85	13	0.85	13	100	1.63	1.63	25	1.63	23	94

Notes: ( ) = estimated value.

" " = raw ash value excluding stone bands > 0.7cm.

\- = no mineable section within seam.

Reserve maps have been drawn for the Dalmayne D Upper (Encls. 13 & 15) and D Lower (Encls. 14 & 16) seams. These show working seam isopachs (raw and washed) with superimposed iso-ash contour lines (raw only). Limits of reserves within each block have been defined and reserves calculated using 'weighted' seam averages and a raw coal relative density of 1.45. The reserves are quoted as Indicated Class 1 based on a core hole spacing of 2km (although a small area at the southern end of the graben strictly should be considered as inferred).

Total raw coal reserves in situ in the Upper and Lower seams are 118 million tonnes (Table 15). When allowance is made for unrecoverable coal due to faulting, bad ground, etc (30%), loss due to mining method (50%), and dilution (5%), the total recoverable reserves (R.O.M.) at less than 30% ash become 39 million tonnes.

Total reserves (washed) in situ in the Upper and Lower seams are 165 million tonnes (Table 16). With due allowance for the losses mentioned above and an expected 80% washing yield, total clean coal production is estimated at 44 million tonnes.

Significantly, washing only increases saleable reserves by 10%, although the washed coal product would have a consistent quality with the ash content averaging 20%. Raw coal reserves in the Dalmayne D Upper seam are disjointed (Encl. 13) and consequently the isolated blocks, particularly those in the graben, could be rendered sterile. However, the reserve blocks are more continuous in this seam if washing is employed. (Encl. 15). No significant difference in reserve limits exists in either case (raw or washed) for the Dalmayne D Lower seam. Approximately 8 million tonnes of saleable coal exist in the East Block (adit entry), 90% of which are in the Dalmayne D Lower seam south from GY1 (Encl. 14). Field- wide weighted average raw coal properties on an air dried basis for the Dalmayne D Upper and Lower seams throughout the Dalmayne area are shown below:-

	Dalmayne D Upper	Dalmayne D Lower
Ash %	24 (13-29)	25 (23-30)
Specific Energy (MJ/kg)	24.9 (21.9-26.1)	23.5 (20.7-25.0)

Within the reserve blocks the roof sediments of both seams are generally favourable to underground mining, consisting of massive, moderately hard, medium grained sandstone (Encl. 17) although in several holes (GY4, GY12, GY17) considerable thicknesses of mudstone and coal are present immediately above the mineable sections. Conversely, the floor sediments in most cases are soft, finely bedded mudstones varying from 25 cm to several metres in thickness which generally grade into harder siltstones and sandstones.

5. PROPOSED FUTURE EXPLORATION

Continuation of the geological and geophysical mapping south of the Douglas River and north of the Dalmayne mine area will be undertaken. The object of this mapping will be to confirm postulated faults and outcrops, indicate areas of thin or absent dolerite, attempt to establish the dolerite configuration and locate potentially attractive areas for further exploration. This detailed mapping will include possible detailed gravity and magnetic surveys to resolve problem areas.

TABLE 15 - EL 5/61 GRAY

INDICATED COAL RESERVES (RAW) DALMAYNE AREA

SEAM	LOCATION	AREA (sq. km)	SEAM THICKNESS (w)	COAL RESERVES ($X10^6$ tonnes)			
				(1) In Situ	(2) Rec. In Situ	(3) Mine-able	(4) R.O.M.
DALMAYNE D UPPER	EAST BLOCK (ADIT)	1	1.7	2.4	1.7	0.8	0.8
	GRABEN						
	NORTH	2	1.7	4.8	3.3	1.7	1.6
	SOUTH	9	1.8	22.7	15.9	7.9	7.5
	WEST BLOCK	7	1.7	16.7	11.7	5.8	5.5
DALMAYNE D LOWER	EAST BLOCK (ADIT)	8	1.9	21.3	14.9	7.5	7.1
	GRABEN						
	SOUTH	12	2.3	38.6	27.0	13.5	12.9
	WEST BLOCK	5	1.7	11.9	8.3	4.2	4.0
		44	TOTAL	118.4	82.8	41.4	39.4

(1) Raw coal S.G. = 1.45

(2) 30% loss due to faulting etc.

(3) 50% loss due to mining method

(4) 5% dilution

TABLE 16 - EL 5/61

INDICATED COAL RESERVES (WASHED) DALMAYNE AREA

SEAM	LOCATION	AREA (sq. km)	SEAM THICKNESS (w)	COAL RESERVES ($X10^6$ tonnes)				
				(1) In Situ	(2) Rec In Situ	(3) Mine-able	(4) R.O.M.	(5) Clean Prod.
DALMAYNE D UPPER	EAST BLOCK (ADIT)	2	1.7	4.8	3.3	1.7	1.6	1.3
	GRABEN							
	NORTH	5	2.0	14.0	9.8	4.9	4.7	3.7
	SOUTH	14	2.2	43.1	30.2	15.1	14.3	11.5
	WEST BLOCK	6	1.7	14.3	10.0	5.0	4.8	3.8
DALMAYNE D LOWER	EAST BLOCK (ADIT)	8	1.9	21.3	14.9	7.5	7.1	5.7
	GRABEN							
	SOUTH	13	2.5	45.5	31.9	15.9	15.1	12.1
	WEST BLOCK	8	2.0	22.4	15.7	7.8	7.5	6.0
		56	TOTAL	165.4	115.8	57.9	55.1	44.1

(1) Raw coal S.G. = 1.45

(2) 30% loss due to faulting etc.

(3) 50% loss due to mining method

(4) 5% dilution

(5) Washed at SG 1.80, 80% yield, 18-22% Ash

031

Reconnaissance mapping in the Break O'Day Plain - Mount Nicholas area, and the east coast area south from the Dension River will also be carried out.

A proposed 8-10 hole drilling programme will extend the present drilling grid south to the Douglas River and north to the Break O'Day Plain with the aim of testing the continuation of the Dalmayne seams (Encl. 1). If warranted, drilling could be undertaken in other potentially attractive areas outlined from mapping.

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148°00' 590000 148°10' 600000 148°20' 610000

41°30' 5400000 5390000 41°40' 5380000 5370000 41°50' 5360000 42°00' 5350000 42°10' 5340000

Killymoon B.H.
Cornwall No.1
Cornwall No.2
Jubilee No.1
St Marys
Harefield B.H.
GY 18
GY 16
GY 13
GY 15
GY 12
GY 11
GY 14
GY 10/10A
DDH 1
DDH 2
GY 9
GY 4
GY 2
GY 1
GY 17
GY 3
GY 6/6A
GY 7
GY 5
Seymour B.H. No.3
Seymour B.H. No.1
Seymour B.H. No.4
Seymour B.H. No.2
Seymour B.H. No.5
ADIT ON DOUGLAS R.
ADITS DENISON R. INNER MINES
OUTER (LAGOON) MINE - COAST
Llandaff B.H. No.3
Llandaff B.H. No.1
Llandaff B.H. No.2
SR 1978/110
EL 5/61 AREA 1
EL 5/61 AREA 2
CORNWALL FAULT
GOULDS FAULT
M.G.9 ROAD

LOCALITY MAP

LAUNCESTON
FINGAL
TASMANIA
HOBART

LEGEND

qa	QUATERNARY	*Quaternary alluvium*
qt	QUATERNARY	*Quaternary dolerite talus*
tb	TERTIARY	*Tertiary basalt*
jd	JURASSIC	*Jurassic dolerite*
t	TRIASSIC	*Undifferentiated lithic sandstone, mudstone, carbonaceous shale, quartzose sandstone*
p	PERMIAN	*Undifferentiated sandstone, grits, conglomerate, mudstone, fossiliforous mudstone, siltstone*
dg	DEVONIAN	*Devonian granite*
sm	SILURIAN	*Undifferentiated Mathinna Group quartzite, slate, schist, siltstone*

Geological boundary

Fault

Drillhole ● DDH1 *IMI Gray* ● GY *Shell Gray* ⊙H8 *Hyd. Elect. Comm.* ⊙13 *Mines Dept.* O *Proposed & Contingent B.H.*

Cliff; Contour with value; Depression contour

Coal outcrop

Mine Adit

Mine Shaft

Abandoned mine workings

Exploration licence & State Reserve Boundary

Approximate subcrop Dalmayne 'D' seam

Very thick Dolerite (? feeder)

SCALE 1:100 000

2 0 2 4 6 8 10 12 Km.

SOURCES: 1:250000 GEOLOGICAL SHEETS, LAUNCESTON, OATLANDS
LEAMAN, D.E. & CASTLEDEN, R.H. (in Leaman, 1978/39)
SHELL COMPANY OF AUSTRALIA LTD. (unpublished)

182036

5 cm

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5065

THE SHELL COMPANY OF AUSTRALIA LTD.

N.E. TASMANIA

SHELL-IMI EL 5/61 GRAY

LOCATION PLAN & GENERAL GEOLOGY

Scale 1:100000

Author: SHELL HOBART	Date: December, 1978	Encl. 1
Report No: CEPR 9/79	Drawing No: C-1294-B	

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182037

034

TABLE 5 EL 5/61 GRAY

PRELIMINARY WASHABILITY DATA - DALMAYNE B SEAM

Sample N°	Thickness (m)	Relative Density	CUMULATIVE %										Raw Ash %
			Floats 1 50		Floats 160		Floats 1.70		Floats 180		Floats 2 00		
			Mass	Ash	Mass	Ash	Mass	Ash	Mass	Ash	Mass	Ash	
GY 2/1	0.07	2.37											83.5
2/2	0.64	1.58	31.0	17.4	62.4	23.4	74.8	26.0	80.7	27.4			35.2
2/3	1.53	2.18	2.3	24.2	5.1	27.8	11.3	34.9	19.7	40.8			69.0
2/4	0.99	1.68	31.5	11.8	43.2	16.3	53.7	20.5	62.4	24.0			42.0
2/5	1.13	1.65	35.8	11.4	43.6	15.1	53.6	19.6	62.1	23.3			40.7
GY 4/1	1.12	1 57	40.9	17.9	58.2	21 3	67.2	23.4	73.5	25.3			38.0
4/2	0.58	1.89											65.2
4/3	0.79	1.51	57.7	21.7	75.0	24.4	82.8	25.8	86.6	26.7			33.0
4/4	0.34	2 06											78.0
4/5	1.46	1.65	27.5	16.7	42.7	21.4	60.3	26.1	70.0	28.6			42.2
GY 7/1	1.91	1.62	39.9	10.3			62.9	23.9			82.3	30.2	38.6
7/2	1.08	1.67	39.1	10.3			54.1	16.6			66.2	23.5	41.0
GY 9/1	0.86	2.03	0.1	21.6	1.4	35.9	2.7	40.3	7.6	47.3			71.8
9/2	0.79	1 77	14.1	22.0	33.5	28.2	45.6	31.4	53.2	34.1			52.5
9/3	1.09	2.05	2.1	22.4	13.9	29.5	20.6	32.6	27.3	36.0			66.4
9/4	1.08	1.79	2.9	28.7	12.6	32.5	27.8	36.6	37.8	40.2			57.6
9/5	0.14	2.29											80 9
GY 10/1	0.92	1.73	14.5	19.1			41.7	28.2			65.4	36.2	50.9
10/2	1.07	2.02	2.8	23.3			10.2	33.7			41.4	50.9	68.3
10/3	2.10	1.76	15.8	22.1			43.9	29.8			66.5	37.6	50.2
10/4	2.94	1.98	0.8	26.1			8.0	37.7			29.1	52.4	71.9
10/5	1.21	1.77	23.4	18.3			39.7	25.9			65.3	36.9	52.2
10/6	0.79	2.22	3.9	17.7			8.1	30.1			25.6	48.6	78.2
GY 12/1	0.70	2 18	02	24.3	0.8	29.3	2.0	34.0	4.4	39.7			72.1
12/2	2.19	1.87	6.3	19.9	20.0	26.0	32.3	30.3	44.7	35.0			54.9
12/3	1.53	1.95	4.0	24.1	7.1	26.4	8.9	29.2	26.9	42.8			65.4
12/4	1.74	2.07	0.5	25.0	1.6	33.0	5.6	38.1	14.4	45.4			70.8
12/5	0.75	1.62	40.2	18.8	46.4	20.9	55.5	24.3	65.1	27.7			44.4
GY 14/1	1.43	2 10											76 9
14/2	0.59	2 16											82.0
14/3	2.15	2.09											75.3
14/4	2 90	2.37											92.0
14/5	3.07	2 16											81.7

PRELIMINARY WASHABILITY DATA - DALMAYNE C SEAM

Sample N°	Thickness (m)	Relative Density	CUMULATIVE %										Raw Ash %
			Floats 1 50		Floats 160		Floats 1.70		Floats 180		Floats 2 00		
			Mass	Ash	Mass	Ash	Mass	Ash	Mass	Ash	Mass	Ash	
GY 2/6	0.91	2.12											71.5
2/7	1 55	1.67	40.6	9.0	45.4	11.0	52 4	14.9	58.6	18.3			41.9
2/8	0.91	1.94	21.2	15.2	27.2	18.5	33.1	22.2	37.0	24.8			58.4
GY 7/3	1.03	1.60	46.4	13.0			61.7	18.0			78.0	25.6	37.4
GY 10/7	0.89	2.02	4.7	18.4			14.7	28.4			30.7	41.3	60.7
10/8	2.02	1.87	20.2	17.1			37.9	24.1			55.6	34.0	54.6
GY 11/1	2 20	1.62	38.8	13.1	51.5	17.2	60.9	20.5	67.3	23.1			38.8
GY 14/6	4.82	2.00											73 0

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TABLE 6 EL 5/61 GRAY

PRELIMINARY WASHABILITY DATA - DALMAYNE D UPPER SEAM

Sample No	Thickness (m)	Relative Density	CUMULATIVE % Floats 1 50 Mass	Floats 1 50 Ash	Floats 1.60 Mass	Floats 1.60 Ash	Floats 1 70 Mass	Floats 1 70 Ash	Floats 180 Mass	Floats 180 Ash	Floats 2 00 Mass	Floats 2 00 Ash	Raw Ash %
GY 2/15	0 28	2·14											69·1
2/16	1 23	1·42	86 5	13·1	90·6	13·8	91·7	14 1	92·9	14·6			18·8
2/17	0·6 6	2·32											86 3
2/18	0·44	1·45	84·3	15 9	90·4	16 9	92·7	17·5	93·5	17·7			21·4
GY 3/1	0.99	1.83	36.7	17.8	43.0	19.3	45.0	20.2	48.9	22.6			53.4
3/2	1.86	1.40	81.6	11.2	90.3	12.8	91.9	13.2	94.7	14.2			17.0
GY 4/6	0.30	1.62											48.1
4/7	1.77	1.40	77.8	14.7	85.7	16.2	89.1	17.1	91.8	18.2			21.6
GY 9/6	1.39	1.43	81.7	15.7	90.9	17.3	94.1	17.9	95.5	18.3			20.3
9/7	0.27	1.76											53.0
GY 10/9	1.26	1.59	63.6	14.9	72.4	16.7	75.3	17.6	77.0	18.2			33.1
GY 11/2	1.27	1.49	73.1	15.4	80.7	17.2	82.4	17.6	87.5	19.6			26.0
GY 12/6	1.19	1.65	35.4	15.2	44 8	18.6	49.8	20 6	55.0	23.5			48.2
12/7	1.33	2.36	4.7	14.6	5.8	16.9	6.4	18.7	6.8	20.3			80.3
12/8	1.86	1.52	55.5	12.0	64.2	13.8	73.1	16.5	80.6	18.9			29.3
GY14/7-9*	1·19	1·54	69 9	13·1	76·4	14·6	79·2	15·5	80·9	16·2	82·7	17·1	28·2
GY14/7-9#	1·19		48·2	12·8									36·2
GY 17/1	1.52	1.54	66 9	14.7	78.1	16.9	81.4	17.8	82.5	18.2			29.1
GY 18/1	0 85	1 36	89.4	11.1	97.2	12.5	98.5	12.7	98 5	12.7			13 1

PRELIMINARY WASHABILITY DATA - DALMAYNE D LOWER SEAM

Sample No	Thickness (m)	Relative Density	CUMULATIVE % Floats 1 50 Mass	Floats 1 50 Ash	Floats 160 Mass	Floats 160 Ash	Floats 1 70 Mass	Floats 1 70 Ash	Floats 180 Mass	Floats 180 Ash	Floats 2 00 Mass	Floats 2 00 Ash	Raw Ash %
GY 1/1	1 68	1.46	77.0	16.9	86 6	18.2	90.9	19.0	92.9	19.6			22.9
1/2	0.14	1.64											41.4
GY 2/9	0.78	1.65	44.2	16.1	52.4	18.5	65.5	22.2	72.1	24 4			39.3
2/10	2.01	1.48	68.1	14.7	81.5	17.2	87.2	18.6	89.8	19.4			24.3
2/11	0.09	1.83											55.7
GY 3/3	0.62	1.53	631	15.3	75.0	17 4	78.4	18.3	81.1	19.2			29.1
3/4	2.20	1.46	69.0	13.2	81.4	15 4	86 4	16.6	91.5	18.3			22.2
GY 4/8	0.08	2.03											74.9
4/9	1.44	1.53	44.0	19.4	71.4	22.5	85.7	24 7	89.8	25.6			30.0
GY 5/1	0.34	1.34	87 4	10.3	93.4	11.6	96.4	12.4	97.1	12.7			14.9
5/2	0 58	2.22	4 8	17.6	5.7	19.5	7.6	24.6	9.4	29.3			81.6
5/3	0.80	1.49	62.2	12.3	72 5	14.8	81.3	17.8	84.9	19.1			27.3
5/4	0.27	2.22											81.5
5/5	1.17	1.44	67.7	12.1	76.9	14.2	81.6	15.7	85.4	17.2			26 0
GY 7/4	0.49	1.70	18.2	21.3	40.5	26.4	54.5	29.7	64.2	32.3			46.9
7/5	1.24	1.45	74.6	13.9	82.7	15.5	85.3	16.7	91.6	18.1			22.0
7/6	0.87	1.78	29.1	14.6	38 6	18.2	46.9	21.9	53.6	24.9			51.5
7/7	0.19	2.16											73.4
GY 9/8	1.01	1.50	57.0	19.1	72.4	20.6	89.6	23.1	93.4	23.8			27.0
GY 11/3	1.33	1.93	14.4	17.3	19.3	20.8	27.0	26.9	41.2	34.8			60.0
11/4	1.43	1.47	57 3	17.5	86.6	20.6	93.5	21.8	96.1	22.4			23.7
GY 12/9	0.74	1.81	31.9	13 5	41.0	16.9	45 3	19.1	47 6	20.4			51.4
12/10	0.93	2.41	4.6	17.5	7.0	22 3	9.1	26.4	12.8	32.7			78.6
12/11	1.21	1.50	51.0	17.1	76 5	19.5	85.6	21.1	90.6	22.3			26.7
GY14/10-13*	2·59	1·63	41·7	16·5	60 0	20·1	68·6	22 4	74·8	24 4	82·8	27·7	36·7
GY14/10-13#	2·59	—	36·0	16·7									31·9
GY 17/2	1.19	2.06	1.2	23.9	1.8	25.1	2.6	31.3	12.6	40.3			67.6
17/3	1.95	1.52	68.7	15.0	80.7	16.9	85.6	18.0	89.1	19.1			24 6
GY 18/2	1.64	1.48	63.8	15.4	63.8	15.4	71.4	17.1	93.8	23.2			24.9

* +0 5 mm Fraction # 0 5mm (w.w) x 0 1mm Fraction

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TABLE 7 EL 5/61 GRAY

PRELIMINARY WASHABILITY DATA - DALMAYNE E SEAM

Sample No°	Thickness (m)	Relative Density	CUMULATIVE %										Raw Ash %
			Floats 1 50		Floats 160		Floats 170		Floats 180		Floats 2 00		
			Mass	Ash	Mass	Ash	Mass	Ash	Mass	Ash	Mass	Ash	
GY 1/3	010	2 09											71.2
1/4	2.20	1.57	40.4	139	51.9	17.2	662	21.5	78.6	25.3			33.6
1/5	0.16	1.93											65.8
GY 2/12	0.51	1.97											63.1
2/13	0.76	166	380	17.4			56.3	22.0			65.9	26.5	43.5
GY 5/6	0.13	2 17											70.6
5/7	0.79	1.44	65.2	11.9	77.6	14 3	866	16.8	90.5	18.0			231
GY 6A/1	0.45	1.80	15.4	20.8			40.0	27.6			65.0	36.6	50.6
6A/2	0.97	1.52	60.3	15.8			767	19.2			91.9	25.6	29.9
GY 8/1	2.20	1.62	42.6	16.6			61.5	22 3			79.2	28.3	38.4
GY 9/9	0.35	2.08											66.5
9/10	1.07	1 43	73.4	12.1	82.4	13.6	89.0	15.2	92.4	16.2			20.1
GY 11/5	0.89	1.47	69.1	15.7	81.2	17.6	87.6	19.2	92.0	20.4			23.7
GY 12/12	0.72	1.54	51.0	15.6	66 8	18.3	77.0	20.1	82.7	22.3			30.7
GY 14/14*	1.15	1.61	35.3	14.0	41.1	15.6	56.8	21.5	76.3	27.2	87.8	30.5	36.0
14/14#	1.15	—	27.2	11.6									36.9
14/15	1.02	2.15											68.7

PRELIMINARY WASHABILITY DATA - DALMAYNE F SEAM

Sample No°	Thickness (m)	Relative Density	CUMULATIVE %										Raw Ash %
			Floats 1 50		Floats 160		Floats 170		Floats 180		Floats 2 00		
			Mass	Ash	Mass	Ash	Mass	Ash	Mass	Ash	Mass	Ash	
GY 1/6	0.44	1.95	0.8	10.7			1.5	187			23.8	52.0	65.8
1/7	0.88	1.59	39.9	14.4			59.4	190			83.4	28.8	35.3
GY 2/14	050	1.73	20.1	14.2			468	21.8			73.8	30.9	41.8
GY 3/5	0.55	1.81	8.5	17.2			37.7	26.3			64.3	36.3	49.7
3/6	0.71	1.54	42.0	14.9			72.9	20.3			94.6	27.0	28.6
GY 6A/3	0.90	1.67	16.8	19.4			59.8	27.3			83.2	33.3	39.9

* + 0.5 mm fraction # 0.5 mm (w.w) x 0.1 mm fraction

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TABLE 8 EL 5/61 GRAY

182040

RAW and WASHED COAL ANALYSIS DATA , DALMAYNE B SEAM

Hole N°	Sample N°	Thickness (m)	Relative Density (raw)	Mass %	Sample State	PROXIMATE % (Air Dried) M	Ash	VM	FC.	TS	Spec Energy (MJ/kg)	CSN	HGI	ULTIMATE % (Dry Ash Free) C	H	N	S	O	CO_2	ASH FUSION TEMP (Red Atmos) °C DEF	SPH	H'SPH	Flow	ASH ANALYSIS (Oxides) % Si	Al	Fe	Ca	Mg	Ti	Na	K	P	Mn	S
IMI DDH1 RAW	741665	041	197	100	RAW	6.0	61.3	15.3	17.4																								
	66	2.99	1.90	100	RAW	3.6	60.5	14.9	21.0																								
	67	1.02	177	100	RAW	4.0	51.5	20.3	24.2																								
	68	1.23	1.63	100	RAW	4.1	37.8	22.0	36.1																								
	69	1.25	1.47	100	RAW	3.4	27.7	28.8	40.1	0.42	23.710																						
IMI DDH2 RAW	741677	041	1.79	100	RAW	4.8	49.3	15.8	30.1																								
	78	2.05	1.77	100	RAW	4.8	50.0	16.7	28.5																								
	79	1.24	1.68	100	RAW	3.8	43.0	22.4	30.8																								
	80	2.31	1.88	100	RAW	4.3	38.5	15.3	21.9																								
	81	1.09	1.49	100	RAW	3.1	28.9	26.9	41.1	0.57	21 610																						
GY 2	GY 2/2	0.64	1.58	62.4	FI 1.60	3.2	23.5	26.5	46.8	0.42	23.990																						
	GY 2/3	1.53	2.18	5.1	FI 1.60		27.8																										
	GY 2/4	0.99	1.68	43.2	FI 1.60		16.3																										
	GY 2/5	1.40	1.65	43.6	FI 1.60		15.1																										
	GY 2/2-5	4.56	1.82	30.4	FI 1.60		18.7																										
	GY 2/4-5	2.39	1.66	43.4	FI 1.60	3.2	16.0	29.5	51.3	0.45	26.320																						
GY 4	GY4/1-5	4.29	1.67	67.6	FI 1.70	4.9	26.1	25.2	43.8	0.60	22.530																						
GY 7	GY7/1-2	2.59	1.64	59.4	FI 1.70	3.5	21.3	28.5	46.7	0.35	24.850									1430	1530	1550	1570										

RAW and WASHED COAL ANALYSIS DATA , DALMAYNE C SEAM

Hole N°	Sample N°	Thickness (m)	Relative Density (raw)	Mass %	Sample State	PROXIMATE % (Air Dried) M	Ash	VM	FC.	TS	Spec Energy (MJ/kg)	CSN	HGI	ULTIMATE % (Dry Ash Free) C	H	N	S	O	CO_2	ASH FUSION TEMP (Red Atmos) °C DEF	SPH	H'SPH	Flow	ASH ANALYSIS (Oxides) % Si	Al	Fe	Ca	Mg	Ti	Na	K	P	Mn	S
IMI DDH1	741670	093	218	100	RAW	6.4	72.9	12.9	7.8																								
	71	1.42	1.98	100	RAW	6.6	63.2	14.2	16.0																								
	72	1.81	1.78	100	RAW	5.0	47.6	18.5	28.9																								
	73	0.22	1.79	100	RAW	3.4	50.7	25.4	20.5																								
IMI DDH2	741682	1.67	1.90	100	RAW	6.4	57.3	15.0	21.3																								
	83	1.23	1.71	100	RAW	4.9	44.2	19.7	31.2																								
	84	1.22	1.60	100	RAW	4.0	35.8	23.2	37.0																								
GY 2	GY 2/7-8	2.45	1.71	38.1	FI 1.60	3.0	13.5	31.6	51.9	0.45	27.510																						
GY 7	GY 7/3	1.03	1.60	61.7	FI. 1.70	4.3	18.1	30.6	47.0	0.46	25.910									1550	>1600	>1600	>1600										
GY 11	GY 11/1	2.20	1.62	67.3	FI 1.80	5.1	23.2	26.6	45.1	0.31	23.740		57							1400	1600	>1600	>1600										

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TABLE 9 E.L. 5/61 GRAY

RAW COAL ANALYSIS DATA , DALMAYNE D UPPER SEAM

Hole N°	Sample N°	Thickness (m)	Relative Density (raw)	Mass %	Sample State	PROXIMATE % (Air Dried) M	Ash	VM	FC	TS	Spec Energy (MJ/kg)	CHL	HGI	ULTIMATE % (Dry Ash Free) C	H	N	S	O	CO_2	ASH FUSION TEMP (Red Atmos.) °C DEF	SPH	H'SPH	Flow	ASH ANALYSIS (Oxides) % Si	Al	Fe	Ca	Mg	Ti	Na	K	P	Mn	S
1M1 DDH2	741685	0.92	1.42	100	RAW	3.2	19.2	25.6	52.0	0.46	25.310																						
	86	0.90	1.43	100	RAW	2.3	20.0	28.0	49.7	0.28	25.510																						
	74168586	1.82	1.42	100	RAW	2.8	19.6	26.8	50.8	0.37	25.410																						
GY2																																	
GY3	GY3/2	1.86	1.40	100	RAW	4.2	17.2	28.5	50.1	0.35	26.150	0.05	49																				
GY4	GY4/7	1.77	1.40	100	RAW	4.4	21.7	24.9	49.0	0.34	24.830	0.08	56																				
GY9	GY9/6	1.39	1.43	100	RAW	4.0	20.5	27.0	48.5	0.33	25.410									1300	1580	1590	1600										
GY11	GY11/2	1.27	1.49	100	RAW	4.9	26.5	36.2	32.4	0.86	23.060		59							1380	1460	1490	1500										
GY12	GY12/8	1.86	1.52	100	RAW	3.0	28.5	25.5	43.0	0.30	21.870		54							1550	>1600	>1600	>1600	55.7	37.3	2.30	1.90	0.48	1.00	0.22	0.29	0.043	0.04	0.53
GY14	GY14/7-9	1.19	1.54	100	RAW	4.2	29.4	24.8	41.6	0.24	21.920		56																				
GY17	GY17/1																																
GY18	GY18/1																																

WASHED COAL ANALYSIS DATA , DALMAYNE D UPPER SEAM

Hole N°	Sample N°	Thickness (m)	Relative Density (raw)	Mass %	Sample State	PROXIMATE % (Air Dried) M	Ash	VM	FC	TS	Spec Energy (MJ/kg)	CSN	HGI	ULTIMATE % (Dry Ash Free) C	H	N	S	O	CO_2	ASH FUSION TEMP (Red Atmos.) °C DEF	SPH	H'SPH	Flow	ASH ANALYSIS (Oxides) % Si	Al	Fe	Ca	Mg	Ti	Na	K	P	Mn	S
GY2																																	
GY3	GY3/1	0.99	1.83	45.0	FI 1.70	3.7	20.6	28.2	47.5	0.33	25.540	½	44	83.1	5.22	1.47	0.45	9.76	0.26	1360	1430	1450	1470	64.5	23.5	6.91	0.47	0.97	1.10	0.12	0.70	0.024	0.06	0.05
	GY3/2	1.86	1.40	91.9	FI 1.70	3.9	13.4	30.2	52.5	0.33	28.060	½	47	83.4	4.80	1.47	0.40	9.93	0.22	1450	>1600	>1600	>1600	62.9	28.5	3.40	0.50	0.85	1.19	0.10	0.60	0.030	0.05	0.08
	GY3/1-2	2.85	1.55	72.7	FI 1.70	3.8	15.2	29.7	50.8	0.33	27.420	½	45	83.3	4.90	1.47	0.41	9.89	0.23														
GY4	GY4/7	1.77	1.40	83.4	FI 1.55	4.0	15.8	27.5	52.7	0.31	27.100	½	55	79.0	4.34	1.34	0.37	14.95	0.10	1430	>1600	>1600	>1600	67.0	26.1	3.08	0.54	0.43	0.86	0.14	0.60	0.012	0.02	0.10
GY9	GY9/6	1.39	1.43	90.9	FI 1.60	3.4	17.3	28.1	51.2	0.34	26.820									1410	1550	1560	1570										
GY10	GY10/9	1.26	1.59	63.6	FI 1.50	4.2	14.7	27.9	53.2	0.34	27.230									1430	1520	1530	1540										
	GY10/9	1.26	1.59	77.0	FI 1.80	4.3	18.2	26.6	50.9	0.34	26.070									1360	1430	1450	1460										
GY11	GY11/2	1.27	1.49	80.7	FI 1.60	4.2	17.4	28.5	49.9	0.38	26.600									1400	1520	1530	1540										
GY12	GY12/8	1.86	1.52	80.6	FI 1.80	3.8	18.4	26.9	50.9	0.34	25.050		57	78.9	4.41	1.44	0.43	14.82	0.46	1580	>1600	>1600	>1600	55.5	34.6	2.88	3.10	0.58	1.30	0.25	0.32	0.047	0.05	1.12

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TABLE 10 E.L. 5/61 GRAY

RAW COAL ANALYSIS DATA , DALMAYNE D LOWER SEAM

Hole N°	Sample N°	Thickness (m)	Relative Density (raw)	Mass %	Sample State	PROXIMATE % (Air Dried) M	Ash	V M	F.C	T S	Spec Energy (MJ/kg)	CHL	HG.I	ULTIMATE % (Dry Ash Free) C	H	N	S	O	CO_2	ASH FUSION TEMP (Red Atmos) °C DEF	SPH	H'SPH	Flow	ASH ANALYSIS (Oxides) % Si	Al	Fe	Ca	Mg	Ti	Na	K	P	Mn	S
IMI DDH 1	741674	1.55	1 56	100	RAW	3.9	31.0	21.7	43.4	0.23																							
	75	1.39	1.56	100	RAW	3.3	35.0	23.3	38 4	0.30																							
	76	1.56	1.49	100	RAW	3.5	25.3	24.1	47 1	0.33	25.010																						
GY 1	GY 1/1	1.68	1 46	100.0	RAW	4.4	22.9	22.2	50.5	0.41	23.880	0.09	67																				
GY 2	GY 2/9	078	1.65	100 0	RAW	2 1	39.0	22.4	36.5	0.29	18.340	0.07	53																				
	GY 2/10	2.01	1.48	100 0	RAW	2.2	24.5	25.0	48.3	037	23.900	0.09	53																				
	GY 2/9-10	2.80	1 53	1000	RAW	2.2	28.9	24 2	44 7	0.35	22.230	0.08	53																				
GY 3	GY 3/3	0.62	1.53	100.0	RAW	4.1	29 3	24.8	41.8	0.27	22.400	0.08	53																				
	GY 3/4	2.20	1 46	100.0	RAW	4.5	22.6	25 2	47.7	0.29	24.350	0.05	53																				
	GY 3/3-4	2 82	1.48	100.0	RAW	4.4	24.1	25.1	46.4	0.29	23.910	0.06	53																				
GY 4	GY 4/9	1.44	1 53	100.0	RAW	5 3	29.9	20 8	44.0	0 30	20.740	0 05	58																				
GY 9	GY 9/8	1.01	1.50	100.0	RAW	4.6	26 8	22.1	46.5	0 30	22.450									1420	>1600	>1600	>1600										
GY 11	GY 11/4	1.43	1.47	100.0	RAW	4.9	24.0	23.1	48.0	0.34	23.320									1450	>1600	>1600	>1600										
GY 12	GY 12/11	1.21	1.50	100.0	RAW	3·1	25·8	24·0	47·1	0 34	22·880		5 9	82·5	4 62	1 46	0 48	10·94	0 10	>1600	>1600	>1600	>1600	55·8	37 4	2 82	0 96	0 82	1 36	0 25	0·32	0 034	0 04	0·07
GY 14	GY 14/10-13	2.59	1.63	100 0	RAW	3.9	31.0	22.5	36.6	0.21	18.640		58																				
GY 17	GY 17/3																																
GY 18	GY 18/2																																

WASHED COAL ANALYSIS DATA , DALMAYNE D LOWER SEAM

Hole N°	Sample N°	Thickness (m)	Relative Density (raw)	Mass %	Sample State	PROXIMATE % (Air Dried) M	Ash	V M	F.C.	T S	Spec Energy (MJ/kg)	CSN	HG I	ULTIMATE % (Dry Ash Free) C	H	N	S	O	CO_2	ASH FUSION TEMP (Red Atmos) °C DEF	SPH	H'SPH	Flow	ASH ANALYSIS (Oxides) % Si	Al	Fe	Ca	Mg	Ti	Na	K	P	Mn	S
GY 1	GY 1/1	168	1.46	82.5	FI 1.55	31	17 4	23.5	55.3	0.35	25.940	1/2	68	79.2	4.12	1.55	0.45	18.68	0.07	1590	>1600	>1600	>1600	67.4	21.6	3.86	0.73	0.46	1.68	0.23	0.90	0.014	0.011	0.38
GY 2	GY 2/9	078	1.65	48.2	FI 1.55	2.4	17.2	27.8	52 6	0.38	26.450	1	51	74.2	4.40	1 43	0.47	19 50	0.10	>1600	>1600	>1600	>1600	69.9	22.2	3.31	0.48	0 17	1.21	0.20	0.76	0.016	0.031	0.35
	GY 2/10	2 01	1 48	74.3	FI 1.55	2.5	15.4	27.2	54.9	0.39	26 930	1	52	82.9	4.65	1.42	0.48	10.55	0.14	1580	>1600	>1600	>1600	66.8	24 8	3.38	0.37	0.28	1.65	0.18	0.32	0.022	0.033	0.10
	GY 2/9-10	2.79	1 53	66.5		2.5	15.8	27.3	54.4	0.39	26.830	1	51	81.0	4.61	143	0.48	12.48	0.13														
GY 3	GY 3/3	0.62	1.53	72.3	FI.155	3.5	15.8	28.6	52.1	030	27.120	½	49	83.0	4.78	1.38	0.37	10.47	0.21	1430	>1600	>1600	>1600	66.3	27.0	1.73	0.40	0.41	1.07	0.14	0.77	0.019	0.02	0.05
	GY 3/4	2.20	1.46	77.6	FI 1.55	3.5	14.1	26.7	55.7	0.50	27.680	½	52	83.3	4.70	1.45	0.61	9.94	0.19	1550	>1600	>1600	>1600	61.5	30 6	3.16	0.56	0.71	1.19	0.15	0.65	0.034	0.02	0.08
	GY 3/3-4	2 82	1.48	76.4	FI. 1.55	3.5	14.5	27.1	54.9	0.46	27.560	½	50	83.2	4.72	1.43	0.56	10.05	0.19	1500	>1600	>1600	>1600										
GY 4	GY 4/9	144	153	714	FI 160	5.3	23.1	23.0	48.6	032	24.060	0	57	82.8	4.32	1.45	0.45	8.55	0.10	1540	>1600	>1600	>1600	59.0	32.2	4.10	0.56	0.75	1.30	0.16	0.70	0.034	0.02	0.08
GY 5	GY 5/3-5	2.24	1.55	64.8	FI 1.65	4 4	15.3	30.5	49.8	0 51	27.420									1420	1580	1590	1600										
	GY 5/3-5	2.24	1.55	70.5	FI 1.80	4.1	18.5	30.1	47.3	0.48	26.410									1430	>1600	>1600	>1600										
GY 7	GY 7/4-6	2.60	1.61	72.1	FI 1.80	3.8	22.6	28.6	45.0	0.36	24.440		48							1450	1600	>1600	>1600										
	GY 7/5-6	2.11	1.59	53.5	FI 1.50	4.1	14.1	30.9	50.9	0.40	27.680		51							1400	1560	1580	1590										
GY 9	GY 9/8	1.01	1.50	72.4	FI 1.60	3.9	20.5	23.5	52.1	0.31	24.830									1510	>1600	>1600	>1600										
GY 11	GY 11/3-4	2.76	169	65.9	FI 1.80	3.8	26.2	23.5	46.5	0.33	23.730									1550	>1600	>1600	>1600										
GY 12	GY 12/11	1.21	1.50	90.6	FI 1.80	3·4	22.3	24·2	50·1	0 33	23·910		59	81·0	4·50	1 53	0·45	12 52	0 03	1480	>1600	>1600	>1600	57·3	36 1	2 71	0·95	0·83	1·09	0 29	0·29	0 031	0 04	0·11

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TABLE. 11 E.L. 5/61 GRAY

RAW AND WASHED COAL ANALYSIS DATA, DALMAYNE E SEAM

Hole N°	Sample N°	Thickness (m)	Relative Density (raw)	Mass %	Sample State	PROXIMATE ANALYSIS % (Air Dried)								ULTIMATE ANALYSIS % (Dry Ash Free)						ASH FUSION TEMP (Red Atmos) °C				ASH ANALYSIS (Oxides) %										
						M	Ash	VM	FC	TS	Spec Energy (MJ/kg)	CSN	HGI	C	H	N	S	O	CO_2	DEF	SPH	H'SPH	Flow	Si	Al	Fe	Ca	Mg	Ti	Na	K	P	Mn	S
GY 1	GY 1/4	2.20	1.57	51.9	Fl 1.60	3.1	17.4	24.9	54.6	0.46	26.110																							
GY 2	GY 2/13	0.76	1.66	56.3	Fl. 1.70	2.3	22.2	26.9	48.6	0.45	24.390																							
GY 3	GY3/5+6	1.26	1.66	56.1	Fl. 1.70	3.0	22.3	22.4	52.3	0.49	25.020									1570	>1600	>1600	>1600											
GY 5	GY5/1	0.79	1.44	100	Raw	3.1	23.1	28.1	45.7	0.48	24.250																							
	GY5/1	0.79	1.44	82.4	Fl 1.65	3.3	15.7	30.8	50.2	0.48	27.290																							
GY 6A	GY6A/1-2	1.42	1.61	63.7	Fl 1.70	4.0	21.3	24.1	50.6	0.42	24.650									1580	>1600	>1600	>1600											
GY 9	GY9/10	1.07	1.43	100	Raw	3.3	20.3	27.7	48.7	0.42	25.710									1390	>1600	>1600	>1600											
	GY9/10	1.07	1.43	89.0	Fl 1.70	3.2	15.2	29.1	52.5	0.47	27.680									1400	>1600	>1600	>1600											
GY 11	GY11/5	0.89	1.47	100	Raw	5.6	23.1	27.4	43.3	0.49	23.590									1400	>1600	>1600	>1600											
GY 14	GY14/14	1.15	1.61	100	Raw	4.1	36.1	19.9	39.9	0.21	18.710		60																					

WASHED COAL ANALYSIS DATA, DALMAYNE F SEAM

Hole N°	Sample N°	Thickness (m)	Relative Density (raw)	Mass %	Sample State	PROXIMATE ANALYSIS % (Air Dried)								ULTIMATE ANALYSIS % (Dry Ash Free)						ASH FUSION TEMP (Red Atmos) °C				ASH ANALYSIS (Oxides) %										
						M	Ash	VM	FC	TS	Spec Energy (MJ/kg)	CSN	HGI	C	H	N	S	O	CO_2	DEF	SPH	H'SPH	Flow	Si	Al	Fe	Ca	Mg	Ti	Na	K	P	Mn	S
GY 1	GY 1/7	0.88	1.59	50.5	Fl 1.60	4.1	16.5	22.3	57.1	0.33	26.130																							
GY 2	GY 2/14	0.50	1.73	46.8	Fl 1.70	1.8	21.9	22.8	53.5	0.34	24.800																							

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VOL. 2

07 MAY 1979

THE SHELL COMPANY OF AUSTRALIA LTD.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 1

182044

TOP		BASE	%REC	LITHOLOGY
				*** CORE DESCRIPTION ***
	-	0.40	80	90% CLAY: RED-BROWN. 10% DOLERITE: FRAGMENTS. COMPLETELY WEATHERED. SOFT.
0.40	-	0.75	70	100% DOLERITE: YELLOW-BROWN. HIGHLY WEATHERED. WEAK ROCK.
0.75	-	1.85	80	100% CLAY: YELLOW-BROWN. COMPLETELY WEATHERED. SOFT.
1.85	-	2.25	80	100% CLAY: FERRUGINOUS STAINING. YELLOW-BROWN. MODERATELY WEATHERED. FIRM.
2.25	-	3.65	70	100% CLAY: FERRUGINOUS STAINING. WHITE. SLIGHTLY WEATHERED. STIFF.
3.65	-	3.95	90	100% CLAYSTONE: FERRUGINOUS STAINING. YELLOW-GREY. MODERATELY WEATHERED. VERY WEAK ROCK.
3.95	-	4.00	100	100% SANDSTONE: FINE GRAINED. YELLOW-GREY. MODERATELY WEATHERED. WEAK ROCK.
4.00	-	4.50	70	100% SILTSTONE: FERRUGINOUS STAINING. WHITE. SLIGHTLY WEATHERED. VERY WEAK ROCK.
4.50	-	4.80	0	CORE LOSS.
4.80	-	5.50	80	100% CLAY: FERRUGINOUS STAINING. LIGHT GREY. SLIGHTLY WEATHERED. FIRM.
5.50	-	6.00	80	100% CLAYSTONE: CARBONACEOUS STREAKS. LIGHT GREY. SLIGHTLY WEATHERED. VERY WEAK ROCK.
6.00	-	6.50	70	100% SILTSTONE: CARBONACEOUS STREAKS. LIGHT GREY. UNWEATHERED. VERY WEAK ROCK.
6.50	-	6.55	70	100% CLAYSTONE: CARBONACEOUS. DARK GREY. STIFF.
6.55	-	6.65	70	100% SILTSTONE: CARBONACEOUS STREAKS. LIGHT GREY. VERY WEAK ROCK.
6.65	-	6.70	70	100% CLAYSTONE: CARBONACEOUS. DARK GREY. STIFF.
6.70	-	6.85	70	100% CLAYSTONE: CARBONACEOUS LAMINAE. GREY. VERY WEAK ROCK.
6.85	-	8.65	0	CORE LOSS.
8.65	-	8.70	60	100% SANDSTONE. FINE GRAINED: CARBONACEOUS STREAKS. LIGHT GREY.
8.70	-	8.80	60	100% MUDSTONE: CARBONACEOUS. BLACK. COMPACT.

BOREHOLE LITHOLOGICAL LOG

182045

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
8.80 -	8.90	60	100% SILTSTONE: CARBONACEOUS STREAKS, GREY, VERY WEAK ROCK.
8.90 -	9.00	70	100% SANDSTONE, FINE GRAINED: SILTSTONE LENSES, LIGHT GREY, VERY WEAK ROCK.
9.00 -	11.55	70	100% CARBONACEOUS SHALE: COALY BANDS, BLACK. VARIES IN STRENGTH FROM MODERATELY WEAK ROCK TO COMPACT
11.55 -	11.60	80	100% COAL, HEAVY DULL: CARBONACEOUS BANDS.
11.60 -	12.10	70	100% CARBONACEOUS SHALE: COALY BANDS, BLACK, VERY WEAK ROCK.
12.10 -	12.30	70	100% COAL, HEAVY DULL: CARBONACEOUS BANDS.
12.30 -	12.85	70	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
12.85 -	12.90	90	100% SILTSTONE: CARBONACEOUS STREAKS, GREY, WEAK ROCK.
12.90 -	13.20	70	100% MUDSTONE: CARBONACEOUS, BLACK, VERY WEAK ROCK.
13.20 -	13.30	80	100% CARBONACEOUS SHALE:.
13.30 -	13.33	90	100% COAL, BRIGHT WITH NUMEROUS DULL BANDS: WITH PYRITE ON CLEAT.
13.33 -	13.48	80	100% MUDSTONE: CARBONACEOUS, BLACK, VERY WEAK ROCK.
13.48 -	13.58	90	100% COAL, INTERBANDED DULL AND BRIGHT:.
13.58 -	13.70	80	100% MUDSTONE: CARBONACEOUS, BLACK, VERY WEAK ROCK.
13.70 -	14.00	70	100% CARBONACEOUS SHALE: COALY LAMINAE.
14.00 -	14.71	80	100% MUDSTONE: CARBONACEOUS, BLACK, VERY WEAK ROCK.
14.71 -	14.97	90	100% SILTSTONE: MUDSTONE LENSES, GREY, VERY WEAK ROCK.
14.97 -	15.60	100	100% SILTSTONE: GREY, VERY WEAK ROCK,VERY THIN BEDDING,WITH CROSS LAMINATION AND LOAD CASTS.
15.60 -	15.90	100	100% SILTSTONE: GREY, WEAK ROCK,VERY THIN BEDDING.
15.90 -	16.15	100	100% MUDSTONE: SILTSTONE BANDS, DARK GREY, WEAK ROCK.
16.15 -	16.45	90	100% MUDSTONE: CARBONACEOUS, BLACK, WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182046

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
16.45 -	17.05	90	100% MUDSTONE: GREY, WEAK ROCK.
17.05 -	17.25	100	100% MUDSTONE: DARK GREY, WEAK ROCK.
17.25 -	17.30	100	100% MUDSTONE: GREY, WEAK ROCK.VERY THIN BEDDING.WITH LOAD CASTS.
17.30 -	17.32	100	100% MUDSTONE: CARBONACEOUS LAMINAE, DARK GREY, WEAK ROCK.WITH LOAD CASTS.
17.32 -	17.76	100	70% SILTSTONE: GREY. 30% MUDSTONE: GREY, WEAK ROCK.VERY THIN BEDDING.WITH LOAD CASTS.
17.76 -	17.86	100	100% SANDSTONE, FINE GRAINED: MUDSTONE LAMINAE, GREY, WEAK ROCK.
17.86 -	18.18	100	50% SANDSTONE: FINE GRAINED, GREY. 50% MUDSTONE: GREY, WEAK ROCK.VERY THIN BEDDING.WITH LOAD CASTS.
18.18 -	18.57	100	90% SANDSTONE: VERY FINE GRAINED, GREY. 10% MUDSTONE: GREY, WEAK ROCK.VERY THIN BEDDING.
18.57 -	18.60	100	100% SANDSTONE: MED.TO FINE GRAINED, GREY, WEAK ROCK.
18.60 -	18.78	100	100% SILTSTONE: SANDSTONE LAMINAE, GREY, WEAK ROCK.VERY THIN BEDDING.WITH CROSS LAMINATION.
18.78 -	18.81	100	100% SANDSTONE: MED.TO FINE GRAINED, GREY, WEAK ROCK.
18.81 -	18.94	100	50% SILTSTONE: GREY. 50% SANDSTONE: MED.TO FINE GRAINED, GREY, WEAK ROCK.VERY THIN BEDDING.WITH CROSS LAMINATION.
18.94 -	18.99	100	100% SILTSTONE: SANDSTONE LENSES, GREY, WEAK ROCK.
18.99 -	19.03	100	100% SANDSTONE: MEDIUM GRAINED, GREY, WEAK ROCK.
19.03 -	19.07	100	60% SILTSTONE: GREY. 40% SANDSTONE: MED.TO FINE GRAINED, GREY, WEAK ROCK.VERY THIN BEDDING.
19.07 -	19.09	100	100% SILTSTONE: GREY.
19.09 -	19.14	100	60% SILTSTONE: GREY. 40% SANDSTONE: FINE GRAINED, GREY, WEAK ROCK.VERY THIN BEDDING.WITH LOAD CASTS.
19.14 -	19.25	100	50% SILTSTONE: GREY. 50% SANDSTONE: FINE GRAINED, GREY, WEAK ROCK.VERY THIN BEDDING.

BOREHOLE LITHOLOGICAL LOG

182047

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
19.25 -	19.27	100	100% SILTSTONE: GREY, WEAK ROCK.
19.27 -	19.30	100	100% SANDSTONE: MED.TO FINE GRAINED, GREY, WEAK ROCK.
19.30 -	19.33	100	100% SILTSTONE: GREY, WEAK ROCK,WITH LOAD CASTS.
19.33 -	19.46	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, GREY, WEAK ROCK.
19.46 -	19.50	100	100% MUDSTONE: SANDSTONE BANDS, DARK GREY, WEAK ROCK,WITH LOAD CASTS.
19.50 -	19.52	100	100% SANDSTONE: MEDIUM GRAINED, GREY, WEAK ROCK,WITH LOAD CASTS.
19.52 -	19.54	100	100% SILTSTONE: SANDSTONE LAMINAE, GREY, WEAK ROCK,WITH LOAD CASTS.
19.54 -	19.67	100	100% SANDSTONE: MEDIUM GRAINED, GREY, WEAK ROCK.
19.67 -	19.70	100	100% SILTSTONE: GREY, WEAK ROCK.
19.70 -	19.72	100	100% SANDSTONE: MED.TO FINE GRAINED, GREY, WEAK ROCK.
19.72 -	19.90	100	70% SILTSTONE: GREY, 30% SANDSTONE: MED.TO FINE GRAINED, GREY, WEAK ROCK,THIN BEDDING,WITH LOAD CASTS.
19.90 -	20.00	100	80% SANDSTONE: MED.TO FINE GRAINED, GREY, 20% SILTSTONE: GREY, WEAK ROCK,THIN BEDDING.
20.00 -	20.12	100	50% SANDSTONE: MED.TO FINE GRAINED, GREY, 50% SILTSTONE: GREY, WEAK ROCK,VERY THIN BEDDING.
20.12 -	20.20	100	100% SILTSTONE: SANDSTONE LAMINAE, GREY, WEAK ROCK,VERY THIN BEDDING.
20.20 -	20.23	100	50% SANDSTONE: FINE GRAINED, GREY, 50% SANDSTONE: FINE GRAINED, LIGHT GREEN, WEAK ROCK,VERY THIN BEDDING,WITH LOAD CASTS.
20.23 -	20.45	100	90% SANDSTONE: VERY FINE GRAINED, GREY, 10% SANDSTONE: VERY FINE GRAINED, LIGHT GREEN, WEAK ROCK,VERY THIN BEDDING,WITH LOAD CASTS AND CROSS LAMINATION.

BOREHOLE LITHOLOGICAL LOG

182048

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
20.45 -	20.87	100	100% CLAYSTONE:. STIFF,VERY THIN BEDDING. GRADING FROM GREY TO GREEN: SHARP BASAL CONTACT
20.87 -	20.95	70	100% PEBBLE CONGLOMERATE:. WEAKLY CEMENTED. GREEN COARSE GRAINED GROUNDMASS
20.95 -	21.60	0	CORE LOSS.
21.60 -	22.10	70	100% PEBBLE CONGLOMERATE:. WEAKLY CEMENTED. YELLOW COARSE GRAINED GROUNDMASS. PEBBLES MAINLY ROCK FRAGMENTS & QUARTZ WITH MINOR FELDSPAR
22.10 -	23.10	0	CORE LOSS.
23.10 -	23.89	100	100% SANDSTONE: VERY COARSE GRAINED. GREY-GREEN. MODERATELY STRONG ROCK,THIN BEDDING. BEDS DIP 20 DEG.,MODERATELY CLOSE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
23.89 -	23.93	100	100% SANDSTONE: MED.-COARSE GRAINED. LIGHT GREEN. MODERATELY WEAK ROCK.
23.93 -	24.07	100	100% SANDSTONE: VERY COARSE GRAINED. GREY-GREEN. MODERATELY STRONG ROCK.
24.07 -	24.17	100	100% SANDSTONE: VERY COARSE GRAINED. LIGHT GREEN. MODERATELY STRONG ROCK.
24.17 -	24.37	100	100% SANDSTONE. COARSE GRAINED: MUDSTONE LAMINAE. LIGHT GREEN. MODERATELY STRONG ROCK.
24.37 -	24.68	100	100% SANDSTONE. COARSE GRAINED: CARBONACEOUS LAMINAE. GREY-BROWN. MODERATELY STRONG ROCK.
24.68 -	24.70	100	100% COAL. HEAVY DULL: SANDSTONE BANDS.
24.70 -	24.87	100	100% SANDSTONE: VERY COARSE GRAINED. LIGHT GREY. STRONG ROCK. WITH COALY LENSES AND NUMEROUS MUDSTONE PEBBLES IN BASAL 5 CM. BASAL CONTACT DIPPING AT 30 DEG.
24.87 -	26.72	100	100% SANDSTONE: MED.-COARSE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK. WITH CARBONACEOUS FRAGMENTS IN DISCRETE BANDS
26.72 -	26.78	0	CORE LOSS.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 1

182049

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
26.78 -	26.88	100	100% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK.
26.88 -	26.93	100	100% CLAYSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, WEAK ROCK,WITH LOAD CASTS.
26.93 -	27.00	0	CORE LOSS.
27.00 -	27.87	100	100% SANDSTONE: MEDIUM GRAINED, BUFF, MODERATELY WEAK ROCK,WIDE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE. SILICEOUS CEMENT
27.87 -	27.95	100	100% CLAY: BUFF, SOFT.
27.95 -	27.98	100	100% CLAY: LIGHT BROWN, WITH FRAGMENTS OF QUARTZ, SOFT.
27.98 -	28.35	100	60% MUDSTONE: CARBONACEOUS, BLACK, 30% CARBONACEOUS SHALE: 10% MUDSTONE: BROWN, MODERATELY WEAK ROCK,THIN BEDDING.
28.35 -	28.47	0	CORE LOSS.
28.47 -	28.66	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, GREY-BROWN, WEAK ROCK.
28.66 -	29.60	100	100% MUDSTONE: SILTSTONE BANDS, GREY,VERY THIN BEDDING AND CROSS LAMINATION,MODERATELY WIDE JOINT SPACING ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES.
29.60 -	29.80	100	100% SILTSTONE: GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
29.80 -	29.95	80	100% CLAYSTONE: GREY,MODERATELY CLOSE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
29.95 -	30.35	100	100% SANDSTONE: VERY FINE GRAINED, GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES.
30.35 -	30.40	80	100% CLAYSTONE: GREY,MODERATELY CLOSE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
30.40 -	30.55	100	100% SILTSTONE: GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182050

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
30.55 -	31.00	80	100% MUDSTONE: GREY, WEAK ROCK,VERY THIN BEDDING,MODERATELY WIDE JOINT SPACING ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES.
31.00 -	31.20	100	100% SANDSTONE: VERY FINE GRAINED, GREY-BROWN, VERY WEAK ROCK.
31.20 -	31.43	100	100% SANDSTONE, FINE GRAINED: MUDSTONE STREAKS, GREY, WEAK ROCK.
31.43 -	31.48	100	100% SANDSTONE: VERY FINE GRAINED, GREY-BROWN, VERY WEAK ROCK.
31.48 -	31.62	100	100% SANDSTONE, FINE GRAINED: MUDSTONE, FRIABLE, GREY, WEAK ROCK,WITH LOAD CASTS.
31.62 -	31.72	100	40% SANDSTONE: VERY FINE GRAINED, GREY-BROWN, 40% MUDSTONE: CARBONACEOUS, BLACK, 20% SANDSTONE: FINE GRAINED, GREY, VERY WEAK ROCK,WITH LOAD CASTS.
31.72 -	31.82	100	100% SILTSTONE: CARBONACEOUS STREAKS, GREY, WEAK ROCK.
31.89 -	32.00	100	100% CLAYSTONE: LIGHT GREEN, FIRM.
32.00 -	32.08	0	CORE LOSS.
32.08 -	32.10	100	100% CLAYSTONE: GREY-BROWN, STIFF.
32.10 -	32.13	100	100% COAL, HEAVY DULL:.
32.13 -	32.22	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.
32.22 -	32.65	100	100% CLAYSTONE: GREY-BROWN, WEAK ROCK,MODERATELY WIDE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
32.65 -	32.72	100	100% SILTSTONE: GREY, WEAK ROCK.
32.72 -	32.76	100	100% SANDSTONE: FINE GRAINED, GREY, WEAK ROCK.
32.76 -	32.93	100	100% SILTSTONE: SANDSTONE LAMINAE, GREY, WEAK ROCK.
32.93 -	33.53	100	100% MUDSTONE: SANDSTONE LAMINAE, GREY, WEAK ROCK,VERY THIN BEDDING,WITH LOAD CASTS.

BOREHOLE LITHOLOGICAL LOG

182051

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
33.53 -	35.33	100	100% SANDSTONE: COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING, BEDS DIP 10 DEG..
35.33 -	37.10	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING, BEDS DIP 10 DEG..,WITH CROSS LAMINATION.
37.10 -	37.20	100	100% SANDSTONE: VERY COARSE GRAINED, GREY-GREEN, MODERATELY WEAK ROCK. WITH MUDSTONE PEBBLES
37.20 -	37.27	100	100% SANDSTONE: GREY-GREEN, MODERATELY WEAK ROCK. BASAL CONTACT DIPPING AT 20 DEG.
37.27 -	37.42	100	100% SANDSTONE: MED.-COARSE GRAINED, ARGILLACEOUS, GREY-GREEN, WEAK ROCK,MODERATELY THIN BEDDING, BEDS DIP 20 DEG..
37.42 -	37.54	100	100% SANDSTONE: VERY COARSE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK,MODERATELY THIN BEDDING, BEDS DIP 30 DEG..
37.54 -	37.67	100	100% SANDSTONE: MED.TO FINE GRAINED, ARGILLACEOUS, LIGHT GREEN, WEAK ROCK,MODERATELY THIN BEDDING, BEDS DIP 30 DEG..
37.67 -	37.95	100	100% SANDSTONE: VERY COARSE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK,MODERATELY THIN BEDDING, BEDS DIP 20 DEG..
37.95 -	38.10	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREEN, MODERATELY WEAK ROCK. WITH MUDSTONE PEBBLES
38.10 -	40.17	100	100% SANDSTONE, COARSE GRAINED: SILTSTONE STREAKS, LIGHT GREEN, MODERATELY WEAK ROCK.
40.17 -	40.37	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREEN, MODERATELY WEAK ROCK.
40.37 -	43.56	100	100% SANDSTONE: COARSE GRAINED, LIGHT GREEN, MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182052

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
			EXTENSIVE ORANGE STAINING
43.56 -	43.76	0	CORE LOSS.
43.76 -	43.79	100	100% SANDSTONE: COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
43.79 -	43.96	100	70% SILTSTONE: DARK GREY, 30% SILTSTONE:, WEAK ROCK.VERY THIN BEDDING,WITH CROSS LAMINATION.
43.96 -	44.30	100	100% SANDSTONE, MEDIUM GRAINED: MUDSTONE LAMINAE, LIGHT GREY, WEAK ROCK.WITH CROSS LAMINATION.
44.30 -	44.50	100	100% SANDSTONE, COARSE GRAINED: MUDSTONE STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
44.50 -	44.66	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
			WITH MUDSTONE PEBBLES
44.66 -	44.68	100	70% MUDSTONE: DARK GREY, 30% SANDSTONE: MEDIUM GRAINED, LIGHT GREY, WEAK ROCK,VERY THIN BEDDING, BEDS DIP 30 DEG..
44.68 -	44.80	100	100% SANDSTONE: COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
			WITH MUDSTONE PEBBLES AT TOP AND BASE
44.80 -	44.81	100	100% COAL, HEAVY DULL:.
44.81 -	45.09	100	100% SANDSTONE: COARSE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK.
			WITH BANDS OF MUDSTONE PEBBLES AND CARBONACEOUS FRAGMENTS
45.09 -	45.29	100	100% SANDSTONE: VERY COARSE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK.
			WITH BANDS OF MUDSTONE PEBBLES AND CARBONACEOUS FRAGMENTS
45.29 -	45.60	100	100% SANDSTONE: VERY COARSE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK,WITH CARBONACEOUS WHISPS.

BOREHOLE LITHOLOGICAL LOG

182053

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
45.60 -	45.90	100	50% MUDSTONE: DARK GREY, 50% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, WEAK ROCK,THIN BEDDING,WITH CROSS LAMINATION.
45.90 -	46.60	100	100% SILTSTONE: MUDSTONE LENSES, GREY, WEAK ROCK,WITH CARBONACEOUS WHISPS,WIDE JOINT SPACING ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
46.60 -	46.66	100	100% MUDSTONE: CARBONACEOUS, BLACK, WEAKLY CEMENTED.
46.66 -	46.81	100	100% MUDSTONE: DARK GREY, VERY WEAK ROCK.
46.81 -	47.54	100	100% SILTSTONE: GREY, WEAK ROCK.
47.54 -	47.71	100	100% SILTSTONE: DARK GREY, WEAK ROCK.
47.71 -	47.75	100	100% MUDSTONE: CARBONACEOUS, BLACK, STIFF.
47.75 -	47.82	100	80% MUDSTONE: COALY LAMINAE, DARK GREY, 20% SANDSTONE: MEDIUM GRAINED, LIGHT BROWN, VERY WEAK ROCK.
47.82 -	48.04	100	100% CARBONACEOUS SHALE:.
48.04 -	48.06	100	100% SANDSTONE: FINE GRAINED, GREY, WEAK ROCK.
48.06 -	48.15	100	100% CARBONACEOUS SHALE:.
48.15 -	48.21	100	100% SILTSTONE: LIGHT BROWN, VERY WEAK ROCK,THIN BEDDING, BEDS DIP 10 DEG..
48.21 -	48.34	100	100% CARBONACEOUS SHALE:.
48.34 -	48.38	100	100% COAL, HEAVY DULL:.
48.38 -	48.43	100	100% CARBONACEOUS SHALE:.
48.43 -	48.46	100	100% COAL, HEAVY DULL: BRIGHT COAL BANDS.
48.46 -	48.59	100	100% CARBONACEOUS SHALE:.
48.59 -	48.61	100	100% MUDSTONE: CARBONACEOUS STREAKS, BROWN, STIFF.
48.61 -	48.73	100	100% CARBONACEOUS SHALE:.
48.73 -	48.78	100	100% MUDSTONE: CARBONACEOUS STREAKS, GREY, VERY WEAK ROCK.
48.78 -	48.84	100	100% CARBONACEOUS SHALE:.
48.84 -	49.10	100	100% MUDSTONE: DARK GREY, VERY WEAK ROCK.
49.10 -	49.90	100	100% MUDSTONE: GREY, VERY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182054

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
49.90 -	50.10	0	CORE LOSS.
50.10 -	50.33	100	100% MUDSTONE: SILTSTONE, FRIABLE, GREY, VERY WEAK ROCK.
50.33 -	50.64	100	100% MUDSTONE: SILTSTONE, GREY, VERY WEAK ROCK.
50.64 -	50.92	100	100% MUDSTONE: DARK GREY, VERY WEAK ROCK.
50.92 -	50.94	100	100% CARBONACEOUS SHALE: MUDSTONE LENSES.
50.94 -	51.19	100	100% MUDSTONE: GREY-GREEN, VERY WEAK ROCK.
51.19 -	51.27	100	100% CLAYSTONE: CARBONACEOUS BANDS, BUFF, FIRM.
51.27 -	51.28	100	100% CARBONACEOUS SHALE: MUDSTONE BANDS.
51.28 -	51.31	100	100% MUDSTONE: DARK GREY, VERY WEAK ROCK,WITH CARBONACEOUS WHISPS AND LOAD CASTS.
51.31 -	51.32	100	100% MUDSTONE: COALY LENSES, GREY, VERY WEAK ROCK,WITH CARBONACEOUS WHISPS AND LOAD CASTS.
51.32 -	51.41	100	100% CARBONACEOUS SHALE: MUDSTONE BANDS,WITH LOAD CASTS.
51.41 -	51.60	0	CORE LOSS.
51.60 -	51.63	60	100% CARBONACEOUS SHALE: MUDSTONE BANDS.
51.63 -	51.66	100	100% MUDSTONE: CARBONACEOUS LENSES, DARK GREY, VERY WEAK ROCK.
51.66 -	51.72	100	100% MUDSTONE: COALY LENSES, GREY, VERY WEAK ROCK,WITH LOAD CASTS.
51.72 -	51.87	80	100% CARBONACEOUS SHALE: COALY BANDS.
51.87 -	51.92	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, VERY WEAK ROCK.
51.92 -	51.98	100	100% SILTSTONE: MUDSTONE LAMINAE, GREY, WEAK ROCK,WITH FLAME/PULL-OVER STRUCTS.
51.98 -	52.11	100	100% SANDSTONE, FINE GRAINED: MUDSTONE BANDS, GREY, MODERATELY WEAK ROCK,WITH LOAD CASTS AND CARBONACEOUS WHISPS.
52.11 -	52.91	100	80% SANDSTONE: MED.TO FINE GRAINED, GREY, 15% MUDSTONE: GREY, 5% CARBONACEOUS SHALE:, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH CROSS LAMINATION.

BOREHOLE LITHOLOGICAL LOG

182055

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
52.91 -	53.10	100	100% MUDSTONE: GREY, WEAK ROCK.
53.10 -	54.47	100	80% SANDSTONE: MED.TO FINE GRAINED, GREY, 20% MUDSTONE: GREY, MODERATELY WEAK ROCK,THIN BEDDING,WITH CARBONACEOUS WHISPS AND CROSS LAMINATION.
54.47 -	54.60	100	70% MUDSTONE: GREY, 30% SANDSTONE: FINE GRAINED, GREY, WEAK ROCK,VERY THIN BEDDING,WITH CROSS LAMINATION.
54.60 -	54.79	100	50% MUDSTONE: GREY, 50% SANDSTONE: FINE GRAINED, GREY, WEAK ROCK,VERY THIN BEDDING,WITH CARBONACEOUS WHISPS AND CROSS LAMINATION.
54.79 -	54.99	100	100% SILTSTONE: SANDSTONE LENSES, GREY, WEAK ROCK,THIN BEDDING, BEDS DIP 10 DEG.,WITH CROSS LAMINATION.
54.99 -	55.11	100	80% SANDSTONE: COARSE GRAINED, LIGHT GREY, 20% SILTSTONE: GREY, MODERATELY WEAK ROCK,THIN BEDDING, BEDS DIP 10 DEG.,WITH CROSS LAMINATION AND CARBONACEOUS WHISPS.
55.11 -	55.40	100	100% SANDSTONE: COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
55.40 -	55.47	100	100% SANDSTONE: MEDIUM GRAINED, LIGHT GREY, WEAK ROCK,WITH CROSS LAMINATION AND CARBONACEOUS WHISPS.
55.47 -	55.48	100	100% SANDSTONE: COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
55.48 -	55.63	100	100% SANDSTONE: MEDIUM GRAINED, LIGHT GREY, WEAK ROCK,WITH CROSS LAMINATION.
55.63 -	55.80	100	100% SANDSTONE: COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
55.80 -	55.85	100	100% SANDSTONE, FINE GRAINED: MUDSTONE LAMINAE, GREY, WEAK ROCK,WITH CROSS LAMINATION.
55.85 -	57.68	100	100% SANDSTONE: COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.

BOREHOLE LITHOLOGICAL LOG

182056

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
			BASAL CONTACT DIPPING AT 20 DEG. LARGE SILTSTONE LENSE NEAR BASE
57.68 -	57.83	100	100% SILTSTONE: GREY, WEAK ROCK,VERY THIN BEDDING, BEDS DIP 20 DEG..WITH CROSS LAMINATION. LARGE SANDSTONE LENSE NEAR BASE
57.83 -	57.95	100	100% SANDSTONE, COARSE GRAINED: MUDSTONE LENSES, LIGHT GREY, MODERATELY WEAK ROCK. BASAL CONTACT DIPPING AT 20 DEG.
57.95 -	58.00	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING, BEDS DIP 20 DEG.. WITH NUMEROUS COAL AND MUDSTONE LENSES
58.00 -	59.10	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING, BEDS DIP 20 DEG..
59.10 -	64.80	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY STRONG ROCK,MODERATELY THIN BEDDING, BEDS DIP 20 DEG.. WITH OCCASIONAL MUDSTONE AND CARBONACEOUS FRAGMENTS ON BEDDING PLANES
64.80 -	64.92	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK. WITH NUMEROUS CARBONACEOUS FRAGMENTS AND MUDSTONE PEBBLES
64.92 -	65.10	0	CORE LOSS.
65.10 -	65.22	80	100% SANDSTONE. COARSE GRAINED: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK. WITH NUMEROUS CARBONACEOUS FRAGMENTS AND MUDSTONE PEBBLES
65.22 -	65.36	100	100% SANDSTONE, MEDIUM GRAINED: MUDSTONE BANDS, LIGHT GREY, WEAK ROCK,WITH CROSS LAMINATION.

BOREHOLE LITHOLOGICAL LOG

182057

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
65.36 -	65.62	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK. WITH NUMEROUS MUDSTONE PEBBLES AND COAL LENSES
65.62 -	65.66	100	100% SANDSTONE. MEDIUM GRAINED: MUDSTONE LAMINAE. LIGHT GREY. WEAK ROCK.VERY THIN BEDDING.WITH CROSS LAMINATION.
65.66 -	65.81	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK. WITH NUMEROUS MUDSTONE PEBBLES AND COAL LENSES
65.81 -	66.13	100	100% SANDSTONE. MEDIUM GRAINED: COALY LENSES. LIGHT GREY. WEAK ROCK.
66.13 -	66.17	100	100% SANDSTONE: VERY FINE GRAINED. GREY. WEAK ROCK.
66.17 -	66.20	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.
66.20 -	66.35	100	100% SANDSTONE. FINE GRAINED: GREY. MODERATELY WEAK ROCK.
66.35 -	66.60	100	100% SILTSTONE: GREY. WEAK ROCK.
66.60 -	66.63	100	100% SANDSTONE. MEDIUM GRAINED: MUDSTONE LAMINAE. LIGHT GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.WITH CROSS LAMINATION.
66.63 -	67.09	100	100% SANDSTONE. MEDIUM GRAINED: COALY BANDS. LIGHT GREY. MODERATELY WEAK ROCK.
67.09 -	67.34	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY STRONG ROCK. WITH NUMEROUS MUDSTONE PEBBLES AND COAL LENSES. TRUNCATED UPPER CONTACT
67.34 -	68.31	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY STRONG ROCK.
68.31 -	68.53	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY STRONG ROCK. WITH ABUNDANT COAL STREAKS AND LENSES

BOREHOLE LITHOLOGICAL LOG

182058

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
68.53 -	68.83	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY STRONG ROCK. WITH ABUNDANT COAL STREAKS AND LENSES AND MUDSTONE PEBBLES
68.83 -	69.05	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK. WITH ABUNDANT MUDSTONE PEBBLES IN BASAL 3 CM
69.05 -	69.10	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.WITH CROSS LAMINATION.
69.10 -	69.54	100	100% SANDSTONE, COARSE GRAINED: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
69.54 -	69.65	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
69.65 -	70.15	80	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.
70.15 -	70.17	100	100% MUDSTONE: CARBONACEOUS STREAKS, BROWN, STIFF.
70.17 -	70.30	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.
70.30 -	70.37	100	100% MUDSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, VERY WEAK ROCK.
70.37 -	70.42	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.
70.42 -	70.66	100	100% MUDSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, FIRM.
70.66 -	70.77	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.
70.77 -	70.88	100	100% MUDSTONE: CARBONACEOUS STREAKS, BUFF, FIRM.
70.88 -	71.05	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.
71.05 -	71.10	0	CORE LOSS.
71.10 -	71.14	100	100% MUDSTONE: CARBONACEOUS BANDS, LIGHT BROWN, FIRM.

BOREHOLE LITHOLOGICAL LOG

182059

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
71.14 -	71.60	100	100% MUDSTONE: CARBONACEOUS STREAKS, GREY-GREEN, STIFF.
71.60 -	71.63	100	100% MUDSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, VERY WEAK ROCK.
71.63 -	71.90	80	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
71.90 -	72.00	0	CORE LOSS.
72.00 -	72.03	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
72.03 -	72.08	100	100% MUDSTONE: DARK GREY, WEAK ROCK,WITH FLAME/PULL-OVER STRUCTS.
72.08 -	72.26	100	100% MUDSTONE: GREY, WEAK ROCK. WITH NUMEROUS MUDSTONE AND CARBONACEOUS FRAGMENTS AT TOP AND BASE, BASAL CONTACT RIPPLED AND DIPPING AT 20 DEG.
72.26 -	72.38	100	100% MUDSTONE: CARBONACEOUS STREAKS, GREY, WEAK ROCK,WITH RIPPLES AND LOAD CASTS.
72.38 -	72.82	100	100% SILTSTONE: COALY LENSES, GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
72.82 -	73.27	100	70% SANDSTONE: FINE GRAINED, LIGHT GREY, 30% SILTSTONE: GREY, WEAK ROCK,THIN BEDDING.
73.27 -	74.10	100	100% SILTSTONE: GREY, WEAK ROCK.
74.10 -	75.16	100	100% SILTSTONE: SANDSTONE BANDS, GREY, WEAK ROCK,VERY THIN BEDDING,WITH CARBONACEOUS WHISPS.
75.16 -	75.29	100	100% MUDSTONE: DARK GREY, VERY WEAK ROCK,WITH CARBONACEOUS WHISPS.
75.29 -	75.31	100	100% MUDSTONE: CARBONACEOUS, BLACK, WEAK ROCK.
75.31 -	75.33	100	100% MUDSTONE: DARK GREY, SOFT.
75.33 -	75.39	100	100% MUDSTONE: CARBONACEOUS STREAKS, CREAM, SOFT.
75.39 -	75.60	80	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 1

182060

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
75.60 -	75.69	100	100% CARBONACEOUS SHALE: MUDSTONE LENSES.
75.69 -	75.93	100	100% MUDSTONE: DARK GREY, WEAK ROCK.
75.93 -	76.03	100	100% MUDSTONE: CARBONACEOUS STREAKS, BROWN, FIRM.
76.03 -	76.12	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK. JOINT WITH SLICKENSIDES AT BASE
76.12 -	77.02	100	100% SANDSTONE: VERY FINE GRAINED, GREY, WEAK ROCK.
77.02 -	77.36	100	100% SANDSTONE, COARSE GRAINED: CARBONACEOUS BANDS, LIGHT GREY, WEAK ROCK.
77.36 -	77.51	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS LAMINAE, WEAK ROCK.WITH CROSS LAMINATION.
77.51 -	78.66	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, WEAK ROCK.
78.66 -	80.10	100	100% SILTSTONE: GREY, WEAK ROCK.
80.10 -	80.22	100	100% MUDSTONE: LIGHT GREY, VERY WEAK ROCK.
80.22 -	81.72	100	100% SILTSTONE: GREY, WEAK ROCK.
81.72 -	81.83	100	100% SANDSTONE, COARSE GRAINED: GREY-BROWN, MODERATELY WEAK ROCK.WITH FLAME/PULL-OVER STRUCTS. WITH ABUNDANT MUDSTONE AND CARBONACEOUS FRAGMENTS
81.83 -	82.26	100	50% SILTSTONE: GREY. 50% SANDSTONE, FINE GRAINED: GREY, WEAK ROCK.VERY THIN BEDDING.WITH CROSS LAMINATION.
82.26 -	82.72	100	100% SILTSTONE: GREY, WEAK ROCK.
82.72 -	82.82	100	100% SANDSTONE, FINE GRAINED: SILTSTONE BANDS, GREY, WEAK ROCK.
82.82 -	82.96	100	100% MUDSTONE: SILTSTONE, DARK GREY, WEAK ROCK.
82.96 -	83.05	100	80% SILTSTONE: GREY. 20% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, WEAK ROCK.VERY THIN BEDDING.WITH CROSS LAMINATION.
83.05 -	83.10	100	100% SANDSTONE, FINE GRAINED: GREY, WEAK ROCK. WITH COARSE SANDSTONE LENSES AND ABUNDANT MUDSTONE FRAGMENTS

BOREHOLE LITHOLOGICAL LOG

182061

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
83.10 -	83.15	100	100% SANDSTONE, MEDIUM GRAINED: DARK GREY, WEAK ROCK.
			WITH NUMEROUS COAL AND MUDSTONE FRAGMENTS
83.15 -	83.23	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS, DARK GREY, WEAK ROCK.
			WITH COARSE SANDSTONE LENSES
83.23 -	83.36	100	100% SILTSTONE: GREY-BROWN, MODERATELY WEAK ROCK.
			WITH ABUNDANT MUDSTONE PEBBLES AND FRAGMENTS
83.36 -	83.82	100	100% SILTSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.
			WITH NUMEROUS CARBONACEOUS AND MUDSTONE FRAGMENTS
83.82 -	83.88	100	100% MUDSTONE: LIGHT BROWN, VERY WEAK ROCK.
83.88 -	83.91	100	100% MUDSTONE: LIGHT BROWN, SOFT.
83.91 -	83.99	100	100% MUDSTONE: LIGHT BROWN, VERY WEAK ROCK.
83.99 -	84.02	100	100% MUDSTONE: BROWN, VERY WEAK ROCK.
84.02 -	84.15	100	100% CLAYSTONE: LIGHT BROWN, FIRM.
84.15 -	84.18	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
84.18 -	84.60	100	100% SILTSTONE: GREY-GREEN, WEAK ROCK,MODERATELY WIDE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
84.60 -	85.00	100	100% SILTSTONE: MUDSTONE BANDS, GREY-GREEN, WEAK ROCK,MODERATELY CLOSE JOINT SPACING ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES.
85.00 -	85.95	100	100% CLAYSTONE: GREY-GREEN, FIRM.
85.95 -	86.45	100	100% SILTSTONE: COALY, FRIABLE, GREY-GREEN, MODERATELY WEAK ROCK,MODERATELY CLOSE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
86.45 -	86.65	100	100% SANDSTONE, MEDIUM GRAINED: GREY, WEAK ROCK.
86.65 -	86.76	100	100% SANDSTONE, FINE GRAINED: GREY-GREEN, WEAK ROCK.
86.76 -	86.94	100	100% SANDSTONE, FINE GRAINED: MUDSTONE BANDS, GREY-GREEN, WEAK ROCK.
86.94 -	87.02	100	100% MUDSTONE: GREY-GREEN, WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182062

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
87.02 -	87.10	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
87.10 -	87.15	100	100% MUDSTONE: GREY, WEAK ROCK.
87.15 -	87.20	100	100% SILTSTONE: SANDSTONE LENSES, BROWN, WEAK ROCK.
87.20 -	87.30	100	50% SANDSTONE, MEDIUM GRAINED: SILTSTONE, FRIABLE, LIGHT GREY, 50% SILTSTONE: GREY, WEAK ROCK. INTERFINGURING OF SANDSTONE WITH SILTSTONE
87.30 -	89.10	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,THIN BEDDING, BEDS DIP 10 DEG..
89.10 -	89.85	100	100% SANDSTONE, MEDIUM GRAINED: MUDSTONE LENSES, LIGHT GREY, MODERATELY WEAK ROCK,THIN BEDDING, BEDS DIP 10 DEG..,WITH CROSS LAMINATION AND CARBONACEOUS WHISPS.
89.85 -	94.94	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY STRONG ROCK,THIN BEDDING, BEDS DIP 10 DEG..,VERY WIDE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES ,INFILLED WITH CALCITE.
94.94 -	95.17	100	100% CLAYSTONE: COALY LENSES, GREY-GREEN, STIFF.
95.17 -	95.59	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY STRONG ROCK.
95.59 -	96.60	100	100% SANDSTONE, COARSE GRAINED: GREY, MODERATELY STRONG ROCK. WITH ABUNDANT COAL LENSES AND MUDSTONE FRAGMENTS
96.60 -	96.86	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, GREY, MODERATELY WEAK ROCK.
96.86 -	96.94	100	100% SANDSTONE, COARSE GRAINED: CARBONACEOUS LENSES, LIGHT GREY, MODERATELY STRONG ROCK.
96.94 -	97.10	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, GREY, MODERATELY WEAK ROCK.
97.10 -	97.21	100	100% SANDSTONE, COARSE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182063

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
97.21 -	97.31	100	100% SANDSTONE: MED.TO FINE GRAINED, GREY, MODERATELY WEAK ROCK.
97.31 -	97.45	100	100% SANDSTONE, COARSE GRAINED: MUDSTONE LENSES, LIGHT GREY, MODERATELY STRONG ROCK.
97.45 -	97.55	100	100% SANDSTONE, COARSE GRAINED: MUDSTONE BANDS, GREY, MODERATELY STRONG ROCK.
97.55 -	97.65	100	100% SANDSTONE, COARSE GRAINED: MUDSTONE LENSES, GREY, MODERATELY STRONG ROCK.
97.65 -	97.75	100	100% SANDSTONE: MED.-COARSE GRAINED, GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING. BEDS DIP 0 DEG..
97.75 -	98.85	100	100% SANDSTONE, COARSE GRAINED: SILTSTONE LAMINAE, LIGHT GREY, MODERATELY STRONG ROCK. WITH CARBONACEOUS AND MUDSTONE FRAGMENTS
98.85 -	99.30	100	100% SANDSTONE: MED.TO FINE GRAINED, GREY, MODERATELY STRONG ROCK,MODERATELY CLOSE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
99.30 -	99.55	100	100% SILTSTONE: GREY, MODERATELY STRONG ROCK,MODERATELY CLOSE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
99.55 -	101.10	100	100% SILTSTONE: GREY, MODERATELY STRONG ROCK,MODERATELY WIDE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES. SOME JOINTS INFILLED WITH CALCITE
101.10 -	101.60	100	100% DOLERITE: VERY FINE GRAINED, DARK GREY, MODERATELY STRONG ROCK,MODERATELY CLOSE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.

BOREHOLE LITHOLOGICAL LOG

182064

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
101.60	103.00	100	100% DOLERITE: MED.TO FINE GRAINED. DARK GREY. MODERATELY STRONG ROCK.MODERATELY CLOSE JOINT SPACING .TIGHT PLANAR.ROUGH DISCONTINUITIES .INFILLED WITH CALCITE.
103.00	103.50	90	100% DOLERITE: VERY FINE GRAINED. GREY. MODERATELY STRONG ROCK.MODERATELY CLOSE JOINT SPACING .TIGHT NON-PLANAR DISCONTINUITIES.
103.50	104.35	80	100% MUDSTONE: LIGHT GREY. MODERATELY WEAK ROCK. CONTAINS COAL BAND WITH NUMEROUS JOINTS INFILLED WITH CALC-ITE.COAL APPEARS BURNT. SURROUNDING MUDSTONE HAS PURPLE TINT
104.35	105.26	100	100% SILTSTONE: LIGHT GREY. MODERATELY STRONG ROCK.WIDE JOINT SPACING .TIGHT PLANAR.ROUGH DISCONTINUITIES .INFILLED WITH CALCITE. IRREGULAR STEEPLY ANGLED BASAL CONTACT
105.26	106.00	70	100% COAL: BURNT. FINE CALCITE FILLED JOINTS IN TOP 3 CM.
106.00	108.00	0	CORE LOSS.
108.00	108.20	80	100% CARBONACEOUS SHALE:.
108.20	110.00	100	100% SILTSTONE: GREY. WEAK ROCK.MODERATELY CLOSE JOINT SPACING .TIGHT.PLANAR.SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
110.00	112.28	100	100% SILTSTONE: GREY. WEAK ROCK.VERY THIN BEDDING.WITH CARBONACEOUS WHISPS.
112.28	113.04	100	100% MUDSTONE: SANDSTONE BANDS. BLACK. WEAK ROCK.VERY THIN BEDDING. BEDS DIP 10 DEG..
113.04	113.10	100	100% CARBONACEOUS SHALE:.
113.10	113.23	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. WEAK ROCK.
113.23	113.67	100	100% SILTSTONE: GREY. WEAK ROCK.
113.67	113.91	100	100% MUDSTONE: DARK GREY. WEAK ROCK.MODERATELY CLOSE JOINT SPACING .TIGHT.PLANAR.SMOOTH DISCONTINUITIES WITH SLICKENSIDES.

BOREHOLE LITHOLOGICAL LOG

182065

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
113.91	114.10	100	100% MUDSTONE: GREY-GREEN, WEAK ROCK.
114.10	114.20	100	100% CLAYSTONE: GREY-GREEN, STIFF.
114.20	114.30	100	100% SILTSTONE: GREY-GREEN, VERY WEAK ROCK.
114.30	114.45	100	100% MUDSTONE: GREY, VERY WEAK ROCK,CLOSE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES WITH SLICKENSIDES.
114.45	114.62	100	100% MUDSTONE: GREY-BROWN, VERY WEAK ROCK.
114.62	114.74	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.
114.74	114.77	100	100% CARBONACEOUS SHALE:.
114.77	114.82	100	100% MUDSTONE: CARBONACEOUS STREAKS, BROWN, VERY WEAK ROCK.
114.82	114.85	100	100% COAL, HEAVY DULL:.
114.85	114.97	100	100% MUDSTONE: CARBONACEOUS STREAKS, BROWN, VERY WEAK ROCK.
114.97	115.05	100	100% CARBONACEOUS SHALE:.
115.05	115.22	100	100% MUDSTONE: GREY, WEAK ROCK.
115.22	115.31	100	100% CARBONACEOUS SHALE: MUDSTONE BANDS.
115.31	115.35	100	100% MUDSTONE: CARBONACEOUS, GREY-BROWN, WEAK ROCK.
115.35	115.36	100	100% COAL, HEAVY DULL: BRIGHT COAL, CONCRETIONS.
115.36	115.43	100	100% MUDSTONE: COALY LENSES, DARK GREY, VERY WEAK ROCK.
115.43	115.46	100	60% SANDSTONE: FINE GRAINED, LIGHT GREY, 40% MUDSTONE: GREY, MODERATELY WEAK ROCK,THIN BEDDING,WITH CROSS LAMINATION.
115.46	115.57	100	100% MUDSTONE: SANDSTONE BANDS, GREY, WEAK ROCK.
115.57	115.59	100	100% MUDSTONE: LIGHT BROWN, STIFF,CLOSE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES WITH SLICKENSIDES.
115.59	115.68	100	100% MUDSTONE: DARK GREY, WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182066

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
115.68	115.90	100	60% SANDSTONE: FINE GRAINED, LIGHT GREY. 40% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.THIN BEDDING,WITH CROSS LAMINATION.
115.90	116.02	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
116.02	116.26	100	100% SANDSTONE: VERY FINE GRAINED, GREY, MODERATELY WEAK ROCK,WITH FLAME/PULL-OVER STRUCTS. WITH LARGE MEDIUM GRAINED SANDSTONE LENSES
116.26	119.35	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
119.35	120.40	100	100% SANDSTONE, COARSE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY STRONG ROCK.
120.40	121.00	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK.
121.00	121.90	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY STRONG ROCK. WITH NUMEROUS CARBONACEOUS LENSES AND MUDSTONE FRAGMENTS
121.90	127.36	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK,WITH CARBONACEOUS WHISPS.
127.36	128.66	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY STRONG ROCK.
128.66	128.72	100	100% MUDSTONE: GREY, WEAK ROCK.
128.72	128.78	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK. WITH ABUNDANT MUDSTONE PEBBLES
128.78	129.38	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS AND CROSS LAMINATION.
129.38	130.20	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK. WITH NUMEROUS COALY FRAGMENTS AND LENSES

BOREHOLE LITHOLOGICAL LOG

182067

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
130.20	130.35	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK. WITH ABUNDANT COALY LENSES
130.35	130.49	100	100% COAL, DULL:.
130.49	130.57	100	100% MUDSTONE: LIGHT BROWN, STIFF.
130.57	130.82	100	100% CARBONACEOUS SHALE:.
130.82	130.83	100	100% SANDSTONE, FINE GRAINED: GREY, MODERATELY WEAK ROCK.
130.83	130.87	100	100% CARBONACEOUS SHALE:.
130.87	130.88	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
130.88	130.90	100	100% CARBONACEOUS SHALE: MUDSTONE, FRIABLE.
130.90	130.92	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
130.92	131.00	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
131.00	131.07	100	100% COAL, HEAVY DULL:.
131.07	131.10	100	100% MUDSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, MODERATELY WEAK ROCK.
131.10	131.13	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
131.13	131.19	100	100% CARBONACEOUS SHALE:.
131.19	131.21	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
131.21	131.31	100	100% CARBONACEOUS SHALE:.
131.31	131.43	100	100% MUDSTONE: BRIGHT COAL STREAKS, BLACK, STRONG ROCK.
131.43	131.47	100	100% COAL, HEAVY DULL:.
131.47	131.50	100	100% MUDSTONE: LIGHT BROWN.
131.50	131.70	100	100% MUDSTONE: CARBONACEOUS, BLACK, STRONG ROCK.
131.70	131.84	100	100% CARBONACEOUS SHALE:.
131.84	131.85	100	100% MUDSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.
131.85	131.91	100	100% MUDSTONE: DARK GREY, MODERATELY WEAK ROCK.
131.91	131.95	100	100% COAL, HEAVY DULL: MUDSTONE BANDS.

BOREHOLE LITHOLOGICAL LOG

182068

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
131.95	131.97	100	100% MUDSTONE: CARBONACEOUS BANDS, LIGHT BROWN, MODERATELY WEAK ROCK.
131.97	132.00	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
132.00	132.04	100	100% CARBONACEOUS SHALE: BRIGHT COAL LENSES.
132.04	132.08	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
132.08	132.10	100	100% CARBONACEOUS SHALE:.
132.10	132.14	100	100% CARBONACEOUS SHALE: BRIGHT COAL LENSES.
132.14	132.18	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
132.18	132.21	100	100% CARBONACEOUS SHALE:.
132.21	132.22	100	100% MUDSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.
132.22	132.34	100	100% MUDSTONE: CARBONACEOUS, BLACK, STRONG ROCK.
132.34	132.39	100	100% MUDSTONE: CARBONACEOUS STREAKS, BROWN, MODERATELY WEAK ROCK.
132.39	132.78	100	100% MUDSTONE: CARBONACEOUS, BLACK, STRONG ROCK.
132.78	133.03	100	100% MUDSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.
133.03	133.21	100	100% MUDSTONE: CARBONACEOUS, BLACK, STRONG ROCK.
133.21	133.23	100	100% MUDSTONE: CARBONACEOUS STREAKS, BROWN, MODERATELY WEAK ROCK.
133.23	133.26	100	100% MUDSTONE: CARBONACEOUS, BLACK, STRONG ROCK.
133.26	133.27	100	100% COAL, DULL:.
133.27	133.29	100	100% MUDSTONE: CARBONACEOUS.
133.29	133.30	100	100% COAL, BRIGHT:.
133.30	133.41	100	100% COAL, HEAVY DULL:.
133.41	133.42	100	100% MUDSTONE: CARBONACEOUS.
133.42	133.47	100	100% SILTSTONE: CARBONACEOUS STREAKS, LIGHT GREY.
133.47	133.64	100	100% MUDSTONE: CARBONACEOUS. BLACK,MODERATELY CLOSE JOINT SPACING. JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
133.64	133.76	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
133.76	133.80	100	100% MUDSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, MODERATELY WEAK ROCK.
133.80	133.81	100	100% MUDSTONE: CARBONACEOUS, BLACK.

BOREHOLE LITHOLOGICAL LOG

182069

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
133.81	133.82	100	100% MUDSTONE: CARBONACEOUS STREAKS, GREY-BROWN, MODERATELY STRONG ROCK.
133.82	133.86	100	100% MUDSTONE: CARBONACEOUS, BLACK.
133.86	133.96	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
133.96	133.97	100	100% COAL, BRIGHT:.
133.97	134.00	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
134.00	134.06	100	100% MUDSTONE: DARK BROWN, STRONG ROCK.
134.06	134.07	100	100% MUDSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.
134.07	134.15	100	100% MUDSTONE: CARBONACEOUS, DARK GREY.
134.15	134.25	100	50% CARBONACEOUS SHALE: 50% COAL, BRIGHT:,VERY THIN BEDDING.
134.25	134.52	100	100% MUDSTONE: COALY LENSES, DARK GREY, WEAK ROCK.
134.52	135.21	100	100% MUDSTONE: GREY, WEAK ROCK,VERY THIN BEDDING,WITH CROSS LAMINATION,MODERATELY WIDE JOINT SPACING ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
135.21	135.95	100	100% SANDSTONE, MEDIUM GRAINED: MUDSTONE LENSES, LIGHT GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION AND CARBONACEOUS WHISPS.
135.95	136.08	100	50% SANDSTONE, FINE GRAINED: LIGHT GREY, 50% SILTSTONE: GREY, MODERATELY WEAK ROCK,THIN BEDDING,WITH CROSS LAMINATION.
136.08	140.96	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH CROSS LAMINATION AND CARBONACEOUS WHISPS.
140.96	141.06	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
141.06	141.68	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
141.68	142.05	100	100% SANDSTONE: VERY COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION.

BOREHOLE LITHOLOGICAL LOG

182070

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
142.05	142.50	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
142.50	143.14	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
143.14	143.58	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK. WITH NUMEROUS CARBONACEOUS LENSES
143.58	144.92	100	100% SANDSTONE: VERY COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK. WITH NUMEROUS CARBONACEOUS LENSES
144.92	144.99	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
144.99	145.54	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK. WITH NUMEROUS CARBONACEOUS LENSES AND MUDSTONE FRAGMENTS
145.54	145.65	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS, BLACK, WEAK ROCK.
145.65	145.70	100	100% SANDSTONE, COARSE GRAINED: CARBONACEOUS LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
145.70	145.90	100	100% MUDSTONE: DARK GREY, WEAK ROCK,MODERATELY CLOSE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
145.90	146.18	100	100% SANDSTONE, COARSE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
146.18	147.76	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
147.76	147.81	100	100% SANDSTONE, MEDIUM GRAINED: DARK GREY, WEAK ROCK.
147.81	148.32	100	100% SANDSTONE: VERY COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
148.32	148.43	100	100% SANDSTONE, COARSE GRAINED: DARK GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182071

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
148.43	149.01	100	100% SANDSTONE: MED.-COARSE GRAINED, GREY, MODERATELY WEAK ROCK.
149.01	149.07	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK. WITH ABUNDANT MUDSTONE PEBBLES
149.07	149.11	100	100% SANDSTONE, MEDIUM GRAINED: GREY, MODERATELY WEAK ROCK.
149.11	149.40	100	100% SANDSTONE: VERY COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK. WITH ABUNDANT MUDSTONE PEBBLES
149.40	149.44	100	100% MUDSTONE: GREY, WEAK ROCK.
149.44	149.57	100	100% SANDSTONE: VERY COARSE GRAINED, GREY, MODERATELY WEAK ROCK.
149.57	149.65	100	100% SANDSTONE: MED.TO FINE GRAINED, GREY, MODERATELY WEAK ROCK.WITH CROSS LAMINATION AND GRADED BEDDING.
149.65	149.84	100	100% SANDSTONE: VERY COARSE GRAINED, GREY, MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.
149.84	149.87	100	100% SANDSTONE, FINE GRAINED: GREY, WEAK ROCK.
149.87	150.49	100	100% SANDSTONE: VERY COARSE GRAINED, GREY, MODERATELY WEAK ROCK.
150.49	150.70	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, GREY, WEAK ROCK.
150.70	151.15	100	100% SANDSTONE: VERY COARSE GRAINED, GREY, MODERATELY WEAK ROCK. WITH ABUNDANT MUDSTONE PEBBLES AND COAL LENSES
151.15	154.25	100	100% SANDSTONE: VERY COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
154.25	154.35	100	100% SANDSTONE, COARSE GRAINED: CARBONACEOUS LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
154.35	154.43	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182072

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
154.43	158.74	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.
158.74	159.00	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS STREAKS. LIGHT GREY. MODERATELY WEAK ROCK.
159.00	159.06	100	100% MUDSTONE: GREY-BROWN. VERY WEAK ROCK.CLOSE JOINT SPACING .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
159.06	159.09	100	100% SANDSTONE: VERY COARSE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK. WITH MUDSTONE AND CARBONACEOUS FRAGMENTS
159.09	159.25	100	100% MUDSTONE: GREY. VERY STRONG ROCK. SILICIFIED
159.25	159.61	100	100% SANDSTONE. MEDIUM GRAINED: BROWN. MODERATELY WEAK ROCK.
159.61	164.25	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY STRONG ROCK.
164.25	167.16	100	100% SANDSTONE: MED.-COARSE GRAINED. LIGHT GREY. MODERATELY STRONG ROCK.
167.16	167.56	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY STRONG ROCK. WITH NUMEROUS MUDSTONE PEBBLES
167.56	167.91	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY STRONG ROCK.
167.91	169.85	100	100% SANDSTONE: MED.-COARSE GRAINED. LIGHT GREY. MODERATELY STRONG ROCK.
169.85	171.76	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY STRONG ROCK.
171.76	172.61	100	100% SANDSTONE: MED.-COARSE GRAINED. LIGHT GREY. MODERATELY STRONG ROCK.
172.61	172.76	100	100% SANDSTONE. COARSE GRAINED: CARBONACEOUS LENSES. GREY-BROWN. MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182073

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
172.76 -	173.29	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY STRONG ROCK.
173.29 -	173.34	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.WITH FLAME/PULL-OVER STRUCTS.
173.34 -	173.55	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY STRONG ROCK.
173.55 -	173.62	100	100% CARBONACEOUS SHALE:.
173.62 -	176.70	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY STRONG ROCK.
176.70 -	177.24	100	100% SANDSTONE: VERY COARSE GRAINED. LIGHT GREY. STRONG ROCK.
177.24 -	178.33	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY STRONG ROCK.VERY WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES .INFILLED WITH CALCITE.
178.33 -	178.80	100	100% SANDSTONE. COARSE GRAINED: CARBONACEOUS LENSES. LIGHT GREY. MODERATELY STRONG ROCK.
178.80 -	179.11	100	100% SANDSTONE: VERY COARSE GRAINED. LIGHT GREY. STRONG ROCK.
179.11 -	179.34	100	100% SANDSTONE: VERY COARSE GRAINED. LIGHT GREY. STRONG ROCK. WITH ABUNDANT MUDSTONE PEBBLES
179.34 -	179.68	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. STRONG ROCK.
179.68 -	182.00	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. STRONG ROCK. WITH NUMEROUS COAL LENSES AND MUDSTONE FRAGMENTS
182.00 -	18.22	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. STRONG ROCK. WITH NUMEROUS MUDSTONE PEBBLES AND CARBONACEOUS LENSES

BOREHOLE LITHOLOGICAL LOG

182074

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
182.24	182.34	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. STRONG ROCK.
182.34	182.79	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. STRONG ROCK. WITH ABUNDANT CARBONACEOUS LENSES
182.79	183.09	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. STRONG ROCK.
183.09	183.22	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. STRONG ROCK. WITH NUMEROUS CARBONACEOUS LENSES
183.22	183.34	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. STRONG ROCK.
183.34	183.90	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. STRONG ROCK. WITH NUMEROUS CARBONACEOUS LENSES
183.90	185.54	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. STRONG ROCK.
185.54	185.70	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. STRONG ROCK. WITH LARGE MUDSTONE LENSES
185.70	187.70	100	100% SANDSTONE: MED.-COARSE GRAINED. LIGHT GREY. MODERATELY STRONG ROCK.
187.70	190.96	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. STRONG ROCK. VERY COARSE GRAINED IN PART
190.96	191.00	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
191.00	191.01	100	100% COAL. HEAVY DULL:.
191.01	191.25	100	100% CARBONACEOUS SHALE:.
191.25	191.35	100	100% MUDSTONE: DARK GREY. WEAK ROCK.
191.35	192.28	100	100% MUDSTONE: GREY. WEAK ROCK.THIN BEDDING.
192.28	192.42	100	100% MUDSTONE: DARK GREY. WEAK ROCK.
192.42	192.43	100	100% CARBONACEOUS SHALE:.

BOREHOLE LITHOLOGICAL LOG

182075

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
192.43	192.46	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. VERY STRONG ROCK.
192.46	192.54	100	100% COAL. HEAVY DULL:.
192.54	192.70	100	100% MUDSTONE: CARBONACEOUS. DARK GREY. VERY STRONG ROCK.
192.70	192.78	100	100% COAL. DULL:.
192.78	192.92	100	100% MUDSTONE: CARBONACEOUS. BLACK. VERY STRONG ROCK.
192.92	193.19	100	100% COAL. HEAVY DULL:.
193.19	193.27	100	100% MUDSTONE: CARBONACEOUS. BLACK. VERY STRONG ROCK.
193.27	194.09	100	100% MUDSTONE: GREY. WEAK ROCK.
194.09	194.92	100	50% MUDSTONE: GREY. 50% SANDSTONE. FINE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.THIN BEDDING.WITH CROSS LAMINATION.
194.92	195.56	100	100% SANDSTONE: MED.TO FINE GRAINED. LIGHT GREY. MODERATELY STRONG ROCK.THIN BEDDING.WITH CROSS LAMINATION.
195.56	196.10	100	100% SANDSTONE. MEDIUM GRAINED: MUDSTONE LENSES. LIGHT GREY. MODERATELY STRONG ROCK.THIN BEDDING.WITH CROSS LAMINATION.
196.10	196.60	100	50% SANDSTONE. FINE GRAINED: LIGHT GREY. 50% MUDSTONE: GREY. MODERATELY WEAK ROCK.THIN BEDDING.WITH CROSS LAMINATION.
196.60	196.90	100	100% SANDSTONE. MEDIUM GRAINED: MUDSTONE LENSES. LIGHT GREY. MODERATELY STRONG ROCK.WITH CROSS LAMINATION.
196.90	197.09	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.
197.09	197.18	100	50% SILTSTONE: GREY. 50% SANDSTONE. FINE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.WITH CROSS LAMINATION.

BOREHOLE LITHOLOGICAL LOG

182076

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
197.18	197.56	100	100% SILTSTONE: SANDSTONE LENSES, GREY, MODERATELY WEAK ROCK.
197.56	197.91	100	50% SANDSTONE, FINE GRAINED: LIGHT GREY. 50% SILTSTONE: GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH CROSS LAMINATION.
197.91	199.29	100	100% SANDSTONE: MUDSTONE LENSES, LIGHT GREY, MODERATELY STRONG ROCK,WITH CROSS LAMINATION. GRADING FROM FINE TO COARSE GRAINED
199.29	199.54	100	100% SILTSTONE: GREY, WEAK ROCK.
199.54	199.68	100	100% SILTSTONE: SANDSTONE LENSES, GREY, WEAK ROCK.
199.68	199.78	100	50% SILTSTONE: GREY, 50% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,THIN BEDDING,WITH CROSS LAMINATION.
199.78	200.80	100	80% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS LENSES, LIGHT GREY, 20% SILTSTONE: GREY, MODERATELY WEAK ROCK,THIN BEDDING,WITH CROSS LAMINATION.
200.80	200.95	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
200.95	201.05	100	100% SILTSTONE: SANDSTONE LENSES, GREY, MODERATELY WEAK ROCK.
201.05	201.13	100	100% SANDSTONE, FINE GRAINED: SILTSTONE LENSES, LIGHT GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION.
201.13	201.42	100	100% SILTSTONE: SANDSTONE LENSES, GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION.
201.42	201.48	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
201.48	201.57	100	50% SILTSTONE: GREY, 50% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,THIN BEDDING,WITH CROSS LAMINATION.
201.57	201.63	100	100% SANDSTONE, MEDIUM GRAINED: SILTSTONE LENSES, LIGHT GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION.

BOREHOLE LITHOLOGICAL LOG

182077

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
201.63 -	201.78	100	50% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY. 50% SILTSTONE: GREY, MODERATELY WEAK ROCK.THIN BEDDING.WITH CROSS LAMINATION.
201.78 -	201.93	100	100% SILTSTONE: SANDSTONE LENSES, GREY, MODERATELY WEAK ROCK.WITH CROSS LAMINATION.
201.93 -	203.15	100	50% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS LENSES, LIGHT GREY, 50% SILTSTONE: GREY, MODERATELY WEAK ROCK.THIN BEDDING.WITH CROSS LAMINATION.
203.15 -	203.30	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
203.30 -	203.51	100	70% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS LENSES, LIGHT GREY, 30% SILTSTONE: GREY, MODERATELY WEAK ROCK.THIN BEDDING.WITH CROSS LAMINATION.
203.51 -	203.76	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
203.76 -	204.20	100	80% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, 20% SILTSTONE: GREY, MODERATELY WEAK ROCK.VERY THIN BEDDING.WITH CROSS LAMINATION.
204.20 -	205.10	0	CORE LOSS. LITTLE RECOVERY - PEBBLES OF GREY SILTSTONE, DARK GREY AND DARK BROWN MUDSTONES, AND SOFT, BUFF COLOURED CLAYSTONE
205.10 -	205.30	0	CORE LOSS.
SAMPLE:1			*** CORE DESCRIPTION ***
205.30			
	0.04	100	100% COAL, DULL:.
	0.03	100	100% MUDSTONE: CARBONACEOUS, BROWN, MODERATELY WEAK ROCK.
	0.06	100	100% COAL, HEAVY DULL:, ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
	0.10	100	100% COAL, DULL:.
	0.34	100	100% COAL, HEAVY DULL:.

BOREHOLE LITHOLOGICAL LOG

182078

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
SAMPLE:1			*** CORE DESCRIPTION ***
	0.20	100	100% COAL, DULL:.
	0.27	100	100% COAL, HEAVY DULL:.
	0.02	100	100% COAL, BRIGHT:,VERY CLOSE JOINT SPACING ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH CALCITE.
	0.41	100	100% COAL, HEAVY DULL: BRIGHT COAL BANDS.
	0.21	100	100% COAL, DULL:.
206.98	1.68		TOTAL
SAMPLE:2			*** CORE DESCRIPTION ***
206.98			
	0.10	100	100% MUDSTONE: CARBONACEOUS, BLACK, STRONG ROCK.
	0.04	100	100% MUDSTONE: CARBONACEOUS, DARK GREY.
207.12	0.14		TOTAL
			*** CORE DESCRIPTION ***
207.12 - 207.24		100	100% MUDSTONE: DARK BROWN, WEAK ROCK.
207.24 - 207.39		100	100% SILTSTONE: BROWN, WEAK ROCK.
207.39 - 207.64		100	100% SANDSTONE, FINE GRAINED: BROWN, MODERATELY WEAK ROCK.
207.64 - 208.22		100	100% SANDSTONE, FINE GRAINED: GREY-BROWN, MODERATELY WEAK ROCK.
208.22 - 209.14		100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
209.14 - 210.81		100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
210.81 - 218.98		100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY STRONG ROCK. WITH LARGE MUDSTONE LENSES AT 218 M

BOREHOLE LITHOLOGICAL LOG

182079

LEASE : GRAY
BOREHOLE : GY I

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
218.98	219.12	100	100% MUDSTONE: GREY-BROWN. WEAK ROCK.WITH LOAD CASTS.
219.12	236.51	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY STRONG ROCK. GRADING TO VERY COARSE IN PART. OCCASIONAL BANDS OF MUDSTONE PEBBLES AND CARBONACEOUS LENSES
236.51	236.55	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.
236.55	236.65	100	100% SANDSTONE: VERY COARSE GRAINED. LIGHT GREY. MODERATELY STRONG ROCK. WITH NUMEROUS COAL LENSES AND MUDSTONE FRAGMENTS
236.65	237.70	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.
237.70	238.21	100	100% SANDSTONE: MED.TO FINE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.
238.21	238.29	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY STRONG ROCK.
238.29	238.44	100	100% SANDSTONE. FINE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.THIN BEDDING.WITH CARBONACEOUS WHISPS AND CROSS LAMINATION.
238.44	238.46	100	100% SANDSTONE. MEDIUM GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.
238.46	240.23	100	100% MUDSTONE: SANDSTONE BANDS. GREY. MODERATELY WEAK ROCK. AND CARBONACEOUS WHISPS.
240.23	240.49	100	100% SANDSTONE. FINE GRAINED: MUDSTONE BANDS. GREY. MODERATELY WEAK ROCK.
240.49	241.21	100	100% MUDSTONE: SANDSTONE BANDS. GREY. MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.
241.21	249.31	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY STRONG ROCK.WITH CARBONACEOUS WHISPS. OCCASIONAL CROSS BEDDED INTERVALS
249.31	249.57	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182080

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
249.57	- 249.84	100	100% SANDSTONE, COARSE GRAINED: MUDSTONE BANDS. LIGHT GREY, MODERATELY STRONG ROCK. WITH NUMEROUS CARBONACEOUS LENSES
249.84	- 250.69	100	100% CLAYSTONE: GREY, MODERATELY WEAK ROCK.
250.69	- 251.00	100	50% MUDSTONE: DARK GREY, 50% MUDSTONE: LIGHT GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH BURROWING AND RIPPLES.
251.00	- 251.58	100	100% MUDSTONE: DARK GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
251.58	- 252.55	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.
252.55	- 252.73	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS. LIGHT GREY, MODERATELY WEAK ROCK.
252.73	- 253.08	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
253.08	- 253.40	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION.
253.40	- 254.18	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
SAMPLE:3			*** CORE DESCRIPTION ***
254.18			
	0.02	100	100% MUDSTONE: GREY.
	0.08	100	100% CARBONACEOUS SHALE:.
254.28	0.10		TOTAL
SAMPLE:4			*** CORE DESCRIPTION ***
254.28			
	0.12	100	100% COAL, HEAVY DULL: DULL COAL BANDS.
	0.06	100	100% MUDSTONE: CARBONACEOUS, BLACK.
	0.41	100	100% COAL, HEAVY DULL: DULL COAL BANDS.
	0.02	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN.

BOREHOLE LITHOLOGICAL LOG

182081

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
SAMPLE:4			*** CORE DESCRIPTION ***
	0.22	100	100% COAL. DULL:.
	0.04	100	100% COAL. HEAVY DULL:.
	0.17	100	100% COAL. HEAVY DULL: DULL COAL BANDS.
	0.05	100	100% MUDSTONE: CARBONACEOUS. DARK GREY.
	0.02	100	100% SANDSTONE: COALY STREAKS. LIGHT BROWN. MODERATELY WEAK ROCK.
	0.04	100	100% MUDSTONE: CARBONACEOUS. DARK GREY.
	0.17	100	100% COAL. HEAVY DULL: DULL COAL BANDS.
	0.03	100	100% MUDSTONE: CARBONACEOUS. BLACK. WITH NODULES OF SIDERITE.
	0.15	100	100% COAL. HEAVY DULL: DULL COAL BANDS.
	0.03	100	100% MUDSTONE: CARBONACEOUS.
	0.15	100	100% COAL. HEAVY DULL: DULL COAL BANDS. WITH MINOR CALCITE.
	0.01	100	100% CARBONACEOUS SHALE:.
	0.09	100	100% COAL. DULL: WITH MINOR CALCITE.
	0.01	100	100% MUDSTONE: CARBONACEOUS STREAKS. BROWN.
	0.10	100	100% COAL. DULL: WITH TRACES OF CALCITE.
	0.02	100	100% COAL. BRIGHT:.
	0.12	100	100% COAL. HEAVY DULL: DULL COAL BANDS.
	0.02	100	100% COAL. HEAVY DULL:.
	0.01	100	100% MUDSTONE: BROWN.
	0.03	100	100% COAL. BRIGHT: WITH ABUNDANT CALCITE.
	0.06	100	100% COAL. BRIGHT WITH FEW DULL BANDS: WITH ABUNDANT CALCITE.
	0.02	100	100% COAL. DULL:.
	0.05	100	100% COAL. HEAVY DULL:.
256.48	2.22		TOTAL
SAMPLE:5			*** CORE DESCRIPTION ***
256.48			

BOREHOLE LITHOLOGICAL LOG

182082

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
SAMPLE:5			*** CORE DESCRIPTION ***
	0.02	100	100% MUDSTONE: BROWN.
	0.10	100	100% MUDSTONE: CARBONACEOUS. DARK GREY.
	0.04	100	100% CARBONACEOUS SHALE: COALY LENSES.
56.64	0.16		TOTAL
			*** CORE DESCRIPTION ***
56.64 - 256.83		100	100% MUDSTONE: GREY.
256.82 - 256.84		100	100% MUDSTONE: CARBONACEOUS. DARK GREY.
56.84 - 256.96		100	100% COAL. HEAVY DULL: BRIGHT COAL BANDS. WITH CALCITE ON CLEAT.
256.96 - 257.00		0	CORE LOSS.
57.00 - 257.01		100	100% COAL. BRIGHT:.
257.01 - 257.23		100	100% MUDSTONE: CARBONACEOUS STREAKS. GREY. MODERATELY WEAK ROCK.
257.23 - 257.32		100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS STREAKS. GREY. MODERATELY WEAK ROCK.
257.32 - 257.55		100	100% MUDSTONE: CARBONACEOUS STREAKS. GREY. MODERATELY WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES.
257.55 - 257.83		100	60% SANDSTONE. FINE GRAINED: CARBONACEOUS STREAKS. GREY. 40% MUDSTONE: CARBONACEOUS STREAKS. GREY. MODERATELY WEAK ROCK.THIN BEDDING.
57.83 - 258.08		100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS STREAKS. LIGHT GREY. MODERATELY WEAK ROCK.
58.08 - 258.26		100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES.
258.26 - 258.34		100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK. WITH ABUNDANT CARBONACEOUS STREAKS
58.34 - 258.40		100	100% MUDSTONE: CARBONACEOUS STREAKS. DARK BROWN. WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182083

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
258.40	258.68	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
258.68	258.72	100	100% SANDSTONE, FINE GRAINED: GREY, MODERATELY WEAK ROCK.
258.72	258.96	100	100% MUDSTONE: CARBONACEOUS STREAKS, GREY, MODERATELY WEAK ROCK.
258.96	258.99	100	100% CARBONACEOUS SHALE:.
258.99	259.00	100	100% CLAYSTONE: LIGHT BROWN, STIFF.
259.00	259.18	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
259.18	259.21	100	100% CLAYSTONE: CARBONACEOUS STREAKS, BROWN, STIFF.
259.21	259.79	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
259.79	260.17	100	100% MUDSTONE: CARBONACEOUS STREAKS, GREY, MODERATELY WEAK ROCK.
260.17	261.13	100	100% SANDSTONE, COARSE GRAINED: MUDSTONE BANDS, LIGHT GREY, MODERATELY STRONG ROCK,WITH CARBONACEOUS WHISPS.
261.13	261.52	100	100% MUDSTONE: DARK GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING, BEDS DIP 5 DEG.,WITH CROSS LAMINATION.
261.52	261.81	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY STRONG ROCK,WITH CARBONACEOUS WHISPS.
261.81	261.95	100	50% MUDSTONE: DARK GREY, 50% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING, BEDS DIP 5 DEG.,WITH CARBONACEOUS WHISPS.
261.95	262.02	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY STRONG ROCK,WITH CARBONACEOUS WHISPS.
262.02	262.05	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LENSES, GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION.
262.05	262.09	100	100% MUDSTONE: DARK GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182084

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
262.09	262.13	100	60% SANDSTONE, FINE GRAINED: GREY, 40% MUDSTONE: DARK GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING, BEDS DIP 5 DEG.,WITH CARBONACEOUS WHISPS.
262.13	262.43	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY STRONG ROCK.
262.43	262.59	100	70% MUDSTONE: CARBONACEOUS STREAKS, DARK GREY, 30% SANDSTONE, COARSE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING,WITH LOAD CASTS.
262.59	262.77	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY STRONG ROCK,WITH CARBONACEOUS WHISPS.
262.77	264.60	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY STRONG ROCK. VERY COARSE GRAINED IN PART, WITH BANDS CONTAINING ABUNDANT CARBONACEOUS MATERIAL AND OCCASIONAL BANDS OF MUDSTONE FRAGMENTS
264.60	268.14	100	100% SANDSTONE, COARSE GRAINED: MUDSTONE, FRIABLE, LIGHT GREY, MODERATELY WEAK ROCK.
268.14	272.57	100	100% SANDSTONE: LIGHT GREY, MODERATELY WEAK ROCK. GRADING FROM MEDIUM TO VERY COARSE GRAINED
272.57	273.39	100	100% MUDSTONE: SILTSTONE BANDS, GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
273.39	273.41	100	100% MUDSTONE: CARBONACEOUS, BLACK, STRONG ROCK.
273.41	273.43	100	100% COAL, HEAVY DULL:.
273.43	273.48	100	100% MUDSTONE: CARBONACEOUS, BLACK, STRONG ROCK.
273.48	273.80	100	100% CARBONACEOUS SHALE:.
273.80	274.44	100	100% SILTSTONE: FINE GRAINED SANDSTONE BANDS, DARK GREY, MODERATELY WEAK ROCK,THIN BEDDING.
274.44	275.50	100	50% SILTSTONE: DARK GREY, 50% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,THIN BEDDING,WITH CROSS LAMINATION AND LOAD CASTS.
275.50	276.90	100	100% SANDSTONE: LIGHT GREY, MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182085

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
			GRADING FROM MEDIUM TO COARSE GRAINED. WITH NUMEROUS BANDS AND LENSES OF CARBONACEOUS MATERIAL
276.90	277.15	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS LENSES. LIGHT GREY. MODERATELY STRONG ROCK.THIN BEDDING.WITH CROSS LAMINATION.
277.15	277.53	100	100% SANDSTONE. MEDIUM GRAINED: LIGHT GREY. MODERATELY STRONG ROCK.
277.53	278.06	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
278.06	278.36	100	100% CARBONACEOUS SHALE:.
278.36	278.38	100	100% CLAYSTONE: CARBONACEOUS STREAKS. BROWN. STIFF.
278.38	278.43	100	100% MUDSTONE: ARENACEOUS. GREY-BROWN. MODERATELY WEAK ROCK.
278.43	278.66	100	100% SANDSTONE. FINE GRAINED: MUDSTONE BANDS. GREY-BROWN. MODERATELY WEAK ROCK.
278.66	278.74	100	100% MUDSTONE: CARBONACEOUS. DARK GREY. MODERATELY WEAK ROCK.
278.74	278.82	100	100% SANDSTONE: VERY FINE GRAINED. GREY-BROWN. MODERATELY WEAK ROCK.
278.82	279.07	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.
279.07	279.08	100	100% CLAYSTONE: GREY-GREEN. FIRM.
279.08	279.16	100	100% MUDSTONE: CARBONACEOUS. DARK GREY. MODERATELY STRONG ROCK.
279.16	279.17	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY STRONG ROCK.
279.17	279.85	100	100% SANDSTONE: MED.TO FINE GRAINED. GREY-BROWN. MODERATELY STRONG ROCK.THIN BEDDING. WITH AN 8 CM THICK BAND CONTAINING ABUNDANT MUDSTONE FRAGMENTS NEAR BASE

BOREHOLE LITHOLOGICAL LOG

182086

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
279.85 - 280.52		100	50% SILTSTONE: GREY. 50% SANDSTONE: MED.TO FINE GRAINED. GREY. MODERATELY WEAK ROCK.MODERATELY THIN BEDDING.WITH CROSS LAMINATION.
280.52 - 280.75		100	100% MUDSTONE: CARBONACEOUS. BLACK. STRONG ROCK.
280.75 - 280.80		100	100% MUDSTONE: DARK BROWN. MODERATELY WEAK ROCK.
280.80 - 281.88		100	100% MUDSTONE: BROWN. MODERATELY WEAK ROCK.
281.88 - 282.20		100	100% MUDSTONE: CARBONACEOUS LENSES. DARK BROWN. MODERATELY WEAK ROCK.
SAMPLE:6			*** CORE DESCRIPTION ***
282.20			
	0.04	100	100% MUDSTONE: CARBONACEOUS. DARK GREY. STRONG ROCK.
	0.40	100	100% MUDSTONE: BLACK. STRONG ROCK.
282.64	0.44		TOTAL
SAMPLE:7			*** CORE DESCRIPTION ***
282.64			
	0.10	100	100% COAL. HEAVY DULL:.
	0.03	100	100% CARBONACEOUS SHALE:.
	0.04	100	100% COAL. HEAVY DULL:.
	0.27	100	100% COAL. HEAVY DULL: DULL COAL BANDS.
	0.03	100	100% MUDSTONE: DARK GREY. WITH NODULES OF SIDERITE.
	0.41	100	100% COAL. HEAVY DULL: DULL COAL BANDS.
283.52	0.88		TOTAL
			*** CORE DESCRIPTION ***
283.52 - 283.55		100	100% CARBONACEOUS SHALE:.
283.55 - 283.61		100	100% MUDSTONE: GREY-BROWN.VERY CLOSE JOINT SPACING .TIGHT.PLANAR.SMOOTH DISCONTINUITIES WITH SLICKENSIDES.

BOREHOLE LITHOLOGICAL LOG

182087

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
283.61	283.72	0	CORE LOSS.
283.72	283.74	100	100% MUDSTONE: COALY LENSES, GREY.
283.74	283.77	100	100% SHALE: GREY, VERY WEAK ROCK.
283.77	284.68	100	100% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK.
284.68	284.83	100	100% MUDSTONE: DARK BROWN, WEAK ROCK.
284.83	285.42	100	100% SANDSTONE: VERY FINE GRAINED, GREY, MODERATELY WEAK ROCK.
285.42	285.47	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK.
285.47	285.57	100	100% SANDSTONE, FINE GRAINED: GREY, MODERATELY WEAK ROCK.
285.57	291.50	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY STRONG ROCK.
291.50	291.85	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION.CLOSE JOINT SPACING.
291.85	295.51	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY STRONG ROCK. GRADING TO VERY COARSE GRAINED AT BASE, IRREGULAR BASAL CONTACT DIPPING AT 60 DEG.
295.51	295.81	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK. WITH ABUNDANT BANDS AND LENSES OF CARBONACEOUS MATERIAL, NUMEROUS MUDSTONE FRAGMENTS NEAR BASE
295.81	295.83	100	100% MUDSTONE: CARBONACEOUS, DARK GREY.
295.83	295.86	100	100% COAL, DULL WITH FEW BRIGHT BANDS: CARBONACEOUS LAMINAE.
295.86	295.91	100	100% COAL, BRIGHT WITH FEW DULL BANDS: WITH CALCITE ON CLEAT.
295.91	296.00	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
296.00	296.01	100	100% COAL, BRIGHT:.
296.01	296.09	100	100% COAL, HEAVY DULL: BRIGHT COAL BANDS.

BOREHOLE LITHOLOGICAL LOG

182088

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
296.09	296.12	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
296.12	296.21	100	100% COAL. HEAVY DULL: DULL COAL BANDS.
296.21	296.25	100	100% COAL. HEAVY DULL:.
296.25	296.40	100	60% MUDSTONE: CARBONACEOUS. DARK BROWN, 40% SILTSTONE: GREY. MODERATELY STRONG ROCK.VERY THIN BEDDING.WITH CROSS LAMINATION.
296.40	296.50	100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS LENSES. GREY.
296.50	296.52	100	100% MUDSTONE: CARBONACEOUS.
296.52	296.69	100	100% CARBONACEOUS SHALE:.
296.69	296.76	100	100% COAL. HEAVY DULL:.
296.76	296.99	100	100% CARBONACEOUS SHALE:.
296.99	297.07	100	50% MUDSTONE: CARBONACEOUS. 50% SILTSTONE: GREY.
297.07	297.34	100	100% CARBONACEOUS SHALE:.
297.34	297.38	100	100% COAL. DULL:.
297.38	297.44	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN.
297.44	297.48	100	100% COAL. DULL:.
297.48	297.62	100	100% CARBONACEOUS SHALE:.
297.62	298.10	100	100% MUDSTONE: SANDSTONE BANDS. GREY-BROWN. MODERATELY WEAK ROCK.VERY THIN BEDDING.WITH CARBONACEOUS WHISPS AND CROSS LAMINATION.MODERATELY WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES.
298.10	299.39	100	70% SANDSTONE. FINE GRAINED: GREY. 30% SILTSTONE: GREY. MODERATELY WEAK ROCK.MODERATELY THIN BEDDING.WITH CROSS LAMINATION.VERY WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES.
299.39	299.92	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 70 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182089

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
299.92	299.94	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.
299.94	300.13	100	100% COAL, HEAVY DULL:.
300.13	300.15	100	100% MUDSTONE: BLACK, MODERATELY WEAK ROCK.
300.15	300.39	100	100% SILTSTONE: SANDSTONE BANDS, GREY, MODERATELY WEAK ROCK.
300.39	300.67	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION.
300.67	301.67	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
301.67	302.21	100	100% SANDSTONE, FINE GRAINED: SILTSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION.
302.21	302.61	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS LENSES, LIGHT GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION,WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
302.61	303.21	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY STRONG ROCK,WITH CARBONACEOUS WHISPS,WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
303.21	303.37	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION.
303.37	303.47	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
303.47	304.44	100	100% SILTSTONE: CARBONACEOUS BANDS, GREY, MODERATELY WEAK ROCK.
304.44	304.54	100	50% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, 50% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK,THIN BEDDING,WITH LOAD CASTS.
304.54	307.54	100	100% SILTSTONE: SANDSTONE BANDS, DARK GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182090

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
			INTERLENSING AT BASAL CONTACT
307.54 -	308.23	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK.
			WITH NUMEROUS BANDS AND LENSES OF CARBONACEOUS MATERIAL
308.23 -	308.60	100	70% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, 30% SILTSTONE: GREY, MODERATELY WEAK ROCK,THIN BEDDING.
308.60 -	309.28	100	50% SILTSTONE: GREY, 50% SANDSTONE, FINE GRAINED: GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING AND CROSS LAMINATION.
309.28 -	309.43	100	100% SANDSTONE, MEDIUM GRAINED: MUDSTONE LAMINAE, LIGHT GREY,WITH CROSS LAMINATION.
309.43 -	309.58	100	50% SILTSTONE: GREY-BROWN, 50% SANDSTONE, FINE GRAINED: GREY, MODERATELY WEAK ROCK,THIN BEDDING.
309.58 -	309.78	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, STRONG ROCK.
309.78 -	309.79	100	100% SILTSTONE: GREY-BROWN, MODERATELY WEAK ROCK.
309.79 -	309.91	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, STRONG ROCK.
309.91 -	309.95	100	100% MUDSTONE: CARBONACEOUS LAMINAE, GREY, MODERATELY WEAK ROCK.
309.95 -	309.99	100	100% CARBONACEOUS SHALE: MUDSTONE LAMINAE.
309.99 -	310.04	100	100% MUDSTONE: CARBONACEOUS STREAKS, BROWN, MODERATELY WEAK ROCK.
310.04 -	310.08	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
310.08 -	310.09	100	100% COAL, HEAVY DULL:.
310.09 -	310.10	100	100% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK.
310.10 -	310.11	100	100% COAL, HEAVY DULL:.
310.11 -	310.22	100	100% COAL, DULL: CARBONACEOUS LAMINAE.
310.22 -	310.23	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
310.23 -	310.82	100	100% CLAYSTONE: GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182091

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
310.82	311.19	100	50% SANDSTONE, FINE GRAINED: GREY, 50% MUDSTONE: GREY, MODERATELY WEAK ROCK,THIN BEDDING,WITH CROSS LAMINATION AND LOAD CASTS.
311.19	311.45	100	100% MUDSTONE: SANDSTONE LAMINAE, GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH LOAD CASTS. GRADATIONAL BASAL BOUNDARY
311.45	311.70	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
311.70	311.72	100	100% SANDSTONE, FINE GRAINED: GREY, MODERATELY STRONG ROCK. WITH COARSE QUARTZ GRAINS
311.72	311.96	100	100% SILTSTONE: SANDSTONE LENSES, GREY, MODERATELY WEAK ROCK.
311.96	312.14	100	100% SILTSTONE: SANDSTONE BANDS, DARK GREY, MODERATELY WEAK ROCK,WITH LOAD CASTS.
312.14	312.54	100	100% SANDSTONE: MED.TO FINE GRAINED, GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS. SHEARED IN TOP 15 CM, COARSE SANDSTONE LENSE AT BASE, INTERLENSING AT BASAL CONTACT
312.54	312.74	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
312.74	312.88	100	100% SANDSTONE: MED.TO FINE GRAINED, GREY, MODERATELY STRONG ROCK.
312.88	314.00	100	60% MUDSTONE: CARBONACEOUS, DARK BROWN, 40% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,THIN BEDDING.
314.00	314.36	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, STRONG ROCK. WITH NUMEROUS CARBONACEOUS BANDS AND LENSES

BOREHOLE LITHOLOGICAL LOG

182092

LEASE : GRAY
BOREHOLE : GY 1

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
314.36	314.68	100	50% SANDSTONE. COARSE GRAINED: COALY LENSES. LIGHT GREY. 50% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY STRONG ROCK.THIN BEDDING.WITH CARBONACEOUS WHISPS.
314.68	317.29	100	100% SANDSTONE:. MODERATELY STRONG ROCK. GRADING FROM FINE (GREY) TO VERY COARSE (LIGHT GREY) WITH PEBBLE SIZE QUARTZ GRAINS IN BASAL 47 CM
317.29	317.39	100	100% PEBBLE CONGLOMERATE:. STRONG ROCK. QUARTZ PEBBLES IN GREEN FINE SAND MATRIX
317.39	317.64	100	100% SILTSTONE: GREEN. MODERATELY WEAK ROCK.
317.64	321.83	100	100% SILTSTONE: GREY. MODERATELY STRONG ROCK.WIDE JOINT SPACING. JOINTS DIP 70 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES. FRACTURED ZONE FROM 317.90 TO 318.15 M
321.83	322.49	100	100% LIMESTONE: LIGHT GREY. VERY STRONG ROCK.
322.49	335.00	100	100% SILTSTONE: GREY. MODERATELY STRONG ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 70 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182093

LEASE : GRAY
BOREHOLE : GY 2

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
			WITH BANDS CONTAINING NUMEROUS CALCITE VEINS. FRACTURED ZONE FROM 330.5M TO 331.5M.SCATTERED SAND SIZE QUARTZ GRAINS
-	16.70	70	100% DOLERITE: FERRUGINOUS. ORANGE-YELLOW. HIGHLY WEATHERED. VERY WEAK ROCK.CLOSE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES. WITH MNO2 STAINING ALONG JOINTS. CONTAINING NUMEROUS SLIGHTLY WEATHERED DOLERITE BOULDERS
16.70 -	27.45	100	100% DOLERITE: FERRUGINOUS STAINING. GREY. SLIGHTLY WEATHERED. STRONG ROCK.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES .INFILLED WITH CALCITE.
27.45 -	30.70	100	100% DOLERITE: GREY-GREEN. WITH CALCITE ON JOINTS AND CHLORITE ON JOINTS. UNWEATHERED. VERY STRONG ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
30.70 -	31.00	80	100% DOLERITE: BADLY BROKEN. DARK GREEN. WITH CALCITE ON JOINTS AND CHLORITE ON JOINTS. STRONG ROCK.CLOSE JOINT SPACING .TIGHT NON-PLANAR DISCONTINUITIES WITH SLICKENSIDES.
31.00 -	37.00	100	100% DOLERITE: GREY. VERY STRONG ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
37.00 -	38.00	20	100% DOLERITE: GREY-GREEN. VERY STRONG ROCK.CLOSE JOINT SPACING .TIGHT NON-PLANAR DISCONTINUITIES .INFILLED WITH CALCITE.
38.00 -	38.70	100	100% DOLERITE: GREY. VERY STRONG ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES .INFILLED WITH CALCITE.

BOREHOLE LITHOLOGICAL LOG

182094

LEASE : GRAY
BOREHOLE : GY 2

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
38.70 -	39.50	90	100% DOLERITE: GREY-GREEN. VERY STRONG ROCK.CLOSE JOINT SPACING .TIGHT NON-PLANAR DISCONTINUITIES .INFILLED WITH CALCITE.
39.50 -	40.00	100	100% DOLERITE: GREY. WITH CHLORITE ON JOINTS. VERY STRONG ROCK.MODERATELY WIDE JOINT SPACING .TIGHT PLANAR.ROUGH DISCONTINUITIES .INFILLED WITH CALCITE.
40.00 -	48.40	100	100% DOLERITE: FERRUGINOUS STAINING. GREY. WITH CHLORITE ON JOINTS. VERY STRONG ROCK.WIDE JOINT SPACING .TIGHT PLANAR.ROUGH DISCONTINUITIES .INFILLED WITH CALCITE. DIP OF JOINTS VARIABLE
48.40 -	49.00	100	100% DOLERITE: GREY. VERY STRONG ROCK.MODERATELY WIDE JOINT SPACING .TIGHT NON-PLANAR DISCONTINUITIES .INFILLED WITH CALCITE.
49.00 -	55.05	100	100% DOLERITE: GREY. WITH CHLORITE ON JOINTS. VERY STRONG ROCK.WIDE JOINT SPACING .TIGHT PLANAR.ROUGH DISCONTINUITIES .INFILLED WITH CALCITE. DIP OF JOINTS VARIABLE
55.05 -	55.15	100	100% DOLERITE: FERRUGINOUS STAINING. GREY. VERY STRONG ROCK.MODERATELY CLOSE JOINT SPACING .TIGHT PLANAR.ROUGH DISCONTINUITIES .INFILLED WITH CALCITE. DIP OF JOINTS VARIABLE
55.15 -	56.70	100	100% DOLERITE: GREY. WITH CALCITE. VERY STRONG ROCK.WIDE JOINT SPACING .TIGHT PLANAR.ROUGH DISCONTINUITIES.
56.70 -	57.60	100	100% DOLERITE: GREY. VERY STRONG ROCK.MODERATELY CLOSE JOINT SPACING .TIGHT NON-PLANAR DISCONTINUITIES .INFILLED WITH CALCITE.
57.60 -	77.20	100	100% DOLERITE: GREY. WITH CALCITE. VERY STRONG ROCK.WIDE JOINT SPACING .TIGHT PLANAR.ROUGH DISCONTINUITIES. TWO SETS OF JOINTS DIPPING AT 30 DEG. AND 70 DEG.

BOREHOLE LITHOLOGICAL LOG

182095

LEASE : GRAY
BOREHOLE : GY 2

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
77.20 -	78.95	100	100% DOLERITE: GREY. WITH CHLORITE ON JOINTS. VERY STRONG ROCK.MODERATELY CLOSE JOINT SPACING .TIGHT NON-PLANAR DISCONTINUITIES .INFILLED WITH CALCITE.
78.95 -	85.00	100	100% DOLERITE: GREY. WITH CALCITE. VERY STRONG ROCK.WIDE JOINT SPACING .TIGHT PLANAR.ROUGH DISCONTINUITIES. TWO SETS OF JOINTS DIPPING AT 30 DEG. AND 70 DEG.
85.00 -	88.10	100	100% DOLERITE: GREY. VERY STRONG ROCK.VERY WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES .INFILLED WITH CALCITE.
88.10 -	92.80	100	100% DOLERITE: GREY. VERY STRONG ROCK.WIDE JOINT SPACING. JOINTS DIP 75 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES .INFILLED WITH CALCITE.
92.80 -	101.00	100	100% DOLERITE: GREY. VERY STRONG ROCK.VERY WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
101.00 -	110.50	80	100% DOLERITE: BADLY BROKEN. GREY-GREEN. WITH CHLORITE ON JOINTS AND MICA. VERY STRONG ROCK.CLOSE JOINT SPACING. JOINTS DIP 70 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES .INFILLED WITH CALCITE.
110.90 -	111.80	100	100% DOLERITE: GREY. VERY STRONG ROCK.WIDE JOINT SPACING. JOINTS DIP 30 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES .INFILLED WITH CALCITE.
111.80 -	113.80	100	100% DOLERITE: BADLY BROKEN. GREY-GREEN. WITH CHLORITE ON JOINTS. VERY STRONG ROCK.CLOSE JOINT SPACING. JOINTS DIP 80 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES .INFILLED WITH CALCITE.
113.80 -	144.55	100	100% DOLERITE: GREY. VERY STRONG ROCK.VERY WIDE JOINT SPACING. JOINTS DIP 70 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182096

LEASE : GRAY
BOREHOLE : GY 2

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
144.55	145.25	100	100% DOLERITE: FINE GRAINED. STRONG ROCK.WIDE JOINT SPACING .TIGHT NON-PLANAR DISCONTINUITIES .INFILLED WITH CALCITE. CHILLED BASAL CONTACT. CONTAINS LARGE CHLORITE? GRAINS
145.25	146.08	100	100% MUDSTONE: GREY-GREEN. MODERATELY STRONG ROCK.WIDE JOINT SPACING .TIGHT NON-PLANAR DISCONTINUITIES .INFILLED WITH CALCITE. WITH BANDS CONTAINING DARK GREY MUDSTONE? FRAGMENTS ORIENTED ALONG BEDDING
146.08	146.43	100	100% SILTSTONE: GREY. MODERATELY STRONG ROCK.WIDE JOINT SPACING .TIGHT NON-PLANAR DISCONTINUITIES .INFILLED WITH CALCITE.
146.43	147.08	100	100% MUDSTONE: LIGHT GREY. MODERATELY WEAK ROCK.MODERATELY WIDE JOINT SPACING .TIGHT NON-PLANAR DISCONTINUITIES. WITH BANDS CONTAINING DARK GREY MUDSTONE? FRAGMENTS ORIENTED ALONG BEDDING
147.08	148.75	100	100% CLAYSTONE: FERRUGINOUS STAINING. DARK GREY. MODERATELY STRONG ROCK.WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES .INFILLED WITH CALCITE. IRREGULAR VOIDS INFILLED WITH CHLORITE?
148.75	149.05	100	100% CLAYSTONE: LIGHT GREY. MODERATELY STRONG ROCK. ELONGATED FRAGMENTS OF SECONDARY MINERAL ALONG BEDDING
149.05	149.33	100	100% CLAYSTONE: DARK GREY. MODERATELY STRONG ROCK. .TIGHT PLANAR.ROUGH DISCONTINUITIES. WITH BANDS CONTAINING BLACK SECONDARY MINERAL FRAGMENTS

BOREHOLE LITHOLOGICAL LOG

182097

LEASE : GRAY
BOREHOLE : GY 2

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
149.33	149.56	100	100% MUDSTONE: FERRUGINOUS STAINING. LIGHT GREY. MODERATELY STRONG ROCK.MODERATELY WIDE JOINT SPACING .TIGHT NON-PLANAR DISCONTINUITIES. WITH BANDS CONTAINING BLACK SECONDARY MINERAL FRAGMENTS
149.56	150.01	100	100% CLAYSTONE: DARK BROWN. WITH CHLORITE ON JOINTS. MODERATELY STRONG ROCK.MODERATELY CLOSE JOINT SPACING .TIGHT NON-PLANAR DISCONTINUITIES.
150.01	150.63	100	100% CLAYSTONE: LIGHT BROWN. WITH ON JOINTS. MODERATELY STRONG ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 70 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
150.63	151.04	100	100% SANDSTONE. FINE GRAINED: LIGHT GREY. WITH CLAY ON JOINTS. STRONG ROCK.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 80 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
151.04	153.75	100	40% MUDSTONE: LIGHT BROWN. 35% MUDSTONE: LIGHT GREEN. 25% MUDSTONE: BUFF. MODERATELY STRONG ROCK.MODERATELY THICK BEDDING. WITH BAND OF DARK GREEN FRAGMENTS AT 152.10M.
153.75	160.10	100	90% MUDSTONE: DARK GREY. 10% MUDSTONE: BUFF. MODERATELY STRONG ROCK.MODERATELY THICK BEDDING. EXHIBITS FERRUGINOUS STAINING. BAKED APPEARENCE. SILICA REMOBILISATION. SECONDARY MINERAL (CHLORITE) FORMATION
160.10	160.90	100	70% MUDSTONE: LIGHT GREY. 20% MUDSTONE: GREY. 10% MUDSTONE: BUFF. MODERATELY STRONG ROCK.MODERATELY THICK BEDDING. EXHIBITS FERRUGINOUS STAINING. BAKED APPEARENCE. SILICA REMOBILISATION. SECONDARY MINERAL (CHLORITE) FORMATION

BOREHOLE LITHOLOGICAL LOG

182098

LEASE : GRAY
BOREHOLE : GY 2

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
160.90	161.50	100	100% MUDSTONE: FERRUGINOUS STAINING. LIGHT GREEN. MODERATELY STRONG ROCK. WITH BANDS OF DARK GREEN (CHLORITE?) NODULES
161.50	162.95	100	100% MUDSTONE: LIGHT GREEN. WITH CLAY ON JOINTS. MODERATELY STRONG ROCK,MODERATELY CLOSE JOINT SPACING. JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
162.95	163.15	100	100% MUDSTONE: GREY. WITH CLAY ON JOINTS. MODERATELY STRONG ROCK.CLOSE JOINT SPACING. JOINTS DIP 90 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
163.15	163.19	100	100% CARBONACEOUS SHALE:.
163.19	163.68	100	100% MUDSTONE: CARBONACEOUS. DARK GREY. ,TIGHT NON-PLANAR DISCONTINUITIES ,INFILLED WITH CALCITE.
163.68	163.70	100	100% MUDSTONE: LIGHT GREY. STIFF.
163.70	163.98	100	100% MUDSTONE: CARBONACEOUS, DARK GREY.
163.98	164.02	100	100% COAL. HEAVY DULL:.
164.02	164.06	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY WEAK ROCK.
164.06	164.20	100	100% CLAYSTONE: GREY. MODERATELY WEAK ROCK.
164.20	164.46	100	100% MUDSTONE: DARK GREY. MODERATELY WEAK ROCK.
164.46	164.94	100	100% MUDSTONE: BRIGHT COAL LENSES. BLACK. MODERATELY STRONG ROCK. ,TIGHT NON-PLANAR DISCONTINUITIES ,INFILLED WITH CALCITE.
164.94	164.95	100	100% CLAYSTONE: GREY. STIFF.
164.95	165.17	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.
165.17	165.20	100	100% COAL. BRIGHT: WITH CALCITE ON CLEAT.
165.20	165.22	100	100% CARBONACEOUS SHALE:.
165.22	165.23	100	100% COAL. BRIGHT: WITH CALCITE ON CLEAT.
165.23	165.44	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY WEAK ROCK.
165.44	165.47	100	100% COAL. BRIGHT: WITH CALCITE ON CLEAT.

BOREHOLE LITHOLOGICAL LOG

182099

LEASE : GRAY
BOREHOLE : GY 2

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
165.47	165.75	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
165.75	165.87	100	100% MUDSTONE: GREY, SOFT.
165.87	165.94	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
165.94	165.96	100	100% COAL, BRIGHT: CARBONACEOUS LAMINAE, MODERATELY STRONG ROCK.
165.96	168.46	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
168.46	168.57	100	100% SILTSTONE: DARK GREY, MODERATELY WEAK ROCK.
168.57	168.58	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
168.58	168.65	100	100% SILTSTONE: DARK GREY, MODERATELY WEAK ROCK.
168.65	168.83	100	100% SANDSTONE, FINE GRAINED: GREY, MODERATELY WEAK ROCK.
168.83	169.11	100	100% MUDSTONE: BRIGHT COAL BANDS, BLACK, MODERATELY STRONG ROCK.
169.11	169.44	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
169.44	169.68	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LENSES, GREY, MODERATELY WEAK ROCK.
169.68	169.86	0	CORE LOSS.
			CORE LOSS
169.86	169.90	70	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.
169.90	169.91	100	100% CLAYSTONE: DARK GREY, SOFT.
169.91	169.98	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
169.98	170.00	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
170.00	170.06	100	100% MUDSTONE: BRIGHT COAL BANDS, BLACK.
170.06	170.75	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182100

LEASE : GRAY
BOREHOLE : GY 2

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
170.75	170.95	100	100% MUDSTONE: BRIGHT COAL LENSES. BLACK.
170.95	174.35	100	100% MUDSTONE: CARBONACEOUS LAMINAE, LIGHT GREY. STRONG ROCK.VERY THIN BEDDING.VERY WIDE JOINT SPACING. JOINTS DIP 70 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES.
174.35	175.52	100	100% SILTSTONE: MUDSTONE. FRAGMENTS. LIGHT GREY. STRONG ROCK.VERY THIN BEDDING.WITH CROSS LAMINATION AND SLUMP STRUCTURES. GRADATIONAL INTO SANDSTONE BELOW
175.52	180.85	100	100% SANDSTONE: MEDIUM GRAINED. LIGHT GREY. STRONG ROCK.VERY THICK BEDDING .ABRUPT BASAL CONTACT.VERY WIDE JOINT SPACING .TIGHT NON-PLANAR DISCONTINUITIES. CONGLOMERATE PEBBLES MORE PREVALENT TOWARDS THE BASE
180.85	182.35	100	100% COBBLE CONGLOMERATE: LIGHT GREY. MODERATELY STRONG ROCK. SHARP CONTACT WITH SANDSTONE ABOVE
182.35	183.20	100	SANDSTONE: COALY. FRIABLE. LIGHT GREY. MUDSTONE: STREAKS. STRONG ROCK.MODERATELY CLOSE JOINT SPACING .TIGHT NON-PLANAR DISCONTINUITIES.
183.20	183.90	100	SANDSTONE: MED.TO FINE GRAINED. BROWN. MUDSTONE: LENSES. STRONG ROCK.MODERATELY WIDE JOINT SPACING .TIGHT NON-PLANAR DISCONTINUITIES.
183.90	184.15	100	100% MUDSTONE: CARBONACEOUS. DARK GREY. MODERATELY STRONG ROCK.MODERATELY THIN BEDDING .ABRUPT BASAL CONTACT.
184.15	184.55	100	100% CLAYSTONE: GREY. MODERATELY STRONG ROCK.VERY THIN BEDDING.WIDE JOINT SPACING .TIGHT.PLANAR.SMOOTH DISCONTINUITIES.
184.55	184.85	100	100% MUDSTONE: DARK BROWN. MODERATELY STRONG ROCK.THIN BEDDING .ABRUPT BASAL CONTACT.

BOREHOLE LITHOLOGICAL LOG

182101

LEASE : GRAY
BOREHOLE : GY 2

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
184.85	191.00	100	100% SILTSTONE: SANDSTONE BANDS. LIGHT GREY. WITH CLAY ON JOINTS. MODERATELY STRONG ROCK.WITH CROSS LAMINATION.WIDE JOINT SPACING. JOINTS DIP 70 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
191.00	191.85	100	100% SILTSTONE: MUDSTONE STREAKS. LIGHT GREY. MODERATELY STRONG ROCK.VERY THIN BEDDING.WITH CROSS LAMINATION.WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
191.85	195.93	100	100% SANDSTONE. MEDIUM GRAINED: MUDSTONE STREAKS. LIGHT GREY. STRONG ROCK.THICK BEDDING .ABRUPT BASAL CONTACT.VERY WIDE JOINT SPACING .TIGHT NON-PLANAR DISCONTINUITIES.
195.93	198.72	100	70% MUDSTONE: ARENACEOUS. DARK BROWN. 30% SANDSTONE: MUDSTONE LENSES. GREY. MODERATELY STRONG ROCK.
			GREENISH COARSER PEBBLY FRAGMENTS TOWARDS THE BASE
198.72	201.10	100	100% MUDSTONE: GREY-GREEN. MODERATELY STRONG ROCK.THIN BEDDING .ABRUPT BASAL CONTACT.
201.10	201.70	100	100% MUDSTONE: CARBONACEOUS. DARK GREY. MODERATELY WEAK ROCK.MODERATELY THICK BEDDING .ABRUPT BASAL CONTACT.
201.70	204.25	100	100% MUDSTONE: COALY. FRAGMENTS. LIGHT GREY. MODERATELY STRONG ROCK.WIDE JOINT SPACING. JOINTS DIP 70 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES.
204.25	206.10	100	95% MUDSTONE: CARBONACEOUS. BLACK. 5% CLAY: LENSES. MODERATELY STRONG ROCK.
206.10	212.78	100	100% MUDSTONE: LIGHT GREY. MODERATELY STRONG ROCK.VERY WIDE JOINT SPACING. JOINTS DIP 50 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
			ALTERNATING MUDSTONE AND SANDSTONE TOWARDS THE BASE

BOREHOLE LITHOLOGICAL LOG

182102

LEASE : GRAY
BOREHOLE : GY 2

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
212.78	215.94	100	100% SANDSTONE: MED.-COARSE GRAINED, FELDSPATHIC, LIGHT GREY, STRONG ROCK.WITH CARBONACEOUS WHISPS AND MUD PELLETS.
215.94	216.16	100	100% CLAYSTONE: COALY STREAKS, DARK BROWN, MODERATELY WEAK ROCK.
216.16	217.77	100	100% SANDSTONE: MEDIUM GRAINED, LIGHT GREY, STRONG ROCK.
217.77	227.38	100	70% SANDSTONE: MUDSTONE STREAKS, LIGHT GREY, 30% SILTSTONE:, STRONG ROCK.THICK BEDDING,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 10 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES. SEQUENCE OF ALTERNATING SANDSTONE AND SILTSTONE
227.38	227.40	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
227.40	227.48	100	100% SANDSTONE: LIGHT GREY, STRONG ROCK.
227.48	227.65	100	100% MUDSTONE: COALY, MODERATELY STRONG ROCK.
227.65	233.50	100	70% SILTSTONE: COALY LENSES, LIGHT GREY, 30% SANDSTONE: LIGHT GREY, STRONG ROCK,THICK BEDDING .ABRUPT BASAL CONTACT. SILTSTONE SANDSTONE SEQUENCE
233.50	233.60	100	100% CLAY: CALCITIC, BUFF, FIRM.
233.60	234.90	100	100% MUDSTONE: LIGHT BROWN, MODERATELY STRONG ROCK,VERY WIDE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES.
234.90	235.90	100	100% SANDSTONE: CARBONACEOUS STREAKS, GREY-BROWN, MODERATELY STRONG ROCK.
235.90	236.40	100	100% SANDSTONE: MEDIUM GRAINED, CALCITIC, LIGHT GREY, STRONG ROCK.
236.40	238.45	100	100% SILTSTONE: CALCITIC, GREY, STRONG ROCK,VERY THIN BEDDING,WITH CROSS LAMINATION AND SLUMP STRUCTURES.

BOREHOLE LITHOLOGICAL LOG

182103

LEASE : GRAY
BOREHOLE : GY 2

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
238.45	242.00	100	100% MUDSTONE: BROWN, WITH CALCITE ON JOINTS, STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES. COARSER CONGLOMERITIC OVER LAST 50CM AND BASE 5CM IS A CONGLOMERATE
242.00	243.40	100	100% MUDSTONE: SILTSTONE, GREY, STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
243.40	243.90	100	100% MUDSTONE: CHLORITIC, SILTSTONE, GREY, STRONG ROCK.
243.90	244.35	100	100% SANDSTONE: ARGILLACEOUS, BUFF, MODERATELY WEAK ROCK.
244.35	250.30	100	100% SILTSTONE: SANDSTONE LAMINAE, LIGHT GREY, STRONG ROCK,WITH CROSS LAMINATION AND SLUMP STRUCTURES.
250.30	256.84	100	100% SANDSTONE: MEDIUM GRAINED, COALY, LIGHT GREY, STRONG ROCK,MODERATELY WIDE JOINT SPACING ,OPEN PLANAR,ROUGH DISCONTINUITIES.
256.84	256.94	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY STRONG ROCK.
256.94	257.00	100	100% CLAYSTONE: MUDSTONE BANDS, BUFF, MODERATELY WEAK ROCK.
257.00	257.05	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY STRONG ROCK.
257.05	257.45	100	100% MUDSTONE: COALY STREAKS, GREY, MODERATELY STRONG ROCK,THIN BEDDING ,ABRUPT BASAL CONTACT.
257.45	257.95	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
257.95	258.50	100	100% SANDSTONE: COALY STREAKS, LIGHT GREY, MODERATELY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182104

LEASE : GRAY
BOREHOLE : GY 2

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
258.50 - 259.05		100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 80 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES. COAL FRAGMENTS IN TOP 5CM
259.05 - 259.73		100	100% SANDSTONE: CARBONACEOUS BANDS. LIGHT GREY. MODERATELY STRONG ROCK.VERY THICK BEDDING .ABRUPT BASAL CONTACT.
SAMPLE:1			*** CORE DESCRIPTION ***
259.73			
	0.07	100	100% CLAYSTONE: CHLORITIC. BUFF. WEAK ROCK.
259.80	0.07		TOTAL
SAMPLE:2			*** CORE DESCRIPTION ***
259.80			
	0.10	80	100% MUDSTONE: BRIGHT COAL LAMINAE. BLACK. MODERATELY STRONG ROCK.
	0.10	0	CORE LOSS.
	0.44	100	100% COAL. HEAVY DULL: BRIGHT COAL LENSES.
260.44	0.64		TOTAL
SAMPLE:3			*** CORE DESCRIPTION ***
260.44			
	0.05	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.
	0.13	100	100% CLAYSTONE: CARBONACEOUS STREAKS. BUFF. FIRM.
	0.08	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.
	0.03	100	100% SILTSTONE: GREY-BROWN. MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182105

LEASE : GRAY
BOREHOLE : GY 2

TOP	BASE	%REC	LITHOLOGY
SAMPLE:3			*** CORE DESCRIPTION ***
	0.14	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.11	100	100% MUDSTONE: CARBONACEOUS BANDS, LIGHT BROWN, MODERATELY WEAK ROCK.
	0.03	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.03	100	100% MUDSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, MODERATELY WEAK ROCK.
	0.35	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.29	100	100% MUDSTONE: CARBONACEOUS BANDS, BUFF, STIFF.
	0.29	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
261.97	1.53		TOTAL
SAMPLE:4			*** CORE DESCRIPTION ***
261.97			
	0.32	100	100% COAL, HEAVY DULL:.
	0.01	100	100% SANDSTONE, FINE GRAINED: BROWN, MODERATELY WEAK ROCK.
	0.10	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
	0.02	100	100% MUDSTONE: BRIGHT COAL LENSES, BLACK, MODERATELY STRONG ROCK.
	0.01	100	100% MUDSTONE: BROWN, MODERATELY STRONG ROCK.
	0.08	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.01	100	100% MUDSTONE: BROWN, MODERATELY STRONG ROCK.
	0.20	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
	0.16	100	100% COAL, HEAVY DULL: BRIGHT COAL BANDS.
	0.06	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182106

LEASE : GRAY
BOREHOLE : GV 2

TOP	BASE	%REC	LITHOLOGY
SAMPLE:4			*** CORE DESCRIPTION ***
	0.02	100	100% COAL, BRIGHT:.
262.96	0.99		TOTAL
SAMPLE:5			*** CORE DESCRIPTION ***
262.96			
	0.02	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.01	100	100% SANDSTONE, FINE GRAINED: GREY-BROWN, MODERATELY STRONG ROCK.
	0.26	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK. WITH ABUNDANT SILICIFIED ROOTLETS IN TOP 3 CM.
	0.15	100	100% MUDSTONE: BRIGHT COAL BANDS, BLACK, MODERATELY STRONG ROCK.
	0.07	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.04	100	100% MUDSTONE: COALY LENSES, BROWN, MODERATELY STRONG ROCK.
	0.58	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
264.09	1.13		TOTAL
			*** CORE DESCRIPTION ***
264.09 - 264.12		100	100% MUDSTONE: CARBONACEOUS STREAKS, BROWN, MODERATELY STRONG ROCK.
264.12 - 264.26		100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
264.26 - 264.35		100	100% MUDSTONE: BRIGHT COAL STREAKS, DARK GREY, MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182107

LEASE : GRAY
BOREHOLE : GY 2

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
64.35 -	266.31	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY STRONG ROCK,THIN BEDDING ,ABRUPT BASAL CONTACT.
266.31 -	267.44	100	100% SANDSTONE: MEDIUM GRAINED, LIGHT GREY, STRONG ROCK.
267.44 -	267.76	100	100% SILTSTONE: LIGHT GREY, STRONG ROCK.
67.76 -	271.90	100	100% SANDSTONE: MICACEOUS, LIGHT GREY, STRONG ROCK,EXTREMELY WIDE JOINT SPACING ,OPEN,NON-PLANAR DISCONTINUITIES ,INFILLED WITH CALCITE.
271.90 -	272.35	100	100% MUDSTONE: SHALY, COALY, DARK BROWN, MODERATELY STRONG ROCK,MODERATELY CLOSE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES.
272.35 -	281.16	100	100% SILTSTONE: ARENACEOUS BANDS, LIGHT GREY, MODERATELY STRONG ROCK,WITH CROSS LAMINATION AND SLUMP STRUCTURES.
81.16 -	288.47	100	100% SANDSTONE: COALY STREAKS, LIGHT GREY, STRONG ROCK.
			COAL STREAKS INCREASING TOWARDS BASE
SAMPLE:6			*** CORE DESCRIPTION ***
288.47			
	0.02	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY STRONG ROCK.
	0.01	100	100% MUDSTONE: COALY LENSES, BROWN, MODERATELY STRONG ROCK.
	0.04	100	100% COAL, HEAVY DULL:.
	0.01	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY STRONG ROCK.
	0.02	100	100% MUDSTONE: BROWN, MODERATELY STRONG ROCK.
	0.02	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY STRONG ROCK.
	0.02	100	100% MUDSTONE: BRIGHT COAL LENSES, DARK BROWN, MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182108

LEASE : GRAY
BOREHOLE : GY 2

TOP	BASE	%REC	LITHOLOGY
SAMPLE:6			*** CORE DESCRIPTION ***
	0.02	100	100% MUDSTONE: BROWN. MODERATELY STRONG ROCK.
	0.02	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.
	0.03	0	CORE LOSS.
	0.17	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.
	0.04	0	CORE LOSS.
	0.21	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.
	0.04	0	CORE LOSS.
	0.14	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.
	0.03	0	CORE LOSS.
	0.03	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.
	0.01	100	100% MUDSTONE: COALY LENSES. BROWN. MODERATELY WEAK ROCK.
	0.03	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.
89.38	0.91		TOTAL
SAMPLE:7			*** CORE DESCRIPTION ***
89.38			
	0.10	100	100% COAL. HEAVY DULL:.
	0.03	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
	0.10	100	100% COAL. HEAVY DULL:.
	0.03	100	100% MUDSTONE: BROWN. MODERATELY WEAK ROCK.
	0.01	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.
	0.13	100	100% COAL. HEAVY DULL: BRIGHT COAL LENSES.

BOREHOLE LITHOLOGICAL LOG

182109

LEASE : GRAY
BOREHOLE : GY 2

TOP	BASE	%REC	LITHOLOGY
SAMPLE:7			*** CORE DESCRIPTION ***
	0.06	100	100% COAL. INTERBANDED DULL AND BRIGHT: CARBONACEOUS LAMINAE.
	0.02	100	100% CARBONACEOUS SHALE: BRIGHT COAL LENSES.
	0.01	100	100% MUDSTONE: COALY STREAKS. BROWN. MODERATELY WEAK ROCK.
	0.13	100	100% COAL. DULL WITH NUMEROUS BRIGHT BANDS:.
	0.20	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.
	0.15	100	100% COAL. DULL WITH NUMEROUS BRIGHT BANDS: HEAVY DULL COAL LAMINAE.
	0.02	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.
	0.16	100	100% COAL. HEAVY DULL:.
	0.07	100	100% MUDSTONE: CARBONACEOUS STREAKS. BROWN. MODERATELY WEAK ROCK.
	0.04	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.
	0.16	100	100% COAL. HEAVY DULL: BRIGHT COAL BANDS.
	0.01	100	100% MUDSTONE: COALY STREAKS. LIGHT BROWN. MODERATELY WEAK ROCK.
	0.12	100	100% COAL. HEAVY DULL: BRIGHT COAL LENSES.
90.93	1.55		TOTAL
SAMPLE:8			*** CORE DESCRIPTION ***
90.93			
	0.14	100	100% MUDSTONE: LIGHT BROWN. MODERATELY WEAK ROCK.
	0.15	100	100% COAL. HEAVY DULL:.
	0.01	100	100% MUDSTONE: DARK BROWN. MODERATELY WEAK ROCK.
	0.03	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.
	0.12	100	100% COAL. HEAVY DULL:.

BOREHOLE LITHOLOGICAL LOG

182110

LEASE : GRAY
BOREHOLE : GY 2

TOP	BASE	%REC	LITHOLOGY
SAMPLE:8			*** CORE DESCRIPTION ***
	0.09	100	100% MUDSTONE: COALY STREAKS, LIGHT BROWN, MODERATELY WEAK ROCK.
	0.02	100	100% MUDSTONE: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
	0.05	100	100% COAL, HEAVY DULL:.
	0.02	100	100% MUDSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, MODERATELY WEAK ROCK.
	0.01	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.01	100	100% MUDSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, MODERATELY WEAK ROCK.
	0.03	100	100% COAL, HEAVY DULL:.
	0.01	100	100% MUDSTONE: COALY STREAKS, BROWN, MODERATELY WEAK ROCK.
	0.01	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.01	100	100% MUDSTONE: COALY STREAKS, BROWN, MODERATELY WEAK ROCK.
	0.05	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.06	100	100% COAL, HEAVY DULL:.
	0.06	100	100% COAL, HEAVY DULL: BRIGHT COAL BANDS.
	0.03	100	100% COAL, BRIGHT:.
91.84	0.91		TOTAL
			*** CORE DESCRIPTION ***
91.84 - 291.88		100	100% MUDSTONE: BRIGHT COAL LENSES, DARK BROWN, MODERATELY WEAK ROCK.
291.88 - 291.89		100	100% MUDSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.
91.89 - 291.91		100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
291.91 - 291.98		100	100% CARBONACEOUS SHALE: BRIGHT COAL LENSES.

BOREHOLE LITHOLOGICAL LOG

182111

LEASE : GRAY
BOREHOLE : GV 2

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
291.98	292.00	100	100% MUDSTONE: BRIGHT COAL STREAKS. DARK GREY. MODERATELY WEAK ROCK.
292.00	292.02	100	100% CARBONACEOUS SHALE: BRIGHT COAL LENSES.
292.02	292.07	100	100% MUDSTONE: BRIGHT COAL STREAKS. DARK GREY. MODERATELY WEAK ROCK.
292.07	292.08	100	100% COAL. BRIGHT: CARBONACEOUS LENSES.
292.08	292.14	100	100% MUDSTONE: BRIGHT COAL LENSES. DARK GREY. MODERATELY WEAK ROCK.
292.14	292.36	100	100% MUDSTONE: DARK GREY. MODERATELY WEAK ROCK.
292.36	292.38	100	100% COAL. BRIGHT:.
292.38	293.85	100	100% MUDSTONE: COALY STREAKS. GREY. MODERATELY STRONG ROCK. GRADATIONAL INTO SANDSTONE BELOW
293.85	301.13	100	100% SANDSTONE: CARBONACEOUS STREAKS. LIGHT GREY. STRONG ROCK.WITH CROSS LAMINATION.VERY WIDE JOINT SPACING. JOINTS DIP 90 DEG. .TIGHT NON-PLANAR DISCONTINUITIES. GRADING TO COARSER TOWARDS BASE
301.13	302.95	100	100% SANDSTONE. COARSE GRAINED: COALY STREAKS. LIGHT GREY. STRONG ROCK.WIDE JOINT SPACING. JOINTS DIP 80 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
302.95	303.04	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS LENSES. LIGHT GREY. MODERATELY STRONG ROCK.
303.04	304.62	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS STREAKS. LIGHT GREY. STRONG ROCK.VERY THIN BEDDING.
304.62	304.69	100	50% MUDSTONE: CARBONACEOUS. 40% SANDSTONE: 10% COAL:. MODERATELY STRONG ROCK. BEDS DIP 7 DEG..
304.69	305.48	100	100% SANDSTONE. COARSE GRAINED: COALY STREAKS. LIGHT GREY. STRONG ROCK.THICK BEDDING.
305.48	306.27	100	100% SANDSTONE: MED.TO FINE GRAINED. LIGHT GREY. STRONG ROCK.THIN BEDDING.

BOREHOLE LITHOLOGICAL LOG

182112

LEASE : GRAY
BOREHOLE : GY 2

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
306.27	310.70	100	100% SANDSTONE, COARSE GRAINED: COALY LENSES, LIGHT GREY, STRONG ROCK,WITH MUD PELLETS.
310.70	310.83	100	80% MUDSTONE: CARBONACEOUS, 20% SANDSTONE: COALY BANDS,THIN BEDDING.
310.83	311.22	100	100% SANDSTONE: CALCAREOUS, COALY, LIGHT GREY, STRONG ROCK.
311.22	311.32	100	100% MUDSTONE: CARBONACEOUS, MODERATELY STRONG ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
311.32	311.37	100	100% SANDSTONE: CONGLOMERATIC.
311.37	311.47	100	100% CLAY: FISSILE, BROWN, SOFT.
311.47	311.72	100	100% SANDSTONE: CONGLOMERATIC, STRONG ROCK,WITH MUD PELLETS.
311.72	311.88	100	100% SHALE: LIGHT GREY, MODERATELY STRONG ROCK.
311.88	313.36	100	100% SANDSTONE, COARSE GRAINED: CALCAREOUS, LIGHT GREY, STRONG ROCK.
313.36	313.56	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, STRONG ROCK,THIN BEDDING.
313.56	314.81	100	100% SANDSTONE, COARSE GRAINED: COALY STREAKS, LIGHT GREY, STRONG ROCK.
314.81	317.00	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, STRONG ROCK.
317.00	319.94	100	100% SANDSTONE: CARBONACEOUS STREAKS, LIGHT GREY, STRONG ROCK.
			GRADATIONAL INTO MEDIUM COARSE FROM SANDSTONE ABOVE
319.94	320.51	100	100% SANDSTONE: CARBONACEOUS STREAKS, LIGHT GREY, STRONG ROCK.
320.51	320.54	100	100% MUDSTONE: CARBONACEOUS, COALY, BLACK, MODERATELY STRONG ROCK.
320.54	323.36	100	100% SANDSTONE: MED.-COARSE GRAINED, CALCAREOUS, LIGHT GREY, STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182113

LEASE : GRAY
BOREHOLE : GY 2

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
323.36	323.88	100	100% SANDSTONE, FINE GRAINED: CALCAREOUS, LIGHT GREY, STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
323.88	324.58	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
324.58	324.99	100	100% SANDSTONE: COALY STREAKS, LIGHT GREY,WITH MUD PELLETS.
324.99	325.68	100	100% MUDSTONE: COALY STREAKS, LIGHT GREY, WITH CALCITE ON JOINTS, MODERATELY STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
325.68	326.00	100	100% SANDSTONE, COARSE GRAINED: PEBBLY, LIGHT GREY, MODERATELY STRONG ROCK,WITH MUD PELLETS. MUDSTONE PEBBLES ELONGATED IN DIRECTION OF BEDDING
326.00	326.10	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, STRONG ROCK,WITH MUD PELLETS.
326.10	326.15	100	100% SANDSTONE: CONGLOMERATIC, CALCAREOUS, STRONG ROCK,WITH MUD PELLETS.
326.15	329.27	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS BANDS, LIGHT GREY, STRONG ROCK,THICK BEDDING. GRADATIONAL INTO COARSE GRAINED BELOW
329.27	330.87	100	100% SANDSTONE, COARSE GRAINED: COALY STREAKS, STRONG ROCK,MODERATELY THICK BEDDING,WITH MUD PELLETS.
330.87	335.16	100	100% SANDSTONE: MED.-COARSE GRAINED, MICACEOUS, STRONG ROCK.
335.16	338.51	100	100% SANDSTONE, COARSE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, STRONG ROCK,WITH MUD PELLETS.

BOREHOLE LITHOLOGICAL LOG

182114

LEASE : GRAY
BOREHOLE : GY 2

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
338.51 - 339.20		100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, STRONG ROCK,MODERATELY THIN BEDDING.
339.20 - 345.51		100	100% SANDSTONE, COARSE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, STRONG ROCK,WITH MUD PELLETS.
345.51 - 345.94		100	100% SILTSTONE: CARBONACEOUS STREAKS, GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
SAMPLE:15			*** CORE DESCRIPTION ***
345.94			
	0.06	100	100% MUDSTONE: BLACK, MODERATELY STRONG ROCK.
	0.09	100	100% MUDSTONE: GREY, MODERATELY STRONG ROCK.
	0.08	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
	0.05	100	100% CLAYSTONE: BROWN, SOFT.
346.22	0.28		TOTAL
SAMPLE:16			*** CORE DESCRIPTION ***
346.22			
	0.12	100	100% COAL, HEAVY DULL:.
	0.24	100	100% COAL, HEAVY DULL: BRIGHT COAL BANDS.
	0.05	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
	0.13	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
	0.44	100	100% COAL, HEAVY DULL:.
	0.22	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
	0.03	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
347.45	1.23		TOTAL
SAMPLE:17			*** CORE DESCRIPTION ***

BOREHOLE LITHOLOGICAL LOG

182115

LEASE : GRAY
BOREHOLE : GY 2

TOP	BASE	%REC	LITHOLOGY
SAMPLE:17			*** CORE DESCRIPTION ***
347.45			
	0.43	100	100% SILTSTONE: CARBONACEOUS BANDS, GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION.
	0.23	100	100% MUDSTONE: CARBONACEOUS, DARK GREY.
348.11	0.66		TOTAL
SAMPLE:18			*** CORE DESCRIPTION ***
348.11			
	0.09	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
	0.15	100	100% COAL, HEAVY DULL:.
	0.06	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
	0.05	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
	0.03	100	100% CARBONACEOUS SHALE:.
	0.03	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
	0.02	100	100% COAL, INTERBANDED DULL AND BRIGHT:.
	0.01	100	100% CARBONACEOUS SHALE: BRIGHT COAL STREAKS.
348.55	0.44		TOTAL
			*** CORE DESCRIPTION ***
348.55 - 349.25		100	100% MUDSTONE: FISSILE, GREY, WEAK ROCK.
349.25 - 351.42		100	65% SANDSTONE: COALY STREAKS, 35% SILTSTONE: CARBONACEOUS STREAKS,MODERATELY THICK BEDDING.
351.42 - 353.81		100	100% SANDSTONE, COARSE GRAINED: CARBONACEOUS LENSES, LIGHT GREY, STRONG ROCK,THICK BEDDING.
353.81 - 355.56		100	95% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, SILTSTONE, STRONG ROCK,MODERATELY THIN BEDDING.
355.56 - 357.06		100	100% SANDSTONE: CARBONACEOUS STREAKS, LIGHT GREY, STRONG ROCK,MODERATELY THIN BEDDING.

BOREHOLE LITHOLOGICAL LOG

182116

LEASE : GRAY
BOREHOLE : GY 2

TOP	BASE	%REC	LITHOLOGY
SAMPLE:9			*** CORE DESCRIPTION ***
357.06			
	0.02	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.
	0.52	100	100% COAL. HEAVY DULL: BRIGHT COAL BANDS.
	0.09	100	100% CARBONACEOUS SHALE: BRIGHT COAL BANDS.
	0.06	100	100% MUDSTONE: GREY-BROWN. MODERATELY WEAK ROCK.
	0.03	100	100% CARBONACEOUS SHALE:.
	0.06	100	100% MUDSTONE: CARBONACEOUS BANDS. GREY-BROWN. MODERATELY WEAK ROCK.
357.84	0.78		TOTAL
SAMPLE:10			*** CORE DESCRIPTION ***
357.84			
	0.23	100	100% COAL. HEAVY DULL: BRIGHT COAL BANDS.
	0.01	100	100% MUDSTONE: CARBONACEOUS STREAKS. BROWN. MODERATELY WEAK ROCK.
	0.60	100	100% COAL. HEAVY DULL:.
	0.01	100	100% MUDSTONE: DARK BROWN. MODERATELY WEAK ROCK.
	0.31	100	100% COAL. HEAVY DULL: BRIGHT COAL STREAKS.
	0.76	100	100% COAL. HEAVY DULL: MUDSTONE LAMINAE.
	0.05	100	100% MUDSTONE: BRIGHT COAL LENSES. DARK BROWN. MODERATELY WEAK ROCK.
	0.04	100	100% COAL. HEAVY DULL: BRIGHT COAL LENSES.
359.85	2.01		TOTAL
SAMPLE:11			*** CORE DESCRIPTION ***
359.85			
	0.04	100	100% MUDSTONE: BRIGHT COAL STREAKS. DARK BROWN. MODERATELY WEAK ROCK.
	0.05	100	100% CARBONACEOUS SHALE: BRIGHT COAL LENSES.

BOREHOLE LITHOLOGICAL LOG

182117

LEASE : GRAY
BOREHOLE : GY 2

TOP	BASE	%REC	LITHOLOGY
SAMPLE:11			*** CORE DESCRIPTION ***
359.94	0.09		TOTAL
			*** CORE DESCRIPTION ***
359.94 - 360.52		100	100% MUDSTONE: ARENACEOUS BANDS, GREY-BROWN, MODERATELY WEAK ROCK.THICK BEDDING.
360.52 - 360.67		100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY STRONG ROCK.
360.67 - 361.10		100	100% SILTSTONE: FISSILE, LIGHT GREY, MODERATELY WEAK ROCK.VERY THIN BEDDING.
361.10 - 367.07		100	100% SANDSTONE: MED.-COARSE GRAINED, MICACEOUS, GREY. STRONG ROCK.VERY THICK BEDDING.WITH MUD PELLETS.VERY WIDE JOINT SPACING. JOINTS DIP 20 DEG. .TIGHT PLANAR,ROUGH DISCONTINUITIES.
367.07 - 376.61		100	100% SANDSTONE, COARSE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY.VERY THICK BEDDING.WITH MUD PELLETS. MUDSTONE PEBBLES INCREASE IN LAST 10CM
376.61 - 377.29		100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.MODERATELY CLOSE JOINT SPACING, JOINTS DIP 45 DEG. .TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
377.29 - 377.49		100	100% SANDSTONE, COARSE GRAINED: PEBBLY, LIGHT GREY, MODERATELY STRONG ROCK.WITH MUD PELLETS.
377.49 - 377.64		100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY STRONG ROCK.MODERATELY CLOSE JOINT SPACING, JOINTS DIP 50 DEG. .TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
377.64 - 384.67		100	100% SANDSTONE, COARSE GRAINED: CALCAREOUS, LIGHT GREY, STRONG ROCK.EXTREMELY THICK BEDDING.WITH MUD PELLETS.

BOREHOLE LITHOLOGICAL LOG

182118

LEASE : GRAY
BOREHOLE : GY 2

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
384.67	384.71	100	100% MUDSTONE: CARBONACEOUS LENSES, GREY, MODERATELY WEAK ROCK,THIN BEDDING,WITH CROSS LAMINATION.
384.71	389.20	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK,WITH MUD PELLETS.
389.20	389.35	100	100% SILTSTONE: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK. SHARP IRREGULAR CONTACT WITH ABOVE SANDSTONE
389.35	393.15	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK.
393.15	393.28	100	70% SANDSTONE, COARSE GRAINED: GREEN, 30% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY STRONG ROCK,VERY THIN BEDDING ,SOME SEPARATION ALONG BEDDING SURFACES,WITH CROSS LAMINATION AND LOAD CASTS.
393.28	394.81	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY STRONG ROCK,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
394.81	395.67	100	100% SANDSTONE: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY STRONG ROCK,VERY THICK BEDDING.
395.67	398.44	100	100% SANDSTONE, COARSE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY STRONG ROCK,VERY THICK BEDDING.
398.44	399.14	100	100% SHALE: FISSILE, GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
399.14	399.68	100	40% MUDSTONE: CARBONACEOUS, GREY, 30% SILTSTONE: 30% SHALE:, MODERATELY WEAK ROCK,WITH CROSS LAMINATION.

BOREHOLE LITHOLOGICAL LOG

182119

LEASE : GRAY
BOREHOLE : GY 2

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
399.68	400.11	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, WEAK ROCK,VERY THIN BEDDING,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,OPEN,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.
400.11	400.27	100	100% CARBONACEOUS SHALE: BADLY BROKEN, VERY WEAK ROCK.
400.27	401.54	100	100% MUDSTONE: GREY, WEAK ROCK,VERY THIN BEDDING,WITH CROSS LAMINATION.
401.54	402.41	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK,THIN BEDDING ,SOME SEPARATION ALONG BEDDING SURFACES,WITH GRADED BEDDING. FEW BRIGHT BANDS AND CARB SHALE LAYERS
402.41	402.81	100	100% MUDSTONE: CARBONACEOUS STREAKS, GREY, WEAK ROCK,VERY THIN BEDDING.
402.81	403.28	100	100% SANDSTONE: LIGHT GREY, MODERATELY STRONG ROCK,MODERATELY THICK BEDDING. GRADES TO COARSE TOWARDS THE BASE
403.28	403.61	100	100% SILTSTONE: CARBONACEOUS STREAKS, GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
403.61	404.05	100	100% MUDSTONE: ARGILLACEOUS BANDS, GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING,MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
404.05	405.14	100	100% SILTSTONE: GREY, MODERATELY STRONG ROCK,THIN BEDDING.
405.14	406.00	100	100% SANDSTONE: CARBONACEOUS LENSES, LIGHT GREY, MODERATELY WEAK ROCK,THIN BEDDING,WITH CROSS LAMINATION AND SLUMP STRUCTURES,WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182120

LEASE : GRAY
BOREHOLE : GY 2

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
406.00 - 406.05		0	CORE LOSS.
SAMPLE:12			*** CORE DESCRIPTION ***
406.05			
	0.17	100	100% MUDSTONE: CARBONACEOUS, BLACK.
	0.03	100	100% MUDSTONE: GREY, SOFT.
	0.07	100	100% MUDSTONE: CARBONACEOUS, BLACK.
	0.10	100	100% CARBONACEOUS SHALE:.
	0.08	100	100% MUDSTONE: CARBONACEOUS, BLACK.
	0.02	100	100% MUDSTONE: LIGHT BROWN, WEAK ROCK.
	0.02	100	100% MUDSTONE: CARBONACEOUS, BLACK.
	0.02	100	100% MUDSTONE: LIGHT BROWN, STIFF.
406.56	0.51		TOTAL
SAMPLE:13			*** CORE DESCRIPTION ***
406.56			
	0.26	100	100% COAL, HEAVY DULL:.
	0.01	100	100% MUDSTONE: BROWN.
	0.09	100	100% MUDSTONE: CARBONACEOUS, BLACK.
	0.08	100	100% COAL, HEAVY DULL:.
	0.08	100	100% COAL, HEAVY DULL: BRIGHT COAL BANDS.
	0.03	100	100% COAL, BRIGHT WITH FEW DULL BANDS:.
	0.08	100	100% CARBONACEOUS SHALE:.
	0.05	100	100% MUDSTONE: CARBONACEOUS, BROWN.
	0.08	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
407.32	0.76		TOTAL
			*** CORE DESCRIPTION ***
407.32 - 407.71		100	100% MUDSTONE: CARBONACEOUS, GREY-BROWN, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182121

LEASE : GRAY
BOREHOLE : GY 2

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
407.71	408.06	100	100% CLAYSTONE: GREY, WEAK ROCK.
408.06	408.99	100	100% SILTSTONE: CARBONACEOUS STREAKS, GREY, MODERATELY WEAK ROCK,THIN BEDDING,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
408.99	409.34	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY STRONG ROCK,MODERATELY THICK BEDDING ,SOME SEPARATION ALONG BEDDING SURFACES.
409.34	412.58	100	100% SILTSTONE: CARBONACEOUS STREAKS, GREY, MODERATELY WEAK ROCK,THIN BEDDING ,SOME SEPARATION ALONG BEDDING SURFACES,WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES.
412.58	413.99	100	65% MUDSTONE: CARBONACEOUS, 20% SILTSTONE: 15% SANDSTONE:. MODERATELY WEAK ROCK,MODERATELY THIN BEDDING,WITH CROSS LAMINATION.
413.99	414.22	100	50% COAL. HEAVY DULL: 50% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK,THIN BEDDING.
414.22	415.82	100	100% SILTSTONE: CARBONACEOUS STREAKS, GREY, MODERATELY WEAK ROCK,THIN BEDDING,WITH TROUGH CROSS BEDDING,WIDE JOINT SPACING, JOINTS DIP 50 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES. SHARP CONTACT WITH OVERLYING COAL SEQUENCE
415.82	416.05	100	100% CLAYSTONE: GREY, MODERATELY WEAK ROCK.
416.05	416.25	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,MODERATELY WIDE JOINT SPACING, JOINTS DIP 20 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES. GRADATIONAL CONTACT INTO SILTSTONE
416.25	418.67	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,THIN BEDDING,VERY WIDE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES WITH SLICKENSIDES.

BOREHOLE LITHOLOGICAL LOG

182122

LEASE : GRAY
BOREHOLE : GY 2

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
			ALSO ROUGH CALCITE INFILLED JOINTS AT 80D
418.67	419.27	100	100% MUDSTONE: GREY. WEAK ROCK.THIN BEDDING.MODERATELY CLOSE JOINT SPACING .TIGHT NON-PLANAR DISCONTINUITIES WITH SLICKENSIDES.
419.27	419.53	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS STREAKS. LIGHT GREY. MODERATELY STRONG ROCK.MODERATELY THIN BEDDING.
419.53	422.00	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.MODERATELY THICK BEDDING.
422.00	422.43	100	100% MUDSTONE: CARBONACEOUS. DARK GREY. WEAK ROCK.
422.43	423.36	100	60% MUDSTONE: CARBONACEOUS. DARK GREY. 40% SANDSTONE: GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
			SANDSTONE DOMINATES TOWARDS THE BASE
423.36	424.37	100	100% SANDSTONE. MEDIUM GRAINED: COALY STREAKS. LIGHT GREY. MODERATELY STRONG ROCK.MODERATELY THIN BEDDING .SOME SEPARATION ALONG BEDDING SURFACES.
424.37	424.56	100	55% SANDSTONE. COARSE GRAINED: COALY STREAKS. GREY. 45% MUDSTONE: CARBONACEOUS. MODERATELY WEAK ROCK.VERY THIN BEDDING.
424.56	426.17	100	100% CLAYSTONE:. WEAK ROCK.VERY THIN BEDDING.VERY WIDE JOINT SPACING. JOINTS DIP 80 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES.
426.17	426.29	100	100% MUDSTONE: CARBONACEOUS. BLACK. WEAK ROCK.
426.29	426.72	100	100% MUDSTONE: COALY STREAKS. BROWN. WEAK ROCK.
426.72	428.00	100	65% MUDSTONE: CARBONACEOUS. GREY. 35% SANDSTONE. MEDIUM GRAINED:. MODERATELY WEAK ROCK.VERY THIN BEDDING.MODERATELY WIDE JOINT SPACING. JOINTS DIP 90 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182123

LEASE : GRAY
BOREHOLE : GY 2

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
428.00	- 428.85	100	100% SANDSTONE. COARSE GRAINED: CARBONACEOUS BANDS. LIGHT GREY. MODERATELY STRONG ROCK.THIN BEDDING .SOME SEPARATION ALONG BEDDING SURFACES.WITH CROSS LAMINATION. COAL LENSES.STREAKS
428.85	- 429.38	100	100% MUDSTONE: GREY-BROWN. WEAK ROCK.THIN BEDDING.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 80 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES.
429.38	- 429.66	100	100% MUDSTONE: CARBONACEOUS. MODERATELY WEAK ROCK.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 80 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES.
429.66	- 430.27	100	100% MUDSTONE: DARK BROWN. MODERATELY STRONG ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 80 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES.
430.27	- 430.49	100	100% CLAYSTONE: FISSILE. BROWN. MODERATELY STRONG ROCK. BADLY BROKEN AT BOTH CONTACTS
430.49	- 432.66	100	100% MUDSTONE: ARENACEOUS LENSES. BROWN.WITH MUD PELLETS.WIDE JOINT SPACING. JOINTS DIP 85 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES. CARB MUD CLASTS COMMON IN THE LAST 30CM
432.66	- 432.68	100	100% MUDSTONE: CARBONACEOUS. SIDERITIC. BLACK. STRONG ROCK.
SAMPLE:14			*** CORE DESCRIPTION ***
432.68			
	0.06	100	100% COAL. DULL: BRIGHT COAL BANDS.
	0.01	100	100% MUDSTONE: CARBONACEOUS. SIDERITIC. BLACK. STRONG ROCK.
	0.06	100	100% COAL. DULL: BRIGHT COAL BANDS.
	0.04	100	100% MUDSTONE: CARBONACEOUS. SIDERITIC. BLACK. STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182124

LEASE : GRAY
BOREHOLE : GY 2

TOP	BASE	%REC	LITHOLOGY
SAMPLE:14			*** CORE DESCRIPTION ***
	0.05	100	100% COAL. DULL:.
	0.28	80	100% COAL. DULL WITH FEW BRIGHT BANDS:.
433.18	0.50		TOTAL
			*** CORE DESCRIPTION ***
433.18 - 433.48		100	100% SANDSTONE. MEDIUM GRAINED: BROWN. MODERATELY WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 90 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
433.48 - 433.80		100	100% SILTSTONE: BROWN. MODERATELY WEAK ROCK.
433.80 - 436.63		100	100% SANDSTONE. COARSE GRAINED: COALY STREAKS. LIGHT GREY. MODERATELY STRONG ROCK.MODERATELY THIN BEDDING.VERY WIDE JOINT SPACING. JOINTS DIP 80 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES.
436.63 - 437.93		100	100% SILTSTONE: CARBONACEOUS STREAKS. GREY. MODERATELY STRONG ROCK. BEDS DIP 6 DEG..WIDE JOINT SPACING. JOINTS DIP 80 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
437.93 - 446.10		100	100% SANDSTONE. COARSE GRAINED: CARBONACEOUS LENSES. LIGHT GREY. STRONG ROCK.MODERATELY THIN BEDDING .SOME SEPARATION ALONG BEDDING SURFACES.WITH MUD PELLETS AND GRADED BEDDING.VERY WIDE JOINT SPACING. JOINTS DIP 85 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES. SHARP CONTACT AT BASE WITH CARB MUDSTONE
446.10 - 446.16		100	100% COAL. DULL: BRIGHT COAL LENSES.
446.16 - 446.42		100	100% COAL. HEAVY DULL: BRIGHT COAL LENSES.
446.42 - 446.54		100	100% CARBONACEOUS SHALE:.
446.54 - 447.82		100	60% SANDSTONE: COALY STREAKS. LIGHT GREY. 40% MUDSTONE: CARBONACEOUS. DARK GREY. MODERATELY STRONG ROCK.VERY THIN BEDDING.WITH MUD PELLETS AND CROSS LAMINATION.

BOREHOLE LITHOLOGICAL LOG

182125

LEASE : GRAY
BOREHOLE : GY 2

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
447.82	447.85	100	100% MUDSTONE: BROWN. WEAK ROCK.
447.85	448.03	100	100% COAL. DULL:.
448.03	448.05	100	100% CARBONACEOUS SHALE:.
448.05	448.15	100	100% MUDSTONE: CARBONACEOUS. DARK GREY.
448.15	448.84	100	70% SILTSTONE: LIGHT GREY. 20% MUDSTONE: BROWN. 10% SANDSTONE:. MODERATELY WEAK ROCK.THIN BEDDING .ABRUPT BASAL CONTACT.MODERATELY WIDE JOINT SPACING. JOINTS DIP 85 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
448.84	448.97	100	100% CLAYSTONE: COALY STREAKS. GREY. MODERATELY WEAK ROCK.
448.97	449.30	100	100% SILTSTONE: CARBONACEOUS BANDS. MODERATELY WEAK ROCK.VERY THIN BEDDING.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
449.30	449.50	100	100% MUDSTONE: CARBONACEOUS. WEAK ROCK.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 90 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
449.50	449.73	100	100% SHALE: GREY. WEAK ROCK.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 90 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES.
449.73	450.28	100	100% SILTSTONE: LIGHT GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.WITH CROSS LAMINATION.
450.28	450.87	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.THIN BEDDING.
450.87	451.37	100	100% SILTSTONE: ARENACEOUS LENSES. MODERATELY WEAK ROCK.VERY THIN BEDDING.WITH CROSS LAMINATION.WIDE JOINT SPACING. JOINTS DIP 30 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
451.37	451.48	100	100% SANDSTONE. COARSE GRAINED: CALCAREOUS. LIGHT GREY. STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182126

LEASE : GRAY
BOREHOLE : GY 2

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
451.48	452.04	100	100% SILTSTONE:. MODERATELY STRONG ROCK.VERY THIN BEDDING.WITH CROSS LAMINATION.
452.04	452.14	100	100% SHALE: DARK GREY. MODERATELY WEAK ROCK.
452.14	452.64	100	100% MUDSTONE: GREY-GREEN. MODERATELY WEAK ROCK.VERY THIN BEDDING.
452.64	452.71	100	100% SHALE: DARK GREY. WEAK ROCK.
452.71	453.13	100	100% SILTSTONE: LIGHT GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
453.13	453.88	100	100% MUDSTONE: ARENACEOUS BANDS. GREY. MODERATELY WEAK ROCK.THIN BEDDING.
453.88	454.12	100	100% SILTSTONE: CARBONACEOUS LENSES. GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
454.12	454.28	100	100% SANDSTONE: ARGILLACEOUS. MODERATELY STRONG ROCK.VERY THIN BEDDING.
454.28	455.13	100	60% SILTSTONE: 40% MUDSTONE: DARK GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
455.13	456.05	100	65% SANDSTONE. MEDIUM GRAINED: 35% MUDSTONE: DARK GREY. MODERATELY STRONG ROCK.VERY THIN BEDDING.WITH CROSS LAMINATION AND SLUMP STRUCTURES.
456.05	456.60	100	100% SILTSTONE: LIGHT GREY. MODERATELY STRONG ROCK.VERY THIN BEDDING.WITH CROSS LAMINATION.
456.60	458.36	100	100% SANDSTONE. MEDIUM GRAINED: LIGHT GREY. STRONG ROCK.THIN BEDDING.WITH MUD PELLETS.
458.36	458.78	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.
458.78	458.89	100	100% MUDSTONE: DARK BROWN. WEAK ROCK.
458.89	458.92	100	100% CARBONACEOUS SHALE: BRIGHT COAL BANDS.
458.92	458.93	100	100% CLAYSTONE: LIGHT BROWN. WEAK ROCK.
458.93	458.98	100	100% CARBONACEOUS SHALE: BRIGHT COAL BANDS.
458.98	459.00	100	100% MUDSTONE: COALY STREAKS. LIGHT GREEN. WEAK ROCK.
459.00	459.04	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182127

LEASE : GRAY
BOREHOLE : GY 2

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
459.04	459.06	100	100% COAL. HEAVY DULL: BRIGHT COAL STREAKS.
459.06	459.07	100	100% MUDSTONE: LIGHT GREEN.
459.07	459.10	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.
459.10	460.50	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
460.50	460.60	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 85 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES.
460.60	462.24	100	100% SILTSTONE: ARENACEOUS BANDS. GREY. MODERATELY STRONG ROCK.VERY THIN BEDDING.
462.24	462.80	100	100% SANDSTONE: CALCAREOUS. LIGHT GREY. MODERATELY STRONG ROCK.THIN BEDDING.WITH MUD PELLETS AND FLAME/PULL-OVER STRUCTS.
462.80	462.91	100	100% MUDSTONE: COALY STREAKS. DARK BROWN. MODERATELY WEAK ROCK.
462.91	463.09	100	100% SANDSTONE. COARSE GRAINED: CALCAREOUS. LIGHT GREY. MODERATELY STRONG ROCK. POSSIBLY A GRIT TOWARDS THE BASE
463.09	463.50	100	100% SILTSTONE: GREY. MODERATELY STRONG ROCK.VERY THIN BEDDING.WITH CROSS LAMINATION.WIDE JOINT SPACING. JOINTS DIP 90 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES.
463.50	463.94	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.
463.94	466.83	100	100% SILTSTONE: ARENACEOUS LENSES. GREY. MODERATELY STRONG ROCK.VERY THIN BEDDING .SOME SEPARATION ALONG BEDDING SURFACES.
466.83	466.93	100	60% MUDSTONE: 40% SANDSTONE:. MODERATELY STRONG ROCK.
466.93	467.28	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY STRONG ROCK.WITH MUD PELLETS.

BOREHOLE LITHOLOGICAL LOG

182128

LEASE : GRAY
BOREHOLE : GY 2

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
			LARGE MUDSTONE CLASTS AND QUARTZ FRAGMENTS
467.28	468.50	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING. JOINTS DIP 45 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
468.50	469.60	100	100% MUDSTONE: DARK GREY. WITH FRAGMENTS OF QUARTZ. MODERATELY STRONG ROCK,MODERATELY WIDE JOINT SPACING. JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
469.60	469.82	100	100% MUDSTONE: WITH QUARTZ AND FRAGMENTS OF CALCITE. MODERATELY STRONG ROCK.
469.82	470.52	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. WITH FRAGMENTS OF QUARTZ. STRONG ROCK,WIDE JOINT SPACING. JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
470.52	475.00	100	100% SILTSTONE: GREY. WITH FRAGMENTS OF QUARTZ. STRONG ROCK,VERY THIN BEDDING,WITH SAND LINEATION,MODERATELY WIDE JOINT SPACING. JOINTS DIP 90 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
			SANDSTONE LENSES
475.00	475.07	100	100% LIMESTONE: SILTSTONE. STRONG ROCK.
475.07	477.00	100	100% SILTSTONE: GREY. WITH FRAGMENTS OF QUARTZ. STRONG ROCK,VERY THIN BEDDING,MODERATELY WIDE JOINT SPACING. JOINTS DIP 90 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
477.00	477.18	100	100% LIMESTONE: SILTSTONE. STRONG ROCK.
477.18	479.97	100	100% SILTSTONE: GREY. WITH FRAGMENTS OF QUARTZ. STRONG ROCK,VERY THIN BEDDING.
479.97	482.00	100	100% SILTSTONE: QUARTZITIC. PEBBLY. GREY. STRONG ROCK,WITH MUD PELLETS,VERY WIDE JOINT SPACING. JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.

BOREHOLE LITHOLOGICAL LOG

182129

LEASE : GRAY
BOREHOLE : GY 2

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
			QUARTZ PEBBLES AND LARGE ANGULAR FRAGMENTS ARE ABUNDANT WHILE MINOR MUDSTONE AND CHLORITIC CLASTS ARE ALSO PRESENT
482.00 -	483.06	100	100% SILTSTONE: GREY. WITH FRAGMENTS OF QUARTZ. STRONG ROCK.
483.06 -	483.17	100	100% LIMESTONE: SILTSTONE. STRONG ROCK.
483.17 -	506.45	100	100% SILTSTONE: ARENACEOUS. GREY. WITH FRAGMENTS OF QUARTZ. MODERATELY STRONG ROCK.VERY WIDE JOINT SPACING. JOINTS DIP 85 DEG. .OPEN PLANAR.ROUGH DISCONTINUITIES .INFILLED WITH CALCITE. SANDSTONE AND MUDSTONE BANDS OCCUR WITH FLAME STRUCTURES ALONG THE SANDSTONE CONTACTS AND SOME REGIONS HIGHLY VIENED BY CALCITE
506.50 -	506.82	100	100% SANDSTONE: QUARTZITIC. PEBBLY. LIGHT GREY. STRONG ROCK.
506.85 -	507.66	100	100% SANDSTONE: CONGLOMERATIC BANDS. GREY. WITH FRAGMENTS OF QUARTZ. STRONG ROCK. INCREASING GREENISH MINERAL CONTENT
507.66 -	510.50	100	100% SANDSTONE. COARSE GRAINED: GREEN. WITH FRAGMENTS OF QUARTZ. STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182130

LEASE : GRAY
BOREHOLE : GY 3

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
			MINOR SILTSTONE PEBBLES
-	9.00	70	100% DOLERITE: FERRUGINOUS STAINING. ORANGE-YELLOW. HIGHLY WEATHERED. VERY WEAK ROCK. WITH NUMEROUS SLIGHTLY WEATHERED DOLERITE BOULDERS
9.00 -	13.40	80	100% DOLERITE: MED.TO FINE GRAINED. BADLY BROKEN. GREY-GREEN. SLIGHTLY WEATHERED. VERY STRONG ROCK.
13.40 -	15.40	100	100% DOLERITE: MED.TO FINE GRAINED. GREY-GREEN. SLIGHTLY WEATHERED. VERY STRONG ROCK.
15.40 -	16.00	80	100% DOLERITE: BADLY BROKEN. GREY-GREEN. SLIGHTLY WEATHERED. VERY STRONG ROCK.
16.00 -	16.80	100	100% DOLERITE: MEDIUM GRAINED. UNWEATHERED. VERY STRONG ROCK.
16.80 -	17.00	80	100% DOLERITE: BADLY BROKEN. GREY-GREEN. WITH CALCITE ON JOINTS AND TALC ON JOINTS. VERY STRONG ROCK.CLOSE JOINT SPACING. JOINTS DIP 60 DEG. .OPEN PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES. FRACTURE ZONE
17.00 -	19.80	100	100% DOLERITE: MEDIUM GRAINED. GREY-GREEN. VERY STRONG ROCK.VERY WIDE JOINT SPACING. JOINTS DIP 70 DEG. .OPEN PLANAR.ROUGH DISCONTINUITIES .INFILLED WITH CLAY & TALC.
19.80 -	20.60	100	100% DOLERITE: BADLY BROKEN. GREY-GREEN. WITH CALCITE ON JOINTS AND TALC ON JOINTS. VERY STRONG ROCK.CLOSE JOINT SPACING .OPEN.NON-PLANAR DISCONTINUITIES. FRACTURE ZONE
20.60 -	22.00	100	100% DOLERITE: MEDIUM GRAINED. GREY-GREEN. VERY STRONG ROCK.WIDE JOINT SPACING .OPEN.NON-PLANAR DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182131

LEASE : GRAY
BOREHOLE : GY 3

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
22.00 -	23.60	80	100% DOLERITE: BADLY BROKEN, GREY-GREEN, VERY STRONG ROCK,CLOSE JOINT SPACING, JOINTS DIP 70 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CLAY & TALC. FRACTURE ZONE
23.60 -	26.00	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.
26.00 -	27.00	80	100% DOLERITE: BADLY BROKEN, GREY-GREEN, VERY STRONG ROCK,CLOSE JOINT SPACING ,OPEN,NON-PLANAR DISCONTINUITIES ,INFILLED WITH CLAY & TALC. FRACTURE ZONE
27.00 -	28.20	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
28.20 -	28.60	80	100% DOLERITE: BADLY BROKEN, GREY-GREEN, WITH CALCITE ON JOINTS AND TALC ON JOINTS, VERY STRONG ROCK,CLOSE JOINT SPACING ,OPEN,NON-PLANAR DISCONTINUITIES. FRACTURE ZONE
28.60 -	48.20	100	100% DOLERITE: MEDIUM GRAINED, GREY, VERY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.
48.20 -	54.26	100	100% DOLERITE: MEDIUM GRAINED, GREY, VERY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.
54.26 -	54.50	80	100% DOLERITE: BADLY BROKEN, GREY-GREEN, VERY STRONG ROCK,CLOSE JOINT SPACING ,OPEN,NON-PLANAR DISCONTINUITIES ,INFILLED WITH CLAY & TALC.

BOREHOLE LITHOLOGICAL LOG

182132

LEASE : GRAY
BOREHOLE : GY 3

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
			FRACTURE ZONE
54.50 -	58.60	100	100% DOLERITE: MEDIUM GRAINED, GREY, VERY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.
58.60 -	59.20	80	100% DOLERITE: BADLY BROKEN, GREY-GREEN, VERY STRONG ROCK,CLOSE JOINT SPACING ,OPEN,NON-PLANAR DISCONTINUITIES ,INFILLED WITH CLAY & TALC.
			FRACTURE ZONE
59.20 -	66.50	100	100% DOLERITE: MEDIUM GRAINED, GREY, VERY STRONG ROCK.
66.50 -	86.00	100	100% DOLERITE: MEDIUM GRAINED, GREY, VERY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.
86.00 -	134.00	100	100% DOLERITE: MEDIUM GRAINED, GREY, VERY STRONG ROCK,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.
134.00 -	135.00	100	100% DOLERITE: MED.TO FINE GRAINED, GREY, VERY STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES.
135.00 -	135.50	100	100% DOLERITE: VERY FINE GRAINED, GREY, MODERATELY STRONG ROCK.
			CHILLED BASAL CONTACT
135.50 -	137.35	100	100% MUDSTONE: FINE GRAINED SANDSTONE BANDS, GREY, WITH CHLORITE ON JOINTS, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
			BAKED APPEARENCE; SHEARED IN PART;

BOREHOLE LITHOLOGICAL LOG

182133

LEASE : GRAY
BOREHOLE : GY 3

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
137.35	137.76	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK,WITH MUD PELLETS.WIDE JOINT SPACING, JOINTS DIP 70 DEG. .OPEN PLANAR,ROUGH DISCONTINUITIES.
137.76	141.60	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES. WITH SANDSTONE BANDS
141.60	144.50	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
144.50	144.75	100	60% MUDSTONE: CARBONACEOUS, DARK GREY, 20% MUDSTONE: CARBONACEOUS, DARK BROWN, 20% MUDSTONE: BUFF, WEAK ROCK. BROKEN CORE
144.75	145.55	0	CORE LOSS. CORE LOSS
145.55	145.68	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
145.68	152.03	100	100% MUDSTONE: SHALY, GREY-GREEN, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES. MINOR FERRUGINOUS STAINING
152.03	154.83	100	100% MUDSTONE: DARK GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
154.83	155.40	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK. WITH NUMEROUS LARGE CHLORITE PELLETS IN TOP 15 CM.
155.40	156.35	100	100% SILTSTONE: LIGHT GREY, MODERATELY WEAK ROCK.
156.35	158.50	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182134

LEASE : GRAY
BOREHOLE : GY 3

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
			GRADING INTO VERY COARSE SANDSTONE IN BASAL 25 CM.
158.50	- 158.78	100	100% CLAYSTONE: BUFF. WEAK ROCK.
158.78	- 160.73	100	100% MUDSTONE: ARENACEOUS. GREY. MODERATELY WEAK ROCK.
			MINOR RED AND GREEN STAINING
160.73	- 165.80	100	90% MUDSTONE: FERRUGINOUS STAINING. RED-BROWN.
			10% MUDSTONE: GREY. MODERATELY WEAK ROCK.MODERATELY THICK BEDDING.VERY WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
165.80	- 167.63	100	100% MUDSTONE: GREY-GREEN. WITH PELLETS OF CHLORITE. WEAK ROCK.
167.63	- 168.88	100	100% MUDSTONE: GREY. WEAK ROCK.
168.88	- 171.17	100	50% MUDSTONE: GREY. 30% CLAYSTONE: CARBONACEOUS STREAKS. LIGHT BROWN. 20% CARBONACEOUS SHALE: COALY. MODERATELY WEAK ROCK.MODERATELY THICK BEDDING.
171.17	- 171.68	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.
171.68	- 174.10	100	100% MUDSTONE: GREY-BROWN. MODERATELY WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
174.10	- 174.15	100	100% CLAYSTONE: GREY-GREEN. WEAK ROCK.
174.15	- 175.96	100	100% MUDSTONE: ARENACEOUS. GREY-GREEN. MODERATELY WEAK ROCK.
175.96	- 177.42	100	100% MUDSTONE: SANDSTONE BANDS. DARK GREY. MODERATELY WEAK ROCK.WITH MUD PELLETS.
177.42	- 178.70	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182135

LEASE : GRAY
BOREHOLE : GY 3

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
178.70	179.18	100	100% MUDSTONE: COALY BANDS. GREY. MODERATELY WEAK ROCK.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
179.18	179.45	100	100% MUDSTONE: GREY-GREEN. MODERATELY WEAK ROCK.
179.45	179.99	100	100% MUDSTONE: CARBONACEOUS BANDS. DARK GREY. MODERATELY WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
179.99	181.85	100	100% MUDSTONE: CARBONACEOUS BANDS. GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
181.85	183.35	100	100% MUDSTONE: FINE GRAINED SANDSTONE LAMINAE. GREY. MODERATELY WEAK ROCK.
183.35	185.00	100	60% SANDSTONE: MED.TO FINE GRAINED. LIGHT GREY. 40% MUDSTONE: GREY. MODERATELY WEAK ROCK.THIN BEDDING.WITH CROSS LAMINATION AND LOAD CASTS.
185.00	189.75	100	100% PEBBLE CONGLOMERATE: LIGHT GREY. MODERATELY STRONG ROCK.
189.75	189.92	100	100% SANDSTONE. MEDIUM GRAINED: MUDSTONE LENSES. GREY-BROWN. MODERATELY WEAK ROCK.
189.92	190.12	100	100% PEBBLE CONGLOMERATE: GREY-BROWN. MODERATELY STRONG ROCK.
190.12	190.42	100	100% SANDSTONE. MEDIUM GRAINED: MUDSTONE LENSES. GREY-BROWN. MODERATELY WEAK ROCK.
190.42	194.55	100	100% SANDSTONE: LIGHT GREY. MODERATELY WEAK ROCK.WITH MUD PELLETS. FINE GRADING TO COARSE; CARBONACEOUS BANDS AND LENSES; FRIABLE TOWARDS BASE
194.55	198.63	100	50% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS BANDS. LIGHT GREY. 50% SANDSTONE. COARSE GRAINED: COALY LENSES. LIGHT GREY. MODERATELY STRONG ROCK.THICK BEDDING.WITH MUD PELLETS AND CROSS LAMINATION.

BOREHOLE LITHOLOGICAL LOG

182136

LEASE : GRAY
BOREHOLE : GY 3

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
198.63	199.06	100	100% SANDSTONE, FINE GRAINED: MUDSTONE BANDS, GREY, MODERATELY WEAK ROCK.
199.06	199.18	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY STRONG ROCK,WITH MUD PELLETS.
199.18	202.80	100	100% SANDSTONE: MED.-COARSE GRAINED, GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS AND CROSS LAMINATION.
202.80	203.37	100	100% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK.
203.37	205.10	100	100% MUDSTONE: FINE GRAINED SANDSTONE LAMINAE, GREY, MODERATELY WEAK ROCK.
205.10	208.64	100	80% MUDSTONE: CARBONACEOUS, FRIABLE, DARK GREY, 20% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,THIN BEDDING,WITH CROSS LAMINATION.
208.64	209.00	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS BANDS, LIGHT GREY, MODERATELY STRONG ROCK.
209.00	210.30	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
210.30	213.57	100	50% MUDSTONE: GREY, 50% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,THIN BEDDING,WITH CROSS LAMINATION AND LOAD CASTS.
213.57	214.78	100	100% SANDSTONE, MEDIUM GRAINED: MUDSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS AND CROSS LAMINATION.
214.78	215.11	100	100% MUDSTONE: GREY-GREEN, MODERATELY WEAK ROCK.
215.11	215.38	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
215.38	216.59	100	100% MUDSTONE: GREY-GREEN, MODERATELY WEAK ROCK.
216.59	219.26	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK. LAMINATED BELOW 218 M.
219.26	219.56	100	100% CLAYSTONE: MICACEOUS, LIGHT GREEN, WEAK ROCK.
219.56	219.81	100	100% CARBONACEOUS SHALE:.
219.81	219.86	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS, GREY-BROWN, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182137

LEASE : GRAY
BOREHOLE : GY 3

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
219.86	219.88	100	100% CARBONACEOUS SHALE:.
219.88	219.95	100	100% MUDSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, MODERATELY WEAK ROCK.
219.95	220.01	100	100% CARBONACEOUS SHALE:.
220.01	220.05	100	100% MUDSTONE: CARBONACEOUS STREAKS, GREY-BROWN, MODERATELY WEAK ROCK.
220.05	220.08	100	100% CARBONACEOUS SHALE:.
220.08	220.30	100	100% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK.
220.30	221.17	100	100% MUDSTONE: CARBONACEOUS BANDS, GREY, MODERATELY WEAK ROCK.
221.17	222.12	100	100% SILTSTONE: MUDSTONE BANDS, GREY, MODERATELY WEAK ROCK,THIN BEDDING.
222.12	222.19	100	100% CLAYSTONE: CARBONACEOUS BANDS, LIGHT BROWN, WEAK ROCK.
222.19	223.34	100	100% SILTSTONE: MUDSTONE BANDS, GREY, MODERATELY WEAK ROCK,THIN BEDDING.
223.34	229.68	100	70% SANDSTONE: MED.TO FINE GRAINED, GREY, 30% SILTSTONE: GREY, MODERATELY WEAK ROCK,THIN BEDDING,WITH CROSS LAMINATION. SAND/SILT RATIO INCREASES TOWARDS BASE
229.68	231.45	100	100% SANDSTONE, MEDIUM GRAINED: MUDSTONE LAMINAE, GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH CROSS LAMINATION AND CARBONACEOUS WHISPS. FRIABLE IN PART; OCCASIONAL MUDSTONE BANDS
231.45	241.15	100	100% SANDSTONE, COARSE GRAINED: COALY LENSES, GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
241.15	241.24	100	100% COAL, HEAVY DULL:.
241.24	241.29	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
241.29	241.55	100	100% COAL, HEAVY DULL: MUDSTONE BANDS.
241.55	242.02	100	100% MUDSTONE: CARBONACEOUS LENSES, GREY-BROWN, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182138

LEASE : GRAY
BOREHOLE : GY 3

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
242.02	242.57	100	70% CARBONACEOUS SHALE: 30% MUDSTONE: CARBONACEOUS STREAKS. BROWN. WEAK ROCK.MODERATELY THIN BEDDING.
242.57	242.86	100	100% CLAYSTONE: MICACEOUS. GREY-GREEN. STIFF.
242.86	243.07	100	100% MUDSTONE: CARBONACEOUS LENSES. DARK GREY. MODERATELY WEAK ROCK.
243.07	246.47	100	100% SANDSTONE: MUDSTONE LAMINAE. GREY. MODERATELY WEAK ROCK. FINE GRADING TO MEDIUM
246.47	246.57	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.
246.57	246.60	100	100% CARBONACEOUS SHALE: MUDSTONE LAMINAE.
246.60	246.64	100	100% CLAYSTONE: BUFF. STIFF.
246.64	247.97	100	100% SILTSTONE: MUDSTONE BANDS. DARK GREY. MODERATELY WEAK ROCK.
247.97	248.35	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK. WITH 4 CM THICK BAND OF CALCITE VEINLETS AT 248.27 M.
248.35	248.40	100	100% CLAYSTONE: MUDSTONE BANDS. LIGHT BROWN. WEAK ROCK.
248.40	248.61	100	100% SANDSTONE. MEDIUM GRAINED: MUDSTONE LENSES. GREY-BROWN. MODERATELY WEAK ROCK.
248.61	250.97	100	100% SANDSTONE. FINE GRAINED: MUDSTONE LAMINAE. GREY. MODERATELY WEAK ROCK. WITH BANDS CONTAINING ABUNDANT CALCITE VEINLETS
250.97	251.40	100	100% CLAYSTONE: MICACEOUS. GREY-GREEN. WEAK ROCK. WITH MINOR BANDS OF CALCITE VEINLETS
251.40	252.02	100	100% SANDSTONE: VERY FINE GRAINED. DARK GREY. MODERATELY WEAK ROCK.
252.02	253.04	100	100% SANDSTONE: MED.TO FINE GRAINED. GREY. MODERATELY WEAK ROCK.VERY WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182139

LEASE : GRAY
BOREHOLE : GY 3

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
253.04	253.70	100	100% SANDSTONE: VERY FINE GRAINED, GREY-GREEN, MODERATELY WEAK ROCK.
253.70	254.77	100	100% SANDSTONE, FINE GRAINED: GREY-GREEN, MODERATELY WEAK ROCK.
254.77	256.23	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
256.23	256.41	100	100% CLAYSTONE: LIGHT GREEN, WEAK ROCK, .TIGHT.PLANAR.SMOOTH DISCONTINUITIES.
256.41	256.61	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
256.61	257.11	100	100% MUDSTONE: SILTSTONE, GREY-BROWN, MODERATELY WEAK ROCK.
257.11	258.19	100	100% SANDSTONE, MEDIUM GRAINED: MUDSTONE BANDS. LIGHT GREEN, MODERATELY WEAK ROCK.
258.19	259.67	100	100% MUDSTONE: CARBONACEOUS STREAKS, GREY. MODERATELY WEAK ROCK, .TIGHT.PLANAR.SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
259.67	261.95	100	70% SANDSTONE, FINE GRAINED: GREY, 30% SANDSTONE, MEDIUM GRAINED: MUDSTONE LAMINAE, LIGHT GREY. MODERATELY WEAK ROCK,MODERATELY THICK BEDDING.
261.95	263.00	100	70% SANDSTONE: VERY FINE GRAINED, GREY, 30% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH CROSS LAMINATION.
263.00	265.38	100	50% MUDSTONE: GREY, 50% MUDSTONE: CARBONACEOUS LAMINAE, DARK GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH CROSS LAMINATION AND LOAD CASTS.
265.38	265.67	100	100% SANDSTONE, COARSE GRAINED: CARBONACEOUS LENSES, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
265.67	265.82	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS LENSES, LIGHT GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION.
265.82	266.30	100	100% SANDSTONE, COARSE GRAINED: CARBONACEOUS LENSES, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.

BOREHOLE LITHOLOGICAL LOG

182140

LEASE : GRAY
BOREHOLE : GY 3

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
266.30	272.00	100	100% SANDSTONE, COARSE GRAINED: COALY STREAKS, LIGHT GREY, MODERATELY WEAK ROCK. FRIABLE IN PART
272.00	272.16	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK,WITH MUD PELLETS.
272.16	272.58	100	100% CLAYSTONE: CARBONACEOUS BANDS, LIGHT BROWN, WEAK ROCK.
272.58	272.73	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
272.73	272.75	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
272.75	272.76	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
272.76	273.20	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK. CALCAREOUS IN BASAL 20 CM.
273.20	273.24	100	100% CLAYSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, WEAK ROCK.
273.24	273.25	100	100% CARBONACEOUS SHALE:.
273.25	273.33	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY STRONG ROCK.
273.33	273.78	100	100% CLAYSTONE: GREY-GREEN, STIFF.
273.78	273.86	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK, ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
273.86	273.91	100	100% CLAYSTONE: GREY-GREEN, STIFF, ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
273.91	274.16	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
274.16	274.20	100	100% MUDSTONE: CARBONACEOUS BANDS, BROWN, MODERATELY WEAK ROCK.
274.20	274.22	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182141

LEASE : GRAY
BOREHOLE : GY 3

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
274.22	274.33	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK. GRADING TO HEAVY DULL COAL IN PART
274.33	274.57	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
274.57	274.67	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
274.67	274.75	100	100% MUDSTONE: SILTSTONE, DARK GREY, MODERATELY WEAK ROCK.
274.75	274.99	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
274.99	275.02	100	100% MUDSTONE: CARBONACEOUS STREAKS, GREY-GREEN, MODERATELY WEAK ROCK.
275.02	275.22	100	100% CLAYSTONE: GREY-GREEN, FIRM.
275.22	276.06	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
276.06	276.08	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
276.08	276.38	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
276.38	276.41	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES, WITH CALCITE.
276.41	276.60	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
276.60	276.67	100	100% COAL, DULL WITH FEW BRIGHT BANDS: WITH CALCITE.
276.67	276.76	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
276.76	276.77	100	100% MUDSTONE: CARBONACEOUS STREAKS, BROWN, MODERATELY WEAK ROCK.
276.77	276.78	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
276.78	276.80	100	100% MUDSTONE: CARBONACEOUS STREAKS, BROWN, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182142

LEASE : GRAY
BOREHOLE : GY 3

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
276.80	276.89	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
276.89	276.91	100	100% COAL, BRIGHT:.
276.91	276.94	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
276.94	276.99	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
276.99	277.22	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
277.22	277.26	100	100% MUDSTONE: CARBONACEOUS BANDS, BROWN, MODERATELY WEAK ROCK.
277.26	277.27	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
277.27	277.30	100	100% MUDSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, MODERATELY WEAK ROCK.
277.30	277.35	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
277.35	277.36	100	100% MUDSTONE: GREY-GREEN, MODERATELY WEAK ROCK.
277.36	277.38	100	100% MUDSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, MODERATELY WEAK ROCK.
277.38	277.46	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
277.46	277.48	100	100% COAL, BRIGHT:.
277.48	277.53	100	100% MUDSTONE: BRIGHT COAL LENSES, GREY-BROWN, MODERATELY WEAK ROCK.
277.53	278.12	100	100% MUDSTONE: CARBONACEOUS STREAKS, GREY-BROWN, WEAK ROCK.
278.12	278.93	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK, BEDS DIP 6 DEG.. BECOMING SILTY TOWARDS BASE
278.93	279.57	100	100% SANDSTONE, FINE GRAINED: MUDSTONE BANDS, GREY, MODERATELY WEAK ROCK, BEDS DIP 6 DEG..

BOREHOLE LITHOLOGICAL LOG

182143

LEASE : GRAY
BOREHOLE : GY 3

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
279.57	280.60	100	50% SANDSTONE. FINE GRAINED: LIGHT GREY. 50% SILTSTONE: GREY. MODERATELY WEAK ROCK.THIN BEDDING.WITH CROSS LAMINATION AND SLUMP STRUCTURES.
280.60	287.75	100	100% MUDSTONE: CARBONACEOUS BANDS. DARK GREY. MODERATELY WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
287.75	287.76	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.
287.76	287.82	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
287.82	287.84	100	100% CARBONACEOUS SHALE:.
287.84	287.90	100	100% CLAYSTONE:. WEAK ROCK.
287.90	287.93	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.
287.93	287.97	100	100% CLAYSTONE: GREY. WEAK ROCK.CLOSE JOINT SPACING .TIGHT.PLANAR.SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
287.97	288.21	100	100% MUDSTONE: CARBONACEOUS STREAKS. GREY. MODERATELY WEAK ROCK.
288.21	290.96	100	50% MUDSTONE: GREY. 50% MUDSTONE: DARK GREY. MODERATELY WEAK ROCK. BEDS DIP 7 DEG..WITH LOAD CASTS.
290.96	301.34	100	100% SANDSTONE. COARSE GRAINED: COALY LENSES. LIGHT GREY. MODERATELY WEAK ROCK. CALCEROUS FROM 298.16-298.97 M; FRIABLE IN PART; BANDS OF MUDSTONE PEBBLES IN BASAL 1.0 M.
301.34	301.64	100	100% SANDSTONE. FINE GRAINED: SCREE LENSES. GREY. MODERATELY WEAK ROCK.
301.64	302.15	100	100% MUDSTONE: DARK GREY. MODERATELY WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES WITH SLICKENSIDES.

BOREHOLE LITHOLOGICAL LOG

182144

LEASE : GRAY
BOREHOLE : GY 3

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
302.15	302.81	100	50% MUDSTONE: SILTSTONE. GREY. 50% SANDSTONE. FINE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK. BEDS DIP 7 DEG..
302.81	303.01	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
303.01	303.11	100	100% CLAYSTONE: CARBONACEOUS BANDS. BUFF. WEAK ROCK.
303.11	303.25	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY WEAK ROCK.
303.25	303.30	100	100% MUDSTONE: LIGHT BROWN. MODERATELY WEAK ROCK.
303.30	303.33	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY WEAK ROCK.
303.33	303.40	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
303.40	303.58	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.
303.58	303.64	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY WEAK ROCK.
303.64	303.66	100	100% MUDSTONE: LIGHT BROWN. MODERATELY WEAK ROCK.
303.66	303.68	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY WEAK ROCK.
303.68	303.69	100	100% MUDSTONE: BUFF. MODERATELY WEAK ROCK.
303.69	304.14	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.
304.14	304.33	100	100% COAL. HEAVY DULL: BRIGHT COAL BANDS. FRACTURED: GRADING TO DULL COAL AND CARB MUDSTONE IN PART
304.33	304.35	100	100% MUDSTONE: BRIGHT COAL STREAKS. BROWN - BLACK. MODERATELY WEAK ROCK.
304.35	304.51	100	100% COAL. HEAVY DULL: BRIGHT COAL LENSES.
304.51	304.52	100	100% MUDSTONE: BRIGHT COAL STREAKS. BROWN - BLACK. MODERATELY WEAK ROCK.
304.52	304.55	100	100% COAL. HEAVY DULL:.

BOREHOLE LITHOLOGICAL LOG

182145

LEASE : GRAY
BOREHOLE : GY 3

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
304.55	304.64	100	100% COAL. DULL WITH NUMEROUS BRIGHT BANDS:.
304.64	304.65	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. WEAK ROCK.
304.65	304.70	100	100% COAL. DULL:.
304.70	304.86	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.
304.86	305.04	100	100% MUDSTONE: CARBONACEOUS. GREY-BROWN. MODERATELY WEAK ROCK.
305.04	305.13	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.
305.13	305.17	100	100% MUDSTONE: LIGHT BROWN. MODERATELY WEAK ROCK.
305.17	305.24	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.
305.24	305.34	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY WEAK ROCK.
305.34	305.49	100	100% MUDSTONE: LIGHT BROWN. MODERATELY WEAK ROCK.
305.49	305.65	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.CLOSE JOINT SPACING .TIGHT NON-PLANAR DISCONTINUITIES.
305.65	305.69	100	100% MUDSTONE: SILTSTONE. GREY. MODERATELY WEAK ROCK.CLOSE JOINT SPACING .TIGHT NON-PLANAR DISCONTINUITIES.
305.69	305.80	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.CLOSE JOINT SPACING .TIGHT NON-PLANAR DISCONTINUITIES.
305.80	305.83	100	100% MUDSTONE: CARBONACEOUS BANDS. LIGHT BROWN. MODERATELY WEAK ROCK.
305.83	305.94	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY WEAK ROCK.
305.94	305.97	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.
305.97	305.98	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.

BOREHOLE LITHOLOGICAL LOG

182146

LEASE : GRAY
BOREHOLE : GY 3

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
305.98	306.15	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
306.15	308.88	100	70% SANDSTONE, FINE GRAINED: CARBONACEOUS LAMINAE, GREY. 30% MUDSTONE: GREY, MODERATELY WEAK ROCK.THICK BEDDING.
308.88	312.07	100	70% SANDSTONE, FINE GRAINED: MUDSTONE LAMINAE, GREY. 30% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.THIN BEDDING.WITH CROSS LAMINATION.
312.07	312.45	100	60% MUDSTONE: GREY. 40% MUDSTONE: DARK GREY, MODERATELY WEAK ROCK.VERY THIN BEDDING.
312.45	318.01	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS AND CROSS LAMINATION. FRIABLE IN PART; ABUNDANT MUDSTONE PEBBLES AND CARBONACEOUS LENSES IN BASAL 40 CM.
318.01	318.12	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, WEAK ROCK.
318.12	318.42	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.
318.42	318.48	100	100% CLAYSTONE: LIGHT BROWN, STIFF.
318.48	318.83	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
318.83	318.26	100	100% SANDSTONE: VERY COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK. NUMEROUS MUDSTONE PEBBLES IN TOP 16 CM.
319.26	320.15	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK. FRIABLE IN PART
320.15	321.65	100	100% SANDSTONE, COARSE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
321.65	322.49	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.

BOREHOLE LITHOLOGICAL LOG

182147

LEASE : GRAY
BOREHOLE : GY 3

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
322.49	322.85	100	100% SANDSTONE: VERY COARSE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK. NUMEROUS COAL LENSES AND MUDSTONE PEBBLES
322.85	323.05	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
323.05	323.97	100	100% SANDSTONE: VERY COARSE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK. NUMEROUS COAL LENSES AND MUDSTONE PEBBLES
323.97	331.84	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK. GRADING TO VERY COARSE IN PART WITH MUDSTONE PEBBLES AND COAL LENSES
331.84	332.12	100	100% SANDSTONE: MED.-COARSE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.
332.12	354.60	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK. GRADING TO VERY COARSE IN PART; MUDSTONE PEBBLES FROM 333.15-333.90M AND 350.00-350.15M; CALCAREOUS FROM 337.10-337.60M CARBONACEOUS LENSES FROM 340.10-340.45M; FRIABLE IN PART BELOW 346.60M.
354.60	355.06	100	100% MUDSTONE: SCREE LENSES. GREY. MODERATELY WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
355.06	360.97	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES. GRADING TO VERY COARSE IN PART; CALCAREOUS FROM 357.00-357.80 M.

SAMPLE:1

*** CORE DESCRIPTION ***

360.97

BOREHOLE LITHOLOGICAL LOG

182148

LEASE : GRAY
BOREHOLE : GY 3

TOP	BASE	%REC	LITHOLOGY
SAMPLE:1			*** CORE DESCRIPTION ***
	0.09	100	100% COAL. HEAVY DULL: CARBONACEOUS BANDS.
	0.37	100	100% COAL. HEAVY DULL: DULL COAL BANDS.
	0.05	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
	0.16	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.
	0.03	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
	0.03	100	100% MUDSTONE: GREY-BROWN. MODERATELY WEAK ROCK.
	0.11	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.
	0.03	100	100% COAL. HEAVY DULL: MUDSTONE LAMINAE.
	0.03	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.
	0.05	100	100% CARBONACEOUS SHALE: BRIGHT COAL STREAKS.
	0.02	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.
	0.02	100	100% CARBONACEOUS SHALE: BRIGHT COAL STREAKS.
61.96	0.99		TOTAL
SAMPLE:2			*** CORE DESCRIPTION ***
61.96			
	0.08	100	100% COAL. HEAVY DULL: DULL COAL BANDS.
	0.60	100	100% COAL. HEAVY DULL: CARBONACEOUS BANDS. FRACTURED IN PART
	1.04	100	100% COAL. HEAVY DULL: DULL COAL BANDS.
	0.02	100	100% CARBONACEOUS SHALE:.
	0.12	100	100% COAL. HEAVY DULL: BRIGHT COAL STREAKS.
63.82	1.86		TOTAL
			*** CORE DESCRIPTION ***
363.82 - 363.83		100	100% CARBONACEOUS SHALE: BRIGHT COAL STREAKS.
363.83 - 363.90		100	100% MUDSTONE: BRIGHT COAL BANDS. DARK BROWN. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182149

LEASE : GRAY
BOREHOLE : GY 3

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
363.90	- 363.97	100	100% MUDSTONE: COALY LENSES. GREY. WEAK ROCK. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
363.97	- 364.00	100	100% CLAYSTONE: CARBONACEOUS STREAKS. LIGHT BROWN. FIRM.
364.00	- 365.46	100	100% MUDSTONE: GREY. WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES.
365.46	- 365.61	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.
365.61	- 365.77	100	80% SANDSTONE. FINE GRAINED: LIGHT GREY. 20% SILTSTONE: GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.WITH CROSS LAMINATION.
365.77	- 365.86	100	60% SANDSTONE. FINE GRAINED: LIGHT GREY. 40% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.THIN BEDDING.WITH CROSS LAMINATION. GRADATIONAL BASAL CONTACT
365.86	- 366.55	100	100% SANDSTONE. COARSE GRAINED: COALY LENSES. LIGHT GREY. MODERATELY WEAK ROCK. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
366.55	- 366.70	100	60% SILTSTONE: GREY. 40% SANDSTONE. FINE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.THIN BEDDING.WITH CROSS LAMINATION. GRADATIONAL BASAL CONTACT
366.70	- 376.68	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK. POORLY DEVELOPED FINE BEDDING FROM 370.35-373.10M; CALCAREOUS FROM 371.20-372.15M; NUMEROUS COAL LENSES AND MUDSTONE FRAGMENTS FROM 373.10-375.45M.
SAMPLE:3			*** CORE DESCRIPTION ***
376.68			
	0.32	100	100% COAL. HEAVY DULL: BRIGHT COAL LENSES.
	0.10	100	100% COAL. HEAVY DULL: CARBONACEOUS BANDS.

BOREHOLE LITHOLOGICAL LOG

182150

LEASE : GRAY
BOREHOLE : GY 3

TOP	BASE	%REC	LITHOLOGY
SAMPLE:3			*** CORE DESCRIPTION ***
	0.06	100	100% CARBONACEOUS SHALE: BRIGHT COAL LENSES.
	0.07	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
	0.07	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
			0.5 CM LIGHT BROWN MUDSTONE BAND AT BASE
377.30	0.62		TOTAL
SAMPLE:4			*** CORE DESCRIPTION ***
377.30			
	0.14	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
	0.01	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
			GRADATIONAL BASAL CONTACT
	0.02	100	100% MUDSTONE: BRIGHT COAL STREAKS, LIGHT BROWN, MODERATELY WEAK ROCK.
	0.01	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK,WITH MUD PELLETS.
	0.50	100	100% COAL, HEAVY DULL: CARBONACEOUS BANDS,CLOSE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
	0.01	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
	0.46	100	100% COAL, HEAVY DULL: MUDSTONE BANDS.
			GRADING TO DULL COAL IN PART
	0.30	100	100% COAL, HEAVY DULL: DULL COAL BANDS,CLOSE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES.
	0.05	100	100% COAL, HEAVY DULL: MUDSTONE BANDS.
	0.06	100	100% COAL, HEAVY DULL: BRIGHT COAL BANDS.
	0.34	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
	0.02	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, FIRM.

BOREHOLE LITHOLOGICAL LOG

182151

LEASE : GRAY
BOREHOLE : GY 3

TOP	BASE	%REC	LITHOLOGY
SAMPLE:4			*** CORE DESCRIPTION ***
	0.28	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
379.50	2.20		TOTAL
			*** CORE DESCRIPTION ***
379.50 - 379.78		100	100% MUDSTONE: CARBONACEOUS STREAKS, GREY, WEAK ROCK.
379.78 - 379.81		100	100% CLAYSTONE: LIGHT BROWN, FIRM, ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
379.81 - 379.83		100	100% CARBONACEOUS SHALE:.
379.83 - 381.02		100	100% MUDSTONE: CARBONACEOUS BANDS, GREY,WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
381.02 - 381.05		100	100% MUDSTONE: COALY LENSES, DARK GREY, WEAK ROCK, ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
381.05 - 381.07		100	100% COAL, BRIGHT:.
381.07 - 381.15		100	100% MUDSTONE: COALY LENSES, DARK GREY, WEAK ROCK, ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
381.15 - 381.21		100	100% COAL, BRIGHT WITH FEW DULL BANDS:.
381.21 - 381.77		100	100% MUDSTONE: CARBONACEOUS BANDS, GREY, WEAK ROCK.
381.77 - 382.32		100	60% SANDSTONE, FINE GRAINED: GREY, 40% MUDSTONE: GREY, WEAK ROCK,VERY THIN BEDDING,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
382.32 - 384.62		100	100% MUDSTONE: CARBONACEOUS BANDS, GREY, WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
384.62 - 384.63		100	100% CLAYSTONE: LIGHT BROWN, FIRM.

BOREHOLE LITHOLOGICAL LOG

182152

LEASE : GRAY
BOREHOLE : GY 3

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
384.63	384.80	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY STRONG ROCK.
384.80	384.84	100	100% CLAYSTONE: LIGHT GREY, STIFF.
384.84	385.16	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
385.16	385.19	100	100% CLAYSTONE: BROWN, FIRM.
385.19	385.28	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
385.28	385.29	100	100% MUDSTONE: LIGHT BROWN, WEAK ROCK.
385.29	385.32	100	100% COAL, HEAVY DULL:.
385.32	385.41	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
385.41	385.42	100	100% CARBONACEOUS SHALE:.
385.42	386.12	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
386.12	386.23	100	100% MUDSTONE: CARBONACEOUS BANDS, DARK GREY, MODERATELY WEAK ROCK.
386.23	386.33	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY STRONG ROCK.
386.33	387.75	100	100% MUDSTONE: CARBONACEOUS BANDS, GREY, MODERATELY WEAK ROCK.
387.75	387.84	100	100% MUDSTONE: CARBONACEOUS, GREY-BROWN, WEAK ROCK.
387.84	387.88	100	100% MUDSTONE: CARBONACEOUS BANDS, GREY, WEAK ROCK.
387.88	387.91	100	100% CARBONACEOUS SHALE:.
387.91	387.94	100	100% MUDSTONE: CARBONACEOUS BANDS, GREY, MODERATELY WEAK ROCK.
387.94	388.00	100	100% CLAYSTONE: LIGHT BROWN, FIRM.
388.00	388.10	100	100% COAL, HEAVY DULL:.
388.10	388.17	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY STRONG ROCK.
388.17	388.40	100	50% MUDSTONE: GREY. 50% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,THIN BEDDING.

BOREHOLE LITHOLOGICAL LOG

182153

LEASE : GRAY
BOREHOLE : GY 3

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
388.40	395.57	100	100% MUDSTONE: FINE GRAINED SANDSTONE BANDS, GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
395.57	395.66	100	100% SANDSTONE, FINE GRAINED: GREY, MODERATELY WEAK ROCK.
395.66	398.13	100	100% SANDSTONE, MEDIUM GRAINED: MUDSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
398.13	399.82	100	100% SANDSTONE, COARSE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
399.82	400.16	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,THIN BEDDING,WITH CARBONACEOUS WHISPS AND CROSS LAMINATION.
400.16	406.68	100	100% SANDSTONE, COARSE GRAINED: CARBONACEOUS, FRAGMENTS, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
406.68	409.72	100	90% MUDSTONE: GREY. 10% MUDSTONE: LIGHT GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH CROSS LAMINATION AND LOAD CASTS.
409.72	410.10	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
410.10	411.31	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.
411.31	411.49	100	100% CLAYSTONE: GREY, FIRM.
411.49	411.57	0	CORE LOSS.
			CORE LOSS
411.57	412.23	100	100% MUDSTONE: CARBONACEOUS BANDS, GREY, WEAK ROCK,VERY THIN BEDDING.
412.23	412.40	100	60% SANDSTONE, FINE GRAINED: GREY, 40% MUDSTONE: GREY, MODERATELY WEAK ROCK,MODERATELY THICK BEDDING.
412.40	412.76	100	50% SANDSTONE, FINE GRAINED: GREY, 50% MUDSTONE: GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.

BOREHOLE LITHOLOGICAL LOG

182154

LEASE : GRAY
BOREHOLE : GY 3

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
412.76	413.49	100	100% SANDSTONE. FINE GRAINED: GREY. MODERATELY WEAK ROCK.
413.49	413.96	100	100% MUDSTONE: CARBONACEOUS BANDS. GREY. WEAK ROCK.VERY THIN BEDDING.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 30 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
413.96	415.70	100	50% SANDSTONE. FINE GRAINED: LIGHT GREY. 50% MUDSTONE: CARBONACEOUS LAMINAE. GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.WITH CROSS LAMINATION. SAND/MUD RATIO INCREASES TOWARDS BASE.
415.70	416.28	100	100% SANDSTONE: MED.TO FINE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.WITH GRADED BEDDING.
416.28	417.69	100	100% MUDSTONE: CARBONACEOUS BANDS. GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
417.69	418.47	100	80% MUDSTONE: CARBONACEOUS. BLACK. 20% MUDSTONE: CARBONACEOUS STREAKS. GREY-BROWN. MODERATELY WEAK ROCK.MODERATELY THIN BEDDING.
418.47	419.07	100	90% SANDSTONE. FINE GRAINED: LIGHT GREY. 10% MUDSTONE: CARBONACEOUS STREAKS. GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
419.07	419.75	100	50% SANDSTONE. FINE GRAINED: LIGHT GREY. 50% MUDSTONE: CARBONACEOUS LAMINAE. GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
419.75	421.01	100	100% MUDSTONE: CARBONACEOUS BANDS. GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
421.01	421.58	100	80% MUDSTONE: CARBONACEOUS. BLACK. 20% MUDSTONE: CARBONACEOUS STREAKS. GREY-BROWN. MODERATELY WEAK ROCK.MODERATELY THIN BEDDING.
421.58	423.63	100	50% SANDSTONE. FINE GRAINED: LIGHT GREY. 50% MUDSTONE: CARBONACEOUS STREAKS. GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.

BOREHOLE LITHOLOGICAL LOG

182155

LEASE : GRAY
BOREHOLE : GY 3

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
423.63	423.68	100	100% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK,VERY THIN BEDDING ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
423.68	423.71	100	100% MUDSTONE: CARBONACEOUS STREAKS, GREY-BROWN, SOFT.
423.71	424.15	100	100% COAL, HEAVY DULL: MUDSTONE BANDS.
424.15	430.69	100	50% SANDSTONE, FINE GRAINED: LIGHT GREY, 50% MUDSTONE: CARBONACEOUS BANDS, GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
430.69	432.90	100	50% MUDSTONE: CARBONACEOUS STREAKS, GREY, 50% MUDSTONE: LIGHT GREY, MODERATELY WEAK ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
432.90	433.03	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK,MODERATELY CLOSE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
433.03	433.13	100	100% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING,MODERATELY CLOSE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
433.13	434.67	100	70% SANDSTONE: LIGHT GREY, 30% MUDSTONE: CARBONACEOUS, GREY-BROWN, MODERATELY WEAK ROCK,THIN BEDDING,WITH CROSS LAMINATION. SAND/MUD RATIO INCREASES TOWARDS BASE: SANDSTONE GRADES FROM FINE TO MEDIUM GRAINED
434.67	437.32	100	100% SANDSTONE: LIGHT GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH CROSS LAMINATION. VERY FINE GRADING TO MEDIUM GRAINED
437.32	437.53	100	100% MUDSTONE: CARBONACEOUS STREAKS, GREY, WEAK ROCK,VERY THIN BEDDING.

BOREHOLE LITHOLOGICAL LOG

182156

LEASE : GRAY
BOREHOLE : GY 3

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
437.53 - 437.73		100	80% CARBONACEOUS SHALE: BRIGHT COAL LENSES. 20% CLAYSTONE: CARBONACEOUS STREAKS. LIGHT BROWN. FIRM.
437.73 - 439.36		100	100% MUDSTONE: CARBONACEOUS BANDS. GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
439.36 - 439.77		100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS BANDS. LIGHT GREY. MODERATELY WEAK ROCK.THIN BEDDING.
SAMPLE:5			*** CORE DESCRIPTION ***
439.77			
	0.03	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.
	0.09	100	100% COAL. HEAVY DULL: CARBONACEOUS BANDS.
	0.04	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY WEAK ROCK.
	0.03	100	100% MUDSTONE: GREY-BROWN. MODERATELY WEAK ROCK.
	0.04	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY WEAK ROCK.
	0.19	100	100% COAL. HEAVY DULL: CARBONACEOUS BANDS.
	0.07	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY WEAK ROCK.
	0.02	100	100% MUDSTONE: CARBONACEOUS STREAKS. GREY-BROWN. MODERATELY WEAK ROCK.
	0.04	100	100% MUDSTONE: CARBONACEOUS. DARK GREY. MODERATELY WEAK ROCK.
440.32	0.55		TOTAL
SAMPLE:6			*** CORE DESCRIPTION ***
440.32			
	0.38	100	100% COAL. HEAVY DULL: CARBONACEOUS BANDS.

BOREHOLE LITHOLOGICAL LOG

182157

LEASE : GRAY
BOREHOLE : GY 3

TOP	BASE	%REC	LITHOLOGY
SAMPLE:6			*** CORE DESCRIPTION ***
	0.01	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
	0.32	100	100% COAL, HEAVY DULL: CARBONACEOUS BANDS, WITH CALCITE AND PYRITE.
441.03	0.71		TOTAL
			*** CORE DESCRIPTION ***
441.03 - 443.46		100	100% MUDSTONE: CARBONACEOUS BANDS, GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH MUD PELLETS.
443.46 - 450.41		100	50% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY. 50% MUDSTONE: GREY, MODERATELY WEAK ROCK.
450.41 - 461.70		100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS LENSES, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS. CARBONACEOUS MUDSTONE LENSES CONTAINING CALCITE ARAGMENTS FROM 459.27-459.29;COAL STREAKS; POORLY DEVELOPED PINE BEDDING IN PART
461.70 - 462.30		100	60% SANDSTONE, FINE GRAINED: GREY, 40% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
462.30 - 463.94		100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS LENSES, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS. CARBONACEOUS LENSES WITH CALCITE FRAGMENTS AT 463.23M LAST14 CMS CONTAINS MUDSTONE AND SANDSTONE FRAGMENTS
463.94 - 464.57		100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES. GRADATIONAL CONTACT AT BASE
464.57 - 466.14		100	50% MUDSTONE: GREY, 50% SILTSTONE: LIGHT GREY, MODERATELY WEAK ROCK,THIN BEDDING.

BOREHOLE LITHOLOGICAL LOG

182158

LEASE : GRAY
BOREHOLE : GY 3

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
466.14	467.19	100	100% MUDSTONE: CARBONACEOUS BANDS, GREY, MODERATELY WEAK ROCK.
467.19	467.88	100	50% SANDSTONE, FINE GRAINED: CARBONACEOUS BANDS, LIGHT GREY. 50% SILTSTONE: GREY, MODERATELY WEAK ROCK.VERY THIN BEDDING.
467.88	469.65	100	100% SANDSTONE: CARBONACEOUS BANDS, LIGHT GREY, MODERATELY WEAK ROCK.WITH MUD PELLETS. MEDIUM-FINE GRADING TO VERY COARSE WITH DEPTH. LAST 10 CMS -GRIT WITH MUDSTONE FRAGMENTS;SILTSTONE BANDS FROM 468.61-469.15M
469.65	469.95	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
469.95	471.01	100	50% SANDSTONE, FINE GRAINED: CARBONACEOUS BANDS, LIGHT GREY. 50% SILTSTONE: GREY, MODERATELY WEAK ROCK.VERY THIN BEDDING.
471.01	471.47	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
471.47	472.18	100	50% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY. 50% SILTSTONE: GREY, MODERATELY WEAK ROCK.VERY THIN BEDDING.WITH CROSS LAMINATION.
472.18	472.85	100	100% MUDSTONE: CARBONACEOUS STREAKS, GREY, MODERATELY WEAK ROCK. VERY FINE SANDSTONE BANDS AT TOP
472.85	473.09	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
473.09	473.15	100	100% MUDSTONE: BUFF, STIFF.
473.15	473.18	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
473.18	473.24	100	100% MUDSTONE: BUFF, FIRM.
473.24	473.26	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
473.26	473.29	100	100% MUDSTONE: CARBONACEOUS STREAKS, BUFF, WEAK ROCK.
473.29	473.31	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182159

LEASE : GRAY
BOREHOLE : GY 3

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
473.31	473.36	100	100% COAL. DULL:.
473.36	473.39	100	100% MUDSTONE: CARBONACEOUS STREAKS. BROWN. MODERATELY WEAK ROCK.
473.39	473.44	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. WITH CALCITE ON JOINTS. MODERATELY WEAK ROCK. JOINT AT BASE CONTAINING CALCITE
473.44	473.48	100	100% MUDSTONE: CARBONACEOUS STREAKS. BROWN. MODERATELY WEAK ROCK.
473.48	473.66	100	100% MUDSTONE: ARENACEOUS. GREY. MODERATELY WEAK ROCK.
473.66	473.98	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.
473.98	474.47	100	50% SANDSTONE. FINE GRAINED: LIGHT GREY. 50% SILTSTONE: GREY. MODERATELY WEAK ROCK.THIN BEDDING.
474.47	474.77	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK. SILTY IN PART
474.77	474.94	100	100% MUDSTONE: CARBONACEOUS. DARK GREY. WEAK ROCK.
474.74	475.02	100	100% MUDSTONE: CARBONACEOUS STREAKS. GREY. MODERATELY WEAK ROCK.
475.02	475.52	100	100% SILTSTONE: ARGILLACEOUS. GREY. MODERATELY WEAK ROCK.
475.52	475.85	100	50% SANDSTONE. FINE GRAINED: LIGHT GREY. 50% SILTSTONE: GREY. MODERATELY WEAK ROCK.THIN BEDDING.
475.85	476.09	100	100% SANDSTONE. MEDIUM GRAINED:. MODERATELY WEAK ROCK. SILTSTONE BANDS
476.09	476.24	100	50% SANDSTONE: MED.TO FINE GRAINED. LIGHT GREY. 50% SILTSTONE: GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
476.24	476.55	100	100% MUDSTONE: ARENACEOUS BANDS. GREY. MODERATELY WEAK ROCK.
476.55	477.17	100	100% SILTSTONE: ARENACEOUS BANDS. GREY. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182160

LEASE : GRAY
BOREHOLE : GY 3

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
477.17	477.98	100	100% SANDSTONE: CARBONACEOUS BANDS, LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING,WITH MUD PELLETS. GRADING FROM FINE TO VERY COARSE AT BASE-GRIT:SILTSTONE BANDS AT TOP OF UNIT;MUDSTONE AND QUARTZ FRAGMENTS IN BASAL GRIT
477.98	479.31	100	100% CLAYSTONE: CARBONACEOUS STREAKS, GREY-GREEN, WITH CALCITE ON JOINTS, MODERATELY WEAK ROCK,CLOSE JOINT SPACING ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES. SANDY BANDS AT TOP OF UNIT;SILTY AT BASE
479.31	479.40	100	100% MUDSTONE: CARBONACEOUS, BROWN, MODERATELY WEAK ROCK.
479.40	479.77	100	100% MUDSTONE: CARBONACEOUS STREAKS, GREY. SANDSTONE AND CARBONACEOUS BANDS IN BASAL 10CMS
479.77	482.59	100	70% SANDSTONE, MEDIUM GRAINED: COARSE GRAINED BANDS, GREY, 30% MUDSTONE: DARK GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION. COARSE SANDSTONE CONTAINS MUDSTONE,QUARTZ AND FELDSPAR FRAGMENTS PLUS COAL STREAKS MEDIUM TO FINE SANDSTONE CONTAINS CARBONACEOUS STREAKS
482.59	484.41	100	100% SANDSTONE, COARSE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK. FINE SANDSTONE BANDS;CARBONACEOUS FRAGMENTS;COAL STREAKS AND QUARTZ FRAGMENTS PRESENT
484.41	484.73	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK. SANDSTONE FINER GRAINED AT TOP OF UNIT; SANDSTONE AND MUDSTONE FRAGMENTS AND SANDSTONE PEBBLES AT BASAL CONTACT -BASE OF TRIASSIC

BOREHOLE LITHOLOGICAL LOG

182161

LEASE : GRAY
BOREHOLE : GY 3

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
484.73 -	486.23	100	100% SILTSTONE: DARK GREY. WITH CALCITE ON JOINTS AND FRAGMENTS OF QUARTZ. MODERATELY WEAK ROCK.VERY WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES. COLOUR BECOMING LIGHTER WITH DEPTH DUE TO AN INCREASE IN QUARTZ FRAGMENTS
486.23 -	486.81	100	100% SILTSTONE: GREY. WITH FRAGMENTS OF QUARTZ. MODERATELY WEAK ROCK. GRADING TO CONGLOMERATE WITH DEPTH WITH AN INCREASE IN QUART2 AND ROCK FRAGMENTS
486.81 -	486.99	100	100% PEBBLE CONGLOMERATE: LIGHT GREY. MODERATELY STRONG ROCK. MUDSTONE FRAGMENTS
486.99 -	487.19	100	100% SILTSTONE: DARK GREY. WITH FRAGMENTS OF QUARTZ. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182162

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
-	10.21	10	60% DOLERITE: FRIABLE, MEDIUM GRAINED, GREY, 40% DOLERITE: FERRUGINOUS, ORANGE-YELLOW, HIGHLY WEATHERED, VERY WEAK ROCK. MN OXIDE STAINING
10.21 -	11.00	90	100% CLAY: FERRUGINOUS, ORANGE-YELLOW, COMPLETELY WEATHERED, SOFT. MN OXIDE STAINING
11.00 -	18.60	60	60% DOLERITE: FERRUGINOUS, ORANGE-YELLOW, 40% DOLERITE: FRIABLE, MEDIUM GRAINED, GREY, HIGHLY WEATHERED, VERY WEAK ROCK,MODERATELY CLOSE JOINT SPACING ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CLAY & TALC. MN OXIDE STAINING
18.60 -	25.50	60	90% DOLERITE: FERRUGINOUS, ORANGE-YELLOW, 10% DOLERITE: FRIABLE, MEDIUM GRAINED, GREY, HIGHLY WEATHERED, VERY WEAK ROCK. MN OXIDE STAINING
25.50 -	27.50	100	100% DOLERITE: MEDIUM GRAINED, GREY, SLIGHTLY WEATHERED, VERY STRONG ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES. MN AND FE OXIDE STAINING ON JOINTS
27.50 -	29.00	90	100% DOLERITE: FERRUGINOUS, ORANGE-YELLOW, HIGHLY WEATHERED, VERY WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES. MN OXIDE STAINING
29.00 -	37.00	100	100% DOLERITE: MEDIUM GRAINED, GREY, SLIGHTLY WEATHERED, VERY STRONG ROCK,MODERATELY WIDE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES. MN AND FE OXIDE STAINING ON JOINTS; DIP OF JOINTS RANGES FROM 30 TO 80 DEG.

BOREHOLE LITHOLOGICAL LOG

182163

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
37.00 -	37.20	100	100% DOLERITE: FERRUGINOUS, ORANGE-YELLOW, HIGHLY WEATHERED, WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 20 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES. MN OXIDE STAINING
37.20 -	39.30	100	100% DOLERITE: MEDIUM GRAINED, GREY, SLIGHTLY WEATHERED, VERY STRONG ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES. MN AND FE OXIDE STAINING ON JOINTS
39.30 -	39.40	70	100% DOLERITE: FERRUGINOUS, BADLY BROKEN, ORANGE-YELLOW, HIGHLY WEATHERED, WEAK ROCK. MN OXIDE STAINING
39.40 -	42.70	100	100% DOLERITE: MEDIUM GRAINED, GREY, SLIGHTLY WEATHERED, VERY STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES. MN AND FE OXIDE STAINING ON JOINTS
42.70 -	44.80	70	100% DOLERITE: MEDIUM GRAINED, BADLY BROKEN, GREY, SLIGHTLY WEATHERED, VERY STRONG ROCK. MN AND FE OXIDE STAINING ON JOINTS
44.80 -	45.40	100	100% DOLERITE: MEDIUM GRAINED, GREY, SLIGHTLY WEATHERED, VERY STRONG ROCK,MODERATELY WIDE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES. MN AND FE OXIDE STAINING ON JOINTS
45.40 -	46.80	70	100% DOLERITE: MEDIUM GRAINED, BADLY BROKEN, GREY, SLIGHTLY WEATHERED, VERY STRONG ROCK. MN AND FE OXIDE STAINING ON JOINTS
46.80 -	47.45	100	100% DOLERITE: MEDIUM GRAINED, GREY, SLIGHTLY WEATHERED, VERY STRONG ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182164

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
			MN AND FE OXIDE STAINING ON JOINTS
47.45 -	60.50	100	100% DOLERITE: MEDIUM GRAINED, GREY, WITH CHLORITE ON JOINTS AND CALCITE ON JOINTS. UNWEATHERED. VERY STRONG ROCK.MODERATELY WIDE JOINT SPACING .OPEN PLANAR.ROUGH DISCONTINUITIES. DIP OF JOINTS 10-30 DEG. AND 60-80 DEG.; NUMEROUS FINE FRACTURES IN PART
60.50 -	67.50	100	100% DOLERITE: MEDIUM GRAINED, GREY, WITH CHLORITE ON JOINTS AND CALCITE ON JOINTS. VERY STRONG ROCK.VERY WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES. NUMEROUS FINE FRACTURES IN PART
67.50 -	72.60	100	100% DOLERITE: MEDIUM GRAINED, GREY, WITH CHLORITE ON JOINTS AND CALCITE ON JOINTS. VERY STRONG ROCK.MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
72.60 -	75.00	100	100% DOLERITE: MED.TO FINE GRAINED, GREY. STRONG ROCK.WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES. NUMEROUS FINE FRACTURES IN PART
75.00 -	75.90	100	100% DOLERITE: MED.TO FINE GRAINED, GREY. MODERATELY STRONG ROCK.MODERATELY WIDE JOINT SPACING .TIGHT NON-PLANAR DISCONTINUITIES .INFILLED WITH CALCITE.
75.90 -	76.65	100	100% DOLERITE: FINE GRAINED. CHLORITIC. GREY-GREEN. MODERATELY WEAK ROCK.MODERATELY WIDE JOINT SPACING .TIGHT NON-PLANAR DISCONTINUITIES .INFILLED WITH CALCITE.
76.65 -	76.75	100	100% DOLERITE: VERY FINE GRAINED, CHLORITIC, DARK GREEN. MODERATELY WEAK ROCK.
76.75 -	77.02	100	100% DOLERITE: VERY FINE GRAINED, GREY-GREEN. MODERATELY WEAK ROCK. IRREGULAR BASAL CONTACT; MOTTLED IN PART

BOREHOLE LITHOLOGICAL LOG

182165

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
77.02 -	80.00	100	100% MUDSTONE: GREY-GREEN. MODERATELY WEAK ROCK. BAKED APPEARENCE
80.00 -	81.00	90	100% MUDSTONE: GREY-GREEN. MODERATELY WEAK ROCK. MOTTLED APPEARENCE CAUSED BY DARK GREEN AND PURPLE-RED STAINING
81.00 -	82.00	70	100% MUDSTONE: FERRUGINOUS STAINING. GREY-BROWN. MODERATELY WEAK ROCK.
82.00 -	84.50	70	100% MUDSTONE: FERRUGINOUS STAINING. DARK GREY. MODERATELY WEAK ROCK. WITH NUMEROUS IRREGULAR "LENSES" OF CREAM CLAYSTONE
84.50 -	84.85	100	100% CLAYSTONE: FERRUGINOUS STAINING. CREAM. WEAK ROCK.
84.85 -	85.35	100	100% MUDSTONE: FERRUGINOUS STAINING. BLUE - GREY. WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES.
85.35 -	85.55	100	100% MUDSTONE: FERRUGINOUS STAINING. GREY. WITH ABUNDANT MICA. STIFF.
85.55 -	91.50	100	100% MUDSTONE: FERRUGINOUS STAINING. GREY. WEAK ROCK. SHALY IN PART.MOTTLED IN PART. MINOR SOFT CLAY BANDS
91.50 -	97.85	100	40% MUDSTONE: CARBONACEOUS BANDS. GREY. 40% MUDSTONE: GREY-BROWN. 20% MUDSTONE: GREY-GREEN. WEAK ROCK.THICK BEDDING. MINOR IRON STAINING; MOTTLED IN PART
97.85 -	97.95	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
97.95 -	98.00	100	100% MUDSTONE: CARBONACEOUS STREAKS. LIGHT BROWN. MODERATELY WEAK ROCK.
98.00 -	98.10	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
98.10 -	98.22	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182166

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
98.22 -	99.53	100	100% MUDSTONE: CARBONACEOUS BANDS, GREY, WEAK ROCK.
99.53 -	99.88	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, WEAK ROCK.
99.88 -	101.13	100	100% CLAYSTONE: LIGHT GREY, WEAK ROCK,WITH CARBONACEOUS WHISPS.
101.13 -	101.50	100	100% CLAYSTONE: GREY-GREEN, WEAK ROCK.
101.50 -	101.56	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
101.56 -	102.00	100	100% MUDSTONE: CARBONACEOUS, GREY-BROWN, WEAK ROCK.
102.00 -	104.80	100	100% MUDSTONE: FERRUGINOUS STAINING, GREY, WEAK ROCK.
104.80 -	105.15	100	100% MUDSTONE: FERRUGINOUS, RED-BROWN, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
105.15 -	105.75	100	100% MUDSTONE: FERRUGINOUS STAINING, GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
105.75 -	105.85	100	100% MUDSTONE: FERRUGINOUS STAINING, DARK GREY, WEAK ROCK.
105.85 -	109.15	100	100% MUDSTONE: FERRUGINOUS, RED-BROWN, WEAK ROCK. OCCASIONAL UNSTAINED GREY SECTIONS
109.15 -	110.80	100	70% MUDSTONE: GREY, 20% MUDSTONE: LIGHT GREEN, 10% CLAYSTONE: LIGHT GREY, WEAK ROCK,MODERATELY THICK BEDDING,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES. MINOR IRON STAINING; IRREGULAR GREEN (CHLORITE?) FRAGMENTS
110.80 -	111.81	100	100% MUDSTONE: GREY-GREEN, WEAK ROCK.
111.81 -	112.16	100	100% MUDSTONE: GREY, WEAK ROCK.
112.16 -	112.61	100	100% CLAYSTONE: GREY-BROWN, WEAK ROCK.
112.61 -	115.17	100	100% MUDSTONE: CARBONACEOUS BANDS, GREY-BROWN, WEAK ROCK. THIN BANDS OF SOFT LIGHT BROWN CLAYSTONE

BOREHOLE LITHOLOGICAL LOG

182167

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
115.17	115.23	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
115.23	115.79	100	100% CLAYSTONE: LIGHT BROWN. WEAK ROCK.
115.79	115.89	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.
115.89	117.80	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK. IRREGULAR CLAYSTONE AND CARB MUDSTONE BANDS AND LENSES
117.80	123.32	100	40% CLAYSTONE: CALCITIC. FRAGMENTS. LIGHT BROWN. 30% MUDSTONE: CARBONACEOUS. GREY-BROWN. 30% MUDSTONE: COALY. BLACK.MODERATELY THICK BEDDING.WITH FLAME/PULL-OVER STRUCTS AND LOAD CASTS. STRENGTH RANGES FROM WEAK TO MOD STRONG
123.32	123.45	100	100% MUDSTONE: SILTSTONE. GREY-BROWN. MODERATELY WEAK ROCK.
123.45	125.09	100	100% SANDSTONE. FINE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.
125.09	125.78	100	100% SANDSTONE. MEDIUM GRAINED: FINE GRAINED SANDSTONE BANDS. LIGHT GREY. MODERATELY WEAK ROCK.
125.78	128.46	100	100% SANDSTONE. COARSE GRAINED: MEDIUM GRAINED BANDS. LIGHT GREY. MODERATELY WEAK ROCK.
128.46	129.06	100	100% PEBBLE CONGLOMERATE: GREY. MODERATELY STRONG ROCK.
129.06	129.27	100	100% SANDSTONE. COARSE GRAINED: SILTSTONE LENSES. GREY. MODERATELY WEAK ROCK.
129.27	131.62	50	100% PEBBLE CONGLOMERATE: GREY. MODERATELY WEAK ROCK. FRIABLE IN PART; COARSE SAND MATRIX; PEBBLES MAINLY ROCK FRAGMENTS
131.62	132.51	100	100% SANDSTONE. COARSE GRAINED: CREAM. MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.

BOREHOLE LITHOLOGICAL LOG

182168

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
			GRADES TO PALE BROWN IN PART
132.51	132.83	100	100% SANDSTONE. COARSE GRAINED: COALY LENSES. BROWN. MODERATELY WEAK ROCK.WITH MUD PELLETS.
132.83	133.35	100	100% SANDSTONE. COARSE GRAINED: COALY LENSES. CREAM. MODERATELY WEAK ROCK.WITH MUD PELLETS.
133.35	135.98	100	100% SANDSTONE. COARSE GRAINED: CREAM. MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS. GRADES TO PALE BROWN IN BASAL 20 CM.
135.98	136.64	100	100% SANDSTONE. COARSE GRAINED: BROWN. MODERATELY WEAK ROCK.
136.64	136.88	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.WITH FLAME/PULL-OVER STRUCTS.
136.88	138.98	100	100% SANDSTONE. COARSE GRAINED: FINE GRAINED SANDSTONE BANDS. LIGHT GREY. MODERATELY WEAK ROCK.
138.98	141.71	100	100% SANDSTONE. MEDIUM GRAINED: COARSE GRAINED BANDS. LIGHT GREY. MODERATELY WEAK ROCK.
141.71	142.99	100	100% SANDSTONE. COARSE GRAINED: COALY LENSES. LIGHT GREY. MODERATELY WEAK ROCK.
142.99	143.95	100	100% SANDSTONE. MEDIUM GRAINED: SILTSTONE LAMINAE. LIGHT GREY. MODERATELY WEAK ROCK.WITH CROSS LAMINATION.
143.95	148.37	100	100% SANDSTONE. COARSE GRAINED: COALY LENSES. LIGHT GREY. MODERATELY WEAK ROCK.WITH MUD PELLETS.
148.37	148.97	100	100% SANDSTONE. COARSE GRAINED: LIGHT BROWN. MODERATELY WEAK ROCK.
148.97	149.11	100	100% CLAYSTONE: CARBONACEOUS STREAKS. BROWN. WEAK ROCK.
149.11	149.20	100	100% MUDSTONE: CARBONACEOUS. GREY-BROWN. MODERATELY WEAK ROCK.
149.20	150.01	100	100% MUDSTONE: LIGHT GREY. MODERATELY WEAK ROCK.
150.01	150.04	100	100% MUDSTONE: CARBONACEOUS STREAKS. GREY. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182169

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
150.04	150.12	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
150.12	150.15	100	100% CLAYSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, FIRM.
150.15	150.25	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
150.25	150.60	100	100% MUDSTONE: CARBONACEOUS, GREY-BROWN, MODERATELY WEAK ROCK.
150.60	150.64	100	100% CLAYSTONE: CREAM, SOFT.
150.64	150.67	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
150.67	150.70	100	100% CLAYSTONE: CREAM, SOFT.
150.70	150.97	100	100% MUDSTONE: DARK GREY, MODERATELY WEAK ROCK.
150.97	151.78	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
151.78	152.42	100	100% CLAYSTONE: CREAM, VERY WEAK ROCK.
152.42	152.44	100	100% CLAYSTONE: GREY, WEAK ROCK.
152.44	152.49	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
152.49	152.59	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
152.59	152.69	100	100% MUDSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.
152.69	152.75	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
152.75	152.82	100	100% MUDSTONE: CARBONACEOUS LENSES, GREY-BROWN, MODERATELY WEAK ROCK.
152.82	152.86	100	100% MUDSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, MODERATELY WEAK ROCK.
152.86	152.91	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
152.91	153.01	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
153.01	153.04	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182170

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
153.04	153.07	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
153.07	153.12	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
153.12	153.15	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
153.15	153.17	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY STRONG ROCK.
153.17	153.19	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
153.19	153.23	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
153.23	153.27	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
153.27	153.31	100	100% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK.
153.31	153.98	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
153.98	154.01	100	100% MUDSTONE: ARENACEOUS, CREAM, MODERATELY WEAK ROCK.
154.01	154.06	100	100% COAL, HEAVY DULL:.
154.06	154.14	100	100% COAL, HEAVY DULL: BRIGHT COAL BANDS.
154.14	154.16	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
154.16	154.17	100	100% MUDSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.
154.17	154.20	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
154.20	154.24	100	100% SANDSTONE, FINE GRAINED: MUDSTONE LENSES, LIGHT BROWN, MODERATELY WEAK ROCK.
154.24	154.36	100	100% MUDSTONE: SANDSTONE LENSES, GREY-BROWN, MODERATELY WEAK ROCK.
154.36	154.42	100	100% CLAYSTONE: CALCITIC LENSES, CREAM, SOFT.
154.42	154.49	100	100% MUDSTONE: SANDSTONE STREAKS, GREY-BROWN, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182171

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
154.49	154.52	100	100% MUDSTONE: BROWN - BLACK, MODERATELY STRONG ROCK.
154.52	154.55	100	100% MUDSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, WEAK ROCK.
154.55	154.66	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
154.66	154.95	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
154.95	154.96	100	100% SANDSTONE, FINE GRAINED: LIGHT BROWN, MODERATELY WEAK ROCK.
154.96	155.14	100	60% MUDSTONE: CARBONACEOUS, BROWN - BLACK, 40% MUDSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING.
155.14	155.40	100	100% MUDSTONE: MICACEOUS, CREAM, WEAK ROCK.
155.40	157.30	100	90% MUDSTONE: CARBONACEOUS, BROWN - BLACK, 10% MUDSTONE: BRIGHT COAL STREAKS, LIGHT BROWN, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING.
157.30	157.80	100	100% MUDSTONE: CARBONACEOUS BANDS, GREY, WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 20 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
157.80	158.00	100	100% MUDSTONE: CARBONACEOUS, GREY-BROWN, WEAK ROCK.
158.00	160.16	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
160.16	161.10	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
161.10	161.32	100	100% SANDSTONE, FINE GRAINED: MEDIUM GRAINED LENSES, GREY, MODERATELY WEAK ROCK.
161.32	161.46	100	100% SANDSTONE, MEDIUM GRAINED: FINE GRAINED SANDSTONE LENSES, LIGHT GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION.
161.46	161.76	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182172

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
161.76	161.98	100	100% SANDSTONE, FINE GRAINED: MEDIUM GRAINED LENSES, GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION.
161.98	162.40	100	100% SANDSTONE, MEDIUM GRAINED: FINE GRAINED SANDSTONE LENSES, LIGHT GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION.
162.40	163.08	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
163.08	163.22	100	100% SANDSTONE, FINE GRAINED: GREY, MODERATELY WEAK ROCK.
163.22	163.32	100	100% SANDSTONE, MEDIUM GRAINED: FINE GRAINED SANDSTONE LENSES, LIGHT GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION.
163.32	163.62	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
163.62	169.61	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
169.61	169.87	100	100% SANDSTONE, FINE GRAINED: SILTSTONE LENSES, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS AND CROSS LAMINATION.
169.87	179.83	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK. CALCAREOUS IN PART; BANDS WITH MUDSTONE LENSES AND COAL LENSES
179.83	179.97	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
179.97	180.07	100	100% MUDSTONE: CARBONACEOUS, BROWN, MODERATELY WEAK ROCK.
180.07	180.72	100	100% CLAYSTONE: CARBONACEOUS BANDS, LIGHT BROWN, VERY WEAK ROCK.
180.72	181.81	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182173

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
181.81	182.04	100	100% MUDSTONE: SILTSTONE, GREY-BROWN, MODERATELY WEAK ROCK.
182.04	183.44	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK.
183.44	186.11	100	100% SILTSTONE: FINE GRAINED SANDSTONE BANDS, GREY, MODERATELY WEAK ROCK.
186.11	186.16	100	100% CLAYSTONE: CREAM, STIFF.
186.16	186.18	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
186.18	186.39	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
186.39	187.29	100	100% SANDSTONE, FINE GRAINED: BROWN, MODERATELY WEAK ROCK.
187.29	188.41	100	100% SANDSTONE, FINE GRAINED: GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
188.41	188.78	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK. GRADATIONAL LOWER BOUNDARY
188.78	189.57	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK. GRADATIONAL LOWER BOUNDARY
189.57	190.32	100	100% MUDSTONE: GREY, WITH CALCITE, MODERATELY WEAK ROCK.
190.32	191.06	100	100% CLAYSTONE: LIGHT GREY, WITH LAMINAE OF CALCITE, WEAK ROCK.
191.06	191.07	100	100% SANDSTONE, MEDIUM GRAINED: MICACEOUS, CREAM, MODERATELY WEAK ROCK.
191.07	193.00	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
193.00	193.24	100	100% SANDSTONE, FINE GRAINED: MUDSTONE LAMINAE, GREY-GREEN, MODERATELY WEAK ROCK.
193.24	194.33	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
194.33	194.56	100	100% CLAYSTONE: CREAM, FIRM.

BOREHOLE LITHOLOGICAL LOG

182174

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
194.56 -	194.68	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
194.68 -	194.84	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
194.84 -	194.88	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
194.88 -	195.21	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
195.21 -	195.34	100	100% MUDSTONE: CARBONACEOUS BANDS, GREY-BROWN, MODERATELY WEAK ROCK, ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
195.34 -	195.52	100	100% MUDSTONE: CARBONACEOUS LENSES, BROWN, MODERATELY WEAK ROCK.
195.52 -	195.76	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
195.76 -	196.36	100	100% MUDSTONE: ARENACEOUS, GREY-BROWN, MODERATELY WEAK ROCK, AND MUD PELLETS.
196.36 -	196.47	100	100% SANDSTONE, FINE GRAINED: FRIABLE, GREY, WEAK ROCK.
196.47 -	196.81	100	100% MUDSTONE: SILTSTONE, BADLY BROKEN, GREY, MODERATELY WEAK ROCK,CLOSE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES.
196.81 -	197.45	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
197.45 -	198.00	100	100% CLAYSTONE: CREAM, FIRM,MODERATELY CLOSE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES ,INFILLED WITH CALCITE.
198.00 -	198.29	100	100% MUDSTONE: CARBONACEOUS LENSES, GREY-BROWN, MODERATELY WEAK ROCK,WITH MUD PELLETS.
198.29 -	201.32	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,WITH LOAD CASTS AND SLUMP STRUCTURES,WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.

BOREHOLE LITHOLOGICAL LOG

182175

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
			CLOSELY FRACTURED BETWEEN 199.15-199.35 M.
201.32 -	202.45	100	90% SANDSTONE, FINE GRAINED: MUDSTONE BANDS, GREY. 10% SANDSTONE, MEDIUM GRAINED: LIGHT GREY. MODERATELY WEAK ROCK,THIN BEDDING,WITH LOAD CASTS AND CROSS LAMINATION.
202.45 -	204.58	100	45% SANDSTONE, FINE GRAINED: GREY, 45% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS, FINE GRAINED SANDSTONE, LIGHT GREY, 10% CLAYSTONE: GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH LOAD CASTS AND CROSS LAMINATION.
204.58 -	205.16	100	45% SANDSTONE, FINE GRAINED: GREY, 45% CLAYSTONE: GREY, 10% MUDSTONE: DARK GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH LOAD CASTS AND CROSS LAMINATION.
205.16 -	212.06	100	100% SANDSTONE: MED.-COARSE GRAINED, GREY, MODERATELY WEAK ROCK. CALCAREOUS IN PART, COALY LENSES AND MUDSTONE PEBBLES IN PART, 7 CM CARB MUDSTONE BAND AT 211.50 M.
212.06 -	215.05	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK. FRIABLE IN PART,MUDSTONE PEBBLES AND CARB LAMINAE
SAMPLE:1			*** CORE DESCRIPTION ***
215.05			
	0.01	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
	0.25	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
	0.03	100	100% MUDSTONE: CARBONACEOUS, GREY-BROWN, MODERATELY WEAK ROCK.
	0.06	100	100% CLAYSTONE: FISSILE, CREAM, SOFT.

BOREHOLE LITHOLOGICAL LOG

182176

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
SAMPLE:1			*** CORE DESCRIPTION ***
	0.02	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
	0.10	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
	0.10	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
	0.06	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
	0.49	100	100% COAL, HEAVY DULL:. GRADING TO CARB MUDSTONE IN PART
216.17	1.12		TOTAL
SAMPLE:2			*** CORE DESCRIPTION ***
16.17			
	0.03	100	100% MUDSTONE: CARBONACEOUS, ARENACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
	0.03	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LENSES, GREY-GREEN, WEAK ROCK.
	0.08	100	100% CLAYSTONE: FISSILE, CREAM, SOFT.
	0.22	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
	0.09	100	100% COAL, HEAVY DULL:.
	0.03	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
	0.10	100	100% CLAYSTONE: FISSILE, LIGHT BROWN, SOFT.
216.75	0.58		TOTAL
SAMPLE:3			*** CORE DESCRIPTION ***
16.75			
	0.01	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
	0.19	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.

BOREHOLE LITHOLOGICAL LOG

182177

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
SAMPLE:3			*** CORE DESCRIPTION ***
	0.04	100	100% COAL. HEAVY DULL:.
	0.03	100	100% MUDSTONE: ARENACEOUS. FISSILE. BROWN. SOFT.
	0.02	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
	0.33	100	100% COAL. HEAVY DULL: BRIGHT COAL STREAKS.
	0.14	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
	0.03	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
217.54	0.79		TOTAL
SAMPLE:4			*** CORE DESCRIPTION ***
17.54			
	0.07	100	100% MUDSTONE: CARBONACEOUS. GREY-BROWN. MODERATELY WEAK ROCK.
	0.27	100	100% CLAYSTONE: FISSILE. LIGHT GREY. SOFT.
17.88	0.34		TOTAL
SAMPLE:5			*** CORE DESCRIPTION ***
217.88			
	0.11	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.
	0.13	100	100% COAL. HEAVY DULL: BRIGHT COAL STREAKS.
	0.10	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.
	0.17	100	100% COAL. HEAVY DULL: BRIGHT COAL LENSES.
	0.03	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
	0.05	100	100% MUDSTONE: CARBONACEOUS STREAKS. BROWN. WEAK ROCK.
	0.06	100	100% MUDSTONE: DARK GREY. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182178

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
SAMPLE:5			*** CORE DESCRIPTION ***
	0.01	100	100% MUDSTONE: LIGHT BROWN, WEAK ROCK.
	0.16	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
	0.04	100	100% MUDSTONE: BRIGHT COAL LENSES, DARK BROWN, MODERATELY WEAK ROCK.
	0.06	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
	0.09	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
	0.05	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
	0.04	100	100% MUDSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, WEAK ROCK.
	0.04	100	100% COAL, HEAVY DULL:.
	0.16	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
	0.05	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
	0.02	100	100% COAL, BRIGHT:.
	0.09	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
	0.04	100	100% MUDSTONE: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
	0.01	100	100% MUDSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, MODERATELY WEAK ROCK.
	0.04	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
	0.16	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK.
	1.03	100	70% SILTSTONE: CARBONACEOUS LENSES, LIGHT GREY, 30% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK,THIN BEDDING,WITH LOAD CASTS AND SLUMP STRUCTURES.
	0.22	100	100% MUDSTONE: CARBONACEOUS BANDS, LIGHT BROWN, MODERATELY WEAK ROCK.
20.84	2.96		TOTAL

BOREHOLE LITHOLOGICAL LOG

182179

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
220.84	220.95	100	100% MUDSTONE: BROWN. MODERATELY WEAK ROCK.
220.95	220.97	100	50% COAL. BRIGHT: 50% CARBONACEOUS SHALE:.VERY THIN BEDDING.
220.97	221.09	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK. ABUNDANT COAL AND MUDSTONE LENSES
221.09	221.23	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.
221.23	221.43	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK. ABUNDANT COAL AND MUDSTONE LENSES
221.43	238.68	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK. GRADING TO MEDIUM IN PART. FRIABLE IN PART. MUDSTONE PEBBLES AND COAL LENSES IN PART
238.68	238.79	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.
238.79	238.81	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.
238.81	238.86	100	100% CLAYSTONE: BUFF. VERY WEAK ROCK. WITH GREEN MUD PELLETS
238.86	238.87	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.
238.87	238.90	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.
238.90	241.60	100	60% SANDSTONE. FINE GRAINED: GREY. 40% MUDSTONE: GREY. MODERATELY WEAK ROCK.THIN BEDDING.
241.60	243.05	100	50% SANDSTONE. FINE GRAINED: GREY. 50% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS LAMINAE. LIGHT GREY. MODERATELY WEAK ROCK.MODERATELY THICK BEDDING. COAL LENSES AND MUDSTONE PEBBLES IN PART
243.05	243.15	0	CORE LOSS. CORE LOSS

BOREHOLE LITHOLOGICAL LOG

182180

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
243.15	243.21	100	100% MUDSTONE: CARBONACEOUS STREAKS, BROWN, WEAK ROCK.
243.21	243.23	100	100% CLAYSTONE: CREAM, SOFT.
243.23	243.26	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, WEAK ROCK.
243.26	243.30	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
243.30	243.32	100	100% MUDSTONE: CARBONACEOUS STREAKS, BROWN, WEAK ROCK.
243.32	243.37	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
243.37	243.39	100	100% MUDSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.
243.39	243.41	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
243.41	243.42	100	100% MUDSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.
243.42	243.44	100	100% CLAYSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, FIRM.
243.44	243.47	100	100% CLAYSTONE: CARBONACEOUS, BROWN - BLACK, FIRM.
243.47	243.56	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
243.56	243.65	100	70% MUDSTONE: GREY-BROWN, 30% MUDSTONE: CARBONACEOUS, BROWN - BLACK, WEAK ROCK,THIN BEDDING.
243.65	243.69	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
243.69	243.89	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
243.89	243.97	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
243.97	244.02	100	100% MUDSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, WEAK ROCK.
244.02	244.19	100	100% CLAYSTONE: LIGHT BROWN, VERY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
244.19	244.37	100	100% MUDSTONE: CARBONACEOUS, BLACK. MODERATELY STRONG ROCK.
244.37	244.40	100	100% MUDSTONE: LIGHT BROWN. MODERATELY WEAK ROCK.
244.40	244.49	100	100% MUDSTONE: CARBONACEOUS, BLACK. MODERATELY STRONG ROCK.
244.49	244.52	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN. MODERATELY WEAK ROCK.
244.52	244.55	100	100% CLAYSTONE: LIGHT BROWN. STIFF.
244.55	244.56	100	100% MUDSTONE: CARBONACEOUS, DARK GREY. MODERATELY WEAK ROCK.
244.56	244.62	100	100% MUDSTONE: CARBONACEOUS LENSES. LIGHT BROWN. WEAK ROCK.
244.62	244.72	100	100% MUDSTONE: CARBONACEOUS, DARK GREY. MODERATELY WEAK ROCK.
244.72	244.74	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK. MODERATELY WEAK ROCK.
244.74	244.75	100	100% COAL, BRIGHT:.
244.75	244.80	100	100% CARBONACEOUS SHALE: BRIGHT COAL LENSES.
244.80	244.88	100	100% CLAYSTONE: CARBONACEOUS STREAKS, LIGHT BROWN. FIRM.
244.88	244.89	100	100% MUDSTONE: LIGHT GREY. WEAK ROCK.
244.89	245.00	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK. MODERATELY STRONG ROCK.
245.00	245.14	100	100% MUDSTONE: CARBONACEOUS, SHALY, BROWN - BLACK. WEAK ROCK.
245.14	245.41	100	100% MUDSTONE: BROWN - BLACK, MODERATELY WEAK ROCK.WITH MUD PELLETS.
245.41	245.43	100	100% MUDSTONE: LIGHT BROWN, WEAK ROCK.
245.43	245.59	100	100% MUDSTONE: BRIGHT COAL LAMINAE. BROWN - BLACK. MODERATELY STRONG ROCK.
245.59	245.64	100	100% MUDSTONE: CARBONACEOUS, GREY-BROWN. WEAK ROCK.
245.64	245.72	100	100% MUDSTONE: CARBONACEOUS, DARK GREY. WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
245.72	245.80	100	100% COAL. HEAVY DULL: MUDSTONE LENSES.
245.80	245.86	100	100% COAL. DULL WITH FEW BRIGHT BANDS: MUDSTONE LENSES.
245.86	246.05	100	100% COAL. HEAVY DULL:.
246.05	246.08	100	100% MUDSTONE: CARBONACEOUS BANDS. GREY-BROWN. MODERATELY WEAK ROCK.
246.08	246.14	100	100% MUDSTONE: LIGHT BROWN. WEAK ROCK.
246.14	246.51	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK. GRADING TO HEAVY DULL COAL IN PART
246.51	246.54	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
246.54	246.60	100	100% COAL. HEAVY DULL: BRIGHT COAL LENSES.
246.60	246.67	100	100% COAL. DULL WITH NUMEROUS BRIGHT BANDS:.
246.67	246.68	100	100% MUDSTONE: CARBONACEOUS. GREY-BROWN. MODERATELY WEAK ROCK.
246.68	246.86	100	100% MUDSTONE: CARBONACEOUS STREAKS. LIGHT BROWN. WEAK ROCK.
246.86	246.95	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.
246.95	247.00	100	100% COAL. DULL WITH NUMEROUS BRIGHT BANDS:.
247.00	247.03	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
247.03	247.12	100	100% MUDSTONE: GREY-BROWN. MODERATELY WEAK ROCK.
247.12	247.16	100	100% MUDSTONE: LIGHT BROWN. WEAK ROCK.
247.16	247.34	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
247.34	247.51	100	100% CLAYSTONE: CARBONACEOUS BANDS. LIGHT GREY. WEAK ROCK.
247.51	247.55	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
247.55	247.77	100	100% MUDSTONE: CARBONACEOUS BANDS. GREY-BROWN. WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
247.77	248.00	100	100% MUDSTONE: GREY. WEAK ROCK.
248.00	248.49	100	100% MUDSTONE: GREY. WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
248.49	249.19	100	100% SANDSTONE. FINE GRAINED: GREY. MODERATELY WEAK ROCK.
249.19	249.30	100	100% SANDSTONE. MEDIUM GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.
249.30	249.99	100	90% SANDSTONE. FINE GRAINED: GREY. 10% SANDSTONE. MEDIUM GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.WITH CROSS LAMINATION AND LOAD CASTS.
249.99	251.11	100	100% SANDSTONE. MEDIUM GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.WIDE JOINT SPACING. JOINTS DIP 70 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES. FRIABLE IN PART
251.11	262.80	80	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK. FRIABLE IN PART. CLOSELY JOINTED AND FRACTURED IN PART
262.80	265.55	100	100% SANDSTONE. COARSE GRAINED: CARBONACEOUS BANDS. LIGHT GREY. MODERATELY WEAK ROCK. CALCAREOUS IN PART. FRACTURED MUDSTONE PEBBLES
265.55	282.09	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.EXTREMELY WIDE JOINT SPACING. JOINTS DIP 70 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES. CALCAREOUS IN PART.
282.09	285.23	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
			FRIABLE IN PART. NUMEROUS CARB LENSES AND MUDSTONE PEBBLES
285.23	287.81	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK. CALCAREOUS IN PART
287.81	289.13	100	100% SANDSTONE: LIGHT GREY. MODERATELY WEAK ROCK. MEDIUM GRADING TO COARSE; MUDSTONE LENSES IN PART
289.13	290.05	100	100% SANDSTONE: MED.-COARSE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.
290.05	297.29	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.
297.29	297.57	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.
297.57	298.61	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.
298.61	298.84	100	100% MUDSTONE: GREY-BROWN. MODERATELY WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 45 DEG. ,TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
298.84	299.09	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK. MUDSTONE PEBBLES AND CARB LENSES
299.09	299.25	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.
299.25	299.33	100	100% MUDSTONE: GREY-BROWN. WEAK ROCK.
299.33	299.80	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK. MUDSTONE PEBBLES AND CARB LENSES
299.80	301.85	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.
SAMPLE:6			*** CORE DESCRIPTION ***
301.85			

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
SAMPLE:6			*** CORE DESCRIPTION ***
	0.03	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.05	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
	0.03	100	100% CLAYSTONE: BUFF, FIRM,VERY THIN BEDDING.
	0.19	100	100% MUDSTONE: CARBONACEOUS, BADLY BROKEN, BLACK, MODERATELY STRONG ROCK.
02.15	0.30		TOTAL
SAMPLE:7			*** CORE DESCRIPTION ***
302.15			
	1.42	100	100% COAL, HEAVY DULL: MUDSTONE LAMINAE, WITH CALCITE AND PYRITE. GRADING TO CARB. MUDSTONE IN PART
	0.03	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
	0.32	100	100% COAL, HEAVY DULL: MUDSTONE LAMINAE. GRADING TO DULL COAL IN PART
03.92	1.77		TOTAL
			*** CORE DESCRIPTION ***
303.92 - 304.00		100	100% MUDSTONE: BRIGHT COAL LAMINAE, GREY-BROWN, MODERATELY WEAK ROCK,CLOSE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
304.00 - 304.20		100	100% MUDSTONE: COALY LENSES, GREY, WEAK ROCK,CLOSE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
304.20 - 305.88		100	100% MUDSTONE: GREY, WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
305.88 -	306.55	100	60% SANDSTONE. FINE GRAINED: LIGHT GREY. 40% MUDSTONE: SILTSTONE. GREY. MODERATELY WEAK ROCK.MODERATELY THICK BEDDING.WITH CARBONACEOUS WHISPS AND CROSS LAMINATION.
306.55 -	307.11	100	100% MUDSTONE: SANDSTONE LAMINAE. GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.WITH CROSS LAMINATION AND LOAD CASTS.
307.11 -	307.44	100	100% MUDSTONE: GREY. WEAK ROCK.VERY THIN BEDDING.
307.44 -	314.28	100	100% SANDSTONE. COARSE GRAINED: CARBONACEOUS TRACES. LIGHT GREY. MODERATELY WEAK ROCK. GRADING TO MEDIUM IN PART; FRIABLE IN PART
314.28 -	314.34	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
314.34 -	314.52	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK. CLOSELY FRACTURED IN BASAL 4 CM.
314.52 -	314.72	100	100% MUDSTONE: CARBONACEOUS BANDS. LIGHT GREY. WEAK ROCK.
314.72 -	314.93	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
314.93 -	314.98	100	100% CLAYSTONE: LIGHT BROWN. SOFT.CLOSE JOINT SPACING. JOINTS DIP 30 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
314.98 -	315.92	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK. FISSILE AND FINELY FRACTURED IN BASAL 12 CM.
315.92 -	316.04	100	100% MUDSTONE: CARBONACEOUS. GREY-BROWN. MODERATELY WEAK ROCK.
316.04 -	316.08	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.
316.08 -	316.30	100	100% CLAYSTONE: FISSILE. GREY. STIFF.MODERATELY WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES WITH SLICKENSIDES.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
316.30 - 316.40		100	100% MUDSTONE: GREY. WEAK ROCK.
316.40 - 316.62		100	100% CLAYSTONE: FISSILE. GREY, STIFF. FINELY FRACTURED IN BASAL 8 CM.
316.62 - 316.67		100	100% CLAYSTONE: FISSILE. CREAM. FIRM.CLOSE JOINT SPACING. JOINTS DIP 30 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
316.67 - 317.00		100	60% MUDSTONE: GREY. 40% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.THIN BEDDING.WITH LOAD CASTS.MODERATELY WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
SAMPLE:8			*** CORE DESCRIPTION ***
317.00			
	0.08	100	100% CARBONACEOUS SHALE:.
317.08	0.08		TOTAL
SAMPLE:9			*** CORE DESCRIPTION ***
317.08			
	0.07	0	CORE LOSS.
			CORE LOSS
	0.04	100	100% COAL. HEAVY DULL: MUDSTONE BANDS.
	0.32	100	100% COAL. HEAVY DULL: BRIGHT COAL STREAKS.
	0.05	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.WITH MUD PELLETS.
	0.45	100	100% COAL. HEAVY DULL: BRIGHT COAL STREAKS. GRADING TO DULL COAL IN PART: MUD PELLETS IN UPPER 15 CM.
	0.13	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
	0.27	100	100% COAL. HEAVY DULL: BRIGHT COAL STREAKS.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
SAMPLE:9			*** CORE DESCRIPTION ***
	0.04	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
	0.01	100	100% COAL, BRIGHT:.
	0.06	100	50% COAL, BRIGHT: 50% CARBONACEOUS SHALE:,VERY THIN BEDDING.
318.52	1.44		TOTAL
			*** CORE DESCRIPTION ***
318.52 - 318.72		100	100% MUDSTONE: CARBONACEOUS STREAKS, GREY, WEAK ROCK.
318.72 - 318.75		100	100% MUDSTONE: CARBONACEOUS, SHALY, DARK BROWN, WEAK ROCK.
318.75 - 319.24		100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
319.24 - 319.36		100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
319.36 - 319.38		100	100% COAL, BRIGHT:.
319.38 - 319.56		100	100% SANDSTONE, FINE GRAINED: SILTSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS AND CROSS LAMINATION.
319.56 - 319.65		100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
319.65 - 320.06		100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LAMINAE, GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
320.06 - 320.34		100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
320.34 - 324.72		100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK. CALCAREOUS IN PART; FRIABLE IN PART
324.72 - 325.06		100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
325.06	330.53	100	100% SANDSTONE: VERY COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK. CALCAREOUS IN PART;
330.53	331.48	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
331.48	332.21	100	100% SANDSTONE: VERY COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.WITH MUD PELLETS.
332.21	343.00	100	100% SANOSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK. CALCAREOUS IN PART; LARGE CARB. LENSES AT 336.05 M.
343.00	343.54	100	100% SANDSTONE: MED.-COARSE GRAINED, CALCAREOUS, LIGHT GREY, WITH BANDS OF CALCITE, MODERATELY STRONG ROCK.WITH CARBONACEOUS WHISPS.
343.54	349.98	100	100% SANDSTONE, COARSE GRAINED: CARBONACEOUS TRACES, LIGHT GREY, MODERATELY WEAK ROCK. CALCAREOUS IN PART; FRIABLE IN PART
349.98	349.99	100	100% CLAYSTONE: SHALY, BUFF, SOFT.
349.99	350.00	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
350.00	350.06	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
350.06	350.08	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
350.08	351.64	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,VERY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
351.64	352.00	100	50% SANDSTONE, FINE GRAINED: CARBONACEOUS TRACES, LIGHT GREY, 50% MUDSTONE: GREY, MODERATELY WEAK ROCK,THIN BEDDING,WITH SLUMP STRUCTURES AND LOAD CASTS.
352.00	354.37	100	100% MUDSTONE: CARBONACEOUS BANDS, GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
			CLOSELY JOINTED IN PART
354.37 -	354.46	100	100% SANDSTONE. FINE GRAINED: MUDSTONE LAMINAE. LIGHT GREY. MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS AND LOAD CASTS.
354.46 -	354.91	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
354.91 -	355.36	100	100% SANDSTONE. FINE GRAINED: MUDSTONE BANDS. LIGHT GREY. MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS AND LOAD CASTS.
355.36 -	356.04	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
356.04 -	356.10	100	100% COAL. HEAVY DULL:.
356.10 -	356.22	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
356.22 -	356.24	100	100% SANDSTONE. FINE GRAINED: GREY-BROWN. MODERATELY WEAK ROCK.
356.24 -	356.43	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
356.43 -	356.59	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.
356.59 -	358.11	100	80% SANDSTONE. FINE GRAINED: LIGHT GREY. 20% MUDSTONE: GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.WITH CARBONACEOUS WHISPS AND CROSS LAMINATION.
358.11 -	359.00	100	100% MUDSTONE: CARBONACEOUS BANDS. GREY. MODERATELY WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
359.00 -	360.79	100	100% MUDSTONE: SANDSTONE LENSES. GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
360.79 -	361.31	100	50% MUDSTONE: GREY. 30% MUDSTONE: CARBONACEOUS. DARK GREY. 20% SANDSTONE. FINE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
361.31	361.57	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
361.57	361.83	100	50% MUDSTONE: CARBONACEOUS, DARK GREY, 50% MUDSTONE: GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
361.83	362.62	100	100% MUDSTONE: DARK GREY, MODERATELY WEAK ROCK.
362.62	362.68	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
362.68	362.82	100	60% MUDSTONE: CARBONACEOUS, FISSILE, DARK BROWN, 40% MUDSTONE: GREY, WEAK ROCK,THIN BEDDING.
362.82	362.88	100	100% MUDSTONE: CARBONACEOUS STREAKS, GREY-BROWN, MODERATELY WEAK ROCK.
362.88	362.90	100	100% COAL, BRIGHT:.
362.90	362.95	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
362.95	362.96	100	100% CARBONACEOUS SHALE: BRIGHT COAL STREAKS.
362.96	363.10	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
363.10	363.68	100	100% SANDSTONE, FINE GRAINED: MUDSTONE BANDS, GREY, MODERATELY WEAK ROCK.
363.68	363.86	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
363.86	364.03	100	100% MUDSTONE: CARBONACEOUS, GREY-BROWN, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
364.03	364.43	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
364.43	365.10	0	CORE LOSS. CORE LOSS
365.10	365.20	100	100% SANDSTONE, FINE GRAINED: MUDSTONE BANDS, GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
365.20	367.73	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
367.73	367.84	100	100% SANDSTONE: VERY FINE GRAINED, GREY, MODERATELY WEAK ROCK.
367.84	368.04	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
368.04	368.06	100	100% MUDSTONE: SILTSTONE, CREAM, MODERATELY WEAK ROCK.
368.06	368.10	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
368.10	368.16	100	100% COAL, HEAVY DULL:.
368.16	368.22	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
368.22	368.23	100	100% SHALE: BROWN, SOFT.
368.23	368.29	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
368.29	368.30	100	100% COAL, BRIGHT:.
368.30	368.32	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
368.32	368.35	100	100% CLAYSTONE: LIGHT BROWN, SOFT.
368.35	368.38	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
368.38	368.40	100	100% COAL, BRIGHT:.
368.40	368.45	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
368.45	368.49	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
368.49	368.78	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
368.78	368.87	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN.
368.87	369.40	100	100% MUDSTONE: CARBONACEOUS, GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
369.40	369.84	100	100% MUDSTONE: CARBONACEOUS, GREY-BROWN, MODERATELY WEAK ROCK.
369.84	371.15	100	100% SANDSTONE: VERY FINE GRAINED, GREY, MODERATELY WEAK ROCK. FRIABLE IN UPPER 50 CM; CALCITE BAND AT 370.39 M.
371.15	372.53	100	100% SANDSTONE, FINE GRAINED: GREY, MODERATELY WEAK ROCK.
372.53	373.53	0	CORE LOSS. CORE LOSS
373.53	373.58	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
373.58	373.68	100	100% MUDSTONE: SANDSTONE LENSES, BROWN - BLACK, MODERATELY WEAK ROCK.
373.68	373.71	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
373.71	374.02	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK. ABUNDANT CARB. LENSES AND LAMINAE
374.02	375.36	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
375.36	375.59	100	100% MUDSTONE: CARBONACEOUS BANDS, GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
375.59	375.65	100	100% CARBONACEOUS SHALE: MUDSTONE LAMINAE, STIFF.
375.65	375.67	100	100% COAL, HEAVY DULL:.
375.67	375.74	100	100% SANDSTONE: VERY FINE GRAINED, CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
375.74	375.86	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
375.86	375.91	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
375.91	375.97	100	100% SILTSTONE: SANDSTONE LENSES, GREY, MODERATELY WEAK ROCK.
375.97	376.11	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
376.11	377.00	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK. CLOSELY FRACTURED NEAR BASE
377.00	377.49	100	100% SANDSTONE, FINE GRAINED: MUDSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
377.49	377.97	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK. CLOSELY JOINTED AT TOP AND BASE
377.97	379.14	100	90% SANDSTONE, FINE GRAINED: SILTSTONE STREAKS, LIGHT GREY. 10% SILTSTONE: GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH CROSS LAMINATION.
379.14	380.21	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
380.21	381.20	100	60% MUDSTONE: GREY. 40% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH CROSS LAMINATION AND CARBONACEOUS WHISPS.
381.20	383.09	100	100% MUDSTONE: SANDSTONE LAMINAE, GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,VERY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES.
383.09	383.23	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
383.23	383.40	0	CORE LOSS. CORE LOSS
383.40	384.05	100	100% MUDSTONE: SILTSTONE BANDS, GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
384.05	384.57	100	100% SANDSTONE. FINE GRAINED: MUDSTONE LAMINAE. LIGHT GREY. MODERATELY WEAK ROCK.
384.57	386.51	100	100% SANDSTONE: MED.-COARSE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK. ABUNDANT MUDSTONE AND CARB. LENSES AND LAMINAE
386.51	387.48	100	100% SANDSTONE: MED.TO FINE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS AND CROSS LAMINATION.
387.48	388.27	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
388.27	388.46	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
388.46	388.48	100	100% CLAYSTONE: FISSILE. BROWN. SOFT.
388.48	388.50	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
388.50	388.57	100	100% MUDSTONE: CARBONACEOUS. GREY-BROWN. MODERATELY WEAK ROCK.
388.57	388.72	100	100% SILTSTONE: CARBONACEOUS. GREY-BROWN. MODERATELY WEAK ROCK.
388.72	389.00	100	100% SANDSTONE: MUDSTONE BANDS. LIGHT BROWN. MODERATELY WEAK ROCK. FINE GRADING TO MEDIUM
389.00	389.35	100	100% MUDSTONE: ARENACEOUS. GREY. MODERATELY WEAK ROCK.
389.35	392.04	100	100% SANDSTONE: MED.-COARSE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK. ABUNDANT MUDSTONE AND CARB. LENSES AND LAMINAE
392.04	411.70	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK. MUDSTONE AND CARB. BANDS AND LENSES IN PART; CLOSELY FRACTURED FROM 406.5 - 407.5 M; GREENISH TINGE IN PART

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
1.70	413.65	100	100% SILTSTONE: MUDSTONE BANDS. GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
13.65	418.55	100	100% MUDSTONE: CARBONACEOUS LAMINAE. GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING. CLOSELY JOINTED AND FRACTURED IN PART
18.55	419.43	100	100% MUDSTONE: CARBONACEOUS BANDS. GREY. MODERATELY WEAK ROCK.
19.43	419.44	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.CLOSE JOINT SPACING. JOINTS DIP 20 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
19.44	419.49	100	100% MUDSTONE: CARBONACEOUS. GREY-BROWN. MODERATELY WEAK ROCK.VERY THIN BEDDING.
419.49	419.54	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.
419.54	420.03	100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS LAMINAE. LIGHT GREY. MODERATELY WEAK ROCK.
420.03	420.72	100	60% SANDSTONE. FINE GRAINED: LIGHT GREY. 40% MUDSTONE: CARBONACEOUS. GREY-BROWN. MODERATELY WEAK ROCK.MODERATELY THICK BEDDING.
20.72	421.50	100	50% SANDSTONE. FINE GRAINED: CARBONACEOUS LAMINAE. GREY. 50% MUDSTONE: GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
21.50	421.69	100	70% MUDSTONE: CARBONACEOUS. DARK BROWN. 20% MUDSTONE: LIGHT GREY. 10% SANDSTONE. FINE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.WITH LOAD CASTS.
21.69	423.03	100	100% MUDSTONE: SILTSTONE. GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
23.03	423.41	100	50% MUDSTONE: GREY. 50% SANDSTONE. FINE GRAINED: CARBONACEOUS TRACES. LIGHT GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
423.41	423.46	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
423.46	423.83	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
423.83	424.48	100	100% SANDSTONE, FINE GRAINED: MUDSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK.
424.48	424.86	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
424.86	425.15	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
425.15	425.92	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
425.92	426.38	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
426.38	426.63	100	50% MUDSTONE: CARBONACEOUS, BROWN - BLACK, 50% CLAYSTONE: FISSILE, LIGHT BROWN, WITH LENSES OF CALCITE, VERY WEAK ROCK.
426.63	426.84	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
426.84	426.97	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
426.97	428.00	100	100% SANDSTONE: MUDSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION. FINE GRADING TO MEDIUM; FINELY FRACTURED IN PART
428.00	428.22	100	100% MUDSTONE: CARBONACEOUS, GREY-BROWN, MODERATELY WEAK ROCK.
428.22	428.29	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
428.29	428.51	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
428.51	428.99	100	100% SANDSTONE, FINE GRAINED: MUDSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH CROSS LAMINATION.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
428.99	429.40	100	50% SANDSTONE. FINE GRAINED: LIGHT GREY. 50% MUDSTONE: SILTSTONE. GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
429.40	429.45	100	100% MUDSTONE: SILTSTONE. GREY. MODERATELY WEAK ROCK.
429.45	429.52	100	100% SANDSTONE: MED.TO FINE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.
429.52	431.01	100	100% SILTSTONE: SANDSTONE BANDS. GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
431.01	431.03	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.
431.03	431.12	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
431.12	431.14	100	100% CLAYSTONE: CARBONACEOUS STREAKS. CREAM. MODERATELY WEAK ROCK.
431.14	431.17	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
431.17	431.20	100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS. GREY-BROWN. MODERATELY WEAK ROCK.
431.20	431.44	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS STREAKS. LIGHT GREY. MODERATELY WEAK ROCK.
431.44	432.85	100	50% MUDSTONE: SILTSTONE. GREY. 50% SANDSTONE. FINE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.WITH BURROWING.
432.85	433.12	100	100% SANDSTONE. FINE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS AND CROSS LAMINATION.
433.12	433.96	100	100% SANDSTONE. MEDIUM GRAINED: MUDSTONE. FRIABLE. LIGHT GREY. MODERATELY WEAK ROCK.
433.96	434.01	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
434.01	434.41	100	100% SANDSTONE. FINE GRAINED: MUDSTONE BANDS. LIGHT GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
434.41	434.92	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
434.92	435.32	100	100% SANDSTONE. FINE GRAINED: MUDSTONE BANDS. LIGHT GREY. MODERATELY WEAK ROCK.
435.32	435.37	100	100% SANDSTONE. MEDIUM GRAINED: CREAM. MODERATELY WEAK ROCK.
435.37	435.41	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.VERY THIN BEDDING.
435.41	436.67	100	50% SANDSTONE. FINE GRAINED: LIGHT GREY. 50% MUDSTONE: GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
436.67	436.80	100	100% MUDSTONE: GREY-BROWN. MODERATELY WEAK ROCK.VERY THIN BEDDING.
436.80	436.84	100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS LENSES. CREAM. MODERATELY WEAK ROCK.
436.84	437.49	100	100% MUDSTONE: SILTSTONE. GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
437.49	437.98	100	50% SANDSTONE. FINE GRAINED: LIGHT GREY. 50% MUDSTONE: GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.WITH BURROWING.
437.98	438.38	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS TRACES. CREAM. MODERATELY WEAK ROCK. SLIGHTLY CALCAREOUS
438.38	438.87	100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS LAMINAE. CREAM. MODERATELY WEAK ROCK.WITH BURROWING.
438.87	439.11	100	50% SANDSTONE. FINE GRAINED: LIGHT GREY. 50% MUDSTONE: GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
439.11	439.20	100	100% SANDSTONE: VERY FINE GRAINED. GREY. MODERATELY WEAK ROCK.
439.20	439.69	100	100% SANDSTONE: GREY-BROWN. MODERATELY WEAK ROCK.WITH POOR SORTING.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 4

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
			FINE GRADING TO COARSE.GREENISH GRIT AT BASE
439.69	- 439.76	100	100% MUDSTONE: GREY-BROWN. MODERATELY WEAK ROCK.
439.76	- 445.12	100	100% SILTSTONE: GREY. WITH FRAGMENTS OF QUARTZ. MODERATELY WEAK ROCK. GRADING TO POORLY SORTED SANDSTONE IN BASAL METRE; CLOSELY JOINTED AND FRACTURED IN PART
445.12	- 452.00	100	100% SILTSTONE: GREY. WITH FRAGMENTS OF QUARTZ. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 5

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
			CALCITE VEINLETS AT 450 M.
	- 12.00	0	CORE LOSS.
12.00 -	13.10	60	100% DOLERITE: MED.-COARSE GRAINED. ORANGE-YELLOW. HIGHLY WEATHERED. VERY WEAK ROCK.
13.10 -	16.19	100	100% DOLERITE: MED.-COARSE GRAINED. GREY. SLIGHTLY WEATHERED. VERY STRONG ROCK,MODERATELY WIDE JOINT SPACING ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.
16.19 -	23.00	100	100% DOLERITE: MED.-COARSE GRAINED. UNWEATHERED. VERY STRONG ROCK,MODERATELY WIDE JOINT SPACING.
23.00 -	24.50	100	100% DOLERITE: MED.-COARSE GRAINED. GREY. WITH TALC ON JOINTS. VERY STRONG ROCK,MODERATELY CLOSE JOINT SPACING ,OPEN PLANAR,ROUGH DISCONTINUITIES.
24.50 -	26.66	100	100% DOLERITE: MED.-COARSE GRAINED. GREY. WITH TALC ON JOINTS. VERY STRONG ROCK,WIDE JOINT SPACING ,OPEN PLANAR,ROUGH DISCONTINUITIES.
26.66 -	36.20	100	100% DOLERITE: MED.-COARSE GRAINED. GREY. WITH TALC ON JOINTS AND CALCITE ON JOINTS. VERY STRONG ROCK,MODERATELY WIDE JOINT SPACING ,OPEN PLANAR,ROUGH DISCONTINUITIES.
36.20 -	41.09	100	100% DOLERITE: MED.-COARSE GRAINED. GREY. WITH TALC ON JOINTS AND CALCITE ON JOINTS. SLIGHTLY WEATHERED. VERY STRONG ROCK,MODERATELY CLOSE JOINT SPACING ,OPEN PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
41.09 -	44.63	100	100% DOLERITE: MED.-COARSE GRAINED. GREY. VERY STRONG ROCK,MODERATELY WIDE JOINT SPACING.
44.63 -	47.47	100	100% DOLERITE: MED.-COARSE GRAINED. STRONGLY FRAGMENTED. GREY. WITH TALC ON JOINTS AND CALCITE ON JOINTS. SLIGHTLY WEATHERED. VERY STRONG ROCK,CLOSE JOINT SPACING ,OPEN PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 5

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
47.47 -	50.28	100	100% DOLERITE: MED.-COARSE GRAINED, GREY, WITH TALC ON JOINTS AND CALCITE ON JOINTS, VERY STRONG ROCK,MODERATELY WIDE JOINT SPACING ,OPEN PLANAR,ROUGH DISCONTINUITIES.
50.28 -	56.84	100	100% DOLERITE: MED.-COARSE GRAINED, GREY, WITH TALC ON JOINTS AND CALCITE ON JOINTS, VERY STRONG ROCK,MODERATELY WIDE JOINT SPACING ,OPEN PLANAR,ROUGH DISCONTINUITIES.
56.84 -	73.68	100	100% DOLERITE: MED.-COARSE GRAINED, STRONGLY FRAGMENTED, GREY, WITH TALC ON JOINTS AND CALCITE ON JOINTS. VERY STRONG ROCK,CLOSE JOINT SPACING ,OPEN PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
73.68 -	87.57	100	100% DOLERITE: MED.-COARSE GRAINED, GREY, WITH CALCITE ON JOINTS AND CHLORITE ON JOINTS, VERY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
87.57 -	88.58	100	100% DOLERITE: MEDIUM GRAINED, BADLY BROKEN, GREY, WITH TALC ON JOINTS AND CHLORITE ON JOINTS, VERY STRONG ROCK,MODERATELY WIDE JOINT SPACING ,OPEN PLANAR,ROUGH DISCONTINUITIES.
88.58 -	89.60	100	100% DOLERITE: MEDIUM GRAINED, BADLY BROKEN, GREEN, WITH CALCITE ON JOINTS AND CHLORITE ON JOINTS, STRONG ROCK,CLOSE JOINT SPACING ,OPEN PLANAR,ROUGH DISCONTINUITIES.
89.60 -	92.52	100	100% DOLERITE: MEDIUM GRAINED, BADLY BROKEN, GREEN, MODERATELY STRONG ROCK,CLOSE JOINT SPACING ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
92.52 -	100.56	100	100% DOLERITE: MED.TO FINE GRAINED, BADLY BROKEN, GREY, WITH CHLORITE ON JOINTS AND CALCITE ON JOINTS, STRONG ROCK,CLOSE JOINT SPACING.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 5

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
100.56	101.20	100	100% DOLERITE: FINE GRAINED, BADLY BROKEN, GREY, WITH CALCITE ON JOINTS AND TALC ON JOINTS, MODERATELY STRONG ROCK,CLOSE JOINT SPACING.
101.20	101.55	100	100% SANDSTONE, COARSE GRAINED: CREAM, MODERATELY WEAK ROCK.
101.55	102.16	100	100% MUDSTONE: BAKED, FERRUGINOUS, YELLOW-BROWN, MODERATELY WEAK ROCK,CLOSE JOINT SPACING ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.
102.16	103.44	100	100% SANDSTONE, COARSE GRAINED: MUDSTONE LENSES, LIGHT GREY, WITH TALC ON JOINTS AND CHLORITE ON JOINTS. MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
103.44	106.69	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
106.69	106.97	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
106.97	111.32	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, WITH CHLORITE ON JOINTS AND TALC ON JOINTS, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING ,OPEN,NON-PLANAR DISCONTINUITIES.
111.32	112.23	100	100% MUDSTONE: BADLY BROKEN, GREY, MODERATELY WEAK ROCK.
112.23	112.70	100	60% SANDSTONE, FINE GRAINED: LIGHT GREY, 40% SILTSTONE: GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING.
112.70	114.96	100	100% SANDSTONE: MED.-COARSE GRAINED, MODERATELY WEAK ROCK,WITH MUD PELLETS,MODERATELY WIDE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES.
114.96	116.00	60	100% MUDSTONE: SILTSTONE, BADLY BROKEN, GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 5

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
116.00	119.44	100	100% SANDSTONE, COARSE GRAINED: MUDSTONE LENSES, GREY-GREEN, MODERATELY WEAK ROCK.WITH MUD PELLETS AND CROSS LAMINATION.
119.44	121.17	100	70% SANDSTONE: VERY COARSE GRAINED, LIGHT GREY, 30% PEBBLE CONGLOMERATE:, MODERATELY WEAK ROCK.
121.17	122.70	100	100% PEBBLE CONGLOMERATE: GREY, MODERATELY WEAK ROCK.
122.70	122.90	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, VERY WEAK ROCK.
122.90	125.72	100	100% MUDSTONE: BADLY BROKEN, GREY, MODERATELY WEAK ROCK.CLOSE JOINT SPACING .TIGHT.PLANAR.SMOOTH DISCONTINUITIES.
125.72	126.05	40	100% MUDSTONE: SILTSTONE, BADLY BROKEN, LIGHT GREY, VERY WEAK ROCK.
126.05	126.34	100	100% MUDSTONE: BADLY BROKEN, GREY, MODERATELY WEAK ROCK.CLOSE JOINT SPACING .TIGHT PLANAR.ROUGH DISCONTINUITIES.
126.34	127.14	100	70% MUDSTONE: CARBONACEOUS, DARK GREY, 30% MUDSTONE: CARBONACEOUS STREAKS, GREY, MODERATELY WEAK ROCK.MODERATELY THICK BEDDING.MODERATELY WIDE JOINT SPACING .TIGHT PLANAR.ROUGH DISCONTINUITIES.
127.14	128.27	100	100% MUDSTONE: CARBONACEOUS BANDS, GREY, MODERATELY WEAK ROCK.MODERATELY WIDE JOINT SPACING, JOINTS DIP 70 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
128.27	130.85	100	100% SANDSTONE: VERY FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.WITH CROSS LAMINATION.MODERATELY WIDE JOINT SPACING, JOINTS DIP 75 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES.
130.85	131.74	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.WITH CROSS LAMINATION.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 5

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
131.74	132.99	100	100% SANDSTONE. MEDIUM GRAINED: MUDSTONE STREAKS. LIGHT GREY. MODERATELY WEAK ROCK.WITH CROSS LAMINATION.
132.99	134.11	100	100% SANDSTONE: MED.TO FINE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.
134.11	141.53	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS STREAKS. LIGHT GREY. MODERATELY WEAK ROCK.WITH MUD PELLETS.
141.53	141.62	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
141.62	141.83	100	100% MUDSTONE: CARBONACEOUS STREAKS. GREY-BROWN. MODERATELY WEAK ROCK.
141.83	143.10	100	100% MUDSTONE: SILTSTONE. GREY. MODERATELY WEAK ROCK.
143.10	143.71	100	100% SANDSTONE: MED.TO FINE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.
143.71	143.85	100	100% MUDSTONE: SILTSTONE. GREY-BROWN. MODERATELY WEAK ROCK.
143.85	143.86	100	100% MUDSTONE: CARBONACEOUS. BLACK. VERY WEAK ROCK.
143.86	143.90	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
143.90	143.94	100	100% COAL. INTERBANDED DULL AND BRIGHT: CARBONACEOUS LAMINAE. WITH CALCITE ON CLEAT AND LIMONITE ON CLEAT.
143.94	144.08	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. WITH CALCITE ON CLEAT AND LIMONITE ON CLEAT. MODERATELY WEAK ROCK.
144.08	144.10	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
144.10	144.12	100	100% COAL. BRIGHT WITH NUMEROUS DULL BANDS:.
144.12	144.15	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
144.15	144.18	100	100% MUDSTONE: SILTSTONE. CARBONACEOUS. DARK GREY. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 5

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
144.18	144.20	100	100% COAL. INTERBANDED DULL AND BRIGHT: WITH CALCITE ON CLEAT AND LIMONITE ON CLEAT.
144.20	144.21	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
144.21	144.28	100	100% MUDSTONE: SILTSTONE. CARBONACEOUS. DARK GREY. MODERATELY WEAK ROCK.
144.28	144.31	100	100% COAL. DULL WITH NUMEROUS BRIGHT BANDS: WITH CALCITE ON CLEAT AND LIMONITE ON CLEAT.
144.31	144.41	100	100% COAL. HEAVY DULL: BRIGHT COAL LENSES. WITH CALCITE ON CLEAT AND LIMONITE ON CLEAT.
144.41	144.51	100	100% MUDSTONE: CARBONACEOUS. BLACK. WITH LIMONITE ON CLEAT. MODERATELY STRONG ROCK.
144.51	144.65	100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS STREAKS. LIGHT GREY. MODERATELY WEAK ROCK.
144.65	144.71	100	100% COAL. HEAVY DULL: BRIGHT COAL STREAKS. WITH CALCITE ON CLEAT.
144.71	144.75	100	100% COAL. BRIGHT WITH FEW DULL BANDS: WITH CALCITE ON CLEAT.
144.75	144.79	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
144.79	144.83	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.
144.83	144.88	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
144.88	144.97	100	100% COAL. DULL:.
144.97	144.99	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
144.99	145.59	100	100% SANDSTONE: VERY FINE GRAINED. GREY. MODERATELY WEAK ROCK.
145.59	146.03	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
146.03	146.26	100	100% SANDSTONE: MED.TO FINE GRAINED. GREY. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 5

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
146.26	146.56	100	100% SANDSTONE, FINE GRAINED: GREY, MODERATELY WEAK ROCK.
146.56	146.84	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
146.84	146.99	100	100% MUDSTONE: CARBONACEOUS, ARENACEOUS, BROWN - BLACK, WEAK ROCK.
146.99	147.15	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
147.15	147.27	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
147.27	147.33	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
147.33	147.63	100	100% COAL, INTERBANDED DULL AND BRIGHT: HEAVY DULL COAL BANDS, WITH CALCITE ON CLEAT.
147.63	148.31	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK,MODERATELY CLOSE JOINT SPACING.
148.31	149.28	100	100% SILTSTONE: SANDSTONE BANDS, WITH CALCITE ON JOINTS, MODERATELY WEAK ROCK,CLOSE JOINT SPACING ,OPEN PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
149.28	164.28	100	90% SANDSTONE, MEDIUM GRAINED: FRIABLE BANDS, LIGHT GREY, 10% SANDSTONE, MEDIUM GRAINED: CALCAREOUS, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS AND CARBONACEOUS WHISPS,VERY WIDE JOINT SPACING. JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
164.28	164.43	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
164.43	164.51	100	100% MUDSTONE: CARBONACEOUS STREAKS, YELLOW-GREY, MODERATELY WEAK ROCK.
164.51	164.73	100	100% SILTSTONE: BADLY BROKEN, GREY-BROWN, VERY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 5

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
164.73	164.83	100	100% CLAYSTONE: YELLOW-GREY, VERY WEAK ROCK.
164.83	164.87	100	100% CLAYSTONE: YELLOW-GREY, SOFT.
164.87	165.04	100	100% MUDSTONE: CARBONACEOUS, BADLY BROKEN, BROWN - BLACK, VERY WEAK ROCK.
165.04	165.21	100	100% MUDSTONE: BADLY BROKEN, DARK GREY, SOFT.
165.21	165.34	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY STRONG ROCK.
165.34	165.58	100	100% MUDSTONE: CARBONACEOUS BANDS, GREY-BROWN, MODERATELY WEAK ROCK.
165.58	166.82	100	100% MUDSTONE: CARBONACEOUS BANDS, GREY, MODERATELY WEAK ROCK.
166.82	167.00	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED.
167.00	167.05	100	100% CLAYSTONE: LIGHT BROWN, WEAK ROCK.
167.05	167.64	100	100% SILTSTONE: CARBONACEOUS STREAKS, GREY, MODERATELY WEAK ROCK.
167.64	168.14	100	60% SANDSTONE: VERY FINE GRAINED, LIGHT GREY, 40% SILTSTONE: GREY, MODERATELY WEAK ROCK,THIN BEDDING,WITH LOAD CASTS.
168.14	168.43	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
168.43	168.64	100	100% SANDSTONE, MEDIUM GRAINED: SILTSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK.
168.64	169.09	100	50% SANDSTONE, FINE GRAINED: LIGHT GREY, 50% SILTSTONE: GREY, MODERATELY WEAK ROCK,THIN BEDDING,WITH CROSS LAMINATION.
169.09	169.39	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK.
169.39	170.30	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,MODERATELY CLOSE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 5

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
170.30	170.62	100	50% SANDSTONE: VERY FINE GRAINED, LIGHT GREY, 50% SILTSTONE: GREY, MODERATELY WEAK ROCK,WITH LOAD CASTS.
170.62	171.42	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING,WITH CROSS LAMINATION,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
171.42	174.42	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH CROSS LAMINATION,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
174.42	175.76	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK,THIN BEDDING,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
175.76	176.61	100	100% SANDSTONE, MEDIUM GRAINED: BRIGHT COAL LENSES, LIGHT GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES.
176.61	176.89	100	100% MUDSTONE: BADLY BROKEN, FISSILE, CREAM, VERY WEAK ROCK.
176.89	193.52	100	100% SANDSTONE, MEDIUM GRAINED: MUDSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS,VERY WIDE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
193.52	196.97	100	100% SANDSTONE, COARSE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS,WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
196.97	197.79	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,THIN BEDDING.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 5

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
197.79	199.31	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
199.31	200.30	100	70% MUDSTONE: CARBONACEOUS, BROWN - BLACK, 30% MUDSTONE: BUFF, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING.
200.30	200.51	0	CORE LOSS.
200.51	201.62	100	50% MUDSTONE: CARBONACEOUS, BROWN - BLACK, 50% MUDSTONE: ARENACEOUS BANDS, BUFF, MODERATELY WEAK ROCK,MODERATELY THICK BEDDING.
201.62	201.69	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
201.69	201.86	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
201.89	201.98	100	100% CLAYSTONE: ARENACEOUS, CREAM, WEAK ROCK.
201.98	202.50	100	90% MUDSTONE: CARBONACEOUS, BROWN - BLACK, 10% MUDSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, MODERATELY WEAK ROCK,THIN BEDDING.
202.50	202.67	100	100% CLAYSTONE: FISSILE, CREAM, STIFF, ,RAPID SLAKING.
202.67	202.74	100	100% MUDSTONE: CARBONACEOUS STREAKS, BROWN, MODERATELY WEAK ROCK.
202.74	202.81	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
202.81	202.85	100	100% SANDSTONE, FINE GRAINED: GREY, MODERATELY WEAK ROCK.
202.85	202.89	100	100% MUDSTONE: CARBONACEOUS LENSES, BROWN, MODERATELY WEAK ROCK.
202.89	202.95	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.
202.95	203.09	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 5

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
203.09	203.13	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
203.13	203.29	100	100% CLAYSTONE: CREAM, VERY WEAK ROCK. ,SLOW SLAKING.
203.29	203.57	100	100% CLAYSTONE: FISSILE, CREAM, STIFF, ,RAPID SLAKING.
203.57	203.64	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
203.64	203.70	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
203.70	203.79	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS: CARBONACEOUS LAMINAE.
203.79	203.96	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
203.96	205.06	100	100% SILTSTONE: GREY, WITH CALCITE ON JOINTS. MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING. JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
205.06	205.23	100	100% MUDSTONE: FISSILE, YELLOW-GREY, VERY WEAK ROCK.
205.23	206.00	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
206.00	206.06	100	100% CLAYSTONE: GREY-BROWN, VERY WEAK ROCK,WITH CARBONACEOUS WHISPS.
206.06	206.15	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
206.15	206.52	100	100% SILTSTONE: MUDSTONE BANDS, GREY, MODERATELY WEAK ROCK.
206.52	206.66	100	100% MUDSTONE: SILTSTONE BANDS, GREY, MODERATELY WEAK ROCK.
206.66	207.21	100	100% SILTSTONE: MUDSTONE BANDS, GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 5

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
207.21	207.53	100	100% SANDSTONE, FINE GRAINED: MUDSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
207.53	208.22	100	100% SANDSTONE: VERY FINE GRAINED, GREY, MODERATELY WEAK ROCK.
208.22	209.03	100	50% SANDSTONE, FINE GRAINED: LIGHT GREY. 50% SILTSTONE: GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
209.03	210.99	100	100% SANDSTONE, FINE GRAINED: SILTSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH CROSS LAMINATION AND CARBONACEOUS WHISPS.
210.99	211.55	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
211.55	212.45	100	100% CLAYSTONE: SILTSTONE BANDS, GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
212.45	224.42	100	100% SANDSTONE, MEDIUM GRAINED: MUDSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS AND CARBONACEOUS WHISPS.
224.42	225.16	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
225.16	225.81	100	100% SANDSTONE, FINE GRAINED: SILTSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
225.81	226.25	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
226.25	226.92	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
226.92	227.58	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
227.58	227.62	100	100% MUDSTONE: CARBONACEOUS, GREY-BROWN, MODERATELY WEAK ROCK.
227.62	227.64	100	100% MUDSTONE: LIGHT BROWN, VERY WEAK ROCK.
227.64	227.66	100	100% MUDSTONE: CARBONACEOUS BANDS, GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 5

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
227.66	227.68	100	100% MUDSTONE: LIGHT BROWN, VERY WEAK ROCK.
227.68	227.70	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
227.70	227.78	100	100% MUDSTONE: CARBONACEOUS, GREY-BROWN, MODERATELY WEAK ROCK.
227.78	228.05	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK.
228.05	228.54	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
228.54	229.39	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
229.39	230.07	100	100% SILTSTONE: ARENACEOUS BANDS, GREY, MODERATELY WEAK ROCK.
230.07	231.68	100	60% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, 40% SILTSTONE: GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH CROSS LAMINATION AND LOAD CASTS.
231.68	232.39	100	100% SANDSTONE, MEDIUM GRAINED: MUDSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
232.39	232.96	100	100% MUDSTONE: CARBONACEOUS BANDS, GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
232.96	233.00	100	100% CLAYSTONE: LIGHT GREY, VERY WEAK ROCK.
233.00	233.44	100	100% MUDSTONE: CARBONACEOUS STREAKS, GREY-BROWN, MODERATELY WEAK ROCK,WITH MUD PELLETS.
233.44	233.59	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
233.59	233.74	100	100% CLAYSTONE: FISSILE, LIGHT GREY, VERY WEAK ROCK.
233.74	233.79	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
233.79	234.36	100	100% MUDSTONE: CARBONACEOUS BANDS, GREY, MODERATELY WEAK ROCK,MODERATELY CLOSE JOINT SPACING.
234.36	234.51	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 5

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
234.51	234.87	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LENSES. LIGHT GREY, MODERATELY WEAK ROCK.
234.87	235.58	100	100% SANDSTONE, MEDIUM GRAINED: SILTSTONE LAMINAE. LIGHT GREY, MODERATELY WEAK ROCK.
235.58	235.85	100	50% SANDSTONE: MED.TO FINE GRAINED. LIGHT GREY. 50% SILTSTONE: GREY, MODERATELY WEAK ROCK.VERY THIN BEDDING.
235.85	236.05	100	100% SANDSTONE, MEDIUM GRAINED: SILTSTONE BANDS. LIGHT GREY, MODERATELY WEAK ROCK.
236.05	236.23	100	50% SANDSTONE, FINE GRAINED: LIGHT GREY, 50% SILTSTONE: GREY, MODERATELY WEAK ROCK.VERY THIN BEDDING.
236.23	245.09	100	100% SANDSTONE, COARSE GRAINED: CALCAREOUS BANDS. LIGHT GREY, MODERATELY WEAK ROCK.WITH MUD PELLETS AND CARBONACEOUS WHISPS.EXTREMELY WIDE JOINT SPACING. JOINTS DIP 30 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
245.09	245.82	100	100% SANDSTONE: VERY FINE GRAINED, GREY, MODERATELY WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
245.82	253.75	100	100% SANDSTONE, COARSE GRAINED: CALCAREOUS BANDS. LIGHT GREY, MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.
253.75	253.85	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.CLOSE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
253.85	255.60	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.
255.60	255.80	100	100% SANDSTONE, COARSE GRAINED: CALCAREOUS, WHITE, WITH BANDS OF CALCITE, MODERATELY STRONG ROCK.WITH CARBONACEOUS WHISPS.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 5

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
255.80 - 256.68		100	100% SANDSTONE. COARSE GRAINED: CARBONACEOUS TRACES. LIGHT GREY. MODERATELY WEAK ROCK.
256.68 - 256.91		100	100% SANDSTONE. COARSE GRAINED: CALCAREOUS. WHITE. WITH BANDS OF CALCITE. MODERATELY STRONG ROCK.WITH CARBONACEOUS WHISPS.
256.91 - 260.36		100	100% SANDSTONE: MED.-COARSE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.
260.36 - 262.84		100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.
SAMPLE:1			*** CORE DESCRIPTION ***
262.84			
	0.14	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.
	0.16	100	100% COAL. HEAVY DULL: BRIGHT COAL BANDS.
	0.04	100	100% COAL. DULL WITH NUMEROUS BRIGHT BANDS:.
263.18	0.34		TOTAL
SAMPLE:2			*** CORE DESCRIPTION ***
263.18			
	0.03	100	100% MUDSTONE: CARBONACEOUS STREAKS. GREY. MODERATELY WEAK ROCK.
	0.03	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.
	0.35	100	100% MUDSTONE: CARBONACEOUS STREAKS. GREY. MODERATELY WEAK ROCK.
	0.03	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.
	0.07	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.
	0.03	100	100% MUDSTONE: GREY-BROWN. WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 5

TOP	BASE	%REC	LITHOLOGY
SAMPLE:2			*** CORE DESCRIPTION ***
	0.06	100	100% CLAYSTONE: LIGHT BROWN, FIRM.
263.78	0.60		TOTAL
SAMPLE:3			*** CORE DESCRIPTION ***
263.78			
	0.15	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
	0.06	100	100% MUDSTONE: FISSILE, LIGHT BROWN, STIFF.
	0.05	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
	0.11	100	100% COAL, HEAVY DULL: BRIGHT COAL BANDS.
	0.41	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS: CARBONACEOUS LAMINAE.
264.56	0.78		TOTAL
SAMPLE:4			*** CORE DESCRIPTION ***
264.56			
	0.01	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
	0.14	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
	0.12	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
264.83	0.27		TOTAL
SAMPLE:5			*** CORE DESCRIPTION ***
264.83			
	0.04	100	100% COAL, HEAVY DULL:.
	0.01	100	100% MUDSTONE: ARENACEOUS, LIGHT BROWN, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 5

TOP	BASE	%REC	LITHOLOGY
SAMPLE:5			*** CORE DESCRIPTION ***
	0.03	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
	0.12	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
	0.02	100	100% MUDSTONE: CARBONACEOUS LAMINAE, LIGHT BROWN, MODERATELY WEAK ROCK.
	0.09	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
	0.02	100	100% MUDSTONE: CARBONACEOUS LAMINAE, LIGHT BROWN, MODERATELY WEAK ROCK.
	0.10	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS: CARBONACEOUS LAMINAE.
	0.36	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
	0.26	100	100% COAL, DULL WITH FEW BRIGHT BANDS: HEAVY DULL COAL BANDS.
	0.02	100	100% COAL, BRIGHT:.
	0.10	100	50% COAL, BRIGHT: 50% CARBONACEOUS SHALE:,VERY THIN BEDDING.
	0.05	100	100% MUDSTONE: CARBONACEOUS, SHALY, DARK BROWN, WEAK ROCK.
266.05	1.22		TOTAL
			*** CORE DESCRIPTION ***
266.05 - 266.16		100	100% MUDSTONE: CARBONACEOUS, GREY-BROWN, MODERATELY WEAK ROCK,LAMINATED.
266.16 - 266.54		100	100% MUDSTONE: COALY TRACES, GREY, MODERATELY WEAK ROCK,LAMINATED.
266.54 - 267.17		100	100% MUDSTONE: SANDSTONE BANDS, GREY, MODERATELY WEAK ROCK,LAMINATED.
267.17 - 267.30		100	100% SANDSTONE, FINE GRAINED: MUDSTONE LAMINAE, GREY, MODERATELY WEAK ROCK.
267.30 - 267.79		100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED.
267.79 - 267.81		100	100% CARBONACEOUS SHALE: COALY LAMINAE.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 5

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
267.81	267.89	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
267.89	267.95	100	100% CARBONACEOUS SHALE: COALY LAMINAE.
267.95	268.05	100	100% MUDSTONE: CARBONACEOUS, GREY-BROWN, MODERATELY WEAK ROCK.
268.05	268.36	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
268.36	268.59	100	100% COAL, HEAVY DULL: BRIGHT COAL BANDS.
268.59	268.61	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
268.61	268.85	100	100% MUDSTONE: FISSILE, GREY-BROWN, MODERATELY WEAK ROCK,LAMINATED.
268.85	269.28	100	70% SANDSTONE, FINE GRAINED: MUDSTONE LAMINAE, GREY, 30% MUDSTONE: FISSILE, GREY, MODERATELY WEAK ROCK,MODERATELY THICK BEDDING.
269.28	287.65	100	100% SANDSTONE, COARSE GRAINED: CALCAREOUS BANDS, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
287.65	287.72	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
287.72	289.84	100	100% SANDSTONE, COARSE GRAINED: CARBONACEOUS TRACES, LIGHT GREY, MODERATELY WEAK ROCK.
289.84	291.36	100	100% SILTSTONE: SANDSTONE BANDS, GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING, BEDS DIP 20 DEG.,WITH CROSS LAMINATION.
291.36	291.48	100	60% SANDSTONE, COARSE GRAINED: LIGHT GREY, 40% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK,THIN BEDDING.
291.48	292.36	100	100% SILTSTONE: SANDSTONE BANDS, GREY, MODERATELY WEAK ROCK,LAMINATED.
292.36	293.40	100	50% SANDSTONE, FINE GRAINED: LIGHT GREY, 50% SILTSTONE: GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH CARBONACEOUS WHISPS.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 5

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
293.40	304.70	100	100% SANDSTONE. COARSE GRAINED: MUDSTONE BANDS. LIGHT GREY. MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.
304.70	304.85	100	100% SANDSTONE. FINE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.WITH CARBONACEOUS WHISPS AND CROSS LAMINATION.
304.85	304.94	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.
304.94	304.98	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.
304.98	305.06	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.
305.06	305.60	100	100% SANDSTONE: CARBONACEOUS LENSES. LIGHT GREY. MODERATELY WEAK ROCK.WITH MUD PELLETS.
305.60	306.65	100	100% SANDSTONE: LIGHT GREY. MODERATELY WEAK ROCK.
306.65	307.83	100	100% SANDSTONE: MED.-COARSE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.
307.83	308.85	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.
308.85	309.10	100	100% SANDSTONE: MED.-COARSE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.
309.10	310.47	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.
310.47	310.65	100	100% CALCITE: SANDSTONE BANDS. WHITE. MODERATELY WEAK ROCK.
310.65	314.82	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.
314.82	314.97	100	100% SANDSTONE. MEDIUM GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.
314.97	332.23	100	100% SANDSTONE. COARSE GRAINED: CARBONACEOUS TRACES. LIGHT GREY. MODERATELY WEAK ROCK.WITH MUD PELLETS.
332.23	334.98	100	100% SANDSTONE: MED.-COARSE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.
334.98	335.12	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 5

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
335.12	335.35	100	100% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
335.35	335.78	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
335.78	336.37	100	50% MUDSTONE: CARBONACEOUS, BROWN - BLACK, 50% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING.
336.37	337.10	100	100% SANDSTONE, FINE GRAINED: MUDSTONE LAMINAE, GREY, MODERATELY WEAK ROCK,LAMINATED.
337.10	337.60	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK.
337.60	338.00	0	CORE LOSS.
338.00	338.02	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK.
338.02	338.14	100	100% SANDSTONE, FINE GRAINED: CALCAREOUS, LIGHT GREY, MODERATELY WEAK ROCK.
338.14	339.06	100	70% SANDSTONE, FINE GRAINED: GREY. 30% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK,LAMINATED.
339.06	340.63	100	70% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, 30% SILTSTONE: SANDSTONE LAMINAE, GREY, MODERATELY WEAK ROCK,MODERATELY THICK BEDDING.
340.63	341.40	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS AND CROSS LAMINATION.
341.40	346.74	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
346.74	346.99	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 5

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
346.99	350.26	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
350.26	350.89	100	100% SANDSTONE, FINE GRAINED: MUDSTONE LAMINAE, GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH CARBONACEOUS WHISPS.
350.89	352.80	100	100% MUDSTONE: CARBONACEOUS LAMINAE, GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
352.80	352.90	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
352.90	353.07	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
353.07	353.88	100	100% MUDSTONE: CARBONACEOUS, ARENACEOUS, GREY-BROWN, MODERATELY WEAK ROCK.
353.88	354.38	100	90% MUDSTONE: CARBONACEOUS LAMINAE, DARK GREY, 10% MUDSTONE: LIGHT GREY, MODERATELY WEAK ROCK,LAMINATED.
354.38	354.46	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK,LAMINATED.
354.46	354.69	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK,LAMINATED.
354.69	355.09	100	70% MUDSTONE: CARBONACEOUS, DARK GREY, 30% MUDSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED.
355.09	355.30	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK,LAMINATED.
355.30	355.53	100	70% SANDSTONE, FINE GRAINED: LIGHT GREY, 30% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH CROSS LAMINATION.
355.53	355.93	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK,LAMINATED.
355.93	356.37	100	100% SANDSTONE: VERY FINE GRAINED, CREAM, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 5

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
356.37	356.63	100	100% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK,LAMINATED.
356.63	356.84	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED.
356.84	356.94	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
356.94	357.40	100	70% SANDSTONE, FINE GRAINED: LIGHT GREY, 30% SILTSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED.
357.40	357.80	100	100% MUDSTONE: BADLY BROKEN, GREY, MODERATELY WEAK ROCK.
357.80	358.80	0	CORE LOSS.
358.80	359.05	100	100% MUDSTONE: BADLY BROKEN, GREY, MODERATELY WEAK ROCK.
359.05	359.35	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS AND CROSS LAMINATION.
359.35	359.61	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK,LAMINATED.
359.61	360.87	100	50% SANDSTONE, FINE GRAINED: LIGHT GREY, 50% SILTSTONE: GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH CARBONACEOUS WHISPS AND CROSS LAMINATION.
360.87	363.15	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS AND CROSS LAMINATION.
363.15	363.80	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED.
363.80	364.25	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 50 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
364.25	364.37	100	100% SILTSTONE: GREY-BROWN, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 5

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
364.37 - 364.59		100	50% SILTSTONE: GREY-BROWN. 50% SANDSTONE. FINE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
364.59 - 365.07		100	100% MUDSTONE: CARBONACEOUS. GREY-BROWN. MODERATELY WEAK ROCK.LAMINATED.
365.07 - 365.23		100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.LAMINATED.MODERATELY WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
365.23 - 366.13		100	100% SANDSTONE. FINE GRAINED: SILTSTONE LAMINAE. GREY. MODERATELY WEAK ROCK.LAMINATED.
366.13 - 366.61		100	50% MUDSTONE: SILTSTONE. GREY. 50% SANDSTONE. FINE GRAINED: GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
366.61 - 367.08		100	100% MUDSTONE: SILTSTONE. GREY. MODERATELY WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
367.08 - 367.40		100	100% MUDSTONE: GREY-BROWN. MODERATELY WEAK ROCK.
367.40 - 367.57		100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.LAMINATED.
SAMPLE:6			*** CORE DESCRIPTION ***
367.57			
	0.05	100	100% MUDSTONE: CARBONACEOUS. DARK GREY. MODERATELY STRONG ROCK.
	0.04	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
	0.04	100	100% MUDSTONE: BROWN. WEAK ROCK.
367.70	0.13		TOTAL

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 5

TOP	BASE	%REC	LITHOLOGY
SAMPLE:7			*** CORE DESCRIPTION ***
367.70			
	0.14	100	100% COAL, HEAVY DULL:.
	0.02	100	100% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK.
	0.16	100	100% COAL, HEAVY DULL:.
	0.11	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
	0.07	100	100% COAL, HEAVY DULL:.
	0.29	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS: MUDSTONE LAMINAE.
368.49	0.79		TOTAL
			*** CORE DESCRIPTION ***
368.49 - 368.50		100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
368.50 - 369.17		100	100% SANDSTONE, FINE GRAINED: MUDSTONE BANDS, BROWN, MODERATELY WEAK ROCK.
369.17 - 369.55		100	100% CLAYSTONE: GREY, VERY WEAK ROCK,LAMINATED,MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
369.55 - 370.11		100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK.
370.11 - 370.40		100	100% SANDSTONE, FINE GRAINED: GREY, MODERATELY WEAK ROCK.
370.40 - 371.16		100	100% SANDSTONE, FINE GRAINED: MUDSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
371.16 - 377.35		100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
377.35 - 377.68		100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
377.68 - 378.00		100	100% MUDSTONE: SILTSTONE, DARK GREY, MODERATELY WEAK ROCK,LAMINATED.
378.00 - 379.00		0	CORE LOSS.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 5

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
379.00	379.21	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
379.21	380.60	80	100% MUDSTONE: SILTSTONE, LIGHT GREY, MODERATELY WEAK ROCK,LAMINATED.
380.60	381.60	80	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS BANDS, LIGHT GREY, MODERATELY WEAK ROCK.
381.60	382.35	100	70% MUDSTONE: GREY, 30% SANDSTONE, FINE GRAINED: GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
382.35	383.70	80	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED.
383.70	383.92	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK,LAMINATED.
383.92	384.83	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, MODERATELY WEAK ROCK,LAMINATED.
384.83	385.50	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK,LAMINATED.
385.50	386.35	90	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, WITH BANDS OF CLAY, MODERATELY WEAK ROCK,LAMINATED.
386.35	386.50	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
386.50	388.30	100	50% SILTSTONE: CARBONACEOUS STREAKS, GREY, 50% SANDSTONE: MED.TO FINE GRAINED, MODERATELY WEAK ROCK,VERY THIN BEDDING.
388.30	389.52	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED.
389.52	389.54	100	100% CLAYSTONE: FISSILE, BUFF, WITH LENSES OF CALCITE, STIFF.
389.54	390.00	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED.
390.00	390.18	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
390.18	390.44	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
390.44	390.46	100	100% CLAYSTONE: FISSILE, BUFF, STIFF.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 5

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
390.46	391.14	100	50% MUDSTONE: CARBONACEOUS, DARK GREY. 50% SANDSTONE, MEDIUM GRAINED: GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
391.14	392.07	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED.
392.07	392.95	100	50% MUDSTONE: GREY. 50% SANDSTONE, FINE GRAINED: GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
392.95	393.36	100	100% SANDSTONE, FINE GRAINED: GREY-GREEN, WITH FRAGMENTS OF CALCITE, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS,LAMINATED.
393.36	393.74	100	100% SANDSTONE, FINE GRAINED: MUDSTONE LAMINAE, GREY, MODERATELY WEAK ROCK,LAMINATED.
393.74	393.84	100	100% MUDSTONE: DARK GREY, MODERATELY WEAK ROCK,LAMINATED.
393.84	394.82	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK,LAMINATED.
394.82	395.33	100	50% MUDSTONE: SILTSTONE, GREY. 50% SANDSTONE, FINE GRAINED: GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
395.33	396.55	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK,LAMINATED.
396.55	399.75	100	100% MUDSTONE: CARBONACEOUS BANDS, GREY-BROWN, MODERATELY WEAK ROCK,LAMINATED.
399.75	401.93	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS LENSES, GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS AND POOR SORTING.
401.93	402.23	100	100% MUDSTONE: CARBONACEOUS, GREY-BROWN, MODERATELY WEAK ROCK.
402.23	402.45	100	100% SANDSTONE, COARSE GRAINED: PEBBLY, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
402.45	403.58	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS AND POOR SORTING.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 5

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
403.58	404.00	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.
404.00	404.98	100	100% SANDSTONE: MED.-COARSE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.
404.98	406.60	100	100% SANDSTONE: MED.-COARSE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.
406.60	406.79	100	50% SILTSTONE: GREY. 50% SANDSTONE: MED.-COARSE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING. BEDS DIP 60 DEG..WITH CARBONACEOUS WHISPS.
406.79	406.84	100	100% SANDSTONE. MEDIUM GRAINED: SILTSTONE LENSES. LIGHT GREY. MODERATELY WEAK ROCK.
406.84	407.18	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.
407.18	407.27	100	100% SANDSTONE: MED.-COARSE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.
407.27	407.51	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.
407.51	410.00	100	100% SANDSTONE: MED.-COARSE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.
410.00	410.98	100	100% SANDSTONE: MED.-COARSE GRAINED. PEBBLY. LIGHT GREY. MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.
410.98	411.65	100	100% SANDSTONE: MED.-COARSE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.
411.65	412.24	100	100% SILTSTONE: SANDSTONE LAMINAE. GREY. MODERATELY WEAK ROCK.LAMINATED.
412.24	412.48	100	100% SANDSTONE: MED.-COARSE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.
412.48	412.62	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.LAMINATED.
412.62	416.00	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.
416.00	416.27	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.LAMINATED.
416.27	416.88	100	100% SANDSTONE. MEDIUM GRAINED: SILTSTONE BANDS. LIGHT GREY. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 5

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
416.88	417.02	100	100% SANDSTONE, MEDIUM GRAINED: GREY-BROWN, MODERATELY WEAK ROCK.
417.02	418.20	100	100% SANDSTONE: VERY FINE GRAINED, GREY, MODERATELY WEAK ROCK,LAMINATED.
418.20	419.65	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK,LAMINATED.
419.65	420.95	100	100% SANDSTONE: VERY FINE GRAINED, GREY, MODERATELY WEAK ROCK,LAMINATED.
420.95	421.45	100	100% LIMESTONE: LIGHT GREY, MODERATELY WEAK ROCK.
421.45	422.22	100	100% SANDSTONE, MEDIUM GRAINED: CALCAREOUS, LIGHT GREY, MODERATELY WEAK ROCK.
422.22	424.84	100	100% SANDSTONE, COARSE GRAINED: CARBONACEOUS LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK.
424.84	425.10	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK,LAMINATED.
425.10	431.62	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
431.62	432.36	100	100% SANDSTONE, MEDIUM GRAINED: SILTSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK,LAMINATED.
432.36	432.55	100	100% SANDSTONE, FINE GRAINED: MUDSTONE LAMINAE, GREY, MODERATELY WEAK ROCK.
432.55	432.60	100	50% COAL, DULL: 50% MUDSTONE: ARENACEOUS, GREY-BROWN, MODERATELY WEAK ROCK,THIN BEDDING.
432.60	432.68	100	100% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK.
432.68	433.16	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK,LAMINATED.
433.16	433.22	100	100% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK,LAMINATED.
433.22	433.28	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK,LAMINATED.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 5

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
433.28	434.36	100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS BANDS. LIGHT BROWN. WITH FRAGMENTS OF QUARTZ. MODERATELY STRONG ROCK.WITH BURROWING.
434.36	435.21	100	50% SANDSTONE. FINE GRAINED: LIGHT BROWN. 50% MUDSTONE: GREY-BROWN. WITH FRAGMENTS OF QUARTZ. MODERATELY WEAK ROCK.VERY THIN BEDDING.
435.21	435.36	100	100% MUDSTONE: GREY-BROWN. MODERATELY WEAK ROCK.LAMINATED.
435.36	435.58	100	100% MUDSTONE: CARBONACEOUS. DARK GREY. MODERATELY WEAK ROCK.LAMINATED.
435.58	435.82	100	100% SANDSTONE. MEDIUM GRAINED: MUDSTONE BANDS. GREY-BROWN. MODERATELY WEAK ROCK.
435.82	435.91	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.LAMINATED.
435.91	435.95	100	100% SANDSTONE: VERY FINE GRAINED. BROWN. MODERATELY WEAK ROCK.
435.95	436.09	100	100% SANDSTONE. FINE GRAINED: BROWN. MODERATELY WEAK ROCK.
436.09	436.37	100	100% MUDSTONE: BROWN. MODERATELY WEAK ROCK.LAMINATED.
436.37	436.67	100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS. GREY-BROWN. MODERATELY WEAK ROCK.
436.67	436.78	100	100% SANDSTONE. MEDIUM GRAINED: LIGHT BROWN. MODERATELY WEAK ROCK.
436.78	436.92	100	100% SANDSTONE. FINE GRAINED: LIGHT BROWN. MODERATELY WEAK ROCK.
436.92	438.13	100	60% SANDSTONE. FINE GRAINED: 40% MUDSTONE:. MODERATELY WEAK ROCK.VERY THIN BEDDING.
438.13	438.62	100	100% SANDSTONE. MEDIUM GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.
438.62	438.85	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREEN. WITH FRAGMENTS OF QUARTZ. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 5

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
438.85	439.55	100	50% SANDSTONE, MEDIUM GRAINED: GREY-GREEN. 50% MUDSTONE: SILTSTONE, GREY-GREEN, MODERATELY WEAK ROCK,THIN BEDDING.
439.55	439.76	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREEN, WITH FRAGMENTS OF QUARTZ, MODERATELY STRONG ROCK.
439.76	440.09	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREEN, WITH FRAGMENTS OF QUARTZ, MODERATELY WEAK ROCK.
440.09	440.50	100	100% SANDSTONE: VERY COARSE GRAINED, LIGHT GREEN, WITH FRAGMENTS OF QUARTZ, MODERATELY STRONG ROCK.
440.50	440.66	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREEN, WITH FRAGMENTS OF QUARTZ, MODERATELY STRONG ROCK.
440.66	441.04	100	100% MUDSTONE: SILTSTONE, GREY-GREEN, MODERATELY WEAK ROCK,LAMINATED.
441.04	441.34	100	100% SANDSTONE, FINE GRAINED: MUDSTONE BANDS, GREY, MODERATELY WEAK ROCK.
441.34	442.20	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREEN, MODERATELY WEAK ROCK.
442.20	444.77	100	60% MUDSTONE: SILTSTONE, GREY, 40% MUDSTONE: SILTSTONE, GREEN, MODERATELY WEAK ROCK,THIN BEDDING.
444.77	445.61	100	100% SANDSTONE, FINE GRAINED: CALCAREOUS, MICACEOUS, LIGHT GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION.
445.61	445.89	100	100% SANDSTONE, FINE GRAINED: MUDSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK,LAMINATED.
445.89	446.41	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
446.41	447.26	100	100% SANDSTONE, FINE GRAINED: MICACEOUS LAMINAE, LIGHT GREEN, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH CROSS LAMINATION.
447.26	449.00	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, WITH FRAGMENTS OF CALCITE AND LAMINAE OF MICA, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 5

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
449.00	452.74	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREEN, WITH STREAKS OF MICA, MODERATELY WEAK ROCK.
452.74	453.39	100	100% LIMESTONE: SANDSTONE, FRAGMENTS, CREAM, MODERATELY STRONG ROCK.
453.39	455.00	100	100% SANDSTONE: MED.-COARSE GRAINED, ARGILLACEOUS, LIGHT GREEN, WITH STREAKS OF MICA, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 6

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
-	15.10	80	100% DOLERITE: BADLY BROKEN. FERRUGINOUS. ORANGE-YELLOW. HIGHLY WEATHERED. VERY WEAK ROCK.
15.10 -	18.50	100	100% DOLERITE: FERRUGINOUS STAINING. GREY. MODERATELY WEATHERED. STRONG ROCK.
18.50 -	29.00	100	100% DOLERITE: FERRUGINOUS STAINING. GREY. SLIGHTLY WEATHERED. STRONG ROCK.WIDE JOINT SPACING. VARIABLE DIP AND TYPE OF JOINTS
29.00 -	32.00	100	100% DOLERITE: MEDIUM GRAINED. GREY. STRONG ROCK.WIDE JOINT SPACING. VARIABLE DIP AND TYPE OF JOINTS
32.00 -	32.85	100	100% DOLERITE: MEDIUM GRAINED. BADLY BROKEN. GREY. WITH TALC ON JOINTS. STRONG ROCK.
32.85 -	36.00	100	100% DOLERITE: MEDIUM GRAINED. GREY. STRONG ROCK.WIDE JOINT SPACING. VARIABLE DIP AND TYPE OF JOINTS
36.00 -	37.00	100	100% DOLERITE: ORANGE-GREY. WITH TALC ON JOINTS. MODERATELY STRONG ROCK.MODERATELY CLOSE JOINT SPACING .TIGHT NON-PLANAR DISCONTINUITIES.
37.00 -	81.50	100	100% DOLERITE: MEDIUM GRAINED. GREY. STRONG ROCK.VERY WIDE JOINT SPACING. VARIABLE DIP AND TYPE OF JOINTS. SOME CALCITE AND CHLORITE ALONG JOINTS
81.50 -	91.00	100	100% DOLERITE: MEDIUM GRAINED. GREY. STRONG ROCK.MODERATELY WIDE JOINT SPACING .TIGHT NON-PLANAR DISCONTINUITIES.
91.00 -	93.25	100	100% DOLERITE: MED.TO FINE GRAINED. GREY. WITH CHLORITE ON JOINTS AND CALCITE ON JOINTS. MODERATELY STRONG ROCK.MODERATELY CLOSE JOINT SPACING .TIGHT NON-PLANAR DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 6

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
93.25 -	93.60	100	100% DOLERITE: FINE GRAINED, GREY, WITH CHLORITE ON JOINTS AND CALCITE ON JOINTS, MODERATELY WEAK ROCK,MODERATELY CLOSE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES.
93.60 -	93.80	100	100% DOLERITE: VERY FINE GRAINED, GREY-GREEN, WITH CHLORITE ON JOINTS AND CALCITE ON JOINTS, MODERATELY WEAK ROCK,MODERATELY CLOSE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES.
93.80 -	93.87	100	100% MUDSTONE: GREY-GREEN, MODERATELY WEAK ROCK. BAKED
93.87 -	94.16	100	100% MUDSTONE: CARBONACEOUS TRACES, CREAM, MODERATELY WEAK ROCK. BAKED
94.16 -	94.46	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK. SLIGHTY BURNT; CALCITE STREAKS
94.46 -	95.08	100	100% MUDSTONE: CARBONACEOUS TRACES, GREY-BROWN, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES.
95.08 -	96.95	100	80% SANDSTONE, FINE GRAINED: MUDSTONE BANDS, GREY-BROWN. 20% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING,WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
96.95 -	98.10	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
98.10 -	98.25	100	100% SANDSTONE, FINE GRAINED: GREY-BROWN, MODERATELY WEAK ROCK.
98.25 -	99.55	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK. CALCITE INFILLED FRACTURES IN PART

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 6

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
99.55 -	99.73	100	100% MUDSTONE: CREAM. MODERATELY WEAK ROCK.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
99.73 -	100.23	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
100.23 -	100.53	100	100% SANDSTONE: MED.TO FINE GRAINED. GREY. WEAK ROCK. REVERSE FAULT AT BASE
100.53 -	100.80	100	100% MUDSTONE: BADLY BROKEN. DARK GREY. WEAK ROCK.
100.80 -	100.90	0	CORE LOSS. CORE LOSS
100.90 -	101.21	100	100% SANDSTONE: MED.TO FINE GRAINED. GREY. MODERATELY WEAK ROCK.
101.21 -	102.08	100	100% MUDSTONE: SANDSTONE BANDS. GREY. MODERATELY WEAK ROCK.THIN BEDDING. BEDS DIP 20 DEG..WITH LOAD CASTS.
102.08 -	102.30	100	100% MUDSTONE: DARK GREY. MODERATELY WEAK ROCK.
102.30 -	102.36	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.
102.36 -	102.72	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
102.72 -	102.80	100	100% MUDSTONE: CARBONACEOUS. DARK GREY. MODERATELY WEAK ROCK.
102.80 -	105.50	100	100% MUDSTONE: SANDSTONE BANDS. GREY. MODERATELY WEAK ROCK.VERY WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
105.50 -	105.64	100	100% MUDSTONE: SANDSTONE LAMINAE. GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING. BEDS DIP 60 DEG..

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 6

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
105.64	106.07	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING, BEDS DIP 50 DEG..
106.07	106.90	100	100% MUDSTONE: SANDSTONE LAMINAE, GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING, BEDS DIP 50 DEG..
106.90	107.05	100	100% SANDSTONE, FINE GRAINED: MUDSTONE LAMINAE, GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING, BEDS DIP 50 DEG..
107.05	107.15	100	50% SANDSTONE, FINE GRAINED: GREY, 50% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING, BEDS DIP 45 DEG..
107.15	108.00	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
108.00	110.00	100	80% MUDSTONE: CARBONACEOUS, STRONGLY FRAGMENTED, BROWN - BLACK, 20% COAL, HEAVY DULL: STRONGLY FRAGMENTED, MODERATELY STRONG ROCK.
110.00	114.36	100	50% SANDSTONE: LITHIC, MICACEOUS, GREY, 50% MUDSTONE: GREY, UNWEATHERED, MODERATELY STRONG ROCK,MODERATELY THIN BEDDING ,ABRUPT BASAL CONTACT, BEDS DIP 2 DEG.,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,OPEN,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH CALCITE.
114.36	116.00	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, UNWEATHERED, MODERATELY WEAK ROCK,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,OPEN,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH CALCITE.
116.00	116.60	100	50% MUDSTONE: CARBONACEOUS, DARK GREY, 50% MUDSTONE: GREY-GREEN, UNWEATHERED, WEAK ROCK.
116.60	116.82	100	100% MUDSTONE: CARBONACEOUS, BLACK, UNWEATHERED, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 6

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
116.82	117.82	100	50% MUDSTONE: CARBONACEOUS, BLACK. 50% SANDSTONE: CARBONACEOUS, DARK GREY, UNWEATHERED, MODERATELY STRONG ROCK,MODERATELY THICK BEDDING ,TRANSITIONAL BASAL CONTACT,WITH CROSS LAMINATION.
117.82	118.50	100	100% SANDSTONE: CARBONACEOUS, FINE GRAINED, DARK GREY, UNWEATHERED, MODERATELY STRONG ROCK.
118.50	119.40	100	100% DOLERITE: FINE GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH CALCITE.
119.40	125.05	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH CALCITE.
125.05	125.60	100	100% DOLERITE: FINE GRAINED, GREY, UNWEATHERED, VERY STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH CALCITE.
125.60	128.00	100	100% SANDSTONE: MEDIUM GRAINED, MICACEOUS, GREY, UNWEATHERED, MODERATELY WEAK ROCK,MODERATELY THICK BEDDING ,ABRUPT BASAL CONTACT, BEDS DIP 1 DEG.,MODERATELY WIDE JOINT SPACING, JOINTS DIP 50 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH CALCITE.
128.00	131.60	100	100% SANDSTONE: MED.-COARSE GRAINED, MICACEOUS, GREY, UNWEATHERED, MODERATELY WEAK ROCK,THICK BEDDING, BEDS DIP 1 DEG..
131.60	132.10	100	100% SANDSTONE: CONGLOMERATIC, MICACEOUS, GREY, UNWEATHERED, MODERATELY WEAK ROCK,THIN BEDDING ,ABRUPT BASAL CONTACT, BEDS DIP 1 DEG..

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 6

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
132.10	136.50	100	100% SANDSTONE: MED.-COARSE GRAINED, MICACEOUS, GREY, UNWEATHERED, MODERATELY WEAK ROCK,THICK BEDDING, BEDS DIP I DEG..EXTREMELY WIDE JOINT SPACING, JOINTS DIP 50 DEG. ,OPEN,PLANAR,SMOOTH DISCONTINUITIES.
136.50	137.00	100	100% SANDSTONE: COALY, FRAGMENTS, GREY, UNWEATHERED, MODERATELY WEAK ROCK,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 50 DEG. ,OPEN,PLANAR,SMOOTH DISCONTINUITIES.
137.00	140.10	100	100% SANDSTONE: MEDIUM GRAINED, CARBONACEOUS, GREY, UNWEATHERED, MODERATELY WEAK ROCK,EXTREMELY THICK BEDDING ,ABRUPT BASAL CONTACT, BEDS DIP 1 DEG..
140.10	143.00	65	100% MUDSTONE: CARBONACEOUS, BLACK, UNWEATHERED, WEAK ROCK.
143.00	143.70	40	100% MUDSTONE: MUDSTONE, FAULT GOUGE, LIGHT GREY, UNWEATHERED, WEAK ROCK.
143.70	144.20	50	100% MUDSTONE: CARBONACEOUS, FAULT GOUGE, BLACK, UNWEATHERED, WEAK ROCK,MODERATELY THIN BEDDING ,ABRUPT BASAL CONTACT, BEDS DIP 45 DEG..
144.20	144.25	100	100% MUDSTONE: BROWN, UNWEATHERED, WEAK ROCK,THIN BEDDING ,ABRUPT BASAL CONTACT, BEDS DIP 45 DEG..
144.25	146.60	100	100% MUDSTONE: COALY, FAULT GOUGE, BLACK, UNWEATHERED, WEAK ROCK,MODERATELY THIN BEDDING ,ABRUPT BASAL CONTACT, BEDS DIP 45 DEG..
146.60	149.50	100	100% MUDSTONE: FRAGMENTED, LIGHT GREY, UNWEATHERED, WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 50 DEG. ,OPEN,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
149.50	150.50	100	100% MUDSTONE: STRONGLY FRAGMENTED, FAULT GOUGE, LIGHT GREY, UNWEATHERED, VERY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 6

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
50.50	151.00	100	70% MUDSTONE: STRONGLY FRAGMENTED, GREY. 30% SANDSTONE: FINE GRAINED, STRONGLY FRAGMENTED, DARK GREY.
51.00	151.70	100	100% SANDSTONE: FINE GRAINED, STRONGLY FRAGMENTED, GREY.

HAREFIELD B.H.

EL5/61

5390000mN
5388000mN
5386000mN
5384000mN
5382000mN
5380000mN
5378000mN

5390000mE
600000mE

t
qt/t
jd
qa/t
qa/P
qt/?P
dg

GY18 GY16 GY15 GY12 GY13 GY14 GY10 GY10A GY11 GY9 GY2 GY17 GY3

D ~80m
U 15m
U 50m
D ~60m
U 30m
D ~110m
D ~120m
U 30m?
D ~30m?

see inset

DDH1 DDH2 MD1 MD2 MD3 MD4 MD5 MD6 MD7 MD8 MD9 MD10

SR 1978 MINE

1978 MINE ROAD

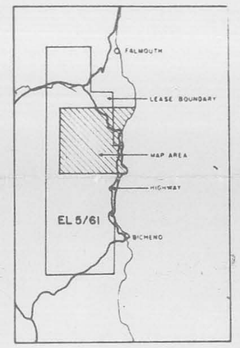
BLOCK OF PRIVATE LAND

5 cm

Abandoned Underground Mine Workings. Dalmayne Coalfield scale 1:10,000

5 385 500 mN
5 385 000 mN
602 500 mE
603 000 mE
CREEK

LOCALITY PLAN



LEGEND

- Borehole - MD Mines Dept; DDH Indust. & Min. Invest. P/L; GY Shell
- Proposed Borehole Location
- Access Track (4WD)
- Formed All-weather Track
- Log Bridge
- Underground Workings (Main Map)
- Mine Workings / Proposed Mine Workings (Inset Map)
- Mine Tunnel
- Fault. Position approximate
- Fault. Inferred
- Geological Boundary

qa	QUATERNARY	Alluvium
qt		Dolerite Talus
jd	JURASSIC	Dolerite
t	TRIASSIC	Undifferentiated
p	PERMIAN	Undifferentiated
dg	DEVONIAN	Granite

- Dolerite Plug
- Thick Dolerite, ? Feeder
- Approximate Subcrop D Seam
- Approximate Top Permian Formations

SCALE

0 1000m 2000m

SHEET INDEX

EL 5/61

1	2	3
4	5	6

Mapping by J.K. Ivett (CEPR 10/79)
Originals produced by the Survey Branch, Lands Department Hobart, under the direction of the Minister for Minerals and Energy.

THE SHELL COMPANY OF AUSTRALIA LTD.

TASMANIA EL5/61 (GRAY) DALMAYNE AREA

GENERALISED GEOLOGICAL MAP AND BOREHOLE LOCATIONS (DALMAYNE AREA)

Scale 1:42 000

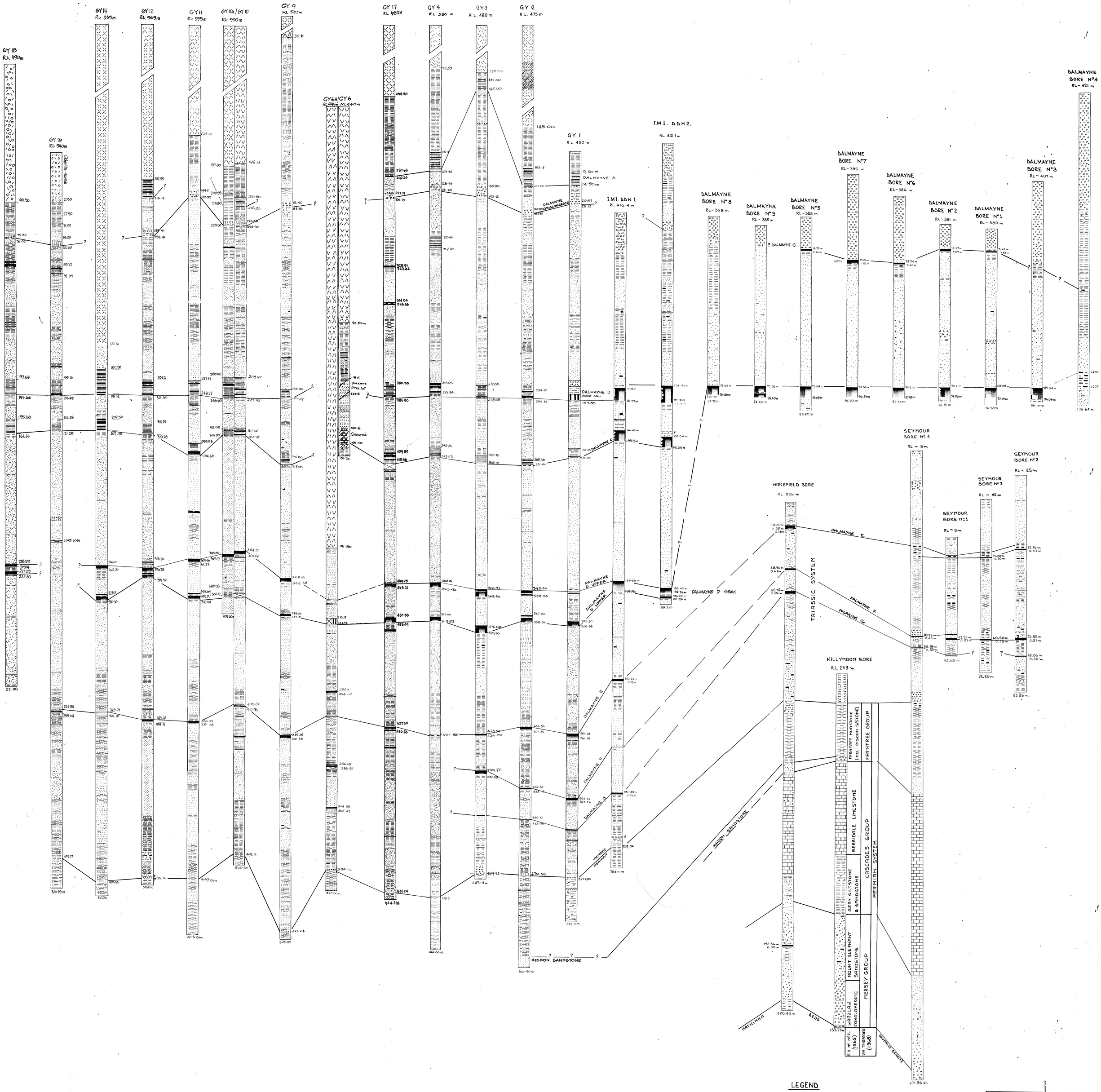
Author J.K. Ivett | Date JAN. 1979 | Fig 2

Report No. 9/79 | Drawing No. 1585

79-1388

5066

182239 ENCLOSURE 12.



LEGEND

ALLUVIUM

GRAVEL, DETRITUS, RUBBLE, SHINGLE CONGLOMERATE.

DETRITUS AND SAND.

SANDSTONE.

SILTSTONE.

SANDSTONE AND BANDS OF MUDSTONE ETC.

SANDSTONE, COAL TRACES, COAL VEINS, COAL BANDS.

MUDSTONE.

MUDSTONE AND SANDSTONE BANDS.

MUDSTONE, COAL BANDS ETC.

SHALE.

CARBONACEOUS SHALE.

BANDED COAL.

COAL.

LIMESTONE.

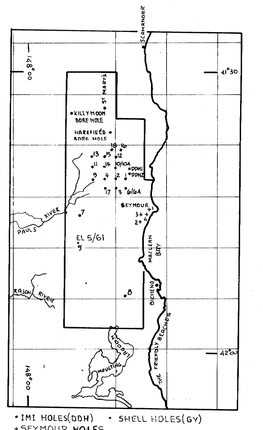
DOLERITE.

METAMORPHOSED SHALES ETC.

VERTICAL SCALE OF METERS

10 0 10 20 30 m

5 cm



• IMI HOLES(DDH) • SHELL HOLES(GY)
+ SEYMOUR HOLES

182240 79-1338

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TASMANIA BASIN, TASMANIA
SHELL I.M.I EL 5/61 GRAY

GENERALIZED BOREHOLE LOGS AND COAL SEAM CORRELATIONS

Scale 1:500

Author: DAT/JSB	Date FEB. 1979	Encl. 3
Report No: CEPR 9/79	Drawing No. C-1389	

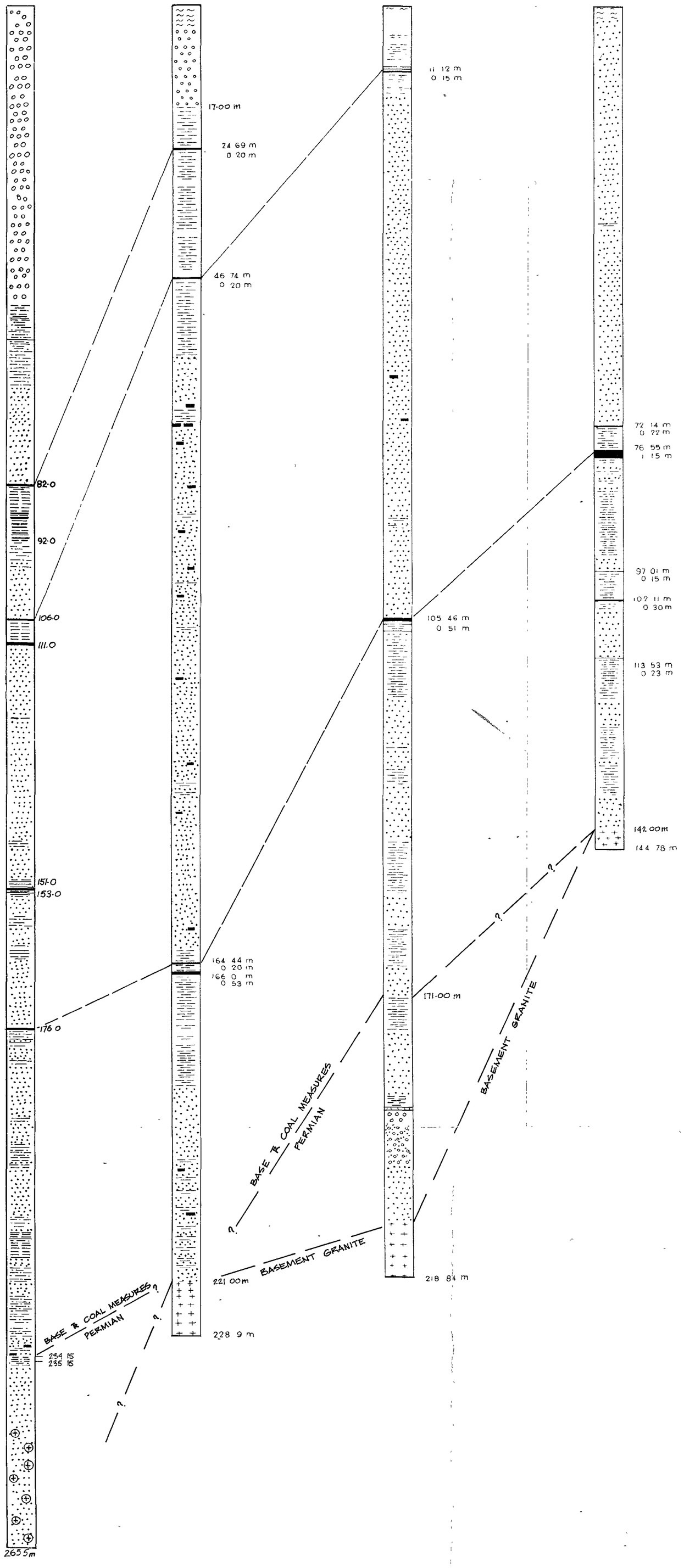
5067

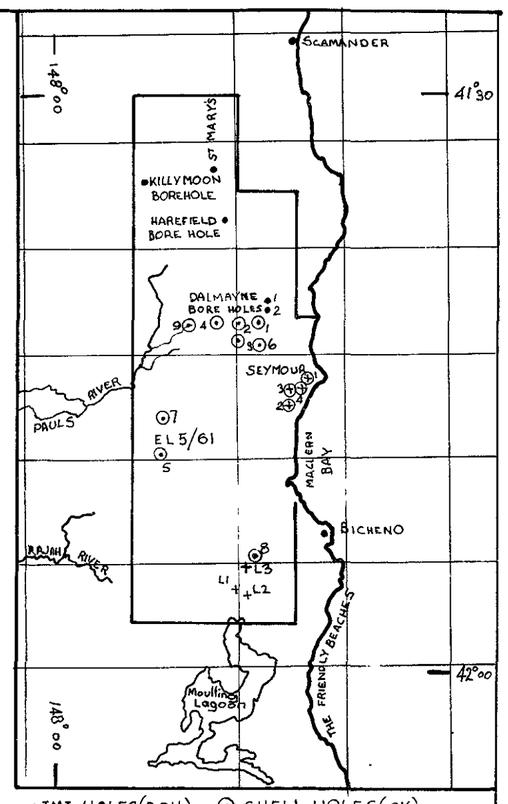
GY 8
300 m A S L.

LLANDAFF BORE NO 3
115·85 m (Hills et al, 1922)
240 m (1:100,000 Sheet)

LLANDAFF BORE NO 2
15·25 m (Hills et al, 1922)
30 m (1:100,000 Sheet)

LLANDAFF BORE NO 1
45·73 m (Hills et al, 1922)
120 m (1:100,000 Sheet)





• IMI HOLES(DDH) ⊙ SHELL HOLES(GY)
⊕SEYMOUR HOLES + LLANDAFF HOLES(L)

LEGEND

- ALLUVIUM
- GRAVEL, DETRITUS, RUBBLE, SHINGLE CONGLOMERATE. DOLERITE SCREE
- DETRITUS & SAND
- SANDSTONE
- SILTSTONE
- SANDSTONE & MUDSTONE SANDSTONE, BANDS OF MUDSTONE, ETC
- SANDSTONE COAL TRACES, COAL VEINS ETC
- MUDSTONE & SANDSTONE MUDSTONE, BANDS OF SANDSTONE ETC
- MUDSTONE
- MUDSTONE, COAL BANDS, VEINS ETC
- COAL & MUDSTONE
- SHALE
- CARBONACEOUS SHALE MUDDY COAL, CARBONACEOUS
- BANDED COAL
- COAL
- LIMESTONE
- IRONSTONE
- DOLERITE
- SANDSTONE WITH GRANITE BOULDERS

50 0 50 100 150 200 250
SCALE 1 500
5 cm

79-1338

5068
182241

THE SHELL COMPANY OF AUSTRALIA LTD.

EAST COAST AREA, TASMANIA
GRAY EL 5/61

GENERALISED BOREHOLE LOGS
GYB-LLANDAFF Nos. 1-3

REDUCED LEVEL (m A S L) POSSIBLE CORRELATION
Scale 1 500

Author DAT/JSB	Date Feb. 1979	Encl. 4
Report No CEPR 9/79	Drawing No C-1393	

LAYTON and ASSOCIATES PTY LTD
BRISBANE AUSTRALIA

EL 5/61 — TASMANIA

FRACTURE BLOCK ROSE DIAGRAMS AND SUGGESTED OUTLINE OF MAJOR DISLOCATIONS POTENTIALLY DISRUPTIVE TO COAL MINING OPERATIONS

SCALE APPROX 1 40,000
0 400 800 1200 1600 2800 metres
0 1 2 3 km

JOB No B 283 | For Shell Development Australia Pty Ltd
Report No CEPR 9/79 | Drawing No. C-1394 | Encl. 5

79-1338

182242.

SHEET 1

LEGEND

5 cm

Block boundary
1 fracture = 1mm
440 Total no. of fractures in block
Fractures ⩽ 0·8 km.
Fractures > 0·8 < 2km.
Fractures ⩾ 2 km.

Drainage
Major road
Minor road
Railway line
Photo corner
Run no / Photo no ⊕ 9/42 Photo corner showing run & photo numbers
EL boundary is approximate only
Base compiled from aerial photos and is uncontrolled

Major dislocations as suggested by coincidence of sub-continuous fracture traces and lineaments, Landsat Imagery lineaments and photogeological fault boundaries.

Anomalous lineaments of probable major significance suggested by a comparison of the regional and local fracture trace patterns.

AREA 1
1085

AREA 2
601

AREA 3
440

AREA 4
576

AREA 5
651

AREA 6
688

AREA 7
701

AREA 8
153

AREA 9
1152

AREA 10
390

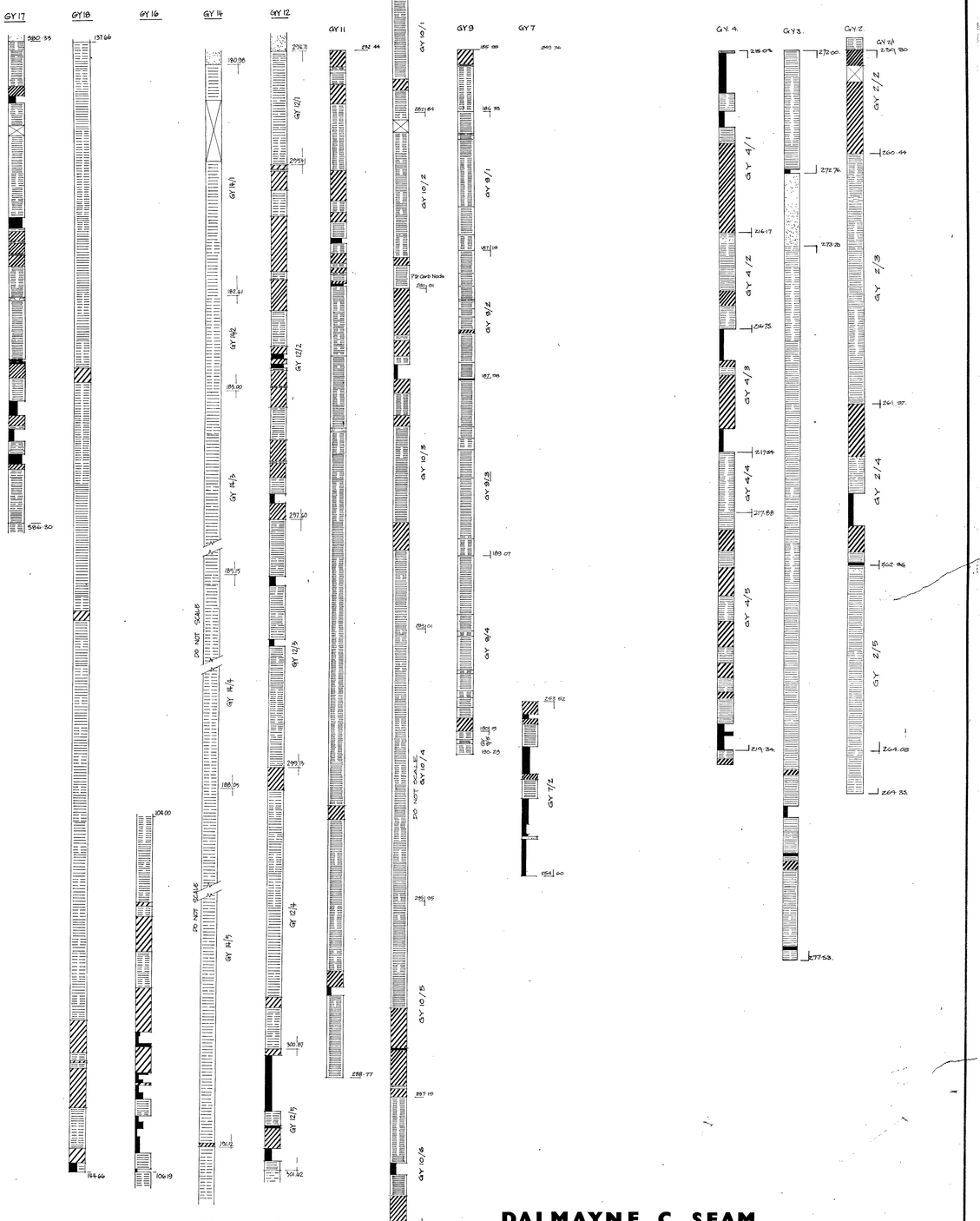
AREA 11
327

AREA 12
342

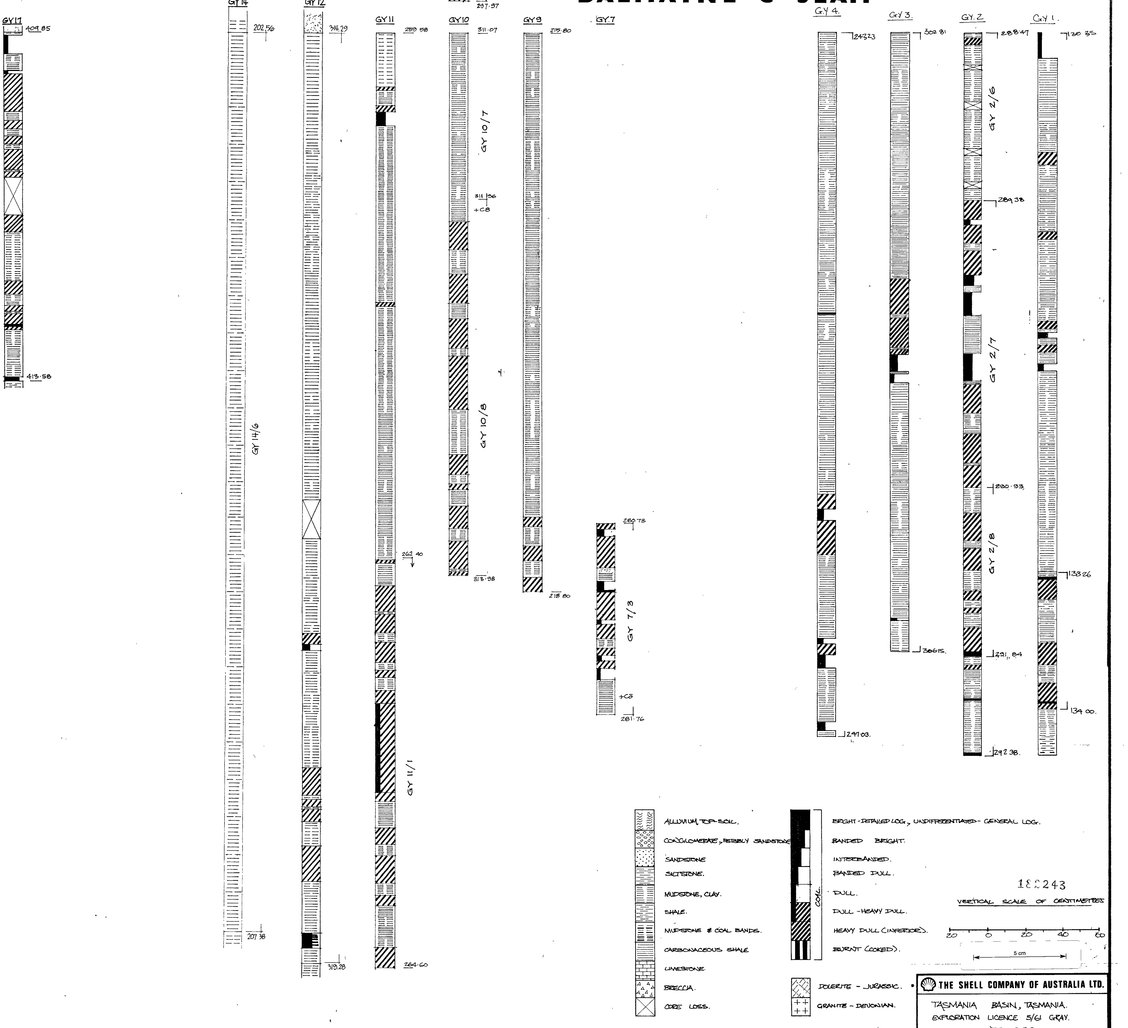
AREA 13
361

Slab Hut Ck
Hillmans Ck
Nicholas Range
CORNWALL
ST MARYS
Esk Main Road
Break O'Day River
Rivulet
Alberts Marsh
Dukes River
St Pauls River
Coal Rivulet
Apsley River
Douglas River
Ayles Creek
Marshes
Piccaninny Ck
Piccaninny Point
Lower Marsh Ck
Mt Elephant
SEYMOUR
Long Point
Tasman Highway
GY1 GY2 GY3 GY4 GY6 GY6A GY9 GY10 GY11 GY12 GY13 GY14 GY15 GY16 GY17 GY18
14/234 15/185 13/19 14/232 15/187 13/21 14/231 14/230 16/63 13/23 16/61 14/228 15/191 15/192 13/25 13/26 13/27 15/193 17/23 17/25 16/57 14/224 15/195 14/226 13/29 13/30 14/222 16/55 15/197 13/31

DALMAYNE B SEAM



DALMAYNE C SEAM



ALLUVIUM, TOP SOIL.
CONGLOMERATE, MESOLY SANDSTONE
SANDSTONE
SILTSTONE.
MUDSTONE, CLAY.
SHALE.
MUDSTONE & COAL BANDS.
CARBONACEOUS SHALE
LIMESTONE
BRECCIA.
CORE LOSS.

BRIGHT - DETAILED LOG, UNDIFFERENTIATED - GENERAL LOG.
BANDED BRIGHT.
INTERBANDED.
BANDED DULL.
DULL.
DULL - HEAVY DULL.
HEAVY DULL (SILVERTOPS).
BRIGHT (COKING).

DOLERITE - JURASSIC.
GRANITE - DEVONIAN.

182243

VERTICAL SCALE OF CENTIMETRES

0 5 20 40 60

5cm

THE SHELL COMPANY OF AUSTRALIA LTD.

TASMANIA BASIN, TASMANIA.
EXPLORATION LICENCE 5/61 GRAY.
19-1538

DETAILED SEAM SECTIONS.
Scale 1:10.

Author: WEB/ZBMC — Date: NOV. '79 — Fig. 6
Report No. CEPR 9/79 — Drawing No: C-1390

5070

SHEET 1 OF 2

EL 5/61

595000mE

600000mE

605000mE

610000mE

5388000mN

5384000mN

5380000mN

GY18 2·15

GY16 —

GY13 —

GY15 —

GY12 1·67

GY11 13·41

GY14 11·42

GY10 13·63

GY10A

GY9 12·51

GY4 10·80

GY2 8·51

GY1 12·05

GY17 13·27

GY3 12·08

GY6 GY6A 7·38

DDH1

DDH2 1·53

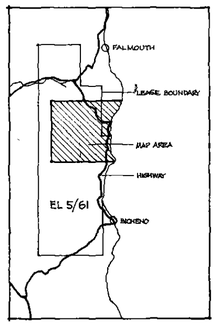
MD1 MD2 MD3 MD4 MD5 MD6 MD7 MD8 MD9 MD10

APPROX SUBSURFACE DOLERITE LINE

SR 1978/110

2m 4m 6m 8m 10m 12m

LOCALITY PLAN



LEGEND

- Borehole locations
- U/G workings
- Approx subcrop Dalmayne D seam
- Fault position approx.
- Fault inferred
- 16·70 Interseam thickness (m)
- 2m Interseam isopach line (m)
- Approximate seam splitting line

182244

SCALE

0 1000m 2000m

5 cm

SHEET INDEX

EL 5/61

1	2	3
4	5	6

79-7338

THE SHELL COMPANY OF AUSTRALIA LTD.

TASMANIA EL 5/61 (GRAY) DALMAYNE AREA

DALMAYNE D UPPER ~ D LOWER INTERSEAM ISOPACH MAP

Scale 1:40 000

Author TORTI/JSSB | Date FEB 1979 | Fig 7

Report No 9/779 | Drawing No 1374

5071

EL 5/61

595000mE

600000mE

605000mE

610000mE

5388000mN

5384000mN

5380000mN

GY18 0·85

GY16

GY15

GY13

GY12 1·86

1·75m

1·50m

1·25m

APPROX. SUBSURFACE DOLERITE LINE

SR 1978/110

GY11 1·27

GY14 1·19

GY10 1·26

GY10A

DDH1 1·55

MD3

MD4

MD2

MD1

MD6

MD7

MD5

MD8

MD9

DDH2 1·82

GY9 1·39

GY4 1·77

GY2 2·33

GY1 2·31

GY17 1·52

GY6 0·66

GY6A

GY3 2·85

1·50m

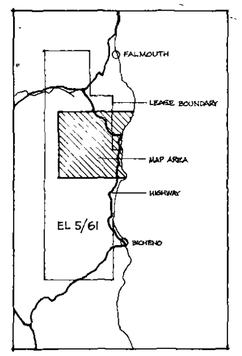
1·75m

2·00m

2·50m

?

LOCALITY PLAN



LEGEND

- 1·55 Borehole locations. Seam thickness (m)
- U/G workings
- Approx subcrop Dalmayne D seam
- Fault position approx.
- Fault inferred
- Dolerite plug
- 2·00m Seam isopach line

SCALE

0 1000M 2000M

5 cm

SHEET INDEX

EL 5/61

1	2	3
4	5	6

182245

79-1338

THE SHELL COMPANY OF AUSTRALIA LTD.

TASMANIA EL 5/61 (GRAY) DALMAYNE AREA

ISOPACH MAP

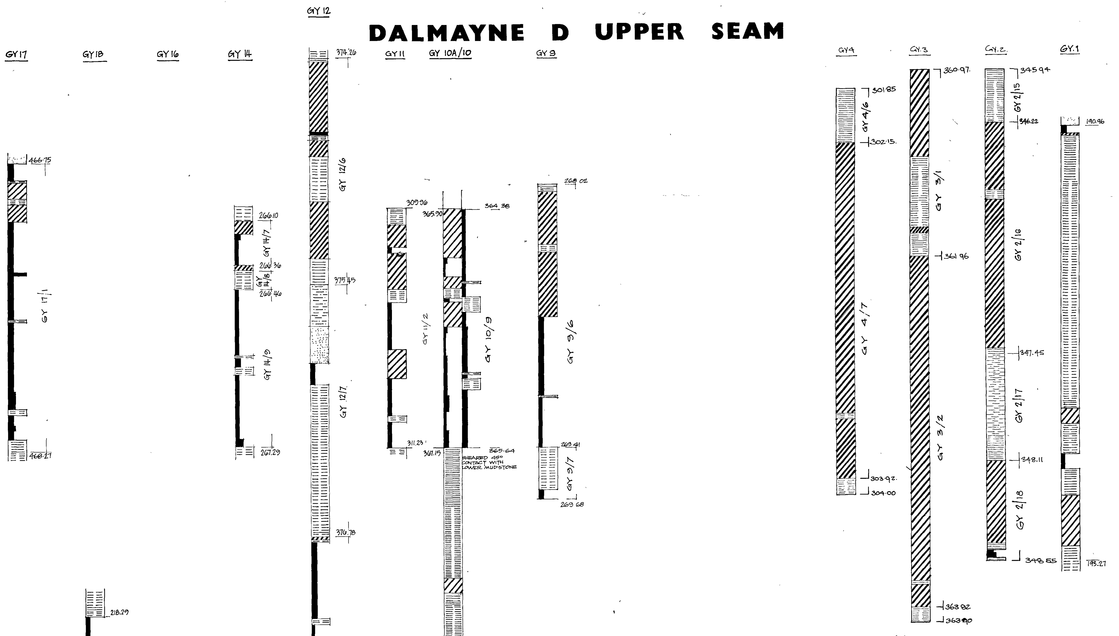
DALMAYNE D UPPER SEAM GEOLOGICAL SEAM INTERVAL

Scale 1:40 000

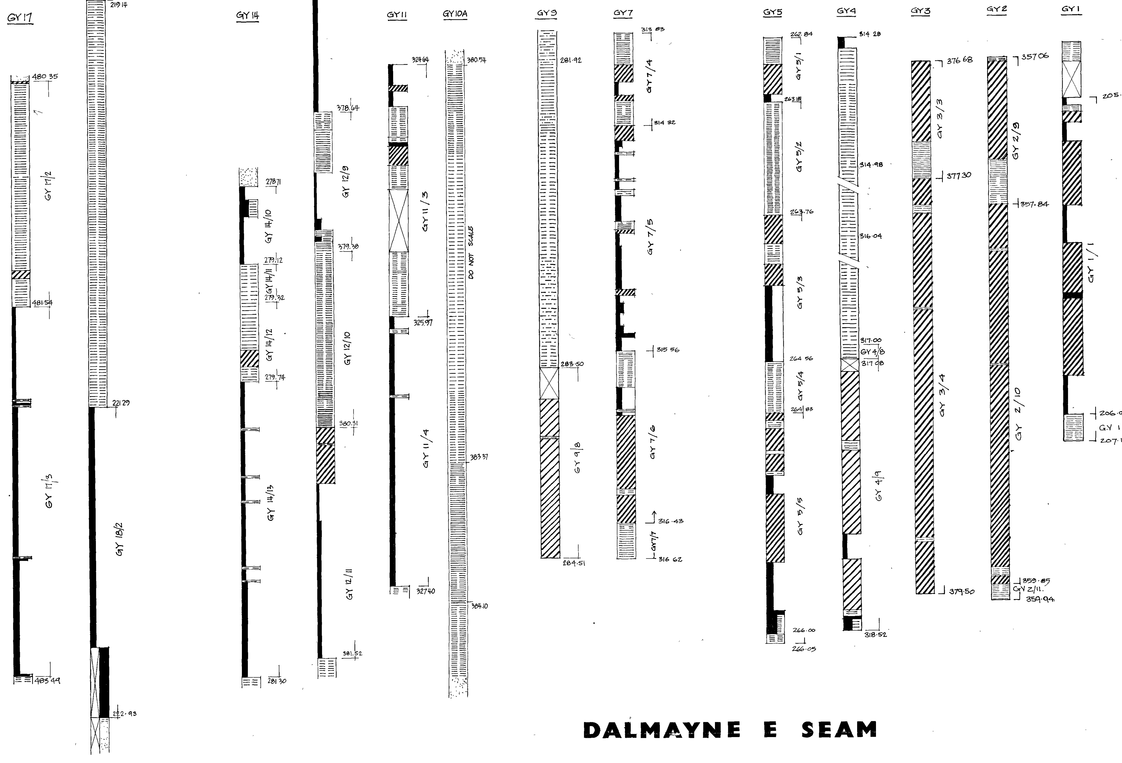
Author DMT/MSB	Date FEB 1979	Fig. 8
Report No 9/79	Drawing No 1375	

5072

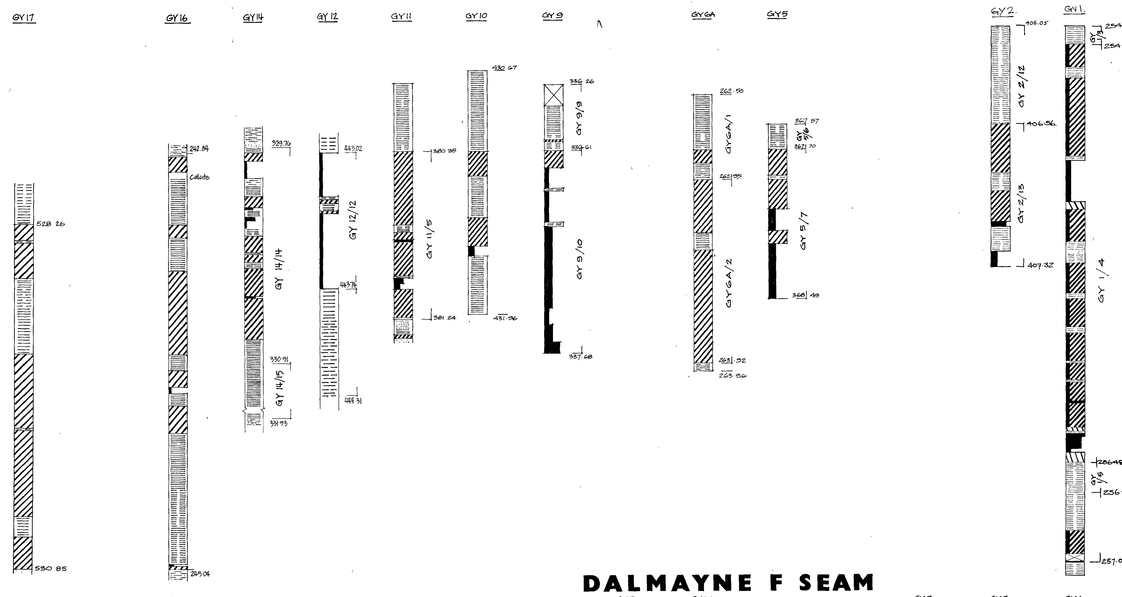
DALMAYNE D UPPER SEAM



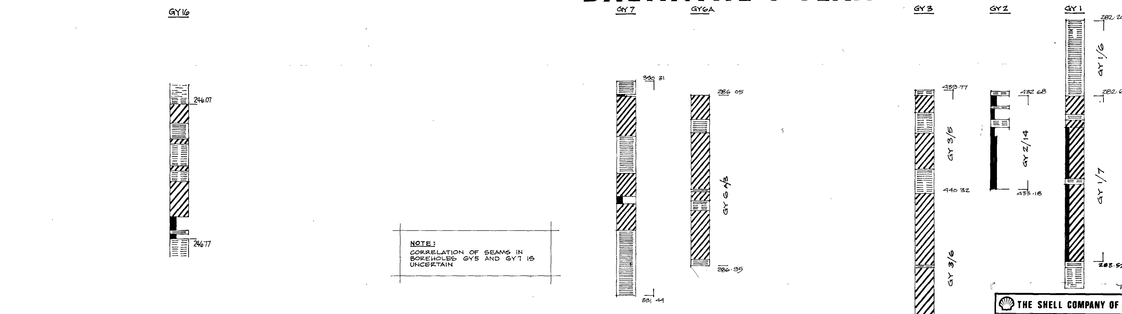
DALMAYNE D LOWER SEAM



DALMAYNE E SEAM



DALMAYNE F SEAM



NOTE:
CORRELATION OF SEAMS IN BOREHOLES GY5 AND GY1 IS UNCERTAIN

60 0 20 40 60
VERTICAL SCALE OF CENTIMETERS

FOR LEGEND REFER SHEET 1.

182246

5 cm

SHEET 2 OF 2. 5078

THE SHELL COMPANY OF AUSTRALIA LTD.
TASMANIA, TASMAN, TASMANIA
EXPLORATION LICENCE 6/61 (GBAY).
DETAILED SEAM SECTIONS.
Scale 1:50
Author J.SAB/DAT Date NOV. 1978
Report No. CEPR 9/79 Drawing No. C-1190 Enc 9

79-1338

EL5/61

595000mE

600000mE

605000mE

610000mE

5388000mN

5384000mN

5380000mN

GY18 1·63

GY16

GY15

GY12 1·40

GY13

1·50m

2·00m

2·50m

3·00m

3·50m

APPROX SUBSURFACE DOLERITE LINE

SR 1978/110

GY11 2·76

GY14 2·59

GY10 GY10A 3·42

DDH1 1·56

MD3 MD4 MD2 MD MD6 MD7 MD5 MD8 MD9

DDH2 0·95

1·00m

1·50m

2·00m

2·50m

GY9 2·59

GY4 3·80

GY2 2·79

GY1 1·68

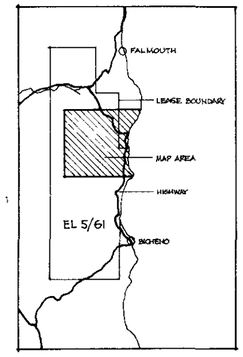
GY17 3·14

3·00m

GY3 2·82

GY6 GY6A 2·55

LOCALITY PLAN



LEGEND

- 3·42 Borehole locations. Seam thickness (m)
- U/G workings
- Approx subcrop Dalmayne D seam
- Fault position approx.
- Fault inferred
- Dolerite plug
- 2·00m Seam isopach line

SCALE

0 1000M 2000M

5 cm

SHEET INDEX

EL 5/61

1	2	3
4	5	6

797338

182247

THE SHELL COMPANY OF AUSTRALIA LTD.

TASMANIA EL 5/61 (GRAY) DALMAYNE AREA

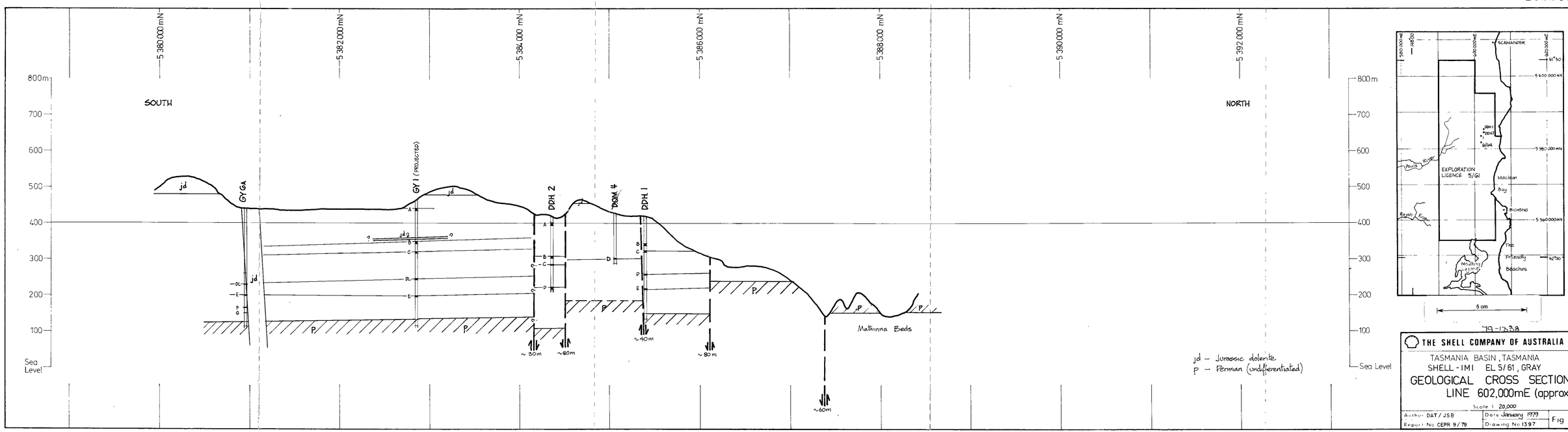
ISOPACH MAP
DALMAYNE D LOWER SEAM
GEOLOGICAL SEAM INTERVAL

Scale 1:40 000

Author DAT/JSB	Date FEB 1979	Fig. 10
Report No 9/79	Drawing No 1376	

5074

182248



79-1338

THE SHELL COMPANY OF AUSTRALIA LTD

TASMANIA BASIN, TASMANIA
SHELL - IMI EL 5/61, GRAY

GEOLOGICAL CROSS SECTION
LINE 602,000mE (approx)

Scale 1: 20,000

Author DAT / JSB	Date January 1979	Fig 11/1
Report No CEPR 9/79	Drawing No 1397	

5075

79-1338

THE SHELL COMPANY OF AUSTRALIA LTD.

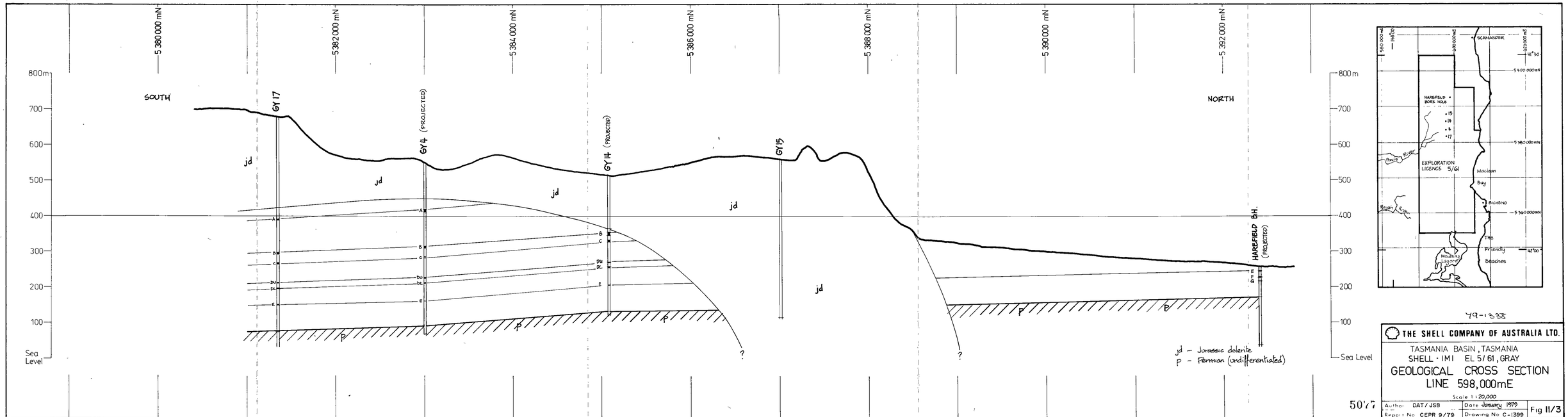
TASMANIA BASIN, TASMANIA
SHELL - I.M.I EL 5/61, GRAY

GEOLOGICAL CROSS SECTION
LINE 600,000 mE

Scale 1 20,000

Author DAT/JSB	Date January 1979	Fig II/2
Report No CEPR 9/79	Drawing No C-1398	

50'/6



182250

79-1338

THE SHELL COMPANY OF AUSTRALIA LTD.

TASMANIA BASIN, TASMANIA
SHELL · IMI EL 5/61, GRAY

GEOLOGICAL CROSS SECTION
LINE 598,000mE

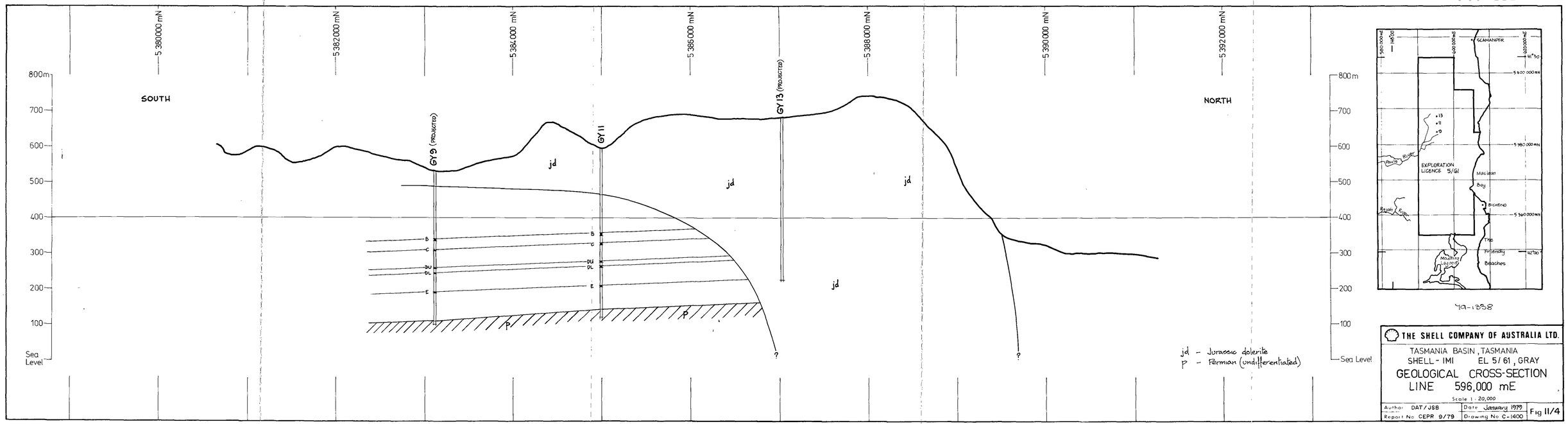
Scale 1:20,000

Author DAT/JSB	Date January 1979	Fig II/3
Report No CEPR 9/79	Drawing No C-1399	

5077

182251

5 cm



79-1358

THE SHELL COMPANY OF AUSTRALIA LTD.

TASMANIA BASIN, TASMANIA

SHELL - IMI EL 5/61, GRAY

GEOLOGICAL CROSS-SECTION

LINE 596,000 mE

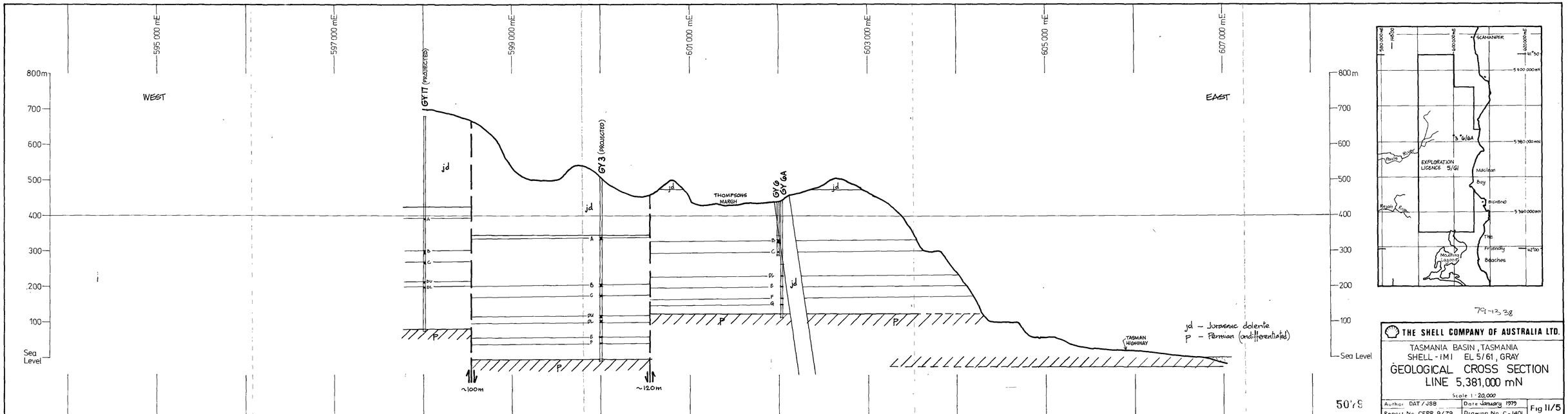
Scale 1 : 20,000

Author DAT/JSB	Date January 1979	Fig 11/4
Report No CEPR 9/79	Drawing No C-1400	

5078

5 cm

182252



79-13-38

50'S

THE SHELL COMPANY OF AUSTRALIA LTD.

TASMANIA BASIN, TASMANIA
SHELL - IMI EL 5/61, GRAY

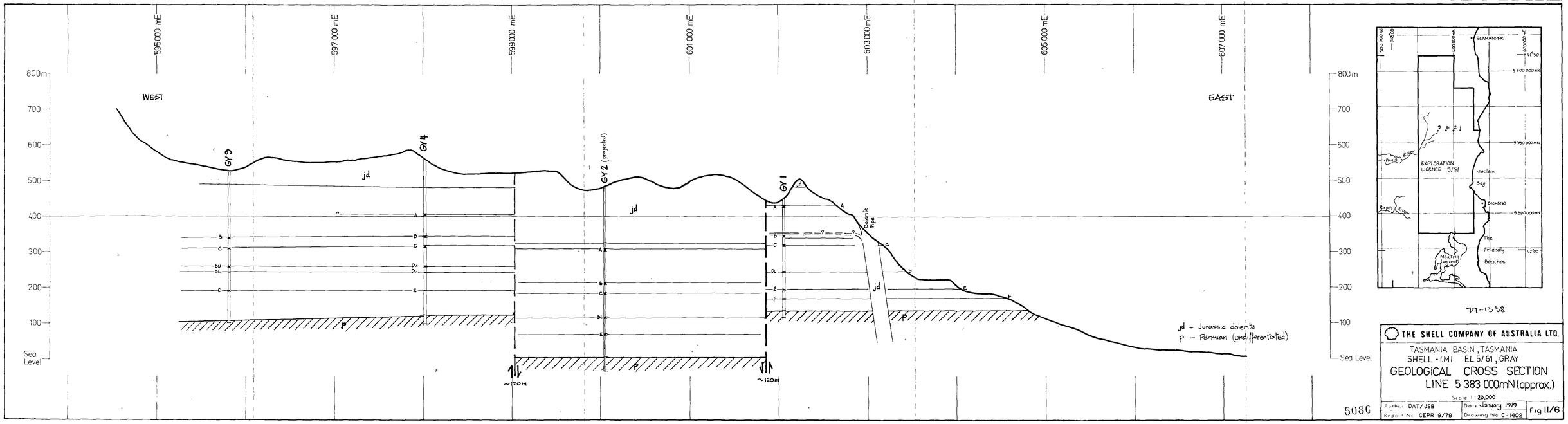
GEOLOGICAL CROSS SECTION LINE 5,381,000 mN

Scale 1:20,000

Author DAT / JSB	Date January 1979	Fig 11/5
Report No CEPR 9/79	Drawing No C-1401	

182253

5 cm



79-13758

5080

THE SHELL COMPANY OF AUSTRALIA LTD.

TASMANIA BASIN, TASMANIA

SHELL - I.M.I EL 5/61, GRAY

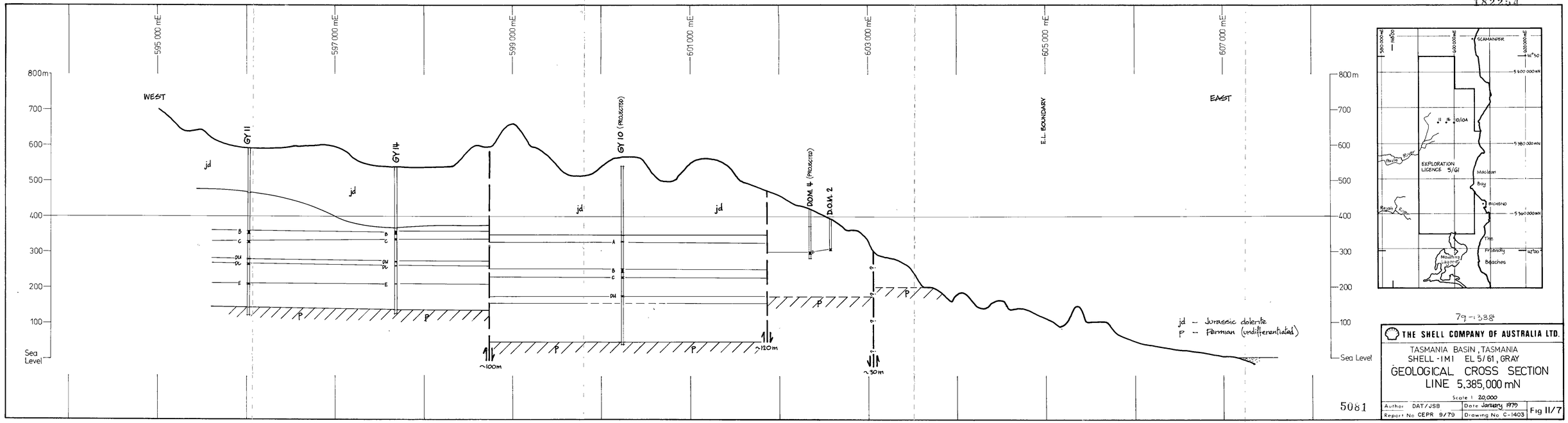
GEOLOGICAL CROSS SECTION LINE 5 383 000mN (approx.)

Scale 1:20,000

Author: DAT/JSB	Date: January 1979	Fig 11/6
Report No: CEPR 9/79	Drawing No: C-1402	

5 cm

182254



79-1388

5081

THE SHELL COMPANY OF AUSTRALIA LTD.

TASMANIA BASIN, TASMANIA
SHELL-1M1 EL 5/61, GRAY

GEOLOGICAL CROSS SECTION LINE 5,385,000 mN

Scale 1 20,000

Author DAT/JSB	Date January 1979	Fig 11/7
Report No CEPR 9/79	Drawing No C-1403	

182255

595 000 mE | 597 000 mE | 599 000 mE | 601 000 mE | 603 000 mE | 605 000 mE | 607 000 mE

800m
700
600
500
400
300
200
100
Sea Level

WEST

GY13 | GY15 | GY12

jd | jd | jd

A
B
C
D
E

P | P

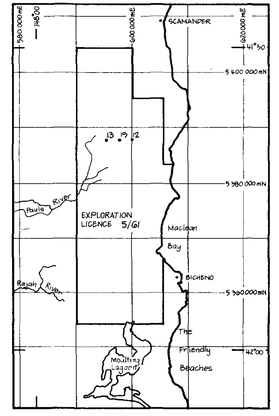
~110m | ~200m

Mathinna Beds

EL 5/6 BOUNDARY

EAST

jd - Jurassic dolerite
P - Permian (undifferentiated)



79-13358

THE SHELL COMPANY OF AUSTRALIA LTD.

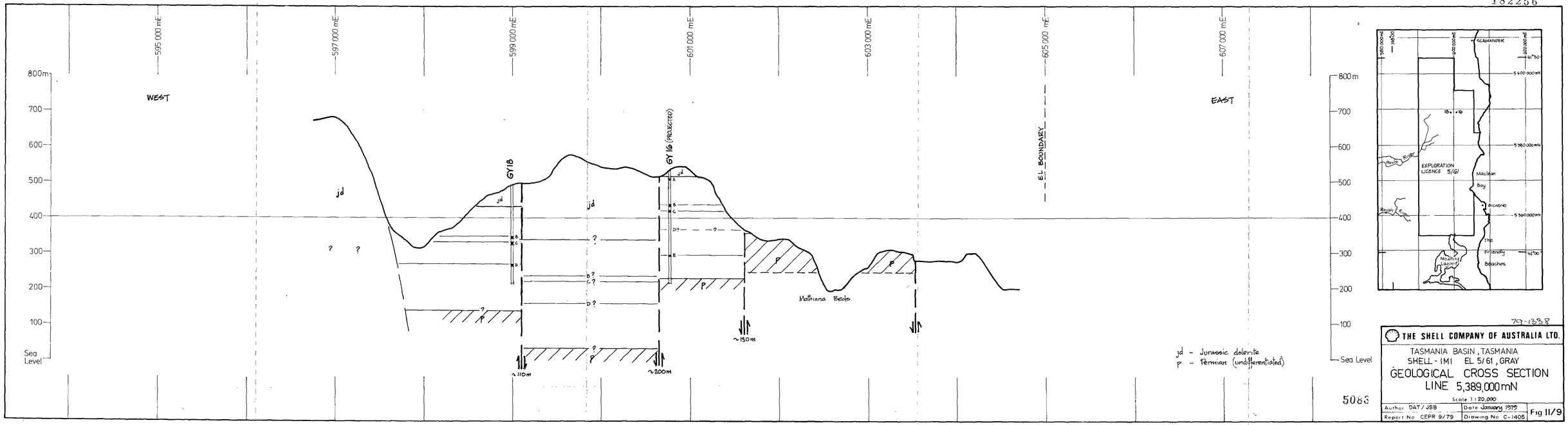
TASMANIA BASIN, TASMANIA
SHELL - IMI EL 5/61, GRAY
GEOLOGICAL CROSS SECTION
LINE 5,387,000 mN

Scale 1 20,000

Author DAT/JSB	Date January 1979	Fig 11/8
Report No CEPR 9/79	Drawing No C-1404	

5082

182256



5088

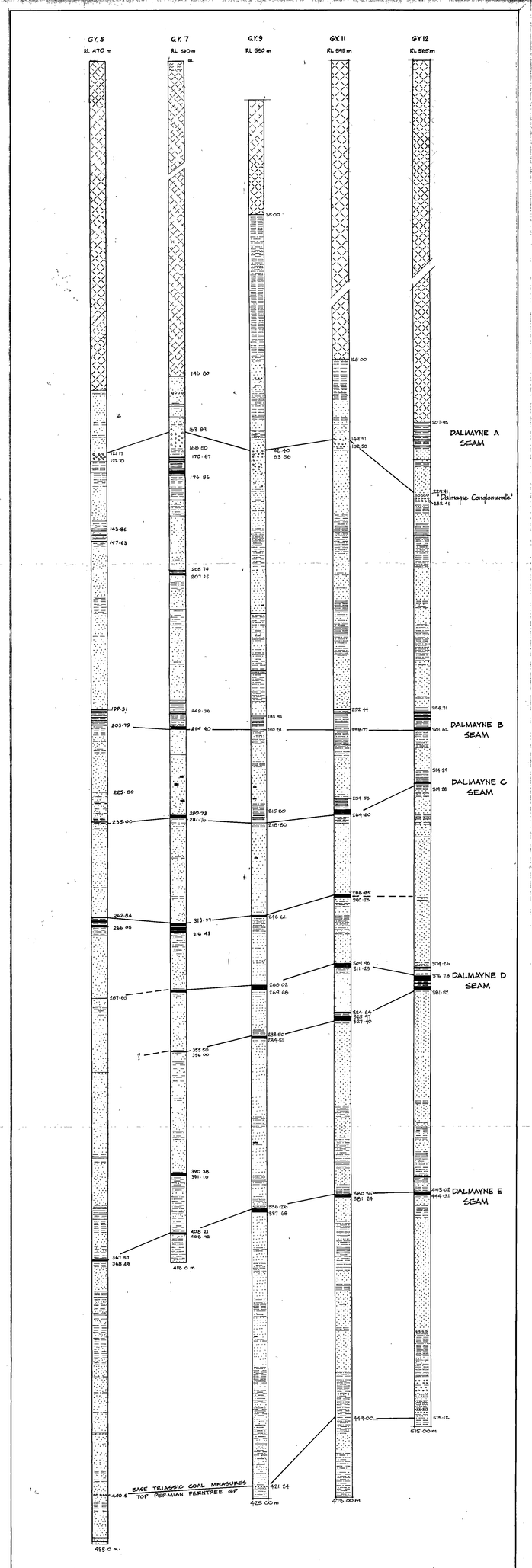
79-1238

THE SHELL COMPANY OF AUSTRALIA LTD.

TASMANIA BASIN, TASMANIA
SHELL - IMI EL 5/61, GRAY
GEOLOGICAL CROSS SECTION
LINE 5,389,000mN

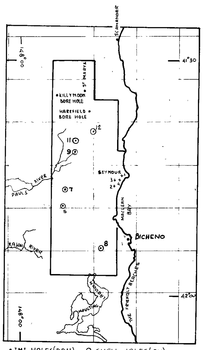
Scale 1:20,000

Author DAT/JSB	Date January 1979	Fig 11/9
Report No CEPR 9/79	Drawing No C-1405	



LEGEND

- ALLUVIUM
- GRAVEL, DETRITUS, RUBBLE, SHINGLE CONGLOMERATE
- DETRITUS AND SAND
- SANDSTONE.
- SILTSTONE
- SANDSTONE AND BANDS OF MUDSTONE ETC.
- SANDSTONE, COAL TRACES, COAL VEINS, COAL BANDS.
- MUDSTONE.
- MUDSTONE AND SANDSTONE BANDS.
- MUDSTONE, COAL BANDS ETC.
- SHALE.
- CARBONACEOUS SHALE
- COAL
- LIMESTONE.
- DOLERITE
- METAMORPHOSED SHALES ETC



• IMI HOLES(DDH) ⊕ SHELL HOLES(GY)
• SEYMOUR HOLES

VERTICAL SCALE OF METERS

10 0 10 20 30 m

5cm

182257

THE SHELL COMPANY OF AUSTRALIA LTD.

TASMANIA BASIN, TASMANIA
SHELL EMI EL 5/61 GRAY

GENERALIZED BOREHOLE LOGS
GY 5-7-9-11-12

Scale 1 100

Author DAT/JSB	Date Feb 1979		Encl.12
Report No CEPR 9/79	Drawing No C-1395		

5084

EL 5/61

595000mE

600000 mE

605000 mE

610000 mE

5388000mN

5384000mN

5380000mN

GY18 0·85 (13)

GY16 – (–)

GY15 – (–)

GY13 – (–)

GY12 1·26 (29)

GY11 1·27 (26)

GY14 1·19 (29)

GY10 1·24 (33)

GY10A

GY9 1·39 (20)

GY4 1·17 (22)

GY2 1·23 (13)

GY1 – (75)

GY7 1·52 (29)

GY3 1·36 (17)

GY6 – (75)

GY6A

DDH1 1·55 (31)

DDH2 1·27 (10)

MD3 MD4 MD2 MD1 MD6 MD7 MD5 MD8 MD9

1·75m

1·25m

1·50m

1·00m

≥30%

25

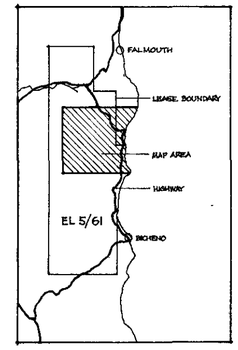
20

APPROX. SUBSURFACE DOLERITE LINE

SR 1978/110

?

LOCALITY PLAN



LEGEND

- 1·07 (22) Borehole locations. Mining seam thickness in metres (Raw Ash percentage)
- U/G workings
- Approx subcrop Dalmayne D seam
- Fault position approx.
- Fault inferred
- 20 20% Isoash line
- 1·50m Seam Isopach

RESERVE BLOCKS *

- EAST BLOCK (ADIT)
- GRABEN (SHAFT)
- WEST BLOCK (SHAFT)

* based on seam thickness ≥ 1·5m and ≤ 3·0m; raw coal ash ≤ 30%.

- Dolerite plug

SCALE

0 1000M 2000M

5 cm

182258

SHEET INDEX

EL 5/61

1	2	3
4	5	6

79-1339

THE SHELL COMPANY OF AUSTRALIA LTD.

TASMANIA EL 5/61 (GRAY) DALMAYNE AREA

COAL RESERVES (RAW)
DALMAYNE D UPPER SEAM

Scale 1:40 000

Author DAT/JSB	Date FEB 1979	Fig. 13	
Report No SP/79	Drawing No. 1377		

5085

EL 5/61

595000 mE

600000 mE

605000 mE

610000 mE

5388000mN

5384000mN

5380000mN

SR 1978/110

APPROX. SUBSURFACE DOLERITE LINE

GY1 1·01

GY2 2·01

GY3 2·82

GY4 1·44

GY5 1·95

GY6 1·68

GY6A

GY7 1·68

GY8 1·68

GY9 1·01

GY10

GY10A

GY11 1·43

GY12 1·21

GY13

GY14 1·56

GY15

GY16

GY18 1·63

DDH1 1·56

DDH2 0·95

MD1 MD2 MD3 MD4 MD5 MD6 MD7 MD8 MD9

1·0m

1·5m

2·0m

2·5m

30%

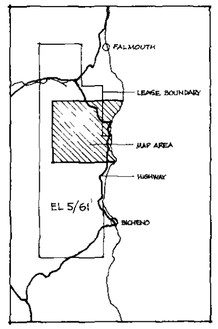
25%

15%

Seam separation <8m

?

LOCALITY PLAN



LEGEND

- 1·68 Borehole locations. Mining seam thickness (m)
- U/G workings
- Approx subcrop Dalmayne D seam
- Fault position approx.
- Fault inferred
- Dolerite plug
- 2·0m Seam Isopach
- 30% Isoash line

RESERVE BLOCKS *

- EAST BLOCK (ADIT)
- GRABEN (SHAFT)
- WEST BLOCK (SHAFT)

* based on seam thickness ≥ 1·5m and ≤ 3·0m ; seam separation ≥ 8m; raw coal ash ≤ 30%.

SCALE

0 1000M 2000M

5 cm

SHEET INDEX

EL 5/61

1	2	3
4	5	6

182259

THE SHELL COMPANY OF AUSTRALIA LTD

TASMANIA EL 5/61 (GRAY) DALMAYNE AREA

COAL RESERVES (RAW)
DALMAYNE D LOWER SEAM

Scale 1:40 000

Author	DMT / JSB	Date	FEB 1979	Fig.	14
Report No	91/78	Drawing No	1378		

79-1338

5086

EL 5/61

595000mE

600000mE

605000mE

610000mE

5388000mN

5384000mN

5380000mN

SR 1978/110

APPROX. SUBSURFACE DOLERITE LINE.

GY18 0·85

GY16 —

GY15 —

GY13 —

GY11 1·27

GY14 1·19

GY10A

GY10 1·26

GY12 2·60

GY9 1·39

GY8 1·31

GY2 2·33

GY1 —

GY17 1·52

GY3 2·25

GY6 GY6A

DDH1 1·55

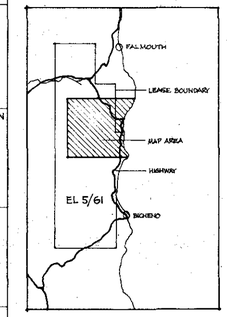
MD3 MD4 MD2 MD1 MD5 MD6 MD7 MD8 MD9

DDH2 1·82

2·50m 2·25m 2·00m 1·75m 1·25m

1·50m 2·00m 2·50m 2·75m 1·00m 1·50m 1·00m

LOCALITY PLAN



LEGEND

- 1·26 Borehole locations. Mining seam thickness (m)
- U/G workings
- Approx. subcrop Dalmayne D seam
- Fault position approx.
- Fault inferred
- Dolerite plug
- 1·50m Seam isopach line

RESERVE BLOCKS *

- EAST BLOCK (ADIT)
- GRABEN (SHAFT)
- WEST BLOCK (SHAFT)

* based on seam thickness ≥ 1·5m and ≤ 3·0m; coal to be washed.

SCALE

0 1000m 2000m

5 cm

182260

SHEET INDEX

EL 5/61

1	2	3
4	5	6

79-1388

THE SHELL COMPANY OF AUSTRALIA LTD.

TASMANIA EL 5/61 (GRAY) DALMAYNE AREA

COAL RESERVES (WASHED) DALMAYNE D UPPER SEAM

Scale 1:40 000

Author DAT / JSB	Date FEB 1979	Fig. 15
Report No. 9 / 79	Drawing No. 1379	

5087

EL 5/61

595000mE

600000mE

605000mE

610000mE

5388000mN

5384000mN

5380000mN

APPROX. SUBSURFACE DOLERITE LINE

SR 1978/110

GY18 1·63

GY16

GY15

GY13

GY12 1·21

GY11 2·76

GY14 2·54

GY10

GY10A

GY9 1·01

GY4 1·44

GY2 2·19

GY1 1·68

GY17 1·45

GY3 2·32

GY5 1·68

GY5A

DDH1 1·56

MD3 MD4 MD1 MD2 MD6 MD7 MD5 MD8 MD9

DDH2 0·95

1·5

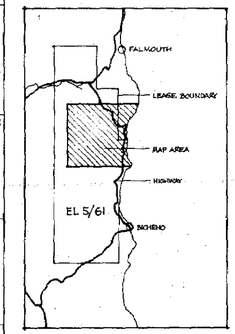
1·0

2·0

?

Seam separation < 8m

LOCALITY PLAN



LEGEND

- 1·68 Borehole locations. Mining seam thickness (m)
- U/G workings
- Approx. subcrop Dalmayne D seam
- Fault position approx.
- Fault inferred
- Dolerite plug
- 2·0 Seam Isopach (m)

RESERVE BLOCKS *

- EAST BLOCK (ADIT)
- GRABEN (SHAFT)
- WEST BLOCK (SHAFT)

* based on seam thickness ≥ 1·5m and ≤ 3·0m; seam separation ≥ 8m; coal to be washed.

SCALE

0 1000m 2000m

5 cm

SHEET INDEX

EL 5/61

1	2	3
4	5	6

182261

79-13398

THE SHELL COMPANY OF AUSTRALIA LTD.

TASMANIA EL 5/61 (GRAY) DALMAYNE AREA

COAL RESERVES (WASHED) DALMAYNE D LOWER SEAM

Scale 1:40 000

Author DAT / JSB	Date FEB. 1979	Fig. 16
Report No. 9/79	Drawing No. 1380	

5088

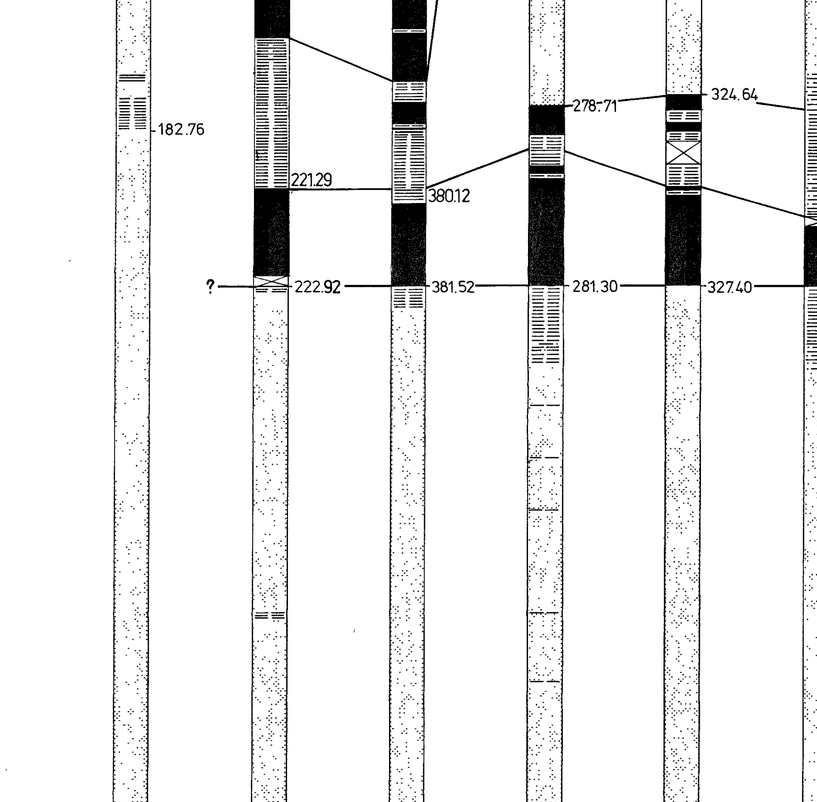
GY 16 | GY 18 | GY 12 | GY 14 | GY 11 | GY 9 | GY 4 | GY 10A | DDH 1 | DDH 2 | GY 1 | GY 2 | GY 17 | GY 3 | GY 6A

40 metres
35
30
25
20
15
10
5
4
3
2
1
0
-5
-10 metres

157.83
192.60
309.96
311 23
268.02
302.15
365.90
367.15
368.71
266.10
267.29
269.68
303.92
360.97
466.75
468.21
363.82
190.96
193.27
346.34
348 55
215.13
215.79
374.26
218.29
182.76
221.29
380.12
278:71
324.64
281.92
314.72
380.78
317.00
283.50
159 59
192.94
357.06
480.35
376.68
223.17
205.30
481.54
222.92
381.52
281.30
327.40
284.51
318.52
384.20
164.15
197.24
206 98
359.85
483.49
379.50
225.72
BOH
BOH

Raw Ash 51.0%
Raw Ash 35.0% (excluding stone bands > 0.1cm thick)
Raw Ash 25.3% (excluding stone bands > 0.1cm thick)
Raw Ash 12.1% Raw Ash 12.0% (excl. stone bands > 0.1cm)
Interpolated from wire line logs

N.B. Wireline log depths used for GY 6A



LOCATION PLAN SCALE 1:10,000

LEGEND

- PEBBLE CONGLOMERATE
- SANDSTONE
- SANDSTONE WITH MUDSTONE BANDS (etc)
- SANDSTONE WITH MUDSTONE PEBBLES
- SILTSTONE
- MUDSTONE
- DOLERITE
- MUDSTONE WITH SANDSTONE BANDS
- MUDSTONE WITH COAL / CARBONACEOUS BANDS
- CARBONACEOUS SHALE
- COAL UNDIFFERENTIATED (Refer to Detailed Seam Sections)
- PARTIAL CORE LOSS
- CORE LOSS (100%)

182262

5 cm

79-1338 5089

THE SHELL COMPANY OF AUSTRALIA LTD.

TASMANIA BASIN, TASMANIA
SHELL-IMI EL. 5/61, GRAY
DETAILED ROOF & FLOOR LITHOLOGIES
DALMAYNE D SEAM
Scale 1:50

Author: DAT./JSD.	Date: Jan. 1979	Encl. 17
Report No: CEPR 9/79	Drawing No: C-1392	

THE SHELL COMPANY OF AUSTRALIA LTD.

BOREHOLE LITHOLOGICAL LOG

182263

LEASE : GRAY
BOREHOLE : GY 6A

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
-	12.50	80	100% DOLERITE: FERRUGINOUS STAINING, GREY, MODERATELY WEATHERED, STRONG ROCK,MODERATELY WIDE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
12.50 -	20.50	70	100% DOLERITE: BADLY BROKEN, FERRUGINOUS, YELLOW-GREY, HIGHLY WEATHERED, WEAK ROCK.
20.50 -	37.10	100	100% DOLERITE: FERRUGINOUS STAINING, GREY, SLIGHTLY WEATHERED, STRONG ROCK,MODERATELY WIDE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
37.10 -	41.00	100	100% DOLERITE: FERRUGINOUS STAINING, ORANGE-GREY, WITH CALCITE ON JOINTS AND CHLORITE ON JOINTS, MODERATELY WEATHERED, MODERATELY STRONG ROCK,MODERATELY CLOSE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
41.00 -	43.00	100	100% DOLERITE: FERRUGINOUS STAINING, GREY, SLIGHTLY WEATHERED, STRONG ROCK,MODERATELY WIDE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
43.00 -	52.45	100	100% DOLERITE: FERRUGINOUS STAINING, GREY, WITH CALCITE ON JOINTS, SLIGHTLY WEATHERED, VERY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
52.45 -	54.60	100	100% DOLERITE: FERRUGINOUS STAINING, YELLOW-GREY, WITH CALCITE ON JOINTS, MODERATELY WEATHERED, MODERATELY STRONG ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
54.60 -	66.60	100	100% DOLERITE: MEDIUM GRAINED, GREY, SLIGHTLY WEATHERED, STRONG ROCK,WIDE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
66.60 -	100.00	100	100% DOLERITE: MEDIUM GRAINED, GREY, UNWEATHERED, STRONG ROCK,VERY WIDE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182264

LEASE : GRAY
BOREHOLE : GY 6A

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
100.00	127.80	100	100% DOLERITE: MEDIUM GRAINED, GREY, STRONG ROCK,WIDE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
127.80	134.00	100	100% DOLERITE: MED.TO FINE GRAINED, GREY-GREEN, MODERATELY STRONG ROCK,MODERATELY WIDE JOINT SPACING.
134.00	172.00	100	100% DOLERITE: MEDIUM GRAINED, GREY, STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 20 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
172.00	187.00	100	100% DOLERITE: MED.TO FINE GRAINED, GREY, WITH CALCITE ON JOINTS, MODERATELY STRONG ROCK,WIDE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
187.00	188.00	100	100% DOLERITE: FINE GRAINED, GREY-GREEN, WITH CALCITE ON JOINTS, MODERATELY WEAK ROCK,CLOSE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES.
188.00	191.80	100	100% DOLERITE: FINE GRAINED, GREY-GREEN, WITH CALCITE ON JOINTS, MODERATELY WEAK ROCK,MODERATELY CLOSE JOINT SPACING.
191.80	192.55	100	100% MUDSTONE: DARK GREY, WITH CALCITE ON JOINTS, MODERATELY WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
192.55	194.41	100	50% MUDSTONE: SILTSTONE, GREY, 50% SANDSTONE, FINE GRAINED: GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH CROSS LAMINATION.
194.41	198.93	100	100% SANDSTONE: VERY FINE GRAINED, ARGILLACEOUS, GREY, MODERATELY WEAK ROCK.
198.93	201.76	100	100% SANDSTONE, MEDIUM GRAINED: LIMONITIC, LIGHT GREEN, MODERATELY WEAK ROCK.
201.76	202.20	100	100% SANDSTONE, COARSE GRAINED: LIMONITIC, LIGHT GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182265

LEASE : GRAY
BOREHOLE : GY 6A

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
202.20	203.23	100	100% SANDSTONE, COARSE GRAINED: LIMONITIC, LIGHT GREEN, MODERATELY WEAK ROCK.
203.23	204.23	100	100% SANDSTONE, MEDIUM GRAINED: LIMONITIC, LIGHT GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
204.23	205.75	100	100% SANDSTONE, COARSE GRAINED: LIMONITIC, LIGHT GREY, WEAK ROCK.
205.75	207.53	100	100% SANDSTONE: VERY COARSE GRAINED, LIMONITIC, LIGHT GREY, WEAK ROCK.
207.53	207.83	100	100% MUDSTONE: GREY, WEAK ROCK.
207.83	210.30	90	100% SANDSTONE, COARSE GRAINED: LIMONITIC, LIGHT GREEN, VERY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
210.30	211.11	100	100% SANDSTONE: VERY COARSE GRAINED, LIMONITIC, LIGHT GREEN, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
211.11	214.10	100	100% SANDSTONE: MED.-COARSE GRAINED, LIMONITIC, LIGHT GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
214.10	214.13	100	100% MUDSTONE: GREY-GREEN, WEAK ROCK.
214.13	214.20	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.
214.20	214.60	100	100% CLAYSTONE: GREY-BROWN, FIRM, ,SLOW SLAKING ,MODERATELY STICKY.
214.60	214.65	100	100% MUDSTONE: GREY, WEAK ROCK, ,SLOW SLAKING ,NON STICKY.

04 JUN 1979 THE SHELL COMPANY OF AUSTRALIA LTD.

BOREHOLE LITHOLOGICAL LOG

182266

LEASE : GRAY
BOREHOLE : GY 6A

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
214.65	215.20	100	60% MUDSTONE: GREY, 40% SANDSTONE, FINE GRAINED: LIGHT GREY, WEAK ROCK,VERY THIN BEDDING,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 50 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
215.20	215.26	100	100% MUDSTONE: GREY, FIRM.
215.26	215.61	100	100% SANDSTONE: MED.TO FINE GRAINED, LIMONITIC, LIGHT GREY, WEAK ROCK.
215.61	215.71	100	100% SILTSTONE: STRONGLY FRAGMENTED.
215.71	216.00	100	100% SANDSTONE: MED.TO FINE GRAINED, LIMONITIC, LIGHT GREY, WEAK ROCK.
216.00	216.56	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, WEAK ROCK.
216.56	217.80	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS TRACES, LIGHT GREY, WITH PYRITE ON JOINTS, WEAK ROCK,VERY THIN BEDDING, BEDS DIP 10 DEG.,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
217.80	218.85	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, WITH PYRITE ON JOINTS, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
218.85	219.05	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LAMINAE, LIGHT GREY, WEAK ROCK.
219.05	220.20	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, WEAK ROCK.
220.20	221.10	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, WITH PYRITE ON JOINTS AND CALCITE ON JOINTS, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182267

LEASE : GRAY
BOREHOLE : GY 6A

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
221.10	221.60	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, WITH CALCITE ON JOINTS, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
221.60	221.95	100	100% SANDSTONE, FINE GRAINED: MUDSTONE STREAKS, LIGHT GREY, WEAK ROCK.
221.95	223.10	70	100% MUDSTONE: CARBONACEOUS, BADLY BROKEN, BLACK, MODERATELY WEAK ROCK.
223.10	225.00	0	CORE LOSS.
225.00	228.80	100	100% SANDSTONE: MED.TO FINE GRAINED, LIMONITIC, GREY, MODERATELY WEAK ROCK.
228.80	229.10	100	100% MUDSTONE: CARBONACEOUS STREAKS, GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
229.10	240.68	100	100% SANDSTONE: MED.-COARSE GRAINED, LIMONITIC, LIGHT GREY, WITH PYRITE ON JOINTS, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS,VERY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
240.68	241.51	100	100% SANDSTONE: MED.TO FINE GRAINED, LIMONITIC, LIGHT GREY, MODERATELY WEAK ROCK.
241.51	242.08	100	100% SANDSTONE: MED.TO FINE GRAINED, LIMONITIC, LIGHT GREY, MODERATELY WEAK ROCK.
242.08	247.16	100	100% MUDSTONE: SHALY, GREY, WEAK ROCK.
242.16	242.27	100	100% SANDSTONE, MEDIUM GRAINED: LIMONITIC, LIGHT GREY, WEAK ROCK.
242.27	247.50	80	100% MUDSTONE: CARBONACEOUS BANDS, GREY, WEAK ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.

BOREHOLE LITHOLOGICAL LOG

182268

LEASE : GRAY
BOREHOLE : GY 6A

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
247.50	247.85	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LAMINAE, LIGHT GREY, WEAK ROCK,VERY THIN BEDDING,MODERATELY WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
247.85	248.60	100	100% MUDSTONE: GREY, WEAK ROCK,LAMINATED,CLOSE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
248.60	249.04	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, WEAK ROCK,CLOSE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
249.04	249.27	100	100% MUDSTONE: GREY, WEAK ROCK,LAMINATED.
249.27	249.31	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, WEAK ROCK.
249.31	249.83	100	100% MUDSTONE: GREY, WEAK ROCK,LAMINATED.
249.83	250.85	100	60% MUDSTONE: GREY, 40% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, WEAK ROCK,MODERATELY THIN BEDDING,WITH CROSS LAMINATION,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
250.85	251.80	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, WEAK ROCK,VERY THIN BEDDING,WITH CROSS LAMINATION.
251.80	252.20	100	100% MUDSTONE: SILTSTONE, GREY, WEAK ROCK,LAMINATED.
252.20	252.97	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES.
252.97	254.00	100	100% MUDSTONE: GREY, WEAK ROCK,LAMINATED,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
254.00	254.06	100	100% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK, ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.

BOREHOLE LITHOLOGICAL LOG

182269

LEASE : GRAY
BOREHOLE : GY 6A

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
254.06	254.10	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK, ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
254.10	254.24	100	100% COAL, HEAVY DULL:.
254.24	254.26	100	100% COAL, HEAVY DULL: MUDSTONE LAMINAE.
254.26	254.68	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
254.68	255.15	100	100% MUDSTONE: CARBONACEOUS BANDS, WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
255.15	255.53	100	100% SANDSTONE, FINE GRAINED: MUDSTONE LAMINAE, LIGHT GREY, WEAK ROCK,WITH CROSS LAMINATION,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
255.53	256.01	100	100% MUDSTONE: GREY, WEAK ROCK,WITH LOAD CASTS,LAMINATED,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES.
256.01	257.02	100	100% MUDSTONE: GREY, WEAK ROCK,LAMINATED,WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES.
257.02	257.27	100	70% MUDSTONE: CARBONACEOUS, DARK GREY. 30% MUDSTONE: LIGHT GREY, MODERATELY WEAK ROCK,LAMINATED AND CROSS LAMINATION.
257.27	257.30	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WITH LOAD CASTS.
257.30	258.70	100	100% MUDSTONE: CARBONACEOUS, DARK GREY,LAMINATED AND LOAD CASTS,MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES.
258.70	259.90	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182270

LEASE : GRAY
BOREHOLE : GY 6A

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
259.90 - 262.35		100	70% SANDSTONE, FINE GRAINED: LIGHT GREY, 30% MUDSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED AND LOAD CASTS.
262.35 - 262.50		100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
SAMPLE:1			*** CORE DESCRIPTION ***
262.50			
	0.20	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, WITH CALCITE ON CLEAT, MODERATELY STRONG ROCK,CLOSE JOINT SPACING, JOINTS DIP 45 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
	0.04	100	100% MUDSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, MODERATELY WEAK ROCK.
	0.04	100	100% CARBONACEOUS SHALE:.
	0.01	100	100% MUDSTONE: CARBONACEOUS STREAKS, BROWN, WEAK ROCK.
	0.07	100	100% COAL, HEAVY DULL:.
	0.09	100	70% MUDSTONE: CARBONACEOUS, BROWN - BLACK, 30% MUDSTONE: CARBONACEOUS STREAKS, BROWN, MODERATELY STRONG ROCK,THIN BEDDING.
262.95	0.45		TOTAL
SAMPLE:2			*** CORE DESCRIPTION ***
262.95			
	0.28	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
	0.09	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.60	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
263.92	0.97		TOTAL

BOREHOLE LITHOLOGICAL LOG

182271

LEASE : GRAY
BOREHOLE : GY 6A

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
263.92	263.93	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
263.93	263.95	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
263.95	263.96	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
263.96	264.17	100	100% MUDSTONE: CARBONACEOUS BANDS, GREY-BROWN, MODERATELY WEAK ROCK.
264.17	264.65	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED,MODERATELY WIDE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES WITH SLICKENSIDES.
264.65	264.77	100	100% COAL, DULL WITH FEW BRIGHT BANDS: MUDSTONE LENSES.
264.77	264.79	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
264.79	264.81	100	100% COAL, BRIGHT WITH FEW DULL BANDS: WITH CALCITE ON CLEAT AND PYRITE ON CLEAT.
264.81	267.10	100	100% SILTSTONE: SANDSTONE BANDS, GREY, MODERATELY WEAK ROCK,LAMINATED,WIDE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES WITH SLICKENSIDES.
267.10	268.15	100	100% SANDSTONE, FINE GRAINED: MUDSTONE STREAKS, GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION.
268.15	269.40	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED.
269.40	270.20	100	100% SILTSTONE: SANDSTONE BANDS, GREY-BROWN.
270.20	270.27	100	100% SANDSTONE, MEDIUM GRAINED: SILTSTONE LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
270.27	270.64	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION.
270.64	270.83	100	100% MUDSTONE: SANDSTONE BANDS, GREY, MODERATELY WEAK ROCK,LAMINATED.
270.83	270.88	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
270.88	271.35	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182272

LEASE : GRAY
BOREHOLE : GY 6A

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
271.35	271.45	100	100% SANDSTONE, FINE GRAINED: SILTSTONE, LIGHT GREY, MODERATELY WEAK ROCK,WITH LOAD CASTS,LAMINATED.
271.45	272.95	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED,MODERATELY WIDE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
272.95	273.65	100	50% SANDSTONE, FINE GRAINED: LIGHT GREY, 50% MUDSTONE: SILTSTONE, MODERATELY WEAK ROCK,LAMINATED AND BURROWING.
273.65	274.86	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK,LAMINATED.
274.86	274.92	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
274.92	275.59	100	100% MUDSTONE: CARBONACEOUS TRACES, GREY, MODERATELY WEAK ROCK.
275.59	277.90	100	60% MUDSTONE: GREY, 40% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK,LAMINATED AND LOAD CASTS.
277.90	278.10	100	100% SANDSTONE, FINE GRAINED: MUDSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK.
278.10	278.24	100	50% MUDSTONE: GREY, 50% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION.
278.24	280.46	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED.
280.46	281.15	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
281.15	282.53	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS BANDS, LIGHT GREY, MODERATELY WEAK ROCK.
282.53	282.95	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
282.95	283.90	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED.
283.90	284.89	100	100% MUDSTONE: CARBONACEOUS, SHALY, DARK GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182273

LEASE : GRAY
BOREHOLE : GY 6A

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
284.89	285.02	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
285.02	285.73	100	100% MUDSTONE: SILTSTONE, DARK GREY, MODERATELY WEAK ROCK,LAMINATED.
285.73	285.88	100	70% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, 30% MUDSTONE: DARK GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
285.88	286.03	100	60% MUDSTONE: CARBONACEOUS BANDS, DARK GREY, 40% SANDSTONE, FINE GRAINED: CARBONACEOUS BANDS, LIGHT GREY, MODERATELY WEAK ROCK,LAMINATED.
286.03	286.05	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
SAMPLE:3			*** CORE DESCRIPTION ***
286.05			
	0.13	100	100% COAL, HEAVY DULL:.
	0.07	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.30	100	100% COAL, HEAVY DULL:.
	0.01	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.05	100	100% COAL, HEAVY DULL:.
	0.02	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.02	100	100% MUDSTONE: SILTSTONE, BROWN, MODERATELY WEAK ROCK.
	0.01	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
	0.16	100	100% COAL, HEAVY DULL:.
	0.10	100	100% COAL, HEAVY DULL:.
	0.03	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
286.95	0.90		TOTAL

BOREHOLE LITHOLOGICAL LOG

182274

LEASE : GRAY
BOREHOLE : GY 6A

TOP	BASE	%REC	LITHOLOGY
SAMPLE:3			*** CORE DESCRIPTION ***
			*** CORE DESCRIPTION ***
286.95	287.00	0	CORE LOSS.
287.00	287.02	100	100% MUDSTONE: DARK GREY. MODERATELY WEAK ROCK.
287.02	287.45	100	100% MUDSTONE: CARBONACEOUS TRACES. GREY. MODERATELY WEAK ROCK.
287.45	287.64	100	100% MUDSTONE: CARBONACEOUS. DARK GREY. MODERATELY WEAK ROCK.
287.64	288.01	100	100% MUDSTONE: SILTSTONE. CARBONACEOUS. DARK GREY. MODERATELY WEAK ROCK.
288.01	288.84	100	60% SANDSTONE: MED.TO FINE GRAINED. LIGHT GREY. 40% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.VERY THIN BEDDING.
288.84	289.05	100	100% MUDSTONE: ARENACEOUS. GREY-BROWN. MODERATELY WEAK ROCK.
289.05	289.22	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.
289.22	289.45	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.WITH MUD PELLETS.
289.45	290.05	100	100% MUDSTONE: SHALY. GREY-BROWN. MODERATELY WEAK ROCK.
290.05	290.38	100	100% MUDSTONE: CARBONACEOUS. DARK GREY. MODERATELY WEAK ROCK.
290.38	290.90	100	100% MUDSTONE: GREY-BROWN. WEAK ROCK.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 20 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES.
290.90	291.23	100	100% SANDSTONE. FINE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 50 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182275

LEASE : GRAY
BOREHOLE : GY 6A

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
291.23	293.73	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
293.73	294.23	100	100% SANDSTONE, FINE GRAINED: MUDSTONE STREAKS, LIGHT GREY,WITH CROSS LAMINATION.
294.23	294.57	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
294.57	295.21	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
295.21	296.60	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
296.60	304.56	100	100% SANDSTONE, MEDIUM GRAINED: LIMONITIC, LIGHT GREY, MODERATELY WEAK ROCK.
304.56	304.61	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
304.61	304.74	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS, WITH PYRITE ON JOINTS.
304.74	304.85	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
304.85	304.95	100	100% COAL, HEAVY DULL:.
304.95	305.00	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
305.00	305.20	100	100% COAL, HEAVY DULL:.
305.20	305.29	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
305.29	305.45	100	50% SANDSTONE, FINE GRAINED: LIMONITIC, LIGHT GREY, 50% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK,THIN BEDDING,WITH MUD PELLETS.
305.45	306.29	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS BANDS, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
306.29	307.03	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK,LAMINATED AND CROSS LAMINATION.

BOREHOLE LITHOLOGICAL LOG

182276

LEASE : GRAY
BOREHOLE : GY 6A

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
307.03	307.45	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
307.45	308.78	100	100% SANDSTONE: VERY FINE GRAINED, GREY, MODERATELY WEAK ROCK.
308.78	308.88	100	100% COAL, HEAVY DULL: MUDSTONE BANDS.
308.88	309.08	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK, ,SLOW SLAKING.
309.08	309.92	100	100% SILTSTONE: SANDSTONE BANDS, GREY, MODERATELY WEAK ROCK,LAMINATED.
309.92	310.23	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,LAMINATED.
310.23	311.32	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK,LAMINATED.
311.32	311.66	100	100% MUDSTONE: CALCAREOUS, LIGHT GREY, MODERATELY WEAK ROCK.
311.66	312.61	100	50% SILTSTONE: GREY, 50% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,LAMINATED AND CROSS LAMINATION.
312.61	312.75	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
312.75	313.05	100	50% MUDSTONE: CARBONACEOUS, DARK GREY, 50% MUDSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED.
313.05	313.42	100	100% MUDSTONE: GREY,LAMINATED.
313.42	313.47	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
313.47	313.53	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WITH POOR SORTING.
313.53	313.88	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
313.88	314.00	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WITH POOR SORTING.

BOREHOLE LITHOLOGICAL LOG

182277

LEASE : GRAY
BOREHOLE : GY 6A

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
314.00	314.24	100	100% MUDSTONE: CARBONACEOUS, GREY-BROWN, MODERATELY WEAK ROCK.
314.24	314.67	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
314.67	315.17	100	100% SILTSTONE: CARBONACEOUS, GREY-BROWN, MODERATELY WEAK ROCK.
315.17	315.64	100	50% SILTSTONE: CARBONACEOUS, GREY-BROWN, 50% SANDSTONE, FINE GRAINED: GREY, MODERATELY WEAK ROCK,LAMINATED.
315.64	316.58	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
316.58	317.07	100	100% MUDSTONE: SILTSTONE, GREY.
317.07	319.28	100	50% SANDSTONE, FINE GRAINED: GREY, 50% MUDSTONE: CARBONACEOUS BANDS, GREY, MODERATELY WEAK ROCK,LAMINATED AND LOAD CASTS.
319.28	319.55	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
319.55	320.67	100	50% SANDSTONE, FINE GRAINED: LIGHT GREY, 50% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH LOAD CASTS.
320.67	320.87	100	100% MUDSTONE: BROWN - BLACK, MODERATELY STRONG ROCK.
320.87	322.14	100	100% MUDSTONE: SANDSTONE LAMINAE, GREY, MODERATELY WEAK ROCK,LAMINATED.
322.14	322.51	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
322.51	322.95	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
322.95	323.88	100	50% SANDSTONE, FINE GRAINED: CARBONACEOUS BANDS, LIGHT GREY, 50% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK,THIN BEDDING,WITH LOAD CASTS.
323.88	324.04	100	100% MUDSTONE: CARBONACEOUS, GREY-BROWN, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182278

LEASE : GRAY
BOREHOLE : GY 6A

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
324.04	324.20	100	100% MUDSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.
324.20	324.25	100	100% MUDSTONE: CARBONACEOUS, BROWN, MODERATELY WEAK ROCK.
324.25	324.37	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
324.37	324.49	100	100% MUDSTONE: CARBONACEOUS BANDS, BROWN, MODERATELY WEAK ROCK.
324.49	325.03	100	100% SANDSTONE, FINE GRAINED: ARGILLACEOUS, QUARTZITIC, CREAM, MODERATELY WEAK ROCK,WITH POOR SORTING AND MUD PELLETS.
325.03	325.10	100	100% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK,WITH MUD PELLETS.
325.10	325.24	100	50% MUDSTONE: GREY, 50% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
325.24	325.43	100	100% SANDSTONE, FINE GRAINED: ARGILLACEOUS, CREAM, WITH FRAGMENTS OF QUARTZ, MODERATELY WEAK ROCK,WITH POOR SORTING ANO MUD PELLETS.
325.43	325.54	100	100% MUDSTONE:, MODERATELY WEAK ROCK,WITH MUD PELLETS.
325.54	325.64	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
325.64	326.87	100	60% MUDSTONE: GREY, 40% SANDSTONE, FINE GRAINED: GREY, MODERATELY WEAK ROCK.
326.87	327.12	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
327.12	327.16	100	100% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK.
327.16	327.19	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
327.19	327.46	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
327.46	327.75	100	100% SANDSTONE, FINE GRAINED: ARGILLACEOUS, CREAM, WITH FRAGMENTS OF QUARTZ, MODERATELY WEAK ROCK,WITH POOR SORTING.

BOREHOLE LITHOLOGICAL LOG

182279

LEASE : GRAY
BOREHOLE : GY 6A

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
327.75	327.86	100	100% MUDSTONE: CARBONACEOUS BANDS, GREY, MODERATELY WEAK ROCK.
327.86	328.56	100	60% MUDSTONE: GREY, 40% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, GREY, MODERATELY WEAK ROCK,LAMINATED.
328.56	328.60	100	100% COAL, HEAVY DULL:.
328.60	328.69	100	100% SANDSTONE, COARSE GRAINED: ARGILLACEOUS, GREY,WITH POOR SORTING AND MUD PELLETS.
328.69	328.95	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
328.95	329.00	100	100% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK.
329.00	329.06	100	100% COAL, HEAVY DULL:.
329.06	329.65	100	100% MUDSTONE: COALY LENSES, CREAM, MODERATELY WEAK ROCK,WITH MUD PELLETS.
329.65	330.42	100	100% SILTSTONE: SANDSTONE BANDS, GREY, MODERATELY WEAK ROCK,WITH LOAD CASTS.
330.42	330.48	100	50% SILTSTONE: GREY, 50% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH LOAD CASTS.
330.48	331.05	100	100% SANDSTONE, COARSE GRAINED: CREAM, MODERATELY WEAK ROCK,WITH MUD PELLETS.
331.05	331.13	100	100% SANDSTONE, FINE GRAINED: COALY LENSES, LIGHT GREY,WITH POOR SORTING AND LOAD CASTS.
331.13	332.02	100	100% SANDSTONE: VERY COARSE GRAINED, CREAM, WITH FRAGMENTS OF QUARTZ,WITH MUD PELLETS.
332.02	334.09	100	100% SILTSTONE: SANDSTONE LENSES, GREY, WITH FRAGMENTS OF QUARTZ, MODERATELY WEAK ROCK.
334.09	337.70	100	100% SILTSTONE: GREY, WITH FRAGMENTS OF QUARTZ, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 80 DEG, .TIGHT PLANAR,ROUGH DISCONTINUITIES.
337.70	338.19	100	100% LIMESTONE: MUDSTONE LENSES, LIGHT GREY, MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182280

LEASE : GRAY
BOREHOLE : GY 6A

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
338.19	341.00	100	100% SILTSTONE: GREY, WITH FRAGMENTS OF QUARTZ, MODERATELY WEAK ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182281

LEASE : GRAY
BOREHOLE : GY 7

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
-	4.00	100	100% DOLERITE: ARGILLACEOUS, BADLY BROKEN, ORANGE-BROWN, HIGHLY WEATHERED, WEAK ROCK.
4.00 -	17.50	100	100% DOLERITE: BADLY BROKEN, ORANGE-GREY, MODERATELY WEATHERED, MODERATELY WEAK ROCK.
17.50 -	21.00	100	100% DOLERITE: BADLY BROKEN, ORANGE-YELLOW, HIGHLY WEATHERED, VERY WEAK ROCK.
21.00 -	26.50	100	100% DOLERITE: BADLY BROKEN, GREY-GREEN, MODERATELY WEATHERED, MODERATELY WEAK ROCK.
26.50 -	30.50	100	100% DOLERITE: MEDIUM GRAINED, GREY, SLIGHTLY WEATHERED, MODERATELY STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 90 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
30.50 -	42.00	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, SLIGHTLY WEATHERED, STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
42.00 -	45.50	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 75 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
45.50 -	54.00	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 15 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
54.00 -	59.00	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 75 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
59.00 -	60.50	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182282

LEASE : GRAY
BOREHOLE : GY 7

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
60.50 -	68.50	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
68.50 -	76.50	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, WITH CALCITE ON JOINTS, UNWEATHERED, VERY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 10 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
76.50 -	78.00	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
78.00 -	87.50	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, WITH CALCITE ON JOINTS, UNWEATHERED, VERY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 55 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
87.50 -	94.50	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK.
94.50 -	95.20	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
95.20 -	95.50	100	50% DOLERITE: BADLY BROKEN. 50% CALCITE: CHLORITIC.
95.50 -	104.00	100	100% DOLERITE: MEDIUM GRAINED, GREY, UNWEATHERED, STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.
104.00 -	117.00	100	100% DOLERITE: MEDIUM GRAINED, GREY, WITH CALCITE ON JOINTS, UNWEATHERED. VERY STRONG ROCK,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182283

LEASE : GRAY
BOREHOLE : GY 7

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
117.00	124.00	100	100% DOLERITE: GREY. UNWEATHERED. VERY STRONG ROCK.VERY WIDE JOINT SPACING. JOINTS DIP 70 DEG. .OPEN PLANAR.ROUGH DISCONTINUITIES .INFILLED WITH CALCITE.
124.00	136.00	100	100% DOLERITE: MEDIUM GRAINED. GREY. UNWEATHERED. VERY STRONG ROCK.VERY WIDE JOINT SPACING. JOINTS DIP 30 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES .INFILLED WITH CALCITE.
136.00	138.90	100	100% DOLERITE: MEDIUM GRAINED. GREY. UNWEATHERED. VERY STRONG ROCK.VERY WIDE JOINT SPACING. JOINTS DIP 70 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES .INFILLED WITH CALCITE.
138.90	140.65	100	100% DOLERITE: CHLORITIC. BADLY BROKEN. GREY-GREEN. UNWEATHERED. STRONG ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 85 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES .INFILLED WITH CALCITE.
140.65	146.80	100	100% DOLERITE: FINE GRAINED. CHLORITIC. DARK GREY. UNWEATHERED. STRONG ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 75 DEG. .OPEN PLANAR.ROUGH DISCONTINUITIES.
146.80	148.73	100	100% SANDSTONE: MED.-COARSE GRAINED. GREEN. SLIGHTLY WEATHERED. MODERATELY STRONG ROCK.WIDE JOINT SPACING. JOINTS DIP 85 DEG. .OPEN PLANAR.ROUGH DISCONTINUITIES.
148.73	150.07	100	100% SANDSTONE. COARSE GRAINED: LITHIC. GREY-GREEN. UNWEATHERED. MODERATELY STRONG ROCK.WITH MUD PELLETS.
150.07	151.52	100	100% SANDSTONE: MED.TO FINE GRAINED. LITHIC. GREEN. UNWEATHERED. MODERATELY STRONG ROCK.
151.52	151.74	100	100% PEBBLE CONGLOMERATE: LITHIC. RED-BROWN. UNWEATHERED. MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182284

LEASE : GRAY
BOREHOLE : GY 7

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
151.74	154.40	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, GREY-GREEN, UNWEATHERED, MODERATELY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
154.40	154.87	100	100% SILTSTONE: FISSILE BANDS, GREY, UNWEATHERED, MODERATELY WEAK ROCK.
154.87	154.92	100	100% MUDSTONE: CARBONACEOUS, BLACK, UNWEATHERED, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
154.92	154.96	100	100% COAL, HEAVY DULL:.
154.96	155.22	100	100% SILTSTONE: CARBONACEOUS LENSES, GREY, UNWEATHERED, MODERATELY STRONG ROCK.
155.22	155.42	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, UNWEATHERED, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
155.42	156.60	100	100% SILTSTONE: GREY, WITH PYRITE ON JOINTS, UNWEATHERED, MODERATELY STRONG ROCK,MODERATELY THIN BEDDING.
156.60	157.97	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 20 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
157.97	158.63	100	100% SANDSTONE, COARSE GRAINED: LITHIC, CARBONACEOUS, GREY,WITH MUD PELLETS,WIDE JOINT SPACING, JOINTS DIP 20 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
158.63	159.08	100	100% MUDSTONE: CARBONACEOUS, BLACK, WITH PYRITE ON JOINTS, UNWEATHERED, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
159.08	160.45	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, COALY, GREY, UNWEATHERED, MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182285

LEASE : GRAY
BOREHOLE : GY 7

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
160.45	160.70	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS, DARK GREY, UNWEATHERED, MODERATELY WEAK ROCK.
160.70	161.43	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, COALY, GREY, UNWEATHERED, MODERATELY STRONG ROCK,MODERATELY THIN BEDDING.
161.43	161.78	100	100% MUDSTONE: CARBONACEOUS, ARENACEOUS, DARK GREY, UNWEATHERED, WEAK ROCK,MODERATELY CLOSE JOINT SPACING ,OPEN,NON-PLANAR DISCONTINUITIES WITH SLICKENSIDES.
161.78	163.35	100	100% SANDSTONE: LITHIC, CARBONACEOUS, GREY, UNWEATHERED, MODERATELY STRONG ROCK.
163.35	163.71	100	100% SANDSTONE, COARSE GRAINED: PEBBLY, CARBONACEOUS, GREY, UNWEATHERED, MODERATELY STRONG ROCK,WITH MUD PELLETS.
163.71	163.89	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, CARBONACEOUS, GREY, UNWEATHERED, MODERATELY STRONG ROCK.
163.89	168.50	100	100% PEBBLE CONGLOMERATE: ARENACEOUS BANDS, GREY, UNWEATHERED, MODERATELY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
168.50	168.84	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, UNWEATHERED, WEAK ROCK.
168.84	170.67	100	100% SILTSTONE: CARBONACEOUS, DARK GREY, UNWEATHERED, MODERATELY STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
170.67	170.80	100	100% MUDSTONE: CARBONACEOUS, BLACK, UNWEATHERED, WEAK ROCK.
170.80	170.87	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, UNWEATHERED, MODERATELY WEAK ROCK.

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BOREHOLE LITHOLOGICAL LOG

182286

LEASE : GRAY
BOREHOLE : GY 7

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
170.87	171.07	100	100% MUDSTONE: CARBONACEOUS, BLACK, UNWEATHERED, MODERATELY WEAK ROCK.
171.07	171.19	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
171.19	171.26	100	100% MUDSTONE: CARBONACEOUS, BLACK, UNWEATHERED, MODERATELY WEAK ROCK,MODERATELY CLOSE JOINT SPACING ,OPEN PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
171.26	171.34	100	100% COAL, HEAVY DULL:.
171.34	171.39	100	100% MUDSTONE: SILTSTONE, GREY, UNWEATHERED, MODERATELY STRONG ROCK.
171.39	172.10	100	100% MUDSTONE: CARBONACEOUS, BLACK, UNWEATHERED, WEAK ROCK.
172.10	172.20	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, UNWEATHERED, MODERATELY STRONG ROCK,MODERATELY WIDE JOINT SPACING ,OPEN,NON-PLANAR DISCONTINUITIES WITH SLICKENSIDES.
172.20	172.24	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
172.24	172.58	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, UNWEATHERED, MODERATELY STRONG ROCK,MODERATELY WIDE JOINT SPACING ,OPEN,NON-PLANAR DISCONTINUITIES WITH SLICKENSIDES.
172.58	172.61	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
172.61	172.80	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, UNWEATHERED, MODERATELY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 75 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
172.80	172.84	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
172.84	172.89	100	100% MUDSTONE: CARBONACEOUS, BLACK, UNWEATHERED, MODERATELY STRONG ROCK.
172.89	173.01	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
173.01	174.60	100	100% MUDSTONE: CARBONACEOUS, ARENACEOUS, GREY, UNWEATHERED, MODERATELY STRONG ROCK,THIN BEDDING,MODERATELY WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182287

LEASE : GRAY
BOREHOLE : GY 7

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
174.60	174.67	100	100% MUDSTONE: CARBONACEOUS, BLACK, UNWEATHERED, MODERATELY WEAK ROCK.
174.67	174.70	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
174.70	176.40	100	100% MUDSTONE: CARBONACEOUS, BLACK, UNWEATHERED, MODERATELY WEAK ROCK.
176.40	176.46	100	100% COAL, HEAVY DULL:.
176.46	176.52	100	100% COAL, INTERBANDED DULL AND BRIGHT:.
176.52	176.54	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
176.54	176.59	100	100% COAL, HEAVY DULL:.
176.59	176.68	100	100% COAL, DULL WITH FEW BRIGHT BANDS: WITH CALCITE ON CLEAT.
176.68	176.73	100	50% COAL, BRIGHT: 50% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK,VERY THIN BEDDING.
176.73	176.77	100	80% MUDSTONE: CARBONACEOUS, 20% COAL, BRIGHT: LENSES.
176.77	176.86	100	100% COAL, INTERBANDED DULL AND BRIGHT: WITH CALCITE ON CLEAT.
176.86	176.88	100	70% MUDSTONE: CARBONACEOUS, 30% COAL, BRIGHT:.
176.88	177.95	100	100% MUDSTONE: GREY,MODERATELY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
177.95	178.00	100	70% COAL, BRIGHT WITH NUMEROUS DULL BANDS: 30% MUDSTONE: CARBONACEOUS BANDS.
178.00	179.25	100	100% MUDSTONE: COALY STREAKS, DARK GREY. 30% BANDS, LIGHT GREY.
179.25	179.81	100	70% MUDSTONE: CARBONACEOUS, DARK GREY. 30% SANDSTONE, FINE GRAINED: LIGHT GREY.
179.81	180.10	100	100% MUDSTONE: CARBONACEOUS, DARK GREY.
180.10	180.47	100	100% SANDSTONE, FINE GRAINED: COALY LENSES. LIGHT GREY.

BOREHOLE LITHOLOGICAL LOG

182288

LEASE : GRAY
BOREHOLE : GY 7

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
180.47	180.65	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
180.65	180.80	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
180.80	181.30	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, UNWEATHERED, MODERATELY WEAK ROCK.
181.30	181.42	100	100% CARBONACEOUS SHALE: BLACK, UNWEATHERED, VERY WEAK ROCK.
181.42	182.35	100	100% MUDSTONE: CARBONACEOUS, BLACK,WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
182.35	183.06	100	100% MUDSTONE: SILTSTONE, COALY, DARK GREY, UNWEATHERED, MODERATELY WEAK ROCK.
183.06	183.96	100	100% SANDSTONE, FINE GRAINED: COALY STREAKS, GREY, UNWEATHERED, MODERATELY STRONG ROCK.
183.96	184.01	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
184.01	184.04	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
184.04	185.20	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK.
185.20	188.89	100	100% SILTSTONE: COALY STREAKS, DARK GREY, UNWEATHERED, MODERATELY WEAK ROCK.
188.89	188.96	100	100% CARBONACEOUS SHALE: BLACK, UNWEATHERED, WEAK ROCK.
188.96	189.54	100	100% SILTSTONE: ARENACEOUS, COALY, GREY, UNWEATHERED, MODERATELY WEAK ROCK.
189.54	189.95	100	100% SANDSTONE, FINE GRAINED: COALY LENSES, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK,WITH MUD PELLETS.
189.95	194.00	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS BANDS, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182289

LEASE : GRAY
BOREHOLE : GY 7

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
194.00	- 198.72	100	100% SANDSTONE, FINE GRAINED: LITHIC, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK,WITH MUD PELLETS.
198.72	- 199.14	100	100% SANDSTONE, FINE GRAINED: PEBBLY BANDS, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK,WITH MUD PELLETS.
199.14	- 202.66	100	100% SANDSTONE, FINE GRAINED: LITHIC, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 75 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
202.66	- 203.42	100	100% SILTSTONE: GREY, UNWEATHERED, MODERATELY STRONG ROCK.
203.42	- 204.93	100	100% SANDSTONE, FINE GRAINED: LITHIC, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK.
204.93	- 205.34	100	100% SANDSTONE, FINE GRAINED: COALY LENSES, LIGHT GREY, UNWEATHERED, MODERATELY WEAK ROCK.
205.34	- 205.56	100	100% SANDSTONE, FINE GRAINED: LITHIC, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK.
205.56	- 205.74	100	100% SANDSTONE, FINE GRAINED: COALY STREAKS, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK.
SAMPLE:1			*** CORE DESCRIPTION ***
205.74			
	0.11	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
	0.06	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
	0.04	100	100% CLAY: FISSILE, BROWN, UNWEATHERED, VERY WEAK ROCK.
	0.20	100	100% COAL, HEAVY DULL:.
	0.07	100	100% MUDSTONE: ARENACEOUS, BROWN, UNWEATHERED, WEAK ROCK.
	0.04	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.

BOREHOLE LITHOLOGICAL LOG

182290

LEASE : GRAY
BOREHOLE : GY 7

TOP	BASE	%REC	LITHOLOGY
SAMPLE:1			*** CORE DESCRIPTION ***
	0.03	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, UNWEATHERED, MODERATELY WEAK ROCK.
	0.07	100	100% MUDSTONE: ARENACEOUS, BROWN, UNWEATHERED, WEAK ROCK.
	0.03	100	100% MUDSTONE: CARBONACEOUS, BLACK, UNWEATHERED, MODERATELY STRONG ROCK.
	0.16	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
	0.04	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, UNWEATHERED, MODERATELY STRONG ROCK.
	0.05	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
	0.11	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
	0.22	100	100% COAL, HEAVY DULL:.
	0.10	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
	0.04	100	100% COAL, DULL:.
	0.14	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS: CARBONACEOUS LAMINAE.
07.25	1.51		TOTAL
			*** CORE DESCRIPTION ***
207.25 - 207.44		100	100% MUDSTONE: DARK GREY, UNWEATHERED, MODERATELY WEAK ROCK,LAMINATED.
207.44 - 207.64		100	100% SILTSTONE: GREY, UNWEATHERED, MODERATELY STRONG ROCK.
207.64 - 209.00		100	100% SANDSTONE, FINE GRAINED: GREY, UNWEATHERED, MODERATELY STRONG ROCK.
209.00 - 209.77		100	100% SILTSTONE: ARENACEOUS BANDS, GREY, UNWEATHERED, MODERATELY STRONG ROCK.
209.77 - 209.95		100	100% SILTSTONE: ARGILLACEOUS BANDS, GREY, UNWEATHERED, MODERATELY WEAK ROCK.
209.95 - 211.60		100	100% SILTSTONE: GREY, UNWEATHERED, MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182291

LEASE : GRAY
BOREHOLE : GY 7

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
211.60	211.80	100	100% SANDSTONE. FINE GRAINED: GREY. UNWEATHERED. MODERATELY STRONG ROCK.
211.80	212.30	100	100% SILTSTONE: GREY. UNWEATHERED. MODERATELY STRONG ROCK.
212.30	214.73	100	100% SANDSTONE. FINE GRAINED: SILTSTONE LAMINAE. LIGHT GREY. UNWEATHERED. MODERATELY STRONG ROCK.WITH CROSS LAMINATION.
214.73	215.90	100	50% SANDSTONE: MED.TO FINE GRAINED. LIGHT GREY. 50% SILTSTONE: CARBONACEOUS LAMINAE. GREY. UNWEATHERED. MODERATELY STRONG ROCK.WIDE JOINT SPACING. JOINTS DIP 70 DEG. .OPEN PLANAR.ROUGH DISCONTINUITIES.
215.90	217.78	100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS STREAKS. LIGHT GREY. UNWEATHERED. MODERATELY STRONG ROCK.
217.78	217.88	100	100% COAL. HEAVY DULL: BRIGHT COAL STREAKS.
217.88	218.90	100	100% SILTSTONE: ARENACEOUS BANDS. GREY. UNWEATHERED. MODERATELY STRONG ROCK.
218.90	223.54	100	100% SILTSTONE: GREY. UNWEATHERED. MODERATELY STRONG ROCK.WITH CROSS LAMINATION.VERY WIDE JOINT SPACING. JOINTS DIP 30 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
223.54	224.17	100	100% SANDSTONE: MED.TO FINE GRAINED. LITHIC. GREY. UNWEATHERED. STRONG ROCK.
224.17	224.32	100	100% SANDSTONE: COALY LENSES. GREY. UNWEATHERED. STRONG ROCK.
224.32	225.34	100	100% SANDSTONE: MED.TO FINE GRAINED. LITHIC. GREY. UNWEATHERED. STRONG ROCK.
225.34	225.54	100	80% SANDSTONE: MED.TO FINE GRAINED. LITHIC. GREY. 20% COAL: LENSES. UNWEATHERED. MODERATELY STRONG ROCK.
225.54	226.05	100	100% SANDSTONE: COALY LENSES. GREY. UNWEATHERED. MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182292

LEASE : GRAY
BOREHOLE : GY 7

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
226.05	229.50	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, UNWEATHERED, STRONG ROCK.WITH MUD PELLETS.
229.50	230.36	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, UNWEATHERED, STRONG ROCK.
230.36	233.39	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, UNWEATHERED, STRONG ROCK.
233.39	233.85	100	100% SANDSTONE: COALY LENSES, LIGHT GREY, UNWEATHERED, STRONG ROCK.
233.85	234.28	100	100% SILTSTONE: CARBONACEOUS LENSES, GREY, UNWEATHERED, MODERATELY STRONG ROCK,MODERATELY WIDE JOINT SPACING ,OPEN,NON-PLANAR DISCONTINUITIES.
234.28	235.12	100	100% SILTSTONE: GREY, UNWEATHERED, MODERATELY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
235.12	236.17	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, UNWEATHERED, STRONG ROCK.
236.17	237.70	100	100% SANDSTONE: COALY LENSES, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK,WITH MUD PELLETS.
237.70	240.10	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, UNWEATHERED, STRONG ROCK.
240.10	240.48	100	100% SANDSTONE, FINE GRAINED: COALY STREAKS, LIGHT GREY, UNWEATHERED, STRONG ROCK,WITH MUD PELLETS.
240.48	242.00	100	100% SANDSTONE: LITHIC, MED.TO FINE GRAINED, LIGHT GREY, UNWEATHERED, STRONG ROCK,WITH MUD PELLETS.
242.00	243.60	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, UNWEATHERED, STRONG ROCK,WITH MUD PELLETS,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
243.60	245.93	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, UNWEATHERED, STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182293

LEASE : GRAY
BOREHOLE : GY 7

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
245.93	246.11	100	100% CARBONACEOUS SHALE: COALY LENSES, BLACK, UNWEATHERED, MODERATELY STRONG ROCK.
246.11	246.23	100	100% CLAYSTONE: FISSILE, LIGHT BROWN, UNWEATHERED, VERY WEAK ROCK.
246.23	246.58	100	60% CARBONACEOUS SHALE: BLACK, 40% MUDSTONE: CARBONACEOUS BANDS, BLACK.
246.58	246.61	100	100% SILTSTONE: LIGHT BROWN, UNWEATHERED, MODERATELY WEAK ROCK.
246.61	246.67	100	100% CARBONACEOUS SHALE: BLACK, UNWEATHERED, WEAK ROCK.
246.67	246.72	100	100% COAL, HEAVY DULL:.
246.72	246.85	100	100% MUDSTONE: CARBONACEOUS, BLACK, UNWEATHERED, MODERATELY STRONG ROCK.
246.85	247.79	100	60% MUDSTONE: CARBONACEOUS BANDS, DARK BROWN, 40% MUDSTONE: SILTSTONE BANDS, BROWN, UNWEATHERED, MODERATELY WEAK ROCK.
247.79	247.84	100	100% CLAYSTONE: BUFF, UNWEATHERED, VERY WEAK ROCK.
247.84	248.45	100	60% CARBONACEOUS SHALE: COALY, BLACK, 40% MUDSTONE: CARBONACEOUS BANDS, DARK BROWN, UNWEATHERED, MODERATELY WEAK ROCK.
248.45	248.52	100	100% SANDSTONE, FINE GRAINED: ARGILLACEOUS, BUFF, UNWEATHERED, WEAK ROCK.
248.52	249.06	100	70% CARBONACEOUS SHALE: COALY, BLACK, 30% MUDSTONE: CARBONACEOUS, DARK BROWN, UNWEATHERED, MODERATELY WEAK ROCK.
249.06	249.36	100	100% CLAYSTONE: BUFF, UNWEATHERED, WEAK ROCK.
249.36	249.50	100	100% MUDSTONE: CARBONACEOUS, BLACK, UNWEATHERED, MODERATELY STRONG ROCK.
249.50	249.55	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
249.55	249.63	100	100% MUDSTONE: CARBONACEOUS, BLACK, UNWEATHERED, MODERATELY STRONG ROCK.
249.63	249.76	100	100% COAL, HEAVY DULL:.

BOREHOLE LITHOLOGICAL LOG

182294

LEASE : GRAY
BOREHOLE : GY 7

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
249.76	249.88	100	100% MUDSTONE: CARBONACEOUS, ARENACEOUS, DARK BROWN, UNWEATHERED, MODERATELY STRONG ROCK,WITH CROSS LAMINATION.
249.88	250.01	100	100% CARBONACEOUS SHALE: BLACK, UNWEATHERED, MODERATELY WEAK ROCK.
250.01	250.13	100	100% CLAYSTONE: BUFF, UNWEATHERED, WEAK ROCK.
250.13	250.18	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN.
250.18	250.40	100	100% CLAYSTONE: BUFF, UNWEATHERED, WEAK ROCK.
250.40	250.83	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, UNWEATHERED, MODERATELY STRONG ROCK,WITH CROSS LAMINATION.
250.83	251.18	100	100% CLAYSTONE: CARBONACEOUS BANDS, BUFF, UNWEATHERED, WEAK ROCK.
251.18	251.30	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, UNWEATHERED, MODERATELY STRONG ROCK.
251.30	251.39	100	100% CLAYSTONE: BUFF, UNWEATHERED, WEAK ROCK.
251.39	251.85	100	100% MUDSTONE: CARBONACEOUS, BLACK, UNWEATHERED, MODERATELY STRONG ROCK.
251.85	252.13	100	100% SILTSTONE: ARGILLACEOUS, LIGHT BROWN, UNWEATHERED, MODERATELY WEAK ROCK.
252.13	252.37	100	100% CLAYSTONE: BUFF, UNWEATHERED, VERY WEAK ROCK.
252.37	252.54	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, UNWEATHERED, MODERATELY STRONG ROCK.
252.54	252.60	100	100% SILTSTONE: ARGILLACEOUS, LIGHT BROWN, UNWEATHERED, MODERATELY WEAK ROCK.
252.60	252.73	100	100% CARBONACEOUS SHALE: BLACK, UNWEATHERED, MODERATELY WEAK ROCK.
252.73	253.00	100	100% SILTSTONE: ARGILLACEOUS, LIGHT BROWN, UNWEATHERED, MODERATELY STRONG ROCK.
253.00	253.50	100	60% SILTSTONE: CARBONACEOUS, LIGHT GREY, 40% MUDSTONE: CARBONACEOUS BANDS, DARK BROWN, UNWEATHERED, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182295

LEASE : GRAY
BOREHOLE : GY 7

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
253.50 - 253.52		100	100% MUDSTONE: CARBONACEOUS, BLACK, UNWEATHERED, MODERATELY STRONG ROCK.
SAMPLE:2			*** CORE DESCRIPTION ***
253.52			
	0.08	100	100% COAL, HEAVY DULL:.
	0.03	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
	0.03	100	100% COAL, HEAVY DULL:.
	0.14	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, UNWEATHERED, MODERATELY STRONG ROCK.
	0.17	100	100% COAL, INTERBANDED DULL AND BRIGHT:.
	0.03	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
	0.12	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, UNWEATHERED, MODERATELY STRONG ROCK.
	0.16	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS: SANDSTONE LENSES, WITH CALCITE ON CLEAT.
	0.06	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
	0.01	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
	0.02	100	100% SANDSTONE, FINE GRAINED: GREY, UNWEATHERED, MODERATELY WEAK ROCK.
	0.23	100	100% COAL, DULL WITH FEW BRIGHT BANDS: WITH CALCITE ON CLEAT.
254.60	1.08		TOTAL
			*** CORE DESCRIPTION ***
254.60 - 254.69		100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, UNWEATHERED, MODERATELY STRONG ROCK.
254.69 - 254.74		100	100% MUDSTONE: CARBONACEOUS, BROWN, UNWEATHERED, MODERATELY STRONG ROCK.
254.74 - 254.81		100	100% SILTSTONE: GREY, UNWEATHERED, MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182296

LEASE : GRAY
BOREHOLE : GY 7

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
54.81	254.86	100	100% CARBONACEOUS SHALE: COALY. BLACK. UNWEATHERED. MODERATELY WEAK ROCK.
54.86	255.01	100	100% SANDSTONE: COALY LENSES. LIGHT GREY. UNWEATHERED. MODERATELY STRONG ROCK.WITH MUD PELLETS.
55.01	258.10	100	100% SANDSTONE. FINE GRAINED: LITHIC. LIGHT GREY. UNWEATHERED. STRONG ROCK.VERY WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
58.10	262.02	100	100% SANDSTONE: MED.TO FINE GRAINED. LITHIC. LIGHT GREY. UNWEATHERED. STRONG ROCK.VERY THICK BEDDING.WITH MUD PELLETS.
262.02	262.05	100	100% COAL. BRIGHT WITH NUMEROUS DULL BANDS:.
262.05	272.34	100	100% SANDSTONE: MED.TO FINE GRAINED. LITHIC. LIGHT GREY. UNWEATHERED. STRONG ROCK.VERY THICK BEDDING.WITH MUD PELLETS.VERY WIDE JOINT SPACING. JOINTS DIP 30 DEG. .OPEN PLANAR.ROUGH DISCONTINUITIES.
272.34	272.37	100	100% CARBONACEOUS SHALE: COALY. BLACK. UNWEATHERED. MODERATELY WEAK ROCK.
272.37	272.76	100	100% SANDSTONE. MEDIUM GRAINED: COALY LENSES. LIGHT GREY. UNWEATHERED. MODERATELY STRONG ROCK.WITH MUD PELLETS.
272.76	272.92	100	100% SILTSTONE: CARBONACEOUS. DARK GREY. UNWEATHERED. MODERATELY WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 30 DEG. .OPEN PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
272.92	278.92	100	100% SANDSTONE: COALY STREAKS. LIGHT GREY. UNWEATHERED. MODERATELY STRONG ROCK.VERY WIDE JOINT SPACING. JOINTS DIP 30 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES.
278.92	278.94	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.

BOREHOLE LITHOLOGICAL LOG

182297

LEASE : GRAY
BOREHOLE : GY 7

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
278.94 - 279.36		100	100% SANDSTONE. MEDIUM GRAINED: COALY LENSES. LIGHT GREY. UNWEATHERED. MODERATELY STRONG ROCK.
279.36 - 280.73		100	100% SANDSTONE: CARBONACEOUS LAMINAE. GREY. UNWEATHERED. MODERATELY WEAK ROCK.THIN BEDDING.
SAMPLE:3			*** CORE DESCRIPTION ***
280.73			
	0.03	100	100% COAL. HEAVY DULL:.
	0.04	100	100% COAL. DULL WITH NUMEROUS BRIGHT BANDS:.
	0.17	100	100% COAL. HEAVY DULL: BRIGHT COAL STREAKS.
	0.03	100	100% SANDSTONE: CARBONACEOUS. GREY.
	0.04	100	100% MUDSTONE: CARBONACEOUS. BLACK. UNWEATHERED. MODERATELY STRONG ROCK.
	0.05	100	100% COAL. DULL WITH NUMEROUS BRIGHT BANDS:.
	0.01	100	100% COAL. BRIGHT:.
	0.15	100	100% COAL. HEAVY DULL:.
	0.02	100	100% COAL. DULL:.
	0.08	100	100% COAL. HEAVY DULL: BRIGHT COAL LENSES.
	0.05	100	100% MUDSTONE: CARBONACEOUS. BROWN. UNWEATHERED. MODERATELY WEAK ROCK.
	0.04	100	100% COAL. HEAVY DULL: BRIGHT COAL STREAKS.
	0.03	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
	0.04	100	100% COAL. HEAVY DULL: BRIGHT COAL STREAKS.
	0.06	100	100% COAL. DULL:.
	0.19	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. UNWEATHERED. MODERATELY WEAK ROCK.
281.76	1.03		TOTAL
			*** CORE DESCRIPTION ***
281.76 - 282.39		100	70% MUDSTONE: CARBONACEOUS. DARK BROWN. 30% SILTSTONE: GREY. UNWEATHERED. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182298

LEASE : GRAY
BOREHOLE : GY 7

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
282.39 -	283.31	100	85% SILTSTONE: CARBONACEOUS LENSES, GREY, 15% SANDSTONE: LIGHT GREY, UNWEATHERED, MODERATELY WEAK ROCK,WITH CROSS LAMINATION,MODERATELY WIDE JOINT SPACING, JOINTS DIP 25 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
283.31 -	283.80	100	100% SANDSTONE: SILTSTONE LENSES, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK.
283.80 -	284.12	100	100% SANDSTONE: SILTSTONE LENSES, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK,WITH MUD PELLETS,MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
284.12 -	284.37	100	100% SILTSTONE: GREY, UNWEATHERED, MODERATELY STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
284.37 -	293.44	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, UNWEATHERED, STRONG ROCK.
293.44 -	293.60	100	100% SILTSTONE: GREY, UNWEATHERED, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
293.60 -	293.62	100	100% COAL, BRIGHT WITH NUMEROUS DULL BANDS:.
293.62 -	293.82	100	100% SILTSTONE: COALY STREAKS, GREY, UNWEATHERED, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
293.82 -	294.41	100	100% SANDSTONE: COALY LENSES, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182299

LEASE : GRAY
BOREHOLE : GY 7

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
294.41	294.47	100	100% SILTSTONE: GREY, UNWEATHERED, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
294.47	296.00	100	100% SANDSTONE, MEDIUM GRAINED: COALY STREAKS, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK.
296.00	297.56	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, UNWEATHERED, STRONG ROCK.
297.56	298.12	100	100% SANDSTONE: COALY STREAKS, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK.
298.12	298.85	100	100% SANDSTONE: SILTSTONE LENSES, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK.
298.85	301.03	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, UNWEATHERED, STRONG ROCK.
301.03	301.33	100	100% SANDSTONE, MEDIUM GRAINED: COALY BANDS, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK.
301.33	301.93	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, UNWEATHERED, STRONG ROCK.
301.93	302.14	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK,WITH MUD PELLETS.
302.14	302.74	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, UNWEATHERED, STRONG ROCK,WITH MUD PELLETS.
302.74	303.62	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK,WITH MUD PELLETS.
303.62	304.20	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, UNWEATHERED, STRONG ROCK.
304.20	305.51	100	100% SANDSTONE: CARBONACEOUS BANDS, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK.
305.51	305.60	100	100% CLAYSTONE: BUFF, UNWEATHERED, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182300

LEASE : GRAY
BOREHOLE : GY 7

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
305.60 -	305.91	100	100% SANDSTONE: MEDIUM GRAINED, LITHIC, LIGHT GREY, UNWEATHERED, STRONG ROCK,WITH MUD PELLETS.
305.91 -	306.12	100	100% MUDSTONE: CARBONACEOUS, ARENACEOUS, DARK BROWN, UNWEATHERED, MODERATELY STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 20 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
306.12 -	309.80	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK,WITH MUD PELLETS.
309.80 -	313.83	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, UNWEATHERED, STRONG ROCK.
SAMPLE:4			*** CORE DESCRIPTION ***
313.83			
	0.03	100	100% CLAYSTONE: SHALY, BROWN, SOFT.
	0.07	100	100% MUDSTONE: CARBONACEOUS, SHALY, BROWN - BLACK, MODERATELY WEAK ROCK.
	0.04	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.03	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.
	0.09	100	100% COAL, HEAVY DULL:.
	0.07	100	100% COAL, DULL:.
	0.03	100	100% COAL, HEAVY DULL:.
	0.02	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
	0.05	100	100% MUDSTONE: SHALY, BROWN, FIRM.
	0.06	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
314.32	0.49		TOTAL

BOREHOLE LITHOLOGICAL LOG

182301

LEASE : GRAY
BOREHOLE : GY 7

TOP	BASE	%REC	LITHOLOGY
SAMPLE:5			*** CORE DESCRIPTION ***
14.32			
	0.08	100	100% COAL. HEAVY DULL:.
	0.03	100	100% COAL. DULL WITH NUMEROUS BRIGHT BANDS:.
	0.03	100	100% COAL. DULL:.
	0.01	100	100% MUDSTONE: BROWN. SOFT.
	0.13	100	100% COAL. DULL:.
	0.01	100	100% MUDSTONE: SILTSTONE. LIGHT BROWN. MODERATELY WEAK ROCK.
	0.05	100	100% COAL. DULL:.
	0.02	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
	0.01	100	100% MUDSTONE: CARBONACEOUS STREAKS. BROWN. MODERATELY WEAK ROCK.
	0.14	100	100% COAL. DULL WITH FEW BRIGHT BANDS: WITH CALCITE ON CLEAT.
	0.01	100	100% MUDSTONE: BROWN. MODERATELY WEAK ROCK.
	0.03	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.
	0.02	100	100% COAL. HEAVY DULL:.
	0.07	100	100% COAL. DULL:.
	0.23	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
	0.03	100	100% COAL. HEAVY DULL:.
	0.04	100	100% COAL. DULL:.
	0.05	100	100% COAL. DULL WITH NUMEROUS BRIGHT BANDS:.
	0.07	100	100% COAL. DULL:.
	0.04	100	100% COAL. DULL WITH NUMEROUS BRIGHT BANDS:.
	0.01	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
	0.01	100	60% COAL. BRIGHT: 40% SHALE: LIGHT BROWN.LAMINATED.
	0.08	100	100% COAL. DULL WITH FEW BRIGHT BANDS: WITH CALCITE ON CLEAT.

BOREHOLE LITHOLOGICAL LOG

182302

LEASE : GRAY
BOREHOLE : GY 7

TOP	BASE	%REC	LITHOLOGY
SAMPLE:5			*** CORE DESCRIPTION ***
315.52	1.20		TOTAL
SAMPLE:6			*** CORE DESCRIPTION ***
315.52			
	0.04	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
	0.15	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK.
	0.12	100	100% COAL, DULL WITH FEW BRIGHT BANDS: WITH CALCITE ON CLEAT.
	0.01	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
	0.02	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
	0.39	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
	0.03	100	100% MUDSTONE: SILTSTONE, GREY-BROWN, MODERATELY WEAK ROCK.
	0.15	100	100% COAL, HEAVY DULL:.
316.43	0.91		TOTAL
			*** CORE DESCRIPTION ***
316.43 - 316.44		100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
316.44 - 316.46		100	100% MUDSTONE: SILTSTONE, GREY-BROWN, MODERATELY WEAK ROCK.
316.46 - 316.62		100	100% MUDSTONE: CARBONACEOUS, SHALY, BROWN - BLACK, MODERATELY WEAK ROCK.
316.62 - 317.80		100	100% SILTSTONE: CARBONACEOUS BANDS, GREY, UNWEATHERED, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.

BOREHOLE LITHOLOGICAL LOG

182303

LEASE : GRAY
BOREHOLE : GY 7

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
317.80	320.91	100	60% SILTSTONE: CALCAREOUS, GREY, 40% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, UNWEATHERED, MODERATELY WEAK ROCK.
320.91	321.76	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, UNWEATHERED, STRONG ROCK.
321.76	323.08	100	100% SILTSTONE: CARBONACEOUS BANDS, GREY, UNWEATHERED, MODERATELY WEAK ROCK,THIN BEDDING.
323.08	330.32	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, UNWEATHERED, STRONG ROCK.
330.32	331.88	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, UNWEATHERED, STRONG ROCK,WITH MUD PELLETS.
331.88	332.00	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK.
332.00	333.60	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, UNWEATHERED, STRONG ROCK,WITH MUD PELLETS.
333.60	333.65	100	100% MUDSTONE: DARK GREY, UNWEATHERED, MODERATELY STRONG ROCK.
333.65	333.87	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, UNWEATHERED, STRONG ROCK,WITH MUD PELLETS.
333.87	334.00	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
334.00	335.00	0	CORE LOSS.
335.00	335.65	100	100% SILTSTONE: GREY, UNWEATHERED, MODERATELY STRONG ROCK.
335.65	336.23	100	100% SILTSTONE: ARENACEOUS BANDS, GREY, UNWEATHERED, MODERATELY STRONG ROCK.
336.23	338.35	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, UNWEATHERED, STRONG ROCK.
338.35	343.97	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, UNWEATHERED, STRONG ROCK,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182304

LEASE : GRAY
BOREHOLE : GY 7

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
343.97	344.12	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS LENSES. LIGHT GREY. UNWEATHERED. MODERATELY STRONG ROCK.WITH MUD PELLETS.
344.12	347.54	100	100% SANDSTONE. MEDIUM GRAINED: LITHIC. LIGHT GREY. UNWEATHERED. STRONG ROCK.
347.54	347.63	100	100% SANDSTONE. MEDIUM GRAINED: PEBBLY. LITHIC. LIGHT GREY. UNWEATHERED. STRONG ROCK.
347.63	347.75	100	100% SILTSTONE: STRONGLY FRAGMENTED. GREY. UNWEATHERED. WEAK ROCK.
347.75	352.31	100	100% SANDSTONE. MEDIUM GRAINED: LITHIC. LIGHT GREY. UNWEATHERED. STRONG ROCK.
352.31	352.49	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS LENSES. GREY. UNWEATHERED. MODERATELY STRONG ROCK.WITH MUD PELLETS.
352.49	352.64	100	100% MUDSTONE: CARBONACEOUS. BROWN. UNWEATHERED. MODERATELY WEAK ROCK.MODERATELY CLOSE JOINT SPACING .TIGHT NON-PLANAR DISCONTINUITIES.
352.64	352.84	100	100% MUDSTONE: BRIGHT COAL LENSES. DARK BROWN. UNWEATHERED. MODERATELY WEAK ROCK.
352.84	352.92	100	100% COAL. HEAVY DULL: MUDSTONE BANDS.
352.92	352.93	100	100% COAL. DULL:.
352.93	353.00	100	100% MUDSTONE: CARBONACEOUS. BLACK. UNWEATHERED. MODERATELY STRONG ROCK.
353.00	353.03	100	100% COAL. HEAVY DULL:.
353.03	353.05	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. UNWEATHERED. MODERATELY STRONG ROCK.
353.05	353.08	100	100% CLAYSTONE: FISSILE. BUFF. UNWEATHERED. WEAK ROCK.
353.08	353.11	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN.
353.11	353.13	100	100% COAL. HEAVY DULL:.
353.13	353.14	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.

BOREHOLE LITHOLOGICAL LOG

182305

LEASE : GRAY
BOREHOLE : GY 7

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
353.14	353.22	100	100% MUDSTONE: CARBONACEOUS. BLACK. UNWEATHERED. MODERATELY WEAK ROCK.
353.22	353.48	100	100% SILTSTONE: GREY. UNWEATHERED. MODERATELY WEAK ROCK.
353.48	355.52	100	100% SANDSTONE: MED.TO FINE GRAINED. LITHIC. LIGHT GREY. UNWEATHERED. STRONG ROCK.
355.52	356.14	100	100% SILTSTONE: CARBONACEOUS LAMINAE. GREY. UNWEATHERED. MODERATELY STRONG ROCK,MODERATELY WIDE JOINT SPACING. JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
356.14	356.19	100	100% CARBONACEOUS SHALE: BLACK. UNWEATHERED. WEAK ROCK.
356.19	358.59	100	100% SILTSTONE: CARBONACEOUS BANDS. GREY. UNWEATHERED. MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING. JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
358.59	358.75	100	100% SILTSTONE: ARENACEOUS BANDS. GREY. UNWEATHERED. MODERATELY STRONG ROCK.
358.75	359.67	100	100% SANDSTONE. FINE GRAINED: SILTSTONE BANDS. LIGHT GREY. UNWEATHERED. MODERATELY STRONG ROCK.
359.67	361.00	100	100% SILTSTONE: FISSILE BANDS. GREY. UNWEATHERED. MODERATELY WEAK ROCK.
361.00	362.00	0	CORE LOSS.
362.00	362.29	100	100% MUDSTONE: CARBONACEOUS. SILTSTONE. DARK GREY. UNWEATHERED. MODERATELY WEAK ROCK,THIN BEDDING.
362.29	362.86	100	100% SANDSTONE: CARBONACEOUS BANDS. LIGHT GREY. UNWEATHERED. MODERATELY STRONG ROCK,WITH MUD PELLETS.
362.86	363.43	100	100% SANDSTONE. MEDIUM GRAINED: LITHIC. LIGHT GREY. UNWEATHERED. STRONG ROCK.
363.43	365.22	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS LENSES. LIGHT GREY. UNWEATHERED. MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182306

LEASE : GRAY
BOREHOLE : GY 7

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
365.22	368.32	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, UNWEATHERED, STRONG ROCK.
368.32	368.43	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS LENSES, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK.
368.43	368.47	100	100% CARBONACEOUS SHALE: COALY, BLACK, UNWEATHERED, MODERATELY WEAK ROCK.
368.47	368.70	100	100% SILTSTONE: CARBONACEOUS LENSES, GREY, UNWEATHERED, MODERATELY WEAK ROCK.
368.70	371.50	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, UNWEATHERED, STRONG ROCK.
371.50	372.40	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, UNWEATHERED, STRONG ROCK,WITH MUD PELLETS.
372.40	377.04	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, UNWEATHERED, STRONG ROCK.
377.04	377.55	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN.
377.55	380.15	100	100% SILTSTONE: GREY, UNWEATHERED, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
380.15	381.98	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK, AND MUD PELLETS.
381.98	390.31	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK.
390.31	390.38	100	100% MUDSTONE: CARBONACEOUS, BLACK.
390.38	390.39	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
390.39	390.42	100	100% COAL, HEAVY DULL: BRIGHT COAL BANDS.
390.42	390.49	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
390.49	390.58	100	100% COAL, HEAVY DULL: CARBONACEOUS LENSES.
390.58	390.60	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
390.60	390.80	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, UNWEATHERED, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182307

LEASE : GRAY
BOREHOLE : GY 7

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
390.80	390.92	100	100% COAL. HEAVY DULL: BRIGHT COAL STREAKS.
390.92	390.96	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
390.96	391.10	100	100% COAL. HEAVY DULL: BRIGHT COAL LENSES.
391.10	391.23	100	100% MUDSTONE: COALY STREAKS. DARK GREY. UNWEATHERED. MODERATELY WEAK ROCK.
391.23	391.25	100	100% MUDSTONE: CARBONACEOUS. DARK GREY. UNWEATHERED. MODERATELY WEAK ROCK.
391.25	391.41	100	100% MUDSTONE: CARBONACEOUS. DARK GREY. UNWEATHERED. WEAK ROCK.
391.41	391.44	100	100% MUDSTONE: CARBONACEOUS. DARK GREY. UNWEATHERED. WEAK ROCK.
391.44	392.00	100	100% SILTSTONE: CARBONACEOUS BANDS. DARK GREY. UNWEATHERED. MODERATELY WEAK ROCK.
392.00	392.57	100	80% SILTSTONE: CARBONACEOUS BANDS. DARK GREY. 20% SANDSTONE: LIGHT GREY. UNWEATHERED. MODERATELY WEAK ROCK.
392.57	393.06	100	100% SANDSTONE. FINE GRAINED: LITHIC. LIGHT GREY. UNWEATHERED. MODERATELY STRONG ROCK.
393.06	394.38	100	100% SILTSTONE: GREY. UNWEATHERED. MODERATELY WEAK ROCK.
394.38	395.00	100	100% MUDSTONE: CARBONACEOUS. DARK GREY. UNWEATHERED. MODERATELY WEAK ROCK.LAMINATED.
395.00	395.07	100	100% CARBONACEOUS SHALE: DARK GREY. UNWEATHERED. WEAK ROCK.
395.07	395.18	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS LENSES. LIGHT GREY. UNWEATHERED. MODERATELY STRONG ROCK.
395.18	395.21	100	100% MUDSTONE: CARBONACEOUS. BLACK. UNWEATHERED. MODERATELY WEAK ROCK.
395.21	395.32	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. UNWEATHERED. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182308

LEASE : GRAY
BOREHOLE : GY 7

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
95.32	395.62	100	100% SILTSTONE: ARENACEOUS BANDS, LIGHT GREY, UNWEATHERED, MODERATELY STRONG ROCK,WITH CROSS LAMINATION.
95.62	396.06	100	100% SILTSTONE: CARBONACEOUS BANDS, GREY, UNWEATHERED, MODERATELY WEAK ROCK.
96.06	396.67	100	100% SANDSTONE, FINE GRAINED: LITHIC, LIGHT GREY, UNWEATHERED, MODERATELY WEAK ROCK.
96.67	397.95	100	100% SILTSTONE: FISSILE BANDS, GREY, UNWEATHERED, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
397.95	398.58	100	100% SILTSTONE: ARENACEOUS BANDS, GREY, UNWEATHERED, MODERATELY WEAK ROCK,WITH CROSS LAMINATION.
98.58	399.68	100	100% SILTSTONE: CARBONACEOUS LENSES, GREY, UNWEATHERED, MODERATELY WEAK ROCK.
99.68	400.24	100	100% SANDSTONE, FINE GRAINED: SILTSTONE BANDS, GREY, UNWEATHERED, MODERATELY WEAK ROCK.
00.24	401.00	100	100% SILTSTONE: GREY, UNWEATHERED, MODERATELY WEAK ROCK.
01.00	401.13	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LENSES, GREY, UNWEATHERED, MODERATELY WEAK ROCK,LAMINATED.
01.13	401.34	100	100% SANDSTONE, FINE GRAINED: CALCAREOUS, LIGHT GREY, MODERATELY WEAK ROCK.
401.34	401.67	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LENSES, GREY, MODERATELY WEAK ROCK,LAMINATED.
401.67	402.50	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK,LAMINATED.
402.50	403.52	100	100% SANDSTONE, FINE GRAINED: MUDSTONE BANDS, GREY, MODERATELY WEAK ROCK.
03.52	404.14	100	100% MUDSTONE: CARBONACEOUS BANDS, GREY, MODERATELY WEAK ROCK,LAMINATED.
04.14	404.56	100	100% SANDSTONE, FINE GRAINED: FRIABLE, GREY, WEAKLY CEMENTED.

BOREHOLE LITHOLOGICAL LOG

182309

LEASE : GRAY
BOREHOLE : GY 7

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
404.56	404.80	100	100% MUDSTONE: FISSILE, GREY, STIFF,LAMINATED.
404.80	407.59	100	100% SILTSTONE: SANDSTONE BANDS, GREY, MODERATELY WEAK ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
407.59	407.61	100	100% CLAYSTONE: LIGHT BROWN, FIRM.
407.61	407.94	100	100% MUDSTONE: CARBONACEOUS, SHALY, BLACK, MODERATELY WEAK ROCK.
407.94	407.99	100	100% MUDSTONE: SILTSTONE, LIGHT BROWN, VERY WEAK ROCK.
407.99	408.07	100	100% MUDSTONE: CARBONACEOUS, SHALY, BLACK, MODERATELY WEAK ROCK.
408.07	408.21	100	100% COAL, HEAVY DULL:.
408.21	408.44	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
408.44	408.57	100	100% COAL, DULL:.
408.57	408.72	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
408.72	410.11	100	100% SANDSTONE, FINE GRAINED: MUDSTONE BANDS, GREY, MODERATELY WEAK ROCK,LAMINATED.
410.11	410.84	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
410.84	410.87	100	100% COAL, BRIGHT:.
410.87	411.10	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
411.10	416.55	100	100% SILTSTONE: SANDSTONE LAMINAE, GREY, MODERATELY WEAK ROCK,LAMINATED.
416.55	416.77	100	100% COAL, DULL WITH FEW BRIGHT BANDS: MUDSTONE BANDS.
416.77	416.82	100	100% MUDSTONE: CARBONACEOUS, GREY-BROWN, MODERATELY WEAK ROCK,LAMINATED.

BOREHOLE LITHOLOGICAL LOG

182310

LEASE : GRAY
BOREHOLE : GY 7

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
416.82 -	417.43	100	100% SANDSTONE. FINE GRAINED: GREY. MODERATELY WEAK ROCK.LAMINATED.
417.43 -	418.00	100	100% SANDSTONE. FINE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.LAMINATED AND CROSS LAMINATION.

BOREHOLE LITHOLOGICAL LOG

182311

LEASE : GRAY
BOREHOLE : GY 8

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
-	51.40	100	DOLERITE: SCREE.
51.40 -	53.40	100	100% SHALE: GREY, UNWEATHERED, MODERATELY STRONG ROCK.
53.40 -	53.52	100	100% SILTSTONE: CARBONACEOUS, DARK GREY, UNWEATHERED, MODERATELY STRONG ROCK.
53.52 -	53.60	100	100% CARBONACEOUS SHALE: COALY, DARK GREY, UNWEATHERED, MODERATELY STRONG ROCK.
53.60 -	53.98	100	100% SHALE: CARBONACEOUS, DARK GREY, UNWEATHERED, MODERATELY WEAK ROCK.
53.98 -	54.92	100	100% SHALE: GREY, UNWEATHERED, MODERATELY STRONG ROCK.WIDE JOINT SPACING, JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
54.92 -	57.14	100	100% SILTSTONE: CARBONACEOUS STREAKS, GREY, UNWEATHERED, MODERATELY STRONG ROCK.
57.14 -	57.37	100	100% SILTSTONE: COALY LENSES, GREY, UNWEATHERED, MODERATELY STRONG ROCK.
57.37 -	57.55	100	100% SHALE: COALY STREAKS, GREY, UNWEATHERED, WEAK ROCK.
57.55 -	57.56	100	100% COAL, HEAVY DULL: BRIGHT COAL BANDS.
57.56 -	57.57	100	100% MUDSTONE: CARBONACEOUS, BLACK.
57.57 -	57.68	100	100% COAL, HEAVY DULL:.
57.68 -	57.85	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, UNWEATHERED, MODERATELY STRONG ROCK.
57.85 -	58.26	100	100% SILTSTONE: CARBONACEOUS, GREY, UNWEATHERED, MODERATELY WEAK ROCK.
58.26 -	58.32	100	100% CLAYSTONE: BROWN, UNWEATHERED, WEAK ROCK.
58.32 -	58.41	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, UNWEATHERED, MODERATELY STRONG ROCK.
58.41 -	58.48	100	100% CLAYSTONE: FISSILE, BROWN, UNWEATHERED, WEAK ROCK.
58.48 -	58.60	100	100% CARBONACEOUS SHALE: COALY, DARK GREY, UNWEATHERED, WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182312

LEASE : GRAY
BOREHOLE : GY 8

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
58.60 -	58.80	100	100% MUDSTONE: DARK BROWN. UNWEATHERED. MODERATELY STRONG ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 30 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
58.80 -	65.84	100	100% SILTSTONE: COALY STREAKS. GREY. UNWEATHERED. MODERATELY STRONG ROCK.WIDE JOINT SPACING. JOINTS DIP 30 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
65.84 -	68.15	100	100% SANDSTONE: MED.TO FINE GRAINED. LITHIC. LIGHT GREY. UNWEATHERED. STRONG ROCK.EXTREMELY WIDE JOINT SPACING. JOINTS DIP 70 DEG. .OPEN PLANAR.ROUGH DISCONTINUITIES.
68.15 -	68.33	100	100% SANDSTONE: COALY LENSES. LIGHT GREY. UNWEATHERED. MODERATELY STRONG ROCK.
68.33 -	72.12	100	100% SANDSTONE. MEDIUM GRAINED: LITHIC. LIGHT GREY. UNWEATHERED. STRONG ROCK.EXTREMELY WIDE JOINT SPACING. JOINTS DIP 80 DEG. .OPEN PLANAR.ROUGH DISCONTINUITIES.
72.12 -	72.16	100	100% SILTSTONE: GREY. UNWEATHERED. STRONG ROCK.
72.16 -	75.96	100	100% SANDSTONE. MEDIUM GRAINED: LITHIC. LIGHT GREY. UNWEATHERED. STRONG ROCK.VERY WIDE JOINT SPACING. JOINTS DIP 85 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
75.96 -	76.19	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS STREAKS. LIGHT GREY. UNWEATHERED. STRONG ROCK.
76.19 -	76.26	100	100% SILTSTONE: LIGHT GREY. UNWEATHERED. STRONG ROCK.WITH TROUGH CROSS BEDDING.
76.26 -	76.76	100	100% SANDSTONE. MEDIUM GRAINED: LITHIC. LIGHT GREY. UNWEATHERED. STRONG ROCK.
76.76 -	76.85	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS STREAKS. LIGHT GREY. UNWEATHERED. MODERATELY STRONG ROCK.
76.85 -	77.32	100	100% SANDSTONE. MEDIUM GRAINED: LITHIC. LIGHT GREY. UNWEATHERED. STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182313

LEASE : GRAY
BOREHOLE : GY 8

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
77.32 -	77.48	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, UNWEATHERED, MODERATELY STRONG ROCK.
77.48 -	77.68	100	100% SANDSTONE, MEDIUM GRAINED: COALY STREAKS, LIGHT GREY, UNWEATHERED, STRONG ROCK.
77.68 -	82.50	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, UNWEATHERED, STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 15 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES.
82.50 -	82.54	100	100% MUDSTONE: CARBONACEOUS, BLACK, UNWEATHERED, MODERATELY STRONG ROCK.
82.54 -	82.60	100	100% MUDSTONE: FISSILE, LIGHT BROWN, UNWEATHERED, WEAK ROCK.
82.60 -	82.61	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, UNWEATHERED, MODERATELY STRONG ROCK.
82.61 -	82.68	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
82.68 -	82.82	100	100% MUDSTONE: CARBONACEOUS, BLACK, UNWEATHERED, MODERATELY STRONG ROCK.
82.82 -	82.84	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
82.84 -	82.87	100	100% MUDSTONE: CARBONACEOUS, BLACK.
82.87 -	82.94	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN.
82.94 -	83.14	100	100% SILTSTONE: COALY LENSES, GREY, UNWEATHERED, MODERATELY WEAK ROCK.
83.14 -	83.19	100	100% CLAYSTONE: COALY, BUFF, VERY WEAK ROCK.
83.19 -	83.27	100	100% MUDSTONE: COALY BANDS, DARK BROWN, UNWEATHERED, MODERATELY WEAK ROCK.
83.27 -	83.52	100	100% SILTSTONE: GREY, UNWEATHERED, MODERATELY WEAK ROCK.
83.52 -	84.35	100	100% MUDSTONE: CARBONACEOUS BANDS, BROWN, UNWEATHERED, WEAK ROCK.
84.35 -	84.53	100	100% MUDSTONE: FISSILE, BROWN, UNWEATHERED, VERY WEAK ROCK.
84.53 -	84.76	100	100% MUDSTONE: BROWN, UNWEATHERED, WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182314

LEASE : GRAY
BOREHOLE : GY 8

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
84.76 -	85.74	100	100% MUDSTONE: FISSILE, BROWN, UNWEATHERED, VERY WEAK ROCK.
85.74 -	85.94	100	100% MUDSTONE: CARBONACEOUS LENSES, DARK BROWN, UNWEATHERED, WEAK ROCK.
85.94 -	86.50	20	100% MUDSTONE: CARBONACEOUS, BADLY BROKEN, DARK GREY.
86.93 -	87.09	100	100% CLAYSTONE: FISSILE, BUFF, UNWEATHERED, VERY WEAK ROCK.
87.09 -	87.49	100	100% MUDSTONE: CARBONACEOUS, BLACK, UNWEATHERED, MODERATELY STRONG ROCK.
87.49 -	87.64	100	100% SILTSTONE: LIGHT GREY, UNWEATHERED, MODERATELY WEAK ROCK.
87.64 -	87.69	100	100% CLAYSTONE: FISSILE, BUFF, UNWEATHERED, WEAK ROCK.
87.69 -	87.95	100	100% MUDSTONE: CARBONACEOUS, BLACK.
87.95 -	88.38	100	100% CLAYSTONE: FISSILE, BUFF, UNWEATHERED, VERY WEAK ROCK.
88.38 -	88.55	100	100% MUDSTONE: CARBONACEOUS, BLACK, UNWEATHERED, MODERATELY STRONG ROCK.
88.55 -	89.00	0	CORE LOSS.
89.00 -	89.15	100	100% MUDSTONE: CARBONACEOUS, BADLY BROKEN, BLACK.
89.15 -	89.24	100	100% SILTSTONE: CARBONACEOUS STREAKS, GREY, UNWEATHERED, MODERATELY WEAK ROCK.
89.24 -	89.39	100	100% CLAYSTONE: FISSILE, BUFF, UNWEATHERED, VERY WEAK ROCK.
89.39 -	89.63	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, UNWEATHERED, MODERATELY WEAK ROCK.
89.63 -	89.74	100	100% SILTSTONE: CARBONACEOUS BANDS, GREY, UNWEATHERED, MODERATELY WEAK ROCK.
89.74 -	89.86	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, UNWEATHERED, MODERATELY WEAK ROCK.
89.86 -	90.00	0	CORE LOSS.

07 MAY 1979 THE SHELL COMPANY OF AUSTRALIA LTD.

BOREHOLE LITHOLOGICAL LOG

182315

LEASE : GRAY
BOREHOLE : GY 8

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
90.00 -	90.45	100	100% MUDSTONE: CARBONACEOUS, BLACK, UNWEATHERED.
90.45 -	90.65	100	100% CLAYSTONE: FISSILE, BUFF, UNWEATHERED, VERY WEAK ROCK.
90.65 -	91.15	100	100% MUDSTONE: CARBONACEOUS, BLACK.
91.15 -	91.30	100	100% CLAYSTONE: FISSILE, BUFF, UNWEATHERED, VERY WEAK ROCK.
91.30 -	91.86	100	100% MUDSTONE: CARBONACEOUS, BLACK.
91.86 -	92.02	100	100% MUDSTONE: CARBONACEOUS BANDS, BROWN, UNWEATHERED, MODERATELY WEAK ROCK.
92.02 -	94.20	100	100% SILTSTONE: FISSILE BANDS, GREY, UNWEATHERED, WEAK ROCK.
94.20 -	94.68	100	100% SILTSTONE: GREY, UNWEATHERED, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES.
94.68 -	94.75	100	100% SHALE: BADLY BROKEN, GREY.
94.75 -	94.93	100	100% SILTSTONE: GREY, UNWEATHERED, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
94.93 -	95.49	100	70% SILTSTONE: GREY, 30% SANDSTONE, FINE GRAINED: LIGHT GREY, UNWEATHERED, MODERATELY WEAK ROCK.
95.49 -	98.44	100	50% SANDSTONE, FINE GRAINED: COALY LENSES, LIGHT GREY, 50% SILTSTONE: GREY, UNWEATHERED, MODERATELY WEAK ROCK,VERY THIN BEDDING AND CROSS LAMINATION.
98.44 -	103.36	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, UNWEATHERED, MODERATELY WEAK ROCK.
103.36 -	104.05	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION.
104.05 -	105.70	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
105.70 -	105.84	100	100% SANDSTONE, COARSE GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
105.84 -	105.85	100	100% CLAYSTONE: BUFF, SOFT.

BOREHOLE LITHOLOGICAL LOG

182316

LEASE : GRAY
BOREHOLE : GY 8

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
10.85	105.87	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
05.87	105.93	100	100% COAL. HEAVY DULL:.
105.93	106.02	100	100% MUDSTONE: CARBONACEOUS. DARK GREY. MODERATELY WEAK ROCK.
106.02	106.14	100	100% COAL. INTERBANDED DULL AND BRIGHT: MUDSTONE LAMINAE. WITH CALCITE ON CLEAT.
106.14	106.17	100	100% MUDSTONE: SHALY. CARBONACEOUS. GREY-BROWN. WEAK ROCK.
106.17	106.31	100	100% MUDSTONE: GREY. WEAK ROCK.
06.31	106.35	100	100% SHALE: GREY. FIRM.
06.35	106.36	100	100% SHALE: LIGHT BROWN. FIRM.
106.36	106.50	100	100% MUDSTONE: CARBONACEOUS LENSES. GREY. MODERATELY WEAK ROCK.
106.50	106.70	100	50% MUDSTONE: CARBONACEOUS. BROWN - BLACK. 50% MUDSTONE: CARBONACEOUS. GREY. MODERATELY WEAK ROCK.MODERATELY THICK BEDDING.
06.70	109.20	100	100% MUDSTONE: SILTSTONE. GREY. WEAK ROCK.VERY THIN BEDDING.
09.20	109.25	100	100% CLAYSTONE: LIGHT BROWN. SOFT.
09.25	109.31	100	100% CLAYSTONE: FISSILE. BROWN. SOFT.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES.
109.31	109.37	100	100% CLAYSTONE: FISSILE. LIGHT BROWN. SOFT.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES.
09.37	109.49	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.
09.49	109.51	100	100% MUDSTONE: BROWN. MODERATELY WEAK ROCK.
09.51	109.56	100	100% CLAYSTONE: BROWN. SOFT.
109.56	109.60	100	100% MUDSTONE: BROWN. WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182317

LEASE : GRAY
BOREHOLE : GY 8

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
109.60	109.98	100	50% MUDSTONE: CARBONACEOUS, BLACK, 50% MUDSTONE: SILTSTONE, BROWN, MODERATELY WEAK ROCK,MODERATELY THICK BEDDING.
109.98	110.14	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
110.14	110.19	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
110.19	110.39	100	100% COAL, HEAVY DULL: MUDSTONE BANDS.
110.39	110.65	100	100% MUDSTONE: SILTSTONE, CARBONACEOUS, GREY-BROWN.
110.65	112.20	100	100% SANDSTONE, FINE GRAINED: GREY,MODERATELY THIN BEDDING,WITH LOAD CASTS,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
112.20	114.85	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
114.85	115.83	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION,MODERATELY WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
115.83	117.85	100	100% SANDSTONE, COARSE GRAINED: CARBONACEOUS LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION,WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
117.85	118.40	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, WEAK ROCK.
118.40	121.60	100	100% SANDSTONE, COARSE GRAINED: FRIABLE, LITHIC, LIGHT GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
121.60	122.20	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182318

LEASE : GRAY
BOREHOLE : GY 8

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
122.20	122.85	100	100% SANDSTONE. COARSE GRAINED: LIGHT GREY. WEAK ROCK.
122.85	123.06	100	100% MUDSTONE: GREY. VERY WEAK ROCK.
123.06	126.00	100	100% SANDSTONE. COARSE GRAINED: LITHIC. LIGHT GREY. WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
126.00	128.45	100	100% SANDSTONE. COARSE GRAINED: LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
128.45	130.20	100	100% SANDSTONE. MEDIUM GRAINED: LITHIC. LIGHT GREY. WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 70 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
130.20	130.34	100	100% SANDSTONE. FINE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.
130.34	130.55	100	100% SANDSTONE. COARSE GRAINED: LITHIC. FRIABLE. LIGHT GREY. WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 65 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
130.55	130.74	100	100% SANDSTONE. FINE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 80 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES .INFILLED WITH CALCITE.
130.74	133.38	100	100% SANDSTONE. COARSE GRAINED: LITHIC. LIGHT GREY. WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
133.38	134.00	100	100% SANDSTONE. MEDIUM GRAINED: LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
134.00	137.00	100	100% SANDSTONE. COARSE GRAINED: LITHIC. FRIABLE. LIGHT GREY. WEAK ROCK.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182319

LEASE : GRAY
BOREHOLE : GY 8

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
137.00	137.35	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
137.35	137.70	100	100% CLAYSTONE: BADLY BROKEN, GREY, MODERATELY STRONG ROCK.
137.70	143.30	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, FRIABLE, LIGHT GREY, WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 60 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
143.30	144.05	100	100% SILTSTONE: FRIABLE, GREY, MODERATELY WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 60 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
144.05	144.50	100	100% MUDSTONE: CARBONACEOUS, BLACK, WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 50 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
144.50	144.83	100	100% SILTSTONE: CARBONACEOUS BANDS, GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 50 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
144.83	145.55	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
145.55	147.20	100	100% SANDSTONE, COARSE GRAINED: LITHIC, LIGHT GREY, WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
147.20	149.70	100	100% SANDSTONE, MEDIUM GRAINED: FRIABLE, LITHIC, LIGHT GREY,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182320

LEASE : GRAY
BOREHOLE : GY 8

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
149.70 - 150.05		100	100% SANDSTONE. COARSE GRAINED: LITHIC. FRIABLE. LIGHT GREY. WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
150.05 - 150.45		100	100% SANDSTONE. MEDIUM GRAINED: LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.
150.45 - 150.65		100	100% MUDSTONE: BADLY BROKEN. GREY. VERY WEAK ROCK.
SAMPLE:1			*** CORE DESCRIPTION ***
150.65			
	0.25	100	100% MUDSTONE: CARBONACEOUS. BADLY BROKEN. BLACK. VERY WEAK ROCK.
	1.14	100	100% MUDSTONE: CARBONACEOUS. BLACK. VERY WEAK ROCK.
	0.10	100	100% COAL. HEAVY DULL: BRIGHT COAL LENSES.
	0.18	100	100% MUDSTONE: CARBONACEOUS. BLACK. VERY WEAK ROCK.
	0.10	100	100% MUDSTONE: SILTSTONE. COALY. DARK BROWN. VERY WEAK ROCK.
	0.20	100	100% MUDSTONE: CARBONACEOUS. BLACK. VERY WEAK ROCK.
	0.11	100	100% SILTSTONE: CARBONACEOUS STREAKS. GREY. WEAK ROCK.
	0.02	100	100% COAL. HEAVY DULL: BRIGHT COAL STREAKS.
	0.10	100	100% SILTSTONE: CARBONACEOUS LENSES. GREY. WEAK ROCK.
152.85	2.20		TOTAL
			*** CORE DESCRIPTION ***
152.85 - 153.04		100	100% MUDSTONE: CARBONACEOUS. BLACK. WEAK ROCK.
153.04 - 153.17		100	100% SILTSTONE: COALY LENSES. GREY. WEAK ROCK.
153.17 - 153.40		100	100% SILTSTONE: LAMINAE. GREY. MODERATELY WEAK ROCK.
153.40 - 156.68		100	100% SANDSTONE. MEDIUM GRAINED: LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182321

LEASE : GRAY
BOREHOLE : GY 8

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
156.68	157.84	100	100% SILTSTONE: CARBONACEOUS LAMINAE, GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION,WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
157.84	158.43	100	70% SILTSTONE: CARBONACEOUS LAMINAE, GREY, 30% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
158.43	161.64	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
161.64	162.12	100	100% SILTSTONE: GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
162.12	162.48	100	100% SANDSTONE, FINE GRAINED: SILTSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK.
162.48	162.53	100	100% SHALE: GREY, VERY WEAK ROCK.
162.53	162.71	100	100% MUDSTONE: CARBONACEOUS, FRIABLE, BLACK, VERY WEAK ROCK.
162.71	162.80	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.
162.80	162.87	100	100% MUDSTONE: CARBONACEOUS, ARENACEOUS, DARK GREY, WEAK ROCK.
162.87	163.24	100	100% MUDSTONE: CARBONACEOUS, BLACK, WEAK ROCK.
163.24	163.66	100	100% MUDSTONE: CARBONACEOUS, FRIABLE, BLACK, VERY WEAK ROCK.
163.66	164.44	100	100% SHALE: GREY, VERY WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 20 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
164.44	165.55	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, FRIABLE, LIGHT GREY, WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182322

LEASE : GRAY
BOREHOLE : GY 8

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
165.55	170.03	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
170.03	170.92	100	100% SANDSTONE, FINE GRAINED: LITHIC, GREY, MODERATELY WEAK ROCK.
170.92	175.90	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, WEAK ROCK.
175.90	176.03	100	100% MUDSTONE: CARBONACEOUS, BLACK, WEAK ROCK.
176.03	176.11	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
176.11	176.18	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.
176.18	176.19	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
176.19	176.21	100	100% MUDSTONE: CARBONACEOUS, BLACK.
176.21	176.27	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
176.27	176.43	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
176.43	177.58	100	100% SILTSTONE: ARENACEOUS LAMINAE, GREY,THIN BEDDING.
177.58	177.80	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, WEAK ROCK.
177.80	178.36	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS LAMINAE, GREY, WEAK ROCK.
178.36	179.00	100	100% MUDSTONE: CARBONACEOUS, BLACK, WEAK ROCK.
179.00	179.48	100	100% SILTSTONE: CARBONACEOUS LAMINAE, GREY,THIN BEDDING,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
179.48	181.81	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
181.81	181.83	100	100% CARBONACEOUS SHALE: BLACK, VERY WEAK ROCK.
181.83	181.96	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182323

LEASE : GRAY
BOREHOLE : GY 8

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
181.96	182.18	100	100% SILTSTONE: CARBONACEOUS, GREY, MODERATELY WEAK ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 50 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
182.18	182.40	100	100% SANDSTONE, FINE GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
182.40	183.52	100	100% SANDSTONE, FINE GRAINED: SILTSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING.
183.52	187.50	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
187.50	188.37	100	100% SANDSTONE, FINE GRAINED: SILTSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING AND CROSS LAMINATION.
188.37	188.68	100	100% SANDSTONE, FINE GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
188.68	191.37	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
191.37	191.51	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.
191.51	191.84	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, MODERATELY WEAK ROCK.
191.84	192.32	100	100% SILTSTONE: CARBONACEOUS, ARENACEOUS, GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
192.32	193.18	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LAMINAE, GREY, MODERATELY WEAK ROCK.
193.18	196.06	100	100% SANDSTONE, COARSE GRAINED: CARBONACEOUS LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
196.06	196.31	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
196.31	196.45	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182324

LEASE : GRAY
BOREHOLE : GY 8

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
196.45	198.10	100	100% SILTSTONE: CARBONACEOUS, GREY, WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
198.10	198.83	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, WEAK ROCK.
198.83	199.52	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
199.52	200.05	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, MODERATELY WEAK ROCK.
200.05	208.45	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
208.45	209.75	100	100% SILTSTONE: CARBONACEOUS LAMINAE, DARK GREY, MODERATELY WEAK ROCK.
209.75	209.87	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
209.87	210.71	100	100% SILTSTONE: CARBONACEOUS LAMINAE, GREY, MODERATELY WEAK ROCK.
210.71	211.20	100	100% SANDSTONE, MEDIUM GRAINED: COALY STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
211.20	211.55	100	100% MUDSTONE: SILTSTONE, CARBONACEOUS, DARK GREY, WEAK ROCK,THIN BEDDING.
211.55	212.00	100	100% MUDSTONE: SILTSTONE, FRIABLE, DARK GREY, VERY WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
212.00	212.20	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, WEAK ROCK.
212.20	212.43	100	100% MUDSTONE: CARBONACEOUS, BLACK, WEAK ROCK.
212.43	213.15	100	100% SILTSTONE: CARBONACEOUS LAMINAE, GREY, WEAK ROCK.
213.15	213.56	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, WEAK ROCK.

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BOREHOLE LITHOLOGICAL LOG

182325

LEASE : GRAY
BOREHOLE : GY 8

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
213.56	214.02	100	100% MUDSTONE: CARBONACEOUS, ARENACEOUS, DARK GREY, WEAK ROCK.
214.02	214.44	100	100% MUDSTONE: CARBONACEOUS, SHALY, BLACK, WEAK ROCK.
214.44	214.91	100	100% MUDSTONE: ARENACEOUS BANDS, DARK GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING,WITH TROUGH CROSS BEDDING.
214.91	214.98	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
214.98	215.35	100	100% MUDSTONE: ARENACEOUS BANDS, DARK GREY, MODERATELY WEAK ROCK.
215.35	215.51	100	100% MUDSTONE: SILTSTONE, CARBONACEOUS, DARK GREY, WEAK ROCK.
215.51	215.75	100	100% MUDSTONE: CARBONACEOUS, BLACK, WEAK ROCK.
215.75	216.02	100	100% SANDSTONE, COARSE GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
216.02	216.16	100	100% MUDSTONE: CARBONACEOUS, BLACK, WEAK ROCK.
216.16	217.23	100	100% SANDSTONE, COARSE GRAINED: CARBONACEOUS LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
217.23	217.53	100	100% SHALE: CARBONACEOUS BANDS, GREY, WEAK ROCK.
217.53	218.54	100	100% SILTSTONE: ARENACEOUS LENSES, GREY, MODERATELY WEAK ROCK,THIN BEDDING.
218.54	219.67	100	100% SILTSTONE: FISSILE BANDS, GREY, WEAK ROCK,VERY THIN BEDDING,VERY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
219.67	222.07	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS LENSES, LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING,WITH TROUGH CROSS BEDDING.
222.07	222.69	100	100% SILTSTONE: CARBONACEOUS, ARENACEOUS, GREY, MODERATELY WEAK ROCK,THIN BEDDING.
222.69	223.20	100	100% SILTSTONE: CARBONACEOUS LAMINAE, GREY, MODERATELY WEAK ROCK.

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BOREHOLE LITHOLOGICAL LOG

182326

LEASE : GRAY
BOREHOLE : GY 8

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
223.20	223.46	100	100% SILTSTONE: CARBONACEOUS BANDS, GREY, WEAK ROCK.
223.46	223.88	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
223.88	224.02	100	100% SANDSTONE, FINE GRAINED: SILTSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK.
224.02	224.30	100	100% SILTSTONE: GREY, WEAK ROCK.
224.30	224.96	100	100% SILTSTONE: CARBONACEOUS LAMINAE, DARK GREY, MODERATELY WEAK ROCK.
224.96	225.17	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, WEAK ROCK.
225.17	225.28	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS BANDS, GREY, MODERATELY WEAK ROCK.
225.28	225.51	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, WEAK ROCK.
225.51	226.88	100	70% SILTSTONE: CARBONACEOUS LAMINAE, GREY, 30% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
226.88	227.18	100	100% SILTSTONE: CARBONACEOUS, DARK GREY, WEAK ROCK.
227.18	227.86	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS BANDS, LIGHT GREY, MODERATELY WEAK ROCK.
227.86	228.40	100	100% SILTSTONE: CARBONACEOUS, ARENACEOUS, DARK GREY, MODERATELY WEAK ROCK.
228.40	228.51	100	100% SILTSTONE: CARBONACEOUS, DARK GREY, WEAK ROCK.
228.51	228.72	100	100% SILTSTONE: GREY, WEAK ROCK.
228.72	228.92	100	100% SILTSTONE: FISSILE, BADLY BROKEN, GREY, VERY WEAK ROCK.
228.92	229.27	100	100% SILTSTONE: CARBONACEOUS, ARENACEOUS, DARK GREY, MODERATELY WEAK ROCK.
229.27	230.78	100	100% SANDSTONE, COARSE GRAINED: CARBONACEOUS LENSES, LIGHT GREY, WEAK ROCK,WITH MUD PELLETS.
230.78	230.80	100	100% COAL, HEAVY DULL: WITH PYRITE ON CLEAT.
230.80	230.86	100	100% SANDSTONE, COARSE GRAINED: CARBONACEOUS LENSES, LIGHT GREY, WEAK ROCK,WITH MUD PELLETS.

BOREHOLE LITHOLOGICAL LOG

182327

LEASE : GRAY
BOREHOLE : GY 8

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
230.86	231.36	100	100% SILTSTONE: FISSILE BANDS, GREY, WEAK ROCK.
231.36	231.65	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, WEAK ROCK.
231.65	231.72	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
231.72	232.07	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS LENSES, GREY, MODERATELY WEAK ROCK,WITH TROUGH CROSS BEDDING.
232.07	232.09	100	100% COAL, DULL:.
232.09	232.18	100	100% MUDSTONE: CARBONACEOUS, ARENACEOUS, DARK GREY, MODERATELY WEAK ROCK.
232.18	233.50	100	100% SANDSTONE, MEDIUM GRAINED: SILTSTONE LENSES, GREY, WITH MICA, MODERATELY WEAK ROCK.
233.50	234.25	100	100% SANDSTONE, COARSE GRAINED: CARBONACEOUS LENSES, LIGHT GREY, WEAK ROCK.
234.25	234.45	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
234.45	235.23	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS, GREY, MODERATELY WEAK ROCK.
235.23	235.65	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, WEAK ROCK.
235.65	237.00	100	100% SANDSTONE: MED.-COARSE GRAINED, QUARTZOSE, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
237.00	237.88	100	100% SANDSTONE, COARSE GRAINED: QUARTZOSE, LIGHT GREY, WITH FRAGMENTS OF FELDSPAR, WEAK ROCK,WITH MUD PELLETS.
237.88	239.56	100	100% SANDSTONE: MED.-COARSE GRAINED, QUARTZOSE, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
239.56	246.76	100	100% SANDSTONE, COARSE GRAINED: PEBBLY, QUARTZOSE, LIGHT GREY, MODERATELY STRONG ROCK.
246.76	247.40	100	100% SANDSTONE, MEDIUM GRAINED: QUARTZOSE, LIGHT GREY, MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182328

LEASE : GRAY
BOREHOLE : GY 8

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
247.40	254.70	100	100% SANDSTONE, COARSE GRAINED: QUARTZOSE, LIGHT GREY, MODERATELY STRONG ROCK,WITH MUD PELLETS.
254.70	257.44	100	100% SANDSTONE, MEDIUM GRAINED: QUARTZOSE, LIGHT GREY, MODERATELY STRONG ROCK.
257.44	257.70	100	100% SANDSTONE, COARSE GRAINED: QUARTZOSE, LIGHT GREY, MODERATELY WEAK ROCK.
257.70	260.54	100	100% SANDSTONE, MEDIUM GRAINED: QUARTZOSE, LIGHT GREY, MODERATELY STRONG ROCK.
260.54	260.67	100	100% SANDSTONE, COARSE GRAINED: QUARTZOSE, LIGHT GREY, MODERATELY STRONG ROCK.
260.67	260.85	100	100% SANDSTONE, MEDIUM GRAINED: QUARTZOSE, LIGHT GREY, MODERATELY STRONG ROCK.
260.85	261.05	100	100% SANDSTONE, COARSE GRAINED: QUARTZOSE, LIGHT GREY, MODERATELY STRONG ROCK.
261.05	261.65	100	100% SANDSTONE, MEDIUM GRAINED: QUARTZOSE, LIGHT GREY, MODERATELY STRONG ROCK.
261.65	261.75	100	100% SANDSTONE, COARSE GRAINED: QUARTZOSE, LIGHT GREY, MODERATELY STRONG ROCK.
261.75	262.22	100	100% SANDSTONE, MEDIUM GRAINED: QUARTZOSE, LIGHT GREY, MODERATELY STRONG ROCK.
262.22	262.31	100	100% SANDSTONE, COARSE GRAINED: QUARTZOSE, LIGHT GREY, MODERATELY STRONG ROCK.
262.31	262.56	100	100% SANDSTONE, MEDIUM GRAINED: QUARTZOSE, LIGHT GREY, MODERATELY STRONG ROCK.
262.56	262.64	100	100% SANDSTONE, COARSE GRAINED: QUARTZOSE, LIGHT GREY, WITH FRAGMENTS OF FELDSPAR, MODERATELY STRONG ROCK.
262.64	264.33	100	100% SANDSTONE, MEDIUM GRAINED: QUARTZOSE, LIGHT GREY, MODERATELY STRONG ROCK.
264.33	265.50	100	100% SANDSTONE, COARSE GRAINED: QUARTZOSE, LIGHT GREY, MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 9

182329

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
-	10.00	100	100% DOLERITE: BADLY BROKEN, RED-GREY, HIGHLY WEATHERED, VERY WEAK ROCK.
10.00 -	26.00	100	100% DOLERITE: ARGILLACEOUS, YELLOW-BROWN, COMPLETELY WEATHERED, WEAK ROCK.
26.00 -	32.80	100	100% DOLERITE: BADLY BROKEN, GREY-BROWN, MODERATELY WEATHERED, VERY WEAK ROCK.
32.80 -	33.06	100	100% CLAY: ORANGE-YELLOW, SLIGHTLY WEATHERED, VERY WEAK ROCK.
33.06 -	33.21	100	100% CLAYSTONE: FRIABLE, GREY, UNWEATHERED, WEAK ROCK.
33.21 -	34.64	100	100% CLAYSTONE: YELLOW-BROWN, SLIGHTLY WEATHERED, WEAK ROCK.
34.64 -	35.62	100	100% CLAYSTONE: GREY-GREEN, UNWEATHERED, VERY WEAK ROCK,MODERATELY CLOSE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES.
35.62 -	36.45	100	100% CLAYSTONE: SHALY, VARIAGATED COLOUR, SLIGHTLY WEATHERED, VERY WEAK ROCK.
36.45 -	36.60	100	100% SILTSTONE: GREY, UNWEATHERED, WEAK ROCK.
36.60 -	38.10	100	100% CLAYSTONE: FRIABLE, SHALY, VARIAGATED COLOUR, UNWEATHERED, VERY WEAK ROCK.
38.10 -	38.63	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, UNWEATHERED, WEAK ROCK,MODERATELY CLOSE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES.
38.63 -	39.08	100	100% SILTSTONE: CARBONACEOUS, DARK GREY, UNWEATHERED, VERY WEAK ROCK,THIN BEDDING.
39.08 -	39.45	100	100% SILTSTONE: CARBONACEOUS, SHALY, DARK GREY, UNWEATHERED, VERY WEAK ROCK.
39.45 -	39.56	100	100% PEBBLE CONGLOMERATE: CARBONACEOUS, DARK GREY, VERY WEAK ROCK.
39.56 -	40.74	100	100% SILTSTONE: CARBONACEOUS LAMINAE, DARK GREY, WEAK ROCK,THIN BEDDING.

BOREHOLE LITHOLOGICAL LOG

182330

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
40.74 -	43.57	100	100% SILTSTONE: SHALY BANDS, GREY, WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
43.57 -	45.88	100	100% SILTSTONE: ARENACEOUS, GREY-GREEN, WEAK ROCK,WIDE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES.
45.88 -	47.00	100	100% MUDSTONE: SHALY, FRIABLE, GREY, VERY WEAK ROCK.
47.00 -	47.17	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
47.17 -	48.87	100	100% SILTSTONE: ARGILLACEOUS BANDS, GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
48.87 -	49.23	100	60% SILTSTONE: CARBONACEOUS, DARK GREY, 40% SANDSTONE, FINE GRAINED: GREY, WEAK ROCK,THIN BEDDING,WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
49.23 -	50.30	100	100% SILTSTONE: ARGILLACEOUS, GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
50.30 -	50.87	100	100% SILTSTONE: COALY STREAKS, GREY, VERY WEAK ROCK.
50.87 -	51.85	100	70% SILTSTONE: CARBONACEOUS BANDS, GREY, 30% SANDSTONE, FINE GRAINED: LIGHT GREY, WEAK ROCK.
51.85 -	56.90	100	100% CLAYSTONE: ARENACEOUS BANDS, VARIAGATED COLOUR, VERY WEAK ROCK.
56.90 -	57.11	100	100% CLAYSTONE: PEBBLY, BUFF, VERY WEAK ROCK.
57.11 -	58.20	100	100% CLAYSTONE: SHALY BANDS, YELLOW-GREY, VERY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
58.20 -	59.85	100	100% CLAYSTONE: SILTSTONE BANDS, VARIAGATED COLOUR, WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182331

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
59.85 -	60.13	100	100% SANDSTONE. COARSE GRAINED: ARGILLACEOUS. GLAUCONITIC. GREEN. WEAK ROCK.
60.13 -	67.60	100	100% CLAYSTONE: ARENACEOUS BANDS. BROWN. VERY WEAK ROCK.
67.60 -	70.60	100	100% MUDSTONE: CARBONACEOUS. BADLY BROKEN. DARK GREY. VERY WEAK ROCK.
70.60 -	71.05	100	100% MUDSTONE: CARBONACEOUS. DARK GREY. WEAK ROCK.
71.05 -	71.45	100	100% SILTSTONE: CARBONACEOUS LENSES. GREY. WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 70 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
71.45 -	71.60	100	100% SANDSTONE. FINE GRAINED: ARGILLACEOUS. BUFF. VERY WEAK ROCK.
71.60 -	71.95	100	100% MUDSTONE: CARBONACEOUS. SILTSTONE. DARK GREY. MODERATELY WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 85 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
71.95 -	72.73	100	100% SILTSTONE: CARBONACEOUS. DARK GREY. MODERATELY WEAK ROCK.
72.73 -	74.00	100	100% MUDSTONE: CARBONACEOUS. SILTSTONE. DARK GREY. MODERATELY WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 85 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
74.00 -	75.27	100	100% MUDSTONE: SILTSTONE. DARK BROWN. WEAK ROCK.
75.27 -	75.60	100	100% SILTSTONE: SHALY. GREY. WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 70 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
75.60 -	77.50	100	100% SILTSTONE: ARENACEOUS LAMINAE. LIGHT GREY. WEAK ROCK.MODERATELY THIN BEDDING.
77.50 -	78.87	100	100% SANDSTONE. FINE GRAINED: SILTSTONE LAMINAE. LIGHT GREY. MODERATELY WEAK ROCK.
78.87 -	79.60	100	100% SANDSTONE. MEDIUM GRAINED: SILTSTONE BANDS. LIGHT GREY. MODERATELY WEAK ROCK.
79.60 -	82.40	100	100% SANDSTONE. MEDIUM GRAINED: LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.WITH MUD PELLETS.

BOREHOLE LITHOLOGICAL LOG

182332

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
82.40 -	83.02	100	100% SANDSTONE, COARSE GRAINED: PEBBLY, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
83.02 -	83.47	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
83.47 -	83.56	100	100% PEBBLE CONGLOMERATE: ARENACEOUS, GREY-GREEN, MODERATELY WEAK ROCK.
83.56 -	83.65	100	100% SANDSTONE, FINE GRAINED: LITHIC, SILTSTONE, GREY, MODERATELY WEAK ROCK.
83.65 -	84.30	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
84.30 -	84.65	100	100% SANDSTONE, FINE GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
84.65 -	85.00	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
85.00 -	85.47	100	100% SANDSTONE, COARSE GRAINED: PEBBLY, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
85.47 -	86.54	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
86.54 -	87.00	100	100% SILTSTONE: ARENACEOUS LAMINAE, GREY, MODERATELY WEAK ROCK.
87.00 -	87.25	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, WEAK ROCK.
87.25 -	87.51	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, WEAK ROCK.
87.51 -	87.72	100	100% CARBONACEOUS SHALE: DARK GREY, VERY WEAK ROCK.
87.72 -	88.65	100	100% SILTSTONE: CARBONACEOUS, GREY-BROWN, MODERATELY WEAK ROCK.
88.65 -	88.80	100	100% SHALE: DARK BROWN, WEAK ROCK.
88.80 -	89.38	100	100% MUDSTONE: SILTSTONE, GREY-BROWN, WEAK ROCK.
89.38 -	89.58	100	100% MUDSTONE: SHALY, BROWN, WEAK ROCK.
89.58 -	89.89	100	100% SHALE: GREY, VERY WEAK ROCK.
89.89 -	90.75	100	100% SILTSTONE: ARENACEOUS LAMINAE, GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182333

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
90.75 -	92.73	100	100% SILTSTONE: CARBONACEOUS LENSES. GREY. WEAK ROCK.VERY WIDE JOINT SPACING. JOINTS DIP 85 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES .INFILLED WITH CALCITE.
92.23 -	92.71	100	100% MUDSTONE: SILTSTONE. CARBONACEOUS. GREY. WEAK ROCK.
92.71 -	94.22	100	80% MUDSTONE: CARBONACEOUS. SILTSTONE. DARK BROWN. 20% SILTSTONE: GREY. WEAK ROCK.
94.22 -	94.25	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.
94.25 -	94.35	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
94.35 -	95.28	100	100% SILTSTONE: ARENACEOUS BANDS. GREY. MODERATELY WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 70 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
95.28 -	96.02	100	100% SANDSTONE. FINE GRAINED: SILTSTONE BANDS. LIGHT GREY. MODERATELY WEAK ROCK.MODERATELY THIN BEDDING.WITH TROUGH CROSS BEDDING.
96.02 -	98.60	100	100% SANDSTONE. MEDIUM GRAINED: LITHIC. LIGHT GREY. MODERATELY STRONG ROCK.
98.60 -	98.66	100	100% COAL. HEAVY DULL: BRIGHT COAL LENSES.
98.66 -	98.75	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. WEAK ROCK.
98.75 -	99.23	100	100% MUDSTONE: CARBONACEOUS. SILTSTONE. BROWN. WEAK ROCK.THIN BEDDING.WITH CROSS LAMINATION.
99.23 -	99.58	100	100% SILTSTONE: CARBONACEOUS. GREY-BROWN. MODERATELY WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
99.58 -	101.89	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.THIN BEDDING.WITH CROSS LAMINATION.

BOREHOLE LITHOLOGICAL LOG

182334

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
101.89	102.23	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY STRONG ROCK.
102.23	102.40	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY STRONG ROCK.WITH MUD PELLETS.
102.40	102.61	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY STRONG ROCK.
102.61	104.73	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY STRONG ROCK.
104.73	105.07	100	100% PEBBLE CONGLOMERATE: LIGHT GREY, MODERATELY WEAK ROCK.
105.07	105.44	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY STRONG ROCK.
105.44	106.36	100	100% PEBBLE CONGLOMERATE: LIGHT GREY, MODERATELY WEAK ROCK.
106.36	106.49	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
106.49	106.67	100	100% PEBBLE CONGLOMERATE: LIGHT GREY, MODERATELY WEAK ROCK.
106.67	107.90	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
107.90	108.04	100	100% PEBBLE CONGLOMERATE: LIGHT GREY, MODERATELY WEAK ROCK.
108.04	108.76	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
108.76	109.20	100	100% PEBBLE CONGLOMERATE: LIGHT GREY, MODERATELY WEAK ROCK.
109.20	109.37	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
109.37	109.89	100	100% PEBBLE CONGLOMERATE: LIGHT GREY, MODERATELY WEAK ROCK.
109.89	110.16	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182335

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
110.16	110.61	100	100% PEBBLE CONGLOMERATE: LIGHT GREY, MODERATELY WEAK ROCK.
110.61	110.84	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
110.84	110.89	100	100% SANDSTONE, MEDIUM GRAINED: PEBBLY, LIGHT GREY, MODERATELY WEAK ROCK.
110.89	110.91	100	100% COAL, DULL: BADLY BROKEN.
110.91	113.77	100	100% SANDSTONE, MEDIUM GRAINED: PEBBLY, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION.
113.77	114.43	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
114.43	116.44	100	100% SANDSTONE, MEDIUM GRAINED: PEBBLY, COALY, LIGHT GREY, MODERATELY WEAK ROCK.
116.44	117.50	100	100% SILTSTONE: ARENACEOUS BANDS, GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION.
117.50	118.20	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, GREY, WEAK ROCK.
118.20	119.68	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, GREY, MODERATELY WEAK ROCK.
119.68	119.86	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, GREY, MODERATELY WEAK ROCK.
119.86	120.71	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
120.71	121.08	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, GREY, MODERATELY WEAK ROCK.
121.08	121.33	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, GREY, MODERATELY WEAK ROCK.
121.33	123.17	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182336

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
123.17	123.43	100	100% CLAYSTONE: LIGHT GREY, VERY WEAK ROCK.
123.43	123.87	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
123.87	124.46	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
124.46	125.24	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS BANDS, LIGHT GREY, WEAK ROCK.
125.24	126.22	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
126.22	128.47	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
128.47	130.22	100	100% SILTSTONE: ARENACEOUS LAMINAE, GREY, WEAK ROCK,WITH CROSS LAMINATION.
130.22	130.94	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
130.94	131.18	100	100% SILTSTONE: GREY, WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
131.18	131.44	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, WEAK ROCK.
131.44	131.80	100	100% SILTSTONE: CARBONACEOUS LENSES, GREY, WEAK ROCK.
131.80	132.17	100	100% SILTSTONE: CARBONACEOUS STREAKS, GREY, WEAK ROCK.
132.17	132.33	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, WEAK ROCK.
132.33	133.15	100	100% SILTSTONE: CARBONACEOUS LENSES, GREY, WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
133.15	133.25	100	100% MUDSTONE: CARBONACEOUS, SHALY, DARK GREY, VERY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182337

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
133.25	140.20	100	100% SILTSTONE: ARGILLACEOUS, GREY, WEAK ROCK.WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR.ROUGH DISCONTINUITIES.
140.20	141.00	100	100% SILTSTONE: CARBONACEOUS STREAKS, GREY, WEAK ROCK.
141.00	141.43	100	100% SANDSTONE, MEDIUM GRAINED: PEBBLY, LITHIC, GREY, MODERATELY WEAK ROCK.
141.43	148.42	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
148.42	150.80	100	100% SANDSTONE, MEDIUM GRAINED: COALY STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
150.80	151.81	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, WEAK ROCK.
*	151.83	100	100% COAL, BRIGHT:.
*	152.05	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
*	152.16	100	100% SANDSTONE, FINE GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
*	153.78	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
*	154.42	100	100% SANDSTONE, MEDIUM GRAINED: COALY STREAKS, LIGHT GREY, WEAK ROCK.
*	154.44	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS: BADLY BROKEN.
*	154.47	100	100% MUDSTONE: CARBONACEOUS, BLACK, VERY WEAK ROCK.
*	154.49	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
*	154.68	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
*	154.72	100	100% COAL, DULL:.
*	154.77	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 9

182338

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
* -	156.23	100	100% SILTSTONE: GREY. WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
* -	156.48	100	100% SILTSTONE: CARBONACEOUS. DARK GREY. WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
* -	156.92	100	100% SILTSTONE: GREY. WEAK ROCK.
* -	158.03	100	100% SILTSTONE: CARBONACEOUS. DARK GREY. WEAK ROCK.
* -	158.25	100	85% SILTSTONE: CARBONACEOUS. GREY. 15% SANDSTONE. FINE GRAINED: LIGHT GREY. WEAK ROCK.
* -	158.46	100	80% SANDSTONE: MED.TO FINE GRAINED. LIGHT GREY. 20% SILTSTONE: CARBONACEOUS BANDS. GREY. WEAK ROCK.
* -	159.21	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS STREAKS. LIGHT GREY. WEAK ROCK.
* -	159.59	100	100% CLAYSTONE: FISSILE. BUFF. VERY WEAK ROCK.
* -	159.70	100	100% SILTSTONE: ARGILLACEOUS. BUFF. WEAK ROCK.
* -	159.89	100	100% SILTSTONE: LIGHT BROWN. VERY WEAK ROCK.
* -	160.35	100	100% SILTSTONE: CARBONACEOUS STREAKS. GREY. WEAK ROCK.
* -	161.03	100	100% SANDSTONE. FINE GRAINED: SILTSTONE LENSES. GREY. WEAK ROCK.
* -	161.21	100	100% SILTSTONE: CARBONACEOUS LENSES. GREY. WEAK ROCK.
* -	162.32	100	100% SANDSTONE. MEDIUM GRAINED: COALY LENSES. LIGHT GREY. MODERATELY WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 85 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
* -	162.38	100	100% CLAYSTONE: FISSILE. FRAGMENTED. BUFF. VERY WEAK ROCK.
* -	162.44	100	100% MUDSTONE: CARBONACEOUS. SHALY. BLACK. VERY WEAK ROCK.
* -	162.51	100	100% CLAY: BUFF. VERY SOFT.

BOREHOLE LITHOLOGICAL LOG

182339

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
*	- 162.57	100	100% MUDSTONE: CARBONACEOUS, BLACK, SOFT.
*	- 163.48	100	100% SILTSTONE: GREY, WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
*	- 165.51	100	100% SANDSTONE, FINE GRAINED: LITHIC, MICACEOUS, LIGHT GREY, MODERATELY WEAK ROCK.
*	- 165.78	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
*	- 166.06	100	100% CLAYSTONE: FISSILE, MICACEOUS, BUFF, VERY WEAK ROCK.
*	- 166.48	100	100% SILTSTONE: CARBONACEOUS, GREY, WEAK ROCK.
*	- 167.05	100	100% CLAYSTONE: FISSILE, PEBBLY, LIGHT BROWN, VERY WEAK ROCK.
167.05	- 171.82	100	100% SILTSTONE: LAMINAE, GREY, MODERATELY WEAK ROCK,THIN BEDDING,VERY WIDE JOINT SPACING, JOINTS DIP 90 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
171.82	- 172.02	100	100% CLAYSTONE: FISSILE, MICACEOUS, BUFF, VERY WEAK ROCK.
172.02	- 172.07	100	100% COAL, HEAVY DULL:.
172.07	- 172.13	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
172.13	- 172.17	100	100% COAL, HEAVY DULL:.
172.17	- 172.23	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.
172.23	- 172.46	100	100% MUDSTONE: CARBONACEOUS, ARENACEOUS, DARK GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
172.46	- 172.74	100	100% CLAYSTONE: FISSILE, MICACEOUS, BUFF, VERY WEAK ROCK.
172.74	- 172.79	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, WEAK ROCK.
172.79	- 172.82	100	100% COAL, INTERBANDED DULL AND BRIGHT:.

BOREHOLE LITHOLOGICAL LOG

182340

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
172.82	172.98	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
172.98	173.00	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
173.00	173.04	100	100% SILTSTONE: COALY LENSES, GREY, WEAK ROCK.
173.04	176.87	100	100% SILTSTONE: GREY, WEAK ROCK,WITH CROSS LAMINATION.
176.87	178.94	100	100% SILTSTONE: ARENACEOUS BANDS, GREY, MODERATELY WEAK ROCK.
178.94	181.00	100	100% SILTSTONE: GREY, WEAK ROCK,THIN BEDDING,WITH CROSS LAMINATION.
181.00	181.24	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY. WEAK ROCK.
181.24	181.61	100	100% SILTSTONE: ARENACEOUS BANDS, LIGHT GREY, WEAK ROCK.
181.61	182.31	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS LENSES. LIGHT GREY, WEAK ROCK.
182.31	182.44	100	100% CLAYSTONE: FISSILE, BUFF, VERY WEAK ROCK.
182.44	183.16	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY. MODERATELY WEAK ROCK.
183.16	183.23	100	100% SANDSTONE, FINE GRAINED: COALY LENSES, BROWN, MODERATELY WEAK ROCK.
183.23	183.60	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
183.60	184.13	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LENSES. LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING.
184.13	184.32	100	100% SANDSTONE, MEDIUM GRAINED: SILTSTONE BANDS. LIGHT GREY, MODERATELY WEAK ROCK.
184.32	184.33	100	100% COAL, BRIGHT:.

BOREHOLE LITHOLOGICAL LOG

182341

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
184.33	- 184.54	100	100% SANDSTONE, FINE GRAINED: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
184.54	- 184.82	100	100% SANDSTONE, MEDIUM GRAINED: PEBBLY, LIGHT GREY, MODERATELY WEAK ROCK.
184.82	- 184.90	100	100% SILTSTONE: LIGHT GREY, MODERATELY WEAK ROCK.
184.90	- 185.15	100	100% SANDSTONE, FINE GRAINED: SILTSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK.
185.15	- 185.95	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
185.95	- 186.04	100	100% COAL, HEAVY DULL:.
186.04	- 186.05	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
186.05	- 186.33	100	100% CLAYSTONE: FISSILE, BUFF, VERY WEAK ROCK.
SAMPLE:1			*** CORE DESCRIPTION ***
186.33			
	0.13	100	100% MUDSTONE: CARBONACEOUS, BLACK.
	0.01	100	100% CLAYSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.
	0.03	100	100% MUDSTONE: CARBONACEOUS, BLACK.
	0.11	100	100% MUDSTONE: CARBONACEOUS, BLACK.
	0.31	100	100% CLAYSTONE: FISSILE, LIGHT GREEN, VERY WEAK ROCK.
	0.17	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
	0.10	100	100% CLAYSTONE: FISSILE, LIGHT GREEN, VERY WEAK ROCK.
187.19	0.86		TOTAL
SAMPLE:2			*** CORE DESCRIPTION ***
187.19			

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 9

182342

TOP	BASE	%REC	LITHOLOGY
SAMPLE:2			*** CORE DESCRIPTION ***
	0.14	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
	0.08	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
	0.08	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
	0.01	100	100% MUDSTONE: SILTSTONE, LIGHT BROWN, MODERATELY WEAK ROCK.
	0.05	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
	0.05	100	70% MUDSTONE: CARBONACEOUS, BROWN - BLACK, 30% COAL, BRIGHT:, MODERATELY STRONG ROCK,LAMINATED.
	0.08	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.02	100	100% COAL, HEAVY DULL: BRIGHT COAL BANDS.
	0.18	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
	0.10	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY STRONG ROCK.
87.98	0.79		TOTAL
SAMPLE:3			*** CORE DESCRIPTION ***
87.98			
	0.01	100	100% COAL, BRIGHT:.
	0.29	100	100% MUDSTONE: CARBONACEOUS, BLACK, VERY WEAK ROCK.
	0.07	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
	0.07	100	100% MUDSTONE: SILTSTONE, FISSILE, LIGHT BROWN.

BOREHOLE LITHOLOGICAL LOG

182343

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
SAMPLE:3			*** CORE DESCRIPTION ***
	0.17	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY STRONG ROCK.
	0.38	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
	0.10	100	100% CLAYSTONE: LIGHT BROWN, FIRM.
189.07	1.09		TOTAL
SAMPLE:4			*** CORE DESCRIPTION ***
189.07			
	0.36	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
	0.10	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
	0.03	100	100% CLAYSTONE: FISSILE, LIGHT GREEN, VERY WEAK ROCK.
	0.21	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
	0.02	100	100% CLAYSTONE: FISSILE, LIGHT GREEN, VERY WEAK ROCK.
	0.11	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
	0.04	100	100% CLAYSTONE: FISSILE, LIGHT GREEN, VERY WEAK ROCK.
	0.06	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
	0.07	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
	0.08	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
190.15	1.08		TOTAL

BOREHOLE LITHOLOGICAL LOG

182344

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
SAMPLE:5			*** CORE DESCRIPTION ***
90.15			
	0.05	100	100% CLAYSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.
	0.03	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
	0.06	100	100% MUDSTONE: CARBONACEOUS, GREY-BROWN, MODERATELY WEAK ROCK.
90.29	0.14		TOTAL
			*** CORE DESCRIPTION ***
190.29 - 190.75		100	100% MUDSTONE: SHALY, GREY-BROWN, VERY WEAK ROCK.
90.75 - 190.85		100	100% MUDSTONE: CARBONACEOUS BANDS, BROWN, VERY WEAK ROCK.
90.85 - 191.15		100	100% SILTSTONE: LIGHT GREY, WEAK ROCK.
191.15 - 191.18		100	100% CLAYSTONE: FISSILE, BUFF, VERY WEAK ROCK.
91.18 - 192.10		100	100% SILTSTONE: LIGHT GREY, WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
92.10 - 192.50		100	100% SANDSTONE, FINE GRAINED: SILTSTONE, LIGHT GREY, MODERATELY WEAK ROCK, AND CROSS LAMINATION.
92.50 - 192.90		100	100% SILTSTONE: GREY, WEAK ROCK.
192.90 - 193.15		100	100% MUDSTONE: COALY STREAKS, GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 20 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
193.15 - 194.51		100	100% SILTSTONE: CARBONACEOUS STREAKS, GREY, WEAK ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
94.51 - 194.94		100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LAMINAE. LIGHT GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182345

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
194.94	199.68	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.VERY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
199.68	200.00	100	100% SILTSTONE: CARBONACEOUS LAMINAE, GREY, WEAK ROCK.
200.00	200.60	100	100% MUDSTONE: CARBONACEOUS LAMINAE, GREY, WEAK ROCK.
200.60	200.81	100	100% MUDSTONE: CARBONACEOUS BANDS, DARK GREY, WEAK ROCK.
200.81	201.34	100	100% MUDSTONE: CARBONACEOUS LAMINAE, GREY, WEAK ROCK.
201.34	202.14	100	60% SILTSTONE: BANDS, GREY. 40% SANDSTONE, FINE GRAINED: SILTSTONE LAMINAE, LIGHT GREY, WEAK ROCK.WIDE JOINT SPACING, JOINTS DIP 25 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
202.14	202.37	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
202.37	202.85	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK.
202.85	203.85	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
203.85	204.58	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK.
204.58	205.77	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
205.77	205.89	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
205.89	207.48	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
207.48	208.58	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK.

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BOREHOLE LITHOLOGICAL LOG

182346

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
208.58	209.00	100	100% SANDSTONE, MEDIUM GRAINED: PEBBLY, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
209.00	210.74	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
210.74	210.96	100	100% SANDSTONE, MEDIUM GRAINED: COALY STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
210.96	211.00	100	100% SANDSTONE, MEDIUM GRAINED: PEBBLY, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
211.00	211.96	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
211.96	212.82	100	100% SILTSTONE: CARBONACEOUS, DARK GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
212.82	213.05	100	100% SILTSTONE: ARENACEOUS, GREY, MODERATELY WEAK ROCK.
213.05	213.21	100	100% SILTSTONE: GREY, WEAK ROCK.
213.21	213.23	100	100% CLAYSTONE: FISSILE, BUFF, VERY WEAK ROCK.
213.23	213.48	100	100% MUDSTONE: CARBONACEOUS, BLACK, WEAK ROCK.
213.48	213.90	100	100% MUDSTONE: CARBONACEOUS, BROWN, VERY WEAK ROCK.
213.90	213.93	100	100% CLAYSTONE: BROWN, VERY WEAK ROCK.
213.93	214.09	100	100% MUDSTONE: CARBONACEOUS, BROWN, VERY WEAK ROCK.
214.09	214.32	100	100% CLAYSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.
214.32	214.37	100	100% CARBONACEOUS SHALE: DARK GREY, VERY WEAK ROCK.
214.37	214.39	100	100% CLAYSTONE: BUFF, VERY WEAK ROCK.
214.39	214.51	100	100% MUDSTONE: CARBONACEOUS, BLACK, WEAK ROCK.
214.51	214.68	100	100% MUDSTONE: LIGHT BROWN, VERY WEAK ROCK.
214.68	214.76	100	100% MUDSTONE: CARBONACEOUS, BLACK, WEAK ROCK.
214.76	214.86	100	100% MUDSTONE: BROWN, WEAK ROCK.
214.86	214.96	100	100% CLAYSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182347

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
214.96	215.11	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.
215.11	215.44	100	100% MUDSTONE: DARK BROWN, WEAK ROCK.
215.44	215.51	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.
215.51	215.80	100	100% CLAYSTONE: FISSILE, BUFF, SOFT.
215.80	216.00	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
216.00	216.05	100	100% MUDSTONE: ARENACEOUS, CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
216.05	216.09	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
216.09	216.14	100	100% MUDSTONE: ARENACEOUS, BROWN, WEAK ROCK, .SLOW SLAKING.
216.14	216.37	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
216.37	216.53	100	100% MUDSTONE: LIGHT BROWN, WEAK ROCK.
216.53	216.65	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
216.65	216.67	100	100% MUDSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.
216.67	216.69	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
216.69	216.71	100	100% MUDSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.
216.71	217.05	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
217.05	217.12	100	100% CARBONACEOUS SHALE:.
217.12	217.17	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.
217.17	217.18	100	100% MUDSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.
217.18	217.21	100	100% CLAYSTONE: CARBONACEOUS, BLACK, FIRM.
217.21	217.29	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182348

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
217.29	217.32	100	100% MUDSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.
217.32	217.35	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
217.35	217.38	100	100% MUDSTONE: LIGHT BROWN, WEAK ROCK.
217.38	217.63	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
217.63	217.65	100	100% MUDSTONE: LIGHT BROWN, WEAK ROCK.
217.65	217.77	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
217.77	217.87	100	100% MUDSTONE: CARBONACEOUS, GREY-BROWN, MODERATELY WEAK ROCK.
217.87	217.97	100	100% MUDSTONE: CARBONACEOUS BANDS, BROWN, MODERATELY WEAK ROCK.
217.97	218.17	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
218.17	218.22	100	100% MUDSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.
218.22	218.23	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
218.23	218.24	100	100% MUDSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.
218.24	218.27	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
218.27	218.28	100	100% MUDSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.
218.28	218.40	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
218.40	218.45	100	100% COAL, HEAVY DULL:.
218.45	218.53	100	100% MUDSTONE: CARBONACEOUS, GREY-BROWN, MODERATELY WEAK ROCK.
218.53	218.56	100	100% CARBONACEOUS SHALE:.
218.56	218.63	100	100% COAL, HEAVY DULL: BRIGHT COAL BANDS.
218.63	218.72	100	100% MUDSTONE: CARBONACEOUS BANDS, LIGHT BROWN, WEAK ROCK.
218.72	218.80	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.

BOREHOLE LITHOLOGICAL LOG

182349

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
218.80	219.09	100	100% SILTSTONE: CARBONACEOUS STREAKS, GREY, WEAK ROCK.
219.09	219.19	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, WEAK ROCK.
219.19	219.26	100	100% SILTSTONE: CARBONACEOUS STREAKS, GREY, WEAK ROCK.
219.26	219.29	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, WEAK ROCK.
219.29	219.60	100	100% MUDSTONE: CARBONACEOUS STREAKS, GREY, WEAK ROCK.
219.60	219.69	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, WEAK ROCK.
219.69	219.78	100	100% MUDSTONE: BADLY BROKEN, GREY, WEAK ROCK.
219.78	219.91	100	100% MUDSTONE: CARBONACEOUS, BLACK, WEAK ROCK.
219.91	219.96	100	100% MUDSTONE: BADLY BROKEN, GREY.
219.96	221.00	0	CORE LOSS.
221.00	221.64	100	100% SANDSTONE, FINE GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
221.64	222.80	100	100% SANDSTONE, FINE GRAINED: SILTSTONE, LIGHT GREY, MODERATELY WEAK ROCK.THIN BEDDING.
222.80	223.08	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
223.08	223.60	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, WEAK ROCK.
223.60	223.73	100	100% SANDSTONE, FINE GRAINED: SILTSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK.
223.73	224.57	100	100% SANDSTONE: LITHIC, MED.TO FINE GRAINED, LIGHT GREY, WEAK ROCK.
224.57	226.61	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
226.61	227.80	100	100% SANDSTONE, MEDIUM GRAINED: COALY STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
227.80	229.13	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182350

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
229.13	229.27	100	100% SANDSTONE. MEDIUM GRAINED: COALY LENSES. LIGHT GREY. WEAK ROCK.
229.27	229.65	100	100% SANDSTONE. MEDIUM GRAINED: LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.
229.65	229.78	100	100% SILTSTONE: CARBONACEOUS LENSES. GREY. MODERATELY WEAK ROCK.
229.78	230.00	0	CORE LOSS.
230.00	230.31	100	100% SANDSTONE. MEDIUM GRAINED: ARGILLACEOUS LENSES. GREY. VERY WEAK ROCK.
230.31	230.38	100	100% CLAY: LIGHT BROWN. SOFT.
230.38	232.40	100	100% SANDSTONE. MEDIUM GRAINED: LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.
232.40	232.60	100	100% SANDSTONE. MEDIUM GRAINED: PEBBLY. LIGHT GREY. MODERATELY WEAK ROCK.
232.60	232.74	100	100% SANDSTONE. MEDIUM GRAINED: LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.
232.74	233.20	100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS LENSES. LIGHT GREY. MODERATELY WEAK ROCK.
233.20	234.10	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS STREAKS. LIGHT GREY. MODERATELY WEAK ROCK.WITH MUD PELLETS.
234.10	235.56	100	100% SANDSTONE: MED.TO FINE GRAINED. LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.
235.56	237.00	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS STREAKS. LIGHT GREY. MODERATELY WEAK ROCK.
237.00	242.00	100	100% SANDSTONE. MEDIUM GRAINED: LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.
242.00	244.26	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS STREAKS. LIGHT GREY. MODERATELY WEAK ROCK.
244.26	244.40	100	100% MUDSTONE: CARBONACEOUS. SILTSTONE. DARK GREY. WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182351

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
244.40	244.46	100	100% SANDSTONE, MEDIUM GRAINED: PEBBLY, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
244.46	244.56	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, GREY, MODERATELY WEAK ROCK.
244.56	244.66	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
244.66	245.31	100	100% PEBBLE CONGLOMERATE: ARENACEOUS, GREY, MODERATELY WEAK ROCK.
245.31	245.52	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
245.52	245.62	100	100% SILTSTONE: GREY, WEAK ROCK.
245.62	246.61	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
246.61	247.17	100	100% COAL, HEAVY DULL:.
247.17	247.27	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, VERY WEAK ROCK.
247.27	247.95	100	100% SILTSTONE: GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
247.95	248.17	100	100% MUDSTONE: CARBONACEOUS, GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
248.17	252.30	100	100% SILTSTONE: GREY, WEAK ROCK,THIN BEDDING,WITH CROSS LAMINATION,MODERATELY WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
252.30	252.33	100	100% CARBONACEOUS SHALE: BLACK, VERY WEAK ROCK.
252.33	252.38	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LENSES, LIGHT GREY, WEAK ROCK.
252.38	252.44	100	100% MUDSTONE: CARBONACEOUS, SHALY, DARK GREY, VERY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182352

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
252.44	252.63	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
252.63	252.70	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS, GREY, VERY WEAK ROCK.
252.70	252.83	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LENSES, LIGHT GREY, WEAK ROCK.
252.83	252.96	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS LENSES, LIGHT GREY, WEAK ROCK.
252.96	253.14	100	100% SILTSTONE: CARBONACEOUS LENSES, GREY, WEAK ROCK.
253.14	253.46	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS BANDS, LIGHT GREY, MODERATELY WEAK ROCK.
253.46	253.60	100	100% SANDSTONE, MEDIUM GRAINED: PEBBLY, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
253.60	253.80	0	CORE LOSS.
253.80	255.01	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
255.01	255.31	100	100% SANDSTONE, FINE GRAINED: SILTSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK.
255.31	256.19	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
256.19	256.21	100	100% MUDSTONE: CARBONACEOUS, BLACK, VERY WEAK ROCK.
256.21	256.81	100	100% SANDSTONE, FINE GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
256.81	257.02	100	100% SILTSTONE: ARENACEOUS BANDS, GREY, WEAK ROCK.
257.02	257.51	100	100% SANDSTONE, FINE GRAINED: SILTSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING.
257.51	257.86	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
257.86	258.02	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,THIN BEDDING.

BOREHOLE LITHOLOGICAL LOG

182353

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
258.02	- 258.78	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
258.78	- 260.60	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
260.60	- 261.23	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
261.23	- 261.46	100	100% SILTSTONE: CARBONACEOUS LENSES, GREY, WEAK ROCK.THIN BEDDING.
261.46	- 262.11	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LAMINAE, LIGHT GREY, WEAK ROCK.
262.11	- 265.28	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
265.28	- 265.31	100	100% SILTSTONE: COALY LENSES, LIGHT GREY, WEAK ROCK.
265.31	- 265.34	100	100% MUDSTONE: CARBONACEOUS, BLACK, VERY WEAK ROCK.
265.34	- 265.41	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.
265.41	- 265.80	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS LENSES, LIGHT GREY, WEAK ROCK,WITH MUD PELLETS.
265.80	- 266.90	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
266.90	- 267.00	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS BANDS, LIGHT GREY, WEAK ROCK.
267.00	- 268.02	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
SAMPLE:6			*** CORE DESCRIPTION ***
268.02			
	0.01	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
	0.03	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.28	100	100% COAL, HEAVY DULL:.
	0.04	100	100% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182354

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
SAMPLE:6			*** CORE DESCRIPTION ***
	0.34	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
	0.42	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
	0.01	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.26	100	100% COAL, DULL:.
269.41	1.39		TOTAL
SAMPLE:7			*** CORE DESCRIPTION ***
269.41			
	0.22	100	100% MUDSTONE: SHALY, DARK BROWN, MODERATELY WEAK ROCK.
	0.05	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
269.68	0.27		TOTAL
			*** CORE DESCRIPTION ***
269.68 - 269.79		100	100% MUDSTONE: CARBONACEOUS, DARK GREY, WEAK ROCK.
269.79 - 269.82		100	100% MUDSTONE: CARBONACEOUS, BLACK, WEAK ROCK.
269.82 - 269.87		100	100% MUDSTONE: CARBONACEOUS LAMINAE, GREY, WEAK ROCK.
269.87 - 270.80		100	100% MUDSTONE: SHALY, GREY-BROWN, VERY WEAK ROCK.MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
270.80 - 270.89		100	100% SANDSTONE, FINE GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
270.89 - 271.21		100	100% SILTSTONE: GREY-GREEN, WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
271.21 - 272.00		100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182355

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
272.00	272.40	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS STREAKS. LIGHT GREY. MODERATELY WEAK ROCK.
272.40	274.48	100	100% SANDSTONE. FINE GRAINED: LITHIC. LIGHT GREY. WEAK ROCK.
274.48	275.88	100	100% SANDSTONE: MED.TO FINE GRAINED. LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.
275.88	276.29	100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS LENSES. LIGHT GREY. MODERATELY WEAK ROCK.
276.29	277.57	100	100% SANDSTONE. FINE GRAINED: LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.
77.57	278.04	100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS STREAKS. LIGHT GREY. MODERATELY WEAK ROCK.
78.04	281.42	100	100% SANDSTONE: MED.TO FINE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.
81.42	281.92	100	100% SILTSTONE: CARBONACEOUS. ARENACEOUS. DARK GREY. WEAK ROCK.
81.92	281.95	100	100% MUDSTONE: CARBONACEOUS. BLACK. WEAK ROCK.
282.95	282.16	100	100% MUDSTONE: CARBONACEOUS. BLACK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 30 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
282.16	282.22	100	100% SILTSTONE: GREY. WEAK ROCK.
82.22	282.25	100	100% CARBONACEOUS SHALE: BLACK. VERY WEAK ROCK.
282.25	282.93	100	100% MUDSTONE: CARBONACEOUS LAMINAE. GREY. WEAK ROCK.
282.93	283.38	100	100% SILTSTONE: GREY. WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 30 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
SAMPLE:8			*** CORE DESCRIPTION ***
283.38			
	0.12	100	100% MUDSTONE: BADLY BROKEN. GREY.
	0.17	0	CORE LOSS.

BOREHOLE LITHOLOGICAL LOG

182356

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
SAMPLE:8			*** CORE DESCRIPTION ***
	0.08	100	100% COAL, HEAVY DULL:.
	0.03	100	100% COAL, HEAVY DULL:.
	0.06	100	100% COAL, HEAVY DULL:.WITH MUD PELLETS.
	0.03	100	100% COAL, HEAVY DULL: BADLY BROKEN.
	0.01	100	100% MUDSTONE: CARBONACEOUS, BLACK.
	0.35	100	100% COAL, HEAVY DULL:.
	0.02	100	100% COAL, HEAVY DULL: BRIGHT COAL BANDS.
	0.18	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
	0.08	100	100% COAL, HEAVY DULL:.
284.51	1.13		TOTAL
			*** CORE DESCRIPTION ***
284.51 - 285.39		100	100% CLAYSTONE: CARBONACEOUS STREAKS, GREY-GREEN, VERY WEAK ROCK.
285.39 - 285.73		100	100% SILTSTONE: GREY, WEAK ROCK.
285.73 - 286.80		100	100% SANDSTONE, FINE GRAINED: FRIABLE BANDS, LIGHT GREY, WITH MICA, VERY WEAK ROCK.
286.80 - 287.45		100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
287.45 - 287.76		100	100% SANDSTONE: COALY STREAKS, LIGHT GREY, WEAK ROCK.
287.76 - 288.65		100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, WITH MICA, WEAK ROCK.
288.65 - 291.83		100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
291.83 - 293.60		100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
293.60 - 295.30		100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
295.30 - 297.79		100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182357

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
297.70	298.68	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
298.68	299.62	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
299.62	300.77	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
300.77	301.10	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
301.10	301.16	100	100% SANDSTONE, FINE GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
301.16	305.54	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
305.54	306.08	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
306.08	308.10	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
308.10	308.33	100	100% SILTSTONE: GREY, WEAK ROCK.
308.33	308.34	100	100% COAL, DULL WITH FEW BRIGHT BANDS: WITH PYRITE.
308.34	309.17	100	100% SILTSTONE: CARBONACEOUS STREAKS, GREY, WEAK ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
309.17	309.81	100	100% SILTSTONE: ARENACEOUS BANDS, GREY, WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
309.81	310.78	100	100% SILTSTONE: CARBONACEOUS STREAKS, GREY, WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
310.78	310.80	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
310.80	311.00	100	100% SILTSTONE: CARBONACEOUS LENSES, GREY, WEAK ROCK.
311.00	311.31	100	100% SANDSTONE, FINE GRAINED: SILTSTONE BANDS, GREY, WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182358

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
311.31	311.96	100	100% SILTSTONE: ARENACEOUS BANDS, GREY, WEAK ROCK.
311.96	313.03	100	100% SANDSTONE, FINE GRAINED: LITHIC, MICACEOUS, GREY, WEAK ROCK.
313.03	313.67	100	100% SANDSTONE, FINE GRAINED: QUARTZOSE, LIGHT GREY, WITH CALCITE, MODERATELY WEAK ROCK.
313.67	316.02	100	100% SANDSTONE, FINE GRAINED: MICACEOUS, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
316.02	316.29	100	100% SANDSTONE: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
316.29	317.03	60	100% SILTSTONE: CARBONACEOUS LENSES, GREY, WEAK ROCK.
317.03	319.40	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
319.40	319.84	100	100% SANDSTONE, MEDIUM GRAINED: MICACEOUS, CALCAREOUS, LIGHT GREY, MODERATELY WEAK ROCK.
319.84	319.88	100	100% SANDSTONE, FINE GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
319.88	320.75	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
320.75	321.12	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
321.12	324.60	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
324.60	326.00	100	100% SANDSTONE, MEDIUM GRAINED: FRIABLE BANDS, LIGHT GREY, WEAK ROCK.
326.00	326.53	100	100% SILTSTONE: GREY, WEAK ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
326.53	326.55	100	100% CARBONACEOUS SHALE: BLACK, VERY WEAK ROCK.
326.55	327.32	100	100% SILTSTONE: GREY, WEAK ROCK.
327.32	327.40	100	100% MUDSTONE: GREY, VERY WEAK ROCK.
327.40	327.45	100	100% MUDSTONE: CARBONACEOUS, BLACK, WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182359

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
327.45	327.46	100	100% COAL, HEAVY DULL:.
327.46	327.54	100	100% MUDSTONE: CARBONACEOUS, BLACK, WEAK ROCK.
327.54	327.90	25	100% MUDSTONE: CARBONACEOUS, BADLY BROKEN, BLACK.
327.90	327.92	100	100% MUDSTONE: CARBONACEOUS, BLACK, WEAK ROCK.
327.92	327.94	100	100% COAL, INTERBANDED DULL AND BRIGHT:.
327.94	328.04	100	100% MUDSTONE: CARBONACEOUS, BLACK.
328.04	328.24	100	100% CARBONACEOUS SHALE: BRIGHT COAL LENSES, BLACK. VERY WEAK ROCK.
328.24	328.25	100	100% COAL, BRIGHT WITH FEW DULL BANDS:.
328.25	328.26	100	100% CARBONACEOUS SHALE: COALY, BLACK, VERY WEAK ROCK.
328.26	329.21	100	100% SILTSTONE: ARGILLACEOUS BANDS, GREY, WEAK ROCK.
329.21	329.31	100	100% SANDSTONE: SILTSTONE, PEBBLY, GREY, WEAK ROCK.
329.31	331.39	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
331.39	332.34	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
332.34	332.62	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LAMINAE, LIGHT GREY, WITH MICA, WEAK ROCK.
332.62	333.53	100	100% SILTSTONE: GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
333.53	333.68	100	100% SHALE: CARBONACEOUS BANDS, GREY, WEAK ROCK.
333.68	333.74	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, WEAK ROCK.
333.74	333.85	100	100% SILTSTONE: BADLY BROKEN, GREY.
333.85	335.00	100	100% SANDSTONE, FINE GRAINED: SILTSTONE, LIGHT GREY, WEAK ROCK.
335.00	336.26	100	100% SILTSTONE: GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182360

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
SAMPLE:9			*** CORE DESCRIPTION ***
336.26			
	0.11	0	CORE LOSS.
	0.16	100	100% MUDSTONE: CARBONACEOUS. BADLY BROKEN. BLACK. MODERATELY WEAK ROCK.
	0.02	100	100% MUDSTONE: SILTSTONE. GREY-BROWN. MODERATELY WEAK ROCK.
	0.01	100	100% COAL. HEAVY DULL:.
	0.05	100	100% MUDSTONE: CARBONACEOUS BANDS. LIGHT BROWN. MODERATELY WEAK ROCK.
336.61	0.35		TOTAL
SAMPLE:10			*** CORE DESCRIPTION ***
336.61			
	0.09	100	100% COAL. HEAVY DULL:.
	0.11	100	100% COAL. DULL:.
	0.01	100	100% MUDSTONE: LIGHT BROWN. WEAK ROCK. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
	0.17	100	100% COAL. DULL:.
	0.02	100	100% MUDSTONE: BROWN. MODERATELY WEAK ROCK. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
	0.43	100	100% COAL. DULL WITH NUMEROUS BRIGHT BANDS: HEAVY DULL COAL LAMINAE.
	0.09	100	100% COAL. DULL:.
	0.09	100	100% COAL. DULL WITH NUMEROUS BRIGHT BANDS: CARBONACEOUS BANDS.
	0.06	100	100% COAL. BRIGHT WITH FEW DULL BANDS:.
337.68	1.07		TOTAL
			*** CORE DESCRIPTION ***
337.68 - 338.00		100	100% SILTSTONE: GREY. VERY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182361

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
338.00	338.26	100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS LAMINAE. LIGHT GREY. MODERATELY WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 15 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
338.26	341.24	100	100% SANDSTONE. FINE GRAINED: LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.
341.24	343.45	100	100% SANDSTONE: MED.TO FINE GRAINED. LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.
343.45	348.32	100	100% SANDSTONE: CARBONACEOUS STREAKS. LIGHT GREY. MODERATELY WEAK ROCK.
348.32	349.02	100	100% SILTSTONE: GREY. WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 30 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
349.02	349.28	100	100% SILTSTONE: CARBONACEOUS. DARK GREY. WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
349.28	351.16	100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS BANDS. LIGHT GREY. MODERATELY WEAK ROCK.
351.16	351.60	100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS LENSES. LIGHT GREY. MODERATELY WEAK ROCK.
351.60	351.86	100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS BANDS. GREY. WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
351.86	352.55	100	100% SANDSTONE. MEDIUM GRAINED: LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.
352.55	353.33	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.
353.33	353.45	100	100% MUDSTONE: CARBONACEOUS. DARK GREY. WEAK ROCK.
353.45	353.53	100	100% MUDSTONE: CARBONACEOUS. SILTSTONE. DARK GREY. WEAK ROCK.
353.53	353.95	100	100% SILTSTONE: CARBONACEOUS LENSES. GREY. WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182362

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
353.95	354.43	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS BANDS, GREY, WEAK ROCK.
354.43	354.53	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, WEAK ROCK.
354.53	355.40	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS BANDS, GREY, WEAK ROCK.MODERATELY THIN BEDDING.
355.40	355.85	100	60% MUDSTONE: CARBONACEOUS, DARK GREY, 40% SANDSTONE: CARBONACEOUS LENSES, WEAK ROCK.
355.85	355.95	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
355.95	356.04	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
356.04	356.55	100	100% SANDSTONE, FINE GRAINED: SILTSTONE LAMINAE, LIGHT GREY, WITH MICA, MODERATELY WEAK ROCK.
356.55	357.77	100	100% SILTSTONE: ARENACEOUS BANDS, GREY, WEAK ROCK.THIN BEDDING.
357.77	358.39	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, WEAK ROCK.
358.39	359.10	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
359.10	359.55	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK.
359.55	363.77	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES.
363.77	363.92	100	100% SHALE: COALY LENSES, GREY, WEAK ROCK.
363.92	363.93	100	100% CLAYSTONE: FISSILE, LIGHT GREEN, VERY WEAK ROCK.
363.93	363.95	100	100% SILTSTONE: CARBONACEOUS, DARK GREY, WEAK ROCK.
363.95	365.00	100	100% SILTSTONE: GREY, WEAK ROCK.
365.00	365.07	100	100% SILTSTONE: CARBONACEOUS, DARK GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 25 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
365.07	365.64	100	100% SILTSTONE: FISSILE BANDS, GREY, WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182363

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
365.64	365.82	100	100% MUDSTONE: FISSILE, ARGILLACEOUS, BROWN, VERY WEAK ROCK.
365.82	366.83	100	100% MUDSTONE: SILTSTONE, BROWN, WEAK ROCK.
365.83	366.93	100	100% MUDSTONE: CARBONACEOUS STREAKS, BROWN, VERY WEAK ROCK.
366.93	367.16	100	100% MUDSTONE: SILTSTONE, BROWN, WEAK ROCK.
367.16	367.35	100	100% MUDSTONE: ARENACEOUS LENSES, BROWN, WEAK ROCK.
367.35	368.10	100	100% SILTSTONE: ARENACEOUS LAMINAE, GREY, WEAK ROCK.
368.10	368.85	100	100% SANDSTONE, FINE GRAINED: SILTSTONE LAMINAE, LIGHT GREY, WITH MICA, WEAK ROCK.
368.85	369.60	100	100% SILTSTONE: ARENACEOUS BANDS, GREY, WITH MICA, WEAK ROCK.
369.60	370.15	100	100% SANDSTONE, FINE GRAINED: LITHIC, LIGHT GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
370.15	371.00	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, WITH MICA, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
371.00	371.11	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, MICACEOUS, LIGHT GREY, MODERATELY WEAK ROCK.
371.11	371.23	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, WITH MICA, MODERATELY WEAK ROCK.
371.23	371.78	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, WITH MICA, MODERATELY WEAK ROCK.
371.78	372.69	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, WITH MICA, MODERATELY WEAK ROCK.
372.69	373.25	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS,LAMINATED.
373.25	373.60	100	100% SANDSTONE, FINE GRAINED: LITHIC, MICACEOUS, LIGHT GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182364

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
373.60	374.77	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, WITH MICA, MODERATELY WEAK ROCK.
374.77	375.07	100	100% SANDSTONE, MEDIUM GRAINED: CALCITIC, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
375.07	375.35	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, WEAK ROCK.
375.35	375.53	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
375.53	376.08	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, CALCITIC, LIGHT GREY, MODERATELY WEAK ROCK.
376.08	376.62	100	100% SILTSTONE: CARBONACEOUS LAMINAE, GREY, WEAK ROCK,VERY THIN BEDDING,WITH CROSS LAMINATION AND CROSS LAMINATION,WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
376.62	377.03	100	100% SILTSTONE: ARENACEOUS LENSES, LIGHT GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
377.03	378.00	100	100% SANDSTONE, FINE GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 25 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
378.00	378.41	100	100% SANDSTONE: CARBONACEOUS LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK.
378.41	378.63	100	100% SILTSTONE: GREY, WEAK ROCK.
378.63	379.23	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
379.23	379.88	100	100% SANDSTONE: MED.TO FINE GRAINED, CALCITIC, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
379.88	380.35	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182365

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
380.35	380.43	100	100% SANDSTONE. MEDIUM GRAINED: COALY LENSES. LIGHT GREY. WEAK ROCK.
380.43	380.63	100	100% SANDSTONE. FINE GRAINED: LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.
380.63	380.86	100	100% SANDSTONE: CARBONACEOUS STREAKS. LIGHT GREY. MODERATELY WEAK ROCK.
380.86	381.03	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS LENSES. LIGHT GREY. MODERATELY WEAK ROCK.
381.03	381.09	100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS LAMINAE. GREY. MODERATELY WEAK ROCK.
381.09	381.43	100	100% SANDSTONE: MED.TO FINE GRAINED. LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.
381.43	382.17	100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS STREAKS. LIGHT GREY. MODERATELY WEAK ROCK.
382.17	382.30	100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS LAMINAE. LIGHT GREY. MODERATELY WEAK ROCK.
382.30	382.36	100	100% SILTSTONE: CARBONACEOUS LENSES. GREY. WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 50 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
382.36	383.06	100	100% SANDSTONE. MEDIUM GRAINED: COALY LENSES. LIGHT GREY. WEAK ROCK.WITH MUD PELLETS.
383.06	383.16	100	100% SANDSTONE. MEDIUM GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.
383.16	383.64	100	100% SANDSTONE. MEDIUM GRAINED: COALY LENSES. LIGHT GREY. WEAK ROCK.WITH MUD PELLETS.
383.64	384.89	100	100% SANDSTONE: MED.TO FINE GRAINED. LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.
384.89	385.06	100	100% MUDSTONE: CARBONACEOUS. SILTSTONE. DARK GREY. VERY WEAK ROCK.
385.06	385.15	100	100% SILTSTONE: CARBONACEOUS. GREY. WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182366

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
385.15	385.38	100	100% SILTSTONE: ARENACEOUS LENSES, GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES.
385.38	386.00	100	100% SILTSTONE: GREY, WEAK ROCK.
386.00	386.07	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
386.07	386.14	100	60% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, 40% SANDSTONE: BANDS, LIGHT GREY, WEAK ROCK.
386.14	386.22	100	100% SANDSTONE: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
386.22	387.44	100	100% SILTSTONE: ARENACEOUS BANDS, GREY, WEAK ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
387.44	387.66	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, WEAK ROCK.
387.66	388.64	100	100% SILTSTONE: ARGILLACEOUS, GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
388.64	388.68	100	100% MUDSTONE: CARBONACEOUS, COALY, BLACK.
388.68	388.71	100	100% MUDSTONE: CARBONACEOUS, COALY, BLACK.
388.71	388.72	100	100% MUDSTONE: CARBONACEOUS, ARENACEOUS, DARK GREY.
388.72	388.74	100	100% MUDSTONE: CARBONACEOUS, COALY, BLACK.
388.74	388.76	100	100% COAL, HEAVY DULL:.
388.76	388.82	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN.
388.82	388.84	100	100% COAL, BRIGHT WITH NUMEROUS DULL BANDS:.
388.84	388.86	100	100% MUDSTONE: CARBONACEOUS, COALY, DARK BROWN.
388.86	389.50	100	100% SILTSTONE: GREY,MODERATELY CLOSE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES ,INFILLED WITH CALCITE.

BOREHOLE LITHOLOGICAL LOG

182367

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
389.50	390.65	100	60% SILTSTONE: BANDS, GREY, 40% SANDSTONE, FINE GRAINED: BANDS, LIGHT GREY.
390.65	390.73	100	100% SILTSTONE: CARBONACEOUS, DARK GREY, WEAK ROCK,MODERATELY CLOSE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES.
390.73	390.79	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, VERY WEAK ROCK.
390.79	391.34	100	100% SANDSTONE, FINE GRAINED: SILTSTONE, GREY, WEAK ROCK,WITH CROSS LAMINATION AND FLAME/PULL-OVER STRUCTS.
391.34	391.94	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LAMINAE, LIGHT GREY, LIGHT GREY, MODERATELY WEAK ROCK.
391.94	392.00	100	100% SANDSTONE: CALCITIC, LIGHT GREY, MODERATELY WEAK ROCK.
392.00	392.04	100	100% CLAYSTONE: FISSILE, BADLY BROKEN, BUFF, VERY WEAK ROCK.
392.04	392.06	100	100% CARBONACEOUS SHALE: BLACK, WEAK ROCK.
392.06	392.09	100	100% CLAYSTONE: FISSILE, CARBONACEOUS, BROWN, VERY WEAK ROCK.
392.09	392.11	100	100% SHALE: CARBONACEOUS STREAKS, GREY, VERY WEAK ROCK.
392.11	393.44	100	100% SILTSTONE: GREY, WEAK ROCK.
393.44	393.72	100	100% SANDSTONE, FINE GRAINED: SILTSTONE, GREY, WEAK ROCK,MODERATELY CLOSE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES.
393.72	393.98	100	100% SILTSTONE: GREY, WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
393.98	394.87	100	100% SILTSTONE: ARENACEOUS, GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182368

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
394.87 -	395.25	100	100% SILTSTONE: ARENACEOUS BANDS, LIGHT GREY, WEAK ROCK.
395.25 -	395.87	100	100% SILTSTONE: GREY, WEAK ROCK.
395.87 -	396.07	100	100% SILTSTONE: CARBONACEOUS, DARK GREY, WEAK ROCK.
396.07 -	396.24	100	100% SILTSTONE: ARENACEOUS LENSES, GREY, WEAK ROCK.
396.24 -	397.00	100	100% SANDSTONE, FINE GRAINED: SILTSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK.
397.00 -	397.34	100	60% SANDSTONE, FINE GRAINED: CALCITIC, LIGHT GREY, 40% SILTSTONE: CARBONACEOUS BANDS, DARK GREY, MODERATELY WEAK ROCK.
397.34 -	398.34	100	100% SILTSTONE: GREY, VERY WEAK ROCK.
398.34 -	398.36	100	100% COAL, BRIGHT:.
398.36 -	398.40	100	100% MUDSTONE: CARBONACEOUS, COALY, BLACK, MODERATELY WEAK ROCK.
398.40 -	398.75	100	60% SILTSTONE: CARBONACEOUS BANDS, GREY, 40% SANDSTONE, FINE GRAINED: LIGHT GREY, WEAK ROCK.
398.75 -	398.98	100	100% SANDSTONE, FINE GRAINED: SILTSTONE STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
398.98 -	399.11	100	100% SILTSTONE: GREY, WEAK ROCK.
399.11 -	399.19	100	100% SILTSTONE: CARBONACEOUS, DARK GREY, WEAK ROCK.
399.19 -	399.73	100	100% SILTSTONE: ARENACEOUS, GREY, WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
399.73 -	400.80	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
400.80 -	401.30	100	100% SILTSTONE: GREY, WEAK ROCK.
401.30 -	402.09	100	100% SANDSTONE, FINE GRAINED: SILTSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182369

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
402.09	402.42	100	50% SANDSTONE. MEDIUM GRAINED: CALCITIC. LIGHT GREY. 50% SILTSTONE: CARBONACEOUS BANDS. GREY. MODERATELY WEAK ROCK.MODERATELY THICK BEDDING.
402.42	402.61	100	100% SANDSTONE. FINE GRAINED: SILTSTONE LAMINAE. LIGHT GREY. WITH MICA. MODERATELY WEAK ROCK.THIN BEDDING.
402.61	402.98	100	55% SANDSTONE. MEDIUM GRAINED: CALCITIC. LIGHT GREY. 45% SILTSTONE: BANDS. GREY. MODERATELY WEAK ROCK.
402.98	403.04	100	55% MUDSTONE: CARBONACEOUS. DARK BROWN. WEAK ROCK.
403.04	403.39	100	55% SILTSTONE: ARENACEOUS LAMINAE. GREY. WEAK ROCK.WITH CROSS LAMINATION AND LOAD CASTS.
403.39	404.25	100	80% SILTSTONE: GREY. 20% SANDSTONE. FINE GRAINED: MICACEOUS. MICACEOUS. LIGHT GREY. WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 75 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
404.25	404.95	100	100% SILTSTONE: ARENACEOUS LAMINAE. GREY. WITH MICA. WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 75 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
404.95	405.15	100	100% SILTSTONE: CARBONACEOUS. DARK GREY. WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 85 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
405.15	405.38	100	100% SILTSTONE: GREY. WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 80 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
405.38	406.97	100	65% SILTSTONE: CARBONACEOUS LAMINAE. GREY. 35% SANDSTONE. FINE GRAINED: CALCITIC. CALCITIC. LIGHT GREY. WEAK ROCK.WITH CROSS LAMINATION.WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
406.97	407.52	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS LAMINAE. LIGHT GREY. WEAK ROCK.WITH LOAD CASTS.

BOREHOLE LITHOLOGICAL LOG

182370

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
407.52	408.06	100	100% SANDSTONE, MEDIUM GRAINED: COALY STREAKS, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
408.06	408.09	100	100% COAL, HEAVY DULL:.
408.09	408.18	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, WEAK ROCK.
408.18	408.28	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK BROWN, WEAK ROCK.
408.28	408.46	100	100% SILTSTONE: ARENACEOUS, BROWN, WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 75 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
408.46	408.91	100	100% SANDSTONE, FINE GRAINED: SILTSTONE LAMINAE, GREY, WEAK ROCK.
408.91	409.00	100	100% SANDSTONE, MEDIUM GRAINED: CALCITIC, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
409.00	409.15	100	100% SANDSTONE, FINE GRAINED: SILTSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK.
409.15	409.31	100	100% SILTSTONE: ARENACEOUS BANDS, GREY, WEAK ROCK.
409.31	410.18	100	100% SANDSTONE, MEDIUM GRAINED: SILTSTONE LENSES, LIGHT GREY, MODERATELY WEAK ROCK,WITH TROUGH CROSS BEDDING AND LOAD CASTS.
410.18	410.30	100	100% SILTSTONE: GREY, WEAK ROCK.
410.30	410.42	100	100% SANDSTONE, MEDIUM GRAINED: SILTSTONE LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
410.42	411.17	100	100% SILTSTONE: FISSILE BANDS, GREY, WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
411.17	411.47	100	100% SILTSTONE: CARBONACEOUS, DARK GREY, WEAK ROCK.
411.47	411.67	100	60% SILTSTONE: GREY, 40% CALCITE:.
411.67	411.95	100	100% SILTSTONE: CARBONACEOUS, ARENACEOUS, GREY, WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
411.95	412.16	100	100% SANDSTONE, MEDIUM GRAINED: CALCITIC, CARBONACEOUS, LIGHT GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182371

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
412.16	412.52	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 75 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
412.52	412.84	100	100% SANDSTONE, MEDIUM GRAINED: CALCITIC, LIGHT GREY, MODERATELY WEAK ROCK.
412.84	412.94	100	100% SANDSTONE, MEDIUM GRAINED: PEBBLY, CALCITIC, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
412.94	413.07	100	100% SILTSTONE: CARBONACEOUS, GREY, WEAK ROCK.
413.07	414.49	100	100% SANDSTONE, MEDIUM GRAINED: CALCITIC, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS,VERY WIDE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES ,INFILLED WITH CALCITE.
414.49	414.76	100	100% SILTSTONE: ARENACEOUS, ARGILLACEOUS, GREY, WEAK ROCK.
414.76	415.64	100	100% SANDSTONE: SILTSTONE LENSES, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
415.64	415.73	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
415.73	416.40	100	100% SANDSTONE, FINE GRAINED: SILTSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK,WITH LOAD CASTS.
416.40	416.49	100	100% SANDSTONE, MEDIUM GRAINED: CALCITIC, LIGHT GREY, MODERATELY WEAK ROCK.
416.49	416.55	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
416.55	416.90	100	100% SANDSTONE, FINE GRAINED: SILTSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK.
416.90	417.19	100	100% SANDSTONE, COARSE GRAINED: CARBONACEOUS LENSES, LIGHT GREY, WEAK ROCK.
417.19	417.52	100	100% SILTSTONE: ARENACEOUS BANDS, GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
417.52	418.41	100	100% SANDSTONE, FINE GRAINED: SILTSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.

BOREHOLE LITHOLOGICAL LOG

182372

LEASE : GRAY
BOREHOLE : GY 9

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
418.41	418.55	100	100% SILTSTONE: GREY, WEAK ROCK.
418.55	418.91	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS, CALCITIC, GREY, MODERATELY WEAK ROCK.
418.91	419.79	100	100% SANDSTONE: CARBONACEOUS LENSES, LIGHT GREY, WEAK ROCK,WITH MUD PELLETS.
419.79	419.82	100	100% CARBONACEOUS SHALE: BLACK, VERY WEAK ROCK.
419.82	420.48	100	100% SANDSTONE: CARBONACEOUS LENSES, LIGHT GREY, WEAK ROCK.
420.48	420.61	100	100% SILTSTONE: CARBONACEOUS, ARENACEOUS, DARK GREY, WEAK ROCK.
420.61	420.73	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, WITH FRAGMENTS OF QUARTZ, MODERATELY WEAK ROCK.
420.73	420.91	100	100% SILTSTONE: CARBONACEOUS STREAKS, GREY, MODERATELY WEAK ROCK.
420.91	421.14	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
421.14	421.24	100	100% PEBBLE CONGLOMERATE: CALCITIC, LIGHT GREY, MODERATELY WEAK ROCK.
421.24	425.00	100	100% SILTSTONE: GREY, WITH FRAGMENTS OF QUARTZ, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182373

LEASE : GRAY
BOREHOLE : GY 10

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
	- 17.50	30	100% DOLERITE: MED.-COARSE GRAINED, FRIABLE, GREY, WEAK ROCK.
17.50 -	19.00	70	100% DOLERITE: MED.-COARSE GRAINED, FRIABLE, GREY, WEAK ROCK.
19.00 -	25.60	100	100% DOLERITE: MED.-COARSE GRAINED, GREY, STRONG ROCK,MODERATELY WIDE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
25.60 -	39.00	100	100% DOLERITE: MEDIUM GRAINED, GREY, WITH CHLORITE ON JOINTS, STRONG ROCK,MODERATELY WIDE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
39.00 -	42.50	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, WITH CHLORITE ON JOINTS, STRONG ROCK,CLOSE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
42.50 -	85.00	100	100% DOLERITE: MEDIUM GRAINED, GREY, VERY STRONG ROCK,MODERATELY WIDE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
85.00 -	116.60	100	100% DOLERITE: MEDIUM GRAINED, GREY, WITH CHLORITE ON JOINTS, VERY STRONG ROCK,VERY WIDE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
116.60 -	120.40	100	100% DOLERITE: MEDIUM GRAINED, GREY, WITH CHLORITE ON JOINTS, VERY STRONG ROCK,MODERATELY WIDE JOINT SPACING. JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
120.40 -	122.60	100	100% DOLERITE: MEDIUM GRAINED, GREY, WITH CHLORITE ON JOINTS AND CALCITE ON JOINTS, VERY STRONG ROCK.CLOSE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182374

LEASE : GRAY
BOREHOLE : GY 10

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
122.60	126.60	100	100% DOLERITE: MEDIUM GRAINED, GREY, VERY STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
126.00	149.60	100	100% DOLERITE: MEDIUM GRAINED, GREY, WITH CHLORITE ON JOINTS, VERY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
149.60	152.60	100	100% DOLERITE: MED.TO FINE GRAINED, GREY, VERY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
152.60	178.00	100	100% DOLERITE: MED.TO FINE GRAINED, GREY, WITH CHLORITE ON JOINTS, VERY STRONG ROCK,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
178.00	180.00	100	100% DOLERITE: MED.TO FINE GRAINED, GREY, VERY STRONG ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 85 DEG..
180.00	185.00	100	100% DOLERITE: FINE GRAINED, GREY, WITH CHLORITE ON JOINTS, STRONG ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
185.00	186.70	100	100% DOLERITE: MED.TO FINE GRAINED, GREY, VERY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
186.70	191.50	100	100% DOLERITE: MED.TO FINE GRAINED, GREY, WITH CHLORITE ON JOINTS, MODERATELY STRONG ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
191.50	193.80	100	100% DOLERITE: FINE GRAINED, GREY, WITH CHLORITE ON JOINTS, MODERATELY STRONG ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182375

LEASE : GRAY
BOREHOLE : GY 10

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
193.80	195.80	100	100% DOLERITE: FINE GRAINED, GREY-GREEN, WITH CHLORITE ON JOINTS, MODERATELY WEAK ROCK,MODERATELY CLOSE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES.
195.80	196.13	100	100% DOLERITE: VERY FINE GRAINED, GREY-GREEN, MODERATELY WEAK ROCK,MODERATELY CLOSE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES.
196.13	196.22	100	100% MUDSTONE: BAKED, BROWN, MODERATELY WEAK ROCK.
196.22	196.27	100	100% MUDSTONE: BAKED, LIGHT GREEN, MODERATELY WEAK ROCK.
196.27	196.52	100	100% MUDSTONE: CREAM, MODERATELY WEAK ROCK.
196.52	197.83	100	100% MUDSTONE: FERRUGINOUS, CHLORITIC, CREAM, MODERATELY WEAK ROCK.
197.83	200.95	100	100% MUDSTONE: FERRUGINOUS, CHLORITIC, GREY.
200.95	204.70	100	100% MUDSTONE: FERRUGINOUS BANDS, DARK GREY, MODERATELY WEAK ROCK.
204.70	207.28	100	100% MUDSTONE: PEBBLY BANDS, GREY-GREEN, MODERATELY WEAK ROCK.
207.28	210.30	100	100% MUDSTONE: CARBONACEOUS BANDS, GREY, MODERATELY WEAK ROCK.
210.30	210.80	100	100% COAL, HEAVY DULL:.
210.80	211.16	100	100% MUDSTONE: ARENACEOUS BANDS, GREY, MODERATELY WEAK ROCK.
211.16	213.60	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.
213.60	213.80	100	100% COAL, HEAVY DULL: BRIGHT COAL BANDS.
213.80	214.00	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
214.00	214.50	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
214.50	216.50	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED.

BOREHOLE LITHOLOGICAL LOG

182376

LEASE : GRAY
BOREHOLE : GY 10

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
216.50	219.42	100	50% MUDSTONE: GREY. 50% MUDSTONE: LIGHT GREY. MODERATELY WEAK ROCK.LAMINATED.
219.42	219.90	100	100% MUDSTONE: ARENACEOUS BANDS. GREY. MODERATELY WEAK ROCK.
219.90	220.88	100	50% MUDSTONE: GREY. 50% MUDSTONE: LIGHT GREY. MODERATELY WEAK ROCK.LAMINATED.
220.88	222.90	100	100% PEBBLE CONGLOMERATE: LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.
222.90	223.05	100	100% CLAYSTONE: FISSILE. LIGHT BROWN. MODERATELY WEAK ROCK.
223.05	224.45	100	100% SANDSTONE: VERY FINE GRAINED. CREAM.
224.45	224.61	100	50% MUDSTONE: GREY. 50% MUDSTONE: CREAM. MODERATELY WEAK ROCK.THIN BEDDING.WITH LOAD CASTS.
224.61	225.40	100	100% MUDSTONE: SILTSTONE. CREAM. MODERATELY WEAK ROCK.
225.40	225.42	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
225.42	225.50	100	100% MUDSTONE: LIGHT BROWN.
225.50	225.54	100	100% MUDSTONE: CARBONACEOUS. DARK GREY. MODERATELY WEAK ROCK.
225.54	225.60	100	100% MUDSTONE: CARBONACEOUS STREAKS. LIGHT BROWN. WEAK ROCK.
225.60	225.73	100	100% COAL. INTERBANDED DULL AND BRIGHT: CARBONACEOUS LAMINAE.
225.73	225.75	100	100% CARBONACEOUS SHALE: BRIGHT COAL LAMINAE.
225.75	229.41	100	80% SILTSTONE: GREY. 20% SANDSTONE: MED.TO FINE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
229.41	231.52	100	100% SANDSTONE: SILTSTONE BANDS. LIGHT GREY. MODERATELY WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182377

LEASE : GRAY
BOREHOLE : GY 10

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
231.52	232.93	100	60% SILTSTONE: GREY, 40% SANDSTONE: FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
232.93	233.07	100	100% CARBONACEOUS SHALE: COALY BANDS.
233.07	233.24	100	100% MUDSTONE: BROWN, WEAK ROCK.
233.24	233.45	100	100% MUDSTONE: CARBONACEOUS BANDS, BROWN - BLACK, MODERATELY STRONG ROCK.
233.45	233.50	100	100% COAL, HEAVY DULL: BRIGHT COAL LAMINAE.
233.50	233.52	100	100% MUDSTONE: LIGHT BROWN, WEAK ROCK.
233.52	233.63	100	100% COAL, HEAVY DULL: BRIGHT COAL LAMINAE.
233.63	233.96	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK.
233.96	234.00	100	100% MUDSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, MODERATELY WEAK ROCK.
234.00	234.19	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
234.19	234.20	100	100% MUDSTONE: GREY, WEAK ROCK.
234.20	234.25	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
234.25	235.24	100	100% MUDSTONE: GREY, WEAK ROCK,LAMINATED,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
235.24	235.34	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
235.34	236.22	100	100% MUDSTONE: GREY, WEAK ROCK.
236.22	236.26	100	100% MUDSTONE: LIGHT BROWN, WEAK ROCK.
236.26	238.40	100	100% SANDSTONE: VERY FINE GRAINED, GREY, WEAK ROCK,VERY THIN BEDDING.
238.40	239.65	100	100% MUDSTONE: SILTSTONE, GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
239.65	239.76	100	100% CLAYSTONE: CREAM, STIFF.

BOREHOLE LITHOLOGICAL LOG

182378

LEASE : GRAY
BOREHOLE : GY 10

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
239.76	240.47	100	50% MUDSTONE: CARBONACEOUS, BROWN - BLACK, 50% MUDSTONE: LIGHT BROWN, MODERATELY STRONG ROCK,MODERATELY THIN BEDDING.
240.47	240.95	100	50% MUDSTONE: CARBONACEOUS, BROWN - BLACK, 50% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK,THIN BEDDING,WITH LOAD CASTS.
240.95	241.42	100	100% MUDSTONE: CARBONACEOUS, GREY-BROWN, MODERATELY WEAK ROCK.
241.42	243.69	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES.
243.69	244.37	100	100% MUDSTONE: CARBONACEOUS, GREY-BROWN, MODERATELY WEAK ROCK.
244.37	248.78	100	70% MUDSTONE: SILTSTONE, GREY, 30% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,LAMINATED.
248.78	257.15	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
257.15	257.96	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
257.96	258.30	100	100% SANDSTONE, FINE GRAINED: GREY, MODERATELY WEAK ROCK.
258.30	260.32	100	100% MUDSTONE: SILTSTONE LAMINAE, GREY, MODERATELY WEAK ROCK.
260.32	260.42	100	100% CLAYSTONE: CREAM, STIFF.
260.42	260.45	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
260.45	260.48	100	100% MUDSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, STIFF.
260.48	260.66	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
260.66	260.74	100	100% MUDSTONE: LIGHT BROWN, FIRM.

BOREHOLE LITHOLOGICAL LOG

182379

LEASE : GRAY
BOREHOLE : GY 10

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
260.74	261.58	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.
261.58	262.84	100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS STREAKS. LIGHT GREY. MODERATELY WEAK ROCK.WITH CROSS LAMINATION.
262.84	262.97	100	100% CLAYSTONE: CREAM. STIFF.
262.97	263.30	100	100% MUDSTONE: BROWN - BLACK. MODERATELY STRONG ROCK.
263.30	263.69	100	100% SANDSTONE. FINE GRAINED: GREY. MODERATELY WEAK ROCK.LAMINATED.
263.69	263.79	100	100% SANDSTONE. FINE GRAINED: CREAM. WITH FRAGMENTS OF CALCITE. MODERATELY WEAK ROCK.
263.79	265.25	100	100% SANDSTONE. FINE GRAINED: MUDSTONE LAMINAE. GREY. WITH BANDS OF CALCITE. MODERATELY WEAK ROCK.
265.25	266.58	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.LAMINATED.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 80 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
266.58	266.79	100	100% CLAYSTONE: CREAM. WEAK ROCK.
266.79	266.80	100	100% SANDSTONE. MEDIUM GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.
266.80	267.55	100	100% MUDSTONE: SILTSTONE LAMINAE. GREY. MODERATELY WEAK ROCK.
267.55	267.85	100	100% SANDSTONE. FINE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.
267.85	269.71	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.LAMINATED.
269.71	270.04	100	100% CLAYSTONE: ARENACEOUS. CREAM. WEAK ROCK.
270.04	270.16	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.WITH MUD PELLETS.
270.16	270.58	100	100% SANDSTONE. FINE GRAINED: MUDSTONE BANDS. LIGHT GREY. MODERATELY WEAK ROCK.
270.58	272.94	100	100% MUDSTONE: SILTSTONE LAMINAE. GREY. WITH CALCITE. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182380

LEASE : GRAY
BOREHOLE : GY 10

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
272.94	273.39	100	100% CLAYSTONE: FISSILE, CREAM, VERY WEAK ROCK.
273.39	276.40	100	100% MUDSTONE: SILTSTONE LAMINAE, GREY, MODERATELY WEAK ROCK.WITH LOAD CASTS.
276.40	280.35	100	50% SILTSTONE: GREY. 50% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.LAMINATED.
280.35	280.70	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
280.70	281.25	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
281.25	287.24	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.WITH MUD PELLETS.
287.24	288.32	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.LAMINATED.
288.32	288.40	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
288.40	288.43	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LAMINAE. LIGHT GREY, MODERATELY WEAK ROCK.
288.43	288.69	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
288.69	288.72	100	50% SANDSTONE, FINE GRAINED: LIGHT GREY, 50% SILTSTONE:, MODERATELY WEAK ROCK.VERY THIN BEDDING.WITH CROSS LAMINATION.
288.72	288.92	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS LENSES, LIGHT BROWN, MODERATELY WEAK ROCK.
SAMPLE:1			*** CORE DESCRIPTION ***
288.92			
	0.10	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
	0.01	100	100% MUDSTONE: DARK GREY, MODERATELY WEAK ROCK.
	0.05	100	100% CLAYSTONE: FISSILE, BROWN, WEAK ROCK.
	0.13	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182381

LEASE : GRAY
BOREHOLE : GY 10

TOP	BASE	%REC	LITHOLOGY
SAMPLE:1			*** CORE DESCRIPTION ***
	0.02	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, STRONG ROCK.
	0.39	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.07	100	100% COAL, HEAVY DULL: BRIGHT COAL BANDS.
	0.15	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
289.84	0.92		TOTAL
SAMPLE:2			*** CORE DESCRIPTION ***
289.84			
	0.22	100	100% CLAYSTONE: FISSILE, LIGHT BROWN, WEAK ROCK.
	0.01	100	100% MUDSTONE: BROWN.
	0.05	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.01	100	100% MUDSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, WEAK ROCK.
	0.04	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.04	100	100% MUDSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, WEAK ROCK.
	0.11	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.07	100	100% MUDSTONE: CARBONACEOUS BANDS, LIGHT BROWN, WEAK ROCK.
	0.04	100	100% MUDSTONE: CARBONACEOUS, BLACK, WITH CALCITE ON CLEAT, MODERATELY STRONG ROCK.
	0.02	100	100% MUDSTONE: SILTSTONE, LIGHT BROWN, WEAK ROCK.
	0.13	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
	0.01	100	100% MUDSTONE: SILTSTONE, GREY-BROWN, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182382

LEASE : GRAY
BOREHOLE : GY 10

TOP	BASE	%REC	LITHOLOGY
SAMPLE:2			*** CORE DESCRIPTION ***
	0.01	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.06	100	100% MUDSTONE: SILTSTONE, GREY-BROWN, MODERATELY WEAK ROCK.
	0.06	100	100% CLAYSTONE: LIGHT BROWN, STRONG ROCK.
	0.05	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
	0.14	100	100% MUDSTONE: SIDERITIC, CARBONACEOUS, DARK BROWN.
290.91	1.07		TOTAL
SAMPLE:3			*** CORE DESCRIPTION ***
290.91			
	0.29	100	100% COAL, HEAVY DULL:.
	0.02	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
	0.01	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
	0.10	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
	0.05	100	100% MUDSTONE: BRIGHT COAL TRACES, GREY-BROWN, MODERATELY WEAK ROCK.
	0.09	100	100% COAL, DULL:.
	0.09	100	100% COAL, HEAVY DULL:.
	0.13	100	100% MUDSTONE: CARBONACEOUS BANDS, LIGHT BROWN, WEAK ROCK.
	0.07	100	100% COAL, HEAVY DULL:.
	0.02	100	100% MUDSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, WEAK ROCK.
	0.12	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES.
	0.12	100	100% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK.
	0.03	100	100% MUDSTONE: BROWN, WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182383

LEASE : GRAY
BOREHOLE : GY 10

TOP	BASE	%REC	LITHOLOGY
SAMPLE:3			*** CORE DESCRIPTION ***
	0.30	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.17	100	100% COAL, HEAVY DULL:.
	0.16	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.03	100	100% MUDSTONE: ARENACEOUS, LIGHT BROWN, MODERATELY WEAK ROCK.
92.71	1.80		TOTAL
SAMPLE:4			*** CORE DESCRIPTION ***
292.71			
	0.30	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.03	100	100% MUDSTONE: LIGHT BROWN, WEAK ROCK.
	0.12	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.02	100	100% MUDSTONE: LIGHT BROWN, VERY WEAK ROCK, .SLOW SLAKING.
	0.03	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.02	100	100% CLAYSTONE: LIGHT BROWN, STIFF, .RAPID SLAKING.
	0.01	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.02	100	100% MUDSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.
	0.16	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.02	100	100% MUDSTONE: SILTSTONE, LIGHT BROWN, MODERATELY WEAK ROCK.
	0.12	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.05	100	100% MUDSTONE: LIGHT BROWN, VERY WEAK ROCK.

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BOREHOLE LITHOLOGICAL LOG

182384

LEASE : GRAY
BOREHOLE : GY 10

TOP	BASE	%REC	LITHOLOGY
SAMPLE:4			*** CORE DESCRIPTION ***
	0.06	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.03	100	100% MUDSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, MODERATELY WEAK ROCK.
	0.14	100	100% MUDSTONE: CARBONACEOUS.
	0.11	100	100% MUDSTONE: COALY LENSES, LIGHT BROWN, MODERATELY WEAK ROCK.
	0.21	100	100% MUDSTONE: CARBONACEOUS.
	0.08	100	100% CLAYSTONE: LIGHT BROWN, SOFT, .RAPID SLAKING.
	0.03	100	100% MUDSTONE: CARBONACEOUS.
	0.04	100	100% MUDSTONE: SILTSTONE, LIGHT BROWN, MODERATELY WEAK ROCK.
	0.05	100	100% MUDSTONE: CARBONACEOUS.
	0.03	100	100% MUDSTONE: FISSILE, WEAK ROCK.
	0.04	100	100% MUDSTONE: FISSILE, STIFF.
	0.37	100	100% MUDSTONE: CARBONACEOUS.
	0.04	100	100% MUDSTONE: ARENACEOUS, LIGHT BROWN, WEAK ROCK.
	0.10	100	100% MUDSTONE: FISSILE, LIGHT BROWN, STIFF.
	0.14	100	100% MUDSTONE: CARBONACEOUS.
	0.12	100	100% MUDSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.
	0.06	100	100% MUDSTONE: CARBONACEOUS.
	0.04	100	100% MUDSTONE: DARK BROWN, MODERATELY WEAK ROCK.
	0.08	100	100% MUDSTONE: FISSILE, LIGHT BROWN, STIFF.
	0.03	100	100% MUDSTONE: CARBONACEOUS, MODERATELY WEAK ROCK.
	0.21	100	100% MUDSTONE: ARENACEOUS, LIGHT BROWN, WEAK ROCK.
	0.08	100	100% MUDSTONE: CARBONACEOUS.
	0.03	100	100% MUDSTONE: FISSILE, LIGHT BROWN, STIFF.
	0.02	100	100% MUDSTONE: CARBONACEOUS.
	0.02	100	100% MUDSTONE: FISSILE, LIGHT BROWN, STIFF.
	0.13	100	100% MUDSTONE: CARBONACEOUS.
	0.05	100	100% MUDSTONE: FISSILE, LIGHT BROWN, STIFF.
295.95	3.24		TOTAL

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BOREHOLE LITHOLOGICAL LOG

182385

LEASE : GRAY
BOREHOLE : GY 10

TOP	BASE	%REC	LITHOLOGY
SAMPLE:4			*** CORE DESCRIPTION ***
SAMPLE:5			*** CORE DESCRIPTION ***
295.95			
	0.08	100	100% MUDSTONE: CARBONACEOUS.
	0.03	100	100% MUDSTONE: ARENACEOUS, GREY-BROWN, MODERATELY WEAK ROCK.
	0.28	100	100% MUDSTONE: CARBONACEOUS.
	0.05	100	100% MUDSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.
	0.22	100	100% MUDSTONE: CARBONACEOUS.
	0.25	100	100% COAL, HEAVY DULL: BRIGHT COAL BANDS.
	0.01	100	100% COAL, BRIGHT:.
	0.22	100	100% COAL, HEAVY DULL: BRIGHT COAL BANDS.
	0.02	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
	0.05	100	100% COAL, HEAVY DULL: BRIGHT COAL BANDS.
297.16	1.21		TOTAL
SAMPLE:6			*** CORE DESCRIPTION ***
297.16			
	0.36	100	100% MUDSTONE: COALY TRACES, GREY, MODERATELY WEAK ROCK.
	0.05	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
	0.05	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
	0.15	100	100% MUDSTONE: BRIGHT COAL LAMINAE, DARK BROWN.
	0.18	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
297.95	0.79		TOTAL
			*** CORE DESCRIPTION ***

BOREHOLE LITHOLOGICAL LOG

182386

LEASE : GRAY
BOREHOLE : GY 10

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
297.95	298.95	100	100% MUDSTONE: SILTSTONE LAMINAE, GREY, MODERATELY WEAK ROCK.
298.95	299.73	100	100% SANDSTONE, FINE GRAINED: SILTSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION,LAMINATED.
299.73	302.89	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS TRACES, LIGHT GREY, MODERATELY WEAK ROCK.
302.89	303.27	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION.
303.27	303.31	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
303.31	303.43	100	100% MUDSTONE: GREY, WITH LENSES OF CALCITE, MODERATELY WEAK ROCK.
303.43	305.45	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS TRACES, LIGHT GREY, MODERATELY WEAK ROCK.
305.45	306.55	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, WEAK ROCK,CLOSE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES.
306.55	307.33	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
307.33	307.58	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
307.58	308.66	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION.
308.66	308.96	100	100% SANDSTONE, FINE GRAINED: MUDSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK.
308.96	311.02	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
311.02	311.07	100	100% MUDSTONE: BROWN, WEAK ROCK.
SAMPLE:7			*** CORE DESCRIPTION ***

BOREHOLE LITHOLOGICAL LOG

182387

LEASE : GRAY
BOREHOLE : GY 10

TOP	BASE	%REC	LITHOLOGY
SAMPLE:7			*** CORE DESCRIPTION ***
11.07			
	0.27	100	70% MUDSTONE: CARBONACEOUS, BROWN - BLACK, 30% MUDSTONE: LIGHT BROWN, MODERATELY WEAK ROCK,THIN BEDDING.
	0.05	100	100% MUDSTONE: LIGHT BROWN, WEAK ROCK.
	0.50	100	90% MUDSTONE: CARBONACEOUS, BROWN - BLACK, 10% MUDSTONE: BROWN,THIN BEDDING.
	0.07	100	100% MUDSTONE: FISSILE, LIGHT BROWN, WEAK ROCK.
311.96	0.89		TOTAL
SAMPLE:8			*** CORE DESCRIPTION ***
11.96			
	0.12	100	100% MUDSTONE: CARBONACEOUS, MODERATELY STRONG ROCK.
	0.15	100	100% COAL, HEAVY DULL:.
	0.10	100	100% MUDSTONE: DARK BROWN, MODERATELY STRONG ROCK.
	0.03	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.06	100	100% COAL, HEAVY DULL:.
	0.10	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
	0.08	100	100% MUDSTONE: BLACK, MODERATELY STRONG ROCK.
	0.16	100	100% COAL, HEAVY DULL:.
	0.04	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
	0.29	100	100% COAL, HEAVY DULL: MUDSTONE BANDS.
	0.01	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
	0.02	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
	0.10	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
	0.11	100	100% MUDSTONE: LIGHT BROWN, WEAK ROCK.
	0.11	100	100% COAL, HEAVY DULL:.
	0.05	100	100% MUDSTONE: CARBONACEOUS BANDS, LIGHT BROWN. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182388

LEASE : GRAY
BOREHOLE : GY 10

TOP	BASE	%REC	LITHOLOGY
SAMPLE:8			*** CORE DESCRIPTION ***
	0.03	100	100% COAL. HEAVY DULL:.
	0.09	100	100% MUDSTONE: CARBONACEOUS. DARK GREY. MODERATELY STRONG ROCK.
	0.12	100	100% COAL. HEAVY DULL:.
	0.07	100	60% MUDSTONE: LIGHT BROWN. 40% MUDSTONE: CARBONACEOUS. MODERATELY WEAK ROCK.
	0.15	100	100% COAL. HEAVY DULL: BRIGHT COAL LENSES.
	0.01	100	100% MUDSTONE: BROWN. MODERATELY WEAK ROCK.
	0.02	100	100% COAL. HEAVY DULL:.
13.98	2.02		TOTAL
			*** CORE DESCRIPTION ***
313.98 - 314.01		100	100% MUDSTONE: BROWN. MODERATELY WEAK ROCK.
14.01 - 314.19		100	100% MUDSTONE: SHALY. WEAK ROCK.
314.19 - 314.31		100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.
14.31 - 364.38		100	100% SANDSTONE: MED.-COARSE GRAINED. LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.WITH MUD PELLETS.
SAMPLE:9			*** CORE DESCRIPTION ***
364.38			
	0.40	100	100% COAL. DULL: BRIGHT COAL STREAKS.
	0.01	100	100% MUDSTONE: ARENACEOUS. LIGHT BROWN. MODERATELY WEAK ROCK.
	0.07	100	100% COAL. DULL:.
	0.08	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
	0.08	100	100% COAL. DULL:.
	0.24	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.

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BOREHOLE LITHOLOGICAL LOG

182389

LEASE : GRAY
BOREHOLE : GY 10

TOP	BASE	%REC	LITHOLOGY
SAMPLE:9			*** CORE DESCRIPTION ***
	0.01	100	100% MUDSTONE: ARENACEOUS. LIGHT BROWN. MODERATELY WEAK ROCK.
	0.02	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
	0.01	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
	0.05	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.
	0.31	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
65.64	1.28		TOTAL
			*** CORE DESCRIPTION ***
365.64 - 366.29		100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
66.29 - 366.52		100	100% SHALE: GREY. WEAK ROCK.
366.52 - 366.57		100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.
36.57 - 366.73		100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
56.73 - 366.98		100	100% MUDSTONE: SHALY. GREY. MODERATELY WEAK ROCK.
66.98 - 367.19		100	100% COAL. DULL:.
367.19 - 367.26		100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
367.26 - 367.37		100	100% MUDSTONE: BROWN. VERY WEAK ROCK.
67.37 - 367.77		100	100% MUDSTONE: GREY-BROWN. MODERATELY WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
367.77 - 368.09		100	100% MUDSTONE: SILTSTONE. GREY. MODERATELY WEAK ROCK.
68.09 - 368.65		100	100% SANDSTONE. FINE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 10

182390

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
368.65	369.05	100	100% MUDSTONE: SILTSTONE LAMINAE, GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
369.05	369.21	100	100% MUDSTONE: FISSILE LAMINAE, GREY, VERY WEAK ROCK.
369.21	369.26	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
369.26	369.60	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LAMINAE, GREY, MODERATELY WEAK ROCK.
369.60	369.93	100	50% SILTSTONE: GREY, 50% SILTSTONE: LIGHT GREY, MODERATELY WEAK ROCK,LAMINATED.
369.93	377.02	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS TRACES, LIGHT GREY, MODERATELY WEAK ROCK.
377.02	377.33	100	100% SILTSTONE: FISSILE, GREY, MODERATELY WEAK ROCK,LAMINATED.
377.33	378.10	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
378.10	379.90	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
379.90	380.00	100	100% SANDSTONE, COARSE GRAINED: SILTSTONE, LIGHT GREY, MODERATELY WEAK ROCK.
380.00	380.05	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
380.05	381.60	100	100% MUDSTONE: SILTSTONE BANDS, LIGHT GREY, WEAK ROCK.
381.60	382.48	100	50% SANDSTONE: FINE GRAINED, LIGHT GREY, 50% MUDSTONE: LIGHT GREY, MODERATELY WEAK ROCK,THIN BEDDING ,TRANSITIONAL BASAL CONTACT.
382.48	382.64	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
382.64	382.92	100	100% SILTSTONE: COALY STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182391

LEASE : GRAY
BOREHOLE : GY 10

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
382.92	382.95	100	100% SHALE: CARBONACEOUS, BADLY BROKEN.
382.95	382.98	100	100% MUDSTONE: BADLY BROKEN, LIGHT GREY.
382.98	383.01	100	100% CARBONACEOUS SHALE:.
383.01	383.02	100	100% MUDSTONE: LIGHT BROWN.
383.02	383.12	100	50% MUDSTONE: CARBONACEOUS, BADLY BROKEN. 50% MUDSTONE: SILTSTONE.
383.12	384.05	0	CORE LOSS.
384.05	384.30	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, WEAK ROCK.
384.30	384.32	100	100% MUDSTONE: BROWN, WEAK ROCK.
384.32	384.34	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, WEAK ROCK.
384.34	384.54	100	100% MUDSTONE: SILTSTONE, LIGHT GREY, MODERATELY WEAK ROCK.
384.54	384.60	100	100% SANDSTONE, MEDIUM GRAINED: BADLY BROKEN, LIGHT GREY, MODERATELY WEAK ROCK.
384.60	384.94	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
384.94	385.06	100	100% SANDSTONE: MUDSTONE LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
385.06	408.77	100	100% SANDSTONE, MEDIUM GRAINED:, MODERATELY WEAK ROCK,THICK BEDDING,VERY WIDE JOINT SPACING ,OPEN,NON-PLANAR DISCONTINUITIES.
408.77	408.87	100	100% IRONSTONE:.
408.87	409.00	100	100% MUDSTONE: SILTSTONE, LIGHT GREY.
409.00	424.19	100	100% SANDSTONE, MEDIUM GRAINED:, MODERATELY WEAK ROCK,THICK BEDDING,WITH MUD PELLETS,VERY WIDE JOINT SPACING ,OPEN PLANAR,ROUGH DISCONTINUITIES.
424.19	424.62	100	100% MUDSTONE: SILTSTONE LAMINAE, GREY,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES.
424.62	425.18	100	60% MUDSTONE: DARK GREY, 40% MUDSTONE: LAMINAE, LIGHT GREY.

BOREHOLE LITHOLOGICAL LOG

182392

LEASE : GRAY
BOREHOLE : GY 10

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
425.18	425.63	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
425.63	425.76	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
425.76	426.45	100	100% MUDSTONE: GREY, WEAK ROCK.
426.45	426.50	100	100% MUDSTONE: CARBONACEOUS, GREY-BROWN, WEAK ROCK,CLOSE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES.
426.50	427.18	100	100% SANDSTONE, FINE GRAINED: MUDSTONE BANDS, GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES.
427.18	427.42	100	100% MUDSTONE: GREY, WITH FRAGMENTS OF CALCITE, MODERATELY WEAK ROCK.
427.42	427.86	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES.
427.86	427.96	100	100% MUDSTONE: CARBONACEOUS, GREY-BROWN, MODERATELY WEAK ROCK.
427.96	428.60	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK.
428.60	430.23	100	60% SANDSTONE, FINE GRAINED: LIGHT GREEN, 40% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING.
430.23	430.67	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED.
430.67	431.00	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
431.00	431.10	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
431.10	431.23	100	100% COAL, HEAVY DULL:.

BOREHOLE LITHOLOGICAL LOG

182393

LEASE : GRAY
BOREHOLE : GY 10

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
431.23	431.25	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
431.25	431.27	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
431.27	431.45	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
431.45	431.60	100	100% COAL, HEAVY DULL:.
431.60	431.65	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
431.65	431.96	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY STRONG ROCK.
431.96	432.42	100	100% SANDSTONE, FINE GRAINED: GREY, MODERATELY WEAK ROCK.
432.42	433.82	100	100% MUDSTONE: WITH BANDS OF CALCITE, WEAK ROCK.
433.82	435.95	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
435.95	435.99	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
435.99	436.03	100	100% COAL, HEAVY DULL:.
436.03	436.11	100	100% MUDSTONE: BROWN - BLACK, WITH BANDS OF CLAY, MODERATELY STRONG ROCK.
436.11	436.30	100	100% SILTSTONE: CARBONACEOUS, DARK GREY.
436.30	437.02	100	50% SILTSTONE: CARBONACEOUS, DARK GREY, 50% SANDSTONE, FINE GRAINED: GREY, MODERATELY WEAK ROCK.
437.02	437.24	100	100% COAL, HEAVY DULL: WITH BANDS OF CLAY.
437.24	437.33	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK.
437.33	438.20	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
438.20	443.35	100	60% MUDSTONE: SILTSTONE, GREY, 40% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING.
443.35	444.04	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION.

BOREHOLE LITHOLOGICAL LOG

182394

LEASE : GRAY
BOREHOLE : GY 10

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
444.04	444.50	100	100% MUDSTONE: SANDSTONE LAMINAE, GREY, MODERATELY WEAK ROCK.
444.50	444.83	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS, WITH PYRITE.
444.83	444.88	100	100% MUDSTONE: FISSILE, BROWN, FIRM.
444.88	445.25	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
445.25	445.48	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
445.48	446.82	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS BANDS, GREY, MODERATELY WEAK ROCK.
446.82	447.36	100	100% SILTSTONE: SANDSTONE BANDS, GREY, MODERATELY WEAK ROCK.
447.36	448.02	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
448.02	449.44	100	100% MUDSTONE: SANDSTONE LAMINAE, GREY, MODERATELY WEAK ROCK.
449.44	449.65	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
449.65	449.80	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, MODERATELY WEAK ROCK.
449.80	450.68	100	50% MUDSTONE: CARBONACEOUS, DARK GREY, 50% SANDSTONE, FINE GRAINED: CARBONACEOUS LAMINAE, GREY-BROWN, MODERATELY WEAK ROCK.
450.68	452.09	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
452.09	457.41	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
457.41	457.61	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, WITH FRAGMENTS OF QUARTZ, MODERATELY WEAK ROCK,WITH MUD PELLETS.

BOREHOLE LITHOLOGICAL LOG

182395

LEASE : GRAY
BOREHOLE : GY 10

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
457.61	458.04	100	100% SANDSTONE. MEDIUM GRAINED: CALCAREOUS. WHITE. MODERATELY WEAK ROCK.
458.04	460.69	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS LAMINAE. LIGHT GREY. MODERATELY WEAK ROCK.
460.69	460.75	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
460.75	460.82	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS BANDS. GREY-BROWN. MODERATELY WEAK ROCK.
460.82	461.19	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS LENSES. LIGHT GREY. MODERATELY WEAK ROCK.
461.19	470.62	100	100% SANDSTONE. MEDIUM GRAINED: COALY LENSES. LIGHT GREY. MODERATELY WEAK ROCK.CLOSE JOINT SPACING.
470.62	472.40	100	100% SANDSTONE: MED.-COARSE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.VERY WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
472.40	472.80	100	100% MUDSTONE: CARBONACEOUS. DARK GREY. MODERATELY WEAK ROCK.
472.80	472.92	100	100% MUDSTONE: CARBONACEOUS. DARK GREY. MODERATELY WEAK ROCK.
472.92	473.70	100	100% MUDSTONE: GREY. WEAK ROCK.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
473.70	474.65	100	100% MUDSTONE: SILTSTONE. GREY. MODERATELY WEAK ROCK.
474.65	475.15	100	100% MUDSTONE: BADLY BROKEN. DARK GREY. WEAK ROCK.
475.15	475.30	0	CORE LOSS.
475.30	475.45	100	100% MUDSTONE: GREY. WEAK ROCK.
475.45	475.65	100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS LENSES. GREY. MODERATELY WEAK ROCK.
475.65	475.80	100	100% MUDSTONE: SILTSTONE. BADLY BROKEN. GREY-BROWN. MODERATELY WEAK ROCK.
475.80	475.90	100	100% MUDSTONE: GREY. WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182396

LEASE : GRAY
BOREHOLE : GY 10

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
475.90	476.30	0	CORE LOSS.
476.30	476.45	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
476.45	476.51	100	100% MUDSTONE: CARBONACEOUS LAMINAE, DARK GREY, MODERATELY WEAK ROCK.
476.51	476.52	100	100% MUDSTONE: CARBONACEOUS, FISSILE, DARK BROWN, VERY WEAK ROCK.
476.52	477.28	100	100% MUDSTONE: LAMINAE, GREY, MODERATELY WEAK ROCK.LAMINATED.
477.38	479.40	100	100% SILTSTONE: GREY-GREEN, MODERATELY WEAK ROCK.
479.40	480.06	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY.
480.06	480.16	100	100% MUDSTONE: DARK GREY.
480.16	480.50	100	100% SILTSTONE: LIGHT GREY.
480.50	485.75	100	100% MUDSTONE: DARK GREY, MODERATELY WEAK ROCK.
485.75	486.75	100	100% SANDSTONE, FINE GRAINED: MUDSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK.MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. .OPEN PLANAR.ROUGH DISCONTINUITIES.
486.75	486.83	100	100% MUDSTONE: CARBONACEOUS, DARK GREY.
486.83	486.85	100	100% MUDSTONE: CALCAREOUS, BROWN, SOFT.
486.85	486.96	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
486.96	487.20	100	100% LIMESTONE:.
487.20	488.05	100	100% MUDSTONE: BADLY BROKEN, LIGHT GREY, MODERATELY WEAK ROCK.
488.05	488.80	100	100% SANDSTONE: VERY FINE GRAINED, LIGHT GREY.THIN BEDDING.
488.80	489.10	100	100% MUDSTONE: GREY.
489.91	489.72	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.MODERATELY THICK BEDDING.

BOREHOLE LITHOLOGICAL LOG

182397

LEASE : GRAY
BOREHOLE : GY 10

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
489.72	490.25	100	100% MUDSTONE: SILTSTONE LENSES. GREY.VERY THIN BEDDING.
490.25	490.40	100	100% SANDSTONE. FINE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.
490.40	490.90	100	100% MUDSTONE: CARBONACEOUS. DARK GREY.
490.90	491.20	100	100% SANDSTONE. COARSE GRAINED: LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.
491.20	491.25	100	100% MUDSTONE: CARBONACEOUS.
491.25	492.70	100	100% MUDSTONE: SILTSTONE. GREY-GREEN.
492.70	492.80	100	100% SANDSTONE. FINE GRAINED: LIGHT GREY.
492.80	493.10	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.
493.10	493.90	100	100% SANDSTONE. MEDIUM GRAINED: MUDSTONE BANDS. CREAM.WIDE JOINT SPACING. JOINTS DIP 70 DEG. .OPEN PLANAR.ROUGH DISCONTINUITIES.
493.90	494.75	100	100% MUDSTONE: CARBONACEOUS. DARK GREY.
494.75	496.20	100	50% SANDSTONE. MEDIUM GRAINED: LIGHT GREY. 50% MUDSTONE: DARK GREY. MODERATELY WEAK ROCK.
496.20	498.80	100	100% SANDSTONE. MEDIUM GRAINED: LIGHT GREY. WITH FRAGMENTS OF QUARTZ.MODERATELY THICK BEDDING.
498.80	500.60	100	100% SILTSTONE: GREY. WITH FRAGMENTS OF QUARTZ.

BOREHOLE LITHOLOGICAL LOG

182398

LEASE : GRAY
BOREHOLE : GY 10A

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
	- 197.60	100	100% DOLERITE:.
197.60	- 208.77	100	100% MUDSTONE: ARENACEOUS BANDS, MODERATELY WEAK ROCK,MODERATELY THICK BEDDING.
208.77	- 209.55	100	100% SANDSTONE: MED.TO FINE GRAINED, CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK,THIN BEDDING,WITH MUD PELLETS.
209.55	- 210.35	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
210.35	- 214.85	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.
214.85	- 221.20	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED.
221.20	- 223.50	100	100% PEBBLE CONGLOMERATE: GREY, MODERATELY WEAK ROCK.
223.50	- 224.00	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED.
224.00	- 225.40	100	100% MUDSTONE: LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
225.40	- 225.50	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.
225.50	- 226.60	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
226.60	- 229.40	100	70% MUDSTONE: GREY, 30% SANDSTONE, FINE GRAINED: CARBONACEOUS TRACES, LIGHT GREY, MODERATELY WEAK ROCK,THIN BEDDING.
29.40	- 229.43	100	100% COAL, BRIGHT:.
229.43	- 231.05	100	100% SANDSTONE, FINE GRAINED: MUDSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
231.05	- 232.60	100	70% SILTSTONE: GREY, 30% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
232.60	- 232.90	100	100% CLAYSTONE: CREAM, MODERATELY WEAK ROCK.
232.90	- 233.25	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.

BOREHOLE LITHOLOGICAL LOG

182399

LEASE : GRAY
BOREHOLE : GY 10A

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
233.25	235.20	100	100% MUDSTONE: CARBONACEOUS BANDS. DARK GREY. MODERATELY WEAK ROCK.
235.20	237.05	100	100% MUDSTONE: CARBONACEOUS BANDS. GREY. MODERATELY WEAK ROCK.
237.05	240.65	100	100% SANDSTONE. FINE GRAINED: MUDSTONE LAMINAE. GREY. MODERATELY WEAK ROCK.LAMINATED.
240.65	241.90	100	60% MUDSTONE: CARBONACEOUS. BROWN - BLACK. 40% MUDSTONE: LIGHT BROWN. MODERATELY WEAK ROCK.MODERATELY THIN BEDDING.
241.90	249.90	100	100% MUDSTONE: SILTSTONE. GREY. MODERATELY WEAK ROCK.
249.90	252.60	100	100% SANDSTONE. MEDIUM GRAINED: CONGLOMERATIC BANDS. GREY. MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.
252.60	253.35	100	100% SANDSTONE. FINE GRAINED: MUDSTONE LAMINAE. GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.WITH CARBONACEOUS WHISPS.
253.35	254.50	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS LENSES. GREY. MODERATELY WEAK ROCK.
254.50	258.52	100	100% SANDSTONE. MEDIUM GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
258.52	258.98	100	100% MUDSTONE: CARBONACEOUS. ARENACEOUS. DARK GREY. MODERATELY WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 30 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
258.98	259.07	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
259.07	259.14	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182400

LEASE : GRAY
BOREHOLE : GY 10A

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
259.14	261.30	100	100% MUDSTONE: SILTSTONE LAMINAE, GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING. JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
261.30	261.43	100	100% CLAYSTONE: FISSILE, GREEN, VERY WEAK ROCK.
261.43	261.60	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
261.60	261.68	100	100% MUDSTONE: DARK BROWN, MODERATELY WEAK ROCK.
261.68	263.86	100	100% SILTSTONE: ARENACEOUS BANDS, GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
263.86	264.01	100	100% CLAYSTONE: LIGHT GREEN, VERY WEAK ROCK.
264.01	264.25	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
264.25	265.30	100	100% SILTSTONE: ARENACEOUS BANDS, GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS AND CROSS LAMINATION,MODERATELY WIDE JOINT SPACING. JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
265.30	267.52	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,LAMINATED,MODERATELY WIDE JOINT SPACING. JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
267.52	267.73	100	100% CLAYSTONE: FISSILE, LIGHT GREEN, VERY WEAK ROCK.
267.73	268.65	100	100% MUDSTONE: SILTSTONE, DARK GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING. JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
268.65	270.55	100	100% SILTSTONE:, MODERATELY WEAK ROCK,VERY THIN BEDDING,MODERATELY WIDE JOINT SPACING. JOINTS DIP 20 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.

BOREHOLE LITHOLOGICAL LOG

182401

LEASE : GRAY
BOREHOLE : GY 10A

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
270.55	270.85	100	100% CLAYSTONE: FISSILE, LIGHT GREEN, VERY WEAK ROCK.
270.85	270.99	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
270.99	271.64	100	100% SANDSTONE: LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
271.64	273.50	100	100% SILTSTONE: CALCITIC BANDS, GREY, MODERATELY WEAK ROCK.
273.50	274.47	100	60% CLAYSTONE: FISSILE, MICACEOUS, LIGHT GREEN, 40% MUDSTONE: BANDS, SILTSTONE, GREY, VERY WEAK ROCK.
274.47	277.80	100	100% SILTSTONE: COALY STREAKS, GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
277.80	281.34	100	65% SILTSTONE: GREY, 35% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING,WITH CARBONACEOUS WHISPS.
281.34	282.24	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
282.24	284.57	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
284.57	284.80	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
284.80	285.96	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
285.96	286.04	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
286.04	288.05	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
288.05	289.47	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
289.47	289.60	100	100% SILTSTONE: ARENACEOUS LENSES, GREY, MODERATELY WEAK ROCK.
289.60	289.65	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.

BOREHOLE LITHOLOGICAL LOG

182402

LEASE : GRAY
BOREHOLE : GY 10A

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
289.65	289.72	100	100% CLAYSTONE: CARBONACEOUS LENSES, LIGHT GREEN, VERY WEAK ROCK.
289.72	289.78	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
289.78	289.79	100	100% COAL, BRIGHT:.
289.79	289.84	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
289.84	290.09	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
290.09	290.12	100	100% COAL, INTERBANDED DULL AND BRIGHT:.
290.12	290.13	100	100% MUDSTONE: COALY LENSES, DARK BROWN, MODERATELY WEAK ROCK.
290.13	290.32	100	100% COAL, HEAVY DULL:.
290.32	290.37	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
290.37	290.45	100	100% COAL, HEAVY DULL:.
290.45	290.62	100	100% CLAYSTONE: ARENACEOUS LENSES, LIGHT GREEN, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 25 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
290.62	290.64	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
290.64	290.69	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
290.69	290.71	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
290.71	290.78	100	100% COAL, HEAVY DULL:.
290.78	290.82	100	100% MUDSTONE: SILTSTONE LENSES, BROWN, MODERATELY WEAK ROCK.
290.82	290.88	100	100% COAL, HEAVY DULL:.
290.88	290.95	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
290.95	291.03	100	100% MUDSTONE: ARGILLACEOUS BANDS, BROWN, WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182403

LEASE : GRAY
BOREHOLE : GY 10A

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
291.03	291.05	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
291.05	291.09	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 40 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
291.09	291.31	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
291.31	291.43	100	100% MUDSTONE: CARBONACEOUS STREAKS, BROWN, WEAK ROCK.
291.43	291.47	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
291.47	291.53	100	100% MUDSTONE: BRIGHT COAL BANDS, BROWN - BLACK, MODERATELY STRONG ROCK.
291.53	291.54	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY STRONG ROCK.
291.54	291.56	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
291.56	291.61	100	100% MUDSTONE: CARBONACEOUS, CALCITIC, DARK BROWN, MODERATELY STRONG ROCK.
291.61	291.72	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
291.72	291.87	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
291.87	291.98	100	100% COAL, HEAVY DULL:.
291.98	291.99	100	100% MUDSTONE: BROWN.
291.99	292.10	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
292.10	292.20	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
292.20	292.29	100	100% MUDSTONE: CARBONACEOUS BANDS, LIGHT BROWN, MODERATELY WEAK ROCK.
292.29	292.37	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
292.37	292.45	100	100% COAL, HEAVY DULL:.
292.45	292.46	100	100% COAL, INTERBANDED DULL AND BRIGHT:.
292.46	292.48	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182404

LEASE : GRAY
BOREHOLE : GY 10A

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
292.48	292.51	100	100% COAL, BRIGHT WITH NUMEROUS DULL BANDS:.
292.51	292.56	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY STRONG ROCK.
292.56	292.58	100	100% MUDSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, MODERATELY WEAK ROCK.
292.58	292.64	100	100% COAL, HEAVY DULL:.
292.64	292.75	100	100% MUDSTONE: CARBONACEOUS BANDS, LIGHT BROWN, MODERATELY WEAK ROCK,WITH MUD PELLETS.
292.75	292.92	100	100% COAL, HEAVY DULL:.
292.92	293.03	100	100% COAL, HEAVY DULL:,WITH MUD PELLETS.
293.03	293.05	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
293.05	293.18	100	100% COAL, HEAVY DULL:.
293.18	293.22	100	100% COAL, BRIGHT WITH FEW DULL BANDS:.
293.22	293.37	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
293.37	293.39	100	100% MUDSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.
293.39	293.43	100	100% COAL, HEAVY DULL:.
293.43	293.49	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
293.49	293.55	100	100% MUDSTONE: CARBONACEOUS BANDS, LIGHT BROWN, MODERATELY WEAK ROCK.
293.55	293.65	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
293.65	293.80	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS,WITH MUD PELLETS.
293.80	293.83	100	100% MUDSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, MODERATELY WEAK ROCK.
293.83	293.86	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
293.86	293.88	100	100% MUDSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, MODERATELY WEAK ROCK.
293.88	294.00	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182405

LEASE : GRAY
BOREHOLE : GY 10A

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
294.00	294.14	100	100% MUDSTONE: CARBONACEOUS BANDS, BROWN, MODERATELY WEAK ROCK,WITH MUD PELLETS.
294.14	294.24	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
294.24	294.41	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
294.41	294.46	100	100% MUDSTONE: LIGHT BROWN, WEAK ROCK.
294.46	294.53	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
294.53	294.59	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
294.59	294.66	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
294.66	294.69	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
294.69	294.72	100	100% SILTSTONE: ARGILLACEOUS, LIGHT GREY, MODERATELY WEAK ROCK.
294.72	294.89	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
294.89	294.92	100	100% MUDSTONE: CALCITIC, DARK BROWN, MODERATELY WEAK ROCK.
294.92	294.95	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY STRONG ROCK.
294.95	294.97	100	100% MUDSTONE: ARGILLACEOUS, LIGHT BROWN, MODERATELY WEAK ROCK.
294.97	295.02	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
295.02	295.13	100	100% CLAYSTONE: FISSILE, LIGHT BROWN, WEAK ROCK.
295.13	295.31	100	100% MUDSTONE: CARBONACEOUS BANDS, LIGHT BROWN, MODERATELY WEAK ROCK.
295.31	295.33	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
295.33	295.45	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
295.45	295.47	100	100% MUDSTONE: BROWN, WEAK ROCK.
295.47	295.52	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182406

LEASE : GRAY
BOREHOLE : GY 10A

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
295.52	295.60	100	100% COAL. HEAVY DULL:.
295.60	295.69	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
295.69	295.83	100	100% CLAYSTONE: CALCITIC BANDS. LIGHT GREEN. VERY WEAK ROCK.
295.83	296.03	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
296.03	296.07	100	100% MUDSTONE: COALY LENSES. BROWN. MODERATELY WEAK ROCK.
296.07	296.09	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
296.09	296.14	100	100% MUDSTONE: DARK BROWN. MODERATELY WEAK ROCK.
296.14	296.26	100	100% MUDSTONE: CARBONACEOUS STREAKS. LIGHT BROWN. WEAK ROCK.
296.26	296.30	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.
296.30	296.50	100	100% MUDSTONE: ARGILLACEOUS. LIGHT BROWN. WEAK ROCK.
296.50	296.56	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
296.56	296.60	100	100% MUDSTONE: FISSILE. LIGHT BROWN. WEAK ROCK.
296.60	296.76	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
296.76	296.80	100	100% MUDSTONE: FISSILE. LIGHT BROWN. VERY WEAK ROCK.
296.80	296.94	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
296.94	296.99	100	100% COAL. HEAVY DULL:.
296.99	297.14	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
297.14	297.19	100	100% COAL. HEAVY DULL: BRIGHT COAL STREAKS.
297.19	297.23	100	100% MUDSTONE: BROWN. MODERATELY WEAK ROCK.
297.23	297.32	100	100% MUDSTONE: LIGHT BROWN. WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182407

LEASE : GRAY
BOREHOLE : GY 10A

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
297.32	297.36	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
297.36	297.46	100	100% CLAYSTONE: CARBONACEOUS BANDS, LIGHT GREEN, MODERATELY WEAK ROCK.
297.46	297.62	100	100% COAL, HEAVY DULL:.
297.62	297.80	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
297.80	297.85	100	100% COAL, DULL:.
297.85	297.98	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
297.98	298.05	100	100% MUDSTONE: CARBONACEOUS BANDS, DARK BROWN, MODERATELY WEAK ROCK.
298.05	298.40	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.
298.40	298.45	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
298.45	298.48	100	100% COAL, INTERBANDED DULL AND BRIGHT:.
298.48	298.60	100	100% COAL, HEAVY DULL:.
298.60	299.65	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK.
299.65	303.96	100	100% SANDSTONE: SILTSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
303.96	304.46	100	100% SANDSTONE, FINE GRAINED: CALCITIC, LIGHT GREY, MODERATELY WEAK ROCK.
304.46	304.88	100	100% SANDSTONE, MEDIUM GRAINED: SILTSTONE LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
304.88	305.08	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
305.08	307.43	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
307.43	308.20	100	100% SANDSTONE, MEDIUM GRAINED: COALY BANDS, LIGHT GREY, MODERATELY WEAK ROCK.
308.20	310.60	100	100% SANDSTONE, MEDIUM GRAINED: COALY STREAKS, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.

BOREHOLE LITHOLOGICAL LOG

182408

LEASE : GRAY
BOREHOLE : GY 10A

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
310.60	311.40	100	100% SANDSTONE: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
311.40	311.59	100	100% SANDSTONE, MEDIUM GRAINED: COALY STREAKS, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
311.59	311.61	100	100% COAL, DULL:.
311.61	311.63	100	100% COAL, HEAVY DULL:.
311.63	311.67	100	100% MUDSTONE: BROWN, WEAK ROCK.
311.67	311.74	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
311.74	311.87	100	100% MUDSTONE: CARBONACEOUS BANDS, DARK BROWN, MODERATELY WEAK ROCK.
311.87	311.90	100	100% COAL, HEAVY DULL:.
311.90	311.91	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
311.91	311.97	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
311.97	312.00	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
312.00	312.11	100	100% COAL, HEAVY DULL:.
312.11	312.30	100	100% MUDSTONE: FISSILE, LIGHT GREEN, WITH MICA, WEAK ROCK.
312.30	312.34	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
312.34	312.40	100	100% COAL, HEAVY DULL:.
312.40	312.45	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
312.45	312.51	100	100% COAL, HEAVY DULL:.
312.51	312.60	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
312.60	312.62	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
312.62	312.63	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
312.63	312.67	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
312.67	312.85	100	100% COAL, HEAVY DULL:.
312.85	312.94	100	100% MUDSTONE: FISSILE, BROWN, WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182409

LEASE : GRAY
BOREHOLE : GY 10A

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
312.94	313.12	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
313.12	313.18	100	100% COAL, HEAVY DULL:.
313.18	313.24	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
313.24	313.34	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
313.34	313.36	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
313.36	313.39	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
313.39	313.46	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
313.46	313.50	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
313.50	313.55	100	100% COAL, BRIGHT WITH FEW DULL BANDS:.
313.55	313.58	100	100% COAL, INTERBANDED DULL AND BRIGHT:.
313.58	313.70	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
313.70	313.74	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
313.74	313.80	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
313.80	313.88	100	100% COAL, HEAVY DULL:.
313.88	313.89	100	100% MUDSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.
313.89	313.97	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
313.97	314.16	100	100% MUDSTONE: LIGHT BROWN, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
314.16	314.18	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
314.18	314.27	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
314.27	314.28	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
314.28	314.35	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES,WITH MUD PELLETS.
314.35	314.40	100	100% COAL, HEAVY DULL:,WITH MUD PELLETS.

BOREHOLE LITHOLOGICAL LOG

182410

LEASE : GRAY
BOREHOLE : GY 10A

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
314.40	314.43	100	100% COAL. HEAVY DULL: BRIGHT COAL STREAKS.WITH MUD PELLETS.
314.43	314.46	100	100% COAL. HEAVY DULL: BRIGHT COAL BANDS.WITH MUD PELLETS.
314.46	314.49	100	100% COAL. HEAVY DULL:.WITH MUD PELLETS.
314.49	314.57	100	100% MUDSTONE: LIGHT BROWN. MODERATELY WEAK ROCK.
314.57	314.60	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
314.60	314.65	100	100% COAL. INTERBANDED DULL AND BRIGHT:.
314.65	314.68	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
314.68	314.74	100	100% MUDSTONE: BRIGHT COAL LENSES. BROWN. MODERATELY WEAK ROCK.
314.74	314.76	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.
314.76	314.79	100	100% COAL. DULL WITH NUMEROUS BRIGHT BANDS:.
314.79	314.89	100	100% COAL. HEAVY DULL: BRIGHT COAL STREAKS.
314.89	314.91	100	100% COAL. INTERBANDED DULL AND BRIGHT:.
314.91	314.94	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
314.94	314.97	100	100% COAL. BRIGHT WITH FEW DULL BANDS:.
314.97	315.00	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. WEAK ROCK.CLOSE JOINT SPACING. JOINTS DIP 20 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
315.00	315.30	100	100% MUDSTONE: SILTSTONE. GREY. MODERATELY WEAK ROCK.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 30 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
315.30	315.65	100	100% SANDSTONE: SILTSTONE LENSES. LIGHT GREY. MODERATELY WEAK ROCK.WITH FLAME/PULL-OVER STRUCTS.
315.65	325.90	100	100% SANDSTONE. MEDIUM GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.
325.90	327.00	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS LENSES. LIGHT GREY. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182411

LEASE : GRAY
BOREHOLE : GY 10A

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
327.00	327.06	100	100% MUDSTONE: CALCITIC, FISSILE, BROWN, WEAK ROCK.
327.06	333.68	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
333.60	334.10	100	100% SANDSTONE, MEDIUM GRAINED: SILTSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK.
334.10	346.07	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
346.07	346.17	100	100% SANDSTONE, MEDIUM GRAINED: CALCITIC, LIGHT GREY, MODERATELY WEAK ROCK.
346.17	348.08	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
348.08	348.97	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
348.97	351.01	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
351.01	351.41	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
351.41	352.00	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK.
352.00	365.90	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
365.90	366.16	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
366.16	366.19	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
366.19	366.26	100	100% COAL, DULL:.
366.26	366.27	100	100% COAL, HEAVY DULL: BRIGHT COAL BANDS.
366.27	366.32	100	100% COAL, HEAVY DULL:.

BOREHOLE LITHOLOGICAL LOG

182412

LEASE : GRAY
BOREHOLE : GY 10A

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
366.32	366.37	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 15 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
366.37	366.39	100	100% COAL. DULL WITH NUMEROUS BRIGHT BANDS:.
366.39	366.52	100	100% COAL. HEAVY DULL:.
366.52	366.55	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
366.55	366.67	100	100% COAL. DULL:.
366.67	366.88	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
366.88	366.96	100	100% COAL. DULL WITH NUMEROUS BRIGHT BANDS:.
366.96	367.06	100	100% COAL. DULL:.
367.06	367.15	100	100% COAL. DULL WITH NUMEROUS BRIGHT BANDS:.
367.15	367.46	100	100% MUDSTONE: SILTSTONE. CARBONACEOUS. DARK GREY. MODERATELY WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
367.46	367.68	100	100% MUDSTONE: SILTSTONE. GREY. MODERATELY WEAK ROCK.
367.68	367.84	100	100% MUDSTONE: GREY. WEAK ROCK.
367.84	367.92	100	100% COAL. HEAVY DULL:.
367.92	367.93	100	100% SANDSTONE. FINE GRAINED: GREY. MODERATELY WEAK ROCK.
367.93	367.96	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
367.96	367.98	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.
367.98	368.04	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.
368.04	368.26	100	100% MUDSTONE: GREY. WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
368.26	368.34	100	100% MUDSTONE: SILTSTONE. GREY. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182413

LEASE : GRAY
BOREHOLE : GY 10A

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
368.34	368.36	100	100% MUDSTONE: CARBONACEOUS, FISSILE, DARK GREY, MODERATELY WEAK ROCK.
368.36	368.39	100	100% COAL, HEAVY DULL:.
368.39	368.43	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
368.43	368.53	100	100% COAL, DULL:.
368.53	368.59	100	100% COAL, HEAVY DULL:.
368.59	368.66	100	100% COAL, DULL:.
368.66	368.71	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
368.71	370.60	35	100% MUDSTONE: SILTSTONE, GREY.
370.60	370.85	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED.
370.85	374.05	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 85 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
374.05	375.53	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
375.53	376.63	100	100% SANDSTONE, MEDIUM GRAINED: COALY STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
376.63	376.92	100	100% SANDSTONE: CARBONACEOUS LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK.
376.92	377.88	100	100% SANDSTONE, MEDIUM GRAINED: COALY STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
377.88	378.33	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
378.33	380.53	100	100% SANDSTONE: SILTSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING,WITH CARBONACEOUS WHISPS.
380.53	380.58	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182414

LEASE : GRAY
BOREHOLE : GY 10A

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
380.58	380.78	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
380.78	382.60	40	100% MUDSTONE: SILTSTONE. GREY. MODERATELY WEAK ROCK.
382.60	383.37	100	100% MUDSTONE: SILTSTONE. GREY. MODERATELY WEAK ROCK.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
383.37	383.44	100	100% MUDSTONE: CARBONACEOUS. BLACK. WEAK ROCK.
383.44	383.46	100	100% MUDSTONE: FISSILE. BROWN. WEAK ROCK.
383.46	383.48	100	100% MUDSTONE: FISSILE. LIGHT BROWN. FIRM.
383.48	383.94	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
383.94	384.03	100	100% MUDSTONE: CARBONACEOUS. SILTSTONE. GREY-BROWN. MODERATELY WEAK ROCK.WITH MUD PELLETS.
384.03	384.10	100	100% MUDSTONE: CARBONACEOUS. SILTSTONE. BROWN - BLACK. MODERATELY STRONG ROCK.
384.10	384.12	100	100% MUDSTONE: ARENACEOUS. GREY-BROWN. MODERATELY WEAK ROCK.
384.12	384.17	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.
384.17	384.20	100	100% MUDSTONE: BRIGHT COAL LENSES. DARK BROWN. MODERATELY WEAK ROCK.
384.20	384.27	100	100% MUDSTONE: SILTSTONE. GREY-BROWN. MODERATELY WEAK ROCK.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 50 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
384.27	384.34	100	100% MUDSTONE: SILTSTONE. GREY. MODERATELY WEAK ROCK.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
384.34	384.49	100	100% MUDSTONE: ARENACEOUS. GREY. WEAK ROCK.

042

BOREHOLE LITHOLOGICAL LOG

182415

LEASE : GRAY
BOREHOLE : GY 10A

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
384.49	385.90	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
385.90	385.98	100	100% SANDSTONE, FINE GRAINED: SILTSTONE, LIGHT GREY, MODERATELY WEAK ROCK.
385.98	387.75	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
387.75	388.02	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
388.02	389.04	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
389.04	390.45	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.
390.45	391.60	100	100% SANDSTONE, MEDIUM GRAINED: COALY STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182416

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
-	7.80	100	100% DOLERITE:, MODERATELY WEATHERED.
7.80 -	11.25	100	100% DOLERITE:, HIGHLY WEATHERED.
11.25 -	14.20	100	100% DOLERITE: MED.-COARSE GRAINED, GREY, SLIGHTLY WEATHERED,WIDE JOINT SPACING, JOINTS DIP 25 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
14.20 -	15.00	100	100% DOLERITE: BADLY BROKEN, MED.-COARSE GRAINED. GREY, SLIGHTLY WEATHERED,MODERATELY CLOSE JOINT SPACING. JOINTS DIP 30 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
15.00 -	20.40	100	100% DOLERITE: MED.-COARSE GRAINED, GREY, SLIGHTLY WEATHERED,WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
20.40 -	23.00	100	100% DOLERITE: MED.-COARSE GRAINED, GREY, UNWEATHERED.
23.00 -	27.50	100	100% DOLERITE: MED.-COARSE GRAINED, GREY, SLIGHTLY WEATHERED, VERY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
27.50 -	28.50	100	100% DOLERITE: MED.-COARSE GRAINED, GREY, SLIGHTLY WEATHERED, VERY STRONG ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 70 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
28.50 -	36.00	100	100% DOLERITE: MED.-COARSE GRAINED, GREY, SLIGHTLY WEATHERED, VERY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
36.00 -	48.50	100	100% DOLERITE: MED.-COARSE GRAINED, GREY, UNWEATHERED, VERY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182417

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
48.50 -	55.50	100	100% DOLERITE: MEDIUM GRAINED, GREY, VERY STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
55.50 -	57.50	100	100% DOLERITE: MEDIUM GRAINED, LIGHT BROWN, MODERATELY WEAK ROCK,CLOSE JOINT SPACING ,OPEN,NON-PLANAR DISCONTINUITIES.
57.50 -	59.50	100	100% DOLERITE: MED.-COARSE GRAINED, GREY, VERY STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,OPEN,PLANAR,SMOOTH DISCONTINUITIES.
59.50 -	63.00	100	100% DOLERITE: MED.-COARSE GRAINED, GREY, VERY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
63.00 -	75.00	100	100% DOLERITE: MED.-COARSE GRAINED, GREY, VERY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
75.00 -	81.00	100	100% DOLERITE: MED.-COARSE GRAINED, GREY, STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
81.00 -	83.50	100	100% DOLERITE: MED.-COARSE GRAINED, GREY, VERY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
83.50 -	89.50	100	100% DOLERITE: MED.-COARSE GRAINED, GREY, VERY STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
89.50 -	110.00	100	100% DOLERITE: MED.-COARSE GRAINED, GREY, VERY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
110.00 -	120.00	100	100% DOLERITE: MEDIUM GRAINED, GREY, VERY STRONG ROCK,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182418

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
120.00	124.00	100	100% DOLERITE: MED.TO FINE GRAINED, GREY, VERY STRONG ROCK.WIDE JOINT SPACING, JOINTS DIP 30 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES.
124.00	125.00	100	100% DOLERITE: FINE GRAINED, GREY, STRONG ROCK.MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES.
125.00	125.34	100	100% DOLERITE: FINE GRAINED, GREY, MODERATELY STRONG ROCK.
125.34	125.92	100	100% DOLERITE: FINE GRAINED, GREY-GREEN, MODERATELY WEAK ROCK.CLOSE JOINT SPACING .TIGHT NON-PLANAR DISCONTINUITIES.
125.92	126.00	100	100% MUDSTONE: GREY, WEAK ROCK.
126.00	126.74	100	100% SANDSTONE: FINE GRAINED, GREY, MODERATELY WEAK ROCK.
126.74	133.90	100	100% MUDSTONE: GREEN, MODERATELY WEAK ROCK.
133.90	135.00	100	100% MUDSTONE: ARENACEOUS, LIGHT BROWN, MODERATELY WEAK ROCK.
135.00	135.55	100	100% SANDSTONE, FINE GRAINED: LIGHT BROWN, MODERATELY WEAK ROCK.THIN BEDDING.
135.55	136.50	100	100% MUDSTONE: ARENACEOUS BANDS, CREAM, MODERATELY WEAK ROCK.
136.50	136.70	100	100% MUDSTONE: CARBONACEOUS BANDS, LIGHT GREY, MODERATELY WEAK ROCK.WITH LOAD CASTS.
136.70	137.40	100	100% MUDSTONE: CARBONACEOUS BANDS, GREY, MODERATELY WEAK ROCK.
137.40	138.10	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.CLOSE JOINT SPACING .OPEN.NON-PLANAR DISCONTINUITIES.
138.10	138.20	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
138.20	142.39	100	100% SANDSTONE, FINE GRAINED: GREY, MODERATELY WEAK ROCK.WITH CROSS LAMINATION.LAMINATED.

BOREHOLE LITHOLOGICAL LOG

182419

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
142.39	143.27	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, GREY, MODERATELY WEAK ROCK.
143.27	143.50	100	80% MUDSTONE: CARBONACEOUS, BLACK. 20% COAL, BRIGHT:. MODERATELY WEAK ROCK,THIN BEDDING.
143.50	143.88	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
143.88	143.97	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
143.97	145.00	100	100% SANDSTONE, FINE GRAINED: GREY, MODERATELY WEAK ROCK.
145.00	145.78	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
145.78	147.00	100	100% SANDSTONE, FINE GRAINED: GREY, MODERATELY WEAK ROCK,LAMINATED AND CROSS LAMINATION.
147.00	147.34	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
147.34	147.44	100	100% SILTSTONE: ARENACEOUS BANDS, GREY, MODERATELY WEAK ROCK,THIN BEDDING,WITH CROSS LAMINATION.
147.44	147.91	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
147.91	148.00	100	100% SANDSTONE, FINE GRAINED: SILTSTONE LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
148.00	149.22	45	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, WEAK ROCK.
149.22	149.51	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
149.51	150.35	100	100% PEBBLE CONGLOMERATE: LIGHT GREY, WEAK ROCK.
150.35	151.17	100	70% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, 30% PEBBLE CONGLOMERATE: LIGHT GREY, MODERATELY WEAK ROCK.
151.17	152.40	100	100% PEBBLE CONGLOMERATE: ARENACEOUS BANDS.
152.40	152.76	100	100% SILTSTONE: ARENACEOUS LAMINAE, GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182420

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
152.76	152.98	100	100% SANDSTONE. FINE GRAINED: SILTSTONE LAMINAE. LIGHT GREY. MODERATELY WEAK ROCK.
152.98	153.09	100	100% SILTSTONE: ARENACEOUS LAMINAE. GREY. MODERATELY WEAK ROCK.
153.09	153.39	100	100% SANDSTONE. FINE GRAINED: SILTSTONE. LIGHT GREY. WEAK ROCK.
153.39	153.78	100	100% SILTSTONE: ARENACEOUS LAMINAE. LIGHT GREY. MODERATELY WEAK ROCK.
153.78	157.38	100	100% SANDSTONE: MED.TO FINE GRAINED. LITHIC. LIGHT GREY. WEAK ROCK.
157.38	157.54	100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS STREAKS. LIGHT GREY. MODERATELY WEAK ROCK.
157.54	160.03	100	100% SANDSTONE. MEDIUM GRAINED: LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.
160.03	161.06	100	100% SANDSTONE. MEDIUM GRAINED: COALY LENSES. LIGHT GREY. MODERATELY WEAK ROCK.
161.08	161.86	100	100% SANDSTONE. MEDIUM GRAINED: LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.
161.86	162.26	100	100% SANDSTONE. MEDIUM GRAINED: BRIGHT COAL LENSES. LIGHT GREY. MODERATELY WEAK ROCK.
162.26	162.55	100	70% SANDSTONE. FINE GRAINED: COALY LENSES. LIGHT GREY. 30% SANDSTONE. MEDIUM GRAINED: LIGHT GREY. WEAK ROCK.
162.55	163.17	100	100% SANDSTONE: COALY LENSES. LIGHT GREY. WEAK ROCK.
163.17	163.78	100	100% SANDSTONE. MEDIUM GRAINED: LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.
163.78	165.05	100	100% SANDSTONE: MED.-COARSE GRAINED. LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.
165.05	165.49	100	100% SANDSTONE. MEDIUM GRAINED: LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182421

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
165.49	166.71	100	50% SANDSTONE, FINE GRAINED: LIGHT GREY, 50% SILTSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED AND CROSS LAMINATION.
166.71	166.97	100	60% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, 40% SANDSTONE, FINE GRAINED: SILTSTONE LAMINAE, GREY, MODERATELY WEAK ROCK.
166.97	167.45	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
167.45	169.40	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
169.40	169.67	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
169.67	171.81	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
171.81	171.88	100	100% SANDSTONE, FINE GRAINED: ARGILLACEOUS, LIGHT GREY, WEAK ROCK.
171.88	171.96	100	100% SILTSTONE: GREY, WEAK ROCK.
171.96	172.27	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
172.27	172.61	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, WEAK ROCK,WITH MUD PELLETS.
172.61	172.63	100	100% SILTSTONE: CARBONACEOUS, DARK BROWN, WEAK ROCK.
172.63	172.65	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
172.65	172.75	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, MODERATELY WEAK ROCK.
172.75	172.76	100	100% CLAYSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.
172.76	172.79	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, WEAK ROCK.
172.79	172.84	100	100% MUDSTONE: CARBONACEOUS, BLACK, VERY WEAK ROCK.
172.84	172.88	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182422

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
172.88	173.10	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, WEAK ROCK.
173.10	174.15	100	100% SILTSTONE: ARGILLACEOUS, LIGHT GREY, WEAK ROCK.WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR.ROUGH DISCONTINUITIES.
174.15	174.39	100	100% SILTSTONE: ARENACEOUS, LIGHT GREY, WEAK ROCK.
174.39	174.95	100	100% SILTSTONE: ARENACEOUS LAMINAE, GREY, WEAK ROCK.THIN BEDDING AND CROSS LAMINATION.
174.95	175.73	100	100% SILTSTONE: CARBONACEOUS LAMINAE, GREY, WEAK ROCK.WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,OPEN.NON-PLANAR DISCONTINUITIES ,INFILLED WITH CALCITE.
175.73	176.05	100	100% SILTSTONE: CARBONACEOUS, DARK GREY, WEAK ROCK.LAMINATED.MODERATELY WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR.ROUGH DISCONTINUITIES.
176.05	176.14	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, WEAK ROCK.
176.14	176.32	100	100% SILTSTONE: CARBONACEOUS, GREY, WEAK ROCK.
176.32	176.66	100	100% MUDSTONE: SILTSTONE, GREY, WEAK ROCK.
176.66	176.88	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, WEAK ROCK.
176.88	176.97	100	100% MUDSTONE: CARBONACEOUS, GREY, WEAK ROCK.
176.97	177.21	100	100% CLAYSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.
177.21	177.50	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK BROWN, WEAK ROCK.
177.50	177.60	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, WEAK ROCK.
177.60	177.65	100	100% CLAYSTONE: BADLY BROKEN, LIGHT BROWN, FIRM.
177.65	177.68	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.
177.68	177.86	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
177.86	177.89	100	100% COAL, BRIGHT WITH FEW DULL BANDS:.
177.89	177.90	100	100% COAL, BRIGHT WITH NUMEROUS DULL BANDS:.

BOREHOLE LITHOLOGICAL LOG

182423

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
177.90	177.92	100	100% MUDSTONE: CARBONACEOUS STREAKS, GREY, MODERATELY WEAK ROCK.
177.92	177.95	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
177.95	177.97	100	100% COAL, BRIGHT:.
177.97	178.05	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
178.05	179.00	100	100% SILTSTONE: CARBONACEOUS STREAKS, LIGHT GREY, WEAK ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 20 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
179.00	179.06	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, WEAK ROCK,WITH MUD PELLETS.
179.06	179.09	100	100% SILTSTONE: LIGHT GREY, WEAK ROCK.
179.09	179.20	100	100% SILTSTONE: CARBONACEOUS LAMINAE, DARK GREY, WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
179.20	180.84	100	100% SILTSTONE: GREY, WEAK ROCK.
180.84	181.07	100	100% SILTSTONE: CARBONACEOUS BANDS, DARK GREY, WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 25 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
181.07	181.53	100	100% SILTSTONE: CARBONACEOUS LENSES, GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
181.53	182.00	100	100% MUDSTONE: SILTSTONE, GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 35 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
182.00	184.75	100	100% SILTSTONE: ARENACEOUS LAMINAE, GREY, WEAK ROCK.
184.75	185.30	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, GREY-GREEN, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182424

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
185.30	187.90	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
187.90	189.24	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
189.24	189.96	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
189.96	190.16	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK.
190.16	190.19	100	100% SANDSTONE, FINE GRAINED: COALY BANDS, LIGHT GREY, WEAK ROCK.
190.19	190.49	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
190.49	190.59	100	100% SANDSTONE, MEDIUM GRAINED: SILTSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK.
190.59	190.70	100	100% SANDSTONE, FINE GRAINED: SILTSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK.
190.70	191.52	100	100% SILTSTONE: GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
191.52	191.57	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
191.57	191.78	100	100% SILTSTONE: GREY, WEAK ROCK.
191.78	193.55	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
193.55	193.70	100	100% SANDSTONE, MEDIUM GRAINED: CALCITIC, COALY, LIGHT GREY, WEAK ROCK.
193.70	194.40	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182425

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
194.40	194.85	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
194.85	194.95	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, WEAK ROCK.
194.95	195.04	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
195.04	195.79	100	100% SILTSTONE: ARENACEOUS LENSES, GREY, MODERATELY WEAK ROCK.
195.79	196.13	100	100% PEBBLE CONGLOMERATE: ARENACEOUS, GREY-GREEN, MODERATELY WEAK ROCK.
196.13	196.33	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
196.33	196.76	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
196.76	196.91	100	100% SANDSTONE, MEDIUM GRAINED: PEBBLY, LIGHT GREY, WEAK ROCK.
196.91	198.00	100	100% SANDSTONE, MEDIUM GRAINED: COALY STREAKS, LIGHT GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
198.00	199.45	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
199.45	199.47	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
199.47	199.48	100	100% COAL, INTERBANDED DULL AND BRIGHT:.
199.48	199.51	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
199.51	199.55	100	100% COAL, HEAVY DULL:.

BOREHOLE LITHOLOGICAL LOG

182426

EASE : GRAY
OREHOLE : GY 11

)P	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
99.55 -	199.80	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK BROWN, WEAK ROCK.
99.80 -	200.18	100	100% CLAYSTONE: FISSILE, LIGHT BROWN, WEAK ROCK.
00.18 -	200.26	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, WEAK ROCK.
200.26 -	200.28	100	100% CLAYSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.
200.28 -	200.48	100	100% SILTSTONE: CARBONACEOUS LAMINAE, GREY, WEAK ROCK.
200.48 -	200.75	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, WEAK ROCK.
00.75 -	200.78	100	100% CLAYSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.
00.78 -	200.87	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, VERY WEAK ROCK.
00.87 -	200.91	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, SOFT.
200.91 -	201.15	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, WEAK ROCK
01.15 -	201.34	100	100% CLAYSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, VERY WEAK ROCK.
01.34 -	201.40	100	100% CLAYSTONE: FISSILE, BROWN, SOFT.
01.40 -	201.60	100	100% CLAYSTONE: LIGHT BROWN, VERY WEAK ROCK.
201.60 -	201.68	100	100% CARBONACEOUS SHALE:.
01.68 -	201.75	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK BRO MODERATELY WEAK ROCK.
01.75 -	201.92	100	100% CLAYSTONE: FISSILE, LIGHT GREEN, SOFT.
201.92 -	201.95	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
201.95 -	202.04	100	100% COAL, HEAVY DULL:.
02.04 -	202.24	100	100% COAL, INTERBANDED DULL AND BRIGHT:.
02.24 -	202.33	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182427

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
202.33	204.28	100	100% SILTSTONE: ARENACEOUS LAMINAE, GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
204.28	204.48	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LAMINAE, LIGHT GREEN, VERY WEAK ROCK.
204.48	205.02	100	100% SANDSTONE, FINE GRAINED: SILTSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK.
205.02	206.49	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
206.49	206.61	100	100% CLAYSTONE: FISSILE, LIGHT GREEN, FIRM.
206.61	206.65	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, BROWN, WEAK ROCK.
206.65	206.71	100	100% CLAYSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, VERY WEAK ROCK.
206.71	206.82	100	100% SILTSTONE: CARBONACEOUS BANDS, DARK GREY, MODERATELY WEAK ROCK.
206.82	206.89	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
206.89	206.95	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, VERY WEAK ROCK.
206.95	206.98	100	100% MUDSTONE: CARBONACEOUS, BROWN, MODERATELY WEAK ROCK.
206.98	207.55	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED,WIDE JOINT SPACING, JOINTS DIP 20 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
207.55	207.87	100	100% CLAYSTONE: CARBONACEOUS STREAKS, LIGHT GREEN, WITH MICA, VERY WEAK ROCK.
207.87	208.28	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
208.28	208.36	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, BROWN, MODERATELY WEAK ROCK.
208.36	208.46	100	100% CLAYSTONE: FISSILE, MICACEOUS, LIGHT BROWN, VERY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182428

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
208.46	208.56	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, WEAK ROCK.
208.56	208.63	100	100% CLAYSTONE: LIGHT BROWN, WEAK ROCK,WITH MUD PELLETS.
208.63	208.72	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK BROWN, WEAK ROCK.
208.72	208.94	100	100% CLAYSTONE: FISSILE, MICACEOUS, LIGHT BROWN, VERY WEAK ROCK.
208.94	209.00	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK BROWN, MODERATELY WEAK ROCK.
209.00	209.09	100	100% CLAYSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.
209.09	209.31	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
209.31	209.34	100	100% MUDSTONE: LIGHT BROWN, WEAK ROCK.
209.34	209.43	100	100% COAL, HEAVY DULL: BRIGHT COAL BANDS.
209.43	209.50	100	100% COAL, BRIGHT WITH NUMEROUS DULL BANDS:.
209.50	209.53	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
209.53	209.56	100	100% SILTSTONE: COALY STREAKS, GREY, MODERATELY WEAK ROCK.
209.56	209.65	100	100% MUDSTONE: COALY LENSES, BROWN, MODERATELY WEAK ROCK.
209.65	209.75	100	100% SILTSTONE: COALY LENSES, GREY, MODERATELY WEAK ROCK.
209.75	210.09	100	100% SILTSTONE: COALY STREAKS, GREY, WEAK ROCK,LAMINATED.
210.09	211.12	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
211.12	211.47	100	100% SILTSTONE: ARENACEOUS LAMINAE, GREY, MODERATELY WEAK ROCK.
211.47	214.68	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
214.68	214.91	100	100% CLAYSTONE: FISSILE, MICACEOUS, LIGHT GREEN, FIRM.

BOREHOLE LITHOLOGICAL LOG

182429

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
214.91	214.95	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
214.95	214.97	100	100% COAL, BRIGHT WITH NUMEROUS DULL BANDS:.
214.97	215.00	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY STRONG ROCK.
215.00	215.03	100	100% COAL, HEAVY DULL: BRIGHT COAL BANDS.
215.03	215.18	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
215.18	215.40	100	100% MUDSTONE: CARBONACEOUS, ARENACEOUS, BROWN, WEAK ROCK.
215.40	215.59	100	100% MUDSTONE: COALY LENSES, BROWN, WEAK ROCK.
215.59	215.74	100	100% SILTSTONE: COALY LENSES, LIGHT BROWN, WEAK ROCK.
215.74	217.11	100	100% SILTSTONE: GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
217.11	218.64	100	100% SANDSTONE, FINE GRAINED: SILTSTONE LAMINAE, LIGHT GREY, WITH MICA, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING,VERY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
218.64	220.36	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THICK BEDDING.
220.36	224.76	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
224.76	225.44	100	100% SANDSTONE, MEDIUM GRAINED: CALCITIC, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
225.44	225.89	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182430

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
225.89	227.00	100	100% SANDSTONE, FINE GRAINED: CALCITIC, MICACEOUS, LIGHT GREY, MODERATELY WEAK ROCK.VERY WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
227.00	227.40	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
227.40	230.42	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, MICACEOUS, LIGHT GREY, MODERATELY WEAK ROCK.
230.42	230.57	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS BANDS, LIGHT GREY, MODERATELY WEAK ROCK.
230.57	230.81	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
230.81	231.30	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
231.30	231.52	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
231.52	231.54	100	100% COAL, HEAVY DULL: BRIGHT COAL BANDS.
231.54	231.74	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
231.74	232.18	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
232.18	232.44	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
232.44	232.54	100	100% COAL, HEAVY DULL: MUDSTONE, FRAGMENTS.
232.54	232.56	100	100% MUDSTONE: GREY.
232.56	232.58	100	100% COAL, HEAVY DULL:.
232.58	232.62	100	100% CARBONACEOUS SHALE: MUDSTONE, FRAGMENTS.
232.62	232.65	100	100% MUDSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.
232.65	232.77	100	100% COAL, HEAVY DULL: CARBONACEOUS LENSES.
232.77	233.18	100	100% MUDSTONE: LIGHT BROWN, VERY WEAK ROCK, ,RAPID SLAKING.
233.18	233.37	100	100% COAL, HEAVY DULL: CARBONACEOUS LENSES.

BOREHOLE LITHOLOGICAL LOG

182431

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
233.37	233.39	100	100% MUDSTONE: LIGHT BROWN, VERY WEAK ROCK, .RAPID SLAKING.
233.39	233.44	100	100% MUDSTONE: CARBONACEOUS, BROWN.
233.44	233.50	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
233.50	233.60	100	100% CARBONACEOUS SHALE: BRIGHT COAL LENSES.
233.60	233.63	100	100% COAL, BRIGHT WITH FEW DULL BANDS:.
233.63	233.69	100	100% MUDSTONE: SIDERITIC, DARK BROWN.
233.69	233.75	100	100% COAL, HEAVY DULL:.
233.75	233.78	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN.
233.78	233.81	100	100% COAL, HEAVY DULL:.
233.81	233.82	100	100% MUDSTONE: GREY.
233.82	233.86	100	100% CARBONACEOUS SHALE:.
233.86	233.88	100	100% COAL, HEAVY DULL:.
233.88	233.89	100	100% COAL, BRIGHT WITH FEW DULL BANDS:.
233.89	233.92	100	100% MUDSTONE: SIDERITIC, DARK BROWN.
233.92	233.99	100	100% CARBONACEOUS SHALE: HEAVY DULL COAL LENSES.
233.99	234.05	100	100% MUDSTONE: SIDERITIC, DARK BROWN.
234.05	234.32	100	50% MUDSTONE: CARBONACEOUS, DARK BROWN, 50% CARBONACEOUS SHALE: HEAVY DULL COAL LENSES.
234.32	234.34	100	100% CARBONACEOUS SHALE:.
234.34	234.38	100	100% CARBONACEOUS SHALE: BRIGHT COAL LENSES.
234.38	234.40	100	100% MUDSTONE: DARK GREY, MODERATELY WEAK ROCK.
234.40	234.52	100	100% CARBONACEOUS SHALE:.
234.52	234.62	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN.
234.62	234.77	100	100% CARBONACEOUS SHALE:.
234.77	234.79	100	100% SANDSTONE: LITHIC, GREY, VERY WEAK ROCK.
234.79	234.92	100	100% MUDSTONE: LIGHT BROWN, VERY WEAK ROCK, .RAPID SLAKING.
234.92	235.04	100	100% CARBONACEOUS SHALE:.
235.04	235.07	100	100% MUDSTONE: LIGHT BROWN, VERY WEAK ROCK, .RAPID SLAKING.
235.07	235.10	100	100% CARBONACEOUS SHALE:.

BOREHOLE LITHOLOGICAL LOG

182432

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
235.10	235.16	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
235.16	235.33	100	100% MUDSTONE: BROWN, VERY WEAK ROCK.
235.33	235.56	100	100% CARBONACEOUS SHALE: MUDSTONE, FRAGMENTS, MODERATELY WEAK ROCK.
235.56	235.73	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, STRONG ROCK.
235.73	236.69	100	100% MUDSTONE: LIGHT BROWN, VERY WEAK ROCK, ,RAPID SLAKING.
236.69	236.81	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, STRONG ROCK.
236.81	237.06	100	100% CARBONACEOUS SHALE: MUDSTONE, FRAGMENTS, STRONG ROCK.
237.06	237.09	100	100% MUDSTONE: GREY, WEAK ROCK, ,RAPID SLAKING.
237.09	237.18	100	100% COAL, HEAVY DULL: CARBONACEOUS LENSES, STRONG ROCK.
237.18	237.39	100	100% CARBONACEOUS SHALE: MUDSTONE LENSES.
237.39	237.46	100	100% MUDSTONE: LIGHT GREY, MODERATELY STRONG ROCK.
237.46	237.71	100	100% CARBONACEOUS SHALE: MUDSTONE LENSES.
237.71	237.86	100	100% MUDSTONE: CARBONACEOUS, GREY-BROWN, MODERATELY STRONG ROCK.
237.86	237.99	100	100% CARBONACEOUS SHALE:.
237.99	238.00	100	100% MUDSTONE: DARK GREY.
238.00	238.02	100	100% CARBONACEOUS SHALE:.
238.02	238.05	100	100% MUDSTONE: GREY.
238.05	238.06	100	100% CARBONACEOUS SHALE:.
238.06	238.11	100	100% MUDSTONE: LIGHT BROWN, VERY WEAK ROCK.
238.11	238.21	100	100% COAL, HEAVY DULL: CARBONACEOUS LENSES.
238.21	238.26	100	100% COAL, DULL:.
238.26	238.30	100	100% CARBONACEOUS SHALE:.
238.30	238.33	100	100% MUDSTONE: LIGHT GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182433

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
238.33	238.77	100	100% CARBONACEOUS SHALE: BRIGHT COAL LENSES. MODERATELY WEAK ROCK.
238.77	238.87	100	100% MUDSTONE: SILTSTONE. BROWN. MODERATELY WEAK ROCK. AND MUD PELLETS.
238.87	238.90	100	100% CLAYSTONE: FISSILE. MICACEOUS. LIGHT BROWN. VERY WEAK ROCK.
238.90	239.00	100	100% MUDSTONE: CARBONACEOUS. SILTSTONE. BROWN. MODERATELY WEAK ROCK. AND MUD PELLETS.
239.00	239.35	100	100% SILTSTONE: CARBONACEOUS STREAKS. GREY. WEAK ROCK.
239.35	240.01	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 80 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
240.01	240.11	100	100% CLAYSTONE: FISSILE. MICACEOUS. LIGHT GREEN. VERY WEAK ROCK.
240.11	240.14	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.
240.14	240.63	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.
240.63	240.72	100	100% CLAYSTONE: FISSILE. BROWN. VERY WEAK ROCK.
240.72	240.97	100	100% SILTSTONE: CARBONACEOUS STREAKS. GREY. MODERATELY WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
240.97	241.02	100	100% CLAYSTONE: CARBONACEOUS BANDS. LIGHT BROWN. VERY WEAK ROCK.
241.02	241.07	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
241.07	241.12	100	100% MUDSTONE: CARBONACEOUS. COALY. BROWN - BLACK. MODERATELY STRONG ROCK.
241.12	241.28	100	100% CLAYSTONE: FISSILE. LIGHT BROWN. VERY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182434

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
241.28	241.35	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
241.35	241.47	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK BROWN, WEAK ROCK.
241.47	241.59	100	100% CLAYSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.
241.59	241.77	100	100% CLAYSTONE: FISSILE, MICACEOUS, LIGHT GREEN, VERY WEAK ROCK.
241.77	241.84	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK BROWN, MODERATELY WEAK ROCK.
241.84	241.87	100	100% CLAYSTONE: FISSILE, LIGHT GREEN, VERY WEAK ROCK.
241.87	242.00	100	70% MUDSTONE: CARBONACEOUS BANDS, DARK BROWN, 30% CLAYSTONE: LIGHT BROWN.
242.00	242.14	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, BROWN, MODERATELY WEAK ROCK.
242.14	242.30	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
242.30	242.46	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK BROWN, MODERATELY WEAK ROCK.
242.46	242.52	100	100% CLAYSTONE: FISSILE, MICACEOUS, LIGHT GREEN, VERY WEAK ROCK.
242.52	242.58	100	100% MUDSTONE: CARBONACEOUS, FISSILE, BROWN - BLACK, WEAK ROCK.
242.58	242.61	100	100% CLAYSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.
242.61	242.78	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK BROWN, MODERATELY WEAK ROCK.
242.78	242.85	100	100% COAL, HEAVY DULL: BRIGHT COAL BANDS.
242.85	243.03	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, WEAK ROCK.
243.03	243.06	100	100% COAL, HEAVY DULL:.
243.06	243.12	100	100% COAL, DULL:.

BOREHOLE LITHOLOGICAL LOG

182435

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
243.12	243.13	100	100% COAL, BRIGHT:.
243.13	243.19	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
243.19	243.48	100	100% SILTSTONE: CARBONACEOUS, DARK GREY, WEAK ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
243.48	244.60	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
244.60	246.50	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED.
246.50	247.37	100	100% SILTSTONE: ARENACEOUS LAMINAE, GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING.
247.37	248.45	100	100% SANDSTONE, FINE GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
248.45	248.97	100	50% SANDSTONE, FINE GRAINED: LIGHT GREY. 50% SILTSTONE: LIGHT GREY, MODERATELY WEAK ROCK,THIN BEDDING.
248.97	249.05	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
249.05	249.40	100	100% SANDSTONE, FINE GRAINED: SILTSTONE LAMINAE. LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING.
249.40	252.40	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
252.40	254.54	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
254.54	255.47	100	100% SANDSTONE: MED.TO FINE GRAINED, CALCITIC, LIGHT GREY, MODERATELY WEAK ROCK.
255.47	258.39	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182436

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
258.39	259.40	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
259.40	259.58	100	100% CLAYSTONE: CARBONACEOUS BANDS, LIGHT BROWN, WEAK ROCK.
259.58	259.63	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
259.63	259.87	100	100% MUDSTONE: CARBONACEOUS, BROWN.
259.87	259.89	100	100% COAL, HEAVY DULL:, STRONG ROCK.
259.89	259.93	100	100% MUDSTONE: CREAM.
259.93	259.97	100	100% MUDSTONE: CARBONACEOUS, GREY-BROWN.
259.97	260.00	100	100% COAL, HEAVY DULL:.
260.00	260.08	100	100% COAL, INTERBANDED DULL AND BRIGHT: CALCITE ON CLEAT.
260.08	260.10	100	100% MUDSTONE: DARK GREY.
260.10	260.11	100	100% MUDSTONE: BROWN, MODERATELY STRONG ROCK.
260.11	260.13	100	100% MUDSTONE: DARK GREY, MODERATELY STRONG ROCK.
260.13	260.16	100	100% MUDSTONE: BROWN, WEAK ROCK.
260.16	260.29	100	100% MUDSTONE: DARK GREY, MODERATELY STRONG ROCK.
260.29	260.53	100	100% MUDSTONE: GREY-BROWN, VERY WEAK ROCK.
260.53	260.60	100	100% MUDSTONE: CARBONACEOUS, GREY.
260.60	260.63	100	100% MUDSTONE: BROWN, WEAK ROCK.
260.63	260.71	100	100% MUDSTONE: CARBONACEOUS, DARK GREY.
260.71	260.79	100	100% MUDSTONE: BROWN, WEAK ROCK.
260.79	261.03	100	100% MUDSTONE: CARBONACEOUS, BLACK.
261.03	261.05	100	100% COAL, HEAVY DULL:.
261.05	261.06	100	100% MUDSTONE: BROWN.
261.06	261.20	100	100% MUDSTONE: CARBONACEOUS, BLACK, WEAK ROCK.
261.20	261.35	100	100% MUDSTONE: DARK GREY.
261.35	261.63	100	100% MUDSTONE: SILTSTONE, LIGHT BROWN, VERY WEAK ROCK.
261.63	261.80	100	100% CARBONACEOUS SHALE:.
261.80	261.83	100	100% MUDSTONE: BROWN.
261.83	261.98	100	100% CARBONACEOUS SHALE:.
261.98	262.05	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK.

BOREHOLE LITHOLOGICAL LOG

182437

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
262.05 - 262.28		100	100% CARBONACEOUS SHALE:.
262.28 - 262.40		100	100% MUDSTONE: LIGHT BROWN. VERY WEAK ROCK.
SAMPLE:1			*** CORE DESCRIPTION ***
262.40			
	0.01	100	100% CARBONACEOUS SHALE:.
	0.02	100	100% COAL. HEAVY DULL:.
	0.12	100	100% CARBONACEOUS SHALE:.
	0.14	100	100% COAL. HEAVY DULL: CARBONACEOUS LENSES.
	0.01	100	100% MUDSTONE: BROWN. VERY WEAK ROCK.
	0.10	100	100% COAL. HEAVY DULL: CARBONACEOUS LENSES.
	0.05	100	100% MUDSTONE: BROWN.
	0.11	100	100% COAL. HEAVY DULL: CARBONACEOUS LENSES.
	0.04	100	100% MUDSTONE: BROWN. MODERATELY WEAK ROCK.
	0.04	100	100% COAL. HEAVY DULL:.
	0.06	100	100% MUDSTONE: GREY-BROWN.
	0.01	100	100% CARBONACEOUS SHALE:.
	0.07	100	100% COAL. HEAVY DULL:.
	0.48	100	100% COAL. DULL: HEAVY DULL COAL LENSES.
	0.05	100	100% COAL. HEAVY DULL:.
	0.14	100	100% CARBONACEOUS SHALE: MUDSTONE LENSES.
	0.09	100	100% COAL. HEAVY DULL:.
	0.06	100	100% MUDSTONE: CARBONACEOUS. GREY.
	0.15	100	100% COAL. HEAVY DULL:. STRONG ROCK.
	0.07	100	100% MUDSTONE: CARBONACEOUS. GREY.
	0.05	100	100% COAL. HEAVY DULL:.
	0.06	100	100% CARBONACEOUS SHALE:.
	0.05	100	100% MUDSTONE: BROWN.
	0.06	100	100% CARBONACEOUS SHALE:.
	0.05	100	100% MUDSTONE: BROWN.
	0.11	100	100% COAL. HEAVY DULL: CARBONACEOUS LENSES.
264.60	2.20		TOTAL

BOREHOLE LITHOLOGICAL LOG

182438

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
SAMPLE:1			*** CORE DESCRIPTION ***
			*** CORE DESCRIPTION ***
264.60	264.80	100	100% CLAYSTONE: FISSILE, LIGHT BROWN, WEAK ROCK.
264.80	267.29	100	100% SHALE: CARBONACEOUS LAMINAE, GREY, WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
267.29	269.00	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
269.00	271.98	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
271.98	272.50	100	100% SANDSTONE: MED.TO FINE GRAINED, CALCITIC, LIGHT GREY, MODERATELY WEAK ROCK.
272.50	273.57	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
273.57	273.74	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
273.74	274.50	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
274.50	275.13	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
75.13	275.30	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
75.30	275.67	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
75.67	277.12	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
77.12	277.19	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
77.19	277.75	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182439

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
277.75	277.87	100	100% SANDSTONE. MEDIUM GRAINED: COALY LENSES. LIGHT GREY. MODERATELY WEAK ROCK.WITH MUD PELLETS.
277.87	278.03	100	100% SANDSTONE. FINE GRAINED: LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.
278.03	279.23	100	100% SANDSTONE. MEDIUM GRAINED: COALY LENSES. LIGHT GREY. MODERATELY WEAK ROCK.WITH MUD PELLETS.
279.23	280.64	100	100% SANDSTONE. MEDIUM GRAINED: LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.WITH MUD PELLETS.
280.64	280.90	100	100% SANDSTONE. MEDIUM GRAINED: COALY LENSES. LIGHT GREY. MODERATELY WEAK ROCK.WITH MUD PELLETS.
280.90	281.20	100	100% SANDSTONE. FINE GRAINED: LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.
281.20	281.90	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS BANDS. LIGHT GREY. MODERATELY WEAK ROCK.WITH MUD PELLETS.
281.90	283.11	100	100% SANDSTONE: MED.TO FINE GRAINED. LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.
283.11	284.15	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS STREAKS. LIGHT GREY. MODERATELY WEAK ROCK.WITH MUD PELLETS.
284.15	284.52	100	100% SANDSTONE. MEDIUM GRAINED: PEBBLY. CALCITIC. LIGHT GREY. MODERATELY WEAK ROCK.
284.52	288.19	100	100% SANDSTONE: CARBONACEOUS STREAKS. LIGHT GREY. MODERATELY WEAK ROCK.
288.19	288.33	100	100% SANDSTONE. FINE GRAINED: COALY LENSES. LIGHT GREY. MODERATELY WEAK ROCK.
288.33	288.85	100	100% SANDSTONE: CARBONACEOUS STREAKS. LIGHT GREY. MODERATELY WEAK ROCK.
288.85	288.90	100	100% COAL. INTERBANDED DULL AND BRIGHT:.
288.90	288.91	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
288.91	288.95	100	100% COAL. DULL WITH NUMEROUS BRIGHT BANDS:.

BOREHOLE LITHOLOGICAL LOG

182440

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
288.95	288.99	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
288.99	289.04	100	100% CLAYSTONE: CARBONACEOUS, BROWN, FIRM.
289.04	289.20	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
289.20	289.21	100	100% CLAYSTONE: FISSILE, BROWN, FIRM.
289.21	289.29	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
289.29	289.37	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
289.37	289.45	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
289.45	289.76	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
289.76	289.84	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
289.84	289.88	100	100% COAL, INTERBANDED DULL AND BRIGHT:.
289.88	289.98	0	CORE LOSS.
289.98	290.00	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
290.00	290.15	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
290.15	290.20	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
290.20	290.23	100	100% MUDSTONE: CARBONACEOUS, BLACK, WEAK ROCK.
290.23	290.38	100	100% SILTSTONE: CARBONACEOUS, GREY, WEAK ROCK.MODERATELY CLOSE JOINT SPACING, JOINTS DIP 35 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
290.38	290.45	100	100% SILTSTONE: CARBONACEOUS BANDS, GREY, WEAK ROCK.
290.45	290.63	100	100% SANDSTONE, FINE GRAINED: SILTSTONE, LIGHT GREY, MODERATELY WEAK ROCK.
290.63	292.72	100	100% SILTSTONE: GREY, WEAK ROCK.MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
292.72	293.93	100	60% SANDSTONE, FINE GRAINED: LITHIC, LIGHT GREY, 40% SILTSTONE: GREY, MODERATELY WEAK ROCK.
293.93	294.15	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182441

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
294.15	294.43	100	100% SANDSTONE. MEDIUM GRAINED: LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.
294.43	295.11	100	70% SILTSTONE: BANDS. GREY. 30% SANDSTONE. MEDIUM GRAINED: LIGHT GREY. WEAK ROCK.
295.11	295.44	100	100% SANDSTONE. MEDIUM GRAINED: LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.
295.44	295.52	100	100% SILTSTONE: CARBONACEOUS LENSES. GREY. WEAK ROCK.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 30 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
295.52	295.60	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. WEAK ROCK.
295.60	295.67	100	100% COAL. HEAVY DULL: BRIGHT COAL BANDS.
295.67	295.71	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
295.71	296.35	100	100% MUDSTONE: SILTSTONE. FISSILE. GREY. VERY WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 35 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
269.35	296.50	100	100% MUDSTONE: FISSILE. CALCITIC. GREY. VERY WEAK ROCK.
269.50	296.59	100	100% MUDSTONE: FISSILE. SILTSTONE. GREY. VERY WEAK ROCK.
269.59	296.62	100	100% CLAYSTONE: FISSILE. LIGHT GREEN. VERY WEAK ROCK.
269.62	297.56	100	100% SILTSTONE: GREY. WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
297.56	298.06	100	100% SILTSTONE: ARENACEOUS LAMINAE. GREY. WITH MICA. WEAK ROCK.
298.06	299.55	100	100% SILTSTONE: ARENACEOUS LAMINAE. GREY. WITH MICA. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182442

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
299.55 -	300.24	100	100% SANDSTONE, FINE GRAINED: SILTSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK.
300.24 -	300.80	100	100% SILTSTONE: MICACEOUS, GREY, MODERATELY WEAK ROCK.
300.80 -	303.49	100	50% SILTSTONE: ARENACEOUS LAMINAE, GREY, 50% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
303.49 -	303.51	100	100% PEBBLE CONGLOMERATE: ARENACEOUS, LIGHT GREY, MODERATELY WEAK ROCK.
303.51 -	303.55	100	100% SANDSTONE, FINE GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
303.55 -	303.59	100	100% SANDSTONE, MEDIUM GRAINED: PEBBLY, LIGHT GREY, MODERATELY WEAK ROCK.
303.59 -	305.00	100	100% SANDSTONE, FINE GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
305.00 -	305.50	100	100% SANDSTONE: CARBONACEOUS LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
305.50 -	306.32	100	100% SANDSTONE: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
306.32 -	309.96	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
SAMPLE:2			*** CORE DESCRIPTION ***
309.96			
	0.09	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.
	0.12	100	100% COAL, HEAVY DULL:, STRONG ROCK.
	0.03	100	100% COAL, DULL:.
	0.19	100	100% COAL, HEAVY DULL:.
	0.07	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
	0.25	100	100% COAL, DULL: STRONGLY FRAGMENTED.
	0.15	100	100% COAL, HEAVY DULL: STRONGLY FRAGMENTED.

BOREHOLE LITHOLOGICAL LOG

182443

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
SAMPLE:2			*** CORE DESCRIPTION ***
	0.20	100	100% COAL. DULL: STRONGLY FRAGMENTED.
	0.03	100	100% MUDSTONE: DARK BROWN. MODERATELY WEAK ROCK.
	0.14	100	100% COAL. DULL:.
11.23	1.27		TOTAL
			*** CORE DESCRIPTION ***
11.23 - 311.48		100	100% MUDSTONE: CARBONACEOUS. SILTSTONE. DARK GREY. WEAK ROCK.
11.48 - 311.62		100	100% SILTSTONE: CARBONACEOUS BANDS. GREY. WEAK ROCK.
311.62 - 311.83		100	100% SILTSTONE: LAMINAE. GREY. WEAK ROCK.
311.83 - 312.25		100	100% SHALE: GREY. VERY WEAK ROCK.
12.25 - 312.86		100	100% SILTSTONE: MICACEOUS. GREY. WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
312.86 - 312.91		100	100% SHALE: GREY. VERY WEAK ROCK.
12.91 - 313.02		100	100% MUDSTONE: CARBONACEOUS. SILTSTONE. DARK GREY. WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
313.02 - 314.17		100	100% SANDSTONE. FINE GRAINED: LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.VERY WIDE JOINT SPACING. JOINTS DIP 55 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
14.17 - 315.12		100	100% SANDSTONE. FINE GRAINED: SILTSTONE LAMINAE. LIGHT GREY. WITH MICA. MODERATELY WEAK ROCK.
15.12 - 315.57		100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS LAMINAE. LIGHT GREY. MODERATELY WEAK ROCK.MODERATELY THIN BEDDING AND CROSS LAMINATION.
315.57 - 316.16		100	100% SANDSTONE: MED.TO FINE GRAINED. LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.
16.16 - 316.47		100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS LENSES. LIGHT GREY. MODERATELY WEAK ROCK.THIN BEDDING.

BOREHOLE LITHOLOGICAL LOG

182444

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
316.47	317.51	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
317.51	317.85	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK.MODERATELY THIN BEDDING.
317.85	318.00	100	100% SANDSTONE: CARBONACEOUS BANDS, LIGHT GREY, WEAK ROCK.
318.00	318.96	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
318.96	319.26	100	100% SANDSTONE, FINE GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
319.26	319.66	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
319.66	319.85	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS BANDS, LIGHT GREY, MODERATELY WEAK ROCK.MODERATELY THIN BEDDING.
319.85	321.34	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
321.34	321.62	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS BANDS, LIGHT GREY, WEAK ROCK.
321.62	322.81	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
322.81	323.27	100	100% SANDSTONE, FINE GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
323.27	324.20	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
324.20	324.32	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS BANDS, LIGHT GREY, MODERATELY WEAK ROCK.
324.32	324.64	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, WEAK ROCK.
SAMPLE:3			*** CORE DESCRIPTION ***

BOREHOLE LITHOLOGICAL LOG

182445

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
SAMPLE:3			*** CORE DESCRIPTION ***
324.64			
	0.11	100	100% COAL. DULL:.
	0.03	100	100% COAL. HEAVY DULL:.
	0.08	100	100% COAL. DULL: HEAVY DULL COAL LENSES. STRONG ROCK.
	0.16	100	100% MUDSTONE: COALY LENSES. BLACK. MODERATELY WEAK ROCK.
	0.03	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.
	0.02	100	100% COAL. BRIGHT:.
	0.10	100	100% COAL. HEAVY DULL:. STRONG ROCK.
	0.02	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY WEAK ROCK.
	0.09	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.
	0.02	100	100% CARBONACEOUS SHALE: BLACK.
	0.33	0	CORE LOSS.
	0.10	100	100% MUDSTONE: FRAGMENTED. CARBONACEOUS. GREY.
	0.04	100	100% MUDSTONE: BROWN. MODERATELY WEAK ROCK.
	0.14	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.
	0.06	100	100% MUDSTONE: CARBONACEOUS. FRAGMENTED. BLACK.
325.97	1.33		TOTAL
SAMPLE:4			*** CORE DESCRIPTION ***
325.97			
	0.06	100	100% COAL. DULL: FRAGMENTED.
	0.01	100	100% COAL. DULL:.
	0.02	100	100% MUDSTONE: BROWN. MODERATELY WEAK ROCK.
	0.01	100	100% COAL. HEAVY DULL:.
	0.32	100	100% COAL. DULL:.
	0.01	100	100% MUDSTONE: GREY.
	1.00	100	100% COAL. DULL:.
327.40	1.43		TOTAL

BOREHOLE LITHOLOGICAL LOG

182446

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
SAMPLE:4			*** CORE DESCRIPTION ***
			*** CORE DESCRIPTION ***
327.40	327.86	100	100% MUDSTONE: FRAGMENTED, GREY, MODERATELY WEAK ROCK.
327.86	328.12	100	100% MUDSTONE: SILTSTONE, GREY-BROWN, WEAK ROCK.
328.12	328.94	100	100% SANDSTONE, FINE GRAINED: SILTSTONE, MICACEOUS, LIGHT BROWN, WEAK ROCK.
328.94	328.97	100	100% SILTSTONE: CARBONACEOUS LAMINAE, GREY, WEAK ROCK.
328.97	329.85	100	100% SANDSTONE, FINE GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
329.85	332.68	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, GREY, MODERATELY WEAK ROCK.
332.68	333.19	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
333.19	333.22	100	100% SANDSTONE, MEDIUM GRAINED: FISSILE, MICACEOUS, GREY, VERY WEAK ROCK.
333.22	333.25	100	100% CALCITE: ARENACEOUS, CREAM, MODERATELY WEAK ROCK.
333.25	333.53	100	100% SANDSTONE: CALCITIC, MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
333.53	333.58	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS LENSES, GREY-GREEN, VERY WEAK ROCK.
333.58	333.62	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
333.62	333.86	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
333.86	334.43	100	100% SANDSTONE, FINE GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
334.43	334.52	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LENSES, LIGHT GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182447

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
334.52	334.64	100	100% SANDSTONE. FINE GRAINED: LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.
334.64	335.82	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS STREAKS. LIGHT GREY. MODERATELY WEAK ROCK.
335.82	336.01	100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS LAMINAE. LIGHT GREY. MODERATELY WEAK ROCK.
336.01	336.97	100	100% SANDSTONE: MED.TO FINE GRAINED. LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.
336.97	339.14	100	100% SANDSTONE. MEDIUM GRAINED: LITHIC. GREY-GREEN. MODERATELY WEAK ROCK.
339.14	340.17	100	100% SANDSTONE: MED.TO FINE GRAINED. LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.
340.17	340.27	100	100% SANDSTONE. FINE GRAINED: CALCITIC. LIGHT GREY. MODERATELY WEAK ROCK.
340.27	341.00	100	100% SANDSTONE. FINE GRAINED: LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.
341.00	341.60	100	100% SANDSTONE: MED.TO FINE GRAINED. LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.
341.60	341.86	100	100% SANDSTONE: PEBBLY. LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.
341.86	343.70	100	100% SANDSTONE. MEDIUM GRAINED: LITHIC. GREY-GREEN. MODERATELY WEAK ROCK.
343.70	346.47	100	100% SANDSTONE: MED.TO FINE GRAINED. LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.
346.47	346.55	100	100% SANDSTONE: COALY LENSES. LIGHT GREY. MODERATELY WEAK ROCK.
346.55	347.43	100	100% SANDSTONE: MED.TO FINE GRAINED. LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.
347.43	348.24	100	100% SANDSTONE: CARBONACEOUS BANDS. LIGHT GREY. WEAK ROCK.
348.24	348.56	100	100% SANDSTONE. MEDIUM GRAINED: LITHIC. GREY-GREEN. MODERATELY WEAK ROCK.WITH MUD PELLETS.

BOREHOLE LITHOLOGICAL LOG

182448

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
348.56	353.46	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
353.46	353.55	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK BROWN, WEAK ROCK.
353.55	353.58	100	100% MUDSTONE: CARBONACEOUS, FISSILE, BROWN - BLACK.
353.58	353.65	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN,MODERATELY WIDE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES.
353.65	354.49	100	100% SILTSTONE: CARBONACEOUS STREAKS, GREY, WEAK ROCK,LAMINATED AND CROSS LAMINATION.
354.49	354.51	100	100% COAL, HEAVY DULL:.
354.51	354.55	100	100% SILTSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, WEAK ROCK.
354.55	356.50	100	100% SILTSTONE: GREY, WEAK ROCK,LAMINATED,WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
356.50	356.71	100	100% SILTSTONE: CARBONACEOUS BANDS, GREY, WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
356.71	357.07	100	100% SILTSTONE: BADLY BROKEN, GREY, VERY WEAK ROCK.
357.07	357.49	100	100% SANDSTONE, FINE GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
357.49	362.88	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
362.88	363.55	100	100% SILTSTONE: GREY, WEAK ROCK,LAMINATED,WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
363.55	364.86	100	100% SILTSTONE: CARBONACEOUS BANDS, GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.

BOREHOLE LITHOLOGICAL LOG

182449

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
364.86	365.00	100	100% MUDSTONE: CARBONACEOUS, COALY, BLACK, MODERATELY STRONG ROCK.
365.00	365.04	100	100% COAL, HEAVY DULL:.
365.04	365.35	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
365.35	365.52	100	100% SILTSTONE: CARBONACEOUS, GREY, WEAK ROCK.
365.52	366.14	100	100% SILTSTONE: ARENACEOUS LAMINAE, GREY, WITH MICA, MODERATELY WEAK ROCK.
366.14	366.29	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED.
366.29	366.39	100	50% SILTSTONE: GREY, 50% MUDSTONE: CARBONACEOUS, DARK BROWN, WEAK ROCK.
366.39	366.67	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,MODERATELY CLOSE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
366.67	366.74	100	100% SANDSTONE, FINE GRAINED: SILTSTONE STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
366.74	366.94	100	100% SILTSTONE: ARENACEOUS LAMINAE, GREY, MODERATELY WEAK ROCK.
366.94	367.37	100	100% SILTSTONE: DARK GREY, MODERATELY WEAK ROCK.
367.37	367.95	100	100% SILTSTONE: ARENACEOUS LAMINAE, GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION.
367.95	369.13	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
369.13	370.07	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED,MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
370.07	370.14	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182450

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
370.14	370.18	100	100% MUDSTONE: CARBONACEOUS, BLACK, VERY WEAK ROCK.
370.18	370.21	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, MODERATELY WEAK ROCK.
370.21	370.24	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, VERY WEAK ROCK.
370.24	370.36	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, WEAK ROCK.
370.36	370.57	100	100% SILTSTONE: GREY, WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 20 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
370.57	370.72	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, WEAK ROCK.
370.72	371.08	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, WEAK ROCK.
371.08	371.18	100	100% MUDSTONE: CARBONACEOUS, FISSILE, BROWN - BLACK.
371.18	371.30	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, BROWN - BLACK, MODERATELY WEAK ROCK.
371.30	371.42	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
371.42	371.46	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, WEAK ROCK.
371.46	371.52	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, VERY WEAK ROCK.
371.52	371.56	100	100% COAL, HEAVY DULL: BRIGHT COAL BANDS.
371.56	371.60	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
371.60	371.78	100	100% SILTSTONE: GREY, WEAK ROCK.
371.78	372.14	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED.
372.14	372.36	100	100% SILTSTONE: COALY LENSES, GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 35 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.

BOREHOLE LITHOLOGICAL LOG

182451

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
372.36	372.75	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
372.75	373.37	100	100% SANDSTONE: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
373.37	373.56	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
373.56	373.84	100	100% SANDSTONE, FINE GRAINED: SILTSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK.
373.84	374.93	100	100% SANDSTONE, FINE GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
374.93	375.01	100	100% SANDSTONE, FINE GRAINED: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
375.01	376.93	100	100% SANDSTONE: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
376.93	377.07	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
377.07	377.10	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
377.10	377.57	100	100% SILTSTONE: GREY, WITH MICA, MODERATELY WEAK ROCK,LAMINATED.
377.57	377.64	100	100% MUDSTONE: CARBONACEOUS, BLACK, WEAK ROCK.
377.64	377.67	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, WEAK ROCK.
377.67	378.25	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, WEAK ROCK.
378.25	378.57	100	60% MUDSTONE: CARBONACEOUS, BROWN - BLACK, 40% SANDSTONE, FINE GRAINED: LIGHT GREY, WEAK ROCK,THIN BEDDING,WITH CROSS LAMINATION,WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
378.57	379.32	100	100% SILTSTONE: CARBONACEOUS, DARK BROWN, WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.

BOREHOLE LITHOLOGICAL LOG

182452

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
379.32	- 379.55	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE. DARK BROWN. WEAK ROCK.
379.55	- 379.80	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK. WEAK ROCK.
379.80	- 379.82	100	100% CLAYSTONE: CARBONACEOUS, BADLY BROKEN, BROWN. SOFT.
379.82	- 379.95	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE. BROWN. MODERATELY WEAK ROCK.
379.95	- 380.07	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK. MODERATELY WEAK ROCK.
380.07	- 380.11	100	100% MUDSTONE: BROWN. VERY WEAK ROCK.
380.11	- 380.31	100	100% CARBONACEOUS SHALE: BLACK.
380.31	- 380.33	100	100% MUDSTONE: GREY, MODERATELY STRONG ROCK.
380.33	- 380.35	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY STRONG ROCK.
SAMPLE:5			*** CORE DESCRIPTION ***
380.35			
	0.39	100	100% COAL. HEAVY DULL: DULL COAL LENSES, STRONG ROCK.
	0.02	100	100% MUDSTONE: CARBONACEOUS, BROWN, MODERATELY STRONG ROCK.
	0.02	100	100% CARBONACEOUS SHALE: BLACK.
	0.04	100	100% COAL. HEAVY DULL:, STRONG ROCK.
	0.01	100	100% COAL. BRIGHT:, WEAK ROCK.
	0.18	100	100% COAL. HEAVY DULL: BRIGHT COAL LENSES. STRONG ROCK.
	0.01	100	100% CARBONACEOUS SHALE: BLACK.
	0.03	100	100% COAL. INTERBANDED DULL AND BRIGHT:.
	0.03	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
	0.15	100	100% COAL. HEAVY DULL: BRIGHT COAL LENSES. STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182453

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
SAMPLE:5			*** CORE DESCRIPTION ***
	0.01	100	100% CARBONACEOUS SHALE: BLACK.
381.24	0.89		TOTAL
			*** CORE DESCRIPTION ***
381.24 - 381.29		100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
381.29 - 381.31		100	100% CLAYSTONE: FISSILE, BROWN, VERY WEAK ROCK.
381.31 - 381.32		100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
381.32 - 381.34		100	100% COAL, HEAVY DULL: BRIGHT COAL BANDS.
381.34 - 381.37		100	100% SILTSTONE: CARBONACEOUS, BROWN, MODERATELY WEAK ROCK.
381.37 - 382.84		100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
382.84 - 383.23		100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK,THIN BEDDING.
383.23 - 385.29		100	100% SANDSTONE, FINE GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
385.29 - 385.34		100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, VERY WEAK ROCK.
385.34 - 385.84		100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
385.84 - 386.13		100	100% SANDSTONE: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
386.13 - 386.79		100	100% SANDSTONE: COALY STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
386.79 - 387.01		100	100% SANDSTONE, FINE GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
387.01 - 388.00		100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182454

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
388.00	388.96	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 55 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
388.96	390.65	100	100% SILTSTONE: ARENACEOUS LAMINAE, GREY, MODERATELY WEAK ROCK.
390.65	392.84	100	100% SILTSTONE: GREY,LAMINATED.
392.84	393.02	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, WEAK ROCK.
393.02	393.22	100	100% SILTSTONE: CARBONACEOUS, DARK BROWN, WEAK ROCK.
393.22	393.46	100	100% SILTSTONE: CARBONACEOUS, ARENACEOUS, DARK GREY, MODERATELY WEAK ROCK,LAMINATED.
393.46	393.82	100	60% SILTSTONE: CARBONACEOUS, DARK GREY, 40% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,LAMINATED.
393.82	394.53	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK.
394.53	394.64	100	100% SILTSTONE: CARBONACEOUS, DARK BROWN, WEAK ROCK.
394.64	394.72	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK BROWN, WEAK ROCK.
394.72	394.78	100	100% MUDSTONE: CARBONACEOUS, FISSILE, BROWN - BLACK, VERY WEAK ROCK.
394.78	394.96	100	100% SILTSTONE: CARBONACEOUS, ARENACEOUS, GREY, MODERATELY WEAK ROCK.
394.96	395.06	100	100% SILTSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
395.06	395.50	100	50% SANDSTONE, FINE GRAINED: BANDS, LIGHT GREY, 50% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK BROWN, WEAK ROCK.
395.50	395.51	100	100% COAL, BRIGHT:.
395.51	395.95	100	70% SILTSTONE: CARBONACEOUS, DARK BROWN, 30% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, WEAK ROCK,LAMINATED.

BOREHOLE LITHOLOGICAL LOG

182455

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
395.95	396.77	100	100% SILTSTONE: GREY, WEAK ROCK,LAMINATED.
396.77	396.89	100	100% SILTSTONE: CARBONACEOUS, DARK GREY, WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
396.89	396.93	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
396.93	396.98	100	100% COAL, HEAVY DULL:.
396.98	397.01	100	100% CLAYSTONE: LIGHT BROWN, FIRM.
397.01	397.11	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, WEAK ROCK.
397.11	397.21	50	100% MUDSTONE: CARBONACEOUS, DARK BROWN.
397.21	397.49	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK BROWN, WEAK ROCK.
397.49	397.71	50	100% MUDSTONE: CARBONACEOUS, DARK BROWN, VERY WEAK ROCK.
397.71	397.79	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK BROWN, WEAK ROCK.
397.79	398.00	40	100% MUDSTONE: CARBONACEOUS, DARK BROWN, VERY WEAK ROCK.
398.00	398.25	100	100% SILTSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
398.25	398.89	100	70% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK BROWN, 30% SANDSTONE, FINE GRAINED:, WEAK ROCK,LAMINATED.
398.89	399.15	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK.
399.15	399.50	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
399.50	399.56	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, WEAK ROCK.
399.56	400.45	100	100% SILTSTONE:, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.

BOREHOLE LITHOLOGICAL LOG

182456

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
400.45	400.51	100	100% SILTSTONE: CARBONACEOUS, DARK GREY, WEAK ROCK.
400.51	400.53	100	100% CLAY: CARBONACEOUS, DARK GREY, SOFT.
400.53	401.25	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, WEAK ROCK.
401.25	401.27	100	100% CLAYSTONE: LIGHT BROWN, VERY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
401.27	402.08	100	100% SILTSTONE: GREY-BROWN, MODERATELY WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
402.08	402.52	100	100% SILTSTONE: CARBONACEOUS, BROWN, MODERATELY WEAK ROCK.
402.52	402.56	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK.
402.56	402.64	100	100% SILTSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
402.64	402.80	100	100% MUDSTONE: CARBONACEOUS, WEAK ROCK.
402.80	403.42	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, BROWN, MODERATELY WEAK ROCK.
403.42	403.75	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, WEAK ROCK.
403.75	403.92	100	100% MUDSTONE: CARBONACEOUS, ARENACEOUS, BROWN, WEAK ROCK.
403.92	404.37	100	100% SANDSTONE: CARBONACEOUS BANDS, LIGHT GREY, MODERATELY WEAK ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 40 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
404.37	404.41	100	100% MUDSTONE: CARBONACEOUS, BADLY BROKEN, DARK BROWN.
404.41	404.51	100	100% SANDSTONE: CARBONACEOUS LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK.
404.51	407.51	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, GREY-GREEN, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182457

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
407.51	407.52	100	100% COAL. BRIGHT:.
407.52	408.01	100	100% MUDSTONE: CARBONACEOUS. SILTSTONE. BROWN. WEAK ROCK.
408.01	408.12	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. WEAK ROCK.
408.12	408.26	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.
408.26	408.58	100	100% MUDSTONE: LIGHT BROWN. MODERATELY WEAK ROCK.
408.58	409.60	100	100% MUDSTONE: GREY-BROWN. WEAK ROCK.
409.60	409.80	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. WEAK ROCK.
409.80	411.92	100	100% SANDSTONE: MED.TO FINE GRAINED. LITHIC. LIGHT BROWN. MODERATELY WEAK ROCK.
411.92	412.05	100	100% SILTSTONE: LIGHT BROWN. MODERATELY WEAK ROCK.
412.05	413.93	100	100% SANDSTONE: MED.TO FINE GRAINED. LITHIC. LIGHT BROWN. MODERATELY WEAK ROCK.EXTREMELY WIDE JOINT SPACING. JOINTS DIP 70 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
413.93	414.27	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.
414.27	415.52	100	100% SANDSTONE: MED.TO FINE GRAINED. LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.
415.52	417.80	100	100% SANDSTONE: MED.TO FINE GRAINED. LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.EXTREMELY WIDE JOINT SPACING. JOINTS DIP 80 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
417.80	420.67	100	100% SANDSTONE: COALY LENSES. LIGHT GREY. MODERATELY WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 85 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
420.67	420.84	100	100% SANDSTONE. FINE GRAINED: GREY. MODERATELY WEAK ROCK.
420.84	420.99	100	100% SILTSTONE: GREY. WEAK ROCK.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.

BOREHOLE LITHOLOGICAL LOG

182458

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
420.99	421.18	100	100% SANDSTONE, FINE GRAINED: SILTSTONE BANDS, GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
421.18	421.43	100	100% MUDSTONE: SILTSTONE, LIGHT BROWN, WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
421.43	421.52	100	100% SANDSTONE: MED.TO FINE GRAINED, GREY-BROWN, MODERATELY WEAK ROCK.
421.52	421.56	100	100% MUDSTONE: CARBONACEOUS, BLACK, WEAK ROCK.
421.56	422.10	100	100% SILTSTONE: LIGHT BROWN, WEAK ROCK.
422.10	422.13	100	100% CLAYSTONE: FISSILE, LIGHT GREEN, VERY WEAK ROCK.
422.13	422.22	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, VERY WEAK ROCK.
422.22	422.56	100	60% SANDSTONE: COALY LENSES, GREY-GREEN, 40% SILTSTONE: GREY, WEAK ROCK.
422.56	423.26	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, GREY-GREEN, MODERATELY WEAK ROCK,MODERATELY THICK BEDDING.
423.26	423.42	100	100% SANDSTONE: PEBBLY, COALY, GREY-GREEN, MODERATELY WEAK ROCK.
423.42	424.83	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, GREY-GREEN, MODERATELY WEAK ROCK.
424.83	425.24	100	100% SANDSTONE: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
425.24	426.29	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
426.29	426.44	100	100% SANDSTONE: COALY LENSES, GREY-GREEN, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182459

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
426.44	427.46	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, GREY-GREEN, MODERATELY WEAK ROCK.
427.46	428.55	100	100% SANDSTONE, FINE GRAINED: COALY STREAKS, GREY-GREEN, MODERATELY WEAK ROCK.
428.55	433.92	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, GREY-GREEN, MODERATELY WEAK ROCK.
433.92	434.15	100	100% SANDSTONE: COALY LENSES, GREY-GREEN, WEAK ROCK.WITH MUD PELLETS.
434.15	437.71	100	100% SILTSTONE: ARENACEOUS LAMINAE, GREY, MODERATELY WEAK ROCK.MODERATELY THIN BEDDING.WITH CROSS LAMINATION.
437.71	437.99	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK BROWN, WEAK ROCK.MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
437.99	438.91	100	55% SILTSTONE: CARBONACEOUS LAMINAE, GREY, 45% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, GREY-GREEN, WEAK ROCK,MODERATELY THIN BEDDING AND CROSS LAMINATION.
438.91	439.18	100	100% SILTSTONE: GREY, WEAK ROCK.
439.18	439.46	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK BROWN, WEAK ROCK.
439.46	439.80	100	100% MUDSTONE: BADLY BROKEN, GREY, VERY WEAK ROCK.
439.80	441.10	100	100% SILTSTONE: ARENACEOUS LAMINAE, LIGHT GREEN, WITH MICA, WEAK ROCK.THIN BEDDING.WITH CROSS LAMINATION.
441.10	441.41	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.LAMINATED.
441.41	441.81	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LAMINAE, GREY-GREEN, MODERATELY WEAK ROCK.MODERATELY THIN BEDDING.WITH CROSS LAMINATION.

BOREHOLE LITHOLOGICAL LOG

182460

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
441.81	441.92	100	100% MUDSTONE: CARBONACEOUS. SILTSTONE. DARK BROWN. WEAK ROCK.
441.92	442.67	100	100% SILTSTONE: GREY-GREEN. WEAK ROCK.VERY WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
442.67	442.84	100	100% MUDSTONE: SILTSTONE. GREY. WEAK ROCK.
442.84	442.91	100	100% COAL. HEAVY DULL: BADLY BROKEN.
442.91	444.88	100	100% SILTSTONE: ARENACEOUS LAMINAE. LIGHT GREEN. MODERATELY WEAK ROCK.MODERATELY THICK BEDDING.WIDE JOINT SPACING. JOINTS DIP 30 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
444.88	446.00	100	60% SILTSTONE: GREY-GREEN. 40% SANDSTONE: MED.TO FINE GRAINED. LIGHT GREEN. MODERATELY WEAK ROCK.VERY WIDE JOINT SPACING .TIGHT NON-PLANAR DISCONTINUITIES.
446.00	446.26	100	100% SILTSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.
446.26	447.00	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.
447.00	447.36	100	100% SILTSTONE: ARENACEOUS LAMINAE. GREY-GREEN. MODERATELY WEAK ROCK.VERY WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
447.36	447.86	100	100% SANDSTONE. MEDIUM GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.
447.86	448.17	100	100% SILTSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.
448.17	449.00	100	100% SILTSTONE: BROWN. MODERATELY WEAK ROCK.
449.00	450.63	100	100% SILTSTONE: BROWN. MODERATELY WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.

BOREHOLE LITHOLOGICAL LOG

182461

LEASE : GRAY
BOREHOLE : GY 11

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
450.63	453.58	100	100% SILTSTONE: BROWN, WITH FRAGMENTS OF QUARTZ, MODERATELY WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
453.58	454.53	100	100% SANDSTONE, COARSE GRAINED: QUARTZOSE, ARGILLACEOUS, GREEN, WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
454.53	458.68	100	100% SANDSTONE, MEDIUM GRAINED: QUARTZOSE, LIGHT GREEN, WEAK ROCK.
458.68	467.30	100	100% SILTSTONE: BROWN, WITH FRAGMENTS OF QUARTZ, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
467.30	467.40	100	100% MUDSTONE: CALCITIC, FISSILE, GREY, FIRM.
467.40	470.45	100	100% SILTSTONE: GREY-BROWN, WITH FRAGMENTS OF QUARTZ, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
470.45	473.00	100	100% SILTSTONE: BROWN, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182462

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
-	10.50	100	100% DOLERITE: GREY-GREEN, MODERATELY WEATHERED.
10.50 -	14.50	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, MODERATELY WEATHERED,MODERATELY CLOSE JOINT SPACING. JOINTS DIP 30 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
14.50 -	24.00	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, MODERATELY WEATHERED,MODERATELY WIDE JOINT SPACING. JOINTS DIP 60 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
24.00 -	26.50	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, SLIGHTLY WEATHERED,WIDE JOINT SPACING. JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
26.50 -	29.60	100	100% DOLERITE: BADLY BROKEN, GREY-GREEN, SLIGHTLY WEATHERED,MODERATELY CLOSE JOINT SPACING. JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
29.60 -	31.00	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, SLIGHTLY WEATHERED.
31.00 -	34.00	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, SLIGHTLY WEATHERED,MODERATELY CLOSE JOINT SPACING. JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
34.00 -	40.50	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED,VERY WIDE JOINT SPACING. JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
40.50 -	48.00	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED,VERY WIDE JOINT SPACING. JOINTS DIP 20 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.

BOREHOLE LITHOLOGICAL LOG

182463

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
48.00 -	58.10	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED,VERY WIDE JOINT SPACING, JOINTS DIP 15 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
58.10 -	59.00	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED,WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
59.00 -	61.40	100	100% DOLERITE: MED.TO FINE GRAINED, GREY-GREEN, UNWEATHERED,WIDE JOINT SPACING, JOINTS DIP 35 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
61.40 -	70.45	100	100% DOLERITE: MED.TO FINE GRAINED, GREY-GREEN, UNWEATHERED,WIDE JOINT SPACING, JOINTS DIP 35 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
70.45 -	72.00	100	100% DOLERITE: MED.TO FINE GRAINED, GREY-GREEN, UNWEATHERED,WIDE JOINT SPACING, JOINTS DIP 35 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.
72.00 -	73.30	100	100% DOLERITE: MED.TO FINE GRAINED, GREY-GREEN, UNWEATHERED,WIDE JOINT SPACING, JOINTS DIP 35 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.
73.30 -	79.00	100	100% DOLERITE: MED.TO FINE GRAINED, GREY-GREEN, UNWEATHERED,WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
79.00 -	85.90	100	100% DOLERITE: MED.TO FINE GRAINED, GREY-GREEN, UNWEATHERED,VERY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
85.90 -	107.00	100	100% DOLERITE: MED.TO FINE GRAINED, GREY-GREEN, UNWEATHERED,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT NON-PLANAR DISCONTINUITIES ,INFILLED WITH CLAY & TALC.

BOREHOLE LITHOLOGICAL LOG

182464

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
107.00	155.00	100	100% DOLERITE: FINE GRAINED, GREY-GREEN, UNWEATHERED,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.
155.00	169.30	100	100% DOLERITE: FINE GRAINED, GREY-GREEN, UNWEATHERED,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
169.30	174.30	100	100% DOLERITE: FINE GRAINED, GREY-BROWN, SLIGHTLY WEATHERED, MODERATELY STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH QUARTZ.
174.30	178.00	100	100% DOLERITE: MED.-COARSE GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK.
178.00	190.50	100	100% DOLERITE: FINE GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK.
190.50	207.52	100	100% DOLERITE: VERY FINE GRAINED, GREY-GREEN, UNWEATHERED, EXTREMELY STRONG ROCK,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 50 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES.
207.52	207.95	100	100% DOLERITE: VERY FINE GRAINED, GREEN, UNWEATHERED, MODERATELY WEAK ROCK.
207.95	208.06	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.
208.06	208.56	100	100% MUDSTONE: DARK GREY, MODERATELY WEAK ROCK.
208.56	208.90	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.
208.90	209.08	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK.
209.08	209.45	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
209.45	209.53	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182465

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
209.53	210.03	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
210.03	210.76	100	100% MUDSTONE: DARK GREY, MODERATELY WEAK ROCK.
210.76	211.18	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
211.18	212.40	80	100% MUDSTONE: DARK GREY, MODERATELY WEAK ROCK.
212.40	212.95	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
212.95	215.70	80	100% MUDSTONE: DARK GREY, MODERATELY WEAK ROCK.
215.70	215.77	100	100% CLAYSTONE: LIGHT GREEN, WEAK ROCK.
215.77	216.15	100	100% MUDSTONE: DARK GREY, MODERATELY WEAK ROCK.
216.15	217.58	100	60% SANDSTONE, FINE GRAINED: GREY, 40% MUDSTONE: GREY, MODERATELY WEAK ROCK,THIN BEDDING.
217.58	219.37	100	100% SANDSTONE, COARSE GRAINED: COALY BANDS, GREY, MODERATELY WEAK ROCK.
219.37	219.52	100	100% SANDSTONE, FINE GRAINED: MUDSTONE LAMINAE, GREY, MODERATELY WEAK ROCK.
219.52	219.87	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
219.87	219.99	100	100% SANDSTONE, COARSE GRAINED: CONGLOMERATIC, GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
219.99	220.39	100	100% MUDSTONE: SANDSTONE BANDS, GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
220.39	220.42	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
220.42	220.55	100	100% COAL, HEAVY DULL: BRIGHT COAL BANDS.
220.55	220.60	100	100% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK.
220.60	220.84	100	90% MUDSTONE: CARBONACEOUS, BROWN - BLACK, 10% COAL, BRIGHT:, MODERATELY STRONG ROCK,VERY THIN BEDDING.
220.84	221.49	100	100% MUDSTONE: CARBONACEOUS STREAKS, GREY, MODERATELY WEAK ROCK.
221.49	222.47	100	100% SANDSTONE, FINE GRAINED: CONGLOMERATIC BANDS, LIGHT GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182466

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
222.47	223.95	100	100% SANDSTONE, FINE GRAINED: MUDSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
223.95	229.41	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
229.41	232.41	100	100% PEBBLE CONGLOMERATE: LIGHT GREY, MODERATELY WEAK ROCK.
232.41	233.57	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES.
233.57	233.82	100	100% SANDSTONE, FINE GRAINED: MUDSTONE BANDS, GREY, MODERATELY WEAK ROCK,THIN BEDDING,WITH DISTURBED BEDDING.
233.82	234.49	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 10 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
234.49	235.93	100	70% MUDSTONE: SILTSTONE, GREY-BROWN, 30% SANDSTONE, FINE GRAINED: BANDS LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION.
235.93	236.26	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
236.26	236.96	100	100% SANDSTONE: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
236.96	238.20	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
238.20	238.85	100	100% SANDSTONE: MUDSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK.
238.85	239.00	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
239.00	239.14	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LENSES, GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182467

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
239.14	239.22	100	100% MUDSTONE: CARBONACEOUS, COALY, BLACK, WEAK ROCK.
239.22	239.30	100	100% MUDSTONE: BRIGHT COAL STREAKS, DARK GREY, MODERATELY WEAK ROCK.
239.30	239.39	100	100% MUDSTONE: CARBONACEOUS, COALY, BROWN - BLACK, WEAK ROCK.
239.39	239.48	100	100% MUDSTONE: COALY STREAKS, DARK BROWN, WEAK ROCK.
239.48	240.12	100	100% MUDSTONE: CARBONACEOUS, ARENACEOUS, GREY, WEAK ROCK.WITH DISTURBED BEDDING.
240.12	240.15	100	100% COAL, HEAVY DULL:.
240.15	240.22	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.
240.22	240.25	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
240.25	240.30	100	100% COAL, HEAVY DULL:.
240.30	240.33	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
240.33	240.34	100	100% MUDSTONE: LIGHT BROWN.
240.34	240.51	100	100% COAL, HEAVY DULL:.
240.51	240.53	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
240.53	240.56	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
240.56	240.58	100	100% MUDSTONE: CARBONACEOUS, PELLETAL, BROWN - BLACK, MODERATELY STRONG ROCK.
240.58	240.59	100	100% CLAYSTONE: LIGHT BROWN, MODERATELY STRONG ROCK.
240.59	240.66	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
240.66	240.67	100	100% CLAYSTONE: BROWN, MODERATELY WEAK ROCK.
240.67	240.69	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY STRONG ROCK.
240.69	240.75	100	100% CLAYSTONE: MUDSTONE BANDS, LIGHT BROWN, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182468

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
240.75	240.77	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
240.77	241.05	100	100% CLAYSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.
241.05	241.08	100	100% MUDSTONE: CARBONACEOUS, COALY, BROWN - BLACK, MODERATELY WEAK ROCK.
241.08	241.35	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
241.35	241.37	100	100% CLAYSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.
241.37	241.39	100	100% COAL, HEAVY DULL:.
241.39	241.40	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
241.40	241.41	100	100% SANDSTONE: ARGILLACEOUS, PELLETAL, LIGHT BROWN, MODERATELY WEAK ROCK.
241.41	241.44	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
241.44	241.47	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
241.47	241.56	100	100% COAL, HEAVY DULL:.
241.56	241.60	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS: BADLY BROKEN.
241.60	241.63	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY STRONG ROCK.
241.63	241.64	100	100% CLAYSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.
241.64	241.65	100	100% COAL, DULL:.
241.65	241.66	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
241.66	241.71	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
241.71	241.76	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
241.76	241.78	100	100% CLAYSTONE: CARBONACEOUS LENSES, LIGHT BROWN, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182469

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
241.78	241.79	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
241.79	241.83	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
241.83	241.84	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
241.84	241.85	100	100% CLAYSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.
241.85	241.87	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
241.87	241.88	100	100% COAL, HEAVY DULL:.
241.88	241.89	100	100% COAL, BRIGHT:.
241.89	241.92	100	100% COAL, HEAVY DULL:.
241.92	241.94	100	100% COAL, BRIGHT:.
241.94	241.96	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
241.96	242.02	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
242.02	242.13	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
242.13	242.16	100	100% COAL, HEAVY DULL:.
242.16	242.18	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
242.18	242.19	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
242.19	242.25	100	100% CLAYSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, MODERATELY WEAK ROCK.
242.25	242.48	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
242.48	242.56	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
242.56	242.57	100	100% COAL, BRIGHT:.
242.57	242.59	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
242.59	242.69	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.

BOREHOLE LITHOLOGICAL LOG

182470

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
242.69	242.77	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
242.77	242.83	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
242.83	242.86	100	100% COAL, HEAVY DULL:.
242.86	242.88	100	100% CLAYSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, MODERATELY WEAK ROCK.
242.88	242.91	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
242.91	242.96	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK.
242.96	242.99	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
242.99	243.06	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
243.06	243.32	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 20 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
243.32	244.15	100	100% SILTSTONE:, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
244.15	244.37	100	100% MUDSTONE: SILTSTONE, GREY, WEAK ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
244.37	244.45	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
244.45	244.69	100	100% MUDSTONE: CARBONACEOUS BANDS, BROWN, WEAK ROCK.
244.69	244.81	100	100% MUDSTONE: ARGILLACEOUS, LIGHT BROWN, WEAK ROCK.
244.81	245.01	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, BROWN, WEAK ROCK.
245.01	245.11	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182471

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
245.11	245.14	100	100% CLAYSTONE: FISSILE, LIGHT BROWN, WEAK ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
245.14	245.22	100	100% MUDSTONE: SILTSTONE, DARK GREY, MODERATELY WEAK ROCK.
245.22	247.35	100	100% SILTSTONE: ARENACEOUS LAMINAE, GREY, MODERATELY WEAK ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
247.35	247.62	100	60% SILTSTONE: ARENACEOUS LAMINAE, GREY, 40% SANDSTONE, FINE GRAINED: SILTSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK.
247.62	248.09	100	100% SILTSTONE: CARBONACEOUS BANDS, GREY, WEAK ROCK.
248.09	248.23	100	100% MUDSTONE: CARBONACEOUS, COALY, DARK BROWN, MODERATELY WEAK ROCK.
248.23	248.44	100	100% CLAYSTONE: LIGHT GREEN, WEAK ROCK.
248.44	248.56	100	100% CLAYSTONE: BADLY BROKEN, LIGHT GREEN, VERY WEAK ROCK.
248.56	249.22	100	100% CLAYSTONE: FISSILE BANDS, LIGHT GREEN, WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 25 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
249.22	249.52	100	100% CLAYSTONE: BANDS, LIGHT GREEN, WEAK ROCK,MODERATELY THICK BEDDING,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 20 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
249.52	250.64	100	100% CLAYSTONE: LIGHT GREEN, WEAK ROCK,MODERATELY THICK BEDDING,MODERATELY WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
250.64	250.67	100	100% SANDSTONE, MEDIUM GRAINED: ARGILLACEOUS, LIGHT GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182472

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
250.67	251.76	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
251.76	252.06	100	50% SANDSTONE, FINE GRAINED: BANDS, LIGHT GREY, 50% SILTSTONE: BANDS, GREY, MODERATELY WEAK ROCK,THIN BEDDING,WITH CROSS LAMINATION.
252.06	252.22	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
252.22	252.35	100	100% SANDSTONE, FINE GRAINED: SILTSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK.
252.35	252.63	100	100% SILTSTONE: MUDSTONE BANDS, GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
252.63	254.32	100	100% SANDSTONE, FINE GRAINED: SILTSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THICK BEDDING.
254.32	256.68	100	100% SANDSTONE: SILTSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK,THIN BEDDING,VERY WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
256.68	256.74	100	100% CLAYSTONE: LIGHT GREEN, FIRM.
256.74	258.13	100	100% SANDSTONE: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK,THIN BEDDING.
258.13	258.66	100	100% SANDSTONE: PEBBLY, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
258.66	260.54	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK,THICK BEDDING.
260.54	261.12	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
261.12	261.39	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS BANDS, LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING.

BOREHOLE LITHOLOGICAL LOG

182473

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
261.39	262.15	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS STREAKS. LIGHT GREY. MODERATELY WEAK ROCK.
262.15	262.48	100	100% SANDSTONE: CARBONACEOUS BANDS. LIGHT GREY. MODERATELY WEAK ROCK.
262.48	262.69	100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS LAMINAE. LIGHT GREY. MODERATELY WEAK ROCK.
262.69	262.76	100	100% MUDSTONE: CARBONACEOUS. COALY. BLACK. MODERATELY STRONG ROCK.VERY WIDE JOINT SPACING. JOINTS DIP 50 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
262.76	263.14	100	100% MUDSTONE: SILTSTONE. CARBONACEOUS. DARK GREY. MODERATELY WEAK ROCK.
263.14	263.62	100	100% MUDSTONE: ARENACEOUS. CARBONACEOUS. DARK GREY. MODERATELY WEAK ROCK.WITH PARTING LINEATION AND DISTURBED BEDDING.
263.62	264.32	100	100% SANDSTONE. FINE GRAINED: COALY LENSES. GREY. MODERATELY WEAK ROCK.WITH FLAME/PULL-OVER STRUCTS.
264.32	264.54	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 90 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES .INFILLED WITH CALCITE.
264.54	264.68	100	100% CLAYSTONE: FISSILE BANDS. LIGHT GREEN. VERY WEAK ROCK.
264.68	264.71	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY STRONG ROCK.
264.71	264.76	100	100% CLAYSTONE: LIGHT GREEN. VERY WEAK ROCK.
264.76	264.84	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 85 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
264.84	264.85	100	100% SANDSTONE: MED.TO FINE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182474

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
264.85	264.88	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
264.88	265.16	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LENSES, LIGHT BROWN, MODERATELY WEAK ROCK,WITH MUD PELLETS,WIDE JOINT SPACING, JOINTS DIP 90 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
265.16	265.37	100	100% SANDSTONE: SILTSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS,WIDE JOINT SPACING, JOINTS DIP 90 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
265.37	265.80	100	100% SANDSTONE, MEDIUM GRAINED: SILTSTONE BANDS, LIGHT GREY, MODERATELY STRONG ROCK.
265.80	269.48	100	100% SANDSTONE, MEDIUM GRAINED: SILICEOUS, LIGHT GREY, MODERATELY STRONG ROCK,THICK BEDDING,WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
269.48	269.82	100	100% SANDSTONE, FINE GRAINED: ARGILLACEOUS, FISSILE, LIGHT GREEN, WITH MICA, WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
269.82	269.88	100	100% SANDSTONE, FINE GRAINED: ARGILLACEOUS, LIGHT BROWN, MODERATELY WEAK ROCK.
269.88	271.42	100	100% SILTSTONE: DARK GREY, MODERATELY WEAK ROCK.
271.42	271.68	100	100% MUDSTONE: SILTSTONE, DARK BROWN, MODERATELY WEAK ROCK,WITH MUD PELLETS.
271.68	271.73	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
271.73	271.90	100	100% CLAYSTONE: ARENACEOUS BANDS, BROWN, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182475

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
271.90	272.23	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
272.23	272.26	100	100% COAL, HEAVY DULL:.
272.26	272.32	100	100% COAL, INTERBANDED DULL AND BRIGHT:.
272.32	272.35	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
272.35	272.38	100	100% COAL, BRIGHT WITH NUMEROUS DULL BANDS:.
272.38	272.39	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
272.39	272.41	100	100% COAL, BRIGHT WITH FEW DULL BANDS:.
272.41	272.43	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
272.43	272.51	100	100% MUDSTONE: ARGILLACEOUS BANDS, BROWN, MODERATELY WEAK ROCK.
272.51	272.62	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
272.62	272.72	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
272.72	273.32	100	100% SANDSTONE, FINE GRAINED: SILTSTONE BANDS, GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
273.32	273.69	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
273.69	274.15	100	100% SILTSTONE: CALCITIC BANDS, GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182476

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
274.15	274.24	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
274.24	275.15	100	100% CLAYSTONE: SILTSTONE BANDS, GREY-GREEN, WEAK ROCK.
275.15	275.52	100	100% SILTSTONE: ARGILLACEOUS, GREY, MODERATELY WEAK ROCK.
275.52	275.97	100	100% CLAYSTONE: LIGHT GREEN, WEAK ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
275.97	276.90	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
276.90	281.00	100	100% SILTSTONE: ARENACEOUS LAMINAE, GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
281.00	281.90	100	100% SANDSTONE, FINE GRAINED: SILTSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THICK BEDDING,WITH CROSS LAMINATION.
281.90	282.38	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
282.38	282.63	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
282.63	283.08	100	100% SANDSTONE, FINE GRAINED: SILTSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK,THIN BEDDING.
283.08	285.35	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, WITH MICA, MODERATELY WEAK ROCK.
285.35	286.75	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
286.75	287.07	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS LENSES, LIGHT GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182477

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
287.07 - 289.55		100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
289.55 - 291.00		100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK.
291.00 - 291.79		100	100% SANDSTONE, FINE GRAINED: SILTSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION.
291.79 - 292.29		100	60% SILTSTONE: COALY STREAKS, GREY, 40% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,THIN BEDDING.
292.29 - 292.36		100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
292.36 - 292.45		100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
292.45 - 294.71		100	100% SANDSTONE: CARBONACEOUS LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK.
SAMPLE:1			*** CORE DESCRIPTION ***
294.71			
	0.04	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
	0.02	100	100% MUDSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK, ,SLOW SLAKING ,MODERATELY STICKY.
	0.10	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.
	0.37	100	80% MUDSTONE: CARBONACEOUS, BLACK, 20% MUDSTONE: CARBONACEOUS, SILTSTONE, GREY-BROWN, MODERATELY WEAK ROCK,THIN BEDDING.
	0.15	100	100% MUDSTONE: CARBONACEOUS LENSES, BROWN, WEAK ROCK, ,NON STICKY.
	0.02	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182478

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
SAMPLE:1			*** CORE DESCRIPTION ***
295.41	0.70		TOTAL
SAMPLE:2			*** CORE DESCRIPTION ***
295.41			
	0.03	100	100% COAL, HEAVY DULL:.
	0.01	100	100% MUDSTONE: CARBONACEOUS LENSES, GREY-BROWN, MODERATELY WEAK ROCK, .NON SLAKING .NON STICKY.
	0.12	100	100% COAL, HEAVY DULL:.
	0.06	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.
	0.06	100	100% MUDSTONE: LIGHT BROWN, WEAK ROCK, .SLOW SLAKING .MODERATELY STICKY.
	0.04	100	100% MUDSTONE: CARBONACEOUS LENSES, GREY-BROWN, MODERATELY WEAK ROCK, .NON SLAKING .NON STICKY.
	0.34	100	100% COAL, HEAVY DULL: MUDSTONE LAMINAE.
	0.03	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.02	100	100% MUDSTONE: CARBONACEOUS LENSES, BROWN, MODERATELY WEAK ROCK, .NON SLAKING .NON STICKY.
	0.19	100	100% COAL, HEAVY DULL: MUDSTONE LAMINAE.
	0.07	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
	0.04	100	100% MUDSTONE: LIGHT BROWN, WEAK ROCK, .NON SLAKING .NON STICKY.
	0.02	100	100% CLAYSTONE: LIGHT BROWN, FIRM, .RAPID SLAKING .MODERATELY STICKY.
	0.09	100	60% MUDSTONE: LIGHT BROWN. 40% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.THIN BEDDING,MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. .TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.

BOREHOLE LITHOLOGICAL LOG

182479

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
SAMPLE:2			*** CORE DESCRIPTION ***
	0.05	100	100% COAL. HEAVY DULL:.
	0.03	100	100% COAL. BRIGHT WITH FEW DULL BANDS: WITH CALCITE ON CLEAT.
	0.03	100	100% COAL. HEAVY DULL: BRIGHT COAL STREAKS.
	0.03	100	100% COAL. BRIGHT WITH FEW DULL BANDS:.
	0.01	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
	0.10	100	100% COAL. HEAVY DULL: BRIGHT COAL STREAKS.
	0.01	100	100% MUDSTONE: LIGHT BROWN. MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS .NON SLAKING .NON STICKY.
	0.12	100	100% COAL. HEAVY DULL:.
	0.02	100	100% MUDSTONE: CARBONACEOUS LENSES. BROWN. VERY WEAK ROCK. .SLOW SLAKING .MODERATELY STICKY.
	0.08	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
	0.03	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.
	0.04	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY WEAK ROCK.
	0.03	100	100% MUDSTONE: GREY-BROWN. MODERATELY WEAK ROCK.
	0.13	100	100% COAL. HEAVY DULL: MUDSTONE LENSES.
	0.01	100	100% MUDSTONE: LIGHT BROWN. MODERATELY WEAK ROCK.
	0.09	100	100% COAL. HEAVY DULL:.
	0.02	100	100% MUDSTONE: LIGHT BROWN. MODERATELY WEAK ROCK.
	0.08	100	100% MUDSTONE: BRIGHT COAL LENSES. BROWN - BLACK. MODERATELY WEAK ROCK.
	0.06	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
	0.10	100	100% COAL. HEAVY DULL:.
297.60	2.19		TOTAL

BOREHOLE LITHOLOGICAL LOG

182480

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
SAMPLE:3			*** CORE DESCRIPTION ***
97.60			
	0.02	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.03	100	100% MUDSTONE: SILTSTONE, LIGHT BROWN, MODERATELY WEAK ROCK.
	0.02	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
	0.01	100	100% MUDSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, MODERATELY WEAK ROCK.
	0.06	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
	0.10	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.03	100	100% MUDSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.
	0.02	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
	0.02	100	100% MUDSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.
	0.04	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
	0.06	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
	0.06	100	100% MUDSTONE: LIGHT BROWN, WEAK ROCK.
	0.08	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.03	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
	0.04	100	100% MUDSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.
	0.08	100	70% MUDSTONE: CARBONACEOUS, BROWN - BLACK, 30% MUDSTONE: LIGHT BROWN, MODERATELY WEAK ROCK,THIN BEDDING.
	0.04	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.04	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.

BOREHOLE LITHOLOGICAL LOG

182481

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
SAMPLE:3			*** CORE DESCRIPTION ***
	0.07	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
	0.03	100	100% MUDSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.
	0.17	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.10	100	100% MUDSTONE: LIGHT BROWN, WEAK ROCK, ,SLOW SLAKING ,NON STICKY.
	0.02	100	100% MUDSTONE: BROWN, WEAK ROCK, ,SLOW SLAKING ,NON STICKY.
	0.18	100	70% MUDSTONE: LIGHT BROWN, 30% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING.
	0.15	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.03	100	100% MUDSTONE: LIGHT BROWN, WEAK ROCK,LAMINATED.
299.13	1.53		TOTAL
SAMPLE:4			*** CORE DESCRIPTION ***
299.13			
	0.14	100	100% COAL, HEAVY DULL:.
	0.06	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.11	100	100% MUDSTONE: FISSILE, LIGHT BROWN, STIFF, ,RAPID SLAKING ,VERY STICKY.
	0.10	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
	0.04	100	100% MUDSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, MODERATELY WEAK ROCK.
	0.08	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182482

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
SAMPLE:4			*** CORE DESCRIPTION ***
	0.03	100	100% MUDSTONE: CARBONACEOUS STREAKS. BROWN. MODERATELY WEAK ROCK.
	0.08	100	100% MUDSTONE: LIGHT BROWN. WEAK ROCK.
	0.01	100	100% MUDSTONE: SILTSTONE. BROWN. MODERATELY WEAK ROCK.
	0.02	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
	0.03	100	100% MUDSTONE: BROWN. MODERATELY WEAK ROCK.
	0.16	100	100% MUDSTONE: ARENACEOUS. MICACEOUS. LIGHT BROWN. WEAK ROCK.
	0.40	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
	0.03	100	100% MUDSTONE: BROWN. WEAK ROCK.
	0.13	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
	0.06	100	100% COAL. HEAVY DULL:.
	0.02	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.
	0.09	100	100% MUDSTONE: CARBONACEOUS. ARENACEOUS. GREY-BROWN. MODERATELY WEAK ROCK.
	0.15	100	70% MUDSTONE: CARBONACEOUS. BLACK. 30% MUDSTONE: BROWN. MODERATELY WEAK ROCK.THIN BEDDING.WITH LOAD CASTS.MODERATELY WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
300.87	1.74		TOTAL
SAMPLE:5			*** CORE DESCRIPTION ***
300.87			
	0.04	100	100% COAL. HEAVY DULL:.
	0.34	100	100% CARBONACEOUS SHALE: MUDSTONE LAMINAE.

BOREHOLE LITHOLOGICAL LOG

182483

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
SAMPLE:5			*** CORE DESCRIPTION ***
	0.09	100	100% MUDSTONE: CARBONACEOUS STREAKS. GREY. MODERATELY WEAK ROCK.
	0.01	100	100% COAL. BRIGHT:.
	0.13	100	100% COAL. HEAVY DULL: BRIGHT COAL STREAKS.
	0.08	100	100% COAL. DULL WITH NUMEROUS BRIGHT BANDS:.
	0.06	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
301.62	0.75		TOTAL
			*** CORE DESCRIPTION ***
301.62 - 301.81		100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING .TRANSITIONAL BASAL CONTACT.MODERATELY WIDE JOINT SPACING. JOINTS DIP 30 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
301.81 - 302.20		100	60% SILTSTONE: GREY. 40% SANDSTONE. FINE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING .TRANSITIONAL BASAL CONTACT.
302.20 - 302.90		100	100% MUDSTONE: SILTSTONE. GREY. MODERATELY WEAK ROCK.LAMINATED.WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
302.90 - 303.05		100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.
303.05 - 303.15		100	100% SILTSTONE: GREY-BROWN. MODERATELY WEAK ROCK.
303.15 - 304.22		100	100% MUDSTONE: SILTSTONE BANDS. GREY. MODERATELY WEAK ROCK.LAMINATED.
304.22 - 304.30		100	100% CLAYSTONE: LIGHT BROWN. STIFF. .RAPID SLAKING.
304.30 - 307.54		100	100% SILTSTONE: SANDSTONE BANDS. GREY. MODERATELY WEAK ROCK.THIN BEDDING.WITH CARBONACEOUS WHISPS.
307.54 - 310.32		100	100% SANDSTONE. MEDIUM GRAINED: LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182484

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
310.32	311.93	100	100% SANDSTONE, MEDIUM GRAINED: CALCAREOUS, LIGHT GREY, MODERATELY WEAK ROCK.
311.93	314.29	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
314.29	314.92	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
314.92	314.93	100	100% MUDSTONE: LIGHT BROWN, WEAK ROCK.
314.93	315.02	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
315.02	315.43	100	50% MUDSTONE: CARBONACEOUS, BROWN - BLACK, 50% MUDSTONE: CARBONACEOUS, ARENACEOUS, BROWN, MODERATELY WEAK ROCK,THIN BEDDING.
315.43	315.57	100	100% MUDSTONE: LIGHT BROWN, STIFF, ,RAPID SLAKING ,VERY STICKY.
315.57	315.95	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
315.95	316.05	100	100% MUDSTONE: LIGHT BROWN, VERY WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES ,SLOW SLAKING ,MODERATELY STICKY.
316.05	316.19	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
316.19	316.50	100	60% MUDSTONE: CARBONACEOUS, BROWN - BLACK, 40% MUDSTONE: BROWN, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH MUD PELLETS.
316.50	316.70	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
316.70	316.74	100	100% MUDSTONE: BLUE - GREY, STIFF, ,RAPID SLAKING.
316.74	316.79	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
316.79	317.00	0	CORE LOSS.

BOREHOLE LITHOLOGICAL LOG

182485

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
317.00	317.20	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
317.20	317.22	100	100% MUDSTONE: LIGHT BROWN, WEAK ROCK.
317.22	317.31	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
317.31	317.34	100	100% MUDSTONE: LIGHT BROWN, WEAK ROCK.
317.34	317.46	100	100% MUDSTONE: BROWN - BLACK, MODERATELY WEAK ROCK.
317.46	317.51	100	100% MUDSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.
317.51	317.57	100	100% COAL, HEAVY DULL:.
317.57	317.60	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
317.60	317.71	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
317.71	317.73	100	100% MUDSTONE: LIGHT BROWN, WEAK ROCK.
317.73	317.79	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
317.79	317.93	100	100% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
317.93	318.00	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
318.00	318.23	100	100% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK.
318.23	318.38	100	100% COAL, HEAVY DULL:.
318.38	318.40	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
318.40	318.44	100	100% COAL, HEAVY DULL:.
18.44	318.45	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
318.45	318.52	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
318.52	318.55	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
318.55	318.65	100	100% MUDSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.
318.65	318.84	100	100% COAL, HEAVY DULL:.
318.84	318.88	100	100% MUDSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182486

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
318.88	318.89	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
318.89	318.91	100	100% MUDSTONE: BUFF, STIFF.
318.91	319.12	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
319.12	319.20	100	50% COAL, BRIGHT: 50% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK,VERY THIN BEDDING.
319.20	319.28	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
319.28	319.45	100	100% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK.
319.45	322.64	100	50% MUDSTONE: SILTSTONE, GREY, 50% SANDSTONE, FINE GRAINED: GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
322.64	328.12	100	100% SANDSTONE, MEDIUM GRAINED: COALY TRACES, LIGHT GREY, MODERATELY WEAK ROCK,VERY THICK BEDDING ,ABRUPT BASAL CONTACT.
328.12	329.64	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING ,TRANSITIONAL BASAL CONTACT.
329.64	329.77	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING ,TRANSITIONAL BASAL CONTACT.
329.77	330.24	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,THICK BEDDING ,EROSIONAL BASAL CONTACT.
330.24	331.19	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED.
331.19	331.29	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
331.29	331.71	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK,LAMINATED.
331.71	331.84	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182487

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
331.86	331.89	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.WITH MUD PELLETS.
331.89	332.06	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
332.06	332.42	100	100% SANDSTONE, MEDIUM GRAINED: CONGLOMERATIC, LIGHT GREY, MODERATELY WEAK ROCK.
332.42	334.70	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.MODERATELY THICK BEDDING.
334.70	334.84	100	60% MUDSTONE: GREY. 40% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
334.84	335.51	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.MODERATELY THICK BEDDING.
335.51	336.68	100	100% SANDSTONE, FINE GRAINED: SILTSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK.VERY THIN BEDDING .EROSIONAL BASAL CONTACT, BEDS DIP 5 DEG..
336.68	336.79	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
336.79	338.44	100	100% SANDSTONE, COARSE GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
338.44	341.94	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.
341.94	346.66	100	100% SANDSTONE: MED.-COARSE GRAINED, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
346.66	348.81	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.
348.81	350.82	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
350.82	351.77	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182488

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
351.77	352.80	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.WIDE JOINT SPACING, JOINTS DIP 75 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
352.80	353.28	100	100% SANDSTONE: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.
353.28	353.57	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.MODERATELY CLOSE JOINT SPACING .TIGHT NON-PLANAR DISCONTINUITIES .INFILLED WITH CALCITE.
353.57	353.61	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.WIDE JOINT SPACING, JOINTS DIP 80 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
353.61	353.75	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.MODERATELY WIDE JOINT SPACING .TIGHT NON-PLANAR DISCONTINUITIES .INFILLED WITH CALCITE.
353.75	353.84	100	100% SANDSTONE: LIGHT GREY, MODERATELY WEAK ROCK.WIDE JOINT SPACING .TIGHT NON-PLANAR DISCONTINUITIES.
353.84	353.98	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.MODERATELY CLOSE JOINT SPACING .TIGHT NON-PLANAR DISCONTINUITIES .INFILLED WITH CALCITE.
353.98	359.34	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
359.34	361.70	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.
361.70	363.67	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
363.67	364.69	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182489

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
364.69	364.77	100	100% SANDSTONE: MED.TO FINE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.
364.77	366.23	100	100% SANDSTONE. MEDIUM GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.
366.23	367.89	100	100% SANDSTONE: MED.-COARSE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.
367.89	370.49	100	100% SANDSTONE. MEDIUM GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.
370.49	370.88	100	100% SANDSTONE: MED.TO FINE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.
370.88	371.05	100	100% SANDSTONE: MED.TO FINE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.
371.05	371.37	100	100% SANDSTONE. MEDIUM GRAINED: COALY LENSES. LIGHT GREY. MODERATELY WEAK ROCK.
71.37	372.97	100	100% SANDSTONE. MEDIUM GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.
372.97	372.98	100	100% COAL. HEAVY DULL: BRIGHT COAL BANDS.
372.98	373.68	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.THIN BEDDING.LAMINATED AND CARBONACEOUS WHISPS.
373.68	373.77	100	100% SILTSTONE: COALY LENSES. GREY. WEAK ROCK.
373.77	374.20	100	100% MUDSTONE: SILTSTONE. GREY. MODERATELY WEAK ROCK.THIN BEDDING.LAMINATED AND CARBONACEOUS WHISPS.MODERATELY WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
374.20	374.25	100	100% MUDSTONE: SILTSTONE. GREY-BROWN. MODERATELY WEAK ROCK.
74.25	374.26	100	100% CLAYSTONE: COALY LENSES. BUFF. VERY WEAK ROCK.
SAMPLE:6			*** CORE DESCRIPTION ***

74.26

BOREHOLE LITHOLOGICAL LOG

182490

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
SAMPLE:6			*** CORE DESCRIPTION ***
	0.02	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
	0.37	100	100% COAL. HEAVY DULL: BRIGHT COAL LENSES.
	0.01	100	100% COAL. BRIGHT:.
	0.01	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
	0.02	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.
	0.09	100	100% COAL. HEAVY DULL:.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
	0.14	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.
	0.10	100	100% MUDSTONE: FISSILE. GREY. VERY WEAK ROCK.
	0.30	100	100% COAL. HEAVY DULL: BRIGHT COAL LENSES.
	0.13	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK.
75.45	1.19		TOTAL
SAMPLE:7			*** CORE DESCRIPTION ***
75.45			
	0.22	100	100% SILTSTONE: CARBONACEOUS BANDS. GREY. MODERATELY WEAK ROCK.
	0.20	100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS LENSES. GREY. MODERATELY WEAK ROCK.
	0.11	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
	0.03	100	100% MUDSTONE: GREY-BROWN. MODERATELY WEAK ROCK.
	0.64	100	100% MUDSTONE: BRIGHT COAL LENSES. GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
	0.11	100	100% MUDSTONE: CARBONACEOUS STREAKS. LIGHT BROWN. MODERATELY WEAK ROCK.WITH LOAD CASTS.
	0.02	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.
76.78	1.33		TOTAL

BOREHOLE LITHOLOGICAL LOG

182491

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
SAMPLE:8			*** CORE DESCRIPTION ***
376.78			
	0.02	100	100% COAL. HEAVY DULL:.
	0.01	100	100% MUDSTONE: ARENACEOUS. LIGHT BROWN. MODERATELY WEAK ROCK.
	0.41	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
	0.03	100	100% MUDSTONE: GREY-BROWN. MODERATELY WEAK ROCK.
	0.27	100	100% COAL. DULL:.
	0.36	100	100% COAL. DULL WITH NUMEROUS BRIGHT BANDS:.
	0.02	100	100% MUDSTONE: CARBONACEOUS TRACES. BROWN. MODERATELY WEAK ROCK.
	0.02	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
	0.72	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
378.64	1.86		TOTAL
SAMPLE:9			*** CORE DESCRIPTION ***
378.64			
	0.05	100	100% MUDSTONE: COALY LAMINAE. LIGHT BROWN. MODERATELY WEAK ROCK.
	0.04	100	100% MUDSTONE: BRIGHT COAL LAMINAE. BROWN - BLACK. MODERATELY STRONG ROCK.
	0.23	100	100% MUDSTONE: CARBONACEOUS LAMINAE. GREY. MODERATELY WEAK ROCK.
	0.25	100	100% COAL. DULL:.
	0.06	100	100% COAL. DULL WITH NUMEROUS BRIGHT BANDS:.
	0.02	100	100% MUDSTONE: CARBONACEOUS. GREY-BROWN. MODERATELY WEAK ROCK.
	0.01	100	100% MUDSTONE: LIGHT BROWN. MODERATELY WEAK ROCK.
	0.03	100	100% COAL. DULL WITH NUMEROUS BRIGHT BANDS:.
	0.05	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182492

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
SAMPLE:9			*** CORE DESCRIPTION ***
379.38	0.74		TOTAL
SAMPLE:10			*** CORE DESCRIPTION ***
379.38			
	0.63	100	100% MUDSTONE: SILTSTONE. GREY. MODERATELY WEAK ROCK.
	0.11	100	100% MUDSTONE: BROWN. WEAK ROCK.
	0.05	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
	0.01	100	100% MUDSTONE: SHALY. GREY. WEAK ROCK.
	0.03	100	100% MUDSTONE: ARENACEOUS. LIGHT BROWN. MODERATELY WEAK ROCK.
	0.10	100	100% CARBONACEOUS SHALE: COALY BANDS. DARK BROWN. WEAK ROCK.
380.31	0.93		TOTAL
SAMPLE:11			*** CORE DESCRIPTION ***
380.31			
	0.08	100	100% COAL. HEAVY DULL:.
	0.01	100	100% MUDSTONE: ARENACEOUS. BROWN. MODERATELY WEAK ROCK.
	0.20	100	100% COAL. HEAVY DULL:.
	0.20	100	100% COAL. DULL: CARBONACEOUS BANDS.
	0.72	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
381.52	1.21		TOTAL
			*** CORE DESCRIPTION ***
381.52 - 381.60		100	100% MUDSTONE: GREY-BROWN. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182493

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
381.60	381.65	100	100% MUDSTONE: ARENACEOUS. GREY-BROWN. MODERATELY WEAK ROCK.
381.65	381.79	100	100% MUDSTONE: SILTSTONE. GREY. MODERATELY WEAK ROCK.
381.79	384.53	100	100% SANDSTONE. FINE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
384.53	384.81	100	100% SANDSTONE: MED.TO FINE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
384.81	414.56	100	100% SANDSTONE. MEDIUM GRAINED: COALY TRACES. LIGHT GREY. MODERATELY WEAK ROCK.
414.56	414.58	100	100% COAL. HEAVY DULL:.
414.58	414.59	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.
414.59	414.71	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS LENSES. LIGHT GREY. MODERATELY WEAK ROCK.
414.71	416.09	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
416.09	421.52	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS TRACES. LIGHT GREY. MODERATELY WEAK ROCK.
421.52	421.59	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
421.59	421.61	100	100% CLAYSTONE: BROWN. VERY WEAK ROCK.
421.61	421.68	100	100% MUDSTONE: CARBONACEOUS. DARK GREY. MODERATELY WEAK ROCK.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
421.68	422.18	100	100% SANDSTONE. FINE GRAINED: MUDSTONE LAMINAE. LIGHT GREY. MODERATELY WEAK ROCK.WITH LOAD CASTS.
422.18	422.26	100	100% MUDSTONE: CARBONACEOUS. DARK GREY. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182494

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
422.26	422.98	100	50% SANDSTONE, FINE GRAINED: LIGHT GREY. 50% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH CROSS LAMINATION.
422.98	423.64	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK,LAMINATED.
423.64	423.76	100	100% SANDSTONE: VERY FINE GRAINED, GREY, MODERATELY WEAK ROCK,WITH LOAD CASTS.
423.76	423.86	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
423.86	424.48	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
424.48	424.54	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
424.54	424.79	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK.
424.79	425.04	100	100% SANDSTONE, FINE GRAINED: MUDSTONE BANDS, GREY, MODERATELY WEAK ROCK.
425.04	425.60	100	100% SANDSTONE, FINE GRAINED: GREY, MODERATELY WEAK ROCK.
425.60	426.13	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
426.13	426.43	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
426.43	426.98	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK.
426.98	427.00	100	100% COAL, BRIGHT:.
427.00	427.15	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK.
427.15	427.59	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING,WITH CARBONACEOUS WHISPS.

BOREHOLE LITHOLOGICAL LOG

182495

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
427.59	427.72	100	100% SANDSTONE: MED.TO FINE GRAINED, CALCAREOUS, LIGHT GREY, MODERATELY WEAK ROCK.
427.72	428.06	100	100% SANDSTONE: MED.TO FINE GRAINED, CALCAREOUS, WHITE, MODERATELY WEAK ROCK.
428.06	430.77	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
430.77	431.07	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK.
431.07	431.64	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
431.64	431.67	100	100% MUDSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.
431.67	432.26	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
432.26	432.79	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
432.79	433.21	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
433.21	433.43	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
433.43	434.97	100	100% SILTSTONE: SANDSTONE BANDS, GREY, MODERATELY WEAK ROCK.
434.97	435.62	100	100% MUDSTONE: SILTSTONE, CARBONACEOUS, GREY-BROWN, MODERATELY WEAK ROCK.
435.62	436.04	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
436.04	436.78	100	50% SANDSTONE, FINE GRAINED: GREY, 50% SILTSTONE: GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH CROSS LAMINATION AND CARBONACEOUS WHISPS.
436.78	438.17	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
438.17	438.47	100	100% COAL, HEAVY DULL: MUDSTONE BANDS.

BOREHOLE LITHOLOGICAL LOG

182496

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
438.47	- 438.51	100	100% CLAYSTONE: LIGHT BROWN, WITH LENSES OF CALCITE, FIRM,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
438.51	- 438.53	100	100% COAL, HEAVY DULL:.
438.53	- 438.64	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
438.64	- 439.24	100	100% SANDSTONE, FINE GRAINED: GREY, MODERATELY WEAK ROCK,LAMINATED AND CARBONACEOUS WHISPS.
439.24	- 439.53	100	100% MUDSTONE: COALY LENSES, GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
439.53	- 439.58	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
439.58	- 439.62	100	100% CLAYSTONE: LIGHT BROWN, FIRM, ,RAPID SLAKING.
439.62	- 439.70	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
439.70	- 439.74	100	100% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK.
439.74	- 440.10	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK.
440.10	- 441.07	100	100% SANDSTONE, FINE GRAINED: MUDSTONE BANDS, GREY, MODERATELY WEAK ROCK,LAMINATED AND CARBONACEOUS WHISPS.
441.07	- 443.02	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
SAMPLE:12			*** CORE DESCRIPTION ***
443.02			
	0.23	100	100% COAL, DULL: MUDSTONE LAMINAE, WITH PYRITE.
	0.02	100	100% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK.
	0.02	100	100% COAL, HEAVY DULL:.

BOREHOLE LITHOLOGICAL LOG

182497

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
SAMPLE:12			*** CORE DESCRIPTION ***
	0.04	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
	0.01	100	100% COAL. HEAVY DULL:.
	0.40	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
443.74	0.72		TOTAL
			*** CORE DESCRIPTION ***
443.74 - 443.90		100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
443.90 - 444.31		100	100% MUDSTONE: CARBONACEOUS. SILTSTONE. DARK GREY. MODERATELY WEAK ROCK.
444.31 - 444.54		100	100% MUDSTONE: CARBONACEOUS. SILTSTONE. DARK GREY. WEAK ROCK.
444.54 - 444.89		100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS BANDS. GREY-BROWN. MODERATELY WEAK ROCK.
444.89 - 446.72		100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS LENSES. LIGHT GREY. MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS AND MUD PELLETS.
446.72 - 447.58		100	100% SANDSTONE: MED.TO FINE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.
447.58 - 448.57		100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.LAMINATED.WIDE JOINT SPACING. JOINTS DIP 80 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
448.57 - 448.86		100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
448.86 - 448.91		100	100% CLAYSTONE: FISSILE. CALCITIC. LIGHT BROWN. FIRM.
448.91 - 449.00		100	100% MUDSTONE: CARBONACEOUS. SILTSTONE. DARK GREY. MODERATELY WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 25 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.

BOREHOLE LITHOLOGICAL LOG

182498

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
449.00	449.25	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, MODERATELY WEAK ROCK.
449.25	449.31	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS BANDS, GREY-BROWN, MODERATELY WEAK ROCK.
449.31	449.62	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, MODERATELY WEAK ROCK.
449.62	449.82	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, MODERATELY WEAK ROCK.
449.82	450.45	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS BANDS, GREY-BROWN, MODERATELY WEAK ROCK.
450.45	450.92	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, MODERATELY WEAK ROCK.
450.92	451.44	100	70% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, 30% SANDSTONE: COALY BANDS, MODERATELY WEAK ROCK.
451.44	451.94	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS BANDS, GREY-BROWN, MODERATELY WEAK ROCK,WITH MUD PELLETS.
451.94	453.02	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
453.02	454.94	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,WITH GRADED BEDDING.
454.94	455.01	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
455.01	455.23	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
455.23	455.61	100	100% SANDSTONE: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING,WITH MUD PELLETS.
455.61	457.98	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
457.98	458.15	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.

BOREHOLE LITHOLOGICAL LOG

182499

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
458.15	458.75	100	60% SANDSTONE, FINE GRAINED: SILTSTONE LAMINAE, GREY-BROWN. 40% SILTSTONE: CARBONACEOUS BANDS, BROWN, MODERATELY WEAK ROCK,THIN BEDDING,WIDE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES.
458.75	459.09	100	100% SANDSTONE: SILTSTONE BANDS, BROWN, MODERATELY WEAK ROCK.
459.09	462.62	100	100% SANDSTONE: ARGILLACEOUS, MICACEOUS, BROWN, MODERATELY WEAK ROCK.
462.62	464.54	100	100% SANDSTONE: ARGILLACEOUS, MICACEOUS, GREY-GREEN, MODERATELY WEAK ROCK.
464.54	466.60	100	100% SANDSTONE: MED.TO FINE GRAINED, GREY-GREEN, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING,WITH CARBONACEOUS WHISPS.
466.60	467.59	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, GREY-GREEN, MODERATELY WEAK ROCK,WITH MUD PELLETS.
467.59	469.45	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING,WITH CARBONACEOUS WHISPS.
469.45	472.05	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS AND CARBONACEOUS WHISPS.
472.05	483.15	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 55 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
483.15	485.00	100	100% SANDSTONE, MEDIUM GRAINED: SILTSTONE LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
485.00	485.65	100	100% SANDSTONE, MEDIUM GRAINED: SILTSTONE LENSES, LIGHT GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.

BOREHOLE LITHOLOGICAL LOG

182500

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
485.65	485.90	100	100% MUDSTONE: SILTSTONE, LIGHT BROWN, MODERATELY WEAK ROCK.
485.90	485.99	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, WEAK ROCK.
485.99	486.04	100	100% PEBBLE CONGLOMERATE: GREY, MODERATELY WEAK ROCK.
486.04	486.07	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK BROWN, MODERATELY WEAK ROCK.
486.07	486.58	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
486.58	486.62	100	100% MUDSTONE: SILTSTONE LENSES, GREY-BROWN, MODERATELY WEAK ROCK.
486.62	487.25	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
487.25	487.81	100	100% MUDSTONE: SANDSTONE BANDS, GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
487.81	488.00	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
488.00	489.32	100	100% SILTSTONE: SANDSTONE BANDS, GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
489.32	489.54	100	100% MUDSTONE: SILTSTONE, GREY-BROWN, MODERATELY WEAK ROCK.
489.54	489.79	100	100% CLAYSTONE: LIGHT BROWN, SOFT, ,RAPID SLAKING ,VERY STICKY.
489.79	489.87	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
489.87	490.06	100	100% SILTSTONE: GREY-BROWN, MODERATELY WEAK ROCK.
490.06	491.56	100	60% MUDSTONE: GREY, 40% SANDSTONE, FINE GRAINED: GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
491.56	491.66	100	100% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK.
491.66	491.83	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LAMINAE, GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

18250

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
491.83	491.87	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
491.87	492.76	100	100% MUDSTONE: CARBONACEOUS BANDS, GREY, MODERATELY WEAK ROCK.
492.76	493.14	100	50% MUDSTONE: GREY, 50% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH LOAD CASTS.
493.14	493.24	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK.
493.24	493.26	100	100% COAL, INTERBANDED DULL AND BRIGHT:.
493.26	493.28	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
493.28	493.35	100	100% MUDSTONE: SILTSTONE, GREY-BROWN, MODERATELY WEAK ROCK.
493.35	493.39	100	100% COAL, INTERBANDED DULL AND BRIGHT: CARBONACEOUS LAMINAE.
493.39	493.57	100	100% MUDSTONE: CARBONACEOUS LAMINAE, GREY, MODERATELY WEAK ROCK,LAMINATED.
493.57	493.77	100	100% MUDSTONE: SILTSTONE, GREY-BROWN, MODERATELY WEAK ROCK.
493.77	493.92	100	100% SANDSTONE, MEDIUM GRAINED: CREAM, MODERATELY WEAK ROCK,WITH MUD PELLETS AND CARBONACEOUS WHISPS.
493.92	493.95	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK.
493.93	494.20	100	100% SANDSTONE, MEDIUM GRAINED: CREAM, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS AND MUD PELLETS.
494.20	494.28	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
494.28	494.32	100	100% MUDSTONE: SILTSTONE, GREY-BROWN, MODERATELY WEAK ROCK.
494.32	494.52	100	100% SANDSTONE, FINE GRAINED: GREY-BROWN, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182502

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
494.52	494.82	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
494.82	495.94	100	50% SANDSTONE, FINE GRAINED: GREY, 50% MUDSTONE: CARBONACEOUS LAMINAE, GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH LOAD CASTS.
495.94	496.01	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
496.01	496.24	100	100% SANDSTONE, FINE GRAINED: MUDSTONE LAMINAE, LIGHT BROWN, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
496.24	496.28	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
496.28	496.39	100	100% SANDSTONE, FINE GRAINED: MUDSTONE LAMINAE, LIGHT BROWN, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
496.39	496.43	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
496.43	496.52	100	100% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK.
496.52	496.55	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
496.55	496.58	100	100% SANDSTONE, FINE GRAINED: LIGHT BROWN, MODERATELY WEAK ROCK.
496.58	496.62	100	100% SANDSTONE, MEDIUM GRAINED: CREAM, MODERATELY WEAK ROCK.
496.62	496.67	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
496.67	496.72	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
496.72	497.13	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK.
497.13	497.22	100	100% SANDSTONE, MEDIUM GRAINED: CREAM, MODERATELY WEAK ROCK.
497.22	497.41	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182503

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
497.41	497.56	100	100% SANDSTONE. FINE GRAINED: CREAM. MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.
497.56	497.87	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.
497.87	497.91	100	100% SANDSTONE. FINE GRAINED: GREY-BROWN. MODERATELY WEAK ROCK.
497.91	497.94	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
497.94	500.83	100	70% MUDSTONE: CARBONACEOUS BANDS. GREY. 30% SANDSTONE. FINE GRAINED: CARBONACEOUS TRACES. CREAM. MODERATELY WEAK ROCK.MODERATELY THICK BEDDING.
500.83	501.19	100	100% SANDSTONE. COARSE GRAINED: QUARTZOSE. CREAM. MODERATELY WEAK ROCK.
501.19	501.27	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.
501.27	501.65	100	100% SANDSTONE. COARSE GRAINED: QUARTZOSE. CREAM. MODERATELY WEAK ROCK.
501.65	502.41	100	100% SANDSTONE: VERY COARSE GRAINED. QUARTZOSE. CREAM. MODERATELY STRONG ROCK.
502.41	503.70	100	50% SANDSTONE: MED.TO FINE GRAINED. CREAM. 50% MUDSTONE: SILTSTONE. GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.WITH LOAD CASTS.
503.70	505.00	100	100% SANDSTONE. COARSE GRAINED: QUARTZOSE. CREAM. MODERATELY STRONG ROCK.WITH CARBONACEOUS WHISPS.
505.00	506.13	100	70% SANDSTONE. FINE GRAINED: MUDSTONE LENSES. LIGHT GREY. 30% MUDSTONE: GREY. MODERATELY WEAK ROCK.MODERATELY THICK BEDDING.
506.13	506.45	100	100% MUDSTONE: GREY.
506.45	506.69	100	50% SANDSTONE. FINE GRAINED: LIGHT GREY. 50% MUDSTONE: GREY.VERY THIN BEDDING.
506.60	506.94	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182504

LEASE : GRAY
BOREHOLE : GY 12

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
506.94	507.20	100	100% SANDSTONE. FINE GRAINED: GREY. MODERATELY WEAK ROCK.
507.20	507.54	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS LAMINAE. CREAM. MODERATELY WEAK ROCK.
507.54	507.81	100	100% MUDSTONE: ARENACEOUS BANDS. GREY. MODERATELY WEAK ROCK.
507.81	508.01	100	100% SANDSTONE. FINE GRAINED: MUDSTONE BANDS. LIGHT GREY. MODERATELY WEAK ROCK.WITH BURROWING AND CARBONACEOUS WHISPS.
508.01	508.19	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.
508.19	508.44	100	100% SANDSTONE. FINE GRAINED: MUDSTONE BANDS. LIGHT GREY. MODERATELY WEAK ROCK.
508.44	508.68	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.
508.68	512.37	100	70% MUDSTONE: COALY LENSES. GREY. 30% SANDSTONE. FINE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.MODERATELY THICK BEDDING.
512.37	512.59	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS BANDS. LIGHT GREY. MODERATELY WEAK ROCK.WITH POOR SORTING AND BURROWING.
512.59	512.78	100	100% MUDSTONE: ARENACEOUS LAMINAE. DARK GREY. MODERATELY WEAK ROCK.
512.78	513.12	100	100% SANDSTONE. MEDIUM GRAINED: MUDSTONE BANDS. LIGHT GREY. MODERATELY WEAK ROCK.WITH POOR SORTING.
513.12	515.00	100	100% SILTSTONE: PEBBLY. DARK GREY. WITH FRAGMENTS OF QUARTZ. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182505

LEASE : GRAY
BOREHOLE : GY 13

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
-	4.55	100	100% DOLERITE: COARSE GRAINED, GREY-GREEN, SLIGHTLY WEATHERED, VERY STRONG ROCK,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.
4.55 -	5.20	100	100% DOLERITE: VERY COARSE GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK.
5.20 -	24.85	100	100% DOLERITE: COARSE GRAINED, GREY-GREEN, VERY STRONG ROCK,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 66 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CLAY & TALC.
24.85 -	25.45	100	100% DOLERITE: VERY COARSE GRAINED, GREY-GREEN, VERY STRONG ROCK.
25.45 -	25.50	100	100% DOLERITE: FINE GRAINED, GREY-GREEN, VERY STRONG ROCK.
25.50 -	25.70	100	100% DOLERITE: VERY COARSE GRAINED, GREY-GREEN, VERY STRONG ROCK.
25.70 -	25.73	100	100% DOLERITE: FINE GRAINED, GREY-GREEN, VERY STRONG ROCK.
25.73 -	26.35	100	100% DOLERITE: VERY COARSE GRAINED, GREY-GREEN, VERY STRONG ROCK.
26.35 -	41.50	100	100% DOLERITE: COARSE GRAINED, GREY-GREEN, VERY STRONG ROCK,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
41.50 -	42.50	100	100% DOLERITE: VERY COARSE GRAINED, GREY-GREEN, VERY STRONG ROCK.
42.50 -	50.00	100	100% DOLERITE: COARSE GRAINED, GREY-GREEN, VERY STRONG ROCK,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.

BOREHOLE LITHOLOGICAL LOG

182506

LEASE : GRAY
BOREHOLE : GY 13

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
50.00 -	76.60	100	100% DOLERITE: MED.-COARSE GRAINED, GREY-GREEN, VERY STRONG ROCK,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
76.60 -	103.60	100	100% DOLERITE: MED.-COARSE GRAINED, GREY-GREEN, VERY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
103.60 -	127.60	100	100% DOLERITE: MED.-COARSE GRAINED, GREY-GREEN, VERY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,OPEN,PLANAR,SMOOTH DISCONTINUITIES ,INFILLED WITH CALCITE.
27.60 -	171.50	100	100% DOLERITE: MED.-COARSE GRAINED, GREY-GREEN, WITH CALCITE ON JOINTS, STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
71.50 -	183.00	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, WITH CALCITE ON JOINTS AND CLAY ON JOINTS, MODERATELY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
183.00 -	250.00	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, WITH CALCITE ON JOINTS, MODERATELY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
250.00 -	252.00	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, WITH CALCITE ON JOINTS, MODERATELY STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
52.00 -	265.60	100	100% DOLERITE: MEDIUM GRAINED, GREY, MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182507

LEASE : GRAY
BOREHOLE : GY 13

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
265.60	298.00	100	100% DOLERITE: MED.TO FINE GRAINED, GREY, VERY STRONG ROCK,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 35 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES.
298.00	299.00	100	100% DOLERITE: MED.TO FINE GRAINED, GREY, VERY STRONG ROCK,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
299.00	307.20	100	100% DOLERITE: MED.TO FINE GRAINED, GREY, VERY STRONG ROCK,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
307.20	308.60	100	100% DOLERITE: CHLORITIC, DARK GREEN, WEAK ROCK,CLOSE JOINT SPACING, JOINTS DIP 85 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
308.60	330.00	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, MODERATELY STRONG ROCK,WIDE JOINT SPACING.
330.00	335.60	100	100% DOLERITE: MED.-COARSE GRAINED, CHLORITIC, GREEN, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
335.60	351.50	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, MODERATELY STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
351.50	352.50	100	100% DOLERITE: MEDIUM GRAINED, CHLORITIC, GREEN, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
352.50	364.00	100	100% DOLERITE: MED.TO FINE GRAINED, GREY, STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182508

LEASE : GRAY
BOREHOLE : GY 13

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
364.00	385.00	100	100% DOLERITE: MED.TO FINE GRAINED, GREY, STRONG ROCK,EXTREMELY WIDE JOINT SPACING.
385.00	391.50	100	100% DOLERITE: MED.TO FINE GRAINED, GREY, WITH ZEOLITE ON JOINTS, VERY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
391.50	415.60	100	100% DOLERITE: MED.TO FINE GRAINED, GREY, WITH ZEOLITE ON JOINTS, STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,OPEN,NON-PLANAR DISCONTINUITIES.
415.60	442.00	100	100% DOLERITE: MED.TO FINE GRAINED, GREY, WITH ZEOLITE ON JOINTS AND CALCITE ON JOINTS, VERY STRONG ROCK,WIDE JOINT SPACING.
442.00	457.60	100	100% DOLERITE: MED.TO FINE GRAINED, GREY, WITH ZEOLITE ON JOINTS AND CALCITE ON JOINTS, VERY STRONG ROCK,VERY WIDE JOINT SPACING.

BOREHOLE LITHOLOGICAL LOG

182509

LEASE : GRAY
BOREHOLE : GY 14

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
-	5.50	0	CORE LOSS.
5.50	7.00	90	100% DOLERITE: MEDIUM GRAINED, GREY, WITH LIMONITE ON JOINTS, SLIGHTLY WEATHERED, MODERATELY STRONG ROCK,MODERATELY CLOSE JOINT SPACING ,OPEN PLANAR,ROUGH DISCONTINUITIES.
7.00	8.50	100	100% DOLERITE: MEDIUM GRAINED, GREY, WITH LIMONITE ON JOINTS, SLIGHTLY WEATHERED, STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
8.50	12.00	80	80% DOLERITE: MEDIUM GRAINED, GREY, 20% DOLERITE: MEDIUM GRAINED, FERRUGINOUS, ORANGE-YELLOW, MODERATELY WEATHERED, WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
12.00	14.00	100	100% DOLERITE: MEDIUM GRAINED, GREY, WITH LIMONITE ON JOINTS, SLIGHTLY WEATHERED, STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
14.00	15.00	90	100% DOLERITE: MEDIUM GRAINED, GREY, WITH LIMONITE ON JOINTS, SLIGHTLY WEATHERED, STRONG ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 70 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
15.00	17.10	100	100% DOLERITE: MEDIUM GRAINED, GREY, WITH LIMONITE ON JOINTS, SLIGHTLY WEATHERED, STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
17.10	19.00	100	100% DOLERITE: MEDIUM GRAINED, GREY, WITH LIMONITE ON JOINTS, SLIGHTLY WEATHERED, MODERATELY STRONG ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 70 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182510

LEASE : GRAY
BOREHOLE : GY 14

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
10.00 -	35.00	100	100% DOLERITE: MEDIUM GRAINED, GREY, WITH ZEOLITE ON JOINTS, UNWEATHERED, STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 60 DEG, ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
35.00 -	38.50	70	80% DOLERITE: MEDIUM GRAINED, FERRUGINOUS, YELLOW-BROWN, 20% DOLERITE: MEDIUM GRAINED, GREY, SLIGHTLY WEATHERED, WEAK ROCK.
38.50 -	52.00	100	100% DOLERITE: MEDIUM GRAINED, GREY, UNWEATHERED, STRONG ROCK,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 60 DEG, ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
52.00 -	61.00	100	100% DOLERITE: MEDIUM GRAINED, GREY, UNWEATHERED, VERY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 60 DEG, ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
61.00 -	80.50	100	100% DOLERITE: MEDIUM GRAINED, GREY, WITH LIMONITE ON JOINTS, UNWEATHERED, VERY STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 65 DEG, ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
80.50 -	81.00	80	70% TALC: GREEN, 30% DOLERITE: MEDIUM GRAINED, STRONGLY FRAGMENTED.
81.00 -	89.50	100	100% DOLERITE: MEDIUM GRAINED, FRAGMENTED, GREY, WITH TALC ON JOINTS AND CHLORITE ON JOINTS, UNWEATHERED, STRONG ROCK,MODERATELY CLOSE JOINT SPACING ,OPEN,NON-PLANAR DISCONTINUITIES.
89.50 -	124.00	100	100% DOLERITE: MEDIUM GRAINED, GREY, WITH CHLORITE ON JOINTS AND CALCITE ON JOINTS, VERY STRONG ROCK,WIDE JOINT SPACING ,OPEN PLANAR,ROUGH DISCONTINUITIES.
124.00 -	164.00	100	100% DOLERITE: MED.TO FINE GRAINED, GREY, WITH CHLORITE ON JOINTS AND CALCITE ON JOINTS, STRONG ROCK,WIDE JOINT SPACING ,OPEN PLANAR,ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182511

LEASE : GRAY
BOREHOLE : GY 14

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
164.00	168.00	100	100% DOLERITE: MED.TO FINE GRAINED, GREY, MODERATELY STRONG ROCK,WIDE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
168.00	170.10	100	100% DOLERITE: FINE GRAINED, GREY, WITH CHLORITE ON JOINTS. MODERATELY STRONG ROCK,MODERATELY CLOSE JOINT SPACING ,OPEN,NON-PLANAR DISCONTINUITIES.
170.10	170.72	100	100% DOLERITE: FINE GRAINED, CHLORITIC, GREY-GREEN, MODERATELY WEAK ROCK,MODERATELY CLOSE JOINT SPACING ,OPEN,NON-PLANAR DISCONTINUITIES ,INFILLED WITH CALCITE.
170.72	170.74	100	100% SANDSTONE, FINE GRAINED: BAKED, GREY, MODERATELY STRONG ROCK.
170.74	172.44	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THICK BEDDING.
172.44	176.30	100	100% SANDSTONE, COARSE GRAINED: LITHIC, FRIABLE, LIGHT GREY, WEAK ROCK.
176.30	176.88	100	100% SANDSTONE: MED.-COARSE GRAINED, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
176.88	177.29	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
177.29	177.71	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS,LAMINATED.
177.71	178.10	100	100% SANDSTONE, COARSE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
178.10	178.51	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS AND CARBONACEOUS WHISPS.
178.51	180.98	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
			*** CORE DESCRIPTION ***

SAMPLE:1

BOREHOLE LITHOLOGICAL LOG

182512

LEASE : GRAY
BOREHOLE : GY 14

TOP	BASE	%REC	LITHOLOGY
SAMPLE:1			*** CORE DESCRIPTION ***
180.98			
	0.22	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
	0.38	0	CORE LOSS.
	0.49	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
	0.09	100	100% MUDSTONE: GREY, WEAK ROCK.
	0.25	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
182.41	1.43		TOTAL
SAMPLE:2			*** CORE DESCRIPTION ***
182.41			
	0.20	100	100% MUDSTONE: GREY, WEAK ROCK.
	0.39	100	100% MUDSTONE: LIGHT GREY, VERY WEAK ROCK.
183.00	0.59		TOTAL
SAMPLE:3			*** CORE DESCRIPTION ***
183.00			
	0.27	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
	0.14	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, VERY WEAK ROCK.
	0.08	100	100% MUDSTONE: GREY, VERY WEAK ROCK.
	0.07	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, VERY WEAK ROCK.
	0.38	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
	0.05	100	100% MUDSTONE: GREY, WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182513

LEASE : GRAY
BOREHOLE : GY 14

TOP	BASE	%REC	LITHOLOGY
SAMPLE:3			*** CORE DESCRIPTION ***
	0.24	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
	0.04	100	100% MUDSTONE: GREY, WEAK ROCK.
	0.33	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
	0.03	100	100% MUDSTONE: GREY, WEAK ROCK.
	0.09	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
	0.01	100	100% MUDSTONE: GREY, WEAK ROCK.
	0.42	100	100% MUDSTONE: CARBONACEOUS, SHALY, BROWN - BLACK, MODERATELY WEAK ROCK.
185.15	2.15		TOTAL
SAMPLE:4			*** CORE DESCRIPTION ***
185.15			
	0.33	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
	0.16	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
	0.91	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 50 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
	0.03	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
	0.05	100	100% CLAYSTONE: LIGHT GREY, FIRM.
	0.30	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
	1.07	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
	0.05	100	100% MUDSTONE: GREY, VERY WEAK ROCK.
188.05	2.90		TOTAL

BOREHOLE LITHOLOGICAL LOG

182514

LEASE : GRAY
BOREHOLE : GY 14

TOP	BASE	%REC	LITHOLOGY
SAMPLE:5			*** CORE DESCRIPTION ***
188.05			
	0.90	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
	2.15	100	80% MUDSTONE: CARBONACEOUS, BLACK, 20% MUDSTONE: GREY, MODERATELY WEAK ROCK,MODERATELY THICK BEDDING.
	0.02	100	100% COAL, HEAVY DULL: WITH CALCITE ON CLEAT.
191.12	3.07		TOTAL
			*** CORE DESCRIPTION ***
191.12 - 191.16		100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.
191.16 - 191.45		100	100% MUDSTONE: DARK GREY, MODERATELY WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
191.45 - 191.95		100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
191.95 - 197.66		100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THICK BEDDING,WITH CROSS LAMINATION.
197.66 - 197.94		100	100% MUDSTONE: CARBONACEOUS, BADLY BROKEN, DARK GREY, MODERATELY WEAK ROCK.
197.94 - 199.43		100	100% MUDSTONE: SANDSTONE BANDS, GREY, MODERATELY WEAK ROCK,LAMINATED.
199.43 - 200.34		100	100% SANDSTONE, FINE GRAINED: MUDSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION.
200.34 - 202.56		100	100% MUDSTONE: SANDSTONE LAMINAE, GREY, MODERATELY WEAK ROCK,LAMINATED AND LOAD CASTS.

BOREHOLE LITHOLOGICAL LOG

182515

LEASE : GRAY
BOREHOLE : GY 14

TOP	BASE	%REC	LITHOLOGY
SAMPLE:6			*** CORE DESCRIPTION ***
202.56			
	0.20	100	100% MUDSTONE: CARBONACEOUS, BADLY BROKEN, DARK GREY, MODERATELY WEAK ROCK.
	4.46	90	90% MUDSTONE: COALY BANDS, BLACK, 10% MUDSTONE: GREY-BROWN, WITH BANDS OF CLAY, MODERATELY WEAK ROCK,MODERATELY THICK BEDDING.
	0.16	100	100% MUDSTONE: COALY LENSES, DARK GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
207.38	4.82		TOTAL
			*** CORE DESCRIPTION ***
207.38 - 208.13		100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
208.13 - 208.65		100	50% MUDSTONE: GREY, 50% MUDSTONE: LIGHT GREY, MODERATELY WEAK ROCK,WITH LOAD CASTS,LAMINATED.
208.65 - 209.33		100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
209.33 - 209.90		100	70% SANDSTONE, FINE GRAINED: CARBONACEOUS LAMINAE, GREY, 30% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,LAMINATED.
209.90 - 210.41		100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
210.41 - 210.70		100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, GREY, MODERATELY WEAK ROCK,MODERATELY THICK BEDDING,WITH CARBONACEOUS WHISPS.
210.70 - 218.13		100	100% SANDSTONE: MED.-COARSE GRAINED, LITHIC, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182516

LEASE : GRAY
BOREHOLE : GY 14

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
218.13	219.03	100	100% SANDSTONE: MED.-COARSE GRAINED, LITHIC, GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS AND MUD PELLETS.
219.03	219.66	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, FRIABLE, GREY, MODERATELY WEAK ROCK,LAMINATED.
219.66	220.70	100	100% SANDSTONE, MEDIUM GRAINED: MUDSTONE BANDS, GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS AND MUD PELLETS.
220.70	222.17	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, GREY, MODERATELY WEAK ROCK.
222.17	223.63	100	100% SANDSTONE, MEDIUM GRAINED: GREY, MODERATELY WEAK ROCK.
223.63	225.56	100	100% SANDSTONE, MEDIUM GRAINED: CONGLOMERATIC BANDS, LIGHT GREY, MODERATELY WEAK ROCK.
225.56	233.62	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK,THICK BEDDING,WITH CARBONACEOUS WHISPS.
233.62	234.83	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,LAMINATED.
234.83	235.90	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
235.90	236.30	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
236.30	237.30	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
237.30	237.75	100	100% SANDSTONE, COARSE GRAINED: CARBONACEOUS LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
237.75	237.91	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.

BOREHOLE LITHOLOGICAL LOG

182517

LEASE : GRAY
BOREHOLE : GY 14

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
237.91	243.72	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
243.72	248.87	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,THIN BEDDING,WITH CARBONACEOUS WHISPS.
248.87	249.02	100	100% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK,THIN BEDDING.
249.02	250.82	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
250.82	254.46	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
254.46	254.61	100	100% SANDSTONE, COARSE GRAINED: CARBONACEOUS LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
254.61	254.72	100	100% SANDSTONE, COARSE GRAINED: CONGLOMERATIC, LIGHT GREY, MODERATELY WEAK ROCK.
254.72	255.86	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS TRACES, LIGHT GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
255.86	256.14	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
256.14	257.22	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THICK BEDDING.
257.22	257.71	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
257.71	257.92	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
257.92	258.51	100	100% SANDSTONE: MED.-COARSE GRAINED, CONGLOMERATIC, LIGHT GREY, MODERATELY WEAK ROCK.
258.51	259.21	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
259.21	261.48	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182518

LEASE : GRAY
BOREHOLE : GY 14

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
261.48 - 264.65		100	100% SANDSTONE. COARSE GRAINED: COALY TRACES. LIGHT GREY. MODERATELY WEAK ROCK.
264.65 - 265.60		100	100% SANDSTONE. MEDIUM GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.THIN BEDDING,WIDE JOINT SPACING. JOINTS DIP 70 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
265.60 - 265.85		80	100% MUDSTONE: GREY. FIRM.
265.85 - 266.02		100	100% MUDSTONE: ARENACEOUS BANDS. GREY. MODERATELY WEAK ROCK.
266.02 - 266.10		100	100% MUDSTONE: CARBONACEOUS BANDS. GREY-BROWN. MODERATELY WEAK ROCK.MODERATELY WIDE JOINT SPACING .OPEN.NON-PLANAR DISCONTINUITIES .INFILLED WITH CALCITE.
SAMPLE:7			*** CORE DESCRIPTION ***
266.10			
	0.07	100	100% COAL. HEAVY DULL: BRIGHT COAL STREAKS.
	0.03	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
	0.13	100	100% COAL. DULL:.
	0.03	100	100% COAL. HEAVY DULL: BRIGHT COAL STREAKS.
266.36	0.26		TOTAL
SAMPLE:8			*** CORE DESCRIPTION ***
266.36			
	0.01	100	100% MUDSTONE: ARENACEOUS. GREY-BROWN. MODERATELY WEAK ROCK.
	0.01	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY WEAK ROCK.
	0.08	100	100% MUDSTONE: BROWN. WEAK ROCK.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 70 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.

BOREHOLE LITHOLOGICAL LOG

182519

LEASE : GRAY
BOREHOLE : GY 14

TOP	BASE	%REC	LITHOLOGY
SAMPLE:8			*** CORE DESCRIPTION ***
266.46	0.10		TOTAL
SAMPLE:9			*** CORE DESCRIPTION ***
266.46			
	0.35	100	100% COAL. DULL: BRIGHT COAL STREAKS.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 80 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES.
	0.01	100	100% MUDSTONE: ARENACEOUS. BROWN. MODERATELY WEAK ROCK.
	0.05	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
	0.04	100	100% MUDSTONE: BRIGHT COAL LAMINAE. DARK BROWN. MODERATELY WEAK ROCK.
	0.34	100	100% COAL. DULL: BRIGHT COAL STREAKS.
	0.04	100	100% COAL. DULL WITH NUMEROUS BRIGHT BANDS:.
267.29	0.83		TOTAL
			*** CORE DESCRIPTION ***
267.29 - 267.69		100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.CLOSE JOINT SPACING. JOINTS DIP 30 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
267.69 - 268.11		100	100% SANDSTONE: MED.TO FINE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.
268.11 - 268.26		100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.
268.26 - 268.38		100	50% MUDSTONE: BRIGHT COAL LENSES. DARK BROWN. 50% COAL. HEAVY DULL:. MODERATELY WEAK ROCK.THIN BEDDING.
268.38 - 268.61		100	100% MUDSTONE: CARBONACEOUS BANDS. GREY. MODERATELY WEAK ROCK.
268.61 - 268.71		100	100% CLAYSTONE: LIGHT BROWN. FIRM.
268.71 - 268.93		100	100% MUDSTONE: CARBONACEOUS. BLACK. FIRM.

BOREHOLE LITHOLOGICAL LOG

182520

LEASE : GRAY
BOREHOLE : GY 14

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
268.93	269.00	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. FIRM.
269.00	269.25	100	100% MUDSTONE: GREY. WEAK ROCK.THIN BEDDING.CLOSE JOINT SPACING .TIGHT NON-PLANAR DISCONTINUITIES.
269.25	269.55	100	100% SANDSTONE: MED.TO FINE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.THIN BEDDING.WITH CARBONACEOUS WHISPS.
269.55	269.70	100	100% SANDSTONE. FINE GRAINED: GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
269.70	270.55	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.CLOSE JOINT SPACING .TIGHT NON-PLANAR DISCONTINUITIES.
270.55	271.00	100	100% SANDSTONE. MEDIUM GRAINED: COALY TRACES. LIGHT GREY. MODERATELY WEAK ROCK.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 80 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
271.00	271.33	100	100% SILTSTONE: SANDSTONE BANDS. GREY. MODERATELY WEAK ROCK.
271.33	271.67	100	100% SANDSTONE. MEDIUM GRAINED: COALY TRACES. LIGHT GREY. MODERATELY WEAK ROCK.
271.67	271.75	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.
271.75	271.94	100	100% SANDSTONE. FINE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.WITH CROSS LAMINATION.
271.94	272.10	100	100% SANDSTONE. FINE GRAINED: GREY. MODERATELY WEAK ROCK.LAMINATED.
272.10	272.34	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.LAMINATED.
272.34	273.75	100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS LENSES. LIGHT GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.WITH CROSS LAMINATION.
273.75	274.33	100	100% SANDSTONE: MED.TO FINE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.
274.33	278.71	100	100% SANDSTONE. MEDIUM GRAINED: COALY. FRAGMENTS. LIGHT GREY. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182521

LEASE : GRAY
BOREHOLE : GY 14

TOP	BASE	%REC	LITHOLOGY
SAMPLE:10			*** CORE DESCRIPTION ***
278.71			
	0.07	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
	0.09	100	50% COAL. BRIGHT: 50% CARBONACEOUS SHALE:.VERY THIN BEDDING.
	0.25	100	100% COAL. DULL:.
279.12	0.41		TOTAL
SAMPLE:11			*** CORE DESCRIPTION ***
279.12			
	0.20	100	100% MUDSTONE: CARBONACEOUS BANDS. GREY-BROWN. MODERATELY WEAK ROCK.
279.32	0.20		TOTAL
SAMPLE:12			*** CORE DESCRIPTION ***
279.32			
	0.13	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
	0.12	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
	0.09	100	100% COAL. HEAVY DULL:.
	0.03	100	100% MUDSTONE: CARBONACEOUS. GREY-BROWN. MODERATELY WEAK ROCK.
	0.02	100	100% MUDSTONE: ARENACEOUS. BROWN. MODERATELY WEAK ROCK.
	0.03	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.
279.74	0.42		TOTAL
SAMPLE:13			*** CORE DESCRIPTION ***

BOREHOLE LITHOLOGICAL LOG

182522

LEASE : GRAY
BOREHOLE : GY 14

TOP	BASE	%REC	LITHOLOGY
SAMPLE:13			*** CORE DESCRIPTION ***
279.74			
	0.25	100	100% COAL, DULL:.
	0.01	100	100% MUDSTONE: ARENACEOUS, CREAM, MODERATELY WEAK ROCK.
	0.24	100	100% COAL, DULL: MUDSTONE LAMINAE.
	0.01	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
	0.12	100	100% COAL, DULL:.
	0.01	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
	0.34	100	100% COAL, DULL:.
	0.01	100	100% MUDSTONE: ARENACEOUS, BROWN, MODERATELY WEAK ROCK.
	0.06	100	100% COAL, DULL:.
	0.01	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
	0.50	100	100% COAL, DULL WITH FEW BRIGHT BANDS: MUDSTONE LAMINAE.
281.30	1.56		TOTAL
			*** CORE DESCRIPTION ***
281.30 - 281.90		100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING. JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
281.90 - 282.40		100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK,MODERATELY THICK BEDDING.
282.40 - 282.76		100	100% SANDSTONE, FINE GRAINED: MUDSTONE BANDS, GREY, MODERATELY WEAK ROCK.
282.76 - 282.88		100	100% SANDSTONE: MED.TO FINE GRAINED, PEBBLY, LIGHT GREY, MODERATELY WEAK ROCK.
282.88 - 283.28		100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182523

LEASE : GRAY
BOREHOLE : GY 14

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
283.28	283.42	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS AND CROSS LAMINATION.
283.42	283.76	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THICK BEDDING.
283.76	285.81	100	100% SANDSTONE, MEDIUM GRAINED: COALY STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
285.81	287.00	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
287.00	287.11	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
287.11	287.27	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
287.27	287.96	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
287.96	290.00	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
290.00	291.88	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
291.88	293.90	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS AND MUD PELLETS.
293.90	295.50	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
295.50	295.63	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
295.63	295.87	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
295.87	298.16	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
298.16	298.25	100	100% MUDSTONE: CARBONACEOUS, BADLY BROKEN, DARK BROWN, WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182524

LEASE : GRAY
BOREHOLE : GY 14

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
298.25	298.37	100	100% SANDSTONE: MED.TO FINE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.
298.37	301.85	100	100% SANDSTONE. MEDIUM GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.
301.85	302.50	100	100% SANDSTONE: MED.TO FINE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.
302.50	303.18	100	100% SANDSTONE. MEDIUM GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.
303.18	303.57	100	100% SANDSTONE: MED.TO FINE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.
303.57	304.37	100	100% SANDSTONE. MEDIUM GRAINED: MUDSTONE BANDS. LIGHT GREY. MODERATELY WEAK ROCK.WITH MUD PELLETS AND CARBONACEOUS WHISPS.
304.37	304.67	100	100% SANDSTONE. MEDIUM GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.
304.67	305.20	100	100% SANDSTONE: MED.TO FINE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.
305.20	309.04	100	100% SANDSTONE. MEDIUM GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.
309.04	309.23	100	100% SANDSTONE: MED.TO FINE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.
309.23	310.11	100	100% SANDSTONE. MEDIUM GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.WITH MUD PELLETS.
310.11	310.72	100	100% SANDSTONE: MED.TO FINE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.
310.72	312.15	100	100% SILTSTONE: CARBONACEOUS BANDS. GREY. MODERATELY WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 70 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.

BOREHOLE LITHOLOGICAL LOG

182525

LEASE : GRAY
BOREHOLE : GY 14

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
312.15	312.61	100	100% SANDSTONE. FINE GRAINED: SILTSTONE LAMINAE. LIGHT GREY. MODERATELY WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 50 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
312.61	312.76	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
312.76	313.22	100	100% SANDSTONE. FINE GRAINED: SILTSTONE LAMINAE. LIGHT GREY. MODERATELY WEAK ROCK.
313.22	313.76	100	100% MUDSTONE: CARBONACEOUS LENSES. GREY. WEAK ROCK.
313.76	313.88	100	100% CLAYSTONE: CARBONACEOUS BANDS. LIGHT BROWN. FIRM.
313.88	313.91	100	100% COAL. DULL WITH NUMEROUS BRIGHT BANDS: BADLY BROKEN.
313.91	314.00	0	CORE LOSS.
314.00	315.09	100	100% MUDSTONE: SILTSTONE. GREY. WEAK ROCK.WITH CARBONACEOUS WHISPS.MODERATELY WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
315.09	316.10	100	100% MUDSTONE: SILTSTONE. GREY. WEAK ROCK.WITH CARBONACEOUS WHISPS.MODERATELY WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
316.10	316.55	100	100% SILTSTONE: GREY. WEAK ROCK.WITH CARBONACEOUS WHISPS.WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
316.55	316.75	100	100% SANDSTONE. FINE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182526

LEASE : GRAY
BOREHOLE : GY 14

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
316.75	317.12	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
317.12	318.32	100	100% SANDSTONE, FINE GRAINED: SILTSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
318.32	319.16	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
319.16	319.19	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
319.19	319.21	100	100% COAL, HEAVY DULL:.
319.21	319.23	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
319.23	319.34	100	100% COAL, HEAVY DULL:.
319.34	319.36	100	100% MUDSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.
319.36	319.38	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
319.38	319.39	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
319.39	319.41	100	100% MUDSTONE: CARBONACEOUS, FISSILE, BLACK, VERY WEAK ROCK.
319.41	319.52	100	100% COAL, DULL:.
319.52	319.62	100	100% MUDSTONE: CARBONACEOUS, FISSILE, BLACK, VERY WEAK ROCK.
319.62	319.76	100	100% SANDSTONE: COALY STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
319.76	319.79	100	100% COAL, INTERBANDED DULL AND BRIGHT:.
319.79	319.82	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
319.82	319.86	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
319.86	319.95	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.

BOREHOLE LITHOLOGICAL LOG

182527

LEASE : GRAY
BOREHOLE : GY 14

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
319.95	320.02	100	100% SANDSTONE, FINE GRAINED: SILTSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK.
320.02	320.30	100	100% SANDSTONE, FINE GRAINED: SILTSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK.
320.30	321.12	100	100% SILTSTONE: CARBONACEOUS LENSES, GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS,WIDE JOINT SPACING, JOINTS DIP 10 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
321.12	321.29	100	100% SANDSTONE, FINE GRAINED: SILTSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
321.29	322.37	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
322.37	322.44	100	100% SILTSTONE: FINE GRAINED SANDSTONE LAMINAE, GREY, MODERATELY WEAK ROCK.
322.44	324.29	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED AND CARBONACEOUS WHISPS,WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
324.29	324.72	100	100% SILTSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
24.72	325.17	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, WEAK ROCK.
25.17	325.30	100	100% MUDSTONE: CARBONACEOUS, BLACK, WEAK ROCK.
325.30	325.34	100	100% MUDSTONE: CARBONACEOUS, BLACK, SOFT.
25.34	325.51	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, WEAK ROCK.
25.51	325.66	100	100% MUDSTONE: CARBONACEOUS, BLACK, WEAK ROCK,MODERATELY CLOSE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES.
325.66	325.73	100	100% MUDSTONE: CARBONACEOUS, BLACK, VERY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182528

LEASE : GRAY
BOREHOLE : GY 14

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
325.73	325.80	100	100% MUDSTONE: CARBONACEOUS. FISSILE. DARK GREY. FIRM.
325.80	325.95	100	100% MUDSTONE: CALCITIC. FISSILE. BROWN. VERY WEAK ROCK.
325.95	326.00	100	100% MUDSTONE: BADLY BROKEN. FISSILE. GREY. WEAK ROCK.
326.00	326.03	100	100% MUDSTONE: CARBONACEOUS. BADLY BROKEN. BLACK. WEAK ROCK.
326.03	326.05	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
326.05	326.07	100	100% COAL. INTERBANDED DULL AND BRIGHT:.
326.07	327.41	100	100% SILTSTONE: ARENACEOUS. GREY. MODERATELY WEAK ROCK,LAMINATED,WIDE JOINT SPACING. JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
327.41	327.60	100	100% SANDSTONE. FINE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK,WIDE JOINT SPACING. JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
327.60	328.00	100	100% SILTSTONE: ARENACEOUS LAMINAE. GREY. WEAK ROCK.
328.00	328.24	100	100% SANDSTONE. FINE GRAINED: SILTSTONE. LIGHT GREY. WEAK ROCK,WIDE JOINT SPACING. JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
328.24	328.53	100	100% SILTSTONE: ARENACEOUS LAMINAE. GREY. MODERATELY WEAK ROCK.
328.53	329.00	100	100% SANDSTONE: SILTSTONE BANDS. LIGHT GREY. MODERATELY WEAK ROCK,MODERATELY THICK BEDDING,WITH CROSS LAMINATION,WIDE JOINT SPACING. JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
329.00	329.42	100	100% SILTSTONE: ARENACEOUS BANDS. GREY. MODERATELY WEAK ROCK,MODERATELY THIN BEDDING,WIDE JOINT SPACING. JOINTS DIP 50 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182529

LEASE : GRAY
BOREHOLE : GY 14

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
329.42	329.48	100	100% MUDSTONE: COALY LENSES, DARK GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
329.48	329.73	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
329.73	329.76	100	100% SANDSTONE: LIGHT GREY, MODERATELY WEAK ROCK.
329.76	329.79	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
329.79	329.83	100	100% COAL, HEAVY DULL:.
329.83	329.92	100	100% COAL, DULL:.
329.92	329.93	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
329.93	329.96	100	100% SILTSTONE: ARGILLACEOUS, LIGHT BROWN, MODERATELY WEAK ROCK.
329.96	330.02	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
330.02	330.08	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
330.08	330.09	100	100% COAL, INTERBANDED DULL AND BRIGHT:.
330.09	330.13	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
330.13	330.15	100	100% COAL, BRIGHT WITH NUMEROUS DULL BANDS:.
330.15	330.19	100	100% COAL, DULL:.
330.19	330.21	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
330.21	330.23	100	100% MUDSTONE: ARGILLACEOUS, FISSILE, BROWN, MODERATELY WEAK ROCK.
330.23	330.32	100	100% COAL, HEAVY DULL:.
330.32	330.33	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
330.33	330.37	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.

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BOREHOLE LITHOLOGICAL LOG

182530

LEASE : GRAY
BOREHOLE : GY 14

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
330.37	330.38	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
330.38	330.40	100	100% MUDSTONE: BRIGHT COAL STREAKS, BROWN, MODERATELY WEAK ROCK.
330.40	330.55	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
330.55	330.56	100	100% COAL, BRIGHT WITH NUMEROUS DULL BANDS:.
330.56	330.78	100	100% COAL, HEAVY DULL:.
330.78	330.91	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
330.91	331.90	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 90 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES.
331.90	333.02	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
333.02	334.46	100	100% SILTSTONE: ARENACEOUS LAMINAE, GREY, MODERATELY WEAK ROCK.
334.46	334.80	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, VERY WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
334.80	334.97	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, MODERATELY WEAK ROCK.
334.97	335.06	100	100% COAL, BRIGHT WITH NUMEROUS DULL BANDS:.
335.06	336.09	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
336.09	336.39	100	100% SILTSTONE: GREY, WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 50 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.

BOREHOLE LITHOLOGICAL LOG

182531

LEASE : GRAY
BOREHOLE : GY 14

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
336.39	336.44	100	100% SILTSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
336.44	337.46	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 50 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
337.46	337.55	100	100% MUDSTONE: SILTSTONE, GREY, WEAK ROCK.
337.55	338.88	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
338.88	339.91	100	100% LIMESTONE: SILTSTONE, GREY, MODERATELY STRONG ROCK,WITH DISTURBED BEDDING.
339.91	341.13	100	100% SILTSTONE: ARENACEOUS LAMINAE, GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
341.13	342.02	100	100% SANDSTONE, FINE GRAINED: SILTSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK.
342.02	342.82	100	100% SILTSTONE: ARENACEOUS LAMINAE, GREY, MODERATELY WEAK ROCK,WITH FLAME/PULL-OVER STRUCTS.
342.82	344.60	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
344.60	344.73	100	100% MUDSTONE: CARBONACEOUS, BLACK, WEAK ROCK.
344.73	344.84	100	100% CARBONACEOUS SHALE: BLACK, WEAK ROCK.
344.84	344.96	100	100% MUDSTONE: CARBONACEOUS, COALY, BROWN - BLACK, MODERATELY WEAK ROCK.
344.96	345.38	100	100% SILTSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 55 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
345.38	346.00	100	50% SILTSTONE: CARBONACEOUS LAMINAE, DARK GREY, 50% SANDSTONE, FINE GRAINED: LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK,THIN BEDDING.
346.00	347.33	100	100% SANDSTONE, FINE GRAINED: SILTSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182532

LEASE : GRAY
BOREHOLE : GY 14

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
347.33	347.89	100	100% SILTSTONE: GREY-GREEN. MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.LAMINATED.
347.89	348.07	100	100% SANDSTONE: MED.TO FINE GRAINED. GREY-GREEN. MODERATELY WEAK ROCK.
348.07	349.28	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.WITH CARBONACEOUS WHISPS.
349.28	349.41	100	100% MUDSTONE: CARBONACEOUS, COALY, BROWN - BLACK. MODERATELY WEAK ROCK.
349.41	349.47	100	100% CLAYSTONE: CARBONACEOUS BANDS, LIGHT BROWN, FIRM.
349.47	350.00	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, WEAK ROCK.
350.00	350.25	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK BROWN, WITH BANDS OF CLAY, WEAK ROCK.
350.25	351.48	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK BROWN, MODERATELY WEAK ROCK.
351.48	352.44	100	55% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, 45% SILTSTONE: CARBONACEOUS LAMINAE, DARK GREY, MODERATELY WEAK ROCK.
352.44	353.00	100	100% SANDSTONE: CARBONACEOUS BANDS, LIGHT GREY, MODERATELY WEAK ROCK.
353.00	353.03	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, MODERATELY WEAK ROCK.
353.03	354.52	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
354.52	354.56	100	100% CLAYSTONE: FISSILE, LIGHT GREEN, VERY WEAK ROCK.
54.56	354.73	100	100% MUDSTONE: SILTSTONE, GREY, WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
354.73	355.11	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182533

LEASE : GRAY
BOREHOLE : GY 14

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
355.11	355.28	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
355.28	356.12	100	100% MUDSTONE: SILTSTONE, DARK BROWN, MODERATELY WEAK ROCK.
356.12	356.60	100	100% SANDSTONE: CARBONACEOUS BANDS, LIGHT GREY, MODERATELY WEAK ROCK,THIN BEDDING.
356.60	356.98	100	100% SILTSTONE: MICACEOUS, GREY, MODERATELY WEAK ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
356.98	357.67	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK.
357.67	358.00	100	100% SANDSTONE: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
358.00	358.25	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
358.25	361.54	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
361.54	361.62	100	100% COAL, DULL:.
361.62	361.76	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
361.76	361.90	100	100% SILTSTONE: CARBONACEOUS STREAKS, BROWN, MODERATELY WEAK ROCK.
361.90	362.02	100	100% SANDSTONE: COALY STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
362.02	362.57	100	100% SANDSTONE: COALY LENSES, GREY, MODERATELY WEAK ROCK.
362.57	362.66	100	100% SANDSTONE: BRIGHT COAL BANDS, GREY, MODERATELY WEAK ROCK.
362.66	362.79	100	100% SANDSTONE: PEBBLY, SILTSTONE, GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
362.79	363.37	100	100% SANDSTONE: MED.TO FINE GRAINED, GREY-GREEN, MODERATELY WEAK ROCK,WITH MUD PELLETS.

LEASE : GRAY
BOREHOLE : GY 14

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
363.37	363.54	100	100% SANDSTONE, FINE GRAINED: GREY-GREEN, MODERATELY WEAK ROCK,LAMINATED.
363.54	364.50	100	100% SANDSTONE: MED.TO FINE GRAINED, GREY-GREEN, MODERATELY WEAK ROCK.
364.50	366.63	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED.
366.63	368.05	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
368.05	368.53	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
368.53	368.77	100	100% SANDSTONE, FINE GRAINED: SILTSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING.
368.77	371.47	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
371.47	371.56	100	100% SILTSTONE: ARGILLACEOUS, GREY, MODERATELY WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 50 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
371.56	372.00	100	100% SANDSTONE: MEDIUM GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
372.00	374.55	100	100% SANDSTONE, FINE GRAINED: MICACEOUS, GREY-GREEN, MODERATELY WEAK ROCK.
374.55	374.73	100	100% SANDSTONE: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
374.73	376.02	100	100% SANDSTONE, FINE GRAINED: GREY-GREEN, MODERATELY WEAK ROCK.
376.02	377.00	100	100% SANDSTONE: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
377.00	377.13	100	100% SILTSTONE: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182535

LEASE : GRAY
BOREHOLE : GY 14

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
377.13	377.23	100	100% SANDSTONE: COALY LENSES. LIGHT GREY. MODERATELY WEAK ROCK.WITH MUD PELLETS.
377.23	377.48	100	100% SANDSTONE: MED.TO FINE GRAINED. PELLETAL. GREY-GREEN. MODERATELY WEAK ROCK.WITH MUD PELLETS.
377.48	377.74	100	100% SANDSTONE: PEBBLY. MED.TO FINE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.
377.74	378.80	100	100% SANDSTONE: MED.TO FINE GRAINED. GREY-GREEN. MODERATELY WEAK ROCK.
378.80	380.02	100	100% SANDSTONE. FINE GRAINED: GREY-GREEN. MODERATELY WEAK ROCK.MODERATELY THIN BEDDING.
380.02	380.24	100	100% SANDSTONE. FINE GRAINED: SILTSTONE. LIGHT GREY. MODERATELY WEAK ROCK.
380.24	380.33	100	100% SANDSTONE. MEDIUM GRAINED: COALY LENSES. LIGHT GREY. MODERATELY WEAK ROCK.WITH MUD PELLETS.
380.33	382.20	100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS STREAKS. GREY-GREEN. MODERATELY WEAK ROCK.
382.20	382.51	100	100% SANDSTONE: COALY BANDS. GREY-GREEN. MODERATELY WEAK ROCK.
382.51	383.00	100	100% SANDSTONE: MED.TO FINE GRAINED. GREY-GREEN. MODERATELY WEAK ROCK.
383.00	383.35	100	100% SANDSTONE: COALY LENSES. LIGHT GREY. MODERATELY WEAK ROCK.
383.35	383.44	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. WEAK ROCK.
383.44	383.74	100	100% SANDSTONE. MEDIUM GRAINED: COALY BANDS. GREY-GREEN. MODERATELY WEAK ROCK.
383.74	383.93	100	100% SANDSTONE: MED.TO FINE GRAINED. GREY-GREEN. MODERATELY WEAK ROCK.
383.93	384.04	100	100% SANDSTONE. FINE GRAINED: SILTSTONE. LIGHT GREY. MODERATELY WEAK ROCK.
384.04	387.13	100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS STREAKS. GREY-GREEN. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182536

LEASE : GRAY
BOREHOLE : GY 14

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
387.13	387.26	100	100% SANDSTONE: CARBONACEOUS LENSES. GREY-GREEN. MODERATELY WEAK ROCK.WITH MUD PELLETS.
387.26	387.33	100	100% MUDSTONE: CARBONACEOUS. BLACK. WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 30 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
387.33	387.36	100	100% SANDSTONE. MEDIUM GRAINED: GREY-GREEN. MODERATELY WEAK ROCK.WITH MUD PELLETS.
387.36	387.38	100	100% MUDSTONE: CARBONACEOUS. BLACK.
387.38	387.65	100	100% SILTSTONE: GREY. WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
387.65	388.49	100	100% SANDSTONE. FINE GRAINED: SILTSTONE BANDS. LIGHT GREY. WITH MICA. MODERATELY WEAK ROCK.MODERATELY THIN BEDDING.
388.49	389.10	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
389.10	389.58	100	60% SANDSTONE. FINE GRAINED: LIGHT GREY. 40% SILTSTONE: ARENACEOUS LAMINAE. GREY. MODERATELY WEAK ROCK.MODERATELY THICK BEDDING.
389.58	390.96	100	100% SILTSTONE: ARENACEOUS BANDS. GREY. MODERATELY WEAK ROCK.THIN BEDDING.
390.96	390.98	100	100% COAL. HEAVY DULL:.
390.98	391.06	100	100% CLAYSTONE: FISSILE. LIGHT BROWN. VERY WEAK ROCK.
391.06	391.09	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY STRONG ROCK.
391.09	391.11	100	100% MUDSTONE: BROWN. WEAK ROCK.
391.11	391.17	100	100% COAL. HEAVY DULL:.
391.17	391.20	100	100% MUDSTONE: BROWN. MODERATELY WEAK ROCK.
391.20	391.22	100	100% COAL. HEAVY DULL: BADLY BROKEN.

BOREHOLE LITHOLOGICAL LOG

182537

LEASE : GRAY
BOREHOLE : GY 14

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
391.22	391.31	100	100% SILTSTONE: ARGILLACEOUS. GREY. WEAK ROCK.MODERATELY WIDE JOINT SPACING .TIGHT NON-PLANAR DISCONTINUITIES WITH SLICKENSIDES.
391.31	392.11	100	100% SANDSTONE. FINE GRAINED: SILTSTONE BANDS. LIGHT GREY. MODERATELY WEAK ROCK.THIN BEDDING.
392.11	392.42	100	100% SILTSTONE:. MODERATELY WEAK ROCK.
392.42	393.12	100	100% SILTSTONE: ARENACEOUS LAMINAE. GREY. MODERATELY WEAK ROCK.THIN BEDDING.
393.12	395.57	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.THIN BEDDING.
395.57	395.94	100	100% SANDSTONE: SILTSTONE LAMINAE. GREY. MODERATELY WEAK ROCK.
395.94	396.11	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 30 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
396.11	396.22	100	100% MUDSTONE: COALY STREAKS. BROWN. MODERATELY WEAK ROCK.
396.22	396.44	100	100% SILTSTONE: BROWN. MODERATELY WEAK ROCK.
396.44	396.93	100	100% SILTSTONE: ARENACEOUS LAMINAE. LIGHT BROWN. MODERATELY WEAK ROCK.THIN BEDDING.
396.93	397.03	100	100% SANDSTONE: CALCITIC. LIGHT GREY. MODERATELY WEAK ROCK.
397.03	398.12	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.VERY WIDE JOINT SPACING. JOINTS DIP 70 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
398.12	398.16	100	100% MUDSTONE: CARBONACEOUS BANDS. BROWN. WEAK ROCK.
398.16	398.49	100	100% SILTSTONE: CARBONACEOUS STREAKS. GREY-BROWN. MODERATELY WEAK ROCK.
398.49	398.56	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
398.56	398.59	100	100% MUDSTONE: LIGHT BROWN. VERY WEAK ROCK.
398.59	399.25	100	100% SILTSTONE: ARENACEOUS BANDS. GREY. MODERATELY WEAK ROCK.THIN BEDDING.

BOREHOLE LITHOLOGICAL LOG

182538

LEASE : GRAY
BOREHOLE : GY 14

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
399.25	399.26	100	100% COAL. HEAVY DULL: BRIGHT COAL BANDS.
399.26	399.28	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. WEAK ROCK.
399.28	399.29	100	100% COAL. HEAVY DULL: BRIGHT COAL STREAKS.
399.29	399.38	100	100% MUDSTONE: CARBONACEOUS. FISSILE. DARK BROWN. WEAK ROCK.
399.38	399.45	100	100% SILTSTONE: GREY. WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 30 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
399.45	399.50	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. WEAK ROCK.
399.50	400.72	100	60% SANDSTONE. FINE GRAINED: LIGHT GREY. 40% SILTSTONE: LAMINAE. GREY. MODERATELY WEAK ROCK.
400.72	401.07	100	100% SILTSTONE: COALY STREAKS. GREY. MODERATELY WEAK ROCK.
401.07	401.22	100	100% SANDSTONE: CARBONACEOUS LENSES. GREY-BROWN. MODERATELY WEAK ROCK.WITH DISTURBED BEDDING.
401.22	401.72	100	100% SILTSTONE: COALY STREAKS. BROWN. MODERATELY WEAK ROCK.
401.72	402.28	100	100% SILTSTONE: ARENACEOUS LAMINAE. GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
402.28	402.53	100	100% SANDSTONE: SILTSTONE LAMINAE. LIGHT GREY. MODERATELY WEAK ROCK.
402.53	402.72	100	100% SILTSTONE: BROWN. MODERATELY WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 70 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
402.72	402.76	100	100% MUDSTONE: BROWN. MODERATELY WEAK ROCK.
402.76	402.77	100	100% COAL. BRIGHT:.
402.77	402.79	100	100% MUDSTONE: COALY LENSES. BROWN. MODERATELY WEAK ROCK.
402.79	402.85	100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS LAMINAE. LIGHT GREY. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182539

LEASE : GRAY
BOREHOLE : GY 14

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
402.85	403.15	100	100% SILTSTONE: CARBONACEOUS. BROWN. MODERATELY WEAK ROCK.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 70 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
403.15	403.22	100	100% SILTSTONE: LIGHT BROWN. MODERATELY WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 70 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
403.22	403.41	100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS LAMINAE. LIGHT BROWN. MODERATELY WEAK ROCK.THIN BEDDING.WIDE JOINT SPACING. JOINTS DIP 80 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
403.41	403.56	100	100% SANDSTONE. MEDIUM GRAINED: GREY-BROWN. WITH FRAGMENTS OF QUARTZ. MODERATELY WEAK ROCK.
403.56	404.88	100	100% SILTSTONE: BROWN. WITH FRAGMENTS OF QUARTZ. MODERATELY WEAK ROCK.
404.88	405.59	100	100% SILTSTONE: GREY-BROWN. WITH FRAGMENTS OF QUARTZ. MODERATELY WEAK ROCK.
405.59	406.00	100	100% SILTSTONE: ARENACEOUS. LIGHT BROWN. WITH FRAGMENTS OF QUARTZ. MODERATELY WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 70 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
406.00	407.42	100	100% SANDSTONE. MEDIUM GRAINED: QUARTZOSE. LIGHT GREEN. MODERATELY STRONG ROCK.VERY WIDE JOINT SPACING. JOINTS DIP 75 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
407.42	408.32	100	100% SILTSTONE: GREY-GREEN. WITH FRAGMENTS OF QUARTZ. MODERATELY WEAK ROCK.
408.32	408.62	100	100% SILTSTONE: LIGHT GREEN. MODERATELY WEAK ROCK.LAMINATED.
408.62	409.77	100	100% SILTSTONE: BROWN. WITH FRAGMENTS OF QUARTZ. MODERATELY WEAK ROCK.
409.77	410.00	100	100% SILTSTONE: ARENACEOUS LENSES. GREY-BROWN. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182540

LEASE : GRAY
BOREHOLE : GY 15

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
-	18.50	0	CORE LOSS.
18.50 -	22.70	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, SLIGHTLY WEATHERED, VERY STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
22.70 -	25.60	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, SLIGHTLY WEATHERED, VERY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
25.60 -	31.30	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, SLIGHTLY WEATHERED, VERY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
31.30 -	38.75	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, VERY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
38.75 -	39.25	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 75 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
39.25 -	40.00	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
40.00 -	46.00	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.

BOREHOLE LITHOLOGICAL LOG

182541

LEASE : GRAY
BOREHOLE : GY 15

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
46.00 -	49.10	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
49.10 -	55.50	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 10 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
55.50 -	61.90	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
61.90 -	66.00	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
66.00 -	70.00	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 20 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
70.00 -	79.20	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 75 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
79.20 -	101.00	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
101.00 -	103.00	100	100% DOLERITE: MED.TO FINE GRAINED, GREY, STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182542

LEASE : GRAY
BOREHOLE : GY 15

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
103.00	133.60	100	100% DOLERITE: MED.TO FINE GRAINED. GREY. WITH CHLORITE ON JOINTS AND ZEOLITE ON JOINTS. MODERATELY STRONG ROCK.WIDE JOINT SPACING. JOINTS DIP 85 DEG. .OPEN PLANAR.ROUGH DISCONTINUITIES .INFILLED WITH CALCITE.
133.60	144.00	100	100% DOLERITE: MED.TO FINE GRAINED. GREY. VERY STRONG ROCK.EXTREMELY WIDE JOINT SPACING.
144.00	146.00	100	100% DOLERITE: MED.TO FINE GRAINED. GREY. WITH CHLORITE ON JOINTS. VERY STRONG ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 90 DEG. .OPEN PLANAR.ROUGH DISCONTINUITIES .INFILLED WITH CALCITE.
146.00	152.60	100	100% DOLERITE: MED.TO FINE GRAINED. GREY. VERY STRONG ROCK.
152.60	156.50	100	100% DOLERITE: MED.TO FINE GRAINED. GREY. WITH CHLORITE ON JOINTS. VERY STRONG ROCK.VERY WIDE JOINT SPACING. JOINTS DIP 85 DEG. .OPEN PLANAR.ROUGH DISCONTINUITIES .INFILLED WITH CALCITE.
156.50	176.60	100	100% DOLERITE: MED.TO FINE GRAINED. GREY. VERY STRONG ROCK.
176.60	178.00	100	100% DOLERITE: MED.TO FINE GRAINED. GREY-GREEN. WITH CHLORITE ON JOINTS AND ZEOLITE ON JOINTS. STRONG ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 85 DEG. .OPEN PLANAR.ROUGH DISCONTINUITIES .INFILLED WITH CALCITE.
178.00	283.50	100	100% DOLERITE: MED.TO FINE GRAINED. GREY-GREEN. STRONG ROCK.VERY WIDE JOINT SPACING .OPEN PLANAR.ROUGH DISCONTINUITIES .INFILLED WITH CALCITE.
283.50	321.20	100	100% DOLERITE: MED.TO FINE GRAINED. GREY-GREEN. VERY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182543

LEASE : GRAY
BOREHOLE : GY 15

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
321.20	323.60	100	100% DOLERITE: MED.TO FINE GRAINED, GREY-GREEN, STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
323.60	326.80	100	100% DOLERITE: MED.TO FINE GRAINED, GREY-GREEN, VERY STRONG ROCK.
326.80	328.10	100	100% DOLERITE: MED.TO FINE GRAINED, GREY-GREEN, WITH CHLORITE ON JOINTS AND ZEOLITE ON JOINTS, STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
328.10	401.00	100	100% DOLERITE: MED.TO FINE GRAINED, GREY-GREEN, VERY STRONG ROCK,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
401.00	404.80	100	100% DOLERITE: GREY-GREEN, WITH CHLORITE ON JOINTS AND ZEOLITE ON JOINTS, STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
404.80	420.70	100	100% DOLERITE: MED.TO FINE GRAINED, GREY-GREEN, VERY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 10 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
420.70	422.40	100	100% DOLERITE: MED.TO FINE GRAINED, GREY-GREEN, WITH CHLORITE ON JOINTS, STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
422.40	438.60	100	100% DOLERITE: MED.TO FINE GRAINED, GREY-GREEN, STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.

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BOREHOLE LITHOLOGICAL LOG

182544

LEASE : GRAY
BOREHOLE : GY 15

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
438.60	445.60	100	100% DOLERITE: MED.TO FINE GRAINED, GREY-GREEN, VERY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 10 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.

BOREHOLE LITHOLOGICAL LOG

182545

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
-	21.50	0	CORE LOSS.
21.50 -	21.63	100	100% MUDSTONE: SILTSTONE, ORANGE-YELLOW, WEAK ROCK.
21.63 -	22.38	100	100% MUDSTONE: SILTSTONE, GREY, WEAK ROCK.VERY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES.
22.38 -	22.98	100	100% MUDSTONE: GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
22.98 -	23.03	100	100% CLAYSTONE: FISSILE, BADLY BROKEN, GREY-GREEN, VERY WEAK ROCK.
23.03 -	23.40	100	100% MUDSTONE: SILTSTONE, DARK GREY, WEAK ROCK.
23.40 -	23.60	100	100% CLAYSTONE: GREY-GREEN, VERY WEAK ROCK.
23.60 -	24.07	100	100% MUDSTONE: GREY, WEAK ROCK,MODERATELY CLOSE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
24.07 -	24.12	100	100% CLAYSTONE: FISSILE, GREY-GREEN, VERY WEAK ROCK.
24.12 -	24.15	100	100% MUDSTONE: GREY, WEAK ROCK.
24.15 -	24.23	100	100% CLAYSTONE: FISSILE, GREY-GREEN, VERY WEAK ROCK.
24.23 -	24.36	100	100% MUDSTONE: SILTSTONE, WEAK ROCK.
24.36 -	24.80	100	100% CLAYSTONE: FISSILE, GREY-GREEN, VERY WEAK ROCK.
24.80 -	24.96	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, MODERATELY WEAK ROCK.
24.96 -	25.02	100	100% CLAYSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.
25.02 -	25.24	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY STRONG ROCK.
25.24 -	25.58	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK,MODERATELY CLOSE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
25.58 -	25.73	100	100% CLAYSTONE: FISSILE, LIGHT GREEN, VERY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182546

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
25.73 -	26.06	100	100% MUDSTONE: SILTSTONE, GREY-BROWN, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
26.06 -	26.66	100	100% MUDSTONE: GREY-BROWN, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
26.66 -	26.79	100	100% CLAYSTONE: FISSILE, GREY-GREEN, WEAK ROCK.
26.79 -	26.83	100	100% CLAYSTONE: GREEN, WEAK ROCK.
26.83 -	26.92	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
26.92 -	26.96	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
26.96 -	27.52	100	100% SILTSTONE: CARBONACEOUS BANDS, BROWN, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
27.52 -	27.66	100	100% CLAYSTONE: FISSILE, LIGHT GREEN, FIRM,WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
27.66 -	27.70	100	100% COAL, HEAVY DULL:.
27.70 -	27.87	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
27.87 -	27.90	100	100% CLAYSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.
27.90 -	27.92	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
27.92 -	27.94	100	100% COAL, BRIGHT WITH NUMEROUS DULL BANDS:.
27.94 -	27.98	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182547

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
27.98 -	28.12	100	100% SILTSTONE: GREY, MODERATELY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
28.12 -	28.13	100	100% CLAYSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.
28.13 -	28.15	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
28.15 -	28.20	100	100% CLAYSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.
28.20 -	28.30	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
28.30 -	28.44	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, MODERATELY WEAK ROCK.
28.44 -	28.47	100	100% CLAYSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.
28.47 -	28.60	100	100% CLAYSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.
28.60 -	28.77	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
28.77 -	28.81	100	100% CLAYSTONE: LIGHT BROWN, WEAK ROCK.
28.81 -	28.82	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
28.82 -	29.03	100	100% CLAYSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.
29.03 -	29.05	100	100% CLAYSTONE: FRIABLE, BROWN, SOFT.
29.05 -	29.06	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
29.06 -	29.12	100	100% COAL, BRIGHT WITH NUMEROUS DULL BANDS:.
29.12 -	29.14	100	100% CLAYSTONE: FISSILE, LIGHT BROWN, FIRM.

BOREHOLE LITHOLOGICAL LOG

182548

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
29.14 -	29.15	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
29.15 -	29.22	100	100% CLAYSTONE: FISSILE, CREAM, FIRM.
29.22 -	29.24	100	100% COAL, DULL:.
29.24 -	29.29	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
29.29 -	29.33	100	100% MUDSTONE: SILTSTONE, BROWN, MODERATELY WEAK ROCK.
29.33 -	29.47	100	100% CLAYSTONE: FISSILE, BUFF, VERY WEAK ROCK.
29.47 -	29.56	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 90 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
29.56 -	29.79	100	100% CLAYSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.
29.79 -	29.94	100	100% SILTSTONE: CARBONACEOUS BANDS, LIGHT BROWN, MODERATELY WEAK ROCK.
29.94 -	29.97	100	100% COAL, HEAVY DULL:.
29.97 -	30.00	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
30.00 -	30.01	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
30.01 -	30.22	100	100% CLAYSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.
30.22 -	30.23	100	100% COAL, HEAVY DULL:.
30.23 -	30.28	100	100% CLAYSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.
30.28 -	30.34	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
30.34 -	30.41	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182549

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
30.41 -	30.51	100	100% MUDSTONE: CARBONACEOUS LENSES. LIGHT BROWN. MODERATELY WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 85 DEG. .TIGHT PLANAR,ROUGH DISCONTINUITIES.
30.51 -	30.72	100	100% CLAYSTONE: FISSILE. LIGHT BROWN. VERY WEAK ROCK.
30.72 -	30.78	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
30.78 -	30.83	100	100% COAL. BRIGHT WITH NUMEROUS DULL BANDS:.
30.83 -	30.88	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
30.88 -	30.91	100	100% MUDSTONE: COALY LENSES. BROWN. WEAK ROCK.
30.91 -	30.92	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
30.92 -	30.94	100	100% COAL. BRIGHT WITH FEW DULL BANDS:.
30.94 -	30.99	100	100% COAL. HEAVY DULL: BRIGHT COAL LENSES.
30.99 -	31.53	100	100% MUDSTONE: CARBONACEOUS. SILTSTONE. DARK BROWN. WEAK ROCK.
31.53 -	31.61	100	100% CLAYSTONE: CARBONACEOUS BANDS. LIGHT BROWN. VERY WEAK ROCK.
31.61 -	32.00	100	100% MUDSTONE: SILTSTONE. DARK BROWN. WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 85 DEG. .TIGHT PLANAR,ROUGH DISCONTINUITIES.
32.00 -	34.55	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 80 DEG. .TIGHT PLANAR,ROUGH DISCONTINUITIES .INFILLED WITH CALCITE.
34.55 -	35.05	100	100% SANDSTONE. FINE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 75 DEG. .TIGHT PLANAR,ROUGH DISCONTINUITIES.
35.05 -	35.60	100	100% SILTSTONE: ARENACEOUS LAMINAE. LIGHT GREY. MODERATELY WEAK ROCK.WITH CROSS LAMINATION.WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR,ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182550

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
35.60 -	35.97	100	100% SANDSTONE. FINE GRAINED: SILTSTONE BANDS. LIGHT GREY. WEAK ROCK.MODERATELY THICK BEDDING.VERY WIDE JOINT SPACING. JOINTS DIP 85 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
35.97 -	36.70	100	100% SANDSTONE. MEDIUM GRAINED: ARGILLACEOUS. LIGHT GREY. WEAK ROCK.MODERATELY THIN BEDDING.
36.70 -	36.88	100	100% SANDSTONE. FINE GRAINED: LIGHT GREY. WEAK ROCK.
36.88 -	38.00	100	100% SANDSTONE. MEDIUM GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.THICK BEDDING.VERY WIDE JOINT SPACING. JOINTS DIP 50 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
38.00 -	40.60	60	100% PEBBLE CONGLOMERATE: LIGHT GREY.WITH MUD PELLETS.
40.60 -	40.83	100	100% SANDSTONE. FINE GRAINED: ARGILLACEOUS. LIGHT GREY. WEAK ROCK.LAMINATED.
40.83 -	40.87	100	100% CLAYSTONE: FISSILE. LIGHT GREY. VERY WEAK ROCK.
40.87 -	41.00	100	100% SILTSTONE: GREY. WEAK ROCK.
41.00 -	41.08	100	100% CLAYSTONE: FISSILE. LIGHT BROWN. FIRM.
41.08 -	41.18	100	100% SANDSTONE. FINE GRAINED: ARGILLACEOUS. LIGHT GREY. VERY WEAK ROCK.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 75 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES .INFILLED WITH CALCITE.
41.18 -	41.25	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
41.25 -	41.32	100	100% CLAYSTONE: FISSILE. LIGHT BROWN. WEAK ROCK.
41.32 -	41.39	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
41.39 -	41.44	100	100% CLAYSTONE: CARBONACEOUS BANDS. LIGHT BROWN. VERY WEAK ROCK.
41.44 -	41.45	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
41.45 -	41.46	100	100% COAL. HEAVY DULL:.

BOREHOLE LITHOLOGICAL LOG

182551

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
41.46 -	41.49	100	100% COAL. INTERBANDED DULL AND BRIGHT:.
41.49 -	41.51	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
41.51 -	41.64	100	100% MUDSTONE: BROWN. MODERATELY WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
41.64 -	42.03	100	100% SILTSTONE: BROWN. MODERATELY WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
42.03 -	42.11	100	100% SANDSTONE: COALY LENSES. LIGHT GREY. MODERATELY WEAK ROCK.THIN BEDDING.
42.11 -	42.18	100	100% SILTSTONE: COALY LENSES. GREY-BROWN. MODERATELY WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 30 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
42.18 -	43.63	100	100% SILTSTONE: FINE GRAINED SANDSTONE LAMINAE. BROWN. MODERATELY WEAK ROCK.THIN BEDDING.WITH CROSS LAMINATION.
43.63 -	44.18	100	100% SANDSTONE: MED.TO FINE GRAINED. LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
44.18 -	45.41	85	100% SANDSTONE: CALCAREOUS LAMINAE. LIGHT GREY. MODERATELY WEAK ROCK.WITH MUD PELLETS.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 80 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
45.41 -	45.59	100	100% SANDSTONE: COALY BANDS. LIGHT GREY.
45.59 -	45.70	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
45.70 -	45.77	100	100% MUDSTONE: LIGHT BROWN. WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 65 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
45.77 -	46.06	100	100% CLAYSTONE: LIGHT BROWN. VERY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182552

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
46.06 -	46.09	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
46.09 -	46.12	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
46.12 -	46.14	100	100% COAL, HEAVY DULL: BRIGHT COAL BANDS.
46.14 -	46.23	100	100% COAL, BRIGHT WITH NUMEROUS DULL BANDS:.
46.23 -	46.24	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
46.24 -	46.26	100	100% COAL, INTERBANDED DULL AND BRIGHT:.
46.26 -	46.29	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
46.29 -	46.33	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
46.33 -	46.49	100	100% CLAYSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 55 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
46.49 -	46.51	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 90 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
46.51 -	46.54	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
46.54 -	46.57	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
46.57 -	46.60	100	100% COAL, INTERBANDED DULL AND BRIGHT:.
46.60 -	46.61	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
46.61 -	46.73	100	100% MUDSTONE: COALY STREAKS, DARK BROWN, MODERATELY WEAK ROCK.
46.73 -	46.76	100	100% CLAYSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.
46.76 -	46.81	100	100% MUDSTONE: CARBONACEOUS, ARENACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
46.81 -	46.84	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
46.84 -	46.89	100	100% COAL, BRIGHT WITH FEW DULL BANDS:.
46.89 -	46.90	100	100% COAL, HEAVY DULL:.
46.90 -	46.93	100	100% COAL, INTERBANDED DULL AND BRIGHT:.

BOREHOLE LITHOLOGICAL LOG

182553

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
46.93 -	46.95	100	100% COAL, BRIGHT WITH FEW DULL BANDS:.
46.95 -	46.96	100	100% COAL, INTERBANDED DULL AND BRIGHT:.
46.96 -	47.00	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
47.00 -	47.09	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
47.09 -	47.35	100	100% MUDSTONE: SILTSTONE, BROWN, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
47.35 -	47.40	100	100% MUDSTONE: CARBONACEOUS, GREY-BROWN, WEAK ROCK.
47.40 -	47.43	100	100% CLAYSTONE: FISSILE, GREY-GREEN, VERY WEAK ROCK.
47.43 -	47.47	100	100% COAL, HEAVY DULL: BRIGHT COAL BANDS.
47.47 -	47.50	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
47.50 -	47.52	100	100% COAL, HEAVY DULL: BRIGHT COAL BANDS.
47.52 -	47.54	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
47.54 -	47.58	100	100% MUDSTONE: COALY LENSES, GREY-BROWN, MODERATELY WEAK ROCK.
47.58 -	47.72	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
47.72 -	48.36	100	100% SANDSTONE, FINE GRAINED: SILTSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING,WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
48.36 -	48.49	100	100% SILTSTONE: ARGILLACEOUS, FISSILE, GREY-BROWN, WEAK ROCK.
48.49 -	48.83	100	100% SILTSTONE: ARENACEOUS LENSES, BROWN, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 90 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
48.83 -	49.00	100	100% MUDSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.
49.00 -	49.22	100	100% CLAYSTONE: MICACEOUS, LIGHT GREEN, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182554

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
49.22 -	49.40	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
49.40 -	49.42	100	100% MUDSTONE: CARBONACEOUS BANDS. DARK BROWN. MODERATELY WEAK ROCK.
49.42 -	49.48	100	100% COAL. HEAVY DULL: BRIGHT COAL STREAKS.
49.48 -	49.51	100	100% COAL. DULL WITH NUMEROUS BRIGHT BANDS:.
49.51 -	49.56	100	100% COAL. HEAVY DULL:.
49.56 -	49.57	100	100% MUDSTONE: BRIGHT COAL STREAKS. BROWN. MODERATELY WEAK ROCK.
49.57 -	49.62	100	100% COAL. HEAVY DULL:.
49.62 -	49.68	100	100% MUDSTONE: CARBONACEOUS. ARENACEOUS. BROWN. MODERATELY WEAK ROCK.
49.68 -	49.81	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 15 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
49.81 -	49.87	100	100% COAL. HEAVY DULL:.
49.87 -	49.88	100	100% MUDSTONE: BROWN. MODERATELY WEAK ROCK.
49.88 -	49.92	100	100% COAL. HEAVY DULL:.
49.92 -	49.97	100	100% COAL. DULL WITH NUMEROUS BRIGHT BANDS:.
49.97 -	49.99	100	100% COAL. BRIGHT:.
49.99 -	50.06	100	100% COAL. HEAVY DULL: BRIGHT COAL STREAKS.
50.06 -	50.08	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.
50.08 -	50.17	100	100% CLAYSTONE: CARBONACEOUS STREAKS. LIGHT BROWN. MODERATELY WEAK ROCK.
50.17 -	50.24	100	100% COAL. HEAVY DULL: BRIGHT COAL STREAKS.
50.24 -	50.31	100	100% COAL. BRIGHT:.
50.31 -	50.34	100	100% COAL. HEAVY DULL: BRIGHT COAL STREAKS.
50.34 -	50.36	100	100% COAL. BRIGHT WITH FEW DULL BANDS:.
50.36 -	50.38	100	100% COAL. DULL WITH NUMEROUS BRIGHT BANDS:.
50.38 -	50.46	100	100% COAL. HEAVY DULL: BADLY BROKEN.

BOREHOLE LITHOLOGICAL LOG

182555

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
50.46 -	50.55	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
50.55 -	50.57	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
50.57 -	50.58	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
50.58 -	50.65	100	100% COAL, HEAVY DULL:.
50.65 -	50.68	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
50.68 -	50.70	100	100% MUDSTONE: COALY STREAKS, LIGHT BROWN, MODERATELY WEAK ROCK.
50.70 -	50.78	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
50.78 -	50.82	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
50.82 -	50.85	100	100% MUDSTONE: CARBONACEOUS, FISSILE, BROWN - BLACK, VERY WEAK ROCK.
50.85 -	50.95	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK BROWN, WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
50.95 -	50.98	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
50.98 -	51.00	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
51.00 -	51.04	100	100% COAL, HEAVY DULL:.
51.04 -	51.09	100	100% MUDSTONE: LIGHT BROWN, WEAK ROCK.
51.09 -	51.20	100	100% COAL, HEAVY DULL:.
51.20 -	51.21	100	100% MUDSTONE: BROWN, WEAK ROCK.
51.21 -	51.35	100	100% CLAYSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.
51.35 -	51.40	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
51.40 -	51.46	100	100% COAL, HEAVY DULL:.
51.46 -	51.50	100	100% COAL, DULL:.
51.50 -	51.53	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
51.53 -	51.55	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182556

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
51.55 -	51.90	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
51.90 -	51.95	100	100% COAL, HEAVY DULL:.
51.95 -	51.96	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
51.96 -	51.98	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
51.98 -	52.00	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
52.00 -	52.09	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
52.09 -	52.19	100	100% CLAYSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.
52.19 -	52.33	100	100% CLAYSTONE: LIGHT BROWN, WEAK ROCK.
52.33 -	52.39	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
52.39 -	52.42	100	100% CLAYSTONE: CARBONACEOUS STREAKS, BROWN, VERY WEAK ROCK.
52.42 -	52.50	100	100% COAL, HEAVY DULL:.
52.50 -	52.52	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
52.52 -	52.55	100	100% COAL, HEAVY DULL:.
52.55 -	52.58	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
52.58 -	52.62	100	100% COAL, BRIGHT WITH NUMEROUS DULL BANDS:.
52.62 -	52.64	100	100% COAL, BRIGHT WITH FEW DULL BANDS:.
52.64 -	52.65	100	100% COAL, BRIGHT WITH NUMEROUS DULL BANDS:.
52.65 -	52.67	100	100% COAL, BRIGHT WITH FEW DULL BANDS:.
52.67 -	52.69	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
52.69 -	53.05	100	100% MUDSTONE: SILTSTONE, BROWN, MODERATELY WEAK ROCK.WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.

BOREHOLE LITHOLOGICAL LOG

182557

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
53.05 -	53.45	100	100% SILTSTONE: LIGHT BROWN, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 75 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
53.45 -	53.85	100	100% SILTSTONE: GREY-GREEN, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
53.85 -	53.93	100	100% SILTSTONE: GREY,LAMINATED,MODERATELY WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
53.93 -	55.23	100	100% SILTSTONE: GREY-GREEN, MODERATELY WEAK ROCK.
55.23 -	55.38	100	100% SILTSTONE: CARBONACEOUS LAMINAE, GREY-GREEN, MODERATELY WEAK ROCK.
55.38 -	56.22	100	100% SILTSTONE: LIGHT GREEN, MODERATELY WEAK ROCK.
56.22 -	56.32	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
56.32 -	58.75	100	100% SILTSTONE: GREY-GREEN, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
58.75 -	59.08	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
59.08 -	59.44	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
59.44 -	59.77	100	50% SILTSTONE: GREY, 50% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING,WITH CROSS LAMINATION.
59.77 -	60.10	100	100% SANDSTONE, FINE GRAINED: SILTSTONE LAMINAE, LIGHT GREY, WITH MICA, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182558

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
60.10 -	60.32	100	60% SANDSTONE, FINE GRAINED: LIGHT GREY. 40% SILTSTONE: GREY-BROWN, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
60.32 -	60.92	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
60.92 -	60.96	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
60.96 -	61.66	100	100% SANDSTONE: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
61.66 -	61.77	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
61.77 -	62.27	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
62.27 -	62.38	100	100% SANDSTONE: COALY LENSES, GREY-GREEN, MODERATELY WEAK ROCK.
62.38 -	62.68	100	100% SANDSTONE, MEDIUM GRAINED: GREY-GREEN, MODERATELY WEAK ROCK.
62.68 -	62.84	100	100% SANDSTONE: SILTSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING,WITH LOAD CASTS.
62.84 -	63.00	100	100% SILTSTONE: ARENACEOUS LENSES, GREY, MODERATELY WEAK ROCK.
63.00 -	63.09	100	100% SANDSTONE, FINE GRAINED: SILTSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK.
63.09 -	63.19	100	100% SANDSTONE, MEDIUM GRAINED: SILTSTONE BANDS, GREY-GREEN, MODERATELY WEAK ROCK.
63.19 -	63.57	100	100% SANDSTONE: COALY LENSES, GREY-GREEN, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
63.57 -	64.80	100	100% SANDSTONE: MED.TO FINE GRAINED, GREY-GREEN, MODERATELY WEAK ROCK.
64.80 -	64.81	100	100% COAL, BRIGHT:.

BOREHOLE LITHOLOGICAL LOG

182559

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
64.81 -	65.39	100	100% SANDSTONE: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
65.39 -	65.85	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
65.85 -	65.91	100	100% SILTSTONE: ARENACEOUS LENSES, GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS,WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
65.91 -	66.09	100	100% SANDSTONE, FINE GRAINED: SILTSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
66.09 -	66.12	100	100% SILTSTONE: FRAGMENTED, GREY.
66.12 -	66.26	100	100% SILTSTONE: LIGHT GREEN, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
66.26 -	69.46	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
69.46 -	70.50	100	100% SANDSTONE: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
70.50 -	73.75	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
73.75 -	74.00	100	100% SANDSTONE: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
74.00 -	74.34	100	70% MUDSTONE: SILTSTONE, GREY. 30% SANDSTONE: COALY LENSES, LIGHT GREY, WEAK ROCK,WITH DISTURBED BEDDING AND SLUMP STRUCTURES.
74.34 -	74.70	100	100% SANDSTONE: CARBONACEOUS LENSES, GREY-GREEN, MODERATELY WEAK ROCK,WITH MUD PELLETS.
74.70 -	75.69	100	100% SANDSTONE: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
75.69 -	76.00	100	100% SANDSTONE: CARBONACEOUS BANDS, GREY-BROWN, MODERATELY WEAK ROCK,WITH MUD PELLETS.

BOREHOLE LITHOLOGICAL LOG

182560

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
76.00 -	76.06	100	100% MUDSTONE: PEBBLY, ARENACEOUS, BROWN, WEAK ROCK,WITH MUD PELLETS.
76.06 -	76.10	100	100% SANDSTONE: COALY LENSES, MODERATELY WEAK ROCK,WITH MUD PELLETS.
76.10 -	76.30	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
76.30 -	76.36	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
76.36 -	76.45	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
76.45 -	76.51	100	100% MUDSTONE: CARBONACEOUS BANDS, BROWN, MODERATELY WEAK ROCK.
76.51 -	76.53	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
76.53 -	76.55	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
76.55 -	76.59	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
76.59 -	76.70	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
76.70 -	76.71	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
76.71 -	76.84	100	100% MUDSTONE: LIGHT BROWN, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
76.84 -	76.92	100	100% COAL, HEAVY DULL:.
76.92 -	77.00	100	100% MUDSTONE: CARBONACEOUS BANDS, LIGHT BROWN, MODERATELY WEAK ROCK.
77.00 -	77.03	100	100% COAL, HEAVY DULL:.
77.03 -	77.07	100	100% MUDSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.
77.07 -	77.09	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK,WITH MUD PELLETS.
77.09 -	77.10	100	50% MUDSTONE: BROWN. 50% PYRITE:, MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182561

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
77.10 -	77.11	100	100% COAL. HEAVY DULL:.
77.11 -	77.15	100	100% COAL. BRIGHT WITH FEW DULL BANDS:.
77.15 -	77.20	100	100% COAL. INTERBANDED DULL AND BRIGHT:.
77.20 -	77.24	100	100% COAL. BRIGHT WITH NUMEROUS DULL BANDS:.
77.24 -	77.27	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
77.27 -	77.29	100	100% COAL. HEAVY DULL:.
77.29 -	77.38	100	100% COAL. BRIGHT WITH NUMEROUS DULL BANDS:.
77.38 -	77.40	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
77.40 -	77.42	100	100% MUDSTONE: BROWN. MODERATELY WEAK ROCK.
77.42 -	77.48	100	100% CLAYSTONE: LIGHT BROWN. WEAK ROCK.
77.48 -	77.54	100	100% CLAYSTONE: FISSILE. GREY-GREEN. WEAK ROCK.
77.54 -	77.58	100	100% MUDSTONE: ARGILLACEOUS BANDS. BROWN. MODERATELY WEAK ROCK.
77.58 -	77.67	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
77.67 -	77.73	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
77.73 -	77.77	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY STRONG ROCK.
77.77 -	77.78	100	100% MUDSTONE: BROWN. MODERATELY WEAK ROCK.
77.78 -	78.30	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING. JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
78.30 -	78.68	100	100% SILTSTONE: LIGHT GREEN. WEAK ROCK.
78.68 -	79.94	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING. JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
79.94 -	80.47	100	100% SILTSTONE: LIGHT GREEN. WEAK ROCK.
80.47 -	80.58	100	100% SILTSTONE: BADLY BROKEN. GREY.
80.58 -	80.82	100	100% CLAYSTONE: LIGHT GREEN. WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182562

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
80.82 -	80.90	100	100% SILTSTONE: ARGILLACEOUS BANDS, GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
80.90 -	80.98	100	100% CLAYSTONE: LIGHT GREEN, WEAK ROCK.
80.98 -	81.45	100	100% CLAYSTONE: FISSILE, LIGHT GREEN, VERY WEAK ROCK.
81.45 -	82.28	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
82.28 -	82.62	100	100% SANDSTONE, FINE GRAINED: SILTSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK.
82.62 -	82.97	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
82.97 -	84.30	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, WITH MICA, MODERATELY WEAK ROCK.
84.30 -	84.54	100	100% SANDSTONE, FINE GRAINED: SILTSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING.
84.54 -	86.02	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
86.02 -	86.25	100	100% SANDSTONE: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
86.25 -	89.18	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
89.18 -	91.36	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
91.36 -	91.68	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
91.68 -	92.31	100	100% SANDSTONE, MEDIUM GRAINED: COALY STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
92.31 -	92.32	100	100% COAL, BRIGHT WITH FEW DULL BANDS:.

BOREHOLE LITHOLOGICAL LOG

182563

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
92.32 -	92.35	100	100% COAL, HEAVY DULL:.
92.35 -	92.38	100	100% MUDSTONE: CARBONACEOUS LENSES, LIGHT BROWN, MODERATELY WEAK ROCK.
92.38 -	92.44	100	100% COAL, HEAVY DULL:.
92.44 -	92.64	100	100% MUDSTONE: LIGHT BROWN, VERY WEAK ROCK.
92.64 -	92.84	100	100% MUDSTONE: CARBONACEOUS STREAKS, BROWN, VERY WEAK ROCK.
92.84 -	92.88	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, WEAK ROCK.
92.88 -	93.02	100	100% MUDSTONE: LIGHT BROWN, WEAK ROCK.
93.02 -	93.07	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
93.07 -	93.12	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
93.12 -	93.15	100	100% COAL, INTERBANDED DULL AND BRIGHT:.
93.15 -	93.16	100	100% COAL, HEAVY DULL:.
93.16 -	93.18	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
93.18 -	93.20	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
93.20 -	93.23	100	100% COAL, HEAVY DULL:.
93.23 -	93.24	100	100% COAL, BRIGHT WITH NUMEROUS DULL BANDS:.
93.24 -	93.26	100	100% MUDSTONE: BROWN, WEAK ROCK.
93.26 -	93.31	100	100% COAL, HEAVY DULL:.
93.31 -	93.33	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
93.33 -	93.35	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
93.35 -	93.37	100	100% COAL, BRIGHT WITH FEW DULL BANDS:.
93.37 -	93.42	100	100% MUDSTONE: SILTSTONE, LIGHT BROWN, MODERATELY WEAK ROCK.
93.42 -	93.45	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
93.45 -	93.46	100	100% COAL, BRIGHT WITH FEW DULL BANDS:.
93.46 -	93.48	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
93.48 -	93.50	100	100% COAL, BRIGHT WITH NUMEROUS DULL BANDS:.
93.50 -	93.52	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.

07 MAY 1979 THE SHELL COMPANY OF AUSTRALIA LTD.

BOREHOLE LITHOLOGICAL LOG

182564

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
93.52 -	93.57	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
93.57 -	93.67	100	100% SILTSTONE: CARBONACEOUS LAMINAE, GREY-BROWN, MODERATELY WEAK ROCK,THIN BEDDING.
93.67 -	93.70	100	100% SILTSTONE: BROWN, MODERATELY WEAK ROCK.
93.70 -	93.81	100	100% SILTSTONE: CARBONACEOUS LAMINAE, GREY-BROWN, MODERATELY WEAK ROCK.
93.81 -	94.17	100	100% SILTSTONE: BROWN, WEAK ROCK.
94.17 -	94.71	100	100% SANDSTONE, FINE GRAINED: SILTSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK.
94.71 -	95.02	100	100% SILTSTONE: ARENACEOUS LAMINAE, BROWN, WEAK ROCK,MODERATELY THIN BEDDING.
95.02 -	95.14	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK.
95.14 -	96.04	100	100% SANDSTONE: CARBONACEOUS LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK.
96.04 -	96.12	100	100% SANDSTONE: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
96.12 -	96.98	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS BANDS, LIGHT GREY, MODERATELY WEAK ROCK.
96.98 -	97.21	100	100% SANDSTONE: CARBONACEOUS LENSES, GREY-GREEN, MODERATELY WEAK ROCK.
97.21 -	97.26	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
97.26 -	97.80	100	100% SANDSTONE: CARBONACEOUS STREAKS, GREY-GREEN, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
97.80 -	98.20	100	100% SANDSTONE: CARBONACEOUS BANDS, GREY-BROWN, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING.

BOREHOLE LITHOLOGICAL LOG

182565

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
98.20 -	98.77	100	100% SANDSTONE: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
98.77 -	99.16	100	100% SANDSTONE: CARBONACEOUS LENSES, LIGHT GREY,MODERATELY THICK BEDDING.
99.16 -	99.21	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
99.21 -	99.29	100	100% COAL, HEAVY DULL:.
99.29 -	99.46	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
99.46 -	99.69	100	100% CLAYSTONE: FISSILE, LIGHT GREEN, VERY WEAK ROCK.
99.69 -	99.77	100	100% MUDSTONE: BROWN.
99.77 -	99.83	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
99.83 -	99.86	100	100% MUDSTONE: LIGHT BROWN, WEAK ROCK.
99.86 -	99.92	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
99.92 -	100.02	100	100% MUDSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.
100.02 -	100.04	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
100.04 -	100.07	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
100.07 -	100.11	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
100.11 -	100.12	100	100% MUDSTONE: SILTSTONE, BROWN, WEAK ROCK.
100.12 -	100.23	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
100.23 -	100.31	100	100% MUDSTONE: CARBONACEOUS STREAKS, BROWN, WEAK ROCK.
100.31 -	100.56	100	100% CLAYSTONE: LIGHT GREEN, VERY WEAK ROCK.
100.56 -	100.58	100	100% MUDSTONE: BROWN, WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182566

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
100.58	100.88	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
100.88	101.06	100	100% MUDSTONE: LIGHT BROWN, VERY WEAK ROCK.
101.06	101.09	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
101.09	101.10	100	100% COAL, HEAVY DULL:.
101.10	101.11	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
101.11	101.16	100	100% COAL, HEAVY DULL:.
101.16	101.18	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
101.18	101.20	100	100% MUDSTONE: CARBONACEOUS, ARENACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
101.20	101.26	100	100% COAL, HEAVY DULL: BADLY BROKEN.
101.26	101.33	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
101.33	101.36	100	100% MUDSTONE: SILTSTONE, BROWN, MODERATELY WEAK ROCK.
101.36	101.53	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
101.53	101.56	100	100% COAL, HEAVY DULL:.
101.56	101.62	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
101.62	101.68	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
101.68	101.70	100	100% COAL, BRIGHT:.
101.70	101.71	100	100% COAL, HEAVY DULL: BRIGHT COAL BANDS.
101.71	101.82	100	100% COAL, HEAVY DULL:.
101.82	101.83	100	100% MUDSTONE: CARBONACEOUS, BROWN, MODERATELY WEAK ROCK.
101.83	101.86	100	100% MUDSTONE: SILTSTONE, LIGHT BROWN, WEAK ROCK.
101.86	101.90	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
101.90	101.93	100	100% COAL, HEAVY DULL:.
101.93	101.99	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.

07 MAY 1979 THE SHELL COMPANY OF AUSTRALIA LTD.

BOREHOLE LITHOLOGICAL LOG

182567

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
101.99	102.05	100	100% COAL. HEAVY DULL:.
102.05	102.12	100	100% MUDSTONE: BROWN. MODERATELY WEAK ROCK.
102.12	102.27	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.VERY WIDE JOINT SPACING. JOINTS DIP 55 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
102.27	102.32	100	100% MUDSTONE: SILTSTONE. LIGHT GREY. MODERATELY WEAK ROCK.
102.32	102.34	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
102.34	102.37	100	100% MUDSTONE: CARBONACEOUS BANDS. BROWN. MODERATELY WEAK ROCK.
102.37	102.44	50	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
102.44	102.49	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
102.49	102.53	100	100% MUDSTONE: LIGHT GREEN. WEAK ROCK.
102.53	102.63	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
102.63	102.71	100	100% MUDSTONE: FISSILE. LIGHT BROWN. WEAK ROCK.
102.71	102.87	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
102.87	102.94	100	100% MUDSTONE: CARBONACEOUS LENSES. BROWN. MODERATELY WEAK ROCK.
102.94	103.00	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
103.00	103.01	100	100% CLAYSTONE: FISSILE. LIGHT BROWN. VERY WEAK ROCK.
103.01	103.08	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
103.08	103.12	100	100% MUDSTONE: FISSILE. LIGHT BROWN. WEAK ROCK.
103.12	103.21	100	100% CLAYSTONE: FISSILE. LIGHT GREEN. WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182568

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
103.21	103.24	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
103.24	103.30	100	100% MUDSTONE: FISSILE, LIGHT BROWN, WEAK ROCK.
103.30	103.33	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
103.33	103.38	100	100% CLAYSTONE: CARBONACEOUS STREAKS, LIGHT GREEN, WEAK ROCK.
103.38	103.44	100	100% COAL, HEAVY DULL:.
103.44	103.52	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
103.52	103.55	100	100% COAL, HEAVY DULL:.
103.55	103.61	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
103.61	103.67	100	100% CLAYSTONE: FISSILE, LIGHT BROWN, WEAK ROCK.
103.67	103.75	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
03.75	103.76	100	100% MUDSTONE: CARBONACEOUS, BROWN, MODERATELY WEAK ROCK.
103.76	103.77	100	100% MUDSTONE: LIGHT GREEN, WEAK ROCK.
03.77	103.82	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
03.82	103.95	100	100% CLAYSTONE: LIGHT BROWN, WEAK ROCK.
03.95	103.97	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
103.97	104.17	100	100% MUDSTONE: LIGHT GREEN, WEAK ROCK.
104.17	104.27	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK,WITH MUD PELLETS.
104.27	104.31	100	100% MUDSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, WEAK ROCK.
104.31	104.33	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
104.33	104.34	100	100% MUDSTONE: LIGHT BROWN, WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182569

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
104.34	104.46	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
104.46	104.49	100	100% CLAYSTONE: FISSILE, LIGHT BROWN, WEAK ROCK.
104.49	104.53	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
104.53	104.56	100	100% COAL, HEAVY DULL:.
104.56	104.62	100	100% MUDSTONE: CARBONACEOUS, BROWN, MODERATELY WEAK ROCK.
104.62	104.84	100	100% COAL, HEAVY DULL:.
104.84	104.86	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
104.86	104.96	100	100% MUDSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, WEAK ROCK.
104.96	105.00	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
105.00	105.06	100	100% MUDSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.
105.06	105.22	100	100% COAL, HEAVY DULL:.
105.22	105.25	100	100% COAL, HEAVY DULL: BRIGHT COAL BANDS.
105.25	105.33	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
105.33	105.35	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
105.35	105.40	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
105.40	105.42	100	100% COAL, BRIGHT:.
105.42	105.58	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
105.58	105.59	100	100% COAL, BRIGHT WITH FEW DULL BANDS:.
105.59	105.62	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
05.62	105.64	100	100% COAL, INTERBANDED DULL AND BRIGHT:.
105.64	105.65	100	100% COAL, HEAVY DULL:.
05.65	105.70	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
105.70	105.74	100	100% COAL, INTERBANDED DULL AND BRIGHT:.
105.74	105.81	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
105.81	105.84	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182570

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
105.84	105.88	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
105.88	105.92	100	100% COAL. INTERBANDED DULL AND BRIGHT: BADLY BROKEN.
105.92	105.97	100	100% COAL, DULL:.
105.97	106.07	100	100% COAL. DULL WITH NUMEROUS BRIGHT BANDS:.
106.07	106.17	100	100% MUDSTONE: CARBONACEOUS, BADLY BROKEN, BROWN - BLACK.
106.17	106.19	100	100% COAL. DULL:.
106.19	106.49	100	100% MUDSTONE: CARBONACEOUS. SILTSTONE, DARK BROWN. MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING. JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
106.49	106.74	100	100% SILTSTONE: GREY-BROWN, MODERATELY WEAK ROCK.
106.74	107.00	100	100% SILTSTONE: BADLY BROKEN, GREY.
107.00	107.98	100	100% SILTSTONE: LAMINAE, GREY, MODERATELY WEAK ROCK,VERY WIDE JOINT SPACING. JOINTS DIP 50 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
107.98	108.20	100	100% MUDSTONE: BADLY BROKEN, GREY, WEAK ROCK.
108.20	109.83	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING. JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
09.83	110.14	100	100% SILTSTONE: GREY-BROWN, MODERATELY WEAK ROCK,WIDE JOINT SPACING. JOINTS DIP 35 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
110.14	110.76	100	100% SILTSTONE: GREY, WEAK ROCK.
110.76	111.11	100	100% MUDSTONE: SILTSTONE, GREY, WEAK ROCK.
111.11	111.54	100	100% SILTSTONE: CARBONACEOUS, DARK GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING. JOINTS DIP 20 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
111.54	111.79	100	100% CLAYSTONE: FISSILE. MICACEOUS. LIGHT GREEN. VERY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182571

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
111.79	111.88	100	100% MUDSTONE: GREY, WEAK ROCK.
111.88	111.89	100	100% CLAYSTONE: LIGHT BROWN, VERY WEAK ROCK.
111.89	112.08	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
112.08	112.51	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, WEAK ROCK,THIN BEDDING.
112.51	112.90	100	100% SILTSTONE: CARBONACEOUS LAMINAE, GREY, MODERATELY WEAK ROCK.
112.90	113.31	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY STRONG ROCK.
113.31	113.98	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LENSES, LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING,WITH CROSS LAMINATION AND FLAME/PULL-OVER STRUCTS.
113.98	115.97	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THICK BEDDING AND CROSS LAMINATION,VERY WIDE JOINT SPACING, JOINTS DIP 75 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
115.97	116.28	100	100% SANDSTONE: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
116.28	116.46	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
116.46	116.49	100	100% CLAYSTONE: FISSILE, LIGHT GREEN, VERY WEAK ROCK.
116.49	116.59	100	100% COAL, HEAVY DULL:.
116.59	117.22	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182572

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
117.22	117.57	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
117.57	117.90	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, WEAK ROCK.
117.90	118.03	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
118.03	118.38	100	100% MUDSTONE: ARGILLACEOUS, FISSILE, LIGHT BROWN, VERY WEAK ROCK.
118.38	118.41	100	100% COAL, HEAVY DULL:.
118.41	118.44	100	100% MUDSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.
118.44	118.49	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
118.49	118.52	100	100% MUDSTONE: PYRITIC, FISSILE, LIGHT BROWN, WEAK ROCK.
118.52	118.57	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
118.57	118.59	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
118.59	118.70	100	100% CLAYSTONE: CARBONACEOUS STREAKS, LIGHT BROWN, VERY WEAK ROCK.
118.70	118.81	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
118.81	119.15	50	100% MUDSTONE: BROWN, VERY WEAK ROCK.
119.15	119.27	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, WEAK ROCK.
119.27	119.33	100	100% CLAYSTONE: FISSILE, LIGHT GREEN, VERY WEAK ROCK.
119.33	119.94	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
119.94	119.98	100	100% MUDSTONE: CARBONACEOUS, BROWN, MODERATELY WEAK ROCK.
119.98	120.09	100	100% CLAYSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182573

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
120.09	121.17	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
121.17	121.21	100	100% MUDSTONE: ARENACEOUS, CARBONACEOUS, DARK BROWN, WEAK ROCK.
121.21	121.26	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
121.26	121.28	100	100% MUDSTONE: BADLY BROKEN, BROWN.
121.28	121.42	100	100% SANDSTONE: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
121.42	121.48	100	100% SILTSTONE: GREY.
121.48	121.57	100	100% MUDSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.
121.57	121.88	100	100% MUDSTONE: DARK BROWN, WEAK ROCK.
121.88	122.02	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK,MODERATELY CLOSE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES.
122.02	122.23	100	100% SANDSTONE, FINE GRAINED: SILTSTONE, LIGHT GREY, MODERATELY WEAK ROCK.
122.23	122.28	100	100% MUDSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.
122.28	123.11	100	100% SILTSTONE: ARENACEOUS, LIGHT GREY, WEAK ROCK,WITH DISTURBED BEDDING AND SLUMP STRUCTURES.
123.11	123.23	100	100% SANDSTONE: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 50 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
123.23	124.30	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
124.30	124.40	100	100% SANDSTONE: COALY LENSES, LIGHT GREY, WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182574

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
124.40	125.19	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY. MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
125.19	127.75	100	100% SANDSTONE, MEDIUM GRAINED: COALY STREAKS, LIGHT GREY, WEAK ROCK,WITH CARBONACEOUS WHISPS,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
127.75	128.34	100	100% SANDSTONE, MEDIUM GRAINED: BADLY BROKEN, LIGHT GREY, WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 75 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
128.34	128.54	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS LENSES. LIGHT GREY, MODERATELY WEAK ROCK.
128.54	128.89	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS,VERY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
128.89	129.63	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
129.63	130.16	100	100% SANDSTONE: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
130.16	130.76	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
130.76	131.07	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
131.07	131.48	100	100% SANDSTONE: COALY BANDS, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS,WIDE JOINT SPACING, JOINTS DIP 25 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
131.48	131.66	100	100% SANDSTONE, MEDIUM GRAINED: PEBBLY, GREY-GREEN. MODERATELY WEAK ROCK,WITH MUD PELLETS.

BOREHOLE LITHOLOGICAL LOG

182575

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
131.66	131.91	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
131.91	133.26	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
133.26	133.72	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
133.72	134.00	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
134.00	135.54	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
135.54	136.08	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
136.08	136.60	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
136.60	136.79	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
136.79	137.20	100	100% SANDSTONE, MEDIUM GRAINED: COALY STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
137.20	138.96	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
138.96	142.12	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
142.12	142.18	100	100% SILTSTONE: CARBONACEOUS STREAKS, GREY, MODERATELY WEAK ROCK.
142.18	145.01	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
145.01	145.16	100	100% MUDSTONE: SILTSTONE, BROWN, WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 15 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
145.16	145.68	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.

BOREHOLE LITHOLOGICAL LOG

182576

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
145.68	150.11	100	100% SANDSTONE. MEDIUM GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.WITH MUD PELLETS.
150.11	150.38	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS STREAKS. LIGHT GREY. MODERATELY WEAK ROCK.WITH MUD PELLETS.
150.38	154.60	100	100% SANDSTONE. MEDIUM GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.
154.60	155.00	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS STREAKS. LIGHT GREY. MODERATELY WEAK ROCK.
155.00	157.80	100	100% SANDSTONE. MEDIUM GRAINED: LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.
157.80	157.83	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
157.83	157.92	100	100% PEBBLE CONGLOMERATE: LIGHT GREY. MODERATELY WEAK ROCK.
157.92	158.00	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
158.00	158.25	100	100% PEBBLE CONGLOMERATE: LIGHT GREY. MODERATELY WEAK ROCK.
158.25	158.36	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
158.36	158.38	100	100% PEBBLE CONGLOMERATE: LIGHT GREY. MODERATELY WEAK ROCK.
158.38	160.55	100	100% SANDSTONE: MED.-COARSE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.
160.55	162.56	100	100% SANDSTONE. MEDIUM GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.
162.56	163.21	100	100% SANDSTONE: MED.-COARSE GRAINED. CONGLOMERATIC. LIGHT GREY. MODERATELY WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 80 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182577

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
163.21	164.13	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
164.13	164.68	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
164.68	166.90	100	100% SANDSTONE, COARSE GRAINED: CARBONACEOUS LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
166.90	169.50	100	100% SANDSTONE, COARSE GRAINED: CARBONACEOUS TRACES, LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
169.50	170.00	0	CORE LOSS.
170.00	172.85	100	100% SANDSTONE, MEDIUM GRAINED: ARGILLACEOUS, LIGHT GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
172.85	175.90	100	100% SANDSTONE, MEDIUM GRAINED: ARGILLACEOUS, LIGHT GREY, MODERATELY WEAK ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
175.90	178.67	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES.
178.67	182.00	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
182.00	182.07	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
182.07	182.26	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,CLOSE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
182.26	182.76	100	100% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182578

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
182.76	183.44	100	100% SILTSTONE: ARENACEOUS BANDS, GREY-BROWN, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
183.44	184.54	100	100% SANDSTONE, FINE GRAINED: SILTSTONE BANDS, GREY, MODERATELY WEAK ROCK.
184.54	185.23	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
185.23	185.43	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
185.43	185.45	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
185.45	185.70	100	100% SANDSTONE, FINE GRAINED: GREY, MODERATELY WEAK ROCK,LAMINATED.
185.70	190.13	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
190.13	190.70	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
190.70	191.76	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
191.76	193.29	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
193.29	196.15	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
196.15	196.77	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY CLOSE JOINT SPACING ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182579

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
196.77	198.66	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
198.66	199.02	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
199.02	199.41	100	100% MUDSTONE: LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS,WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
199.41	199.47	100	100% MUDSTONE: DARK GREY, MODERATELY WEAK ROCK.
199.47	199.62	100	100% MUDSTONE: CARBONACEOUS, BADLY BROKEN, BROWN - BLACK, MODERATELY WEAK ROCK.
*99.62	199.76	0	CORE LOSS.
99.76	200.00	100	100% MUDSTONE: CARBONACEOUS, SIDERITIC, BROWN - BLACK, MODERATELY STRONG ROCK.
00.00	200.06	100	100% MUDSTONE: DARK GREY, WEAK ROCK.
200.06	200.09	100	100% CLAYSTONE: GREY-GREEN, VERY WEAK ROCK.
00.09	200.12	100	100% CLAYSTONE: GREEN, VERY WEAK ROCK.
200.12	200.21	100	100% MUDSTONE: CARBONACEOUS, SHALY, BROWN - BLACK, MODERATELY WEAK ROCK.
00.21	202.85	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS TRACES, LIGHT GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
02.85	213.82	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS TRACES, LIGHT GREY, MODERATELY WEAK ROCK.
213.82	213.96	100	100% PEBBLE CONGLOMERATE: LIGHT GREY, MODERATELY WEAK ROCK.
213.96	214.03	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
214.03	214.17	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.

BOREHOLE LITHOLOGICAL LOG

182580

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
214.17	215.00	100	100% SANDSTONE. MEDIUM GRAINED: CONGLOMERATIC. LIGHT GREY. MODERATELY WEAK ROCK.
215.00	215.20	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.
215.20	216.75	100	100% SANDSTONE. MEDIUM GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.
216.75	217.35	100	100% SANDSTONE: MED.TO FINE GRAINED. CALCAREOUS. LIGHT GREY. MODERATELY WEAK ROCK.
217.35	218.45	100	100% SANDSTONE: MED.TO FINE GRAINED. LIMONITIC. LIGHT GREY. MODERATELY WEAK ROCK.
218.45	218.53	100	100% SANDSTONE. COARSE GRAINED: LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.WITH MUD PELLETS.
218.53	218.85	100	100% SANDSTONE: MED.TO FINE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.
218.85	219.10	100	100% SANDSTONE. FINE GRAINED: CALCAREOUS. CREAM. MODERATELY STRONG ROCK.
219.10	221.40	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS TRACES. LIGHT GREY. MODERATELY WEAK ROCK.
221.40	222.56	100	100% SANDSTONE: MED.TO FINE GRAINED. CALCAREOUS. LIGHT GREY. MODERATELY WEAK ROCK.
222.56	226.46	100	100% SANDSTONE. MEDIUM GRAINED: LITHIC. LIGHT GREY. MODERATELY WEAK ROCK.
226.46	226.63	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY STRONG ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 85 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
226.63	226.66	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. WEAK ROCK.
226.66	226.79	100	100% MUDSTONE: DARK BROWN. MODERATELY STRONG ROCK.
226.79	226.84	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. WEAK ROCK.
226.84	227.35	100	100% SANDSTONE: SILTSTONE LENSES. GREY. MODERATELY WEAK ROCK.MODERATELY THIN BEDDING.WITH MUD PELLETS AND FLAME/PULL-OVER STRUCTS.

BOREHOLE LITHOLOGICAL LOG

182581

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
227.35	227.49	100	100% MUDSTONE: SILTSTONE LENSES, BROWN, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
227.49	227.67	100	100% SANDSTONE, FINE GRAINED: SILTSTONE LAMINAE, GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS,MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
227.67	233.77	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
233.77	234.05	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
234.05	235.34	90	100% SILTSTONE: CARBONACEOUS LAMINAE, GREY, MODERATELY WEAK ROCK,THIN BEDDING.
235.34	235.90	100	70% SILTSTONE: GREY, 30% SANDSTONE, FINE GRAINED: GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING.
235.90	236.49	100	100% SILTSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
236.49	236.93	100	100% SILTSTONE: CARBONACEOUS, ARENACEOUS, DARK GREY, WITH MICA, MODERATELY WEAK ROCK,VERY THIN BEDDING.
236.93	237.07	100	100% SILTSTONE: ARENACEOUS BANDS, GREY, MODERATELY WEAK ROCK,THIN BEDDING.
237.07	237.40	100	100% MUDSTONE: SILTSTONE, CARBONACEOUS, DARK BROWN, WEAK ROCK.
237.40	237.84	100	100% SILTSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
237.84	238.54	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
238.54	238.59	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, BROWN - BLACK, MODERATELY WEAK ROCK.
238.59	238.61	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
238.61	238.67	100	100% CARBONACEOUS SHALE: FISSILE, BLACK, VERY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182582

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
238.67	238.95	100	100% MUDSTONE: SILTSTONE, GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
238.95	238.97	100	100% COAL, BRIGHT:.
238.97	239.00	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
239.00	239.43	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
239.43	239.50	100	100% SANDSTONE, FINE GRAINED: CALCITIC, LIGHT GREY, MODERATELY WEAK ROCK.
239.50	239.97	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
239.97	240.06	100	100% SILTSTONE: CALCITIC, ARENACEOUS, GREY, MODERATELY WEAK ROCK.
240.06	240.33	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
240.33	240.77	100	100% SILTSTONE: GREY, WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
240.77	240.98	100	100% MUDSTONE: BADLY BROKEN, GREY, VERY WEAK ROCK.
240.98	241.50	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
241.50	242.84	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,THIN BEDDING,WITH CARBONACEOUS WHISPS,LAMINATED,WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
242.84	242.86	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
242.86	242.94	100	100% COAL, HEAVY DULL:.
242.94	242.97	100	100% CALCITE: ARGILLACEOUS, CREAM, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182583

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
242.97	243.22	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
243.22	243.29	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
243.29	243.46	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
243.46	243.90	100	100% COAL, HEAVY DULL:.
243.90	243.98	100	100% MUDSTONE: CARBONACEOUS, COALY, DARK BROWN, MODERATELY WEAK ROCK.
243.98	244.07	100	100% COAL, HEAVY DULL:.
244.07	244.10	100	100% COAL, DULL:.
244.10	244.16	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
244.16	244.17	100	100% MUDSTONE: DARK BROWN, MODERATELY WEAK ROCK.
244.17	244.26	100	100% COAL, HEAVY DULL:.
244.26	244.31	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
244.31	244.36	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
244.36	244.37	100	100% MUDSTONE: DARK BROWN, MODERATELY WEAK ROCK.
244.37	244.61	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
244.61	244.81	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK BROWN, WEAK ROCK.
244.81	244.84	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
244.84	245.01	100	100% MUDSTONE: SILTSTONE, BROWN, MODERATELY WEAK ROCK.
245.01	245.02	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
245.02	245.04	100	100% COAL, HEAVY DULL:.
245.04	245.10	100	100% SILTSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
245.10	245.20	100	100% SILTSTONE: GREY-BROWN, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182584

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
245.20	245.34	100	100% SANDSTONE. FINE GRAINED: CALCITIC. SILTSTONE. LIGHT GREY. MODERATELY WEAK ROCK.
245.34	246.02	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.LAMINATED.
246.02	246.04	100	100% MUDSTONE: FISSILE. LIGHT BROWN. VERY WEAK ROCK.
246.04	246.07	100	100% MUDSTONE: SILTSTONE. DARK BROWN. MODERATELY WEAK ROCK.
246.07	246.17	100	100% COAL. HEAVY DULL:.
246.17	246.22	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
246.22	246.25	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.
246.25	246.28	100	100% COAL. HEAVY DULL:.
246.28	246.39	100	100% MUDSTONE: SILTSTONE. BROWN. MODERATELY WEAK ROCK.
246.39	246.42	100	100% COAL. HEAVY DULL:.
246.42	246.47	100	100% MUDSTONE: BROWN. WEAK ROCK.
246.47	246.66	100	100% COAL. HEAVY DULL:.
246.66	246.73	100	100% COAL. DULL WITH NUMEROUS BRIGHT BANDS:.
246.73	246.75	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
246.75	246.77	100	100% COAL. DULL WITH NUMEROUS BRIGHT BANDS:.
246.77	246.99	100	100% MUDSTONE: SILTSTONE. GREY-BROWN. MODERATELY WEAK ROCK.
246.99	247.56	100	100% MUDSTONE: SILTSTONE. GREY. MODERATELY WEAK ROCK.
247.56	249.08	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.THIN BEDDING.LAMINATED.MODERATELY WIDE JOINT SPACING. JOINTS DIP 75 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES.
249.08	249.09	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182585

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
249.09	249.10	100	100% CALCITE: CREAM, MODERATELY WEAK ROCK.
249.10	249.12	100	100% MUDSTONE: FISSILE, LIGHT BROWN, WEAK ROCK.
249.12	249.17	100	100% COAL, HEAVY DULL:.
249.17	249.20	100	100% COAL, DULL:.
249.20	249.45	100	100% COAL, HEAVY DULL:.
249.45	249.46	100	100% MUDSTONE: DARK BROWN, MODERATELY WEAK ROCK.
249.46	249.55	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
249.55	249.57	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
249.57	249.61	100	100% COAL, INTERBANDED DULL AND BRIGHT:.
249.61	250.60	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,LAMINATED,VERY WIDE JOINT SPACING, JOINTS DIP 75 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES.
250.60	250.64	100	100% MUDSTONE: CARBONACEOUS, CALCITIC, BROWN - BLACK, MODERATELY WEAK ROCK.
250.64	250.69	100	50% CLAYSTONE: LIGHT GREEN, 50% CALCITE: CREAM, WEAK ROCK.
250.69	250.75	100	100% MUDSTONE: SILTSTONE, COALY, GREY, WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
250.75	250.83	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
250.83	251.34	100	100% SILTSTONE: CARBONACEOUS LAMINAE, GREY, MODERATELY WEAK ROCK,THIN BEDDING.
251.34	254.31	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
254.31	254.96	100	100% SANDSTONE, FINE GRAINED: SILTSTONE, LIGHT GREY, MODERATELY WEAK ROCK.

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BOREHOLE LITHOLOGICAL LOG

182586

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
254.96	255.59	100	100% SANDSTONE. FINE GRAINED: SILTSTONE. GREY. MODERATELY WEAK ROCK.VERY WIDE JOINT SPACING. JOINTS DIP 75 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES.
255.59	256.88	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.WIDE JOINT SPACING. JOINTS DIP 75 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES.
256.88	256.91	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
256.91	256.92	100	100% COAL. HEAVY DULL:.
256.92	257.00	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
257.00	257.15	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
257.15	257.22	100	100% MUDSTONE: PEBBLY. GREY. MODERATELY WEAK ROCK.
257.22	257.33	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
257.33	257.44	100	100% MUDSTONE: CARBONACEOUS. ARENACEOUS. GREY-BROWN. MODERATELY WEAK ROCK.THIN BEDDING.WITH MUD PELLETS.
257.34	258.25	100	100% SANDSTONE: CARBONACEOUS BANDS. GREY-BROWN. MODERATELY WEAK ROCK.MODERATELY THIN BEDDING.WITH CARBONACEOUS WHISPS.MODERATELY WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES .INFILLED WITH CALCITE.
258.25	258.84	100	100% SANDSTONE: MED.TO FINE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 30 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES .INFILLED WITH CALCITE.
258.84	259.98	100	100% SANDSTONE. FINE GRAINED: MICACEOUS. LIGHT GREY. MODERATELY WEAK ROCK.
259.98	260.78	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.WITH LOAD CASTS.
260.78	260.80	100	100% MUDSTONE: CARBONACEOUS. FISSILE. BLACK. SOFT.

BOREHOLE LITHOLOGICAL LOG

182587

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
260.80	260.85	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
260.85	260.86	100	100% MUDSTONE: BROWN, WEAK ROCK.
260.86	260.89	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
260.89	260.92	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
260.92	260.99	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, WEAK ROCK.
260.99	261.05	100	100% MUDSTONE: CARBONACEOUS, ARENACEOUS, DARK GREY, WEAK ROCK.
261.05	261.09	100	100% CLAYSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.
261.09	261.11	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK BROWN, WEAK ROCK.
261.11	261.12	100	100% MUDSTONE: FISSILE, BROWN, WEAK ROCK.
261.12	261.27	100	100% SANDSTONE: CALCITIC, CREAM, MODERATELY WEAK ROCK.
261.27	261.43	100	100% MUDSTONE: CARBONACEOUS, BLACK, FIRM.
261.43	261.60	100	100% MUDSTONE: CARBONACEOUS, BLACK, WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 20 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
261.60	262.85	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, WEAK ROCK,THIN BEDDING,MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
262.85	263.18	100	100% MUDSTONE: CARBONACEOUS, ARENACEOUS, GREY, MODERATELY WEAK ROCK,THIN BEDDING.
263.18	263.65	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

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BOREHOLE LITHOLOGICAL LOG

182588

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
263.65	265.62	100	50% SANDSTONE: LIGHT GREY. 50% MUDSTONE: CARBONACEOUS. SILTSTONE. DARK GREY. MODERATELY WEAK ROCK.THIN BEDDING.VERY WIDE JOINT SPACING. JOINTS DIP 75 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
265.62	266.14	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS BANDS. LIGHT GREY. MODERATELY WEAK ROCK.MODERATELY THIN BEDDING.
266.14	267.19	100	100% SANDSTONE. MEDIUM GRAINED: LIGHT GREY. MODERATELY WEAK ROCK. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
267.19	267.31	100	100% SANDSTONE. MEDIUM GRAINED: COALY LENSES. LIGHT GREY. MODERATELY WEAK ROCK.WITH MUD PELLETS.
267.31	267.46	100	100% SANDSTONE. MEDIUM GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.
267.46	267.59	100	100% SANDSTONE. MEDIUM GRAINED: COALY LENSES. LIGHT GREY. MODERATELY WEAK ROCK.WITH MUD PELLETS.
67.59	267.61	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.
267.61	267.87	100	100% SANDSTONE. MEDIUM GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.
67.87	268.20	100	100% SANDSTONE. MEDIUM GRAINED: COALY LENSES. LIGHT GREY. VERY WEAK ROCK.
68.20	268.48	100	100% SANDSTONE. MEDIUM GRAINED: ARGILLACEOUS. LIGHT GREY. VERY WEAK ROCK.
68.48	268.83	100	100% SANDSTONE. MEDIUM GRAINED: LIGHT GREY. WEAK ROCK.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 60 DEG. .OPEN PLANAR.ROUGH DISCONTINUITIES.
268.83	269.19	100	100% SANDSTONE: MED.-COARSE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.
269.19	270.32	100	100% SANDSTONE. MEDIUM GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.VERY WIDE JOINT SPACING. JOINTS DIP 30 DEG. .OPEN PLANAR.ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182589

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
270.32	271.61	100	100% SANDSTONE: MED.-COARSE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.
271.61	271.90	100	100% SANDSTONE. MEDIUM GRAINED: GREY-GREEN. MODERATELY WEAK ROCK.
271.90	272.12	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.LAMINATED AND CARBONACEOUS WHISPS.
272.12	274.08	100	100% SANDSTONE: SILTSTONE LAMINAE. LIGHT GREY. MODERATELY WEAK ROCK.MODERATELY THIN BEDDING.WITH CARBONACEOUS WHISPS.VERY WIDE JOINT SPACING. JOINTS DIP 70 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
274.08	276.60	100	100% SANDSTONE. MEDIUM GRAINED: GREY-GREEN. MODERATELY WEAK ROCK.
276.60	276.72	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS STREAKS. GREY-GREEN. MODERATELY WEAK ROCK.
276.72	278.13	100	100% SANDSTONE. MEDIUM GRAINED: GREY-GREEN. MODERATELY WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 45 DEG. .OPEN PLANAR.ROUGH DISCONTINUITIES.
278.13	279.95	100	100% SANDSTONE: MED.TO FINE GRAINED. GREY-GREEN. WITH MICA. MODERATELY WEAK ROCK.
279.95	280.95	100	100% SANDSTONE. MEDIUM GRAINED: GREY-GREEN. MODERATELY WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 80 DEG. .OPEN PLANAR.ROUGH DISCONTINUITIES.
280.95	281.45	100	100% SANDSTONE. MEDIUM GRAINED: GREY-GREEN. MODERATELY WEAK ROCK.
281.45	284.02	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
284.02	284.45	100	100% SANDSTONE. MEDIUM GRAINED: COALY LENSES. LIGHT GREY. MODERATELY WEAK ROCK.
284.45	285.05	100	100% SANDSTONE. MEDIUM GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.
285.05	285.25	100	100% COAL. DULL WITH NUMEROUS BRIGHT BANDS:.

BOREHOLE LITHOLOGICAL LOG

182590

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
285.25	285.35	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING. JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
285.35	285.72	100	100% SANDSTONE, MEDIUM GRAINED: COALY STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
285.72	285.77	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
285.77	286.91	100	100% SANDSTONE, MEDIUM GRAINED: COALY STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.
286.91	288.08	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED.
288.08	288.14	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,LAMINATED.
288.14	288.26	100	100% SANDSTONE: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
88.26	288.77	100	100% SANDSTONE, MEDIUM GRAINED: PEBBLY, LIGHT GREY, MODERATELY WEAK ROCK.
88.77	290.07	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
290.07	290.10	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH CARBONACEOUS WHISPS.
290.10	290.36	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
290.36	291.81	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
291.81	291.96	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
291.96	292.30	100	100% SILTSTONE: ARENACEOUS BANDS, GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING.
292.30	293.00	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
293.00	293.23	100	100% SILTSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182591

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
293.23	293.75	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 25 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
293.75	293.89	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
293.89	294.08	100	100% MUDSTONE: CARBONACEOUS BANDS, DARK BROWN, MODERATELY WEAK ROCK.
294.08	294.12	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
294.12	294.16	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
294.16	294.19	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
294.19	294.29	100	100% SILTSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
294.29	294.42	100	100% SANDSTONE: ARGILLACEOUS, GREY-BROWN, MODERATELY WEAK ROCK.
294.42	294.54	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
294.54	294.67	100	100% MUDSTONE: DARK BROWN, MODERATELY WEAK ROCK.
294.67	294.84	100	100% MUDSTONE: ARENACEOUS LENSES, BROWN, MODERATELY WEAK ROCK.
294.84	295.07	100	100% SANDSTONE: CARBONACEOUS BANDS, GREY-BROWN, MODERATELY WEAK ROCK.
295.07	295.11	100	100% MUDSTONE: SILTSTONE, BROWN, MODERATELY WEAK ROCK.
295.11	295.13	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
295.13	295.31	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK BROWN, MODERATELY WEAK ROCK.
295.31	295.72	100	100% MUDSTONE: BADLY BROKEN, GREY.
295.72	296.25	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182592

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
296.25	296.43	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.LAMINATED.MODERATELY WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
296.43	296.45	100	100% MUDSTONE: FISSILE. BROWN. WEAK ROCK.
296.45	296.50	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
296.50	296.94	100	100% MUDSTONE: SILTSTONE. CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.
296.94	297.03	100	100% MUDSTONE: CARBONACEOUS. SILTSTONE. DARK BROWN. MODERATELY WEAK ROCK.
297.03	297.13	100	100% SILTSTONE: CARBONACEOUS LAMINAE. GREY-BROWN. MODERATELY WEAK ROCK.VERY THIN BEDDING.
297.13	297.16	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
297.16	297.28	100	100% MUDSTONE: SILTSTONE. GREY. WEAK ROCK.
297.28	297.82	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
297.82	298.22	100	100% SANDSTONE. FINE GRAINED: SILTSTONE. LIGHT GREY. MODERATELY WEAK ROCK.
298.22	299.38	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.LAMINATED.VERY WIDE JOINT SPACING. JOINTS DIP 70 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
299.38	299.55	100	100% MUDSTONE: SILTSTONE. CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.
299.55	299.95	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 30 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
299.95	300.13	100	100% MUDSTONE: BROWN. MODERATELY WEAK ROCK.
300.13	300.46	100	60% SANDSTONE: CARBONACEOUS LAMINAE. GREY-GREEN. 40% SILTSTONE:. MODERATELY WEAK ROCK.WITH MUD PELLETS.
300.46	300.51	100	100% MUDSTONE: FISSILE. LIGHT BROWN. WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182593

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
300.51	300.56	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
300.56	300.70	100	100% MUDSTONE: SILTSTONE, BROWN, MODERATELY WEAK ROCK.
300.70	300.71	100	100% MUDSTONE: LIGHT GREEN, MODERATELY WEAK ROCK.
300.71	300.82	100	100% MUDSTONE: SILTSTONE, BROWN, MODERATELY WEAK ROCK.
300.82	301.22	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
301.22	301.67	100	100% SANDSTONE: SILTSTONE LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
301.67	301.76	100	100% SANDSTONE: MICACEOUS, ARGILLACEOUS, LIGHT GREY, MODERATELY WEAK ROCK.
301.76	301.89	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK,WITH MUD PELLETS.
301.89	301.91	100	100% COAL, HEAVY DULL:.
301.91	302.00	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
302.00	302.38	100	100% SILTSTONE: CARBONACEOUS BANDS, BROWN, MODERATELY WEAK ROCK.
302.38	302.84	100	100% SILTSTONE: COALY STREAKS, BROWN, MODERATELY WEAK ROCK.
302.84	302.94	100	100% SANDSTONE, MEDIUM GRAINED: MICACEOUS, LIGHT GREY, MODERATELY WEAK ROCK.
302.94	302.95	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
302.95	303.21	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED.
303.21	303.51	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
303.51	304.04	100	100% SANDSTONE: SILTSTONE BANDS, GREY-BROWN, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING.
304.04	304.30	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
304.30	304.39	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182594

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
304.39	304.44	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
304.44	305.21	100	100% SILTSTONE: ARENACEOUS LAMINAE, GREY, MODERATELY WEAK ROCK.
305.21	305.25	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
305.25	305.34	100	100% SILTSTONE: ARENACEOUS LAMINAE, GREY, MODERATELY WEAK ROCK.
305.34	305.63	100	100% SANDSTONE, MEDIUM GRAINED: CALCITIC, LIGHT GREY, MODERATELY WEAK ROCK.
305.63	305.73	100	100% MUDSTONE: BROWN, WEAK ROCK.
305.73	305.97	100	100% MUDSTONE: SILTSTONE, GREY, WEAK ROCK.
305.97	306.03	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
306.03	306.09	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
306.09	306.16	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK.
306.16	306.22	100	100% SANDSTONE, MEDIUM GRAINED: CALCITIC, LIGHT GREY, MODERATELY WEAK ROCK.
306.22	306.25	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
306.25	306.73	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
306.73	306.75	100	100% CLAYSTONE: CARBONACEOUS STREAKS, LIGHT GREEN, MODERATELY WEAK ROCK.
306.75	307.03	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK,LAMINATED.
307.03	307.05	100	100% COAL, BRIGHT:.
307.05	307.25	100	100% SANDSTONE: SILTSTONE LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
307.25	307.48	100	100% MUDSTONE: SILTSTONE, BROWN, MODERATELY WEAK ROCK.
307.48	307.57	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182595

LEASE : GRAY
BOREHOLE : GY 16

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
307.57	307.67	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK.
307.67	307.77	100	100% MUDSTONE: COALY STREAKS, BROWN, MODERATELY WEAK ROCK.
307.77	308.00	100	100% MUDSTONE: BROWN, WITH FRAGMENTS OF QUARTZ, MODERATELY WEAK ROCK.
308.00	308.24	100	100% SANDSTONE, MEDIUM GRAINED: GREY-BROWN, WITH FRAGMENTS OF QUARTZ, MODERATELY WEAK ROCK.
308.24	308.81	100	100% SANDSTONE, FINE GRAINED: SILTSTONE, GREY-BROWN, MODERATELY WEAK ROCK.
308.81	320.25	100	100% SILTSTONE: BROWN, WITH FRAGMENTS OF QUARTZ, MODERATELY WEAK ROCK.

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BOREHOLE LITHOLOGICAL LOG

182596

LEASE : GRAY
BOREHOLE : GY 17

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
.00 -	9.00	100	*SEE PILOT HOLE.
9.00 -	15.00	100	100% DOLERITE: MEDIUM GRAINED, BADLY BROKEN, GREY-GREEN, MODERATELY WEATHERED, STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 65 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
15.00 -	23.00	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, WITH CALCITE ON JOINTS, SLIGHTLY WEATHERED, STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 25 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
23.00 -	23.70	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, MODERATELY WEATHERED, STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
23.70 -	28.80	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, UNWEATHERED, STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 10 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
28.80 -	37.70	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, WITH TALC ON JOINTS, STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
37.70 -	52.70	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 50 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
52.70 -	59.52	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
59.52 -	61.80	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, WITH TALC ON JOINTS, STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182597

LEASE : GRAY
BOREHOLE : GY 17

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
61.80 -	83.10	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, WITH TALC ON JOINTS, STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 50 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
83.10 -	83.30	100	100% DOLERITE: MEDIUM GRAINED, GREY-BROWN, MODERATELY STRONG ROCK, ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
83.30 -	101.59	100	100% DOLERITE: MEDIUM GRAINED, GREY, WITH TALC ON JOINTS, STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
101.59 -	104.65	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
104.65 -	106.60	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
106.60 -	111.45	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, WITH TALC ON JOINTS, VERY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
111.45 -	112.60	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK,WIDE JOINT SPACING, JOINTS DIP 90 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
112.60 -	114.25	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.

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BOREHOLE LITHOLOGICAL LOG

182598

LEASE : GRAY
BOREHOLE : GY 17

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
114.25	123.10	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, WITH TALC ON JOINTS, VERY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 15 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
123.10	134.20	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, WITH TALC ON JOINTS, VERY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
134.10	138.10	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 20 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
138.10	155.00	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
155.00	168.90	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
168.90	174.30	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, WITH TALC ON JOINTS, VERY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
174.30	184.00	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 75 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
184.00	206.15	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, VERY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 10 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

07 MAY 1979 THE SHELL COMPANY OF AUSTRALIA LTD.

BOREHOLE LITHOLOGICAL LOG

182599

LEASE : GRAY
BOREHOLE : GY 17

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
206.15	211.20	100	100% DOLERITE: MEDIUM GRAINED, GREY, WITH TALC ON JOINTS AND CHLORITE ON JOINTS, VERY STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 90 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
211.20	226.20	100	100% DOLERITE: MEDIUM GRAINED, GREY, WITH TALC ON JOINTS AND CHLORITE ON JOINTS, VERY STRONG ROCK,VERY WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
226.20	244.70	100	100% DOLERITE: MED.TO FINE GRAINED, GREY-GREEN, WITH CHLORITE ON JOINTS, STRONG ROCK,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
244.70	254.30	100	100% DOLERITE: FINE GRAINED, GREY, MODERATELY STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT,PLANAR,SMOOTH DISCONTINUITIES.
254.30	254.90	100	100% DOLERITE: VERY FINE GRAINED, GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES.
254.90	255.00	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
255.00	256.90	100	100% MUDSTONE: ARENACEOUS, GREY-GREEN, MODERATELY WEAK ROCK.
256.90	260.10	100	100% MUDSTONE: CREAM, MODERATELY WEAK ROCK,THIN BEDDING, BEDS DIP 10 DEG..
260.10	263.50	100	100% MUDSTONE:, MODERATELY WEAK ROCK.
263.50	268.65	100	100% MUDSTONE: GREY-GREEN, MODERATELY WEAK ROCK.
268.65	270.31	100	70% MUDSTONE: GREY, 30% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK,MODERATELY THICK BEDDING ,SHEARING AT BEDDING SEPARATION SURFACES.
270.31	270.70	100	100% SANDSTONE, FINE GRAINED: MUDSTONE BANDS, GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
270.70	271.07	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182600

LEASE : GRAY
BOREHOLE : GY 17

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
271.07	271.37	100	100% SANDSTONE. FINE GRAINED: ARGILLACEOUS. GREY. MODERATELY WEAK ROCK.
271.37	272.16	100	80% MUDSTONE: SILTSTONE. GREY. 20% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY WEAK ROCK.MODERATELY THICK BEDDING.
272.16	272.30	100	100% SANDSTONE. FINE GRAINED: ARGILLACEOUS. GREY. MODERATELY WEAK ROCK.
272.30	274.95	100	100% MUDSTONE: SANDSTONE LENSES. GREY. MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.
274.95	275.10	100	100% MUDSTONE: SANDSTONE BANDS. DARK GREY. MODERATELY WEAK ROCK.
275.10	275.48	100	100% MUDSTONE: CARBONACEOUS BANDS. DARK GREY. MODERATELY WEAK ROCK.
275.48	276.26	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.THIN BEDDING.LAMINATED.
276.26	276.38	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS BANDS. GREY. MODERATELY WEAK ROCK.MODERATELY THIN BEDDING.WITH MUD PELLETS.
276.38	276.45	100	100% MUDSTONE: CARBONACEOUS. ARENACEOUS. DARK GREY. MODERATELY WEAK ROCK.
276.45	276.67	100	100% SILTSTONE: LAMINAE. GREY. MODERATELY WEAK ROCK.
276.67	277.03	100	100% MUDSTONE: CARBONACEOUS. DARK GREY. MODERATELY WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 40 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
277.03	277.12	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY WEAK ROCK.
277.12	277.72	65	100% MUDSTONE: CARBONACEOUS. DARK GREY. MODERATELY WEAK ROCK.
277.72	277.75	100	100% CLAYSTONE: GREEN. MODERATELY WEAK ROCK.
277.75	277.84	100	100% CARBONACEOUS SHALE: BROWN - BLACK. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182601

LEASE : GRAY
BOREHOLE : GY 17

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
277.84	278.06	100	100% MUDSTONE: SILTSTONE, CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
278.06	278.36	100	100% MUDSTONE: CARBONACEOUS, COALY, BLACK, MODERATELY WEAK ROCK.
278.36	278.53	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.
278.53	278.67	100	100% MUDSTONE: SILTSTONE, DARK GREY, MODERATELY WEAK ROCK.
278.67	278.80	100	100% SILTSTONE: GREY-BROWN, MODERATELY STRONG ROCK.
278.80	278.90	100	100% MUDSTONE: SILTSTONE, DARK GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS,WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
278.90	279.07	100	100% MUDSTONE: SILTSTONE, GREY-BROWN, MODERATELY WEAK ROCK.
279.07	279.83	100	100% SILTSTONE: LIGHT BROWN, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
279.83	279.92	100	100% MUDSTONE: BADLY BROKEN, GREY.
279.92	280.01	100	100% MUDSTONE: SILTSTONE, LIGHT BROWN, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 90 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
280.01	280.23	100	100% MUDSTONE: DARK GREY, MODERATELY WEAK ROCK.
280.23	280.31	100	100% MUDSTONE: CARBONACEOUS, BADLY BROKEN, BROWN - BLACK.
280.31	280.36	100	100% MUDSTONE: FISSILE, GREY-BROWN, WEAK ROCK.
280.36	280.65	65	100% MUDSTONE: DARK GREY, MODERATELY WEAK ROCK.
280.65	280.93	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
280.93	282.70	100	100% MUDSTONE: CARBONACEOUS BANDS, GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING,WITH CARBONACEOUS WHISPS,MODERATELY WIDE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182602

LEASE : GRAY
BOREHOLE : GY 17

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
282.70	283.01	100	100% MUDSTONE: DARK GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
283.01	283.60	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
283.60	283.72	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
283.72	284.53	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, WEAK ROCK,CLOSE JOINT SPACING, JOINTS DIP 75 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
284.53	284.89	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
284.89	285.20	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 55 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
285.20	285.86	100	100% MUDSTONE: CARBONACEOUS BANDS, DARK GREY, WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 50 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
285.86	287.21	90	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
287.21	287.54	100	100% CLAYSTONE: CARBONACEOUS BANDS, LIGHT BROWN, FIRM.
287.54	287.62	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
287.62	287.65	100	100% CLAYSTONE: LIGHT BROWN, FIRM.
287.65	287.69	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
287.69	287.89	100	100% CARBONACEOUS SHALE:.
287.89	287.95	100	100% CLAYSTONE: BROWN, FIRM.
287.95	288.00	100	100% CARBONACEOUS SHALE:.

BOREHOLE LITHOLOGICAL LOG

182603

LEASE : GRAY
BOREHOLE : GY 17

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
288.00	288.66	100	100% CARBONACEOUS SHALE: FISSILE, DARK GREY, WEAK ROCK.
288.66	288.77	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY STRONG ROCK.
288.77	288.83	100	100% CARBONACEOUS SHALE: COALY BANDS, DARK GREY, MODERATELY WEAK ROCK.
288.83	289.11	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
289.11	289.21	100	100% SHALE: FISSILE, GREY, WEAK ROCK.
289.21	289.30	100	100% CARBONACEOUS SHALE: COALY STREAKS, DARK GREY, MODERATELY WEAK ROCK.
289.30	289.32	100	100% COAL, INTERBANDED DULL AND BRIGHT:.
289.32	289.47	100	100% MUDSTONE: COALY LENSES, GREY, MODERATELY STRONG ROCK.
289.47	289.59	100	100% CARBONACEOUS SHALE: COALY LENSES, DARK GREY, MODERATELY WEAK ROCK.
289.59	290.00	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY STRONG ROCK.
290.00	290.04	100	100% SHALE: FISSILE, GREY, WEAK ROCK.
290.04	290.07	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
290.07	290.10	100	100% CARBONACEOUS SHALE: DARK GREY, MODERATELY STRONG ROCK.
290.10	290.18	100	100% COAL, CANNEL:.
290.18	290.24	100	100% CARBONACEOUS SHALE: COALY BANDS, DARK GREY, MODERATELY STRONG ROCK.
290.24	290.29	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
290.29	290.42	100	100% SILTSTONE: GREY, MODERATELY STRONG ROCK.
290.42	290.85	100	100% SHALE: SILTSTONE, GREY, MODERATELY WEAK ROCK.
290.85	291.10	100	100% SANDSTONE: FINE GRAINED, LITHIC, GREY, MODERATELY WEAK ROCK.
291.10	291.16	100	100% MUDSTONE: COALY STREAKS, GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182604

LEASE : GRAY
BOREHOLE : GY 17

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
291.16	291.93	100	100% SANDSTONE: FINE GRAINED, GREY, MODERATELY STRONG ROCK.
291.93	292.04	100	100% SANDSTONE: LITHIC, MEDIUM GRAINED, GREY, MODERATELY WEAK ROCK.
292.04	292.93	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, GREY, MODERATELY WEAK ROCK.
292.93	293.23	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
293.23	293.28	100	100% SANDSTONE: MED.TO FINE GRAINED, LITHIC, LIGHT GREY, MODERATELY STRONG ROCK.
293.28	293.40	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
293.40	293.51	100	100% SHALE: FISSILE, GREY, MODERATELY WEAK ROCK.
293.51	293.57	100	100% SANDSTONE: COALY BANDS, GREY, MODERATELY STRONG ROCK.
293.57	295.08	100	100% SILTSTONE: GREY, MODERATELY STRONG ROCK.
295.08	295.77	100	100% SILTSTONE: LIGHT GREY, MODERATELY STRONG ROCK.
295.77	295.95	100	100% SANDSTONE: MEDIUM GRAINED, LITHIC, GREY, MODERATELY STRONG ROCK.
295.95	296.12	100	100% SANDSTONE: MED.-COARSE GRAINED, GREY, MODERATELY STRONG ROCK.
296.12	296.17	100	100% SANDSTONE: SILTSTONE BANDS, GREY, MODERATELY STRONG ROCK.
296.17	296.32	100	100% SILTSTONE: GREY, MODERATELY STRONG ROCK.
296.32	296.80	100	100% MUDSTONE: GREY, MODERATELY STRONG ROCK.
296.80	297.18	100	100% SILTSTONE: GREY, MODERATELY STRONG ROCK.
297.18	297.61	100	100% COBBLE CONGLOMERATE:, MODERATELY STRONG ROCK.
297.61	299.62	100	100% SANDSTONE: LITHIC, LIGHT GREY, MODERATELY STRONG ROCK.
299.62	300.70	100	100% SANDSTONE: CONGLOMERATIC, LITHIC, GREY, MODERATELY STRONG ROCK.
300.70	300.76	100	100% SANDSTONE: COARSE GRAINED, LITHIC, LIGHT GREY, MODERATELY STRONG ROCK.
300.76	300.80	100	100% COAL, HEAVY DULL:.

BOREHOLE LITHOLOGICAL LOG

182605

LEASE : GRAY
BOREHOLE : GY 17

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
300.80	303.00	100	100% SANDSTONE: COARSE GRAINED, LITHIC, LIGHT GREY, MODERATELY STRONG ROCK.
303.00	303.65	100	100% SANDSTONE: COALY LENSES, LIGHT GREY, MODERATELY STRONG ROCK.
303.65	303.95	100	100% SANDSTONE: SILTSTONE LENSES, LIGHT GREY, MODERATELY STRONG ROCK.
303.95	304.35	0	CORE LOSS.
304.35	304.75	100	100% SANDSTONE: SILTSTONE LENSES, LIGHT GREY, MODERATELY STRONG ROCK.
304.75	305.25	100	100% SANDSTONE: MED.-COARSE GRAINED, LITHIC, LIGHT GREY, MODERATELY STRONG ROCK.
305.25	305.26	100	100% COAL, BRIGHT:.
305.26	305.50	100	100% SANDSTONE: MED.-COARSE GRAINED, SILTSTONE, LIGHT GREY, MODERATELY STRONG ROCK.
305.50	307.30	100	100% SANDSTONE: FINE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK.
307.30	307.42	100	100% SILTSTONE:, MODERATELY STRONG ROCK.
307.42	309.30	100	100% SANDSTONE: SILTSTONE LAMINAE, LIGHT GREY, MODERATELY STRONG ROCK.
309.30	310.00	100	100% SANDSTONE: MEDIUM GRAINED, LITHIC, LIGHT GREY, MODERATELY STRONG ROCK.
310.00	315.40	100	100% SANDSTONE: COARSE GRAINED, LITHIC, LIGHT GREY, MODERATELY STRONG ROCK.
315.40	315.65	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
315.65	316.25	100	100% SANDSTONE: FINE GRAINED, SILTSTONE, LIGHT GREY, MODERATELY STRONG ROCK.
316.25	316.30	100	100% MUDSTONE: LIGHT GREY, WEAK ROCK.
316.30	316.60	100	100% MUDSTONE: GREY-GREEN, WEAK ROCK.
316.60	316.78	100	100% SHALE: FISSILE, GREY-GREEN, WEAK ROCK.
316.78	316.80	100	100% CARBONACEOUS SHALE: DARK GREY, MODERATELY STRONG ROCK.
316.80	316.94	100	100% MUDSTONE: GREY, MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182606

LEASE : GRAY
BOREHOLE : GY 17

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
316.94	318.00	100	100% MUDSTONE: LIGHT GREY, MODERATELY STRONG ROCK.
318.00	319.35	100	100% SILTSTONE: ARENACEOUS, LIGHT GREY, MODERATELY STRONG ROCK.
319.35	319.96	100	100% SANDSTONE: FINE GRAINED, LITHIC, LIGHT GREY, MODERATELY STRONG ROCK.
319.96	320.21	100	100% MUDSTONE: CARBONACEOUS LENSES, GREY, MODERATELY STRONG ROCK.
320.21	320.29	100	100% CLAYSTONE: LIGHT BROWN, FIRM.
320.29	320.34	100	100% CARBONACEOUS SHALE: DARK GREY, MODERATELY STRONG ROCK.
320.34	320.47	100	100% SANDSTONE: MEDIUM GRAINED, LITHIC, GREY, MODERATELY WEAK ROCK.
320.47	320.59	100	100% CARBONACEOUS SHALE: BLACK, MODERATELY STRONG ROCK.
320.59	320.69	100	100% COAL, HEAVY DULL:.
320.69	324.20	100	100% MUDSTONE: LIGHT GREY, MODERATELY WEAK ROCK.
324.20	324.30	100	100% SHALE: FISSILE, GREY, MODERATELY WEAK ROCK.
324.30	324.38	100	100% CLAYSTONE: WHITE, FIRM.
324.38	324.42	100	100% CARBONACEOUS SHALE: DARK BROWN, MODERATELY STRONG ROCK.
324.42	326.14	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
326.14	326.74	100	100% SILTSTONE: MUDSTONE BANDS, GREY, MODERATELY STRONG ROCK.
326.74	327.04	100	100% SANDSTONE: FINE GRAINED, SILTSTONE, GREY, MODERATELY STRONG ROCK.
327.04	327.29	100	100% SILTSTONE: GREY, MODERATELY STRONG ROCK.
327.29	327.34	100	100% MUDSTONE: GREY, MODERATELY STRONG ROCK.
327.34	327.38	100	100% CARBONACEOUS SHALE: DARK BROWN, MODERATELY STRONG ROCK.
327.38	327.48	100	100% MUDSTONE: LIGHT GREY, MODERATELY STRONG ROCK.
327.48	327.94	100	100% MUDSTONE: SILTSTONE, VARIAGATED COLOUR, MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182607

LEASE : GRAY
BOREHOLE : GY 17

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
327.94	328.02	100	100% SILTSTONE: PEBBLY. MODERATELY STRONG ROCK.
328.02	328.51	100	100% SILTSTONE: GREY. MODERATELY STRONG ROCK.
328.51	328.71	100	100% CARBONACEOUS SHALE: BLACK.
328.71	328.77	100	100% COAL. HEAVY DULL: CALCITE ON CLEAT.
328.77	328.83	100	100% TONSTEIN: LIGHT BROWN. FIRM.
328.83	328.93	100	100% COAL. HEAVY DULL:.
328.93	329.00	100	100% COAL. CANNEL:.
329.00	329.25	100	100% COAL. HEAVY DULL:.
329.25	329.28	100	100% COAL. INTERBANDED DULL AND BRIGHT:.
329.28	329.30	100	100% COAL. HEAVY DULL:.
329.30	329.40	100	100% MUDSTONE: GREY. MODERATELY STRONG ROCK.
329.40	329.45	100	100% COAL. INTERBANDED DULL AND BRIGHT:.
329.45	329.53	100	100% MUDSTONE: COALY BANDS. GREY. MODERATELY STRONG ROCK.
329.53	329.64	100	100% CARBONACEOUS SHALE: DARK BROWN. MODERATELY STRONG ROCK.
329.64	329.74	100	100% MUDSTONE: GREY. MODERATELY STRONG ROCK.
329.74	329.86	100	100% SHALE: FISSILE. GREY. WEAK ROCK.
329.86	330.92	100	100% MUDSTONE: GREY. MODERATELY STRONG ROCK.
330.92	334.10	100	100% SANDSTONE: FINE GRAINED. LITHIC. LIGHT GREY. MODERATELY STRONG ROCK.
334.10	334.28	100	100% MUDSTONE: LIGHT GREY. MODERATELY STRONG ROCK.
334.28	334.68	100	100% SILTSTONE: LIGHT GREY. MODERATELY STRONG ROCK.
334.68	340.50	100	100% SANDSTONE: COARSE GRAINED. LITHIC. GREY. MODERATELY STRONG ROCK.
340.50	341.56	100	100% SANDSTONE: MED.TO FINE GRAINED. GREY. MODERATELY STRONG ROCK.
341.56	344.54	100	100% SANDSTONE: MED.-COARSE GRAINED. LIGHT GREY. MODERATELY STRONG ROCK.
344.54	344.93	100	100% COAL. HEAVY DULL:.
344.93	345.21	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.
345.21	345.25	100	100% COAL. CANNEL:.

BOREHOLE LITHOLOGICAL LOG

182608

LEASE : GRAY
BOREHOLE : GY 17

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
345.25	345.41	100	100% COAL. HEAVY DULL:.
345.41	345.46	100	100% COAL. CANNEL:.
345.46	345.47	100	100% CARBONACEOUS SHALE:.
345.47	345.54	100	100% MUDSTONE: GREY. MODERATELY STRONG ROCK.
345.54	345.55	100	100% COAL. CANNEL:.
345.55	345.75	100	100% SANDSTONE: FINE GRAINED. LITHIC. LIGHT GREY. MODERATELY STRONG ROCK.
345.75	345.95	100	100% SILTSTONE: LIGHT GREY. MODERATELY STRONG ROCK.
345.95	347.55	100	100% MUDSTONE: GREY. MODERATELY STRONG ROCK.
347.55	350.69	100	100% SANDSTONE: MEDIUM GRAINED. LIGHT GREY. MODERATELY STRONG ROCK.
350.69	350.74	100	100% SILTSTONE: GREY. MODERATELY STRONG ROCK.
350.74	350.91	100	100% MUDSTONE: GREY. MODERATELY STRONG ROCK.
350.91	351.01	100	100% COAL. CANNEL:.
351.01	351.08	100	100% COAL. HEAVY DULL:.
351.08	351.38	100	100% CARBONACEOUS SHALE: DARK GREY. MODERATELY STRONG ROCK.
351.38	352.20	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.
352.20	353.82	100	100% SILTSTONE: ARENACEOUS. LIGHT GREY. MODERATELY STRONG ROCK.
353.82	355.10	100	100% SANDSTONE: FINE GRAINED. LITHIC. LIGHT GREY. MODERATELY STRONG ROCK.
355.10	355.18	100	100% CLAYSTONE: LIGHT GREEN. FIRM.
355.18	355.20	100	100% COAL. CANNEL:.
355.20	355.40	100	100% MUDSTONE: GREY. MODERATELY STRONG ROCK.
355.40	355.46	100	100% COAL. CANNEL:.
355.46	355.50	100	100% MUDSTONE: FISSILE. GREY.
355.50	355.54	100	100% CARBONACEOUS SHALE: DARK GREY. MODERATELY STRONG ROCK.
355.54	355.58	100	100% SHALE: FISSILE. LIGHT GREY.
355.58	355.85	100	100% CARBONACEOUS SHALE: DARK GREY.
355.85	355.91	100	100% COAL. CANNEL:.

BOREHOLE LITHOLOGICAL LOG

182609

LEASE : GRAY
BOREHOLE : GY 17

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
355.91	356.00	100	100% MUDSTONE: GREY, MODERATELY STRONG ROCK.
356.00	357.68	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK.
357.68	359.00	100	100% SILTSTONE: ARENACEOUS, GREY, MODERATELY STRONG ROCK.
359.00	359.20	80	60% SILTSTONE: GREY, 40% MUDSTONE: LIGHT GREY, MODERATELY STRONG ROCK.
359.20	360.10	100	100% SILTSTONE: MUDSTONE LAMINAE, GREY, MODERATELY STRONG ROCK,MODERATELY THICK BEDDING, BEDS DIP 1 DEG..
360.10	360.40	100	100% MUDSTONE: TUFFACEOUS, LIGHT GREY, WEAK ROCK.
360.40	360.80	100	100% SILTSTONE: DARK GREY, MODERATELY STRONG ROCK.
360.80	362.56	100	100% MUDSTONE: COALY, BLACK, MODERATELY WEAK ROCK.
362.56	363.50	100	100% SANDSTONE: MEDIUM GRAINED, LIGHT GREY, MODERATELY STRONG ROCK,THIN BEDDING, BEDS DIP 1 DEG..
363.50	364.30	100	100% SANDSTONE: MEDIUM GRAINED, LIGHT GREY, MODERATELY STRONG ROCK,MODERATELY THICK BEDDING, BEDS DIP 1 DEG..
364.30	366.00	100	100% SANDSTONE: MEDIUM GRAINED, LITHIC, LIGHT GREY, MODERATELY STRONG ROCK,VERY THICK BEDDING, BEDS DIP 1 DEG..
366.00	366.30	100	100% MUDSTONE: COALY LAMINAE, GREY, WEAK ROCK.
366.30	366.50	100	100% SANDSTONE: FINE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK.
366.50	366.84	100	100% SANDSTONE: FINE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK.
366.84	367.19	100	MUDSTONE: GREY, MODERATELY WEAK ROCK.
367.19	369.50	100	100% SANDSTONE: FINE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK,MODERATELY THICK BEDDING, BEDS DIP 1 DEG..

BOREHOLE LITHOLOGICAL LOG

182610

LEASE : GRAY
BOREHOLE : GY 17

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
369.50	377.40	100	100% SANDSTONE: MEDIUM GRAINED, LITHIC, LIGHT GREY, MODERATELY STRONG ROCK.WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,OPEN.PLANAR,SMOOTH DISCONTINUITIES.
377.40	377.70	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
377.70	378.50	100	100% SANDSTONE: MEDIUM GRAINED, LITHIC, LIGHT GREY, MODERATELY STRONG ROCK.
378.50	379.14	100	100% SANDSTONE: MED.-COARSE GRAINED, LITHIC, LIGHT GREY, MODERATELY STRONG ROCK.
379.14	379.18	100	100% COAL, BRIGHT: MUDSTONE BANDS.
379.18	380.20	100	100% SANDSTONE: COALY, FRAGMENTS, GREY, MODERATELY STRONG ROCK.
380.20	380.23	100	100% COAL, HEAVY DULL:.
380.23	380.33	100	100% SANDSTONE: FINE GRAINED, GREY.
380.33	380.36	100	100% MUDSTONE: LIGHT BROWN, VERY WEAK ROCK.
380.36	380.45	100	100% MUDSTONE: GREY, VERY WEAK ROCK.
380.45	380.51	100	100% MUDSTONE: COALY, FRAGMENTS, DARK BROWN.
380.51	380.54	100	100% MUDSTONE: LIGHT BROWN.
380.54	380.68	100	100% MUDSTONE: CARBONACEOUS, BLACK.
380.68	380.81	100	100% CARBONACEOUS SHALE:.
380.81	380.89	100	100% MUDSTONE: GREY-GREEN.
380.89	381.01	100	100% COAL, HEAVY DULL:.
381.01	381.10	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
381.10	381.16	100	100% CARBONACEOUS SHALE:, MODERATELY WEAK ROCK.
381.16	381.23	100	100% MUDSTONE: GREY-GREEN.
381.23	381.37	100	100% MUDSTONE: CARBONACEOUS, COALY, BLACK.
381.37	381.50	0	CORE LOSS.
381.50	381.92	100	100% MUDSTONE: CARBONACEOUS, COALY, BLACK.
381.92	381.96	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN.
381.96	382.14	100	100% MUDSTONE: TUFFACEOUS, GREY-BROWN, VERY WEAK ROCK.
382.14	382.28	100	100% MUDSTONE: CARBONACEOUS, BLACK.

BOREHOLE LITHOLOGICAL LOG

182611

LEASE : GRAY
BOREHOLE : GY 17

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
382.28	382.31	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY STRONG ROCK.
382.31	382.44	100	100% MUDSTONE: CARBONACEOUS, BLACK.
382.44	382.48	100	100% MUDSTONE: LIGHT BROWN.
382.48	382.52	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN.
382.52	382.65	100	100% COAL, BRIGHT WITH FEW DULL BANDS: CALCITIC STREAKS.
382.65	382.69	100	100% MUDSTONE: LIGHT BROWN, WEAK ROCK.
382.69	382.81	100	100% COAL, HEAVY DULL:.
382.81	382.83	100	100% MUDSTONE: GREY.
382.83	382.97	100	100% COAL, HEAVY DULL:.
382.97	382.98	100	100% CARBONACEOUS SHALE:.
382.98	383.12	100	100% COAL, HEAVY DULL:.
383.12	383.17	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY STRONG ROCK.
383.17	383.38	100	100% MUDSTONE: LIGHT BROWN, VERY WEAK ROCK.
383.38	383.50	100	100% CARBONACEOUS SHALE:, MODERATELY STRONG ROCK.
383.50	383.54	100	100% IRONSTONE: BROWN, VERY STRONG ROCK.
383.54	383.88	100	100% CARBONACEOUS SHALE:, MODERATELY STRONG ROCK.
383.88	384.00	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN.
384.00	384.02	100	100% MUDSTONE: CARBONACEOUS, BLACK.
384.02	384.04	100	100% MUDSTONE: DARK BROWN.
384.04	384.14	100	100% MUDSTONE: CARBONACEOUS, BLACK.
384.14	384.26	100	100% CARBONACEOUS SHALE:.
384.26	384.27	100	100% MUDSTONE: DARK BROWN.
384.27	384.30	100	100% COAL, BRIGHT WITH FEW DULL BANDS:.
384.30	384.31	100	100% MUDSTONE: DARK BROWN.
384.31	384.33	100	100% COAL, BRIGHT:.
384.33	384.50	100	100% COAL, HEAVY DULL:.
384.50	384.79	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
384.79	384.97	100	100% COAL, INTERBANDED DULL AND BRIGHT:.

BOREHOLE LITHOLOGICAL LOG

182612

LEASE : GRAY
BOREHOLE : GY 17

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
384.97	385.10	100	100% COAL. HEAVY DULL:.
385.10	385.13	100	100% MUDSTONE: LIGHT BROWN. MODERATELY WEAK ROCK.
385.13	385.29	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
385.29	385.31	100	100% CARBONACEOUS SHALE:.
385.31	385.33	100	100% MUDSTONE: GREY.
385.33	385.35	100	100% CARBONACEOUS SHALE:.
385.35	385.38	100	100% MUDSTONE: BROWN.
385.38	385.45	100	100% MUDSTONE: CARBONACEOUS. BLACK.
385.45	385.57	100	100% COAL. BRIGHT WITH FEW DULL BANDS:.
385.57	385.63	100	100% COAL. HEAVY DULL:.
385.63	385.68	100	100% CARBONACEOUS SHALE:.
385.68	385.72	100	100% MUDSTONE: BROWN.
385.72	385.96	100	100% MUDSTONE: CARBONACEOUS. BLACK.
385.96	385.99	100	100% MUDSTONE: LIGHT BROWN.
385.99	386.05	100	100% MUDSTONE: CARBONACEOUS. BLACK.
386.05	386.08	100	100% MUDSTONE: LIGHT BROWN.
386.08	386.11	100	100% MUDSTONE: CARBONACEOUS. BLACK.
386.11	386.13	100	100% MUDSTONE: LIGHT BROWN.
386.13	386.30	100	100% MUDSTONE: CARBONACEOUS. BLACK.
386.30	387.50	100	100% MUDSTONE: SILTSTONE BANDS. LIGHT GREY. MODERATELY WEAK ROCK.MODERATELY THICK BEDDING. BEDS DIP 1 DEG..
387.50	387.96	100	100% SILTSTONE: GREY. MODERATELY STRONG ROCK.
387.96	389.78	100	50% SILTSTONE: GREY. 50% SANDSTONE: FINE GRAINED. LIGHT GREY. MODERATELY STRONG ROCK.MODERATELY THIN BEDDING. BEDS DIP 1 DEG..
389.78	404.50	100	100% SANDSTONE: LITHIC. LIGHT GREY. MODERATELY STRONG ROCK.VERY WIDE JOINT SPACING. JOINTS DIP 70 DEG. .OPEN.PLANAR.SMOOTH DISCONTINUITIES.
404.50	404.36	100	100% MUDSTONE: LIGHT GREY. WEAK ROCK.
404.36	405.50	0	CORE LOSS.

BOREHOLE LITHOLOGICAL LOG

182613

LEASE : GRAY
BOREHOLE : GY 17

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
405.50	406.79	100	100% SANDSTONE: MEDIUM GRAINED, LIGHT GREY, MODERATELY STRONG ROCK.
406.79	407.39	100	50% SANDSTONE: FINE GRAINED, LIGHT GREY, 50% SILTSTONE: GREY, MODERATELY STRONG ROCK,MODERATELY THIN BEDDING, BEDS DIP 1 DEG..
407.39	408.46	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, WEAK ROCK.
408.46	408.62	100	100% COAL, DULL:.
408.62	408.70	100	100% MUDSTONE: CARBONACEOUS, DARK GREY.
408.70	408.83	100	100% SANDSTONE: FINE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK.
408.83	409.72	100	60% SILTSTONE: GREY, 40% SANDSTONE: FINE GRAINED, LIGHT GREY, MODERATELY STRONG ROCK,THIN BEDDING, BEDS DIP 1 DEG..
409.72	409.85	100	100% SANDSTONE: MEDIUM GRAINED, CARBONACEOUS, LIGHT GREY.
409.85	409.88	100	100% IRONSTONE: BROWN, VERY STRONG ROCK.
409.88	410.08	100	100% COAL, DULL:.
410.08	410.09	100	100% CARBONACEOUS SHALE:.
410.09	410.16	100	100% MUDSTONE: BROWN.
410.16	410.26	100	100% MUDSTONE: CARBONACEOUS, BLACK.
410.26	410.29	100	100% COAL, DULL:.
410.29	410.69	100	100% COAL, HEAVY DULL: CALCITIC STREAKS.
410.69	410.79	100	100% MUDSTONE: CARBONACEOUS, DARK GREY.
410.79	410.88	100	100% COAL, HEAVY DULL:.
410.88	410.96	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN.
410.96	411.05	100	100% COAL, HEAVY DULL:.
411.05	411.10	100	100% MUDSTONE: DARK GREY.
411.10	411.32	100	100% COAL, HEAVY DULL: BRIGHT COAL BANDS.
411.32	411.34	100	100% MUDSTONE: BROWN.
411.34	411.40	100	100% COAL, HEAVY DULL: FRAGMENTED.
411.40	411.70	0	CORE LOSS.
411.70	411.81	0	CORE LOSS.

BOREHOLE LITHOLOGICAL LOG

182614

LEASE : GRAY
BOREHOLE : GY 17

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
411.81	411.99	100	100% COAL. HEAVY DULL: FRAGMENTED.
411.99	412.02	100	100% CARBONACEOUS SHALE:.
412.02	412.05	100	100% MUDSTONE: CARBONACEOUS LAMINAE. LIGHT BROWN.
412.05	412.33	100	100% MUDSTONE: COALY LAMINAE. GREY.
412.33	412.41	100	100% MUDSTONE: BROWN.
412.41	412.51	100	100% MUDSTONE: DARK GREY.
412.51	412.65	100	100% COAL. HEAVY DULL:.
412.65	412.73	100	100% MUDSTONE: GREY.WITH MUD PELLETS.
412.73	412.77	100	100% MUDSTONE: CARBONACEOUS. BLACK.
412.77	412.84	100	100% COAL. HEAVY DULL:.
412.84	412.85	100	100% MUDSTONE: LIGHT BROWN.
412.85	412.97	100	100% COAL. HEAVY DULL:.
412.97	413.00	100	100% COAL. BRIGHT:.
413.00	413.03	100	100% COAL. HEAVY DULL:.
413.03	413.20	100	100% MUDSTONE: LIGHT BROWN.
413.20	413.41	100	100% MUDSTONE: CARBONACEOUS. BLACK.
413.41	413.44	100	100% MUDSTONE: GREY.
413.44	413.47	100	100% MUDSTONE: LIGHT BROWN.
413.47	413.53	100	100% MUDSTONE: CARBONACEOUS LENSES. GREY.
413.53	413.58	100	100% COAL. BRIGHT WITH FEW DULL BANDS: CALCITIC STREAKS.
413.58	413.84	100	100% SHALE: GREY.
413.84	414.70	100	100% MUDSTONE: GREY. WEAK ROCK.EXTREMELY WIDE JOINT SPACING. JOINTS DIP 70 DEG. .OPEN.PLANAR.SMOOTH DISCONTINUITIES.
414.70	417.28	0	CORE LOSS.
417.28	417.66	100	100% SILTSTONE: FERRUGINOUS. GREY.
417.66	417.82	100	100% COAL. HEAVY DULL: SANDSTONE BANDS.
417.82	419.30	100	100% SANDSTONE: MEDIUM GRAINED. LIGHT GREY. MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182615

LEASE : GRAY
BOREHOLE : GY 17

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
419.30	420.60	100	60% SANDSTONE: FINE GRAINED, LIGHT GREY, 40% SILTSTONE: GREY, MODERATELY STRONG ROCK,MODERATELY THIN BEDDING, BEDS DIP 1 DEG..
420.60	421.75	100	100% MUDSTONE: SILTSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK.
421.75	429.10	100	100% SANDSTONE: LITHIC, LIGHT GREY, MODERATELY STRONG ROCK,THICK BEDDING, BEDS DIP 1 DEG..EXTREMELY WIDE JOINT SPACING, JOINTS DIP 50 DEG. ,OPEN,PLANAR,SMOOTH DISCONTINUITIES.
429.10	430.40	100	100% SANDSTONE: LITHIC, LIGHT GREY, MODERATELY STRONG ROCK.
430.40	431.00	100	100% SANDSTONE: LITHIC, COALY, LIGHT GREY, MODERATELY STRONG ROCK.
431.00	431.07	100	100% MUDSTONE: COALY, FERRUGINOUS, BROWN, WEAK ROCK.
431.07	443.70	100	100% SANDSTONE: LITHIC, COALY, LIGHT GREY, MODERATELY STRONG ROCK,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,OPEN,PLANAR,SMOOTH DISCONTINUITIES.
443.70	444.08	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS,MODERATELY WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
444.08	444.50	100	100% SANDSTONE, MEDIUM GRAINED: BADLY BROKEN, LIGHT GREY, MODERATELY WEAK ROCK.
444.50	455.11	100	100% SANDSTONE, MEDIUM GRAINED: MUDSTONE LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
455.11	455.79	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS BANDS, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
455.79	456.60	100	100% SANDSTONE: MED.-COARSE GRAINED, FRAGMENTS, LIGHT GREY, WEAK ROCK,MODERATELY CLOSE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182616

LEASE : GRAY
BOREHOLE : GY 17

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
456.60	- 466.12	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.
466.12	- 466.61	100	100% PEBBLE CONGLOMERATE: GREY, MODERATELY WEAK ROCK.
466.61	- 466.75	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK.
SAMPLE:1			*** CORE DESCRIPTION ***
466.75			
	0.09	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
	0.01	100	100% MUDSTONE: ARENACEOUS, GREY-BROWN, MODERATELY WEAK ROCK.
	0.09	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
	0.03	100	100% MUDSTONE: ARENACEOUS, GREY, MODERATELY WEAK ROCK.
	0.09	100	100% COAL, HEAVY DULL: BADLY BROKEN.
	0.27	100	100% COAL, DULL WITH FEW BRIGHT BANDS: BADLY BROKEN.
	0.01	100	100% COAL, BRIGHT:.
	0.24	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
	0.01	100	100% MUDSTONE: ARENACEOUS, GREY-BROWN, MODERATELY WEAK ROCK.
	0.37	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
	0.09	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS: MUDSTONE LAMINAE.
	0.03	100	100% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK.
	0.06	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
	0.02	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
	0.05	100	100% COAL, DULL WITH FEW BRIGHT BANDS:.
	0.06	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
468.27	1.52		TOTAL

BOREHOLE LITHOLOGICAL LOG

182617

LEASE : GRAY
BOREHOLE : GY 17

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
468.27	469.25	100	100% MUDSTONE: SILTSTONE. GREY. WEAK ROCK.VERY THIN BEDDING.WITH CARBONACEOUS WHISPS.
469.25	471.13	100	50% MUDSTONE: SILTSTONE. GREY. 50% SANDSTONE. FINE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.WITH LOAD CASTS.VERY WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
471.13	473.18	100	80% SANDSTONE. FINE GRAINED: LIGHT GREY. 20% MUDSTONE: SILTSTONE. GREY. MODERATELY WEAK ROCK.LAMINATED.
473.18	476.18	100	90% SANDSTONE. FINE GRAINED: GREY. 10% SANDSTONE. FINE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.LAMINATED.VERY WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
476.18	476.60	100	60% SANDSTONE. FINE GRAINED: GREY. 40% MUDSTONE: CARBONACEOUS LAMINAE. GREY. MODERATELY WEAK ROCK.LAMINATED.
476.60	476.74	100	100% MUDSTONE: GREY. WEAK ROCK.LAMINATED.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES.
476.74	476.84	100	100% MUDSTONE: SILTSTONE. GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
476.84	476.88	100	100% CARBONACEOUS SHALE: BRIGHT COAL STREAKS.
476.88	476.94	100	100% SILTSTONE: COALY LENSES. GREY. MODERATELY WEAK ROCK.
476.94	477.30	100	100% SANDSTONE. MEDIUM GRAINED: CALCAREOUS. LIGHT GREY. MODERATELY WEAK ROCK.
477.30	477.47	100	100% LIMESTONE: MUDSTONE LENSES. WHITE. MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182618

LEASE : GRAY
BOREHOLE : GY 17

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
477.47 - 477.86		100	100% SANDSTONE. MEDIUM GRAINED: CALCAREOUS. LIGHT GREY. MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS AND MUD PELLETS.
477.86 - 480.35		100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS LAMINAE. LIGHT GREY. MODERATELY WEAK ROCK.THIN BEDDING. BEDS DIP 10 DEG..
SAMPLE:2			*** CORE DESCRIPTION ***
480.35			
	0.01	100	100% COAL. HEAVY DULL: BRIGHT COAL STREAKS.
	0.13	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
	0.10	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
	0.26	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
	0.01	100	100% MUDSTONE: GREY. WEAK ROCK.LAMINATED.
	0.49	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. WITH BANDS OF PYRITE. MODERATELY STRONG ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES WITH SLICKENSIDES.
	0.04	100	100% COAL. HEAVY DULL:.
	0.15	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
481.54	1.19		TOTAL
SAMPLE:3			*** CORE DESCRIPTION ***
481.54			

BOREHOLE LITHOLOGICAL LOG

182619

LEASE : GRAY
BOREHOLE : GY 17

TOP	BASE	%REC	LITHOLOGY
SAMPLE:3			*** CORE DESCRIPTION ***
	0.69	100	100% COAL. DULL: MUDSTONE LENSES,MODERATELY CLOSE JOINT SPACING. JOINTS DIP 80 DEG. .TIGHT PLANAR,ROUGH DISCONTINUITIES.
	0.01	100	100% MUDSTONE: ARENACEOUS. DARK GREY. MODERATELY WEAK ROCK.
	0.01	100	100% COAL. DULL:.
	0.01	100	100% COAL. BRIGHT:.
	0.01	100	100% MUDSTONE: ARENACEOUS. DARK GREY. MODERATELY WEAK ROCK.
	0.59	100	100% COAL. DULL WITH FEW BRIGHT BANDS:,MODERATELY CLOSE JOINT SPACING. JOINTS DIP 80 DEG. .TIGHT PLANAR,ROUGH DISCONTINUITIES.
	0.01	100	100% MUDSTONE: ARENACEOUS. DARK GREY. MODERATELY WEAK ROCK.
	0.01	100	100% COAL. BRIGHT WITH FEW DULL BANDS:.
	0.60	100	100% COAL. DULL WITH FEW BRIGHT BANDS: WITH TALC ON JOINTS.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 85 DEG. .TIGHT PLANAR,ROUGH DISCONTINUITIES.
	0.01	100	50% COAL. INTERBANDED DULL AND BRIGHT: 50% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK,THIN BEDDING.
483.49	1.95		TOTAL
			*** CORE DESCRIPTION ***
483.49 - 483.73		100	100% MUDSTONE: BRIGHT COAL LENSES. GREY. WEAK ROCK,MODERATELY CLOSE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR,ROUGH DISCONTINUITIES.
483.73 - 483.82		100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.
483.82 - 486.42		100	100% MUDSTONE: CARBONACEOUS BANDS. GREY. WEAK ROCK.
486.42 - 486.59		100	100% MUDSTONE: DARK GREY. WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182620

LEASE : GRAY
BOREHOLE : GY 17

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
486.59	486.60	100	100% CLAYSTONE: LIGHT BROWN. VERY WEAK ROCK.
486.60	486.61	100	100% COAL. HEAVY DULL:.
486.61	486.62	100	100% CLAYSTONE: CARBONACEOUS STREAKS. LIGHT BROWN. VERY WEAK ROCK.
486.62	487.03	100	100% COAL. HEAVY DULL: BRIGHT COAL LAMINAE.
487.03	487.05	100	100% MUDSTONE: ARENACEOUS. GREY-BROWN. MODERATELY WEAK ROCK.
487.05	487.08	100	100% COAL. HEAVY DULL:.
487.08	487.11	100	100% MUDSTONE: GREY-BROWN. MODERATELY WEAK ROCK.
487.11	487.14	100	100% COAL. HEAVY DULL: MUDSTONE LENSES.
487.14	487.23	100	50% COAL. HEAVY DULL: 50% COAL. BRIGHT:.LAMINATED.
487.23	487.45	100	100% COAL. HEAVY DULL:.
487.45	487.54	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS. DARK GREY. MODERATELY WEAK ROCK.
487.54	487.68	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS TRACES. GREY. MODERATELY WEAK ROCK.
487.68	515.25	100	100% SANDSTONE. MEDIUM GRAINED: CONGLOMERATIC BANDS. LIGHT GREY. MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.
515.25	515.85	0	CORE LOSS.
515.85	515.88	100	100% CLAYSTONE: LIGHT BROWN. FIRM.
515.88	517.90	100	100% SANDSTONE. MEDIUM GRAINED: MUDSTONE LENSES. LIGHT GREY. MODERATELY WEAK ROCK.
517.90	518.55	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.LAMINATED.WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT.PLANAR.SMOOTH DISCONTINUITIES.
518.55	518.68	100	100% SILTSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.
518.68	519.01	100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS BANDS. GREY. MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182621

LEASE : GRAY
BOREHOLE : GY 17

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
519.01	519.57	100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS LAMINAE. LIGHT GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
519.57	520.50	100	90% SILTSTONE: CARBONACEOUS. BROWN - BLACK. 10% SANDSTONE. FINE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.THIN BEDDING.
520.50	523.02	100	100% SANDSTONE: MED.TO FINE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.
523.22	523.52	100	100% MUDSTONE: COALY BANDS. DARK GREY. WEAK ROCK.
523.52	523.59	100	100% CARBONACEOUS SHALE: BADLY BROKEN.
523.59	524.25	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.
524.25	524.62	100	100% SANDSTONE. FINE GRAINED: GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
524.62	524.67	100	100% MUDSTONE: SILTSTONE. GREY. MODERATELY WEAK ROCK.
524.67	524.84	100	100% SANDSTONE. FINE GRAINED: MUDSTONE LAMINAE. LIGHT GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING .SHEARING AT BEDDING SEPARATION SURFACES.WITH CROSS LAMINATION.
524.84	525.18	100	100% MUDSTONE: SILTSTONE. GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
525.18	525.33	100	100% MUDSTONE: CARBONACEOUS. DARK GREY. MODERATELY WEAK ROCK.
525.33	525.72	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.MODERATELY WIDE JOINT SPACING. JOINTS DIP 70 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
525.72	527.05	100	70% SANDSTONE. FINE GRAINED: CARBONACEOUS LAMINAE. LIGHT GREY. 30% MUDSTONE: SILTSTONE. GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
527.05	527.50	100	100% MUDSTONE: SILTSTONE. GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
527.50	527.53	100	100% COAL. DULL WITH NUMEROUS BRIGHT BANDS:.

BOREHOLE LITHOLOGICAL LOG

182622

LEASE : GRAY
BOREHOLE : GY 17

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
527.53	527.64	100	100% MUDSTONE: ARENACEOUS. GREY. WEAK ROCK.VERY THIN BEDDING.
527.64	527.74	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
527.73	527.89	100	100% CARBONACEOUS SHALE:.
527.89	527.90	100	100% MUDSTONE: FRIABLE. LIGHT GREY. VERY WEAK ROCK.
527.90	528.52	100	100% CARBONACEOUS SHALE:.
528.52	528.92	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
528.92	529.02	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY WEAK ROCK.
529.02	529.11	100	100% COAL. HEAVY DULL:.
529.11	529.12	100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.
529.12	529.31	100	100% COAL. HEAVY DULL: CARBONACEOUS BANDS.
529.31	529.36	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY WEAK ROCK.
529.36	529.47	100	100% MUDSTONE: CARBONACEOUS. DARK GREY. MODERATELY WEAK ROCK.
529.47	529.50	100	100% MUDSTONE: CARBONACEOUS. BLACK. MODERATELY WEAK ROCK.
529.50	529.71	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
529.71	530.10	100	100% COAL. HEAVY DULL: CARBONACEOUS BANDS.
530.10	530.11	100	100% MUDSTONE: CARBONACEOUS LAMINAE. BROWN. MODERATELY WEAK ROCK.
530.11	530.57	100	100% COAL. HEAVY DULL:.
530.57	530.68	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.WITH MUD PELLETS.
530.68	530.85	100	100% COAL. HEAVY DULL: BRIGHT COAL LAMINAE.
530.85	532.76	100	100% SANDSTONE. FINE GRAINED: MUDSTONE BANDS. LIGHT GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.

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BOREHOLE LITHOLOGICAL LOG

182623

LEASE : GRAY
BOREHOLE : GY 17

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
532.76	533.76	100	100% MUDSTONE: FRIABLE BANDS, GREY, MODERATELY WEAK ROCK.
533.76	534.26	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
534.26	534.48	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
534.48	534.61	100	100% SANDSTONE, FINE GRAINED: MUDSTONE LENSES, LIGHT GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION.
534.61	537.52	100	100% MUDSTONE: GREY, WEAK ROCK,LAMINATED.
537.52	537.98	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
537.98	538.01	100	100% MUDSTONE: DARK GREY, WEAK ROCK,LAMINATED.
538.01	538.11	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
538.11	538.20	100	100% COAL, HEAVY DULL:.
538.20	538.22	100	100% MUDSTONE: CARBONACEOUS LENSES, BROWN, WEAK ROCK.
538.22	538.44	100	100% COAL, HEAVY DULL:.
538.44	538.48	100	100% MUDSTONE: SILTSTONE, BROWN, MODERATELY WEAK ROCK.
538.48	538.49	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
538.49	538.50	100	100% MUDSTONE: SILTSTONE, GREY-BROWN, MODERATELY WEAK ROCK.
538.50	538.51	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
538.51	538.79	100	100% MUDSTONE: DARK GREY, MODERATELY WEAK ROCK.
538.79	541.48	100	60% SANDSTONE, FINE GRAINED: CARBONACEOUS LENSES, GREY, 40% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK,THICK BEDDING.
541.48	544.40	100	100% MUDSTONE: SANDSTONE BANDS, GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.

BOREHOLE LITHOLOGICAL LOG

182624

LEASE : GRAY
BOREHOLE : GY 17

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
544.40	544.62	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
544.62	544.92	100	100% SILTSTONE: GREY-BROWN, MODERATELY WEAK ROCK.
544.92	545.14	100	100% SANDSTONE, FINE GRAINED: MUDSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
545.14	545.60	100	100% MUDSTONE: ARENACEOUS LAMINAE, DARK GREY, MODERATELY WEAK ROCK.
545.60	546.49	100	70% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, 30% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK,MODERATELY THICK BEDDING.
546.49	549.25	100	60% SANDSTONE, FINE GRAINED: GREY, 40% MUDSTONE: GREY, MODERATELY WEAK ROCK,THIN BEDDING.
549.25	549.46	100	100% MUDSTONE: DARK GREY, SOFT.
549.46	550.83	100	100% MUDSTONE: SILTSTONE, CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
550.83	552.03	100	50% MUDSTONE: SILTSTONE, CARBONACEOUS, DARK GREY, 50% SANDSTONE, FINE GRAINED: GREY, MODERATELY WEAK ROCK,THIN BEDDING.
552.03	552.93	100	100% SANDSTONE, FINE GRAINED: FRIABLE BANDS, LIGHT GREY, MODERATELY WEAK ROCK.
552.93	561.74	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,EXTREMELY WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
561.74	563.04	100	100% MUDSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.
563.04	563.60	100	100% SANDSTONE, MEDIUM GRAINED: MUDSTONE LENSES, GREY, MODERATELY WEAK ROCK.
563.60	570.14	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
570.14	570.18	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182625

LEASE : GRAY
BOREHOLE : GY 17

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
570.18	570.29	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
570.29	570.40	100	100% SILTSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
570.40	570.76	100	50% SILTSTONE: CARBONACEOUS, DARK GREY, 50% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, LIGHT GREY, MODERATELY WEAK ROCK,THIN BEDDING.
570.76	574.61	100	80% MUDSTONE: CARBONACEOUS BANDS, GREY, 20% SANDSTONE, FINE GRAINED: GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
574.61	574.83	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
574.83	574.87	100	100% COAL, HEAVY DULL:.
574.87	575.00	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
575.00	577.40	80	60% MUDSTONE: GREY, 40% SANDSTONE, FINE GRAINED: MUDSTONE LENSES, LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING.
577.40	577.63	100	100% COAL, HEAVY DULL: MUDSTONE BANDS.
577.63	579.40	100	100% MUDSTONE: ARENACEOUS BANDS, GREY, VERY WEAK ROCK,VERY THIN BEDDING.
579.40	582.30	100	100% SILTSTONE: FRIABLE BANDS, GREY, WEAK ROCK,VERY THIN BEDDING.
582.30	582.72	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
582.72	583.02	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LAMINAE, GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
583.02	589.69	100	100% SANDSTONE, MEDIUM GRAINED: MUDSTONE LENSES, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
589.69	589.73	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED.
589.73	589.80	100	100% CARBONACEOUS SHALE:.

BOREHOLE LITHOLOGICAL LOG

182626

LEASE : GRAY
BOREHOLE : GY 17

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
589.80	591.06	100	100% SILTSTONE: SANDSTONE BANDS, GREY, MODERATELY WEAK ROCK.
591.06	592.05	100	50% SILTSTONE: GREY, 50% SANDSTONE, FINE GRAINED: SILTSTONE LENSES, LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY THICK BEDDING.
592.05	592.69	100	100% SANDSTONE, FINE GRAINED: SILTSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
592.69	592.99	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WITH POOR SORTING AND CARBONACEOUS WHISPS.
592.99	593.20	100	100% SILTSTONE: DARK GREY, MODERATELY WEAK ROCK.
593.20	595.41	100	100% SILTSTONE: SANDSTONE BANDS, GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
595.41	595.62	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WITH POOR SORTING AND CARBONACEOUS WHISPS.
595.62	595.75	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED.
595.75	595.87	100	100% MUDSTONE: CARBONACEOUS, GREY-BROWN, MODERATELY WEAK ROCK.
595.87	596.89	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
596.89	597.05	100	100% SANDSTONE, FINE GRAINED: GREY-BROWN, MODERATELY WEAK ROCK,WITH POOR SORTING.
597.05	597.17	100	100% MUDSTONE: BROWN, FIRM.
597.17	597.89	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WITH POOR SORTING.
597.89	598.10	100	100% MUDSTONE: GREY, WEAK ROCK,MODERATELY CLOSE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES.
598.10	599.40	100	100% SANDSTONE, FINE GRAINED: MUDSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS AND POOR SORTING,MODERATELY WIDE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

LEASE : GRAY
BOREHOLE : GY 17

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
599.40	599.56	100	100% MUDSTONE: STRONGLY FRAGMENTED, GREY, WEAK ROCK.
599.56	599.70	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LENSES, GREY, MODERATELY WEAK ROCK.
599.70	600.08	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK.WITH POOR SORTING.
600.08	600.21	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
600.21	600.33	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS STREAKS, DARK GREY, MODERATELY WEAK ROCK.
600.33	601.24	100	100% SANDSTONE, MEDIUM GRAINED: MUDSTONE STREAKS, LIGHT GREY, MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS AND POOR SORTING.
601.24	602.40	100	100% MUDSTONE: QUARTZITIC, FRAGMENTS, GREY, MODERATELY WEAK ROCK.
602.40	602.97	100	100% SILTSTONE: QUARTZITIC, FRAGMENTS, DARK GREY, MODERATELY WEAK ROCK.
602.97	603.35	100	100% SANDSTONE, FINE GRAINED: ARGILLACEOUS, GREY-GREEN, MODERATELY WEAK ROCK.
603.35	603.48	100	100% PEBBLE CONGLOMERATE: GREY-GREEN, MODERATELY WEAK ROCK.
603.48	603.68	100	100% MUDSTONE: QUARTZITIC, FRAGMENTS, GREY, MODERATELY WEAK ROCK.
603.68	604.00	100	100% SILTSTONE: QUARTZITIC, FRAGMENTS, DARK GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182628

LEASE : GRAY
BOREHOLE : GY 18

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
-	5.00	100	100% DOLERITE: PEBBLY, ORANGE-BROWN, HIGHLY WEATHERED.
5.00 -	12.30	100	100% DOLERITE: GREY-GREEN, MODERATELY WEATHERED.
12.30 -	13.00	100	100% CLAY: YELLOW-BROWN, HIGHLY WEATHERED, FIRM.
13.00 -	19.50	100	100% DOLERITE: MEDIUM GRAINED, GREY-GREEN, MODERATELY WEATHERED, STRONG ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 15 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
19.50 -	21.50	100	100% DOLERITE: ORANGE-BROWN, HIGHLY WEATHERED.
21.50 -	44.00	100	100% DOLERITE: ARGILLACEOUS, YELLOW-BROWN, COMPLETELY WEATHERED, VERY WEAK ROCK.
44.00 -	60.50	100	100% DOLERITE: ARGILLACEOUS, YELLOW-BROWN, HIGHLY WEATHERED.
60.50 -	60.65	100	100% MUDSTONE: ORANGE-BROWN, MODERATELY WEATHERED, WEAK ROCK.
60.65 -	60.95	100	100% MUDSTONE: BADLY BROKEN, GREY, MODERATELY WEATHERED, VERY WEAK ROCK.
60.95 -	61.04	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEATHERED, VERY WEAK ROCK.
61.04 -	61.56	100	100% MUDSTONE: FRAGMENTED, GREY, MODERATELY WEATHERED, VERY WEAK ROCK.
61.56 -	61.58	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEATHERED, VERY WEAK ROCK.
61.58 -	61.83	100	100% CLAY: FRAGMENTED, ORANGE, HIGHLY WEATHERED, FIRM.
61.83 -	62.06	100	100% MUDSTONE: FRAGMENTED, GREY, MODERATELY WEATHERED, VERY WEAK ROCK.
62.06 -	62.32	100	100% MUDSTONE: FRAGMENTED, GREY, UNWEATHERED, VERY WEAK ROCK.
62.32 -	62.44	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182629

LEASE : GRAY
BOREHOLE : GY 18

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
62.44 -	63.60	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.VERY THIN BEDDING.VERY WIDE JOINT SPACING, JOINTS DIP 75 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
63.60 -	63.90	100	100% MUDSTONE: GREY, WEAK ROCK.MODERATELY CLOSE JOINT SPACING, JOINTS DIP 75 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
63.90 -	64.50	100	100% MUDSTONE: SILTSTONE LAMINAE, GREY, MODERATELY WEAK ROCK.VERY THIN BEDDING.WIDE JOINT SPACING, JOINTS DIP 75 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
64.50 -	64.74	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.MODERATELY CLOSE JOINT SPACING, JOINTS DIP 75 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
64.74 -	64.82	100	100% MUDSTONE: FISSILE, GREY, VERY WEAK ROCK.
64.82 -	64.88	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
64.88 -	64.90	100	100% MUDSTONE: FISSILE, LIGHT GREY, VERY WEAK ROCK.
64.90 -	64.94	100	100% MUDSTONE: CARBONACEOUS, BLACK, WEAK ROCK.
64.94 -	66.48	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, WEAK ROCK.
66.48 -	66.52	100	100% MUDSTONE: FISSILE, GREY, FIRM.
66.52 -	66.66	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
66.66 -	66.77	100	100% MUDSTONE: CARBONACEOUS, FRAGMENTS, LIGHT BROWN, WEAK ROCK.
66.77 -	66.86	100	100% SILTSTONE: GREY-BROWN, MODERATELY WEAK ROCK.
66.86 -	68.00	100	100% SANDSTONE, FINE GRAINED: GREY-BROWN, MODERATELY WEAK ROCK.WIDE JOINT SPACING, JOINTS DIP 70 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
68.00 -	68.44	100	100% SANDSTONE, FINE GRAINED: FISSILE, ARGILLACEOUS, GREY, WEAK ROCK.WIDE JOINT SPACING, JOINTS DIP 70 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.

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BOREHOLE LITHOLOGICAL LOG

182630

LEASE : GRAY
BOREHOLE : GY 18

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
68.44 -	68.50	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
68.50 -	68.61	100	100% SANDSTONE, FINE GRAINED: FISSILE, ARGILLACEOUS, LIGHT GREY, WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 70 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
68.61 -	68.85	100	100% CLAYSTONE: FISSILE, GREY, WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
68.85 -	69.62	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
69.62 -	69.77	100	70% MUDSTONE: FISSILE, DARK GREY, 30% SILTSTONE: GREY, WEAK ROCK.
69.77 -	69.92	100	100% SILTSTONE: CARBONACEOUS LENSES, GREY, MODERATELY WEAK ROCK.
69.92 -	70.16	100	100% MUDSTONE: SILTSTONE LENSES, GREY-BROWN, WEAK ROCK.
70.16 -	70.41	100	100% MUDSTONE: COALY LENSES, BROWN, WEAK ROCK,WITH MUD PELLETS.
70.41 -	70.45	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, WEAK ROCK,WITH MUD PELLETS.
70.45 -	70.52	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
70.52 -	70.63	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
70.63 -	70.76	100	100% MUDSTONE: FISSILE, LIGHT BROWN, MODERATELY WEAK ROCK.
70.76 -	70.92	100	100% CLAYSTONE: FISSILE, LIGHT BROWN, WEAK ROCK.
70.92 -	70.94	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
70.94 -	70.95	100	100% CLAYSTONE: FISSILE, LIGHT BROWN, WEAK ROCK.
70.95 -	71.00	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
71.00 -	71.03	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.

BOREHOLE LITHOLOGICAL LOG

182631

LEASE : GRAY
BOREHOLE : GY 18

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
71.03 -	71.11	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY STRONG ROCK.
71.11 -	71.27	100	100% MUDSTONE: COALY LENSES, DARK BROWN, MODERATELY STRONG ROCK.
71.27 -	71.30	100	100% MUDSTONE: FISSILE, LIGHT GREY, WEAK ROCK.
71.30 -	71.37	100	100% MUDSTONE: DARK BROWN, MODERATELY STRONG ROCK.
71.37 -	71.53	100	100% MUDSTONE: DARK BROWN, MODERATELY WEAK ROCK.
71.53 -	71.57	100	100% CLAYSTONE: FISSILE, GREY, WEAK ROCK.
71.57 -	71.71	100	100% MUDSTONE: SILTSTONE, BROWN, MODERATELY WEAK ROCK.
71.71 -	71.82	100	100% CLAYSTONE: FISSILE, LIGHT GREEN, VERY WEAK ROCK.
71.82 -	71.94	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY STRONG ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 75 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
71.94 -	72.01	100	100% MUDSTONE: COALY LENSES, BROWN, MODERATELY WEAK ROCK.
72.01 -	72.40	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK.
72.40 -	72.91	100	100% SILTSTONE: DARK GREY, MODERATELY WEAK ROCK.
72.91 -	74.92	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,WIDE JOINT SPACING, JOINTS DIP 55 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
74.92 -	75.85	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
75.85 -	76.02	100	100% PEBBLE CONGLOMERATE: LIGHT GREY, MODERATELY WEAK ROCK.
76.02 -	76.13	100	100% MUDSTONE: CARBONACEOUS BANDS, BROWN - BLACK, WEAK ROCK.
76.13 -	76.23	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182632

LEASE : GRAY
BOREHOLE : GY 18

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
76.23 -	77.26	100	100% SANDSTONE, FINE GRAINED: SILTSTONE LAMINAE, LIGHT BROWN, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
77.26 -	77.56	100	100% MUDSTONE: SILTSTONE, LIGHT BROWN, MODERATELY WEAK ROCK.
77.56 -	78.32	100	100% SANDSTONE, FINE GRAINED: SILTSTONE BANDS, GREY, MODERATELY WEAK ROCK,THIN BEDDING,MODERATELY WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
78.32 -	78.58	100	100% SILTSTONE: COALY STREAKS, GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
78.58 -	79.00	100	100% SILTSTONE: DARK GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
79.00 -	79.22	100	100% MUDSTONE: SILTSTONE, CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 80 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
79.22 -	79.25	100	100% CLAYSTONE: CALCITIC, LIGHT GREEN, WEAK ROCK.
79.25 -	80.08	100	100% SILTSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 85 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
80.08 -	80.17	100	100% MUDSTONE: CARBONACEOUS, SILTSTONE, DARK GREY, MODERATELY WEAK ROCK.
80.17 -	80.60	100	100% SILTSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
80.60 -	80.64	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS BANDS, LIGHT GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182633

LEASE : GRAY
BOREHOLE : GY 18

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
80.64 -	80.91	100	100% SILTSTONE: CARBONACEOUS LENSES, DARK GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 80 DEG, ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
80.91 -	81.00	100	100% MUDSTONE: FISSILE, BADLY BROKEN, DARK GREY, VERY WEAK ROCK.
81.00 -	81.10	100	100% MUDSTONE: ARENACEOUS LENSES, DARK GREY, MODERATELY WEAK ROCK.
81.10 -	81.24	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS BANDS, LIGHT GREY, MODERATELY WEAK ROCK.
81.24 -	81.52	100	100% SILTSTONE: CARBONACEOUS, ARENACEOUS, DARK GREY, MODERATELY WEAK ROCK.
81.52 -	81.74	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING, JOINTS DIP 90 DEG, ,TIGHT PLANAR,ROUGH DISCONTINUITIES ,INFILLED WITH CALCITE.
81.74 -	82.24	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LENSES, LIGHT GREY, MODERATELY WEAK ROCK,WITH FLAME/PULL-OVER STRUCTS AND LOAD CASTS.
82.24 -	82.44	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
82.44 -	82.76	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
82.76 -	82.81	100	100% MUDSTONE: FISSILE, LIGHT BROWN, VERY WEAK ROCK.
82.81 -	82.85	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY WEAK ROCK.
82.85 -	82.90	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
82.90 -	83.00	100	100% MUDSTONE: FISSILE, BADLY BROKEN, GREY-BROWN, VERY WEAK ROCK.
83.00 -	83.83	100	100% SILTSTONE: GREY-GREEN, MODERATELY WEAK ROCK,LAMINATED,WIDE JOINT SPACING, JOINTS DIP 80 DEG, ,TIGHT PLANAR,ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182634

LEASE : GRAY
BOREHOLE : GY 18

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
83.83 -	84.03	100	100% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK,MODERATELY CLOSE JOINT SPACING. JOINTS DIP 30 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
84.03 -	84.67	100	100% MUDSTONE: FISSILE BANDS. GREY. MODERATELY WEAK ROCK.
84.67 -	85.40	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK,WIDE JOINT SPACING. JOINTS DIP 75 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES.
85.40 -	85.59	100	100% SILTSTONE: ARENACEOUS LENSES. GREY. MODERATELY WEAK ROCK,THIN BEDDING.
85.59 -	85.75	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK,VERY THIN BEDDING,WIDE JOINT SPACING. JOINTS DIP 50 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
85.75 -	85.92	100	100% MUDSTONE: GREY. WEAK ROCK,LAMINATED.
85.92 -	85.93	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
85.93 -	85.95	100	100% SANDSTONE. FINE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.
85.95 -	86.00	100	100% COAL. HEAVY DULL:.
86.00 -	86.14	100	100% MUDSTONE: CARBONACEOUS LENSES. BROWN. MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING. JOINTS DIP 20 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
86.14 -	86.27	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.
86.27 -	86.29	100	100% CLAYSTONE: FISSILE. LIGHT GREEN. SOFT.
86.29 -	86.34	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY WEAK ROCK.
86.34 -	86.39	100	100% MUDSTONE: FISSILE. ARENACEOUS. GREY-BROWN. WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182635

LEASE : GRAY
BOREHOLE : GY 18

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
86.39 -	86.41	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
86.41 -	86.45	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
86.45 -	86.50	100	100% COAL, HEAVY DULL:.
86.50 -	86.53	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS,WITH MUD PELLETS.
86.53 -	86.56	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
86.56 -	86.64	100	100% COAL, HEAVY DULL:.
86.64 -	86.68	100	100% COAL, INTERBANDED DULL AND BRIGHT:.
86.68 -	86.73	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
86.73 -	86.87	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
86.87 -	87.09	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
87.09 -	87.24	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
87.24 -	87.27	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
87.27 -	87.32	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
87.32 -	87.43	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
87.43 -	87.49	100	100% COAL, HEAVY DULL:.
87.49 -	87.51	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
87.51 -	87.52	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
87.52 -	87.54	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY STRONG ROCK.
87.54 -	87.58	100	100% COAL, HEAVY DULL: BRIGHT COAL BANDS.
87.58 -	87.62	100	100% COAL, HEAVY DULL:.
87.62 -	87.64	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
87.64 -	87.70	100	100% COAL, BRIGHT: BADLY BROKEN.
87.70 -	87.72	100	100% COAL, HEAVY DULL:.
87.72 -	87.75	100	100% COAL, INTERBANDED DULL AND BRIGHT:.
87.75 -	87.81	100	100% COAL, HEAVY DULL:.

BOREHOLE LITHOLOGICAL LOG

182636

LEASE : GRAY
BOREHOLE : GY 18

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
87.81 -	87.82	100	100% MUDSTONE: BROWN. MODERATELY WEAK ROCK.
87.82 -	87.84	100	100% COAL. HEAVY DULL:.
87.84 -	87.91	100	100% COAL. DULL WITH NUMEROUS BRIGHT BANDS:.
87.91 -	87.94	100	100% COAL. BRIGHT WITH NUMEROUS DULL BANDS:.
87.94 -	87.95	100	100% COAL. HEAVY DULL:.
87.95 -	87.96	100	100% COAL. INTERBANDED DULL AND BRIGHT:.
87.96 -	88.02	100	100% COAL. HEAVY DULL: BRIGHT COAL STREAKS.
88.02 -	88.03	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN.
88.03 -	88.14	100	100% COAL. HEAVY DULL: BRIGHT COAL BANDS.
88.14 -	88.16	100	100% COAL. DULL:.
88.16 -	88.18	100	100% MUDSTONE: BROWN. MODERATELY WEAK ROCK.
88.18 -	88.22	100	100% COAL. HEAVY DULL:.
88.22 -	88.24	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
88.24 -	88.31	100	100% COAL. INTERBANDED DULL AND BRIGHT:.
88.31 -	88.32	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. VERY WEAK ROCK.
88.32 -	88.34	100	100% COAL. DULL WITH NUMEROUS BRIGHT BANDS:.
88.34 -	88.38	100	100% COAL. HEAVY DULL:.
88.38 -	88.41	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
88.41 -	88.48	100	100% MUDSTONE: COALY STREAKS. BROWN. MODERATELY WEAK ROCK.
88.48 -	88.55	100	100% COAL. HEAVY DULL:.
88.55 -	88.61	100	100% MUDSTONE: GREY. WEAK ROCK,MODERATELY CLOSE JOINT SPACING. JOINTS DIP 50 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
88.61 -	88.63	100	100% COAL. BRIGHT:.
88.63 -	88.89	100	100% MUDSTONE: COALY LENSES. DARK BROWN. MODERATELY WEAK ROCK,MODERATELY CLOSE JOINT SPACING. JOINTS DIP 40 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
38.89 -	88.98	100	100% CLAYSTONE: FISSILE. LIGHT GREEN. VERY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182637

LEASE : GRAY
BOREHOLE : GY 18

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
88.98 -	89.10	100	100% COAL. HEAVY DULL:.
89.10 -	89.16	100	100% MUDSTONE: BROWN. MODERATELY WEAK ROCK.
89.16 -	89.25	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
89.25 -	89.29	100	100% MUDSTONE: BROWN. MODERATELY WEAK ROCK.
89.29 -	89.38	100	100% MUDSTONE: SILTSTONE. DARK GREY. MODERATELY WEAK ROCK.
89.38 -	89.40	100	100% MUDSTONE: BROWN. MODERATELY WEAK ROCK.
89.40 -	89.45	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
89.45 -	89.47	100	100% MUDSTONE: BROWN. MODERATELY WEAK ROCK.
89.47 -	89.53	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
89.53 -	89.67	100	100% MUDSTONE: SILTSTONE. BROWN. MODERATELY WEAK ROCK.
89.67 -	89.77	100	100% CLAYSTONE: FISSILE. LIGHT BROWN. VERY WEAK ROCK.
89.77 -	89.78	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
89.78 -	89.80	100	100% COAL. HEAVY DULL: BRIGHT COAL BANDS.
89.80 -	89.81	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
89.81 -	89.82	100	100% MUDSTONE: BROWN. MODERATELY WEAK ROCK.
89.82 -	89.83	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
89.83 -	89.85	100	100% MUDSTONE: FISSILE. LIGHT BROWN. MODERATELY WEAK ROCK.
89.85 -	89.88	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
89.88 -	89.95	100	100% COAL. HEAVY DULL:.
89.95 -	90.00	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182638

LEASE : GRAY
BOREHOLE : GY 18

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
90.00 -	90.03	100	100% COAL. DULL:.
90.03 -	90.04	100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY STRONG ROCK.
90.04 -	90.08	100	100% COAL. DULL WITH NUMEROUS BRIGHT BANDS:.
90.08 -	90.11	100	100% MUDSTONE: CARBONACEOUS. DARK BROWN. MODERATELY STRONG ROCK.
90.11 -	90.47	100	100% SILTSTONE: LIGHT GREY. MODERATELY WEAK ROCK.WIDE JOINT SPACING. JOINTS DIP 45 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
90.47 -	90.49	100	100% SILTSTONE: CALCITIC. CREAM. MODERATELY WEAK ROCK.
90.49 -	91.75	100	100% SILTSTONE: ARENACEOUS BANDS. GREY-GREEN. MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.VERY WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES.
91.75 -	93.58	100	100% SANDSTONE. FINE GRAINED: SILTSTONE. GREY-GREEN. MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.
93.58 -	93.74	100	100% CLAYSTONE: LIGHT GREEN. MODERATELY WEAK ROCK.CLOSE JOINT SPACING .TIGHT NON-PLANAR DISCONTINUITIES.
93.74 -	93.77	100	100% CLAYSTONE: FISSILE. LIGHT GREEN. VERY WEAK ROCK.
93.77 -	95.68	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.LAMINATED.VERY WIDE JOINT SPACING. JOINTS DIP 60 DEG. .TIGHT PLANAR.ROUGH DISCONTINUITIES WITH SLICKENSIDES.
95.68 -	95.89	100	100% MUDSTONE: BRIGHT COAL LENSES. BROWN.
95.89 -	96.00	100	100% SILTSTONE: BROWN. MODERATELY WEAK ROCK.
96.00 -	99.59	100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS BANDS. LIGHT GREY. MODERATELY WEAK ROCK.THIN BEDDING.WITH CROSS LAMINATION.

BOREHOLE LITHOLOGICAL LOG

182639

LEASE : GRAY
BOREHOLE : GY 18

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
99.59 -	99.66	100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS BANDS. LIGHT GREY. MODERATELY WEAK ROCK.MODERATELY THIN BEDDING.
99.66 -	101.97	100	100% SANDSTONE: MED.TO FINE GRAINED. LIGHT GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.WITH CARBONACEOUS WHISPS AND CROSS LAMINATION.
101.97 -	101.99	100	100% SANDSTONE. FINE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.
101.99 -	102.06	100	100% SANDSTONE. FINE GRAINED: CARBONACEOUS LAMINAE. LIGHT GREY. MODERATELY WEAK ROCK.WITH CROSS LAMINATION.
102.06 -	102.23	100	100% SANDSTONE. FINE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.WITH CARBONACEOUS WHISPS.
102.23 -	102.26	100	100% MUDSTONE: SANDSTONE LAMINAE. DARK GREY. MODERATELY WEAK ROCK.LAMINATED.
102.26 -	102.90	100	100% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS LAMINAE. LIGHT GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
102.90 -	104.00	100	60% SANDSTONE. FINE GRAINED: CARBONACEOUS LAMINAE. LIGHT GREY. 40% SANDSTONE. MEDIUM GRAINED: CARBONACEOUS STREAKS. LIGHT GREY. MODERATELY WEAK ROCK.MODERATELY THIN BEDDING.
104.00 -	104.16	100	100% SILTSTONE: GREY. MODERATELY WEAK ROCK.
104.16 -	105.64	100	100% SANDSTONE. MEDIUM GRAINED: COALY LENSES. LIGHT GREY. MODERATELY WEAK ROCK.WITH MUD PELLETS.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 80 DEG. .OPEN PLANAR.ROUGH DISCONTINUITIES.
105.64 -	105.68	100	100% SANDSTONE. FINE GRAINED: LIGHT GREY. MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS AND CROSS LAMINATION.MODERATELY CLOSE JOINT SPACING. JOINTS DIP 80 DEG. .OPEN PLANAR.ROUGH DISCONTINUITIES.

BOREHOLE LITHOLOGICAL LOG

182640

LEASE : GRAY
BOREHOLE : GY 18

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
105.68	105.87	100	100% SANDSTONE, FINE GRAINED: MUDSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS AND MUD PELLETS,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 80 DEG. ,OPEN PLANAR,ROUGH DISCONTINUITIES.
105.87	106.05	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
106.05	106.07	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
106.07	106.12	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK,WITH MUD PELLETS.
106.12	106.14	100	100% MUDSTONE: BROWN, WEAK ROCK.
106.14	106.20	100	100% CLAYSTONE: GREY-GREEN, STIFF.
106.20	106.31	100	100% COAL, DULL:.
106.31	106.34	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
106.34	106.92	100	100% MUDSTONE: MICACEOUS, LIGHT BROWN, MODERATELY WEAK ROCK.
106.92	108.88	100	100% CLAYSTONE: SILTSTONE BANDS, LIGHT BROWN, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
108.88	108.93	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
108.93	108.96	100	100% COAL, BRIGHT WITH FEW DULL BANDS: WITH CALCITE ON CLEAT.
108.96	108.98	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
108.98	109.50	100	60% MUDSTONE: CARBONACEOUS, GREY-BROWN, 40% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH LOAD CASTS.
109.50	109.90	100	100% SANDSTONE: VERY FINE GRAINED, GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING ,TRANSITIONAL BASAL CONTACT.

BOREHOLE LITHOLOGICAL LOG

182641

LEASE : GRAY
BOREHOLE : GY 18

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
109.90	110.91	100	100% MUDSTONE: CARBONACEOUS BANDS, GREY, MODERATELY WEAK ROCK.
110.91	111.31	100	100% MUDSTONE: CARBONACEOUS, MICACEOUS, DARK GREY, MODERATELY WEAK ROCK.
111.31	111.43	100	100% MUDSTONE: SILTSTONE, MICACEOUS, LIGHT BROWN, MODERATELY WEAK ROCK.
111.43	111.46	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
111.46	111.81	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
111.81	112.15	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
112.15	112.18	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
112.18	112.26	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
112.26	112.54	100	100% MUDSTONE: SILTSTONE, LIGHT BROWN, MODERATELY WEAK ROCK.
112.54	112.75	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
112.75	112.77	100	100% COAL, INTERBANDED DULL AND BRIGHT:.
112.77	112.78	100	100% MUDSTONE: CARBONACEOUS TRACES, LIGHT BROWN, MODERATELY WEAK ROCK.
112.78	112.81	100	100% COAL, INTERBANDED DULL AND BRIGHT:.
112.81	113.00	100	100% MUDSTONE: SILTSTONE, MICACEOUS, LIGHT BROWN, MODERATELY WEAK ROCK.
113.00	113.13	100	100% COAL, HEAVY DULL:.
113.13	113.16	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
113.16	113.31	100	100% COAL, HEAVY DULL:.
113.31	113.32	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.

BOREHOLE LITHOLOGICAL LOG

182642

LEASE : GRAY
BOREHOLE : GY 18

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
113.32	113.40	100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
113.40	113.52	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
113.52	113.57	100	100% MUDSTONE: SILTSTONE, LIGHT BROWN, MODERATELY WEAK ROCK.
113.57	113.63	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
113.63	113.65	100	100% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK.
113.65	113.74	100	100% COAL, HEAVY DULL:.
113.74	113.84	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
113.84	113.86	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
113.86	113.92	100	100% MUDSTONE: CARBONACEOUS LENSES, BROWN, MODERATELY WEAK ROCK.
113.92	114.05	100	100% COAL, HEAVY DULL: BRIGHT COAL STREAKS.
114.05	114.07	100	100% MUDSTONE: SILTSTONE, GREY-BROWN, MODERATELY WEAK ROCK.
114.07	114.08	100	100% COAL, HEAVY DULL:.
114.08	114.12	100	100% MUDSTONE: LIGHT BROWN, WEAK ROCK.
114.12	114.15	100	100% COAL, HEAVY DULL:.
114.15	114.20	100	100% MUDSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.
114.20	114.23	100	100% COAL, HEAVY DULL: BRIGHT COAL LENSES.
114.23	114.24	100	100% PYRITE:.
114.24	114.41	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS: WITH CALCITE ON CLEAT.
114.41	114.44	100	100% COAL, HEAVY DULL:.
114.44	114.57	100	100% COAL, DULL WITH NUMEROUS BRIGHT BANDS:.
114.57	114.64	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
114.64	114.69	100	100% MUDSTONE: CARBONACEOUS STREAKS, BROWN, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182643

LEASE : GRAY
BOREHOLE : GY 18

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
114.69	114.81	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
114.81	114.82	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
114.82	114.89	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,MODERATELY CLOSE JOINT SPACING, JOINTS DIP 45 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
114.89	115.30	100	100% SANDSTONE, FINE GRAINED: MUDSTONE BANDS, GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
115.30	115.56	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
115.56	115.82	100	100% MUDSTONE: DARK GREY, MODERATELY WEAK ROCK.
115.82	116.96	100	100% CLAYSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.
116.96	117.16	100	100% CLAYSTONE: LIGHT BROWN, VERY WEAK ROCK.
117.16	117.34	100	100% CLAYSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.
117.34	119.60	100	100% MUDSTONE: CARBONACEOUS BANDS, GREY, MODERATELY WEAK ROCK,WIDE JOINT SPACING, JOINTS DIP 60 DEG. ,TIGHT PLANAR,ROUGH DISCONTINUITIES WITH SLICKENSIDES.
119.60	122.14	100	70% SANDSTONE: VERY FINE GRAINED, GREY, 30% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH CROSS LAMINATION.
122.14	127.32	100	100% SANDSTONE, MEDIUM GRAINED: LITHIC, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
127.32	127.96	100	100% SANDSTONE, MEDIUM GRAINED: COALY LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
127.96	128.16	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
128.16	128.28	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
128.28	128.36	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS,LAMINATED.
128.36	129.73	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.

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BOREHOLE LITHOLOGICAL LOG

182644

LEASE : GRAY
BOREHOLE : GY 18

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
129.73	129.91	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
129.91	130.31	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
130.31	130.37	100	100% SILTSTONE: SANDSTONE LAMINAE, GREY, MODERATELY WEAK ROCK,WITH CROSS LAMINATION.
130.37	137.20	100	100% SANDSTONE, MEDIUM GRAINED: SILTSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
137.20	137.66	100	100% SILTSTONE: CARBONACEOUS LAMINAE, GREY, MODERATELY WEAK ROCK,LAMINATED.
137.66	137.77	100	100% MUDSTONE: LIGHT BROWN, WEAK ROCK.
137.77	137.83	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
137.83	137.96	100	100% MUDSTONE: CARBONACEOUS BANDS, LIGHT BROWN, WEAK ROCK.
137.96	138.20	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
138.20	138.74	100	100% MUDSTONE: LIGHT BROWN, VERY WEAK ROCK.
138.74	138.77	100	100% MUDSTONE: BROWN - BLACK, MODERATELY STRONG ROCK.
138.77	138.83	100	100% MUDSTONE: CARBONACEOUS LENSES, LIGHT BROWN, MODERATELY WEAK ROCK.
138.83	139.22	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
139.22	139.35	100	100% MUDSTONE: LIGHT BROWN, STIFF.
139.35	139.51	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
139.51	139.65	100	100% MUDSTONE: CARBONACEOUS BANDS, BROWN, MODERATELY WEAK ROCK.
139.65	139.68	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182645

LEASE : GRAY
BOREHOLE : GY 18

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
139.68	139.77	100	100% COAL, HEAVY DULL:.
139.77	139.95	100	100% MUDSTONE: CARBONACEOUS BANDS, BROWN, MODERATELY WEAK ROCK.
139.95	140.40	100	100% CLAYSTONE: CREAM, STIFF, ,VERY STICKY.
140.40	140.64	100	100% MUDSTONE: CARBONACEOUS, BLACK, MODERATELY STRONG ROCK.
140.64	141.09	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
141.09	141.18	100	100% MUDSTONE: BROWN, MODERATELY WEAK ROCK.
141.18	141.24	100	100% COAL, HEAVY DULL:.
141.24	143.30	100	70% MUDSTONE: CARBONACEOUS, BROWN - BLACK, 30% MUDSTONE: LIGHT BROWN, MODERATELY WEAK ROCK,MODERATELY THIN BEDDING.
143.30	143.47	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
143.47	143.72	100	60% MUDSTONE: CARBONACEOUS, BROWN - BLACK, 40% MUDSTONE: BROWN, WEAK ROCK,MODERATELY THIN BEDDING.
143.72	143.92	100	100% COAL, HEAVY DULL: DULL COAL BANDS.
143.92	143.97	100	100% MUDSTONE: CARBONACEOUS, SIDERITIC, DARK BROWN, MODERATELY STRONG ROCK.
143.97	143.98	100	100% COAL, HEAVY DULL:.
143.98	144.02	100	100% MUDSTONE: LIGHT BROWN, WEAK ROCK.
144.02	144.26	100	100% COAL, HEAVY DULL: BRIGHT COAL BANDS.
144.26	144.27	100	100% MUDSTONE: LIGHT BROWN, WEAK ROCK.
144.27	144.35	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY STRONG ROCK.
144.35	144.46	100	100% MUDSTONE: GREY-BROWN, MODERATELY WEAK ROCK.
144.46	144.48	100	100% MUDSTONE: LIGHT BROWN, WEAK ROCK.
144.48	144.51	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
144.51	144.60	100	100% COAL, HEAVY DULL:.
144.60	144.66	100	50% MUDSTONE: CARBONACEOUS, GREY-BROWN, 50% COAL, BRIGHT:, MODERATELY WEAK ROCK,VERY THIN BEDDING.

BOREHOLE LITHOLOGICAL LOG

182646

LEASE : GRAY
BOREHOLE : GY 18

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
144.66	144.97	100	100% MUDSTONE: CARBONACEOUS LAMINAE, GREY, MODERATELY WEAK ROCK.
144.97	145.86	100	50% SILTSTONE: GREY, 50% SANDSTONE, FINE GRAINED: GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
145.86	146.93	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK,LAMINATED.
146.93	147.06	100	100% MUDSTONE: FISSILE, GREY, STIFF.
147.06	147.40	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK.
147.40	147.74	100	50% SANDSTONE, FINE GRAINED: LIGHT GREY, 50% SILTSTONE: GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING.
147.74	148.54	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
148.54	148.56	100	100% LIMESTONE: CREAM, MODERATELY WEAK ROCK.
148.56	149.00	100	100% SILTSTONE: GREY, MODERATELY WEAK ROCK.
149.00	149.08	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
149.08	149.31	100	100% COAL, DULL:.
149.31	149.41	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, MODERATELY WEAK ROCK.
149.41	149.49	100	100% SANDSTONE, FINE GRAINED: GREY-BROWN, MODERATELY WEAK ROCK.
149.49	149.83	100	100% SANDSTONE, FINE GRAINED: MUDSTONE BANDS, GREY, MODERATELY WEAK ROCK,WITH LOAD CASTS.
149.83	152.00	100	100% SANDSTONE, FINE GRAINED: MUDSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING ,TRANSITIONAL BASAL CONTACT,WITH CARBONACEOUS WHISPS AND CROSS LAMINATION.
152.00	155.21	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH CARBONACEOUS WHISPS.
155.21	155.30	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LENSES, LIGHT BROWN, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182647

LEASE : GRAY
BOREHOLE : GY 18

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
155.30	155.98	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
155.98	156.16	100	50% MUDSTONE: SILTSTONE, BROWN, 50% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK,VERY THIN BEDDING.
156.16	156.68	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
156.68	157.01	100	70% MUDSTONE: SILTSTONE, BROWN, 30% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK,VERY THIN BEDDING.
157.01	161.01	100	80% MUDSTONE: CARBONACEOUS, BROWN - BLACK, 20% CLAYSTONE: LIGHT BROWN, MODERATELY WEAK ROCK.
161.01	161.34	100	100% MUDSTONE: CARBONACEOUS, BROWN - BLACK, MODERATELY WEAK ROCK.
161.34	161.64	100	100% SANDSTONE, FINE GRAINED: CARBONACEOUS LAMINAE, LIGHT GREY, MODERATELY WEAK ROCK.
161.64	162.17	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK.
162.17	162.36	100	100% MUDSTONE: SANDSTONE LENSES, GREY-BROWN, MODERATELY WEAK ROCK.
162.36	162.67	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING ,DEFORMED BASAL CONTACT.
162.67	162.77	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
162.77	163.93	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
163.93	164.21	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.
164.21	164.79	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
164.79	164.98	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.

BOREHOLE LITHOLOGICAL LOG

182648

LEASE : GRAY
BOREHOLE : GY 18

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
164.98	165.38	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
165.38	165.67	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
165.67	165.79	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
165.79	166.28	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
166.28	167.00	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
167.00	171.40	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS TRACES, LIGHT GREY, MODERATELY WEAK ROCK.
171.40	171.76	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK,WITH CARBONACEOUS WHISPS.
171.76	171.92	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
171.92	172.00	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH CARBONACEOUS WHISPS.
172.00	172.71	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
172.71	175.31	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
175.31	175.56	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH CARBONACEOUS WHISPS.
175.56	175.88	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
175.88	176.41	100	100% SANDSTONE: LIGHT GREY, MODERATELY WEAK ROCK.
176.41	179.17	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182649

LEASE : GRAY
BOREHOLE : GY 18

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
179.17	179.40	100	100% MUDSTONE: CARBONACEOUS LENSES, GREY, MODERATELY WEAK ROCK,MODERATELY WIDE JOINT SPACING ,TIGHT NON-PLANAR DISCONTINUITIES WITH SLICKENSIDES.
179.40	184.99	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS TRACES, LIGHT GREY, MODERATELY WEAK ROCK.
184.99	185.05	100	100% SANDSTONE: MED.TO FINE GRAINED, BROWN, MODERATELY WEAK ROCK.
185.05	188.59	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
188.59	188.69	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
188.69	190.21	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
190.21	190.59	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
190.59	191.36	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS LENSES, LIGHT GREY, MODERATELY WEAK ROCK.
191.36	192.36	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
192.36	192.70	100	100% SANDSTONE, MEDIUM GRAINED: CALCAREOUS, CREAM, MODERATELY WEAK ROCK.
192.70	194.27	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
194.27	194.48	100	100% SANDSTONE, MEDIUM GRAINED: CALCAREOUS, CREAM, MODERATELY WEAK ROCK.
194.48	195.87	100	100% SANDSTONE, MEDIUM GRAINED: CALCAREOUS BANDS, LIGHT GREY, MODERATELY WEAK ROCK.
195.87	196.83	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
196.83	197.01	100	100% SANDSTONE, MEDIUM GRAINED: CALCAREOUS, CREAM, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182650

LEASE : GRAY
BOREHOLE : GY 18

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
197.01	197.83	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
197.83	199.55	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.
199.55	205.32	100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
205.32	206.12	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
206.12	206.20	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK.
206.20	206.52	100	100% SANDSTONE, MEDIUM GRAINED: CONGLOMERATIC, LIGHT GREY, MODERATELY WEAK ROCK.
206.52	207.59	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
207.59	209.11	100	100% SANDSTONE, FINE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK,VERY THIN BEDDING,WITH CARBONACEOUS WHISPS.
209.11	210.54	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
210.54	212.69	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
212.69	213.90	100	100% SANDSTONE, MEDIUM GRAINED: COALY TRACES, LIGHT GREY, MODERATELY WEAK ROCK.
213.90	214.89	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
214.89	215.75	100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
215.75	216.09	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
216.09	216.69	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
216.69	217.85	100	100% SANDSTONE: LIGHT GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182651

LEASE : GRAY
BOREHOLE : GY 18

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
217.85 - 218.13		80	100% MUDSTONE: SILTSTONE. GREY. MODERATELY WEAK ROCK.
218.13 - 218.24		100	100% MUDSTONE: BRIGHT COAL LENSES. GREY-BROWN. MODERATELY WEAK ROCK.
218.24 - 218.26		100	100% MUDSTONE: CARBONACEOUS. BROWN - BLACK. MODERATELY WEAK ROCK.
218.26 - 218.29		100	100% MUDSTONE: BROWN. FIRM. .MODERATELY STICKY.
SAMPLE:1			*** CORE DESCRIPTION ***
218.29			
	0.18	100	100% COAL. DULL:.
	0.38	100	100% COAL. DULL WITH FEW BRIGHT BANDS:.
	0.29	100	100% COAL. DULL WITH NUMEROUS BRIGHT BANDS:.
219.14	0.85		TOTAL
			*** CORE DESCRIPTION ***
219.14 - 219.15		100	100% CARBONACEOUS SHALE: BRIGHT COAL STREAKS.
219.15 - 219.49		100	100% MUDSTONE: CARBONACEOUS. DARK GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING .TRANSITIONAL BASAL CONTACT.
219.49 - 219.68		100	100% MUDSTONE: GREY. MODERATELY WEAK ROCK.VERY THIN BEDDING.
219.68 - 219.74		100	100% MUDSTONE: GREY. SOFT.
219.74 - 221.29		100	100% MUDSTONE: CARBONACEOUS LAMINAE. GREY. MODERATELY WEAK ROCK.LAMINATED.
SAMPLE:2			*** CORE DESCRIPTION ***
221.29			
	0.92	100	100% COAL. DULL WITH FEW BRIGHT BANDS: CARBONACEOUS LAMINAE.
	0.72	50	100% COAL. DULL WITH FEW BRIGHT BANDS: BADLY BROKEN.

BOREHOLE LITHOLOGICAL LOG

182652

LEASE : GRAY
BOREHOLE : GY 18

TOP	BASE	%REC	LITHOLOGY
SAMPLE:2			*** CORE DESCRIPTION ***
222.93	1.64		TOTAL
			*** CORE DESCRIPTION ***
222.93 - 222.94		100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
222.94 - 224.00		50	100% SANDSTONE, MEDIUM GRAINED: BADLY BROKEN, LIGHT GREY, MODERATELY WEAK ROCK.
224.00 - 227.55		100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS TRACES, LIGHT GREY, MODERATELY WEAK ROCK.
227.55 - 227.60		100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK.
227.60 - 228.06		100	100% SANDSTONE: MED.-COARSE GRAINED, CONGLOMERATIC, LIGHT GREY, MODERATELY WEAK ROCK.
228.06 - 229.64		100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
229.64 - 236.94		100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
236.94 - 237.17		100	100% SANDSTONE, COARSE GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
237.17 - 238.87		100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
238.87 - 239.10		100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
239.10 - 240.85		100	100% SANDSTONE: MED.-COARSE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
240.85 - 240.91		100	100% MUDSTONE: SANDSTONE LENSES, GREY, MODERATELY WEAK ROCK.
240.91 - 241.11		100	100% MUDSTONE: CARBONACEOUS, DARK GREY, MODERATELY WEAK ROCK.
241.11 - 241.39		100	100% MUDSTONE: CARBONACEOUS LENSES, GREY, MODERATELY WEAK ROCK.

BOREHOLE LITHOLOGICAL LOG

182653

LEASE : GRAY
BOREHOLE : GY 18

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
241.39	244.67	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS TRACES, LIGHT GREY, MODERATELY WEAK ROCK.
244.67	247.77	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
247.77	256.48	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS TRACES, LIGHT GREY, MODERATELY WEAK ROCK.
256.48	262.01	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
262.01	262.37	100	100% SANDSTONE, MEDIUM GRAINED: CALCAREOUS, CREAM, WITH BANDS OF CALCITE, MODERATELY WEAK ROCK.WITH CARBONACEOUS WHISPS.
262.37	263.18	100	100% SANDSTONE, MEDIUM GRAINED: LIGHT GREY, MODERATELY WEAK ROCK.
263.18	264.28	100	100% SANDSTONE: MED.TO FINE GRAINED, LIGHT GREY, MODERATELY WEAK ROCK.
264.28	265.45	100	100% SANDSTONE, MEDIUM GRAINED: CALCAREOUS, LIGHT GREY, MODERATELY WEAK ROCK.
265.45	265.47	100	100% MUDSTONE: GREY, MODERATELY WEAK ROCK.
265.47	265.76	100	100% SANDSTONE, MEDIUM GRAINED: GREY-GREEN, MODERATELY WEAK ROCK.
265.76	265.79	100	100% MUDSTONE: CARBONACEOUS, DARK BROWN, WEAK ROCK.
265.79	265.90	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS LENSES, GREY-GREEN, MODERATELY WEAK ROCK.WITH MUD PELLETS.
265.90	266.00	100	100% COAL, HEAVY DULL:.
266.00	269.11	100	100% SANDSTONE, MEDIUM GRAINED: CARBONACEOUS TRACES, LIGHT GREY, MODERATELY WEAK ROCK.
269.11	269.61	100	100% SANDSTONE, MEDIUM GRAINED: SILTSTONE BANDS, LIGHT GREY, MODERATELY WEAK ROCK.
269.61	269.91	100	100% MUDSTONE: SILTSTONE, GREY, MODERATELY WEAK ROCK.
269.91	270.11	100	100% MUDSTONE: SILTSTONE, CARBONACEOUS, DARK GREY, WEAK ROCK.

281

07 MAY 1979 THE SHELL COMPANY OF AUSTRALIA LTD.

BOREHOLE LITHOLOGICAL LOG

182654

LEASE : GRAY
BOREHOLE : GY 18

TOP	BASE	%REC	LITHOLOGY
			*** CORE DESCRIPTION ***
270.11	- 271.00	100	100% MUDSTONE: SILTSTONE BANDS. DARK GREY. MODERATELY WEAK ROCK.MODERATELY THIN BEDDING.WITH CROSS LAMINATION.

002 [illegible] 182655

BPB

BOREHOLE
CLIENT
AREA
COUNTY
DATE LOGGED
RUN No.
DEPTH DRILLER
DEPTH LOGGER
BTM LOG INTERVAL
CASING DRILLER
CASING LOGGER
BTM CASING
TYPE FLUID
DENSITY
LEVEL

SEAM THICKNESS LOG

BOREHOLE DATA
OPERATION DATA
EQUIPMENT AND RECORDING DATA
TYPE OF COMBINATION SONDE

	SERIAL No.	MAKE	MODEL	LENGTH
SONDE				
CABLE				
PCE SONDE AND CALIBRATION				
ELECTRONIC UNIT				

SEAM THICKNESS LOG INTERVALS

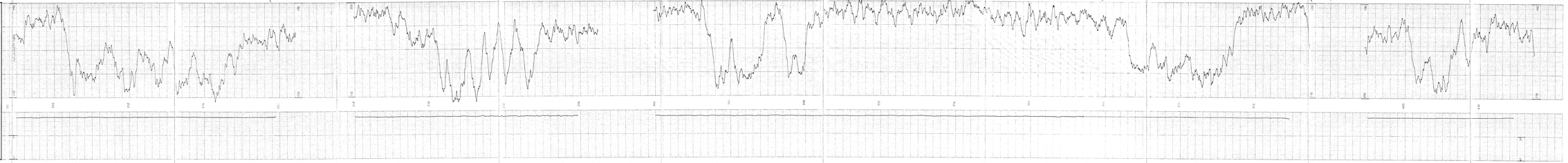
	FROM	TO	SCALE
GR			
SEAM THICKNESS			

REMARKS

SONDE TYPE CODE
COMBINATION SONDE

LOG SUITE
ALL PEX
D.R. DENSITY

B.P.B. SEAM THICKNESS LOG



CO 152656 79-1335

BPB

BOREHOLE
CLIENT
AREA
COUNTY
DATE LOGGED
BOREHOLE DATA WITH TO LITHOLOGY LOG
OPERATION DATA WITH TO LITHOLOGY LOG
EQUIPMENT AND RECORDING DATA
COAL DOWN-HOLE DATA
BOREHOLE POSITION

TYPE	DIAMETER	DEPTH	CASING		FLUID	
	FROM	TO	DIAM	FROM	TO	
CBH						
CBH-2						

SOURCE - CBH-1 AND CBH-2
REMARKS - CLOSURE 2M

COAL QUALITY LOG INTERVALS

Ash	
Vm	
Moisture	
CV	BTU/lb
	MJ/Kg

REMARKS

COAL QUALITY LOG

SONDE TYPE
COAL COMBINATION SONDE

CBG SUITE
GAMMA RAY
G. DENSITY

BPB COAL QUALITY LOG

GAMMA RAY (API)

DENSITY (GM/CC)

BP BP

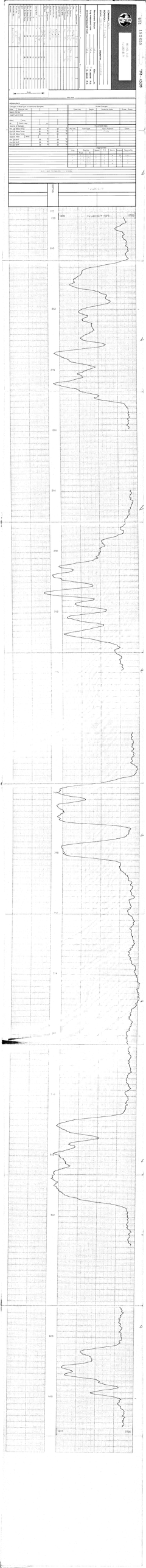
COAL LITHOLOGY LOG

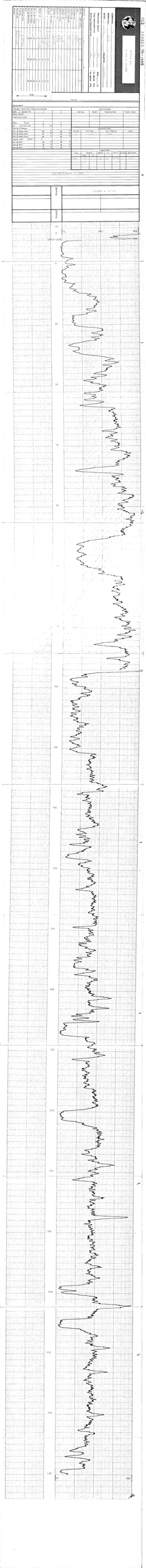
EQUIPMENT AND RECORDING DATA

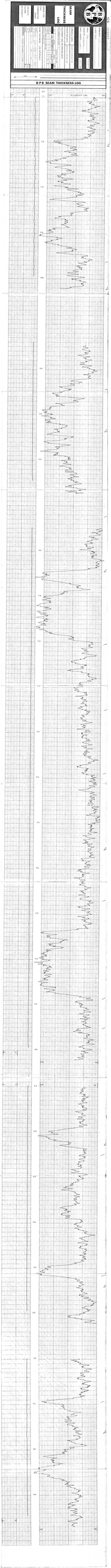
CALIBRATION DATA

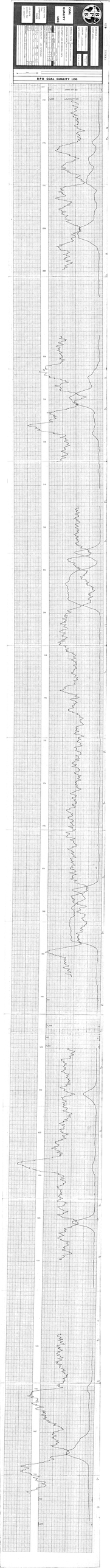
BPB COAL LITHOLOGY LOG

GAMMA RAY | BULK DENSITY






SEAM THICKNESS TOOL
B.P.B. SEAM THICKNESS LOG


COAL QUALITY LOG
BPS COAL QUALITY LOG

COAL LITHOLOGY LOG

BPB

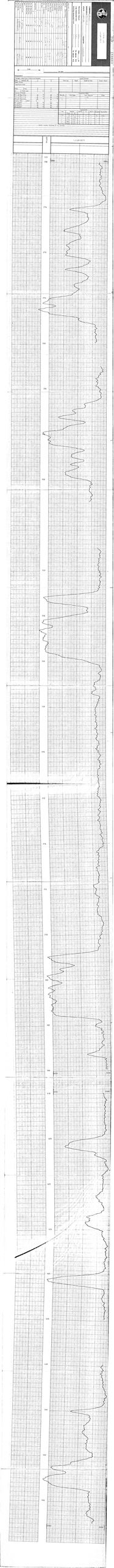
EQUIPMENT AND RECORDING DATA

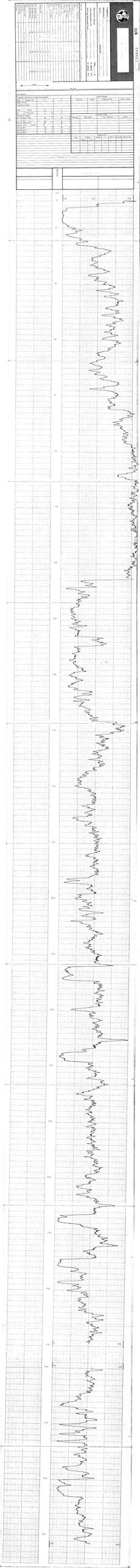
BPB COAL LITHOLOGY LOG

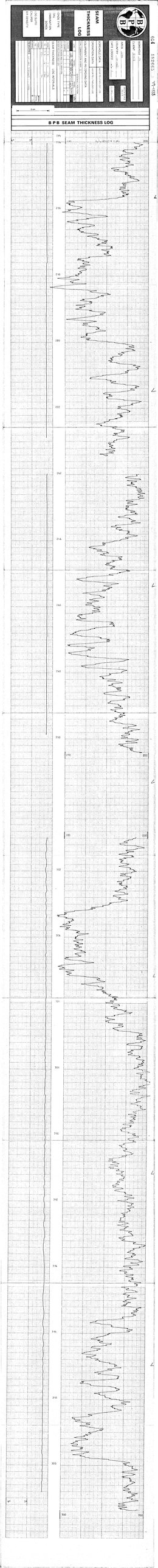
CALIBRATION DATA

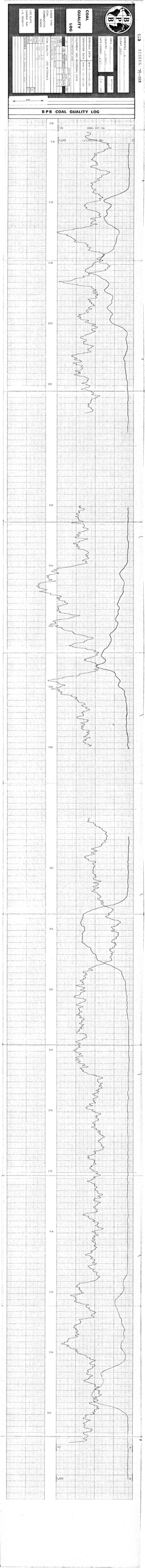
GAMMA RAY

BULK DENSITY






B P B
SEAM THICKNESS LOG
B P B SEAM THICKNESS LOG


BPB
COAL QUALITY LOG
BPB COAL QUALITY LOG

182667 011 79-1338

BPB

COAL LITHOLOGY LOG

BOREHOLE [illegible]Y4
CLIENT Shell

AREA [illegible]
COUNTRY [illegible]ralia
DATE LOGGED [illegible].1.79

DEPTH SCALE
20[illegible]:1

[illegible] OF [illegible] LOGS

BOREHOLE DATA

PERMANENT DATUM	G.L.			
ELEVATION OF P.D.				
	BPB		DRILLER	
MEASUREMENTS FROM	G.L.		[illegible]	
DEPTH REACHED	407.95m		[illegible]	
CASING SHOE				
BIT SIZES	1	[illegible] 1/2" TO [illegible]3m	2	[illegible] 3/4 TO [illegible]m
	3	3" TO TD	4	TO
CASING SIZES	1	[illegible] TO 23[illegible]	2	TO

FLUID DATA

NATURE	air/water
S.G.	
LEVEL	[illegible]
VISCOSITY	
Rm at meas temp	
B.H.T.	

SONDE TYPE
COAL
COMBINATION
SONDE

LOG SUITE
GAMMA RAY
L.S. DENSITY
CALIPER

OPERATION DATA

FIRST READING	40[illegible]m
LAST READING	0m
INTERVAL LOGGED	407m
UNIT-TRUCK No.	V36/36
ENGINEER	S.Morecroft
WITNESS	

5 cm

EQUIPMENT AND RECORDING DATA

COAL COMBINATION SONDE

LOG	EQUIPMENT			TAPING			PANEL			CAL COEFF	DEPTHS m			SEAM LOG RUN
	SONDE	SOURCE	CALIBRATOR	LOG TAPED	RECORD SPEED	DIRECT or REPLAY	SPEED	T.C. SECS	NORM		FROM	TO	INTERVAL	
	127	[illegible]												
GAMMA RAY			127	Y	[illegible]	D	[illegible],2	1,[illegible]	[illegible]	1	406	0	406	
L.S. DENSITY		0565	water	Y	9,2	D	[illegible],2	1/3,1	7.05		407	1	406	
CALIPER	SIDEWALL POSITION													

COAL QUALITY/SEAM THICKNESS LOG INTERVALS (Refer to relevant log)

FROM	321m	250m	223m	INTERVAL
TO	301m	242m	214m	TOTAL
INTERVAL	20m	8m	9m	= 37m

ADDITIONAL SONDES RUN

SONDE	LOG	GENERAL SCALE LOG	DETAIL SCALE LOG	
29	N-[illegible]	Y		REFER TO ADDITIONAL HEADINGS
13	[illegible]D		Y	

REMARKS

Logged through [illegible] rods

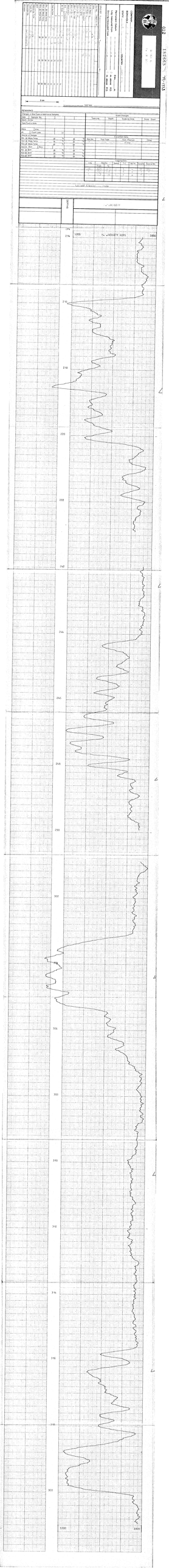
BPB COAL LITHOLOGY LOG

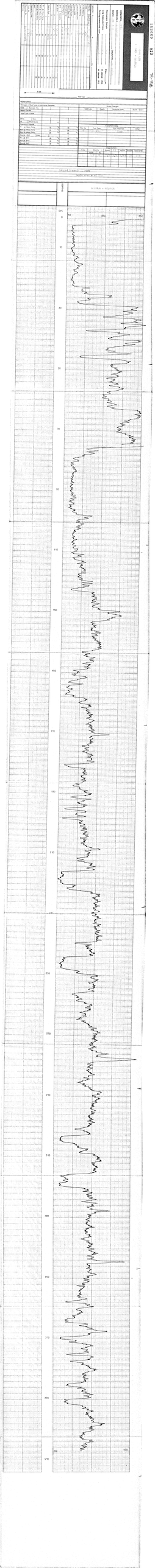
CALIBRATION DATA

JIG No. 127 VALUE 272@ 2" DIAM
JIG MARK SHOWN AT ABOVE VALUE ÷

JIG CAL DATE [illegible].1.79 JIG VALUE SDU @ g/cm³
JIG No water SPAN NORM $\frac{SDU}{CPS}$ = 7.05

3 ins. 4[illegible]2 cps
7 ins 847 cps





020 182670 79-1338

BPB

BOREHOLE GY G 11
CLIENT Shell
AREA Gwy
COUNTRY United Kingdom
DATE LOGGED 11.1.79
DEPTH SCALE 2:1
1 OF 1 LOGS

SEAM THICKNESS LOG

BOREHOLE DATA	REFER TO LITHOLOGY LOG
OPERATION DATA	REFER TO LITHOLOGY LOG

EQUIPMENT AND RECORDING DATA

COAL COMBINATION SONDE

SIDEWALL POSITION

LOG	TAPING		PANEL		CNTS
	LOW TAPE	HIGH SPEED	DISPLAY	DISPERSED	NORM SLOG	
CALIPER			1	3		
DENSITY			1	3	1	1.4

SOURCE SONDE AND CALIBRATION

REFER TO LITHOLOGY LOG

SONDE TYPE: COAL COMBINATION SONDE

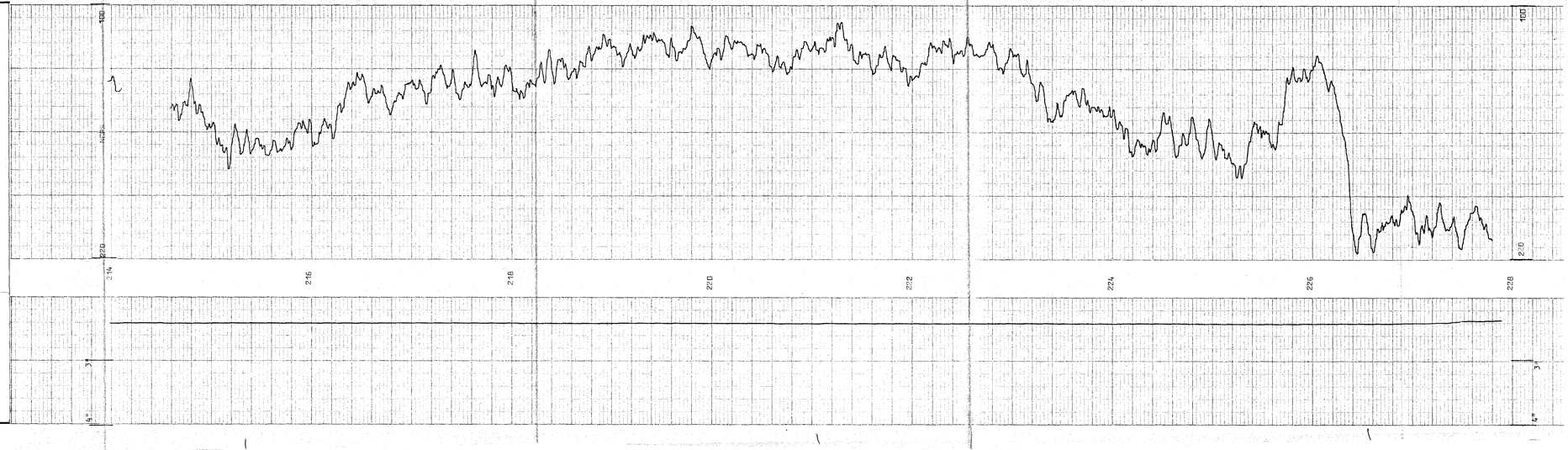
LOG SUITE: CALIPER B.R. DENSITY

SEAM THICKNESS LOG INTERVALS

FROM	214	
TO	218	
INTERVAL	4	
FROM		INTRVAL
TO		TOTAL
INTERVAL		4

REMARKS

5 cm



COAL LITHOLOGY LOG

BPB

BOREHOLE
CLIENT
AREA
COUNTRY
DATE LOGGED
LOGGING ENGINEER
OPERATOR

SONDE TYPE
COAL RESOLUTION
SPACE
COAL DENSITY SITE CALIBRATION
COAL DENSITY CALIBRATION
CALIPER

EQUIPMENT AND RECORDING DATA

COAL COMBINATION SONDE

LOG	EQUIPMENT: SONDE	SOURCE	CALIBRATOR	TAPING: LOG LOGG	RECORDING SPEED	DIRECTION DISPLAY	PANEL: SPEED	CAL SORT: STD SET	NORM	DEPTHS: FROM	TO	BOREH	SEAM LOG RUN
GAMMA Ray													
CALIPER													

COAL QUALITY/SEAM THICKNESS LOG INTERVALS (Refer to relevant log)

	FROM	TO	INTERVAL
INTERVAL			
INTERVAL			
INTERVAL			
			TOTAL

ADDITIONAL SONDES RUN

SONDE	LOG	GENERAL SCALE	DETAIL SCALE	LOG

REFER TO ADDITIONAL HEADINGS

REMARKS

Logged through rig floor

BPB COAL LITHOLOGY LOG

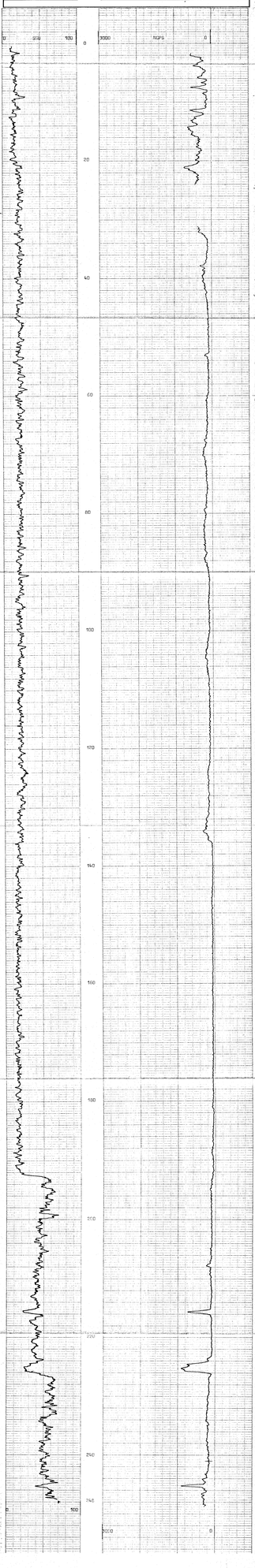
CALIBRATION DATA

JIG No. | JIG VALUE | SDU/D | g/cm³ | m/s

JIG MARK SHOWN AT ABOVE VALUE

JIG CAL DATE | JIG VALUE | SDU/D | g/cm³ | m/s

JIG No. | DPM | NORM | m | gr



015 182672 79-1338

BOREHOLE GY 6 A
CLIENT Shell

AREA Grey
COUNTRY Australia
DATE LOGGED 10.1.79

DEPTH SCALE 2ft:1

1 OF 5 LOGS

COAL QUALITY LOG

BOREHOLE DATA	REFER TO LITHOLOGY LOG
OPERATION DATA	REFER TO LITHOLOGY LOG
EQUIPMENT AND RECORDING DATA	
COAL COMBINATION SONDE	

SIDEWALL POSITION

LOG	TAPING				PANEL			COAL QUALITY
	LOG TAPED	PROPAGATION SPEED	DETECTOR REPLAY		SPEED	T.C. SECS	NORM	
GAMMA RAY	Y	1	1		3	1	1	1.07
S DENSITY	Y	2	1		3	1	1	2.3

SOURCE SONDE AND CALIBRATION

REFER TO LITHOLOGY LOG

SONDE TYPE: COAL COMBINATION SONDE

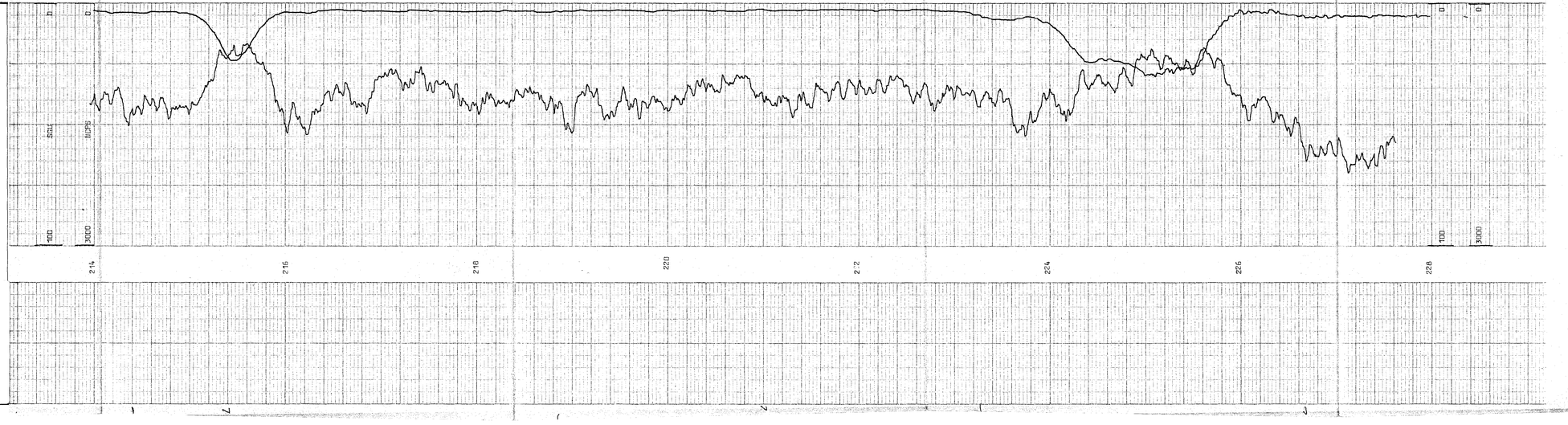
COAL QUALITY LOG INTERVALS

FROM	208
TO	214
INTERVAL	14
FROM	
TO	
INTERVAL	
INTERVAL TOTAL	14

LOG SUITE: GAMMA RAY L.S. DENSITY

REMARKS

5 cm



016 182673 79-1338

DETAIL LOG

H.R. Density

COMPANY Shell

BOREHOLE BY 6 A (Gray)

STATE Tasmania COUNTRY Australia

Permanent Datum Ground level Elev. ____ m.

Log measured from GL zero m. above P.D.

Drilling measured from GL zero m. above P.D.

GRID REF. E ____ N ____ R.L. ____

Run No.	Depth Scale	3	20:1				
Date		12.1.79					
First Reading		226m					
Last Reading		214m					
Interval Measured		14m					
Casing BPB							
Casing Driller							
Depth Reached		245m					
Bottom Driller		341m					
Mud Nature		Air/water					
S.G.	Viscosity						
Bit Size 1		4½"	to 24m	to		to	
2		3 3/4"	to 105m	to		to	
3		3"	to 341m	to		to	
Casing Size 1		4"	to 24m	to		to	
2		3¼"	to 105m	to		to	
Rm @ Meas Temp.		@		@		@	
Rmf @ Meas Temp.		@		@		@	
Rmc @ Meas Temp.		@		@		@	
BHT							
Operating Time		2½hrs.					
Truck No.		V36/36					
Recorded By		N.Waddoup					
Witness							

fold here

5 cm

REMARKS

Changes in Mud Type or Additional Samples

Date	Sample No.						
Depth-Driller							
Type Fluid in Hole							
Dens.	Visc.						
ph.	Fluid Loss	ml					
Source of Sample							
Rm @ Meas Temp.	@ °F	@ °F	@ °F	@ °F	@ °F	@ °F	@ °F
Rmf @ Meas Temp.	@ °F	@ °F	@ °F	@ °F	@ °F	@ °F	@ °F
Rmc @ Meas Temp.	@ °F	@ °F	@ °F	@ °F	@ °F	@ °F	@ °F
Source: Rmf / Rmc							
Rm @ BHT	@ °F	@ °F	@ °F	@ °F	@ °F	@ °F	@ °F
Rmf @ BHT	@ °F	@ °F	@ °F	@ °F	@ °F	@ °F	@ °F
Rmc @ BHT	@ °F	@ °F	@ °F	@ °F	@ °F	@ °F	@ °F

Scale Changes

Type Log	Depth	Scale Up Hole	Scale Down

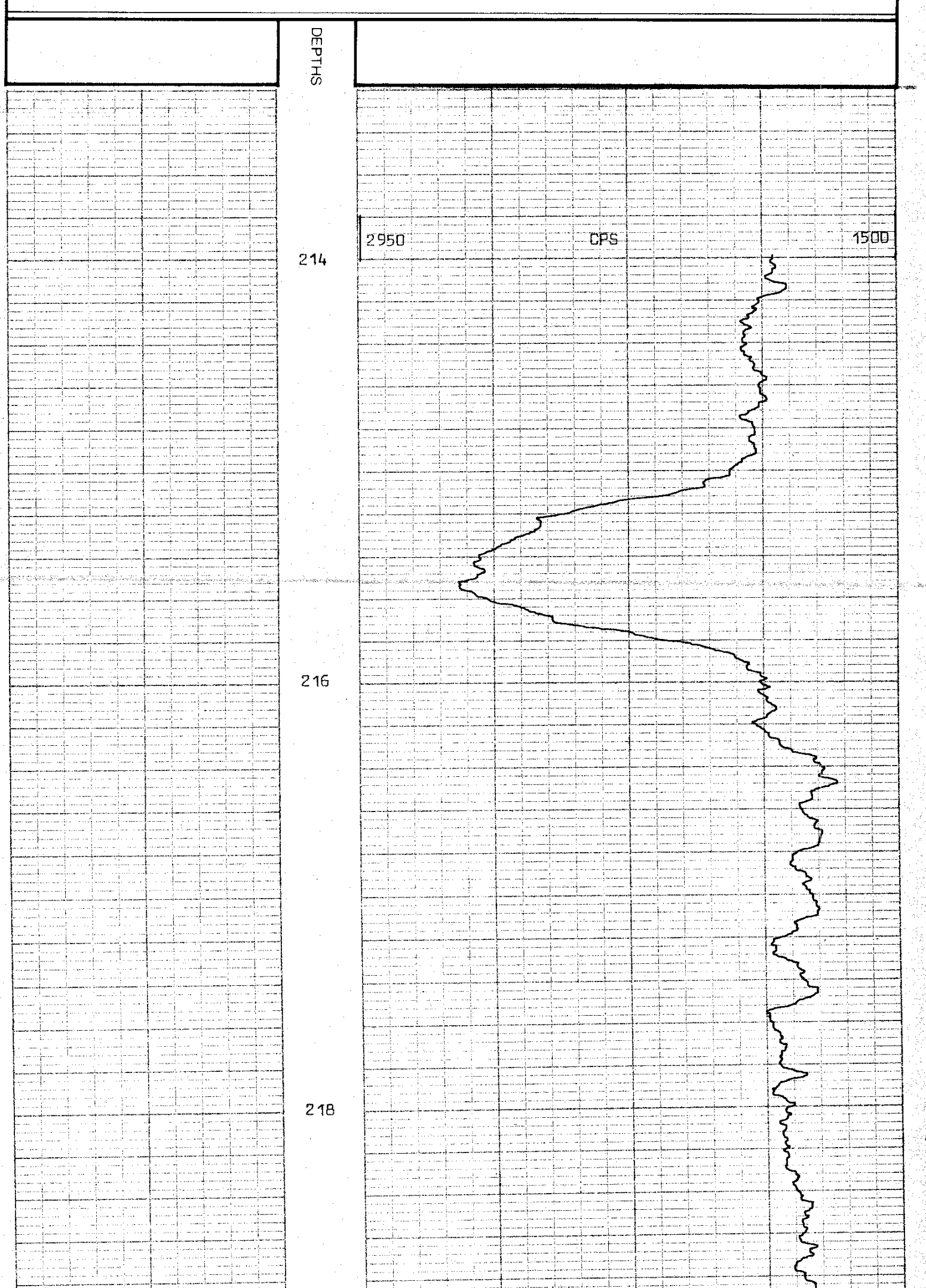
Equipment Data

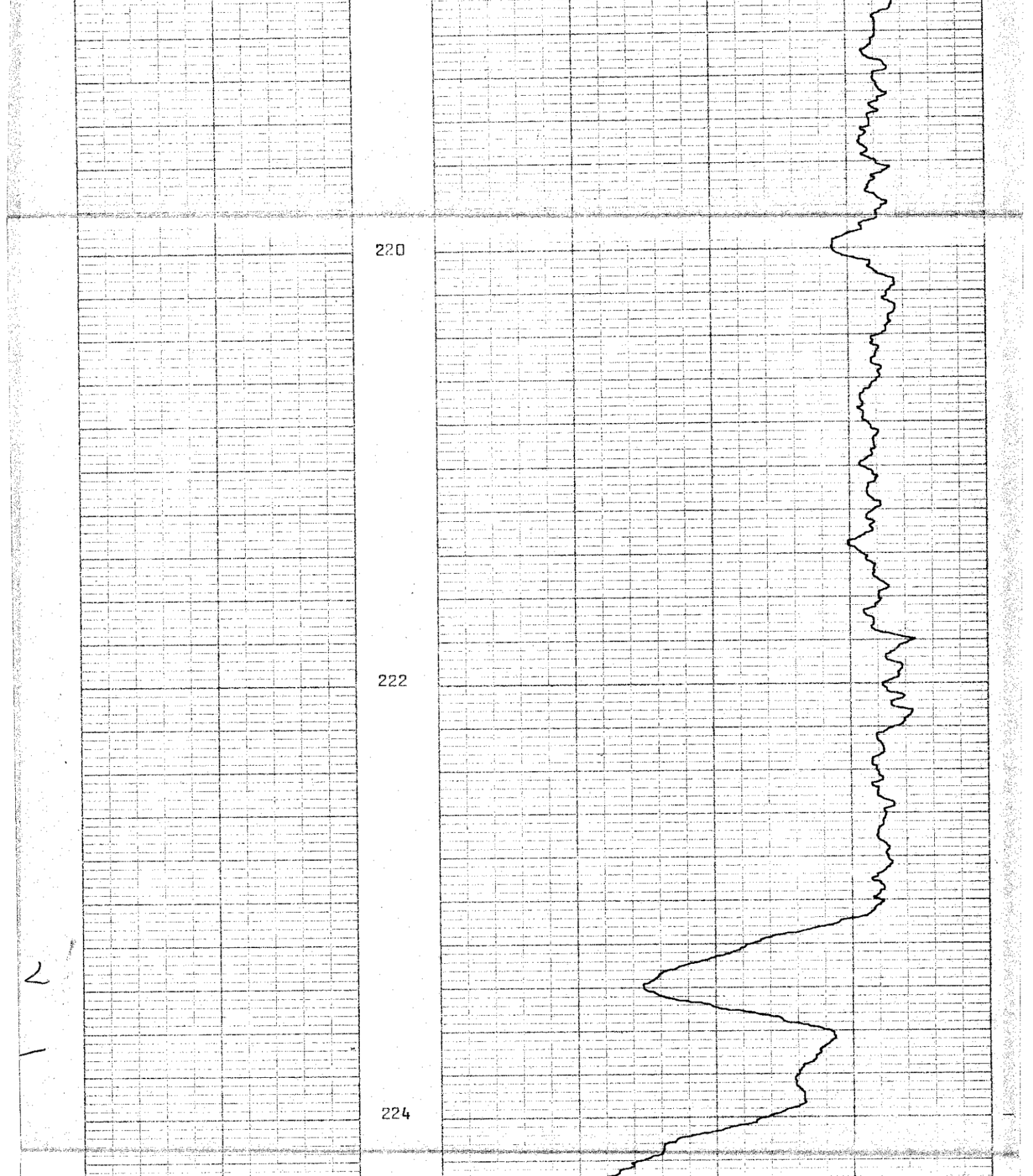
Run No.	Tool Type	Tool Position	Other
7	HRD	Eccn	

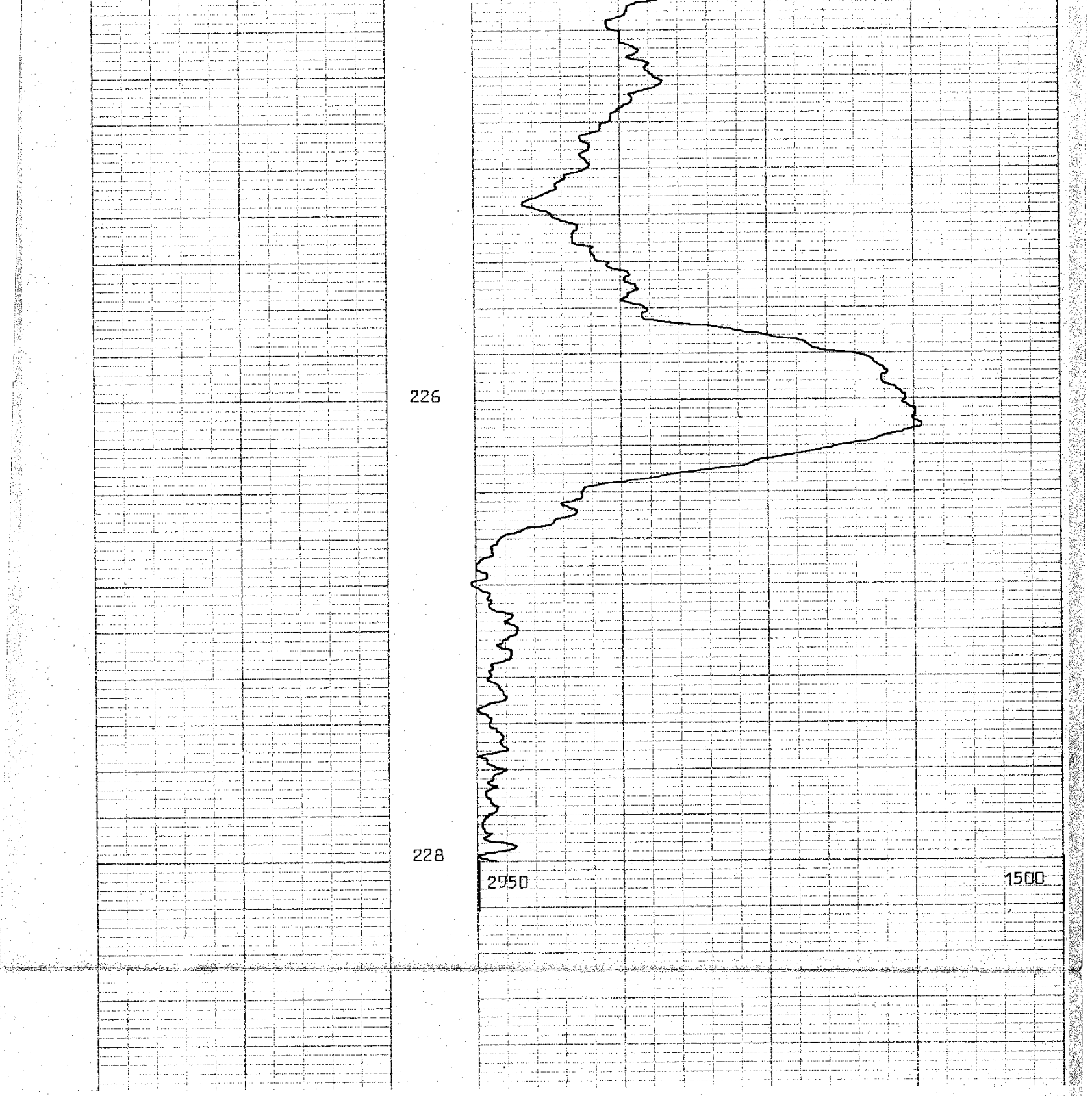
Logging Data

Log	Depths From	Depths To	Speed m/min	T.C. secs	Norm.	Sonde No.	Source No.
HRD	220	214	3	1		12	2426

Logged through the rods


DEPTHS
2950
CPS
1500
214
216
218


220
222
224


226
228
2950
1500

BP

GENERAL LEO
RADITION-MEASUREMENT

COMPANY BP
BOREHOLE BP LEO 1
STATE [illegible]
COUNTRY [illegible]

Permanent Datum: GL Elev. 0 m
Drilling Measured from: RT Elev. 25 m above PD
Log Measured from: RT 25 m above PD

Recorded By	[illegible]	Sample Int. 1	0.5 m
Witnessed By	[illegible]	Sample Int. 2	0.5 m
Operating Time	0 hr	Sample Int. 3	0.5 m
Rec. @ Meas.Temp.	@ °C	Bit Size 1	311 mm
Rec. @ Meas.Temp.	@ °C	Bit Size 2	216 mm
Rec. @ Meas.Temp.	@ °C	Bit Size 3	216 mm
Source Rmf	Rmc	Casing Driller	20 m
Rm @ BHT	@ °C	Casing Logger	20 m
Rmf @ BHT	@ °C	Bottom Driller	232 m
Rmc @ BHT	@ °C	Bottom Logger	232 m
		Date	27-Jun-74
		Log Measured	KB
		Run No.	1
		Service Order	[illegible]
		Unit No.	[illegible]

5 cm

fold here

REMARKS

Changes in Mud Type or Additional Samples
Date | Sample No.
Depth - Driller
Type Fluid in Hole
Oper. | Visc.
ph | Fluid Loss | ml
Source of Sample
Rm @ Meas.Temp. @ °F | @ °F
Rmf @ Meas.Temp. @ °F | @ °F
Rmc @ Meas.Temp. @ °F | @ °F
Source Rmf | Rmc
Rm @ BHT @ °F | @ °F
Rmf @ BHT @ °F | @ °F
Rmc @ BHT @ °F | @ °F

Attempt hardened - hole falling in

Scale Changes

Type Log	Depth	Scale Up Hole	Scale Down

Equipment Data

Run No.	Tool Type	Tool Position	Other
1	[illegible]	[illegible]	

Logging Data

Log	Depths From	Depths To	Speed	T.C.	Norm.	Scale	Source No.
[illegible]	232	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

DEPTHS

20
40
60
100
120
140
160
180
200
220
232

50 310 950

Scale change

50 400

COMPANY
WELL
FIELD
COUNTY
STATE
Other Services
Permanent Datum
Log Measured from
Drilling Measured from
Elev.: K.B.
D.F.
G.L.

Date
Run No.
Depth-Driller
Depth-Logger
Bottom Logged Interval
Top Logged Interval
Type Fluid in Hole
Salinity, PPM Cl
Density
Level
Max. Rec. Temp. Deg. F
Equip. No. & Location
Recorded By
Witnessed By

Run No. | Bit | From | To | Size | Wgt. | Visc. | Loss | Size | Top | Bottom

Rm @ Meas. Temp.
Rmf @ Meas. Temp.
Rmc @ Meas. Temp.
Source: Rmf Rmc
Rm @ BHT
Rmf @ BHT
Rmc @ BHT

Time Since Circ.
Max. Rec. Temp.
Equip. No. & Location
Recorded By
Witnessed By

Run No. | Bit | From | To | Size | Wgt. | Visc. | Loss | Size | Top | Bottom

Rm @ Meas. Temp.
Rmf @ Meas. Temp.
Rmc @ Meas. Temp.
Source: Rmf Rmc
Rm @ BHT
Rmf @ BHT
Rmc @ BHT

Time Since Circ.
Max. Rec. Temp.
Equip. No. & Location
Recorded By
Witnessed By

Run No. | Bit | From | To | Size | Wgt. | Visc. | Loss | Size | Top | Bottom

Rm @ Meas. Temp.
Rmf @ Meas. Temp.
Rmc @ Meas. Temp.
Source: Rmf Rmc
Rm @ BHT
Rmf @ BHT
Rmc @ BHT

1 cm

Sold to

REMARKS

Changes in Mud Type or Additional Samples

Date	# Sample No.		
Depth-Driller			
Type Fluid in Hole			
Dens.	Visc.		
pH	Fluid Loss		
Source of Sample			
Rm @ Meas. Temp.	@ °F	@ °F	
Rmf @ Meas. Temp.	@ °F	@ °F	
Rmc @ Meas. Temp.	@ °F	@ °F	
Source: Rmf	Rmc		
Rm @ BHT	@ °F	@ °F	
Rmf @ BHT	@ °F	@ °F	
Rmc @ BHT	@ °F	@ °F	

Scale Changes

Type Log	Depth	Scale Up Hole	Scale Down

Equipment Data

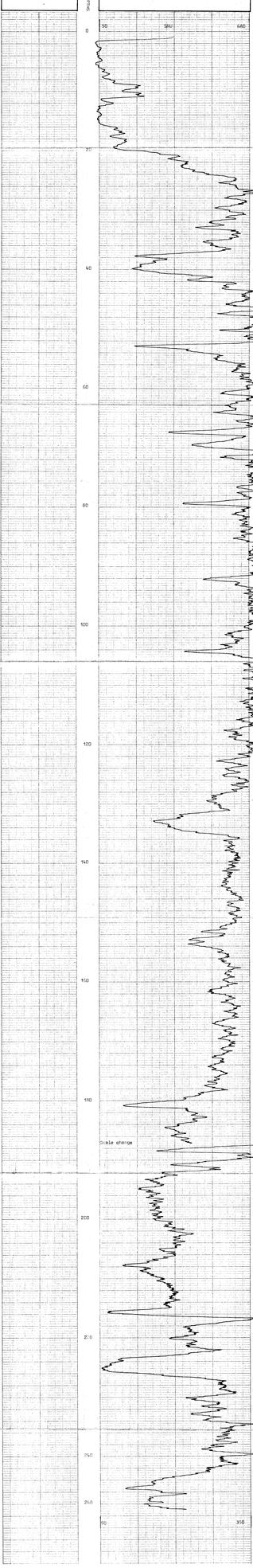
Run No.	Tool Type	Tool Position	Other
1	Arc Sonic	Floor	

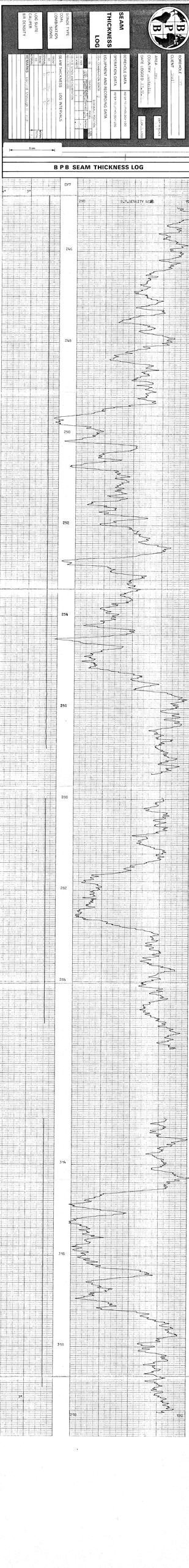
Logging Data

Log	Depths		Speed	T.C.	Norm	Scrams	Source No.
	Scale	ft.	(ft/min)	Lapse			
Long	2"/1'	0	3	3	5	0	Sonic

Legged through ... mute

Scale change




B P B
SEAM THICKNESS LOG
SONIC TYPE
COMPENSATION SONDE
GAMMA RAY
B.P. DENSITY
REMARKS
BOREHOLE
CLIENT
AREA
DATE LOGGED
SEAM THICKNESS LOG INTERVALS
SONDE DATA
OPERATION DATA
EQUIPMENT AND RECORDING DATA
B.P. DENSITY
5 cm
B P B SEAM THICKNESS LOG
246
248
250
252
254
256
260
262
264
314
316
318
270
272

COAL LITHOLOGY LOG

BPB

EQUIPMENT AND RECORDING DATA

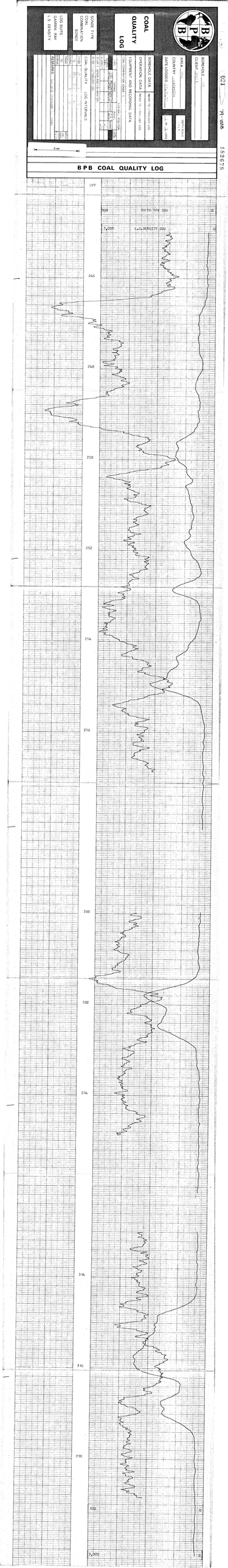
COAL LITHOLOGY LOG

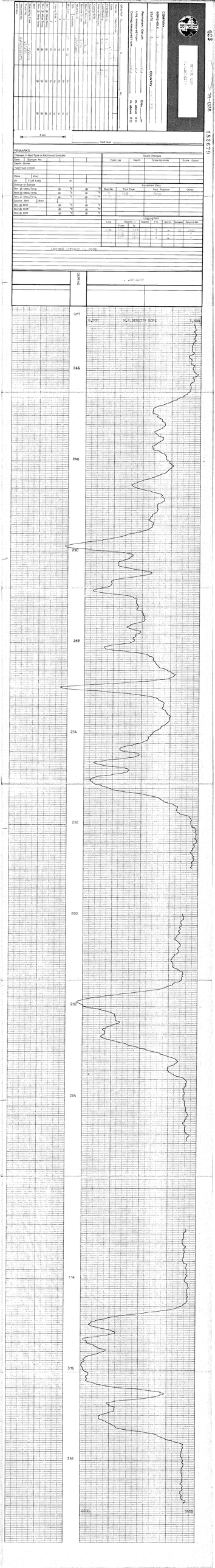
CALIBRATION DATA

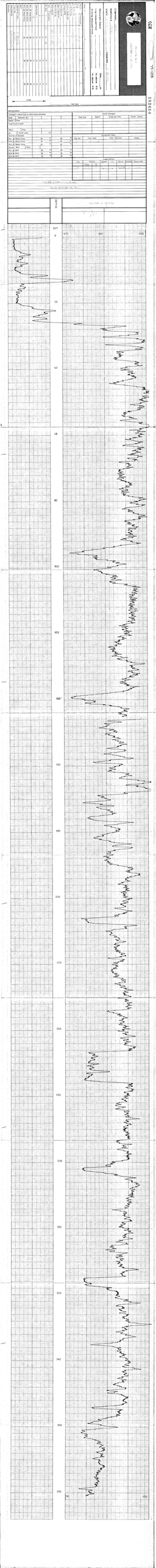
GAMMA RAY

BULK DENSITY

CALIPER


COAL QUALITY LOG
BOREHOLE TYPE
COAL COMBINATION BOREHOLE
LOG SUITE
GAMMA RAY
G.S. DENSITY
BOREHOLE NO.
AREA
COUNTRY
DATE LOGGED
OPERATING COMPANY
BOREHOLE DATA
OPERATION DATA
EQUIPMENT AND RECORDING DATA
COAL QUALITY LOG INTERVALS
REMARKS
B P B COAL QUALITY LOG
GAMMA RAY (GR)
G.S. DENSITY (GD)
246
248
250
252
254
256
280
282
284
314
316
318


DENSITY
H2O DENSITY NGPS
6,000
3,000
DVT
246
248
250
252
254
256
260
262
264
314
316
318
4500
3500

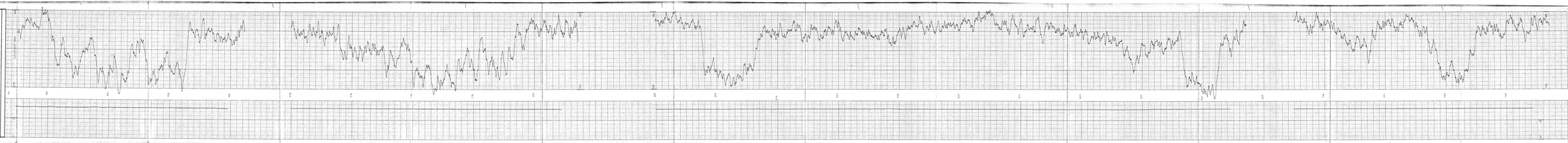


B P B

SEAM THICKNESS LOG

BOREHOLE
CLIENT
AREA
COUNTRY
DATE LOGGED
BOREHOLE DATA
OPERATION DATA
EQUIPMENT AND RECORDING DATA
SONDE TYPE
TOOL COMBINATION
SONDE
LOG SUITE
CALIPER
FX DENSITY
SEAM THICKNESS LOG INTERVALS
REMARKS

B P B SEAM THICKNESS LOG



BPB

COAL QUALITY LOG

WELL NAME	
LOCATION	
COUNTY	
STATE	
API NO.	
OTHER SERVICES	
PERMANENT DATUM	
ELEV.	K.B.
	D.F.
	G.L.
LOG MEASURED FROM	
DRILLING MEASURED FROM	
DATE	
RUN NO.	
DEPTH-DRILLER	
DEPTH-LOGGER	
BTM. LOG INTERVAL	
TOP LOG INTERVAL	
CASING-DRILLER	
CASING-LOGGER	
BIT SIZE	
TYPE FLUID IN HOLE	
DENSITY / VISCOSITY	
PH / FLUID LOSS	
SOURCE OF SAMPLE	
RM @ MEAS. TEMP.	
RMF @ MEAS. TEMP.	
RMC @ MEAS. TEMP.	
SOURCE RMF / RMC	
RM @ BHT	
TIME SINCE CIRC.	
MAX. REC. TEMP.	
EQUIP. LOCATION	
RECORDED BY	
WITNESSED BY	

RUN NO. | BIT NO. | FROM | TO | FEET | HOURS

CASING RECORD

	SIZE	WGT.	GRADE	FROM	TO
SURFACE STRING					
INTERMEDIATE STRING					
PRODUCTION STRING					
LINER					
LINER					

BOREHOLE RECORD

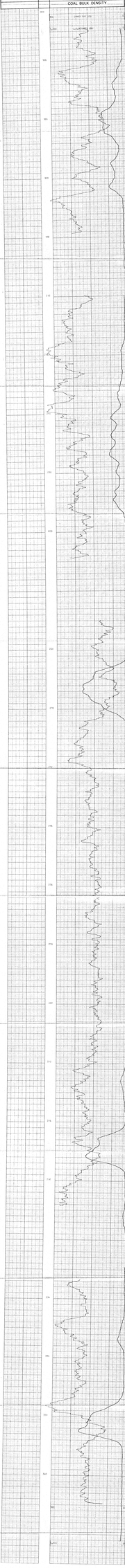
RUN NO.	BIT NO.	FROM	TO

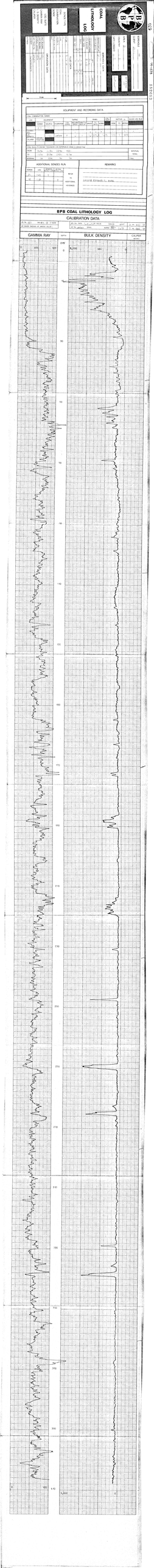
TYPE JOINT

REMARKS

BPB COAL QUALITY LOG

DEPTH	GAMMA RAY COAL BULK DENSITY
	GAMMA RAY (API) 0 — 200
	COAL BULK DENSITY (g/cc) 1.80 — 2.80




BPB
COAL LITHOLOGY LOG
EQUIPMENT AND RECORDING DATA
BPB COAL LITHOLOGY LOG
CALIBRATION DATA
GAMMA RAY
BULK DENSITY
CALIPER

027

79-1338

182684

DETAIL LOG
H.R.DENSITY

COMPANY 1
BOREHOLE 9
STATE
COUNTRY
Permanent Datum G.L. Elev. m.
Log measured from G.L. 0 m. above P.D.
Drilling measured from 0 m. above P.D.
GRID REF. E N RL

Run No.			
Depth Scale			
Date			
First Reading			
Last Reading			
Interval Measured			
Casing BPB			
Casing Driller			
Depth Reached			
Bottom Driller			
Mud Nature			
SG / Viscosity			
Bit Size 1	to	to	to
2	to	to	to
3	to	to	to
Casing Size 1	to	to	to
2	to	to	to
Rm @ Meas Temp.	@	@	@
Rmf @ Meas Temp.	@	@	@
Rmc @ Meas Temp.	@	@	@
BHT			
Operating Time	5 1/2 hrs		
Truck No.	U36/36		
Recorded By	S.Morecroft		
Witness			

5 cm

fold here

REMARKS

Changes in Mud Type or Additional Samples				
Date	Sample No.			
Depth-Driller				
Type Fluid in Hole				
Dens.	Visc.			
ph.	Fluid Loss	ml		
Source of Sample				
Rm @ Meas.Temp.		@ °F	@ °F	
Rmf @ Meas.Temp.		@ °F	@ °F	
Rmc @ Meas.Temp.		@ °F	@ °F	
Source: Rmf	Rmc			
Rm @ BHT		@ °F	@ °F	
Rmf @ BHT		@ °F	@ °F	
Rmc @ BHT		@ °F	@ °F	

Scale Changes

Type Log	Depth	Scale Up Hole	Scale Down

Equipment Data

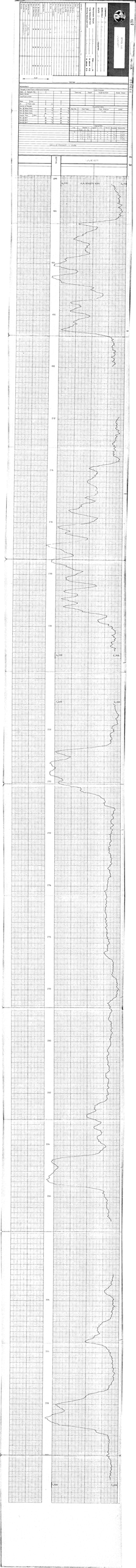
Run No.	Tool Type	Tool Position	Other
1		free	

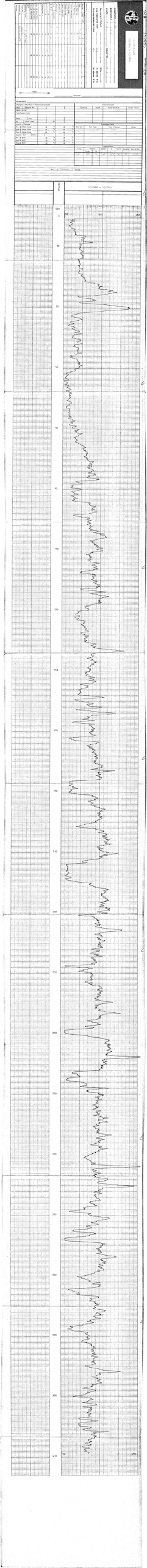
Logging Data

Log	Depths m From	Depths m To	Speed	T.C.	Norm.	Sonde No.	Source No.
HRD	341	333	3	1	-	12	2426
"	287	267	3	1	-	12	2426
"	221	212	3	1	-	12	2426
"	192	185	3	1	-	12	2426

Logged through rods

	DEPTHS	H.R.DENSITY





022 79-1338 182686

BOREHOLE Dh1(Quarlap River)

CLIENT Shell(Mines Dept.)

AREA Quarlap River

COUNTRY Australia

DATE LOGGED 20.12.79

DEPTH SCALE 1:1

1 OF 2 LOGS

SEAM THICKNESS LOG

BOREHOLE DATA	REFER TO LITHOLOGY LOG
OPERATION DATA	REFER TO LITHOLOGY LOG

EQUIPMENT AND RECORDING DATA

COAL COMBINATION SONDE 127

SIDEWALL POSITION

LOG	TAPING			PANEL			PANEL LOGS
	TOOL TAPED	RECORDING SPEED	REPLAY	SPEED	SEN SCALE	NORM	
CALIPER	Y	2		3	1	-	
BR DENSITY	Y	2		3	1	1.74	

SOURCE SONDE AND CALIBRATION

REFER TO LITHOLOGY LOG

SEAM THICKNESS LOG INTERVALS

FROM	m	2m
TO	m	17m
INTERVAL	m	4m

FROM		INTERVAL
TO		TOTAL
INTERVAL		= 12

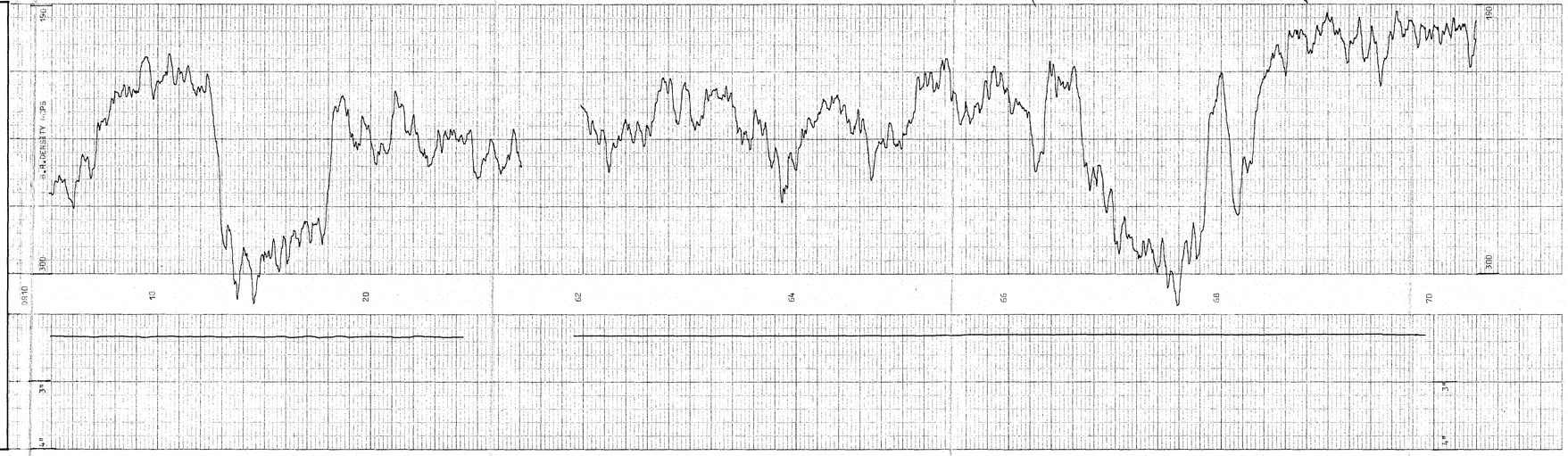
REMARKS Longest through 4½" rods

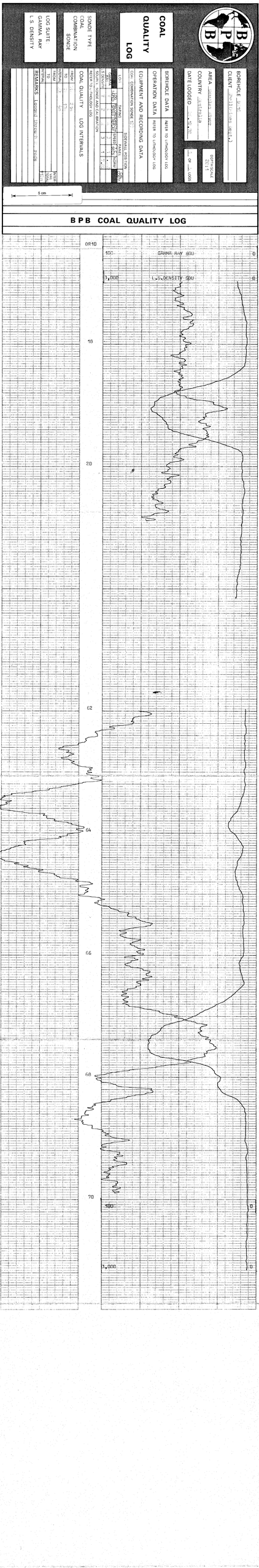
SONDE TYPE
COAL
COMBINATION
SONDE

LOG SUITE:
CALIPER
BR DENSITY

6 cm

B P B SEAM THICKNESS LOG




BPB
COAL QUALITY LOG
SONDE TYPE
COAL COMBINATION SONDE
LOG SUITE
GAMMA RAY
L.S. DENSITY
BOREHOLE
CLIENT
AREA
COUNTRY
DATE LOGGED
BOREHOLE DATA
REFER TO LITHOLOGY LOG
OPERATION DATA
REFER TO LITHOLOGY LOG
EQUIPMENT AND RECORDING DATA
COAL COMBINATION SONDE
COAL QUALITY LOG INTERVALS
REMARKS
5 cm
BPB COAL QUALITY LOG
GAMMA RAY SCU
L.S. DENSITY SCU
100
0
2,200
0
1,000
0
DR10
16
20
62
64
66
68
70

COAL LITHOLOGY LOG

BPB

LOG SUITE
GAMMA RAY
DENSITY
CALIPER

SONDE TYPE
COAL COMBINATION SONDE

BOREHOLE DATA
PERMANENT DATUM
ELEVATION OF PD
MEASUREMENTS FROM
DEPTH-DRILLER
CASING SHOE
BIT SIZES
CASING SIZES
FLUID DATA
NATURE
STG
LEVEL
VISCOSITY
Rm at meas. temp.
UNIT
OPERATION DATA
FIRST READING
LAST READING
INTERVAL LOGGED
UNIT/TRUCK No.
ENGINEER
WITNESS

BOREHOLE D:10
CLIENT Small (Lintes Depth.)
AREA Dunsville Area
COUNTRY Canada
DATE LOGGED 12.7.72
No. of LOGS 1
DEPTH SCALE 200:1

5 cm

EQUIPMENT AND RECORDING DATA

COAL COMBINATION SONDE

LOG	EQUIPMENT: SONDE	SOURCE	CALIBRATOR	TAPING: LOG TAPED	RECORD SPEED	DIRECT or REPLAY	PANEL: SPEED	T.C. SECS	NORM	CAL COEFF	DEPTHS: FROM	TO	INTERVAL	SEAM LOG RUN
	127	DR 10												
GAMMA RAY			127	Y	9.5	D	1,2	1,5	10.5		70	0	70	
L.S. DENSITY		DR10	water	Y	1,2	D	1,2	1,5	7.02		71	1	70	
CALIPER	SIDEWALL POSITION													

COAL QUALITY/SEAM THICKNESS LOG INTERVALS (Refer to relevant log)

			INTERVAL TOTAL
FROM	70m	21m	
TO	62m	17m	
INTERVAL	8m	4m	12m

ADDITIONAL SONDES RUN

SONDE	LOG	GENERAL SCALE LOG	DETAIL SCALE LOG
29	GR	Y	
12	HRD		Y

REFER TO ADDITIONAL HEADINGS

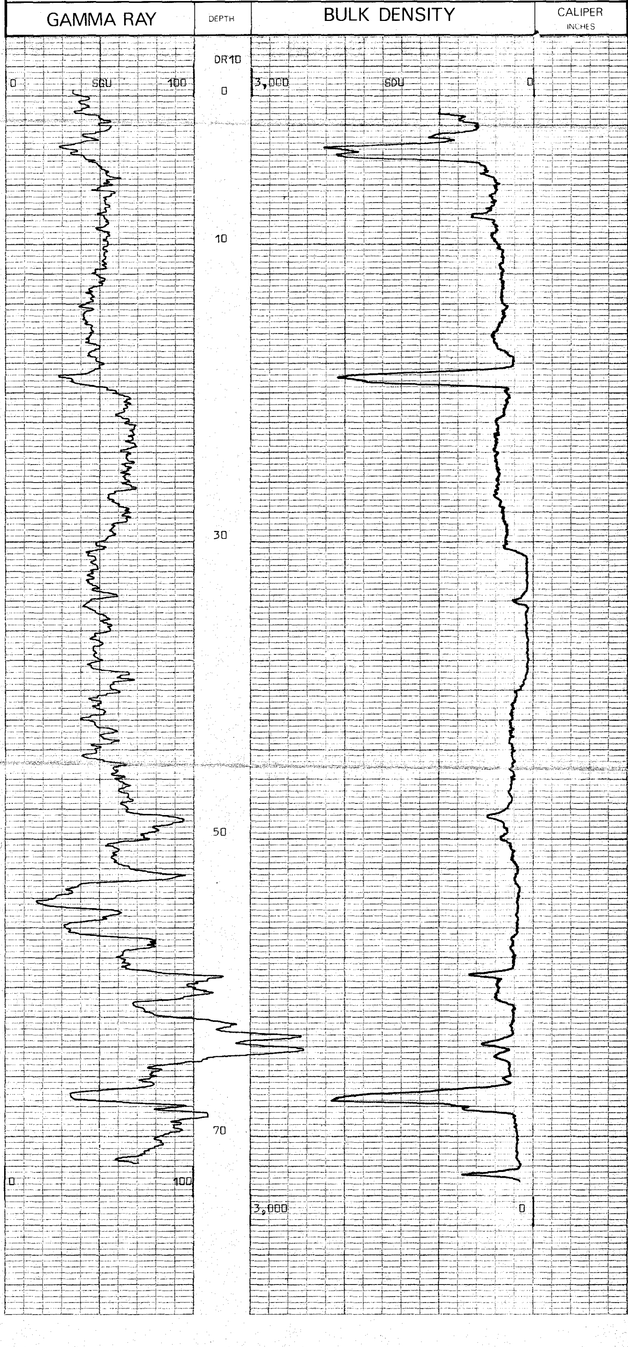
REMARKS

Logged through NW rods

BPB COAL LITHOLOGY LOG

CALIBRATION DATA

JIG No. 127 VALUE 172 @ 2" DIAM
JIG MARK SHOWN AT ABOVE VALUE ÷
JIG CAL DATE 15.12.72 JIG VALUE SDU @ g/cm³ 3 ins 401 cps
JIG No. water SPAN NORM SDU ÷ CPS 7 ins 143 cps



COMPANY Shell Queensland Dev. Co.

BOREHOLE Dirk Hartog Island No. 1 COUNTRY Australia

STATE Western Australia

Permanent Datum — Elev. — m.

Log measured from — m. above P.D.

Drilling measured from — m. above P.D.

GR/DIP/BHC 1 — N — RL

Run No. | Depth/Scale

1 | 1:200

Final Reading

Last Reading

Interval Measured

Casing Bitsize

Depth Driller

Depth Logger

Bottom Driver

Mud Source

Viscosity

Bit Size 1 2

Casing Size 1 2

Rm @ Meas. Temp.

Rmf @ Meas. Temp.

Rmc @ Meas. Temp.

BHT

Operating Time

Truck No.

Recorded By

Witness

5 cm

fold here

REMARKS

Changes in Mud Type or Additional Samples

Date | Sample No.

Depth - Driller

Type Fluid in Hole

Dens. | Visc.

ph. | Fluid Loss ml

Source of Sample

Rm @ Meas. Temp. @ °F @ °F

Rmf @ Meas. Temp. @ °F @ °F

Rmc @ Meas. Temp. @ °F @ °F

Source: Rmf | Rmc

Rm @ BHT @ °F @ °F

Rmf @ BHT @ °F @ °F

Rmc @ BHT @ °F @ °F

Scale Changes

Type Log	Depth	Scale Up Hole	Scale Down

Equipment Data

Run No.	Tool Type	Tool Position	Other
1	H.D	FLUSH	

Logging Data

Log	Depths From	Depths To	Speed	T.C.	Norm.	Sonde No.	Source No.
1.0	20	2	3	1	-	12	24/50
"	2.1	17	3	1	-	"	

Logged through tie rods

DEPTHS

H.R. DENSITY

DR10

6000 H.R. DENSITY NCPS 3000

18

20

6000 3800

62

5400 2800

64

66

68

70

5400 2800

035

74-338

152689

034 79-1338 182690

BPB

GENERAL LOG
NEUTRON - NEUTRON

COMPANY Shell (India Depn.)
BOREHOLE DR10 (Dawlish River)
STATE Tasmania COUNTRY Australia

Permanent Datum ---- Elev.---m.
Log measured from ---- ---m. above P.D.
Drilling measured from ---- ---m. above P.D.

GRID REF E---- N---- RL----

Run No	Depth Scale			
Date	21.1.76			
First Reading	2			
Last Reading	0			
Interval Measured	2			
Casing BPB				
Casing Driller				
Depth Reached	2			
Bottom Driller	0			
Mud Name	Water			
Stock Viscosity				
Bit Size	3"	to 0	to	to
3		to	to	to
3		to	to	to
Casing Size 1		to	to	to
2		to	to	to
Rm @ Meas Temp	@	@	@	
Rmf @ Meas Temp	@	@	@	
Rmc @ Meas Temp	@	@	@	
BHT				
Operating Time	2hrs			
Truck No.	V36/36			
Recorded By	S.Rumerpoff			
Witness				

fold here

5 cm

REMARKS
Changes in Mud Type or Additional Samples
Date
Sample No.
Depth—Driller
Type Fluid in Hole
Dens. Visc.
pH Fluid Loss ml
Source of Sample
Rm @ Mdsle Temp @ °F
Rmf @ Meas Temp @ °F
Rmc @ Meas Temp @ °F
Source: Rmf Rmc
Rm @ BHT @ °F
Rmf @ BHT @ °F
Rmc @ BHT @ °F

Scale Changes
Type Log | Depth | Scale Up Hole | Scale Down

Equipment Data
Run No. | Tool Type | Tool Position
1 | Neutron | Prop

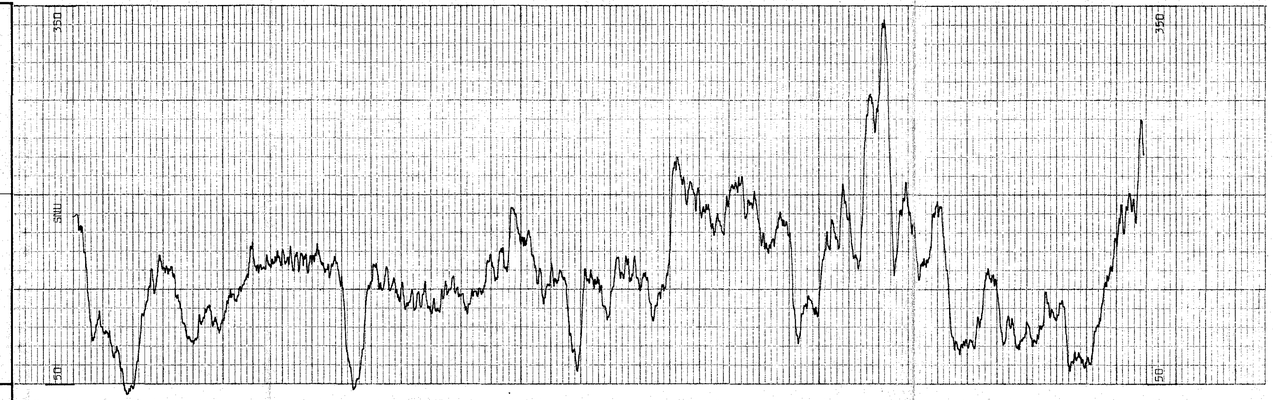
Logging Data
Depths From | To
0 | 72
Speed
9
T.C.
2
Norm.
1.0 1.45
Sonde No.
22
Source No.
5731

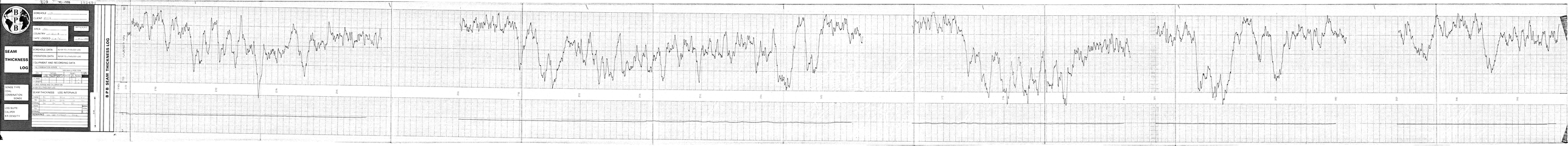
Log

Logged through Bit profile

NEUTRON - NEUTRON

DEPTHS




BPB
BOREHOLE
CLIENT
AREA
COUNTRY
DATE LOGGED
SEAM THICKNESS LOG
BOREHOLE DATA
OPERATION DATA
EQUIPMENT AND RECORDING DATA
CALIBRATION DATA
SEAM THICKNESS - LOG INTERVALS
REMARKS
SONDE TYPE
TOOL COMBINATION
LOG SUITE
CALIPER
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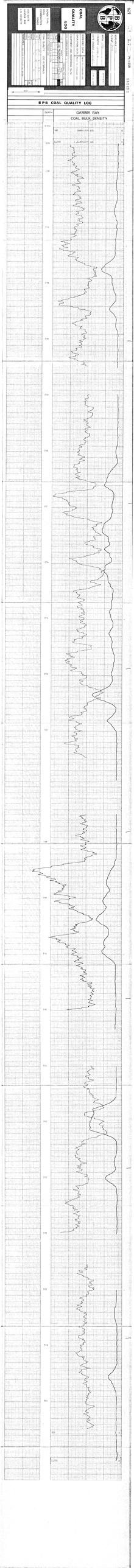
BPB SEAM THICKNESS LOG


BPB
COAL QUALITY LOG
BPB COAL QUALITY LOG
GAMMA RAY
COAL BULK DENSITY

041

79-1338

182693

COAL LITHOLOGY LOG

SONDE TYPE
COAL COMBINATION SONDE

LOG SUITE
GAMMA RAY
L.S. DENSITY
CALIPER

BOREHOLE [illegible]Y10[illegible]
CLIENT [illegible]
AREA [illegible]
COUNTRY [illegible]
DATE LOGGED 7.[illegible].7[illegible]

DEPTH SCALE [illegible]
__ OF __ LOGS

BOREHOLE DATA

PERMANENT DATUM [illegible]
ELEVATION OF P.D.
MEASUREMENTS FROM
DEPTH REACHED BPB 3[illegible] DRILLER [illegible]m
CASING SHOE
BIT SIZES 1 [illegible] 1/2 TO [illegible] 2 [illegible] 3 TO [illegible]
CASING SIZES 3 TO 4 TO; 1 [illegible] TO [illegible] 2 TO

FLUID DATA

NATURE [illegible]
SG
LEVEL [illegible]
VISCOSITY
Rm at meas. temp.
BHT

OPERATION DATA

FIRST READING [illegible]
LAST READING 1m
INTERVAL LOGGED [illegible]
UNIT-TRUCK No. V30/38
ENGINEER S.Morecroft
WITNESS

5 cm

EQUIPMENT AND RECORDING DATA

COAL COMBINATION SONDE

LOG	EQUIPMENT SONDE	EQUIPMENT SOURCE	EQUIPMENT CALIBRATOR	TAPING LOG TAPED	TAPING RECORD SPEED	TAPING DIRECT or REPLAY	PANEL SPEED	PANEL T.C. SECS	PANEL NORM	CAL COEFF	DEPTHS FROM	DEPTHS TO	DEPTHS INTERVAL	SEAM LOG RUN
	127	[illegible]												
GAMMA RAY			127	[illegible]	[illegible]	D	9,2	1,5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
L.S. DENSITY	SIDEWALL POSITION	[illegible]	water	Y	[illegible]	D	9,2	1/3,1	[illegible].96		[illegible]09	1	3[illegible]	
CALIPER														

COAL QUALITY/SEAM THICKNESS LOG INTERVALS (Refer to relevant log)

FROM	3[illegible]7m	372m	31[illegible]m	301m	2[illegible]7m	INTERVAL TOTAL
TO	3[illegible]2m	366m	311m	2[illegible]m	209m	
INTERVAL	5m	6m	7m	13m	[illegible]m	= 39m

ADDITIONAL SONDES RUN

SONDE	LOG	GENERAL SCALE LOG	DETAIL SCALE LOG	
29	N-N	Y		REFER TO ADDITIONAL HEADINGS
12	[illegible]		Y	

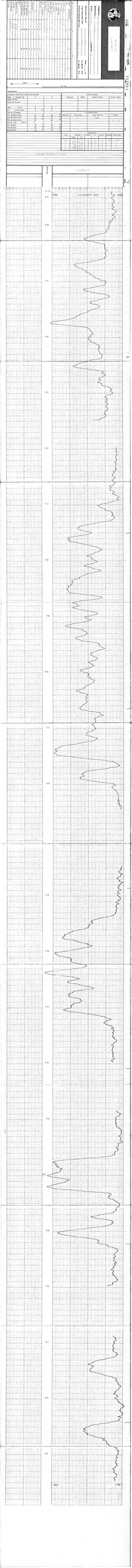
REMARKS

Logged through H. rods

BPB COAL LITHOLOGY LOG

CALIBRATION DATA

JIG No 127 VALUE 72@ 2" DIAM
JIG MARK SHOWN AT ABOVE VALUE
JIG CAL DATE [illegible].11.78 JIG VALUE SDU @ g/cm³ 3 ins [illegible]49 cps
JIG No water SPAN NORM SDU/CPS = [illegible] 7 ins [illegible] cps



COMPANY
BOREHOLE
STATE
COUNTRY
Permanent Datum
Log measured from
Drilling measured from
Elev.
K.B.
D.F.
G.L.
Date
Run No.
Depth-Driller
Depth-Logger
Btm. Log Interval
Top Log Interval
Casing-Driller
Casing-Logger
Bit Size
Type Fluid in Hole
Dens.
Visc.
pH
Fluid Loss
Source of Sample
Rm @ Meas. Temp.
Rmf @ Meas. Temp.
Rmc @ Meas. Temp.
Source: Rmf
Rmc
Rm @ BHT
Rmf @ BHT
Rmc @ BHT
Time Since Circ.
Max. Rec. Temp.
Equip. No. & Location
Recorded By
Witnessed By
Run No.
Tool Type
Tool Position
Other
Equipment Data
Scale Changes
Type Log
Depth
Scale Up Hole
Scale Down
Logging Data
Log
Depths From
To
Speed
T.C.
Norm
Squeeze
Source Nos.
5 cm
Fold here
REMARKS
Changes in Mud Type or Additional Samples
Date
Sample No.
Depth-Driller
Type Fluid in Hole
Dens.
Visc.
pH
Fluid Loss
ml
Source of Sample
Rm @ Meas. Temp.
Rmf @ Meas. Temp.
Rmc @ Meas. Temp.
Rm @ BHT
Rmf @ BHT
Rmc @ BHT
RECORDED BY
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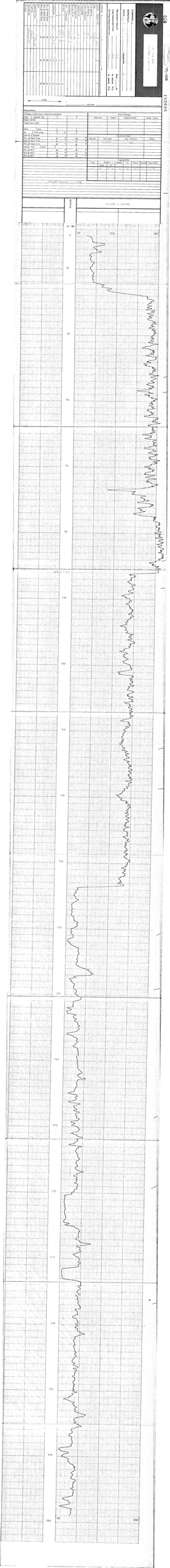
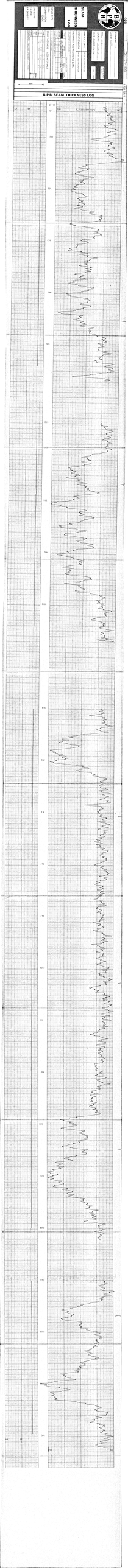
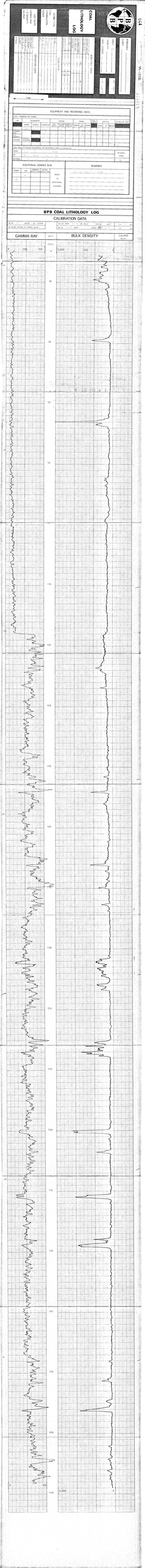



HUNTSMAN
SEAM
LOG
B P B SEAM THICKNESS LOG


COAL LITHOLOGY LOG
BPB
EQUIPMENT AND RECORDING DATA
BPB COAL LITHOLOGY LOG
CALIBRATION DATA
GAMMA RAY
BULK DENSITY
CALIPER

042 M-1838 182689

BPB

BOREHOLE
CLIENT
AREA
QUALITY
DATE LOGGED

COAL QUALITY LOG

BOREHOLE DATA
OPERATION DATA
EQUIPMENT AND RECORDING DATA
LOG CONVERSION DATA

RUN	FROM	TO	BIT SIZE	CASING

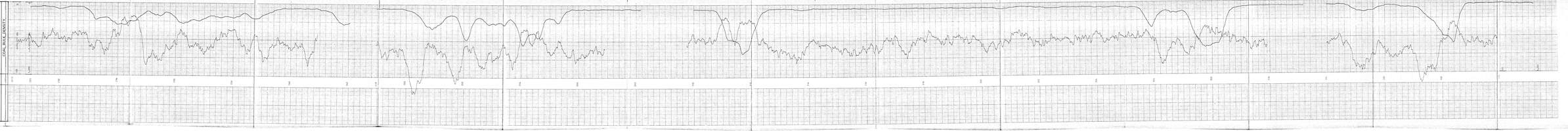
RUN	DATE	TIME	SPEED	REMARKS

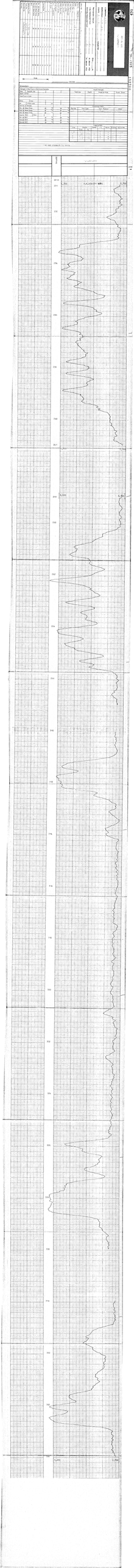
SONDE TYPE
COAL COMBINATION SONDE
LOG SUITE
GAMMA RAY
L.S. DENSITY

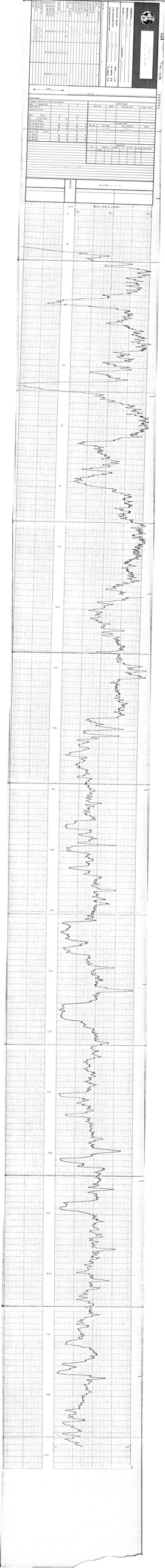
COAL QUALITY LOG INTERVALS

	FROM	TO
ASH		
CV		
MOISTURE		
SULPHUR		
REMARKS		

BPB COAL QUALITY LOG
GAMMA RAY
COAL BULK DENSITY







048

79-1338

182702

BPB

SEAM THICKNESS LOG

SONDE TYPE
COAL
COMBINATION
SONDE

LOG SUITE:
CALIPER
B.R. DENSITY

BOREHOLE
CLIENT

AREA
COUNTRY
DATE LOGGED

DEPTH SCALE

OF LOGS

BOREHOLE DATA
REFER TO LITHOLOGY LOG

OPERATION DATA
REFER TO LITHOLOGY LOG

EQUIPMENT AND RECORDING DATA

COAL COMBINATION SONDE

SIDEWALL POSITION

LOG	TAPING LOG TAPED	TAPING RECORD SPEED	TAPING DIRECT or REPLAY	PANEL SPEED	PANEL TC SECS	PANEL NORM	CAL COEFF
CALIPER							
B.R.DENSITY							

SOURCE SONDE AND CALIBRATION
REFER TO LITHOLOGY LOG

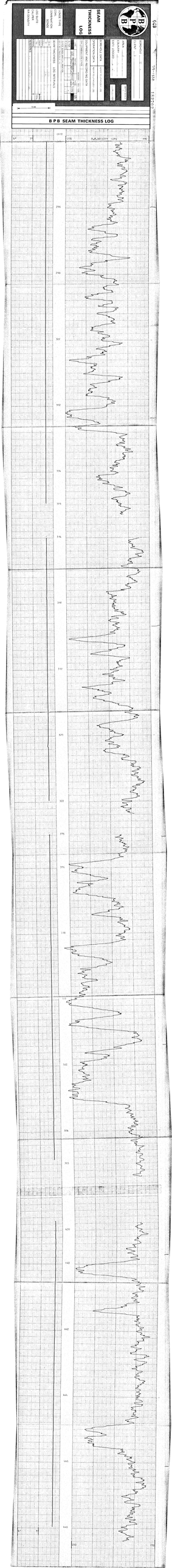
SEAM THICKNESS LOG INTERVALS

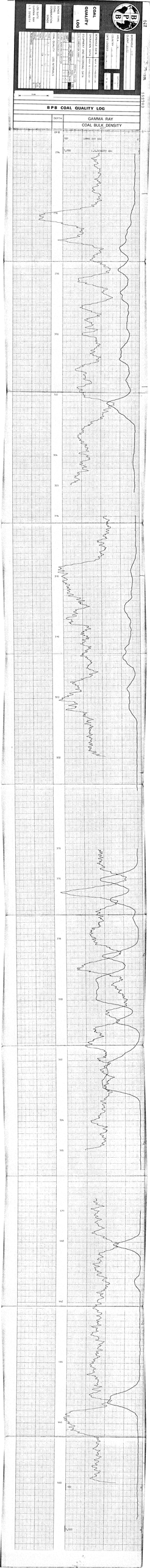
			INTERVAL TOTAL
FROM			
TO			
INTERVAL			
FROM			
TO			
INTERVAL			

REMARKS

5 cm

B P B SEAM THICKNESS LOG




COAL QUALITY LOG
BPB
BPB COAL QUALITY LOG
DEPTH
GAMMA RAY
COAL BULK DENSITY

049

79-1338

182704

BPB

COAL LITHOLOGY LOG

SONDE TYPE
COAL
COMBINATION
SONDE

LOG SUITE:
GAMMA RAY
L. S. DENSITY
CALIPER

BOREHOLE GY12
CLIENT Shell
AREA [illegible]
COUNTRY [illegible]
DATE LOGGED [illegible]

DEPTH SCALE [illegible]

___ OF ___ LOGS

BOREHOLE DATA

PERMANENT DATUM	[illegible]	
ELEVATION OF P D		
MEASUREMENTS FROM	BPB	DRILLER
	G.L.	G.L.
DEPTH REACHED	[illegible]	
CASING SHOE	[illegible]	5
BIT SIZES	1 [illegible] TO [illegible]	2 [illegible] TO [illegible]
	3 TO	4 TO
CASING SIZES	1 [illegible] TO [illegible]	2 TO

FLUID DATA

NATURE	[illegible]
SG	
LEVEL	[illegible]
VISCOSITY	
Rm at meas temp	
BHT	

OPERATION DATA

FIRST READING	[illegible]
LAST READING	[illegible]
INTERVAL LOGGED	511m
UNIT-TRUCK No.	V37/30
ENGINEER	S.Moorecroft
WITNESS	

5 cm

EQUIPMENT AND RECORDING DATA

COAL COMBINATION SONDE

LOG	EQUIPMENT			TAPING			PANEL			CAL COEFF	DEPTHS m			SEAM LOG RUN
	SONDE	SOURCE	CALIBRATOR	LOG TAPED	RECORD SPEED	DIRECT or REPLAY	SPEED	TC SECS	NORM		FROM	TO	INTERVAL	
	127	[illegible]												
GAMMA RAY			127	Y	9,2	0	9,2	1,5	[illegible]		510	[illegible]	510	
L S DENSITY		[illegible]	water	Y	9,2	0	,2	1/[illegible]	[illegible]		[illegible]	1	510	
CALIPER	SIDEWALL POSITION													

COAL QUALITY/SEAM THICKNESS LOG INTERVALS (Refer to relevant log)

FROM	440m	365m	322m	305m	INTERVAL TOTAL
TO	439m	375m	314m	294m	
INTERVAL	9m	10m	8m	11m	= 38m

ADDITIONAL SONDES RUN

SONDE	LOG	GENERAL SCALE LOG	DETAIL SCALE LOG	
29	N-N	Y		REFER TO ADDITIONAL HEADINGS
12	HRD		Y	

REMARKS

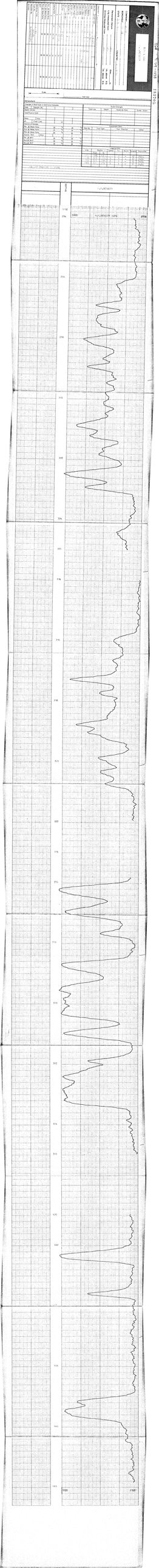
Logged through NQ rods

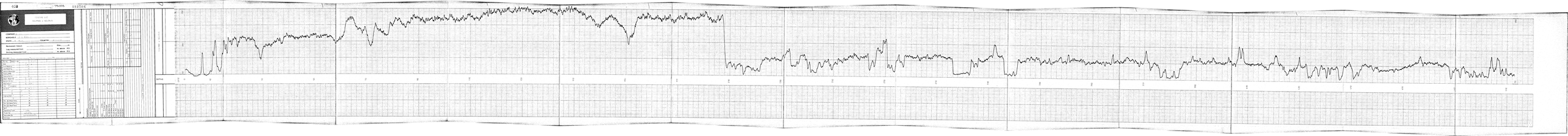
BPB COAL LITHOLOGY LOG

CALIBRATION DATA

JIG No. 127 VALUE 272@ 2" DIAM	JIG CAL DATE 23.11.78 JIG VALUE	SDU @ g/cm³	3ins. 459 cps
JIG MARK SHOWN AT ABOVE VALUE +	JIG No water SPAN	NORM SDU/CPS = 6.96	7ins. [illegible] cps

GAMMA RAY	DEPTH	BULK DENSITY g/cm³	CALIPER INCHES





052 79-1338 182707

GENERAL LOG
NEUTRON - NEUTRON

COMPANY [illegible]
BOREHOLE [illegible]12 ([illegible])
STATE Tasmania COUNTRY [illegible]

Permanent Datum G.L. Elev. m.
Log measured from G.L. m. above P.D.
Drilling measured from G.L. m. above P.D.

GRID REF E N R L

Run No. / Depth Scale	1	1:200				
Date	16.11.8[illegible]					
First Reading	513m					
Last Reading	208m					
Interval Measured	305m					
Casing BPB						
Casing Driller	[illegible]m					
Depth Reached	[illegible]					
Bottom Driller	[illegible]					
Mud Nature	[illegible]					
SG / Viscosity						
Bit Size 1	3 3/4	to [illegible]m		to		to
2	3"	to [illegible]		to		to
3		to		to		to
Casing Size 1	3"	to [illegible]m		to		to
2		to		to		to
Rm @ Meas Temp.		@		@		@
Rmf @ Meas Temp.		@		@		@
Rmc @ Meas Temp.		@		@		@
BHT						
Operating Time	8hrs					
Truck No.	VD6/36					
Recorded By	S.Morecroft					
Witness						

5 cm

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REMARKS

Changes in Mud Type or Additional Samples				
Date / Sample No.				
Depth-Driller				
Type Fluid in Hole				
Dens. / Visc.				
ph. / Fluid Loss		ml		
Source of Sample				
Rm @ Meas Temp	@	°F	@	°F
Rmf @ Meas Temp	@	°F	@	°F
Rmc @ Meas Temp.	@	°F	@	°F
Source: Rmf / Rmc				
Rm @ BHT	@	°F	@	°F
Rmf @ BHT	@	°F	@	°F
Rmc @ BHT	@	°F	@	°F

Scale Changes

Type Log	Depth	Scale Up Hole	Scale Down

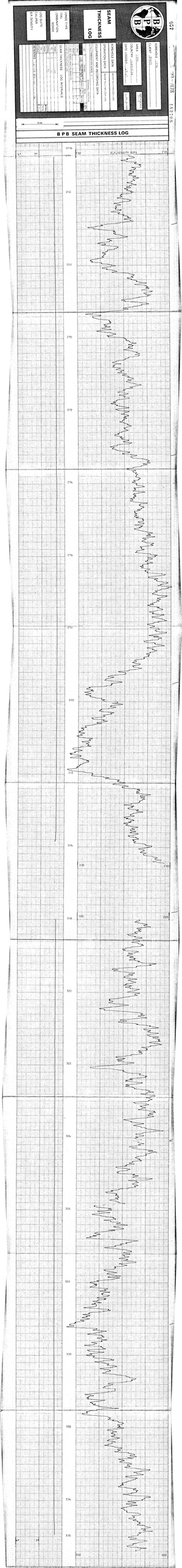
Equipment Data

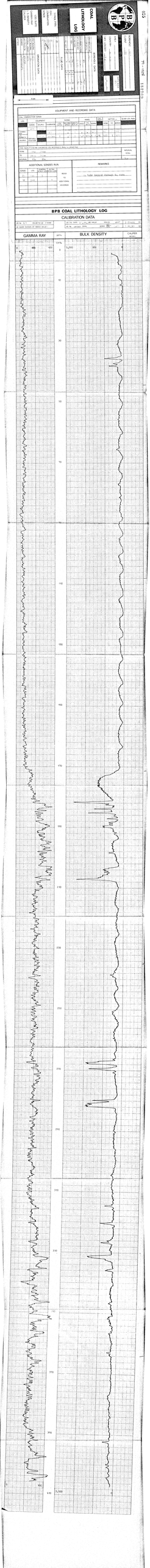
Run No.	Tool Type	Tool Position	Other
[illegible]	[illegible]	[illegible]	

Logging Data

Log	Depths From	Depths To	Speed	T.C.	Norm.	Sonde No.	Source No.
[illegible]	513	208	9,3	1,3	1.01	29	5730

Logged through NQ rods


B P B
SEAM THICKNESS LOG
B P B SEAM THICKNESS LOG



055

79-1338

182709

COAL LITHOLOGY LOG

SONDE TYPE:
COAL
COMBINATION
SONDE

LOG SUITE:
GAMMA RAY
L.S. DENSITY
CALIPER

BOREHOLE GY14
CLIENT
AREA
COUNTRY
DATE LOGGED

DEPTH SCALE 200:1

OF LOGS

BOREHOLE DATA

PERMANENT DATUM			
ELEVATION OF P.D.			
MEASUREMENTS FROM			
	BPB		DRILLER
DEPTH REACHED			
CASING SHOE			
BIT SIZES	1	2	
	3	4	
CASING SIZES	1	2	

FLUID DATA

NATURE	
S.G.	
LEVEL	
VISCOSITY	
Rm at meas. temp.	
BHT	

OPERATION DATA

FIRST READING	407m
LAST READING	0m
INTERVAL LOGGED	407m
UNIT-TRUCK No.	V30/36
ENGINEER	S.Morecroft
WITNESS	

5 cm

EQUIPMENT AND RECORDING DATA

COAL COMBINATION SONDE

LOG	EQUIPMENT			TAPING			PANEL			CAL COEFF	DEPTHS m			SEAM LOG RUN
	SONDE	SOURCE	CALIBRATOR	LOG TAPED	RECORD SPEED	DIRECT or REPLAY	SPEED	T.C. SECS	NORM		FROM	TO	INTERVAL	
	127													
GAMMA RAY			127											
L.S DENSITY	SIDEWALL POSITION		water	Y		D		1/3	1	0.96	407	1	406	
CALIPER														

COAL QUALITY/SEAM THICKNESS LOG INTERVALS (Refer to relevant log)

			INTERVAL TOTAL
FROM	335m	284m	
TO	31 m	265m	
INTERVAL	17m	19m	= 36m

ADDITIONAL SONDES RUN

SONDE	LOG	GENERAL SCALE LOG	DETAIL SCALE LOG
29	N-N	Y	
12	HRD		Y

REFER TO ADDITIONAL HEADINGS

REMARKS

NQ hole logged through NQ rods

BPB COAL LITHOLOGY LOG

CALIBRATION DATA

JIG No. 127 VALUE 272 @ 2" DIAM

JIG MARK SHOWN AT ABOVE VALUE

JIG CAL DATE 23.11.78

JIG VALUE SDU @ g/cm³

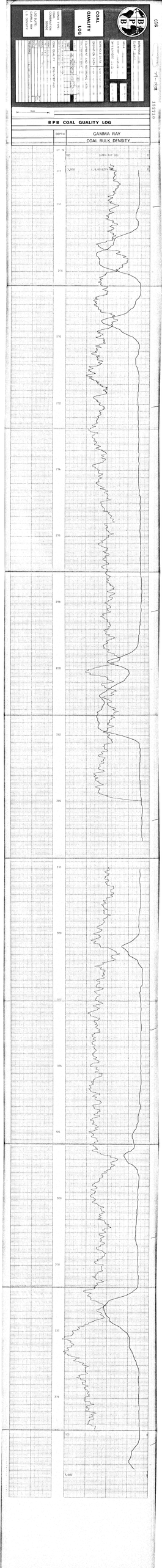
JIG No. water SPAN

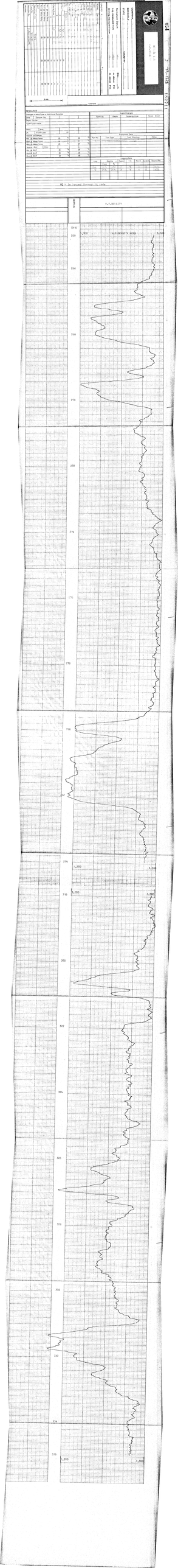
NORM SDU/CPS = 0.96

3 ins 459 cps

7 ins 645 cps

GAMMA RAY	DEPTH	BULK DENSITY	CALIPER INCHES


BPB
COAL QUALITY LOG
BPB COAL QUALITY LOG
DEPTH
GAMMA RAY
COAL BULK DENSITY



COMPANY
WELL
FIELD
COUNTY
STATE
Permanent Datum
Log Measured From
Drilling Measured From
Elev.: K.B.
D.F.
G.L.
Date
Run No.
Depth-Driller
Depth-Logger
Btm. Log Interval
Top Log Interval
Casing-Driller
Casing-Logger
Bit Size
Type Fluid in Hole
Dens.
Visc.
pH
Fluid Loss
Source of Sample
Rm @ Meas. Temp.
Rmf @ Meas. Temp.
Rmc @ Meas. Temp.
Source: Rmf
Rmc
Rm @ BHT
Rmf @ BHT
Rmc @ BHT
Time Since Circ.
Max. Rec. Temp.
Equip. Location
Recorded By
Witnessed By
Run No.
Type Log
Depth
Scale Up
Scale Down
Top Logged Interval
Type Fluid in Hole
Salinity
Density
Level
Max. Rec. Temp.
Equipment No.
Location
Recorded By
Witnessed By
5 cm
fold here
REMARKS
Drawings in Mud Type or Additional Samples
Date
Sample No.
Depth - Driller
Depth-Fluid in Hole
Dens.
Visc.
pH
Fluid Loss
Source of Sample
Rm @ Meas. Temp.
Rmf @ Meas. Temp.
Rmc @ Meas. Temp.
Source: Rmf
Rmc
Rm @ BHT
Rmf @ BHT
Rmc @ BHT
Scale Changes
Type Log
Depth
To (in Hole)
Scale
Down
Equipment Data
Run No.
Tool Type
Tool Position
Other
Logging Data
Log
Depths From
To
Speed
T.C.
Normalizing
Source No.
Hy hole beyond bypass in rocks
SP
mV
GAMMA RAY
API
NEUTRON - NEUTRON
170
190
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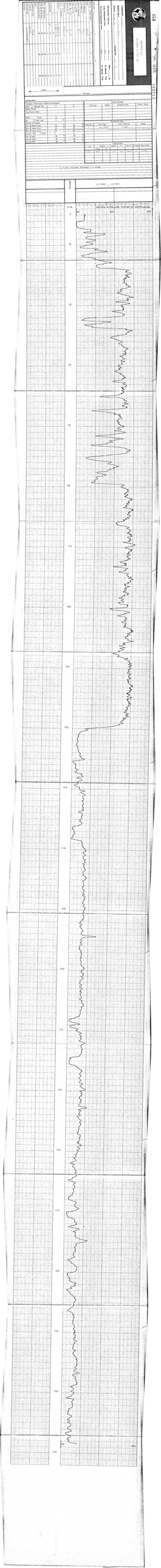
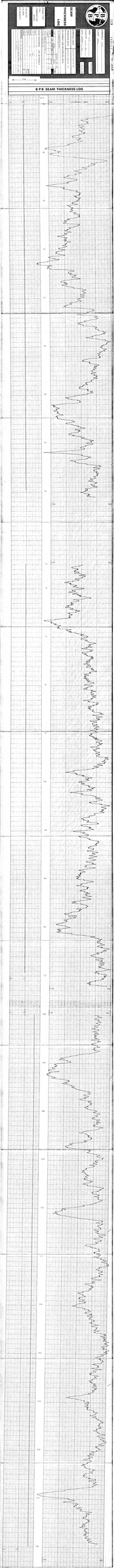
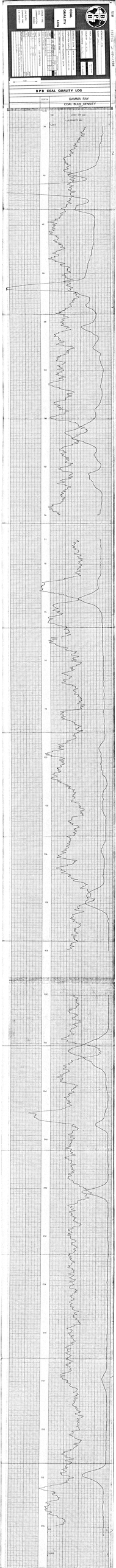
370
390
410




BEAM THICKNESS LOG
BPE SEAM THICKNESS LOG


COAL QUALITY LOG
BPB COAL QUALITY LOG
DEPTH
GAMMA RAY
COAL BULK DENSITY

182716 79-1338

COAL LITHOLOGY LOG

SONDE TYPE
COAL COMBINATION SONDE

LOG SUITE
GAMMA RAY
L.S. DENSITY
CALIPER

BOREHOLE GY16
CLIENT Shell
AREA Gray
COUNTRY [illegible]
DATE LOGGED [illegible]

DEPTH SCALE [illegible]

__ OF __ LOGS

BOREHOLE DATA

PERMANENT DATUM	G.L.	
ELEVATION OF P.D.		
MEASUREMENTS FROM	BPB G.L.	DRILLER G.L.
DEPTH REACHED	318.2	[illegible] m
CASING SHOE		[illegible]
BIT SIZES	1 [illegible] TO [illegible]	2 [illegible] TO [illegible]
	3 [illegible] TO [illegible]	4 TO
CASING SIZES	1 [illegible] TO [illegible]	2 TO

FLUID DATA

NATURE	[illegible]
SG	
LEVEL	[illegible]
VISCOSITY	
Rm at meas temp	
BHT	

OPERATION DATA

FIRST READING	318m
LAST READING	0m
INTERVAL LOGGED	318m
UNIT-TRUCK No.	V35/36
ENGINEER	S.Moreacroft
WITNESS	

5 cm

EQUIPMENT AND RECORDING DATA

COAL COMBINATION SONDE

LOG	EQUIPMENT			TAPING			PANEL			CAL COEFF	DEPTHS			SEAM LOG RUN
	SONDE	SOURCE	CALIBRATOR	LOG TAPED	RECORD SPEED	DIRECT or REPLAY	SPEED	T.C. SECS	NORM		FROM	TO	INTERVAL	
	127	0568												
GAMMA RAY	SIDEWALL POSITION		127	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		317	0	317m	
L.S. DENSITY		0568	water	Y	9.2	D	9.2	1/3.1	6.96		318	1	317m	
CALIPER														

COAL QUALITY/SEAM THICKNESS LOG INTERVALS (Refer to relevant log)

				INTERVAL TOTAL
FROM	234m	108m	54m	
TO	242m	91m	38m	
INTERVAL	22m	17m	16m	= 55m

ADDITIONAL SONDES RUN

SONDE	LOG	GENERAL SCALE LOG	DETAIL SCALE LOG
29	N-N	Y	
12	HRD		Y

REFER TO ADDITIONAL HEADINGS

REMARKS

Hole logged through NQ rods, then NQs removed and second run made from 203m to surface through HQ rods.
Gamma run separately, without source, on second run.

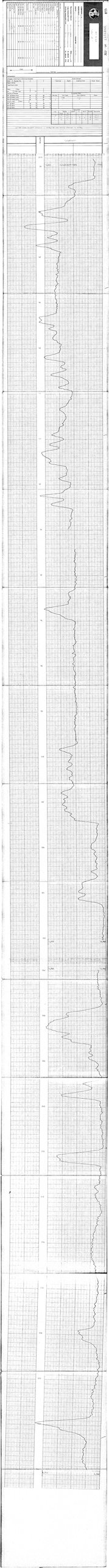
BPB COAL LITHOLOGY LOG

CALIBRATION DATA

JIG No. 127 VALUE 72 @ 2" DIAM	JIG CAL DATE 21.11.79 JIG VALUE SDU @ g/cm³
JIG MARK SHOWN AT ABOVE VALUE =	JIG No. water SPAN NORM SDU/CPS = 6.96

3 ins. 459 cps.
7 ins. 845 cps.

GAMMA RAY	DEPTH	BULK DENSITY g/cm³	CALIPER INCHES



COMPANY
WELL
FIELD
COUNTY
STATE
LOCATION
SECTION
TOWNSHIP
RANGE
PERMANENT DATUM
ELEV.
LOG MEASURED FROM
DRILLING MEASURED FROM
ELEV. K.B.
D.F.
G.L.

RUN NO.	DATE	DEPTH DRILLER	DEPTH LOGGER	BTM. LOG INTERVAL	TOP LOG INTERVAL	CASING DRILLER	CASING LOGGER	BIT SIZE	TYPE FLUID IN HOLE	DENS.	VISC.	PH	FLUID LOSS	SOURCE OF SAMPLE	RM @ MEAS. TEMP.	RMF @ MEAS. TEMP.	RMC @ MEAS. TEMP.	SOURCE RMF / RMC	RM @ BHT	RMF @ BHT	RMC @ BHT	TIME SINCE CIRC.	MAX. REC. TEMP.	EQUIP. LOCATION	RECORDED BY	WITNESSED BY
ONE	7-5-78	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
TWO	7-6-78	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
THREE	7-7-78	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

Depth Determined By
Bottom Driller / Logger
Top Logger

5 cm
Well name

REMARKS

Changes in Mud Type or Additional Samples

Date	Sample No.	Depth	Type Fluid in Hole	Dens.	Visc.	pH	Fluid Loss

Scale Changes

Type Log	Depth	Scale Up Hole	Scale Down

Equipment Data

Run No.	Tool Type	Tool Position	Other
1			

Logging Data

Log	Depths From	Depths To	Speed	T.C.	Norm.	Samples	Source No.
DIL	1	1	1	1	1	1	1
FDC	1	1	1	1	1	1	1

Note 1000 ft thrush in log 10 (which was removed and note joined free flow to outflow below by note.

DEPTHS

FOCUSED - NEUTRON

GR 0 100

WATER LEVEL

100
120
140
160
180
200
220
240
260
280
300
320
340

50 100

006 79-1552 15275

SEAM THICKNESS LOG

WELL SERVICES

BOREHOLE
CLIENT CYPRUS PRIVATE COMPANY
AREA CYPRUS
LOCALITY
DATE LOGGED

SURVEYED DATA
OPERATOR'S DATA
EQUIPMENT AND RECORDING DATA
LOG TYPE

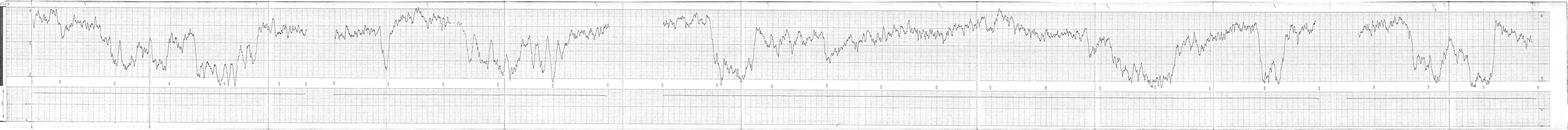
Run No.	Bit Size	Casing Size	Depth Driller	Depth Logger	Depth Log

Date	Time	Rig Activity

SEAM THICKNESS
LOG INTERVALS

LOG SUITE
CALIPER
DIP DENSITY

CABLE SHEAVE TO WELL



068

79-1338

182720

COAL LITHOLOGY LOG

SONDE TYPE
COAL
COMBINATION
SONDE

LOG SUITE
GAMMA RAY
L.S. DENSITY
CALIPER

BOREHOLE [illegible]
CLIENT Shell Development [illegible]
AREA [illegible]
COUNTRY Australia
DATE LOGGED 16.1.79

DEPTH SCALE [illegible]

1 OF ___ LOGS

BOREHOLE DATA

PERMANENT DATUM Ground level
ELEVATION OF P.D.
MEASUREMENTS FROM BPB GL
DEPTH REACHED 605.3m
CASING SHOE
BIT SIZES 1 4 TO –
CASING SIZES 3 3 TO 604
CASING SIZES 1 3 TO [illegible]

FLUID DATA

NATURE [illegible]/water

OPERATION DATA

FIRST READING 603m
LAST READING 0m
INTERVAL LOGGED 603m
UNIT-TRUCK No. U3/36
ENGINEER S.Morecroft
WITNESS

5 cm

EQUIPMENT AND RECORDING DATA

COAL COMBINATION SONDE

LOG	EQUIPMENT			TAPING			PANEL			CAL COEFF	DEPTHS			SEAM LOG RUN
	SONDE	SOURCE	CALIBRATOR	LOG TAPED	RECORD SPEED	DIRECT or REPLAY	SPEED	T.C. SECS	NORM		FROM	TO	INTERVAL	
GAMMA RAY	127		127	Y	9.2	D	9.2	1.5	0.978		603	0	603	
L.S. DENSITY		0548	Water	Y	9.2	D	9.2	1/3	7.03		604	1	603	
CALIPER	SIDEWALL POSITION													

COAL QUALITY/SEAM THICKNESS LOG INTERVALS (Refer to relevant log)

		INTERVAL TOTAL
FROM	534 490 416 389	
TO	528 466 406 379	
INTERVAL	6 24 10 10	50

ADDITIONAL SONDES RUN

SONDE	LOG	GENERAL SCALE LOG	DETAIL SCALE LOG	
29	D-F	Y		REFER TO ADDITIONAL HEADINGS
12	HRD		Y	

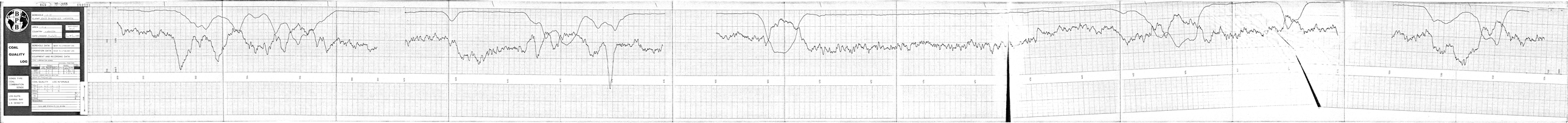
REMARKS

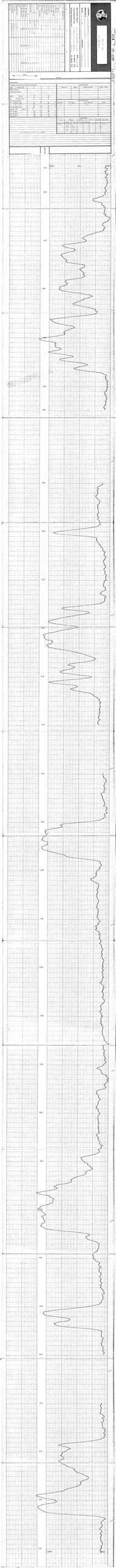
Logged through NQ rods

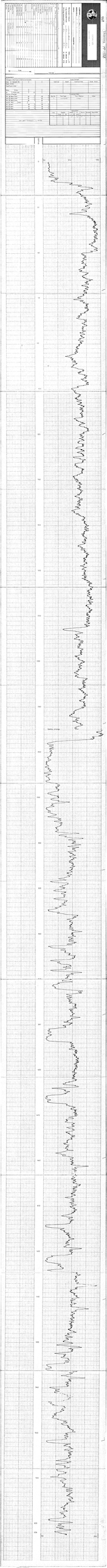
BPB COAL LITHOLOGY LOG

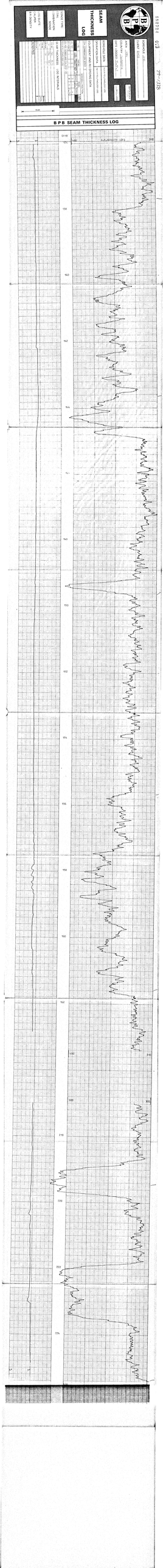
CALIBRATION DATA

JIG No 127 VALUE 272 @ 2" DIAM
JIG MARK SHOWN AT ABOVE VALUE –
JIG CAL DATE 10.1.79 JIG VALUE SDU @ g/cm³ ins cps
JIG No SPAN NORM $\frac{SDU}{CPS}$ = 7.03 ins cps


COAL QUALITY LOG
BOREHOLE
PROJECT
AREA
EQUATION
DATE LOGGED
BOREHOLE DATA
OPERATION DATA
EQUIPMENT AND RECORDING DATA
CALIBRATION DATA
COAL QUALITY LOG INTERVALS
SONDE TYPE
LOG RUN
COMBINATION SONDE
LOG SUITE
LOGGING UNIT
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
DENSITY
ASH
MOISTURE
SULFUR
BTU
FEET






B P B
SEAM THICKNESS LOG
B P B SEAM THICKNESS LOG

BPB

COAL LITHOLOGY LOG

COMPANY LOG SUITE
GAMMA RAY
DENSITY
CALIPER

LOG COMBINATION

ZONE TYPE

BOREHOLE
CLIENT
FIELD
COUNTRY
DATE LOGGED
RUN NUMBER

PERMANENT DATUM
ELEVATION
LOG MEASURED FROM
DRILLING MEASURED FROM

TIMES

RUN NO.
TIME ON BOTTOM
TIME LOGGED
LOGGING SPEED
TOP LOGGED INTERVAL
BOTTOM LOGGED INTERVAL

EQUIPMENT DATA

CASING DRILLER
CASING LOGGER
BIT SIZE
TYPE FLUID
DENSITY
VISCOSITY
PH
FLUID LOSS
SOURCE OF SAMPLE
RM @ MEAS. TEMP.
RMF @ MEAS. TEMP.
RMC @ MEAS. TEMP.
SOURCE RMF / RMC
RM @ BHT
TIME SINCE CIRC.
MAX. REC. TEMP.
EQUIP. LOCATION
RECORDED BY
WITNESSED BY

NEUTRON DATA

MATRIX
HOLE CORR.
FLUID CORR.
LITHOLOGY CORR.

1 cm

EQUIPMENT AND RECORDING DATA

COAL COMBINATION SONDE

LOG	EQUIPMENT			TAPING		PANEL			DEPTHS m		SEAM LOG RUN	
	SONDE	SOURCE	ASSEMBLY	LOG HEADS	RECORD QUANTITY	SPEED	F.C. SCALE	F.C. NORM	CAL. CORR	FROM	TO	NUMBER
GAMMA RAY												
DENSITY												
CALIPER												

COAL SONDE/TOOLSTRING THICKNESS (COL INTERVALS (Refer to relevant log)

FROM			INTEGRAL TOTAL
TO			
INTEGRAL			

ADDITIONAL SONDES RUN

SONDE	-100	GENERAL DETAILS (COAL LITHOLOGY LOG)

REFER TO ADDITIONAL HEADINGS

REMARKS

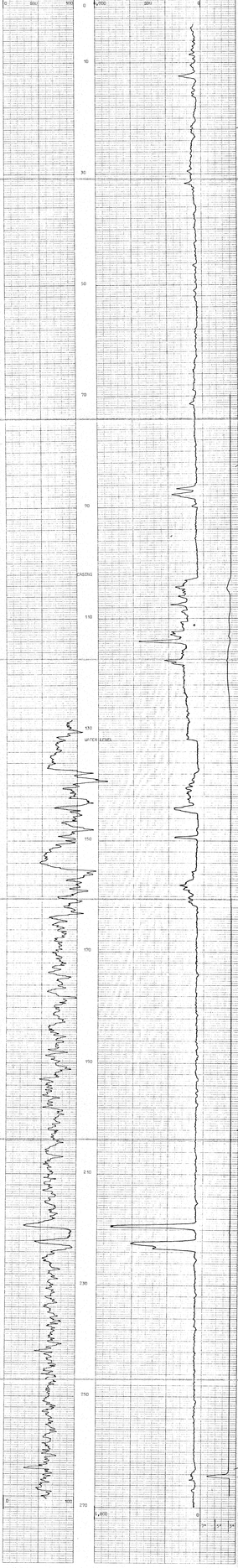
BPB COAL LITHOLOGY LOG

CALIBRATION DATA

AC No. 127	VALUE @ 2 DWM	AC CAL DATE	AC VALUE	SENSE	API
AC MAY SHOWN AT ABOUT VALUE =		AC No.	SPACE	NORM	API

GAMMA RAY — DEPTH — BULK DENSITY — CALIPER INCHES

HOLE SIZE CORRECTION DATA



COAL QUALITY LOG

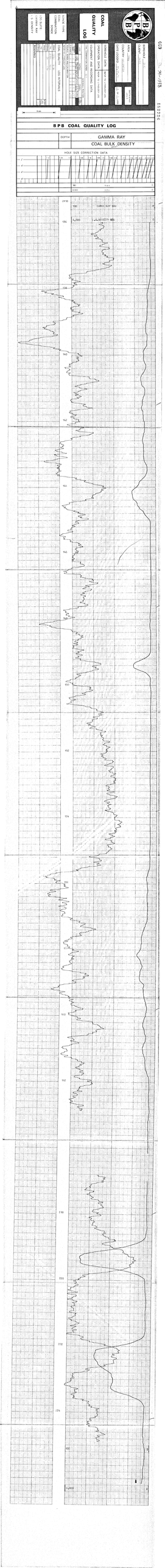
BPB

BPB COAL QUALITY LOG

GAMMA RAY

COAL BULK DENSITY

HOLE SIZE CORRECTION DATA



075

79-138

182727

DETAIL LOG
H.R.DENSITY

COMPANY Shell
BOREHOLE GY18 ([illegible])
STATE Tasmania COUNTRY Australia

Permanent Datum Elev. m.
Log measured from 0m. above P.D.
Drilling measured from 0m. above P.D.

GRID REF E N R.L.

Run No.	1		
Depth Scale	20:1		
Date	[illegible] .78		
First Reading	136		
Last Reading	225		
Interval Measured	27		
Casing BPB			
Casing Driller			
Depth Reached			
Bottom Driller			
Mud Nature	Water		
SG / Viscosity			
Bit Size 1	3 [illegible] to 102m	to	to
2	" to TD	to	to
3	to	to	to
Casing Size 1	1/4" to 102m	to	to
2	to	to	to
Rm @ Meas.Temp.	@	@	@
Rmf @ Meas.Temp.	@	@	@
Rmc @ Meas.Temp.	@	@	@
BHT			
Operating Time	2 1/2 hrs		
Truck No.	V30/36		
Recorded By	S.Morecroft		
Witness			

5 cm

fold here

REMARKS

Changes in Mud Type or Additional Samples		
Date / Sample No.		
Depth – Driller		
Type Fluid in Hole		
Dens. / Visc.		
ph. / Fluid Loss	ml	
Source of Sample		
Rm @ Meas.Temp.	@ °F	@ °F
Rmf @ Meas.Temp.	@ °F	@ °F
Rmc @ Meas.Temp.	@ °F	@ °F
Source: Rmf / Rmc		
Rm @ BHT	@ °F	@ °F
Rmf @ BHT	@ °F	@ °F
Rmc @ BHT	@ °F	@ °F

Scale Changes

Type Log	Depth	Scale Up Hole	Scale Down

Equipment Data

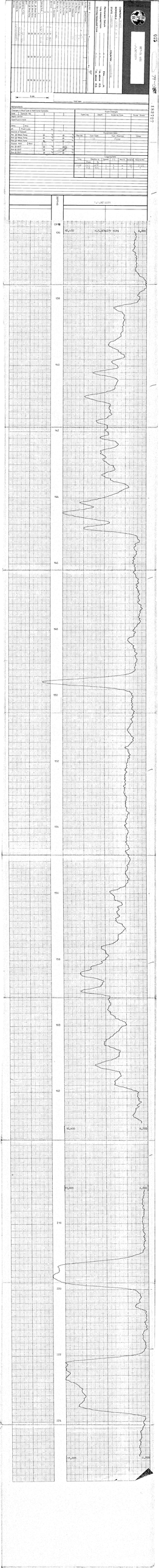
Run No.	Tool Type	Tool Position	Other
1	HRD	free	

Logging Data

Log	Depths m From	Depths m To	Speed	T.C.	Norm.	Sonde No.	Source No.
HRD	225	217	3	1	–	12	2426
"	163	136	3	1	–	"	"

DEPTHS

H.R.DENSITY



070 79-1338 182728

GENERAL LOG
NEUTRON - NEUTRON

COMPANY [illegible]

BOREHOLE [illegible] (Gray)

STATE [illegible] COUNTRY Australia

Permanent Datum G.L. Elev. ____ m.

Log measured from G.L. [illegible] m. above P.D.

Drilling measured from G.L. [illegible] m. above P.D.

GRID REF. E ____ N ____ R.L. ____

Run No.	Depth Scale	1	2			
Date		17.1[illegible]				
First Reading		[illegible]				
Last Reading		1[illegible]				
Interval Measured		13[illegible]				
Casing BPB		1[illegible]				
Casing Driller		1[illegible]				
Depth Reached		[illegible]				
Bottom Driller		272m				
Mud Nature		air/water				
S.G	Viscosity					
Bit Size	1	3 3/4" to 1[illegible]		to	to	
	2	[illegible] to [illegible]		to	to	
	3	to		to	to	
Casing Size	1	3 1/4" to 102m		to	to	
	2	to		to	to	
Rm @ Meas Temp.		.5[illegible] Ω @		@	@	
Rmf @ Meas Temp		@		@	@	
Rmc @ Meas Temp		@		@	@	
BHT						
Operating Time		[illegible] 1/2 hrs				
Truck No.		V56/36				
Recorded By		S.Nurcroft				
Witness						

fold here

5 cm

REMARKS

Changes in Mud Type or Additional Samples

Date	Sample No.	Depth-Driller	Type Fluid in Hole	Dens.	Visc.	ph.	Fluid Loss	Source of Sample	Rm @ Meas Temp	Rmf @ Meas Temp	Rmc @ Meas Temp	Source Rmf	Rmc	Rm @ BHT	Rmf @ BHT	Rmc @ BHT
							ml		°F @	°F @	°F @			°F @	°F @	°F @

Scale Changes

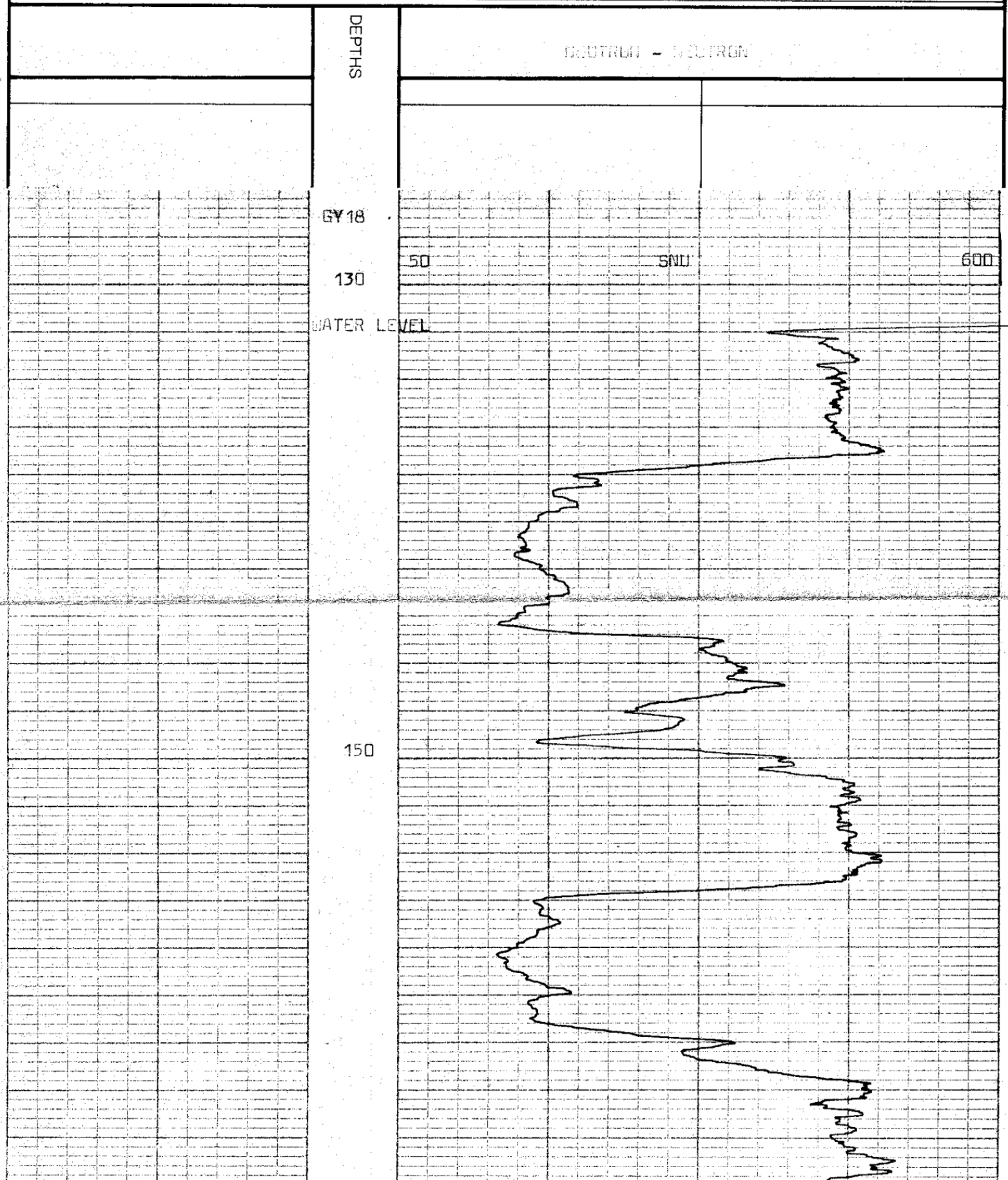
Type Log	Depth	Scale Up Hole	Scale Down

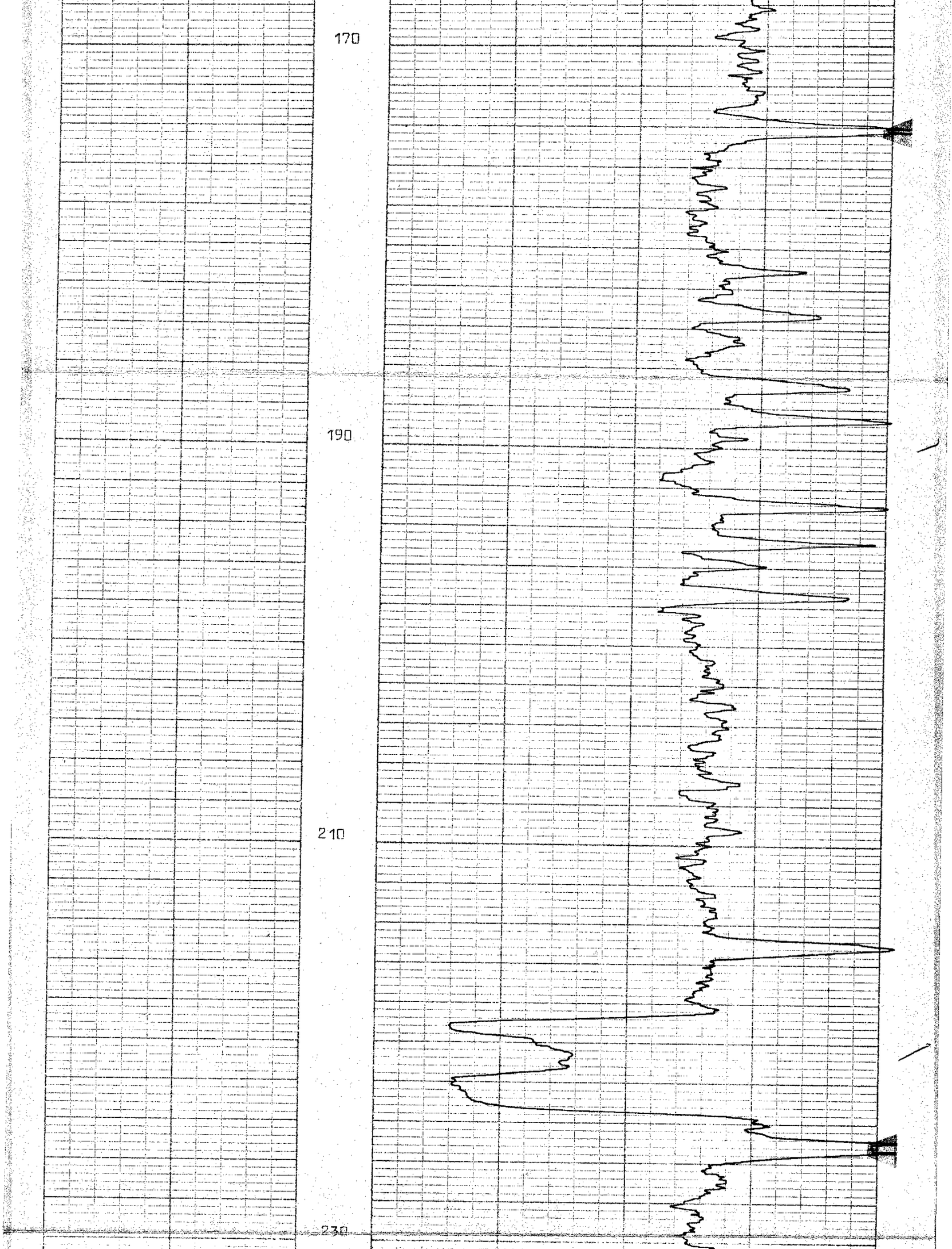
Equipment Data

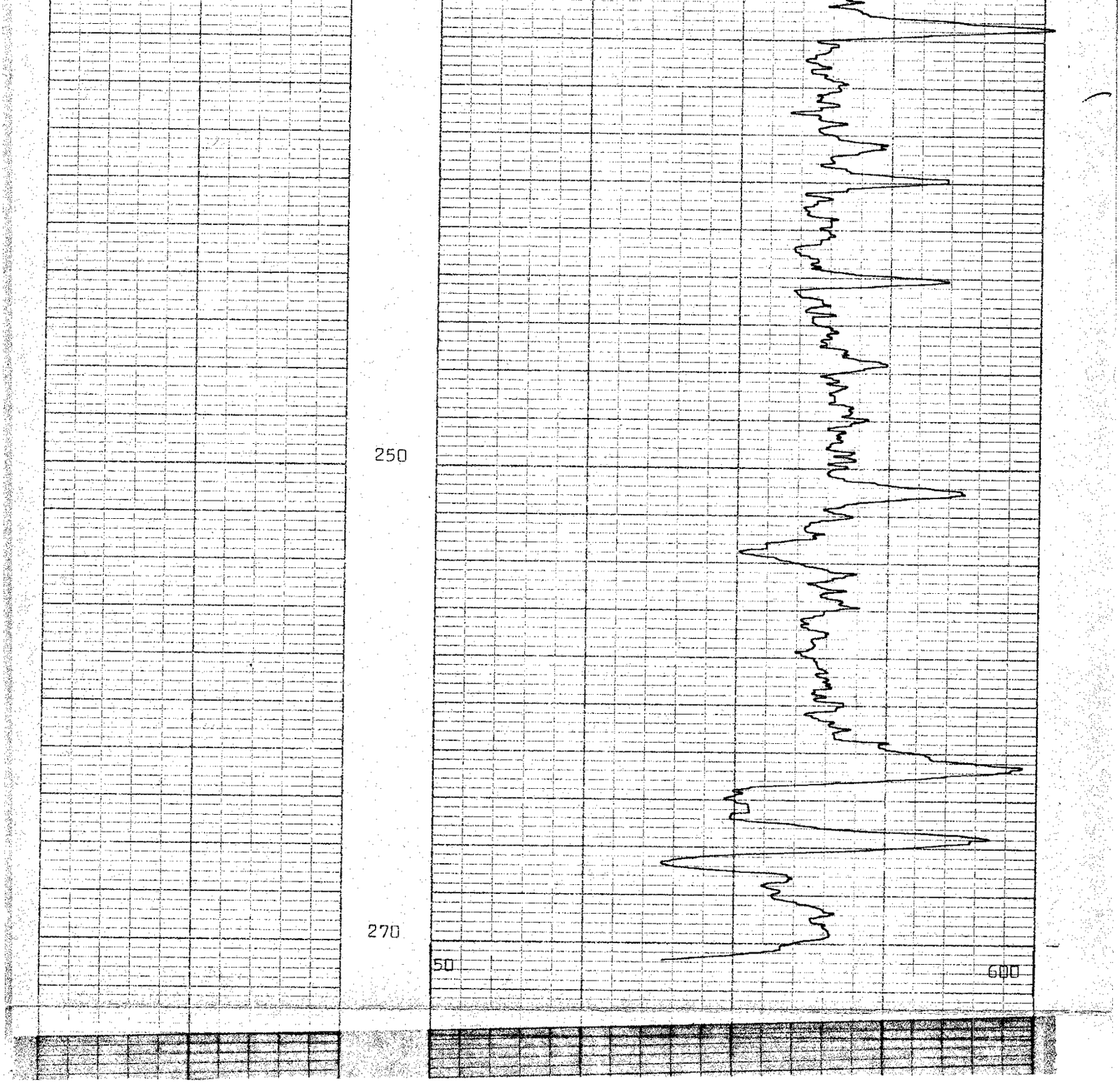
Run No.	Tool Type	Tool Position	Other
1	Neutron	Free	

Logging Data

Log	Depths From	Depths To	Speed	T.C.	Norm.	Sonde No.	Source No.
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.[illegible]	[illegible]	5730


DEPTHS
NEUTRON - NEUTRON
GY 18
50
SNU
600
130
WATER LEVEL
150


170
190
210
230


250
270
50
600

182729 074 79-1338

GENERAL LOG
FOCUSSED ELECTRIC

COMPANY Shell

BOREHOLE GY 18 (Gra.)

STATE Tasmania COUNTRY Australia

Permanent Datum G.L. Elev. ____ m.

Log measured from G.L. 0 m. above P.D.

Drilling measured from G.L. 0 m. above P.D.

GRID REF E ____ N ____ R.L. ____

Run No.	Depth Scale	1	1:1		
Date		12.[illegible]			
First Reading		270m			
Last Reading		132m			
Interval Measured		138m			
Casing BPB		102.[illegible]			
Casing Driller		102m			
Depth Reached		271.[illegible]			
Bottom Driller		272m			
Mud Nature		air/water			
SG	Viscosity				
Bit Size	1	3 2/4" to [illegible]	to	to	
	2	3" to [illegible]	to	to	
	3	to	to	to	
Casing Size	1	3 1/4" to [illegible]	to	to	
	2	to	to	to	
Rm @ Meas Temp.		@	@	@	
Rmf @ Meas Temp.		@	@	@	
Rmc @ Meas Temp.		@	@	@	
BHT					
Operating Time		[illegible]			
Truck No.		V3[illegible]/3[illegible]			
Recorded By		S.Morecroft			
Witness					

fold here

5 cm

REMARKS

Changes in Mud Type or Additional Samples

Date	Sample No.	Depth-Driller	Type Fluid in Hole	Dens.	Visc.	ph.	Fluid Loss.	Source of Sample	Rm @ Meas Temp	Rmf @ Meas Temp	Rmc @ Meas. Temp	Source: Rmf	Rmc	Rm @ BHT	Rmf @ BHT	Rmc @ BHT
							ml		°F @	°F @	°F @			°F @	°F @	°F @

Scale Changes

Type Log	Depth	Scale Up Hole	Scale Down

Equipment Data

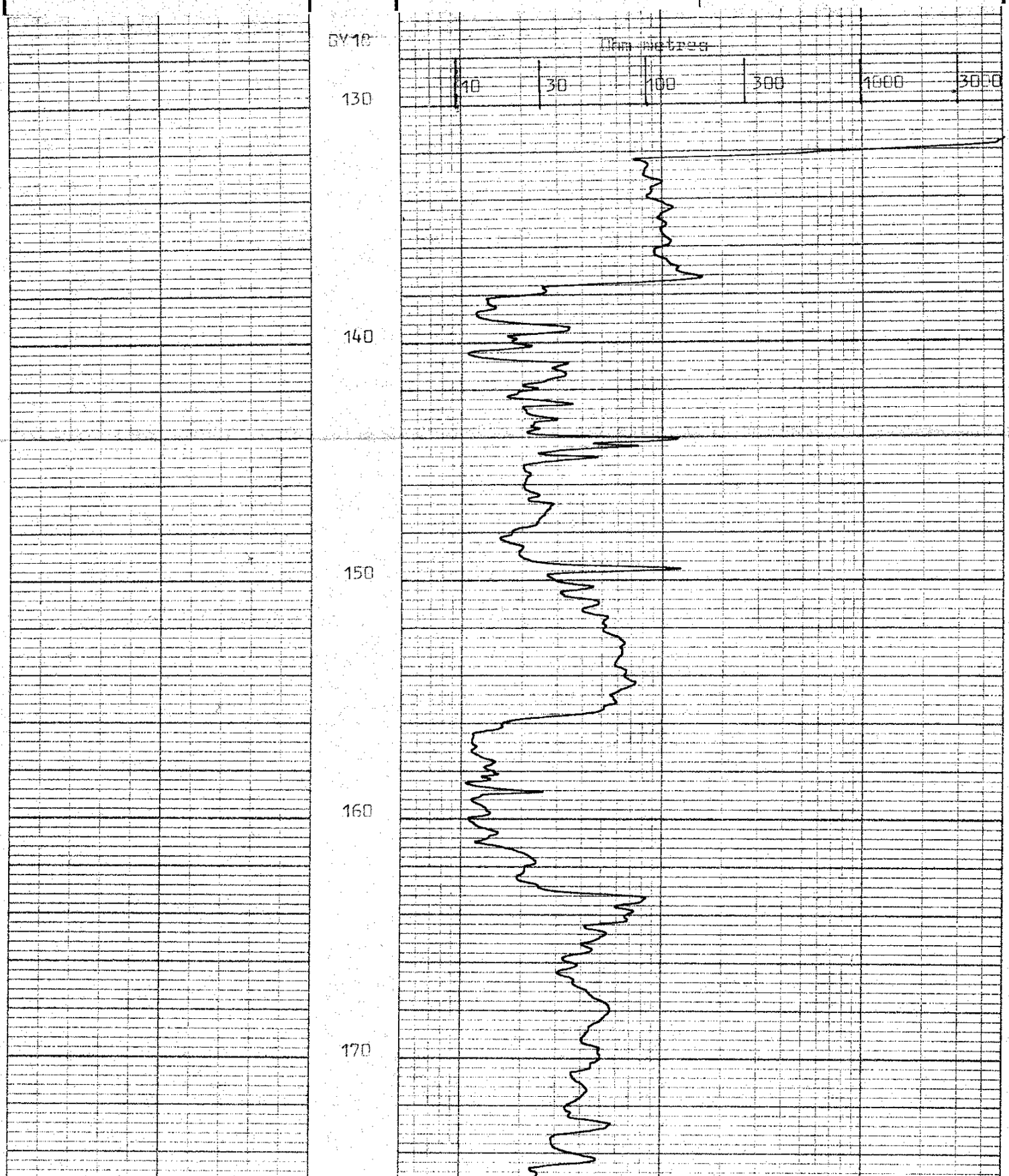
Run No.	Tool Type	Tool Position	Other

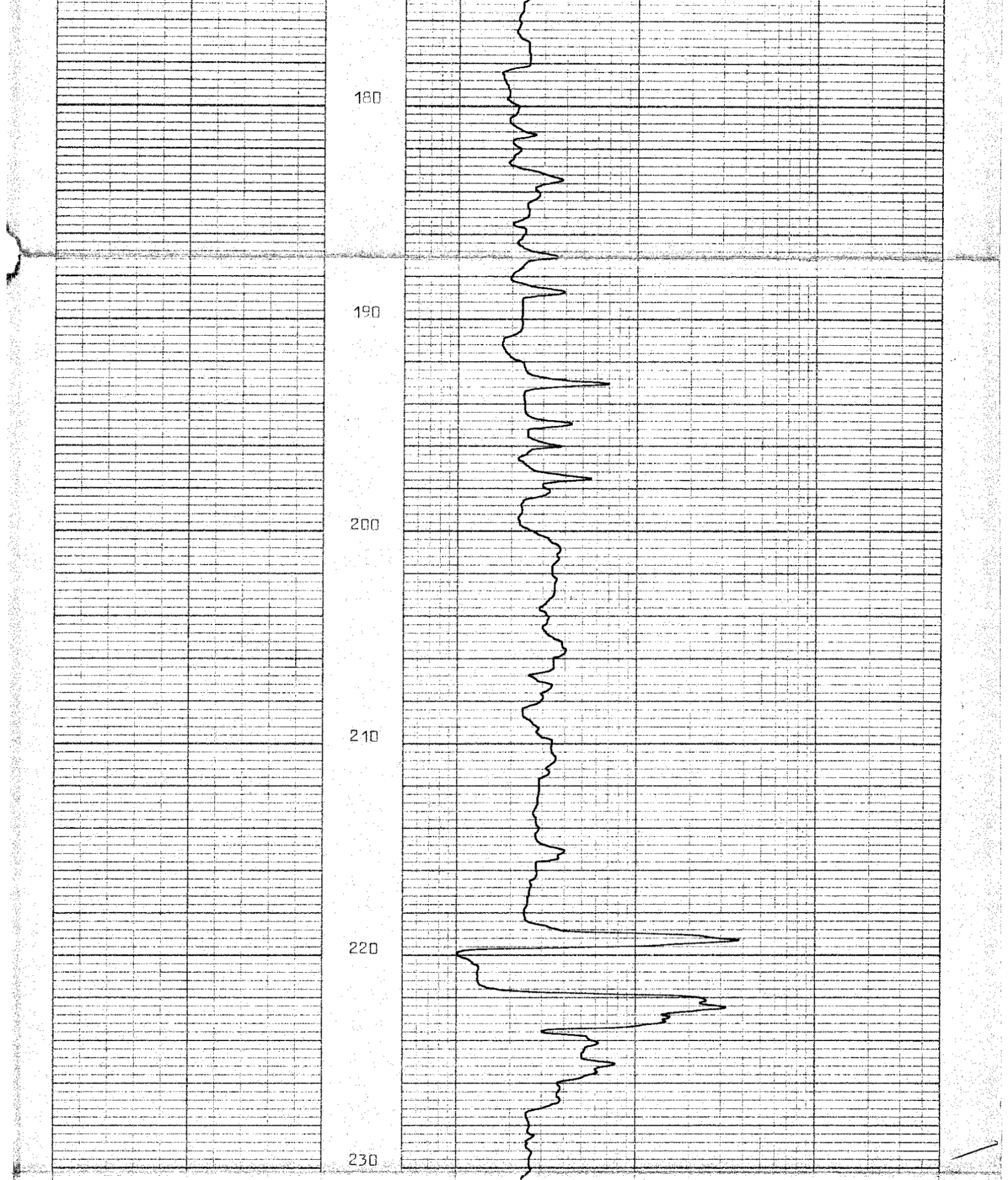
Logging Data

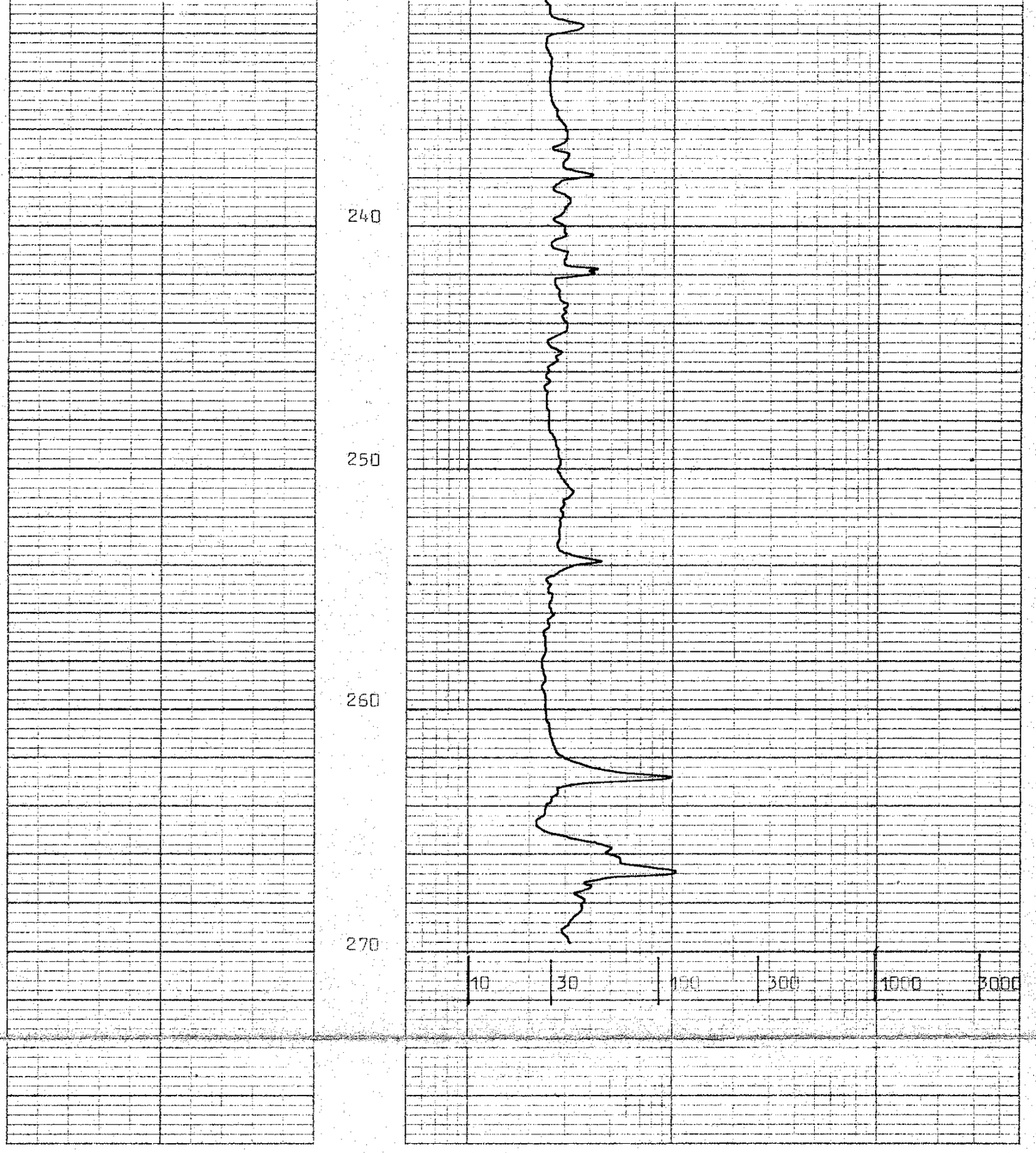
Log	Depths ft From	Depths ft To	Speed	T.C.	Norm.	Sonde No.	Source No.
FE	[illegible]	132	[illegible]	1	1	7	1

DEPTHS

FOCUSED ELECTRIC




180
190
200
210
220
230


240
250
260
270
10
30
100
300
1000
3000

182730 074

79-1538

COMPANY

BOREHOLE

STATE

COUNTRY

SPONTANEOUS POTENTIAL RESISTIVITY LOG

Permanent Datum

Elev.

Log measured from

Drilling measured from

D. m. above P.D.

D. m. above P.D.

Date Run No. Depth-Driller Depth-Logger Btm. Log Interval Top Log Interval Casing Size Casing Wgt. Depth Fluid Level Bottom Hole Temp. Max. Rec. Temp. Equip. No. Location Recorded By Witnessed By

Date	Run No.	Depth-Driller	Depth-Logger	Btm. Log Interval	Top Log Interval	Casing Size	Casing Wgt.	Depth Fluid Level	Bottom Hole Temp.	Max. Rec. Temp.	Equip. No.	Location	Recorded By	Witnessed By
1-Nov-79	1	271.5	270	270	surface	5"	13	130						

5 cm

fold here

REMARKS

Changes in Mud Type or Additional Samples

Date	Sample No.			
Depth - Driller				
Type Fluid in Hole				
Dens.	Visc.			
ph	Fluid Loss		ml	
Source of Sample				
Rm @ Meas Temp	@ °F	@ °F	@ °F	
Rmf @ Meas Temp	@ °F	@ °F	@ °F	
Rmc @ Meas Temp	@ °F	@ °F	@ °F	
Source Rmf	Rmc			
Rm @ BHT	@ °F	@ °F	@ °F	
Rmf @ BHT	@ °F	@ °F	@ °F	
Rmc @ BHT	@ °F	@ °F	@ °F	

Scale Changes

Type Log	Depth	Scale Up Hole	Scale Down

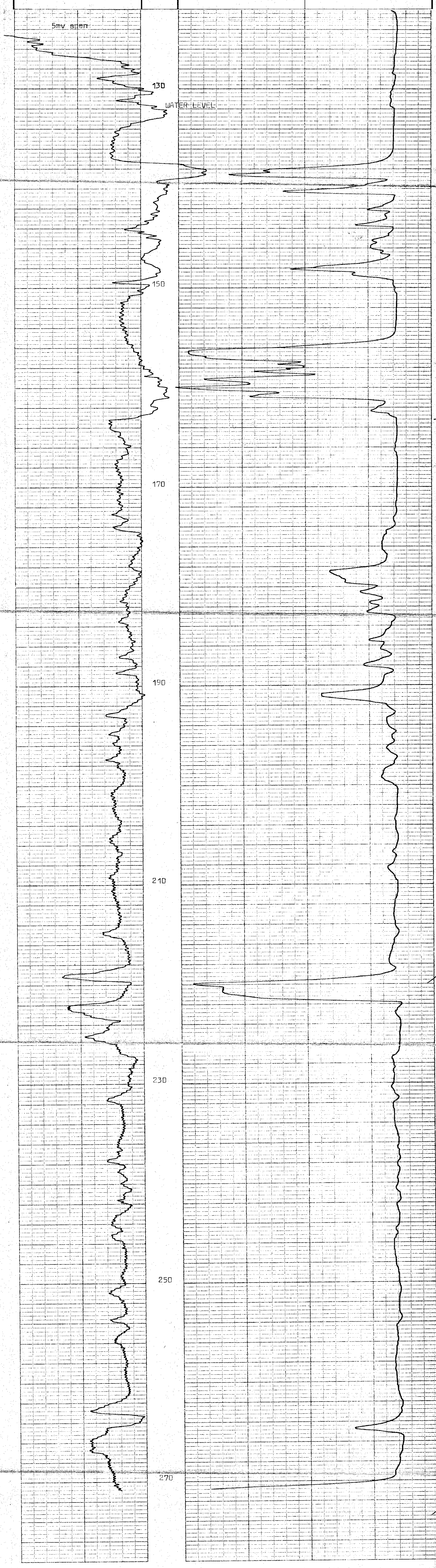
Equipment Data

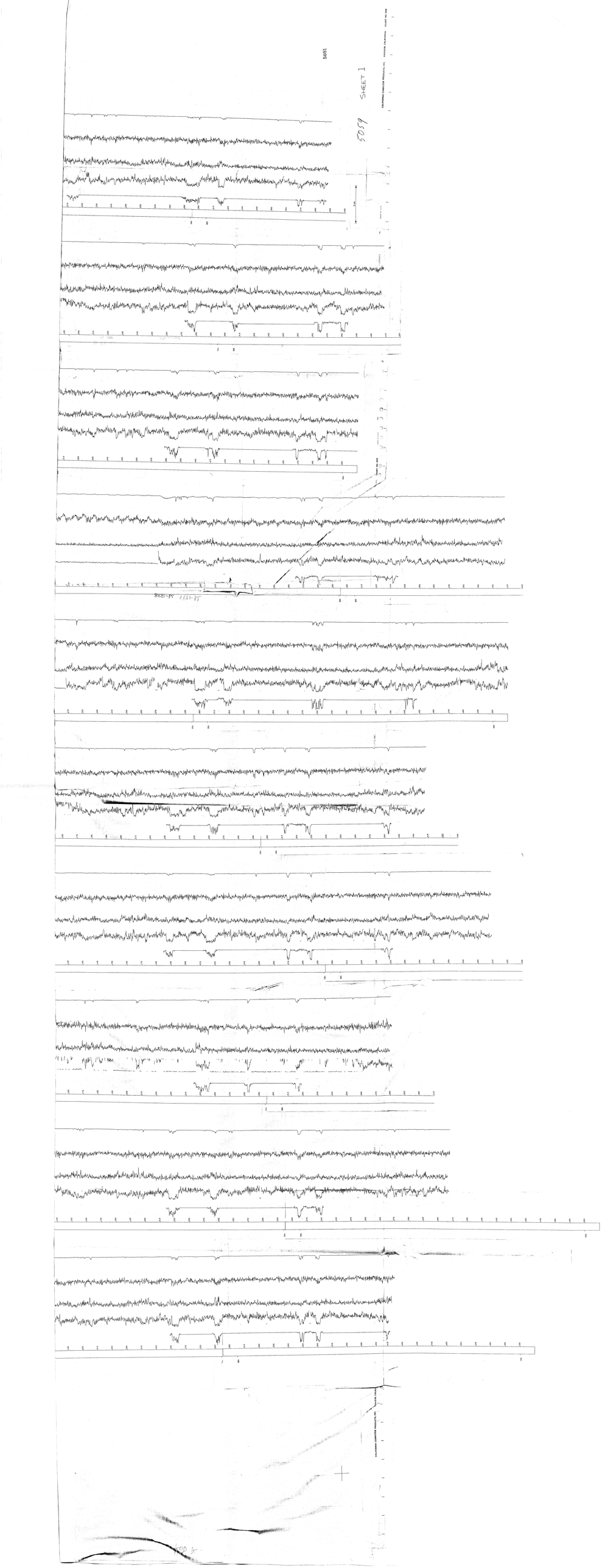
Run No.	Tool Type	Tool Position	Other
1	GP	Front	
1	RES		

Logging Data

Log	Depths From	To	Speed	T.C.	Norm.	Sonde No.	Source No.
GP	270	surface	30	1	–		–
RES	270	130	30	1	–	1	–

SPONTANEOUS POTENTIAL | DEPTHS | RESISTIVITY

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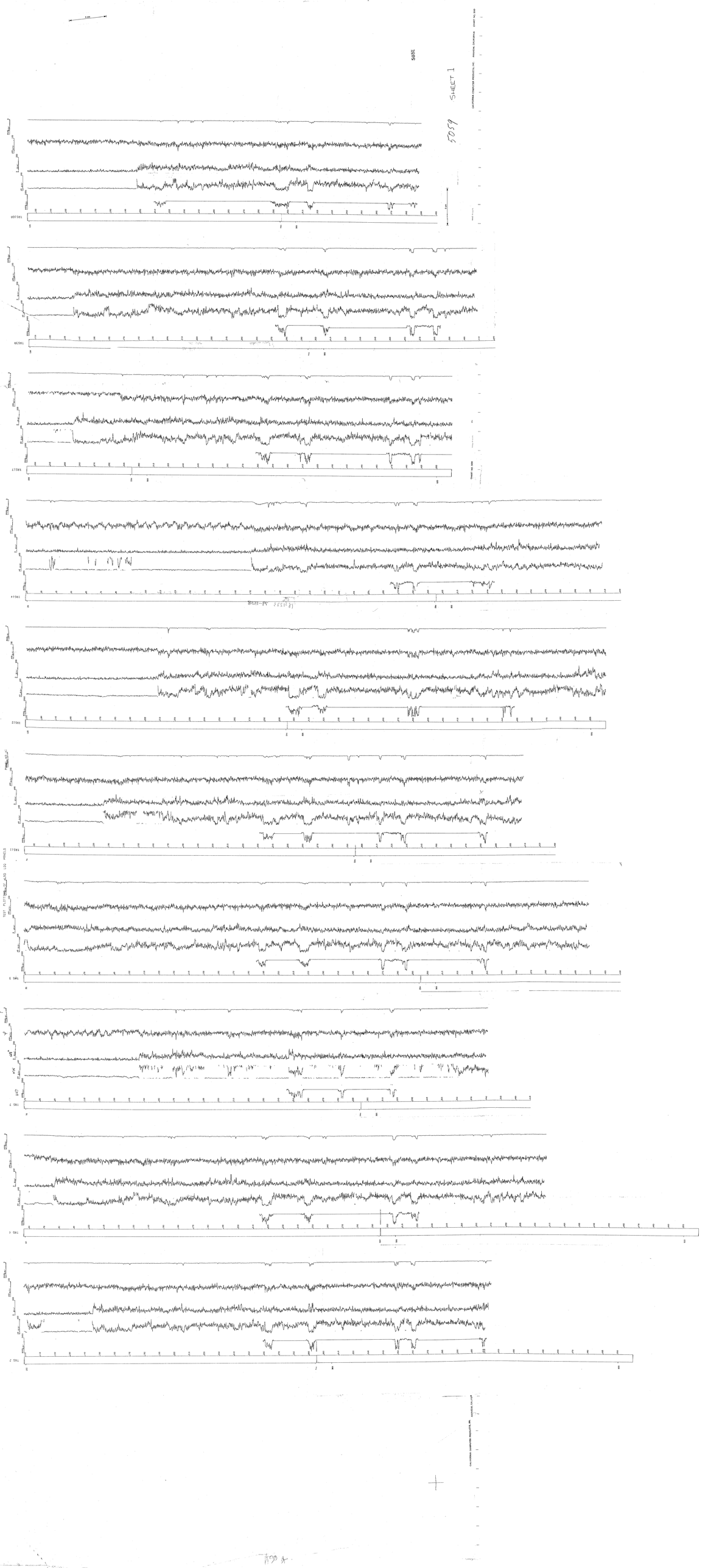
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